What You Should Know About Animal Bites

Animal bites can sometimes result in severe infections and some people are at higher risk than others.
Are you at risk? And do you know what to do if you are bitten?
The information and recommendations here will help you avoid serious problems.

- I've always heard that dogs' mouths are cleaner than humans. Is this true?
- What are the particular dangers from animal bites?
- Which is worse, dog bites or cat bites?
- What kinds of infections can develop?
- How do I know if I am at risk for infection following an animal bite?
- What should I do if I am bitten?

I've always heard that dogs' mouths are cleaner than humans. Is this true?
Neither dogs nor cats nor humans have mouths that can even remotely be considered clean. All are filled with bacteria, many of which can cause disease if they enter broken skin. Over 130 disease-causing microbes have been isolated from dog and cat bite wounds.[1] Animals' saliva is also heavily contaminated with bacteria, so a bite may not even be necessary to cause infection; if you have a cut or scratch and allow a pet to lick it, you could be setting yourself up for trouble.

What are the particular dangers from animal bites?
Bites to the hand, whether from cats or dogs, are potentially dangerous because of the structure of the hand. There are many bones, tendons, and joints in the hand and there is less blood circulation in these areas. This makes it harder for the body to fight infection in the hand. Infections that develop in the hand may lead to severe complications, such as osteomyelitis or septic arthritis.

In small children, bites to the face, neck, or head are extremely hazardous. Because their small stature often puts their heads near dogs' mouths, children are often bitten in these areas. Dog bites can cause fractures of the face and skull and lead to brain and nervous system infections. Dog bites cause, on average, about 15-20 fatalities a year in the United States. Most of these victims are infants and young children.

Which is worse, dog bites or cat bites?
Dogs have strong jaws—large dogs can exert more than 450 pounds of pressure per square inch—and their teeth are relatively dull. So the wounds caused by dogs are usually crushing of the tissue bitten and lacerations or tearing of the skin rather than puncture wounds. Most dog bites do not penetrate deeply enough to get bacteria into bones, tendons, or joints, but they often do a lot of damage just from the trauma of the bite. Tissue that has been crushed, however, such as may occur with a bite to the hand, is particularly susceptible to infection.

Cats' teeth are thin and sharp, so the wounds they cause are more likely to be puncture wounds. These wounds can reach into joints and bones and introduce bacteria deeply into the tissue. Puncture wounds are very difficult to clean, so a lot of bacteria may be left in the wound. Also, most cat bites are to the hand, which makes infection more likely.

Dog bites often do more outright damage, but only 3 to 18 percent become infected. In contrast, cat bites may appear more trivial, but up to 80 percent of cat bites may become infected if proper care is not taken.

What kinds of infections can develop?
Many infection-causing bacteria have been isolated from dog and cat bite wounds. The four we discuss here are probably the most significant.

Pasteurellosis.
The most common bite-associated infection is caused by a bacterium called *Pasteurella*. Most cats and dogs—even healthy ones—naturally carry this organism in their mouths. When an animal bites a person (or another animal), these bacteria can enter the wound and start an infection. The first signs of pasteurellosis usually occur within 2 to 12 hours of the bite and include pain, reddening, and swelling of the area around the site of the bite. Pasteurellosis can progress quickly, spreading toward the body from the bitten area. It is important that you seek medical care *immediately* if these symptoms occur. Untreated, this infection can lead to severe complications. Bites to the hand need special attention; if pasteurellosis develops in the tissues of the hand, the bacteria can infect tendons or even bones and sometimes cause permanent damage if appropriate medical care is not administered promptly.

Streptococcal and Staphylococcal Infections.
These bacteria can cause infections similar to those caused by *Pasteurella*. Redness and painful swelling occur at or near the site of the bite and progress toward the body. As with pasteurellosis, you should seek prompt medical care if these symptoms develop.

***Capnocytophaga* Infection.**
This is a very rare infection, but we mention it here because it is so dangerous if it develops. There is no common name for this infection, which is caused by the bacterium *Capnocytophaga canimorsus.* Most of the people who have become infected were bitten by dogs; in many instances the bite wounds themselves were tiny and would not have ordinarily called for any special medical care. But *Capnocytophaga* can cause septicemia, or blood poisoning, particularly in people whose immune systems are compromised by some underlying condition (see box below). Up to 30 percent of people who have developed this septicemia have died. People who have had their spleens removed are at special risk for this infection. Early symptoms may include nausea, headache, muscle aches, and tiny reddened patches on the skin.

If you have any of the risk factors listed below, particularly if you have had your spleen removed, it is very important that you take proper immediate care of any animal bite wound and promptly seek medical advice.

How do I know if I am at risk for infection?

Anyone who is bitten by a cat or a dog and who does not take proper care of the wound is at risk of developing infection.

But some people are at increased risk.

- Are you over 50 years of age?
- Do you have diabetes, circulatory problems, liver disease, alcoholism, or HIV/AIDS?
- Have you had a mastectomy or organ transplant?
- Are you taking chemotherapy or long-term steroids?
- **Have you had your spleen removed?**

If you answered "yes" to any of these questions, you may be more likely to develop a serious infection than other people. You should take special care to avoid being bitten or scratched by any animal.

What should I do if I am bitten?
Immediately and thoroughly wash the wound with plenty of soap and warm water. The idea is to remove as much dirt and saliva—and therefore, bacteria—as possible. It may hurt to scrub a wound, but an infection will hurt a lot more. Scrub it well and run water over it for several minutes to make sure it is clean and all soap is rinsed out. It is a good idea to follow the washing with an antiseptic solution, such as iodine or other disinfectant, but always wash with soap and water first. Apply antibiotic ointment and cover the wound with gauze or a bandage. If the wound is severe, or if you have any of the risk factors listed above, seek medical advice at once. Your doctor may want you to take antibiotics to prevent infection from developing. If you have not had a recent tetanus booster, you may be advised to take one. And if you are bitten by a wild or stray animal that could have rabies, you may need to begin anti-rabies treatment. (See What You Should Know About Rabies Prevention).

If you have had your spleen removed, you should be aware that the potential for fatal infection exists, even from seemingly minor wounds. Some experts recommend that people without spleens should completely avoid contact with cats and dogs. This is an issue you and your doctor should discuss in detail.

For most people, however, the benefits of companion animals outweigh the risk. If you have any of the risk factors shown in the box above, you should do everything possible to avoid being bitten or scratched by dogs or cats. If wounds do occur, you should clean them promptly and thoroughly and seek medical advice. A little care and common sense can go a long way in preventing bite-associated infections.

The information presented here is not intended to take the place of professional medical advice. If you are bitten by any animal, always consult your physician for his/her recommendations.

References:

[1]Talan DA, Citron DM, Abrahamian FM, et al, 1999. Bacteriologic analysis of infected dog and cat bites. *New England Journal of Medicine* 340:85-92.

Further Reading:

LSU School of Veterinary Medicine
Skip Bertman Drive • Baton Rouge, LA 70803
Telephone: 225-578-9900 • Fax: 225-578-9916 • E-mail: mailto:svmweb@vetmed.lsu.edu?subject=SVM Web Site question

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CT River Coastal Conservation District

Give A Bark!

Chatfield Hollow State Park pet waste project
Pet waste management outreach materials and other resources

Did you know that your dog's poop can be a health risk and source of water pollution? This spring, the District developed and initiated a pet waste education and outreach campaign focused on our state parks in collaboration with the CT Department of Environmental Protection (DEP).The purpose of the project is to build awareness of the health and environmental risks of dog waste. The project is funded by the DEP through a US EPA Clean Water Act Section 319 grant.

Simple and clean ways to deal with dog-doo!
Bark for a Clean State Park at Chatfield Hollow State Park!
More about dog waste pollution and similar campaigns!
Find dog-friendly places and parks to visit in Connecticut!

Why is picking up after my dog important? *It's a health risk!*
When rain or snow melt runs over the land it can carry the pet waste that has accumulated, along with associated bacteria and possible parasites and viruses, to our waterways where these microorganisms may pose a human health risk. This is an example of nonpoint source pollution, or pollution that is carried by storm water runoff into waterways, impairing water quality. Leaving dog waste on the ground in your neighborhood will risk contamination of your local stream, lake, beach or even drinking water supply. At Chatfield Hollow State Park in the Town of Killingworth, bacteria contamination means closure of the swimming beach.

Pet waste contains a large number of fecal coliform bacteria that may indicate the presence of Giardia, roundworms, Salmonella, parvovirus and many other microorganisms that can be harmful to human health. Leaving the pet waste anywhere on the ground may expose children, adults and other pets to diseases. These microorganisms can also make water unsafe for drinking and swimming.

You may wonder: why is it a risk to not pick up after a single dog? Consider this...there are about 1,600 dogs in the Town of Killingworth alone. The Food and Drug Administration estimates that, on average, one dog will produce ¾ lb of waste a day. That means there are approximately 1,200 lbs of dog waste produced per day in just one Connecticut town!

Pet waste is more than bacterial contamination. *It's an environmental risk!*
Dog waste can have a serious impact on water quality. When fecal bacteria is found in

waterways, researchers are able to use a DNA-fingerprinting technique (microbial source tracking), to see whose waste it was from. Often, it is found that dogs are a predominant source species (www.stormwatercenter.net). Dog waste also adds nitrogen and phosphorus to the water. In large amounts, these nutrients encourage the runaway growth of algae and aquatic weeds, which can impact the health and quality of our waters.

What can you do? *It's simple!*
Pet waste pollution control begins with you:

BRING IT! Always bring a plastic bag, or two, when you walk your dog! You can carry bags in your pocket, tie them to your leash or belt loop, or use a doggy bag holder that fits on to your leash.

BAG IT! Use the bag as a glove to scoop the waste, then turn the bag inside out and seal. You can keep a small bottle of hand sanitizer with you or wash your hands with soap and water when you are done bagging.

DISPOSE OF IT! Place the bag in a trash can or flush it, unbagged, down a toilet. Never dispose of pet waste in a storm drain as it will then flow directly, untreated, to your local waterway. Pet waste may also be carefully buried at least 5" deep, away from vegetable gardens or waterways, or even composted.

To learn more about the importance of scooping your dog's waste, in state parks as well as in your community, please visit the following links:

Give a Bark for a Clean State Park! Chatfield Hollow State Park gets new dog waste disposal stations.

Does your dog Bark for a Clean State Park? Support the campaign and send in a photo of your responsible dog to include on the District's website! Visit Give a Bark for a Clean State Park for more information.

Pet waste nonpoint source pollution and similar campaigns throughout the web.

More about *Nonpoint Source Pollution*
Nonpoint source pollution (NPS) occurs when accumulated pollutants from residential, commercial and agricultural lands are carried by stormwater and snowmelt runoff, and deposited in our waterways where it is a significant threat to the quality of our wetlands, ponds, streams, lakes, rivers and estuaries. Common NPS pollutants are construction sites, roads, parking lots, roofs, lawns, farms and failing septic systems. In addition to pet waste, lawn fertilizers, motor oil, driveway sand and salt, and soapy water from washing cars in driveways are common NPS pollutants that end up in waterways.

Find dog-friendly places and parks to visit in Connecticut
CT dog-friendly travel places (leave CRCCD site)
CT dog parks from Ecoanimal.com (leave CRCCD site)
CT dog parks from Doggeek.com (leave CRCCD site)

Connecticut River Coastal Conservation District,Inc.
deKoven House Community Center -- 27 Washington Street -- Middletown, CT 06457

phone 860.346.3282 fax 860.346.3284 -- email: ctrivercoastal@conservect.org

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Is Your City in the Dog House?

Survey of America's Top Cities Ranks the Biggest Offenders on Scooping the Poop
Serious Human Health Risks Associated With Dog Waste: New Survey Reveals Nationwide Lack of Vigilance About Scooping the Poop

DULUTH, Ga., May 5 /PRNewswire/ -- According to a recent survey when it comes to scooping the poop, Houstonians felt their pet owning residents deserved to be in the dog house, ranking their city lowest on the list for responsible scooping, while San Francisco was deserving of a treat, scoring the highest marks. Neglecting to remove dog waste increases health threats at parks, playgrounds, and even backyards. Parasites, like hookworms and roundworms, may be found in animal waste and may be transmitted to other dogs AND to people. The Centers for Disease Control and Prevention (CDC) reports 10,000 cases of roundworm infection annually, more than the widely-reported West Nile Virus. Consumers can learn more about parasite infection related to dogs and how to prevent it by visiting http://www.StopWorms.com

The survey(i), conducted by Merial Limited, the makers of HEARTGARD(R) Plus (ivermectin/pyrantel), ranks the top 15 markets (listed below from least to most responsible) based on an analysis of both dog owning and non-dog owning residents' (350 total respondents per market). The residents were asked their perceptions regarding the degree to which dog-owning residents pick up after their dogs.

THE SCOOP
(1= least responsible; 15= most responsible)

1. Houston
2. Atlanta
3. Dallas
4. Phoenix
5. Seattle
6. Boston
7. Tampa Bay-St. Petersburg
8. Washington D.C.
9. Detroit
10. New York
11. Minneapolis-St. Paul
12. Philadelphia
13. Chicago
14. Los Angeles
15. San Francisco

"Many pet owners are unaware that intestinal roundworms and hookworms pose serious health threats to their pets, as well as to the human family members," said Dr. Peter M. Schantz, Epidemiologist, Division of Parasitic Diseases -- Centers for Disease Control and Prevention.

Dr. Michael Rubinstein, clinic director of the Humane Society of New York adds, "It's important to pick up after your pet and ensure that your dog is not the source of a parasitic infection. Ask your veterinarian about a once monthly heartworm preventive which in addition to preventing heartworm will treat and control intestinal parasites."

In addition, a national survey(ii) of 1,000 Americans (500 dog owners, 500 non-dog owners) found:

* Both dog owners and non-dog owners alike perceive New Yorkers as having the most responsible dog owners when it comes to picking up after their pets, with 30% of respondents saying they think New Yorkers are very

responsible. On the other hand, 44% voted Detroit natives as the least responsible for cleaning up after their pets

* Nearly 38% of dog owners surveyed said they never scoop up after their pets, an increase of 8% from 2005

* 91% of pet owners allow their dogs to "take care of business" in their own yards. However, one third of that group report they sometimes or never cleanup after their dogs in their own yard

Public awareness of human parasite infections is low:

* 80% of dog owners don't know that dog waste poses a human health threat

* More than 83% of those surveyed are unaware that people can become sick from parasites that may be in dog waste

* When asked to rank animal-related health risks, approximately 28% of dog owners and non-dog owners cite West Nile, the flu-like disease spread by mosquitoes, as a greater health threat than parasite infection. In reality, just 2,840 cases of West Nile virus are reported annually compared to 10,000 cases of roundworms annually

Parasite Transmission

Dogs get roundworms either from ingesting worm eggs off the ground or because their mother was infected and passed the worms to her puppies during pregnancy. Adult roundworms then feed on partially digested food in the dog's intestine. Dogs infected with roundworms and hookworms can suffer from abdominal discomfort, vomiting, loss of appetite, severe weight loss or even sudden death. However, in most instances, dogs may be infected without showing any immediate signs of illness.

Parasite Infection

When infected dog waste is left on the ground, the eggs of roundworms can remain viable in the soil for years. As a result, anyone who comes in contact with the soil can also come in contact with the infected eggs. Since children are prone to play at the park or playground and then put their hands in their mouth, they are more susceptible to infection. Children are therefore at a higher risk for developing serious rashes, damage to internal organs and partial blindness from hookworms and roundworms, however, anyone playing in an open area could potentially be in danger.

Tips on Protection

"Roundworm and hookworm infections in dogs are treatable. The best strategy for control begins with keeping your pet worm-free and healthy," says Dr. Rubinstein. He offers the following tips:

* ALWAYS pick up after your pet to minimize the chance of spreading infection.

* Visit Web sites like **http://www.StopWorms.com** to learn how to prevent pets from transmitting potentially dangerous worms to you and your family.

* Take your puppy or kitten to the veterinarian for deworming at an early age and adhere to a regular monthly deworming schedule to prevent subsequent infection.

* Ask your veterinarian about HEARTGARD(R) Plus (ivermectin/pyrantel), a product that treats and controls the most species of roundworms and hookworms and protects against heartworm disease.

* Clean up properly after pets, especially around the home and lawn. Use tools for clean up to avoid direct contact with pets' waste and wash hands immediately after cleanup.

* If you have a sandbox in your backyard, be sure to keep it covered to prevent neighborhood pets from using it as a litter box.

* As children are particularly vulnerable to intestinal parasites, help them understand the dangers of ingesting or coming in contact with feces or potentially contaminated soil.

* Make sure to carry towelettes to wipe children's hands frequently after playing in a park, public sandbox, etc.

About HEARTGARD

HEARTGARD(R) (ivermectin) is well tolerated. All dogs should be tested for heartworm infection before starting a preventive program. Following the

use of HEARTGARD(R), digestive and neurological side effects have rarely been reported. For more information, contact your veterinarian or visit **http://www.HEARTGARD.com**.

About Merial

Merial is a world-leading, innovation-driven animal health company, providing a comprehensive range of products to enhance the health, well-being and performance of a wide range of animals. Merial employs approximately 5,000 people and operates in more than 150 countries worldwide. Its 2005 sales were in excess of $1.9 billion. Merial Limited is a joint venture between Merck & Co. and sanofi-aventis. For more information, please see **http://www.merial.com**.

i. The study was fielded by Braun Research Inc. from March 24th to March 31st, and has a 5% margin of error.

ii. The study was fielded by Braun Research Inc. from March 24th to March 31st among a sample of 510 dog and 503 non-dog owners using an online survey questionnaire, and has a 3% margin of error.

SOURCE Merial Limited

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Related links:

- http://www.StopWorms.com
- http://www.HEARTGARD.com
- http://www.merial.com

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Pollution Prevention Fact Sheet: Animal Waste Collection

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Description

Animal waste collection as a pollution source control involves using a combination of educational outreach and enforcement to encourage residents to clean up after their pets. The presence of pet waste in stormwater runoff has a number of implications for urban stream water quality with perhaps the greatest impact from fecal bacteria (for more information see *Microbes in Urban Watersheds: Concentrations, Sources and Pathways*, Article 17 in The Practice of Watershed Protection). According to recent research, non-human waste represents a significant source of bacterial contamination in urban watersheds. Genetic studies by Alderiso *et al*. (1996) and Trial *et al*. (1993) both concluded that 95 percent of the fecal coliform found in urban stormwater was of non-human origin. Bacterial source tracking studies in a watershed in the Seattle, Washington area also found that nearly 20% of the bacteria isolates that could be matched with host animals were matched with dogs. This bacteria can pose health risks to humans and other animals, and result in the spread of disease. It has been estimated that for watersheds of up to twenty-square miles draining to small coastal bays, two to three days of droppings from a population of about 100 dogs would contribute enough bacteria and nutrients to temporarily close a bay to swimming and shellfishing (US EPA, 1993).

Pet waste can also be a factor in eutrophication of lakes. The release of nutrients from the decay of pet waste promotes weed and algae growth, limiting light penetration and the growth of aquatic vegetation. This in turn can reduce oxygen levels in the water, affecting fish and other aquatic organisms.

Animal waste collection programs use awareness and education, signs, and pet waste control ordinances to alert residents to the proper disposal techniques for pet droppings. In some parts of the country, the concept of parks or portions of parks established specifically for urban dog owners has gained in popularity. With provisions for proper disposal of dog feces and siting and design to address stormwater runoff, these parks may represent another option for protecting local water quality.

Applicability

Pet ownership is not limited by factors such as region of the country, climate, or topography. For this reason, educational outreach regarding animal waste is appropriate throughout the country. In a survey of Chesapeake Bay residents, it was found that about 40% of households own a dog. Just about half of these dog owners actually walked their dog in public areas. Of the half that did walk their dog, about 60% claimed to pick up after their dog (Swann, 1999), which is generally consistent with other studies (Table 1). Men were found to be less prone to pick up after their dog than women (Swann, 1999).

Residents seem to be of two minds when it comes to dog waste. While a strong majority agree that dog waste can be a water quality problem (Hardwick, 1997; Swann, 1999), they generally rank it as the least important local water quality problem (Syferd, 1995 and MCSR, 1997). This finding strongly suggests the need to dramatically improve watershed education efforts to increase public recognition about the water quality and health consequences of dog waste.

Table 1. Summary of Dog Waste Collection Surveys	
Maryland (HGIC, 1996)	• 62% always cleaned up after the dog, 23% sometimes, 15% never • Disposal method: trash can (66%), toilet (12%), other 22%

Washington (Hardwick, 1997)	• Pet ownership 58% • 51% of dog owners do not walk dogs • 69% claimed that they cleaned up after the dog • 31% do not pick up • Disposal methods: trash can 54%, toilet 20%, compost pile 4% • 4% train pet to poop in own yard • 85% agreed that pet wastes contribute to water quality problems
Chesapeake Bay (Swann, 1999)	• Dog ownership 41% • 44% of dog owners do not walk dogs • Dog walkers who clean up most/all of the time 59% • Dog walkers who never or rarely cleanup 41% • Of those who never or rarely clean up, 44% would not cleanup even with fine, complaints, or improved sanitary collection or disposal methods • 63% agreed that pet wastes contribute to water quality problems

Design Considerations

Programs to control pet waste typically use "pooper-scooper" ordinances to regulate pet waste cleanup. These ordinances require the removal and proper disposal of pet waste from public areas and other peoples property before the dog owner leaves the immediate area. Often a fine is associated with failure to perform this act as a way to encourage compliance. Some ordinances also include a requirement that pet owners remove pet waste from their own property within a prescribed time frame.

Public education programs are another way to encourage pet waste removal. Often pet waste messages are incorporated into a larger non-point source message relaying the effects of pollution on local water quality. Brochures and public service announcements describe proper pet waste disposal techniques and try to create a storm drain-water quality link between pet waste and runoff.

Signs in public parks and the provision of receptacles for pet waste also encourage cleanup.

Another option for pet waste management is the use of specially designated dog parks where pets are allowed off-leash. These parks typically include signs reminding pet owners to remove waste, as well as other disposal options for pet owners. The following management options have been used in Australian dog parks and could be incorporated for dog parks here (source: Harlock Jackson *et al.*, 1995):

- **Doggy loos**: These disposal units are installed in the ground and decomposition occurs within the unit. Minimal maintenance is required (no refuse collection).
- **Pooch patch**: A pole is placed in the park surrounded by a light scattering of sand. Owners are encouraged to introduce their dog to the pole on entry to the park. Dogs then return to the patch to defecate and special bins are provided in which owners then place the deposit.
- **The "Long Grass Principle"**: Dogs are attracted to long grass for defecating and areas that are mowed less frequently can be provided for feces to disintegrate naturally. A height of around 10 cm is appropriate.

The design of these dog parks should be done to mitigate stormwater impacts. The use of vegetated buffers, pooper-scooper stations, and the siting of parks out of drainage-ways, streams and steep slopes will help control the impacts of dog waste on receiving waters.

Limitations

The reluctance of many residents to handle dog waste is the biggest limitation to controlling pet waste. According to a Chesapeake Bay survey, 44% of dog walkers who do not pick up indicated they would still refuse to pick up, even if confronted by complaints from neighbors, threatened with fines, or provided with more sanitary and convenient options for retrieving and disposing of dog waste. Table 2 provides factors that compel residents to pick up after their dog, along with some interesting rationalizations for not doing so.

Table 2. Dog Owners' Rationale for Picking Up or Not Picking Up After Their Dog (HGIC, 1996)

Reasons for not picking it up:	Reasons for picking up:
• Because it eventually goes away • Just because • Too much work • On edge of my property • It's in my yard • It's in the woods • Not prepared • No reason • Small dog, small waste • Use as fertilizer • Sanitary reasons • Own a cat or other kind of pet	• It's the law • Environmental reasons • Hygiene/health reasons • Neighborhood courtesy • It should be done • Keep the yard clean

This strong resistance to handling dog wastes suggests that an alternative message may be necessary. One example might be to encourage the practice of rudimentary manure management by training dogs to use areas that are not hydraulically connected to the stream or close to a buffer. For more information, see *Understanding Watershed Behavior*, Article 126 in The Practice of Watershed Protection.

Effectiveness

The pollutant removal abilities of pet waste collection programs has never been quantified although there is ample evidence that programs such as these are necessary in urban areas. For example, in the Four Mile Run watershed in Northern Virginia, a dog population of 11,400 is estimated to contribute about 5,000 pounds of solid waste every day and has been identified as a major contributor of bacteria to the stream. Approximately 500 fecal coliform samples have been taken from Four Mile Run and its tributaries since 1990, and about 50% of these samples have been over Virginia water quality standards for fecal coliform bacteria (NVPDC, 1998). A project is currently underway to pinpoint the source of bacterial contamination through DNA fingerprinting.

There is plenty of evidence that pets and urban wildlife can be significant bacterial sources. According to van der Wel (1995) a single gram of dog feces can contain 23 million fecal coliform bacteria. Dogs can also be significant hosts of both Giardia and Salmonella (Pitt, 1998). It was also noted in a 1982 study of Baltimore, Maryland catchments that dog feces were the single greatest contributor of fecal coliform and fecal strep bacteria (Lim and Olivieri, 1982). This evidence points to a need for enforcement and education to raise resident awareness regarding the water quality impacts of this urban pollutant source

Cost

The cost of animal waste collection programs will vary depending on the intensity of the effort and the paths

chosen to control pet waste. The most popular way is through an ordinance, but managers must consider the cost of enforcement, including staff and equipment requirements. Public education program costs are determined by the type of materials produced and the method of distribution selected. Signs in parks may initially have a higher cost than printed materials, but can last for many years. Signs may also be more effective, since they act as on-site reminders to dog owners to clean up in parks.

References

Alderserio, K., D. Wait and M. Sobsey. 1996. Detection and Characterization of Male-Specific RNA Coliphages in a New York City Reservoir to Distinguish Between Human and Non-human Sources of Contamination*. Proceedings of a Symposium on New York City Water Supply Studies, ed.* McDonnell et al. TPS-96-2. American Water Resources Association. Herndon, VA.

Hardwick, N. 1997. *Lake Sammamish Watershed Water Quality Survey*. King County Water and Land Resources Division. Seattle, WA. 122 pp.

Harlock Jackson Pty. Ltd., J. K. Blackshaw, and J. Marriott. 1995. *Public Open Space and Dogs:*

a Design and Management Guide for Open Space Professionals and Government. Harlock Jackson. Victoria, Australia.

Home and Garden Information Center (HGIC). 1996. *Residential Fertilizer Use Survey*. University of Maryland Cooperative Extension. College Park, MD. Unpublished Surveys.

Lim, S. and V. Olivieri. 1982. *Sources of Microorganisms in Urban Runoff*. John Hopkins School of Public Health and Hygiene. Jones Falls Urban Runoff Project. Baltimore, MD. 140 pp.

Minnesota Center for Survey Research (MCSR). 1997. *Lawn Care Survey-results and Technical Report Technical Report 97-9*. University of Minnesota. Minneapolis, MN. 60 pp.

Northern Virginia Planning District Commission (NVPDC). 1998. *Four Mile Run*. Web site address: www.nvpdc.state.va.us/4MileRun/4mr.htm

Pitt, R. 1998. Epidemiology and Stormwater Management. *Stormwater Quality Management.*

Swann, C. 1999. *A Survey of Residential Nutrient Behaviors in the Chesapeake Bay*. Widener Burrows, Inc. Chesapeake Research Consortium. Center for Watershed Protection. Ellicott City, MD. 112 pp.

Syferd, E. 1995. *Water Quality Consortium*. Research Summary Report. Seattle, WA.

Trial, W. *et al*. 1993. Bacterial Source Tracking: Studies in an Urban Seattle Watershed. *Puget Sound Notes*. 30:1-3.

United States Environmental Protection Agency (US EPA). 1993. *Guidance Specifying Management Measures for Sources of Nonpoint Pollution in Coastal Waters*. US EPA, Office of Water. Washington, DC.

van der Wel, B. 1995. Dog Pollution. *The Magazine of the Hydrological Society of South Australia*. 2(1)1.

Visitor/Non-Visitor Use Constraints: Exploring Ethnic Minority Experiences and Perspectives

General Technical Report Submitted to:

The Golden Gate National Recreation Area
and
The Golden Gate National Parks Conservancy

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Assistant Professor and Principal Investigator

SAN FRANCISCO STATE UNIVERSITY

March 2007

GOLDEN GATE NATIONAL PARKS CONSERVANCY

NATIONAL PARK SERVICE

National Park Service
U.S. Department of the Interior

Golden Gate National Recreation Area
Visitor/Non-Visitor Use Constraints
Exploring Ethnic Minority Experiences and Perspectives

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This technical report may be used, in part or in whole, and should be acknowledged as follows:

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Golden Gate National Recreation Area
Visitor/Non-Visitor Use Constraints: Exploring ethnic minority perspectives
EXECUTIVE SUMMARY

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This report was prepared by San Francisco State University for the Golden Gate National Recreation Area (GGNRA) and the Golden Gate National Parks Conservancy. This focus group study attempts to help realize the park goals of understanding how to improve "connecting people to the parks" and how best to engage under-represented communities in plans and programs. This was especially timely given the onset of the park's General Management Plan update and other major GGNRA and GGNPC planning efforts related to both trails and transportation access.

This study was approved by the NPS Social Science Program, U.S. Department of the Interior, and subsequently received OMB approval as well. The purpose of this report is to summarize the results of this study including the following: 1) To describe the racial, ethnic and cultural patterns in use and non-use of the Golden Gate National Recreation Area, 2) To identify primary constraints to use or visitation for these constituents and, 3) To learn how best to engage some of the local under-represented groups in park planning and projects.

Eight focus groups consisting of nearly 100 ethnic minority residents (n=99) in three Bay Area counties within the GGNRA boundaries (San Mateo, San Francisco, and Marin) were conducted between September and December 2006. The target racial groups were Hispanic/Latino, African Americans/Black, and Asian/Pacific Pacific Islanders as determined by ethnic majority groups for each county identified through local Census data. A snowball sampling technique occurred with trusted and respected community leaders to ultimately form each focus group process that included between 9 and 15 participants.

Focus group recruitment emphasized selecting a majority of individuals that were unfamiliar with national park sites in GGNRA in order to better understand "obstacles" to their use of parklands; however, it was also essential that some of the participants involved had visited to learn about their connections as well. Subsequently, more than one-third of the participants involved in this study had visited at least one GGNRA site in the past year to provide some understanding of their 'visitor experience.' It is important to note that many comments surfacing from this focus group sample, that are reported herein, were not always specific to GGNRA and a national park site, but to parks in general, unless otherwise specifically noted in this report. Nonetheless, comments about "park experiences," in general, do affect feelings, associations and value choices that are made by these populations in regard to visiting a park, and should be considered in any park's planning and programming.

Major results and findings:

- All groups researched expressed a clear desire to enjoy the numerous benefits associated with outdoor recreation and interest in education about national parks.
- Many comments that surfaced in the interviews provided indicators of park use constraints independent of type of park and overall management structure (e.g., some people did not distinguish between city, state, or national parks).
- Cultural connections to nature/natural environment ranged from mental and physical benefits to spiritual and religious gains in personal life.
- Participants identified benefits of parks in relation to nature being healthy with a typical emphasis on mental health (parks as reducing stress/strains of every day life) and in reference to increasing their connection to "God or spirituality".
- Findings revealed that a noteworthy segment of the population interviewed care deeply about parks and natural resource issues. Many people, however, expressed not knowing how these resources are managed or by whom. This reflects a communications gap between certain ethnic groups and the National Park Service.
- At least one or more participants in every group reported not knowing the specific Golden Gate National Recreation Area existed.
- Results of this study corroborate well with other constraints research findings conducted across the country, as well as includes factors unique to the Bay Area based, for example, on geography and history. The literature review included in this report provides a few related highlights from previous studies and is not intended to be comprehensive.
- Primary constraint factors limiting use of, or visitation to, GGNRA and/or other national parks include the following five broad categories with a few subsequent themes:
  - ✓ Access
    - * *Transportation* issues: Lack of a personal/private vehicle, poor public transport links, and/or lack of knowledge for accessing transportation to reach GGNRA units (offering recreational or educational opportunities) impacts independent, self-sustained access.
    - * *Cost* is a key factor that surfaced among all groups: Gas/auto, parking, buying food, equipment or gear required for certain activities, and entrance fees (where applicable).
    - * *Safety and fear*: Discomfort, personal safety, and fear of the unknown about certain outdoor environments.
  - ✓ Communication: Language issues, signage, printed brochures/materials not always available or known that they exist.
  - ✓ Discrimination, cultural differences, perceived prejudice: Perceived and real; non-verbal cues from other visitors; "too many rules" (e.g., park policies overwhelming and/or confusing); brochures/marketing materials not reflecting ones own cultural context.

- ✓ Lack of Knowledge, Experience, and Awareness: Where to go or what to do, and lack of previous experience/skills to partake in certain activities.
- ✓ Representation: Lack of ethnic minorities on staff/workforce diversity, lack of awareness of, or questioning, recruitment and hiring practices.

- Concern of some about not feeling welcome has undermined people's confidence and/or desire to access national parks and some other local outdoor recreation areas.

- Scarcity of ethnic/cultural diversity of NPS staff-personnel was acknowledged as a lack of "representation" (of community) as an issue yet was not a fundamental barrier across ethnic groups.

- Several people from one of the African American groups discussed employment and NPS recruitment at length and comments were expressed around challenges and frustration of securing employment. The majority recognized that Blacks were primarily maintenance staff (many Latinos mentioned this latter factor as well).

- Experiences with and/or fear of potential discrimination was a real issue for many people yet different patterns of use and culturally implicit connotations varied (e.g., "bad looks, stares and glares, bad vibes"). A few people provided explicit / overt examples including racial slurs and harassment by other visitors. Majority of comments related to overall discomfort with non-verbal body language and other non-verbal cues. Perceptions varied yet there was consistency across groups in explaining that these "feelings" from being around other visitors–at times–impacted the overall experience.

  Indicators consisted of three primary variables: Source, Severity, and Consistency. Note: Most African Americans from all three of the groups interviewed consistently expressed feeling 'discriminated against' in some capacity from both visitors and staff (non-verbal as well as verbal cues). This was evident yet not manifested as deeply in the other focus groups.

- Dogs as problems were mentioned by all Latino and Asian groups. For example, dogs off leash create fear. Dog owners not picking up feces in fields, on trails and beaches, and picnic areas reduce enjoyment of the experience. Latinos, overall, expressed concern about dog owners "not caring" or lacking control (e.g., owners assume other people will like their dog as much as they do; allowing dogs to approach other people without their permission; dogs begging for food and owners not retracting them).

- The longer people are in the Bay Area, their needs and perceptions change (e.g., recent Chinese and Latino immigrants versus 1st or 2nd generation).

- There are more differences within the Latino community (versus similarities) than any other ethnic group in the study. Attitudes and experiences relate to immigration status, where they were born, level of literacy/education, and socio-economic status. The message is clear that management decisions should not be based on assumptions about the Latino culture as a whole. Examples of where people in the study were from include El Salvador, Guatemala, Spain, Puerto Rico, Costa Rica, and Mexico.

- While there were more differences within the Latino community as a whole, it is notable that there were many more similarities than differences when specifically discussing barriers relating to accessing GGNRA parks.
- Communications/media relationship to safety/fear: News reports on violent crimes, murders, search and rescue in parks and outdoor areas, perpetuated fear among these ethnic communities to not want to go or venture out.
- Consistency across all groups on every point relating to "accessibility" (e.g., obstacles identified to outdoor access): Language, cleanliness of bathrooms, transportation issues, safety/fear (crime), cost, and lack of companions desiring to share the experience.
- Family as the number one 'recreation companion' was commonly brought up among all groups interviewed.
- Each group suggested that GGNRA should bring information <u>into</u> the community ("to us") by their established modes of communication. Not enough to have the information 'out there'. They talked about different factors, yet spoke about the value of park staff learning about their preferred modes of communication for their community in order to connect with them (e.g., language, media, schools, community groups, etc).
- Participants expressed interest in GGNRA coming out to various communities and studying the local norms and traditions (e.g., "engage us accordingly") with staff who "mirror" their culture and reflect a common background.
- All of the African American/Black participant groups discussed the importance and 'power' in having their story told by them. That is, representation in interpretation was critical to many of the participants.
- Targeting/reaching youth through schools and field trips was brought up and discussed by all participants in every group interviewed. For instance, if children are interested and excited about visiting a park, adult parents or care-takers will usually endure any hardship to "make it happen."

✦ ✦ ✦ ✦ ✦

The Golden Gate National Recreation Area must understand both the sense of appreciation for visiting parks and the depth of constraints. Management should do everything possible to mitigate these barriers as well as ensure all sectors of the community are offered equal opportunity to participate in park activities. Everyone should enjoy the many benefits of parks, including health, well-being, and stewardship

A summary of five (5) major areas to demonstrate better connections to under-represented groups in the San Francisco Bay Area can be illustrated as follows[1]:

1. Acknowledge that both the GGNRA and Parks Conservancy are attempting to grow in better understanding and connecting people to parks. Continue to provide recognition for the incremental successes and best practices that currently exist.

2. Take short-term steps to insure all community groups contacted have park information, announcements and brochures printed in other major languages with culturally designed contexts for graphics and photographs.

3. Work on designating key community and park linkages (e.g., 'hubs' and trailheads with community-based organizations) that reflect welcoming and safe opportunities for individuals and groups to meet and enjoy parks with family or friends.

4. Explore ways to address transportation issues and increase access without cost burden whenever possible (e.g., consider appropriate fiscal partners/sponsors).

5. Seek culturally diverse outreach staff liaisons to work on behalf of the Park and Conservancy to bridge the gap with various ethnic communities around the Bay Area.

[1] See page 45 for complete series of recommendations.

INTRODUCTION and BACKGROUND

Preface

The National Park Service (NPS) Golden Gate National Recreation Area, the Golden Gate National Parks Conservancy, and the Presidio Trust can all benefit from research and evaluation related to the attitudes, experiences and constraints of non-users/non-traditional visitors to the Golden Gate National Parks. This study was approved by the National Park Service U.S. Department of the Interior, Social Science Program. Funding for this project was allocated through a contract with San Francisco State University through the Parks Conservancy. For purposes of this study, the under-represented ("target") groups referred to are people from ethnic minority communities in the Bay Area *(see page 12 for highlights).*

Objectives

- ✓ Learn how best to engage under-represented groups in park planning & projects.
- ✓ Identify primary constraints to use or visitation for these underserved groups.
- ✓ Identify community leaders, groups and strategies for getting (specific) input on trail projects and the GGNRA General Management Plan (GMP).
- ✓ Institutionalize a community liaison(s) and start building an ongoing dialogue.
- ✓ Get contextual and qualitative input that could supplement intercept surveys at park sites
- ✓ Input for sampling design of future survey(s) and generate further questions for survey and provide context and/or contribute toward follow-up community-based survey.

Project Background

Qualitative data collection included focus groups with ethnically and culturally diverse populations from San Mateo County, the City/County of San Francisco, and Marin County. Interviews occurred between September and December, 2006. Outreach programs and other efforts may include alternatives for how to increase awareness of GGNRA resources as well as have a greater impact for broader groups of visitors, for example, depending on changing demographics of northern California. The GGNRA was established in 1972, is a recognized Biosphere Reserve, consists of more than 75,000 acres, and has over 13 million visitors annually. Although various diversity initiatives implemented by GGNRA have achieved some notable successes, people of color and individuals from low socio-economic backgrounds may continue to be underrepresented in outdoor recreation and natural resource education at the parks. If these groups continue to be underrepresented in the ranks of visitors, they will often be part of the untapped ranks of those contributing to policies developed and decisions made on natural, cultural and historic resources management issues crucial to all of us. The overall need is to obtain general measures of past and current participation in recreation at GGNRA, specific types of experiences and activities desired from visiting, desired facilities, preferred types and sources of information about recreation at the park, and interest in future visitation and participation in enjoying the parks natural, cultural, scenic, and recreational values and opportunities. A major goal of this study was to determine whether institutional, physical, or other constraints exist that create barriers to the diversification of park visitors. Results of these focus groups will contribute to the park's General Management Plan (GMP), in particular, and assist with overall efforts for future outreach and civic engagement in general.

Bay Area Demographics

It is commonly noted that the population of the San Francisco Bay Area is both growing and becoming increasingly diverse. According to the Center for Comparative Studies in Race and Ethnicity at Stanford University, the San Francisco Bay Area is one of the most racially/ethnically diverse regions in the country while at the same time there are many variations across counties and municipalities. The total population of this area, based on the 2000 Census, has approached (and may now very well exceed) seven million people. Counties considered part of the San Francisco Bay Area include: Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, and Sonoma.

The GGNRA parks, and a variety of other open-space and watershed lands, play a key role in providing refuge and recreation for the growing population and protection to the valuable natural resources within them. The Bay Area lies among the most racially and ethnically diverse category of the U.S. Diversity Index across the country. In general, Alameda County (East Bay) has the most racial and ethnic diversity and the smallest percentage of Whites while Marin County is the least diverse. Also, females and males are split nearly 50/50 (i.e., F = 50.3%; M = 49.7%). A few basic demographics of interest (San Francisco Bay Area) include:

Hispanic/Latino and Race	**Percent**[1]
Hispanic or Latino (any race)	21.2%
African American/Black	6.7
American Indian/Alaskan Native	.3
Asian	21.8
Native Hawaiian/Pacific Islanders	.5
White	46.4
Some other race	.5
Two or more races	2.6
Place of Birth by Citizenship	
Native (U.S.A.)	70.5%
Foreign Born: Naturalized Citizen	15.0
Not a Citizen	14.5
Age	
17 years and younger	24.3%
18-64 years	64.4
65 years and older	11.3
Educational Attainment	
High School Graduate	18.5%
Bachelor's Degree	25.3
Graduate/Professional Degree	16.1
Housing Occupancy	
Owner-occupied	59.5%
Renter-occupied	40.5

[1] American Community Survey estimates for 2005.

Source: http://www.census.gov/acs/www/index.html

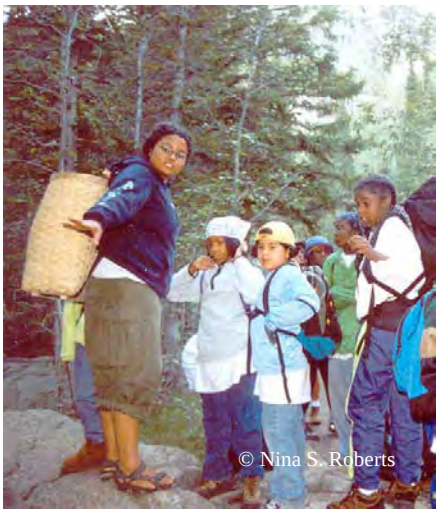
Thirty-percent of all Bay Area households report a grandparent as responsible caregivers for their grandchildren. Additionally, more than 36% of residents speak a language other than English at home most often. Regarding household income, 30% of the population is reported between $75,000 and $150,000 while the majority of the population's annual household income is between $50k and $75k (i.e., 20% and median income of $62K).

Regarding the means of transportation to work for workers 16 years and over, 80% of the population drives a car, truck or van and out of this percentage nearly 70% drive alone, approximately 11% carpool and almost 10% take some form public transportation.

Statistics show 44% of the Bay Area population is considered to be employed in a "management, professional and related" occupation while 14.5% are in the "service" industry, and 24% are in "sales and office" occupations. Other labor details reveal less than 1% are in the farming, fishing, and forestry fields, and 16 percent of the population are working in fields relating to "construction, extraction, maintenance, production, transportation and material moving".

One aspect to consider when thinking about constraints to visiting Golden Gate National Recreation Area in relation to Bay Area demographics is the actual location of GGNRA park lands and the adjacent demographics (as well as the variation in demographics in the surrounding areas). While there are lands managed by GGNRA scattered through three of the seven Bay Area counties, a majority (in terms of acreage) resides in Marin County. All Bay Area counties except Marin have broad racial/ethnical populations with diversity indices between 63.12 and 75.41, and most have a White population under 50 percent. Marin County is the one exception, with a much lower diversity index (37.47) and larger White population (78.55 percent).

Finally, the youth of the Bay Area are more racially/ethnically diverse than the overall population. As well, a larger percentage of people under age of 18 are mixed-race in each county compared to the overall population.



(Source: Lopez, 2001- Center for Comparative Studies in Race & Ethnicity, Stanford University; Bay Area Census, 2000: www.bayareacensus.ca.gov/bayarea).

California Projections

Based on the research prepared and provided by Dr. Emilyn Sheffield, "an understanding of trends and their most likely implications is essential as the population increases and the rate of demographic change accelerates." The state of California will experience the following changes:

- ✓ The population will approach 50 million before 2040.
- ✓ The population is becoming more culturally and racially diverse.
- ✓ Senior population will double by 2020.
- ✓ Baby boomers are approaching retirement age.
- ✓ Young adults ages 18–40 are creating new ways to experience the great outdoors.
- ✓ Children in grades K-12 will accelerate the rate of change.

It is no secret that the population in California is experiencing rapid ethnic and cultural growth among various groups. Based on review of the Census, Sheffield (2005) reports that California is currently 12% of the entire U.S. population and indicates we are also home to varying percentages of the total U.S. population consisting of several racial and ethnic groups including almost a ¼ of the population identifying as mixed race:

- ✓ 36.1% of the U.S. Asian American population
- ✓ 31.1% of the U.S. Hispanic or Latino population
- ✓ 29.3% of U.S. Native Hawaiians/Pacific Islanders
- ✓ 23.6% of all persons choosing "Two or More" races in the 2000 Census
- ✓ 13.5% of the U.S. American Indian/Alaska Native population
- ✓ 9.5% of the U.S. White population
- ✓ 6.5% of the U.S. Black population

"The proportions of California's ethnic and racial groups will continue to change through 2020 and beyond. California's Hispanic population is projected to comprise 43% of the state's population by 2030. Between 2000 and 2020, population increases are projected for several racial and ethnic groups".

- ✓ 58% increase in Hispanics
- ✓ 55% increase in Asian/Pacific Islanders
- ✓ 29% increase in Native Americans
- ✓ 20% increase in African Americans
- ✓ 4% increase in persons of European descent

(Source: E. Sheffield, Park & Recreation Trends in California, 2005)

LIMITATIONS OF THE STUDY

Limitations of this study related primarily to resources available and time factors. The funding, in general, allowed for a minimum number of focus groups per county yet this was also deemed sufficient for the project goals and objectives. While nine focus groups (i.e., 3 per county) were an intended goal, ultimately eight were completed by the close of the study period. That is, the graduate research assistant on the project received notification of his pending departure to Central America to begin a two-year Peace Corps experience thereby reducing the time available to conduct one more focus group.

The snow-ball sampling technique is known to be an effective method for identifying focus group participants. Especially among ethnic minority populations, this approach predominantly took place through contact with trusted and respected community leaders. Therefore the participants were delimited to individuals within those geographic areas where both formal and informal community leaders were accessible, available and willing to assist with this project.

In addition, the study was also delimited to three primary racial groups based on a large minority populations identified through the Census data: Latino, African American/Black, and Asian/Asian American/Pacific Islander. These are the top three most racially diverse groups in the tri-county area under study. Only one recent immigrant group was included; each of the other groups had a few self-identified bi-racial or multi-racial individuals indicating a need for potential future research on mixed-race populations.

Finally, as a general rule, if a participant could not point to or identify a specific site on the map (shown during the interview) their comment(s) could be construed to be generic about parks. Since some focus group members were not aware of the GGNRA and its sites/areas, many comments (as stated earlier) were—in fact—about parks generally, independent of type of management structure (e.g., city, county, state, or national).

BRIEF LITERATURE REVIEW

This study aims to address specific constraints to park use of the Golden Gate National Recreation Area among ethnic minority groups in the local geographic vicinity. Additionally, understanding experiences and constraints during visitation to a park was an essential aspect under investigation. The literature examined pertained to this study topic on a local as well as national level.

Understanding race, ethnicity and culture as it relates to recreation and park use

Race is described as "a social classification based primarily on differences in real or perceived physical characteristics" (Solop, et al., 2003). And, while based on phenotype, race is considered to be 'socially constructed'. Moreover, ethnicity is defined in terms of "national origin or such cultural characteristics as language and religion" (Solop, et al. 2003). Furthermore, ethnicity was once considered a "primary axis of socioeconomic stratification and institutional segregation" and it is now a symbol of political differentiation (Hirschman, cited in Stanfield & Dennis, 1993). While complex by nature, culture in its simplest form is an interrelated and learned set of beliefs, values, norms, customs, and traditions affecting the behaviors of a large group of people (Ewert, Chavez, & Magill, 1993; Stanfield & Dennis, 1993).

Sasidharan (2002) discusses the need to understand how race and ethnicity interact with other cultural variables (e.g., gender, age, religion) to influence outdoor recreation preferences. He concludes by pointing out the need to analyze cultural components (e.g., race and ethnicity, age and cohort, and gender) with "social roles, group relations, and inequality among other social structural variables" in order to increase overall understanding of leisure behavior (p. 8).

Floyd (1999) wrote a comprehensive review of race and ethnicity and use of the National Park System. His article provides lengthy discussion on the history of the literature and previous research pertaining to this topic. He points out that, traditionally, the lack of distinguishing between race and ethnicity has inhibited efforts to understand ethnic minority participation in outdoor recreation. As a result it is difficult to determine whether differences in recreation participation can be attributed to factors associated with "race (e.g., prejudice and discrimination) or cultural factors associated with ethnic ancestral values and beliefs" (p. 2).

Rodriguez and Roberts (2002) carried out an extensive literature review pertaining to ethnicity, gender, and social class in relation to outdoor recreation. They found that much of the literature they reviewed examined these primary variables in relationship to outdoor recreation and parks visitation; these variables have been studied either independently or in pairs (e.g., race and class, gender and ethnicity). Few studies, on the other hand, included the full combination of all three variables and their relationship to participation in outdoor recreation activities. They also identified gaps in the outdoor recreation literature including fewer studies found on concepts of avoidance and displacement, people with disabilities, the elderly, motivation, user conflicts, and meaning/place attachment which made up, collectively, only 10% of the literature they reviewed.

Culture/media influence on participation in outdoor recreation

Martin (2004) reviewed advertisements in three magazines: Time, Ebony, and Outside from 1985 to 2000 to determine if there exists a "racialized outdoor leisure identity." He concludes after extensive content analysis (e.g., over 4000 magazine advertisements) that wilderness areas, and the recreation and leisure occurring in these areas are "socially constructed as the exclusive domain of Whites". He noted that the magazine advertisements lacked depictions of Black models hiking, camping, and participating in other outdoor recreation activities and that this portrayal of the outdoors is embraced by some segment of U.S. culture. He believes "the stereotype that Black Americans, as a group, do not participate in wilderness recreation may become a self-fulfilling prophecy due to expectancy effects."

Another study conducted by Winter, Jeong, and Godbey (2004) surveyed Asian Americans in the Bay Area to understand perceived constraints to visiting GGNRA. Among their numerous findings, results show this population indicated a heavy emphasis on utilizing ethnic media as important sources of information. This is also known to be essential in other racial and ethnic communities (see *New America Media, Appendix E*). In general, this is a growing area of research in the field of outdoor recreation and natural resource management.

Access and the national parks

Floyd (2001) explored five hypotheses used to explain primary issues of disparity in access to nature and National Parks. The *marginality hypothesis* explains the "low rates of participation among African Americans result from limited access to socioeconomic resources which, in turn, are a consequence of historical patterns of racial discrimination" (p. 43). The *sub-cultural hypothesis* describes differences in national park visitation as attributed to "divergent norms, value systems, and socialization practices adhered to by different racial and ethnic groups, independent of socioeconomic factors" (p. 44). The *assimilation hypothesis* assumes that "greater assimilation leads to similarity between majority and minority group members" (p. 46). The discrimination hypothesis is segmented in two key aspects. First, the *interpersonal discrimination hypothesis* relates to "actions carried out by members of dominant racial or ethnic groups that have differential and negative impacts on members of minority groups" (Feagin, 1991 in Floyd 2001, p. 47). Second, the *institutional discrimination hypothesis* "focuses on the 'behavior' of organizations, bureaucracies, or corporate entities. This hypothesis assumes discriminatory practices are embedded in the structure, policies, or procedures of organizations" (Floyd, 2001, p. 49). He concludes by discussing the NPS mandate to serve the American public and the rationale for the NPS to find common ground with the people it serves.

Constraints to national park/natural area visitation

Among recent literature that addresses the topic of National Park visitation and constraints to use includes a national level study commissioned by the NPS Social Science Program with Northern Arizona University. Solop, et al. (2003), conducted a survey of 3515 households in 2000 of which 32% of respondents reported visiting a national park within the last two years. The visitation rate breakdown by ethnicity for this finding was: 36% of white non-Hispanics, 33% of American Indians, 29% of Asians, 27% of Hispanic Americans, and 13% of African Americans.

Furthermore they found that Hispanic Americans and African Americans were more likely than Whites to identify the overall costs, lack of information and travel distance as constraints to park visitation (Solop, et al., 2003). African Americans were more than three times as likely as Whites to believe that park employees gave poor service to visitors, and that parks were uncomfortable places to be for people similar to themselves Additionally, Hispanic Americans were concerned about making reservation too far in advance and were twice more likely than Whites to be concerned about personal safety.

In Colorado, Roberts (2003) conducted a study exploring ethnic minority visitors and non-visitors to Rocky Mountain National Park (RMNP). Using a multi-method approach (consisting of a Delphi technique, focus group interviews, and mail back survey), her study explored constraints experienced by African American and Latino visitors and non-visitors to RMNP in particular, and to national parks in general. The issue of perceived discrimination embedded in institutional practices and among white park visitors, and opinions of minority resource professionals were also considered integral to this project. Taken together, all three methods resulted in six primary categories of common constraints: Culture of the National Park Service (e.g., education and interpretation programs often lack cultural relevance, caters to white visitors, hiring practices), perceived discrimination, historical context, discomfort/safety, socialization

(e.g., at an early age and 'social permission' from peers), and lack of knowledge and awareness (what to do, where to go).

Tierney, Dahl, and Chavez (1998) carried out a study of barriers, motivations, and actual recreation use of underdeveloped areas by ethnically diverse urban residents of Los Angeles County. They polled a random sample of people using a telephone survey. Less than half of the Los Angeles County residents had visited underdeveloped natural area outside of the city during the height of the travel season during the study year (May to August 1994). Of those who had visited, the breakdown by race was: 44% White, 34% Asian, 27% Hispanic, and 21% African American.

Their analysis showed that respondents least likely to visit underdeveloped natural areas were "those with low levels of socioeconomic status, low levels of assimilation, who had moderate to high perceived discrimination, and who were of African American ethnicity" (Tierney, Dahl, & Chavez, 1998). The constraints identified across all groups were lack of free time, few friends travel or recreate in (natural) areas, nearby destinations were too crowded, their financial situation, and don't know where to go/what to do. They conclude with offering strategies to address the major barriers identified in the study.

Winter, et al., (2004) examined the differences between four different Asian American cultural groups: Chinese, Japanese, Korean, and Filipino. A self-administered survey was distributed through existing community organizations. Results showed that the different groups are distinct, and suggests that Asian Americans should not be considered a homogeneous group when conducting studies. Furthermore, perceived constraints to visiting GGNRA were affected by the interaction of income, education, linguistic acculturation, cultural group, and gender, but not by any variable individually.

Johnson et al., (2001) looked at groups of traditionally marginalized people in order to determine if they perceived more constraints to outdoor recreation participation. They examined the specific role of race, gender, and urban residence and found of those three factors, gender was a significant predictor of constraints for the participants. Women identified concerns about personal safety, inadequate facilities and information, insufficient funds, and outdoor pests. Race was not a significant predictor; however, African Americans were much more likely than whites to feel inhibited by personal safety concerns. Urban residence did not appear to be an important factor to outdoor recreation participation according to this study.

Philipp (1995) found race to be an important leisure constraint for numerous leisure activities including outdoor recreation. He examined groups of African Americans and European Americans from similar socioeconomics status and residential locations with focus on two leisure constraint measures: Appeal and Comfort. He found that there were significant differences in the rated "appeal and comfort" associated with a majority of the leisure activities examined in the investigation with African Americans feeling less comfortable outdoors.

Shinew et al., (2004) found in their study that African Americans reported being less constrained than did Caucasians, which challenges the results of previously reported research. They suggest that Caucasian may have different expectations of leisure experience based on previous experiences. They also suggest that African Americans have become more accustomed to negotiating constraints, and thus have developed strategies of resistance to empower themselves in life and in leisure (p. 194). Their study also indicated

that African Americans report a lower preference for nature based activities than Caucasians, which is consistent with much of the literature.

Finally, Jackson (2000) explores both the insights and benefits of constraints research while at the same time he discusses the limitations and criticisms of this work. He recognized the value of the new insights into leisure participation, motivations, satisfaction and conflict as well as the increased understanding of individuals' leisure choices and behavior and the factors that influence both positively and negatively those choices. At the same time he points out several criticisms to the work that has been done. A few examples include; the narrow choice of criterion variables, with over-emphasis on participation vs. non participation in leisure activities, over-emphasis on constraints as obstacles, coupled with neglect of adaptive strategies, and over-reliance on quantitative methods of data collections (Jackson, 2000, p. 65).

Management for ethnic minority "needs"

Rodriguez and Roberts (2002) studied NPS programs, across three regions of the U.S., designed to serve diverse user and traditionally under-served populations. They concluded that actions of the park staff formed the basis for outreach efforts and those actions were important in influencing attitudes of other park staff as well as contributing to positive outcomes of specific program designs. They stated that "a park management plan that emphasized outreach to minority communities will be more successful in reaching diverse audiences".

Another important study to mention includes work carried out by Chavez (2001); she offers various management and planning strategies based evaluation of visitor contact studies. One example includes the suggestion to develop and/or redesign park sites where appropriate to facilitate larger groups. This recommendation was based on the finding that Hispanic visitors tend to recreate in larger groups and prefer to use more developed sites (Chavez, 2001). This finding is well-known throughout the outdoor recreation literature. Chavez also suggests using more interpersonal and on-site information dissemination in the appropriate language to serve the actual visitors instead of expecting that visitors will seek out information themselves.

Partnerships and collaboration with racial/ethnic and cultural communities

Both the National Park Service and the National Parks Conservation Association (NPCA) have established initiatives to engage ethnic minorities in park use, advocacy and stewardship. The NPCA published a guidebook to creating, building and sustaining community partnerships (NPCA, n.d.). This publication provides step-by-step tips and methods to forming community partners. The efforts of San Francisco Partners are featured in the "Building the Partnership" section (see p. 17-18).

Makopondo (2006) addresses the challenges, issues, and strategies to creating racial/ethnically inclusive partnerships in resource management and outdoor recreation. Some of his major conclusions included that "collaboration and partnerships are viable mechanisms" for improving ethnic minority involvement in management, education and recreation within national parks (p. 26). And, he discusses the variety of challenges associated with creating diverse partnerships. Finally he identifies four key strategies to designing partnerships: 1) Include relevant community leaders and organizations from the beginning, 2) Become involved in the issues of interest within the partnership community,

3) Develop activities and programs that are relevant to the targeted ethnic community, and
4) Be authentic in developing relationships between the agency and partner community.

Conclusions

The significance of this brief literature review, as well as the content of this current research study, is to facilitate increased comprehension and provide park managers with the tools and capacity to best serve the diverse needs of all ethnic/cultural communities. The aim was to highlight a few studies that are related and important to this work however this review is not an attempt to be comprehensive on this subject.

In their research reflection on race and ethnicity, Shinew et. al., (2006) explain that constraints research related to race and ethnicity has opened new windows on unique barriers associated with the social and cultural experiences of ethnic minorities. For example, constraints associated with language, discrimination, and prejudice was neglected in earlier studies. Furthermore, and as found in the present study, Shinew and colleagues note that how different groups interact in public spaces and how they negotiate limited recreation resources will be important areas of inquiry in the future.

Photo D. Kinney

METHODOLOGY

I. Introduction

When researching individuals or groups from ethnic and culturally diverse backgrounds, use of qualitative methods can best provide an in-depth understanding of the phenomena in question such as through use of personal interviews, participant observation, symbolic interactionism, focus groups, and historical reviews (McAvoy, Winter, Wilson-Outley, McDonald, & Chavez, 2000; Stanfield & Dennis, 1993). The focus group technique has received widespread use on these target groups in the fields of parks, recreation, outdoor and environmental education, natural resource management and tourism sciences.

II. Data Collection

Applying a snowball technique, previously existing organizations and community groups were recommended by both formal professionals and informal leaders across all cultural groups. More than 90 people in the Bay Area were contacted to assist with ultimately convening the interview sessions.

Eight focus groups were assembled for this study ranging in size from 9 to 15 individuals. Self-ascribed racial identities of participants included: 31 African American/Black, 34 Hispanic/Latino(a), and 24 Asians/Pacific Islanders for a total of 99 individuals. There were 64 females and 35 males ranging in age from 18 to 63. Collectively, participants represented either a contingency that has never been to GGNRA or one with a broad range of types and experiences with the park (i.e., Slightly more than one-third, of all people interviewed have visited various sites of the Golden Gate National Park Recreation Area). The eight groups convened at eight different times to maintain group cohesion within a specific racial group. Permission was requested and granted to tape the interview process and confidentiality was assured. Each participant was given both $50.00 cash incentive and small gifts from the Golden Gate National Parks Conservancy (i.e., trails forever cap and pins). Food was also provided.

A series of thirteen primary (i.e., tier 1) semi-structured questions set the foundation for the process (see Appendix D for the three tiered list of questions). The interviews were taped, transcribed (*n*=135 pages), and coded for content in 10 major topical areas:

- ✓ Value of nature/natural environment
- ✓ Familiarity with NPS and specific travel/visits to GGNRA and surrounding parks.
- ✓ Activity interests (e.g., included probes about ranger-led programs and/or visitor centers)
- ✓ Communication issues and preferences
- ✓ Education and awareness
- ✓ Comfort level (e.g., nature/parks in general or GGNRA in particular)
- ✓ Barriers/constraints to visiting GGNRA (includes discrimination as inquiring factor).
- ✓ Marketing issues and suggestions
- ✓ Healthy lifestyles (general and regarding park use)
- ✓ Workforce diversity/representation from a very broad viewpoint

III. Participants

The following table reflects the final sample of participants interviewed:

Date	Location/Site	County	City/Area	Nbr of People	Nbr of M / F	Racial/Ethnic Group [2]
Sat. Oct. 7 *	Main Street Housing Community	San Mateo	Half Moon Bay	13	1 / 12	Hispanic/Latino
Mon. Oct. 16	City Team Facility East Palo Alto, CA	San Mateo	East Palo Alto	15	15 / 0	African American
Wed. Oct. 25 *	CCSF-Mission Campus	San Francisco	San Francisco	12	3 / 9	Hispanic/Latino
Wed Nov. 8	SE Community Commission/Bay View	San Francisco	San Francisco	12	0 / 12	African American/Black
Wed Nov. 11	Public Fire & Safety Building	Marin	Marin City	14	8 / 6	African American/Black
Wed. Nov. 29 *	Charity Cultural Services Center 827 Stockton Street	San Francisco	San Francisco	12	3 / 9	Asians
Wed. Dec. 6 *	Pilipino Bayanihan Resource Center	San Francisco	Daly City [1]	12	3 / 9	Asians
Thurs. Dec. 21	Latino Council of Marin	Marin	San Rafael	9	2 / 7	Hispanic/Latino

TOTALS: *n* = 99; M = 35 & F = 64; Latino = 34 / African American = 31 / Asians = 24

* = Translator present

[1] This location was chosen because of its proximity to San Mateo County parks as well as large Asian population.

[2] Examples of self-ascribed racial/ethnic identities: Salvadoran, Guatemalan, Spanish, Mexican, Puerto Rican, Costa Rican, Chinese, Vietnamese, Filipino, Mien, Japanese, Black, Black American, Afro-American, African American, Latino/Latina (with no country of origin indicated).

Note: The cities noted in the matrix above, and throughout the report are where each focus group was held. Participants were drawn from that location and from other cities/towns in the nearby vicinity of each respective county.

DATA ANALYSIS

Pre-analysis:

Each focus group was audio-taped; hand-written notes were also taken during the interview sessions by the Principle Investigator (P.I.) and by the graduate research assistant. As a final step before the actual analysis began, participant checks helped to ensure the research team understood focus group member responses. That is, the P.I. left enough time before the closing and dismissal of the focus group to clarify specific questions. This was a time to verify accurate recording of information brought forth in the 90-minutes to 2-hour sessions. The tapes were transcribed as soon after the focus group discussion as possible. The graduate research assistant transcribed all interviews conducted in English; and a Spanish language translator and Cantonese language translator transcribed the respective non-English tapes.

Data Analysis:

Data analysis was accomplished using a constant comparative technique (Glaser & Strauss, 1967) and analytic induction as tools for analysis. Constant comparison (see Glaser & Strauss, 1967) means that the researcher must continually compare the categories and codes of new transcripts with existing categories and codes in order to more fully develop the properties of the overarching categories for the individual codes.

First, after the data were organized and coded, similarities between groups were established (e.g., exploration of common themes) and, second, each racial group was subdivided into similarities and differences to obtain within-group commonalties and variations. Qualitative data analyses require many careful readings of transcripts and each transcript was therefore read multiple times by both the research assistant and the P.I. to thoroughly complete the data reduction process. The data were analyzed in two primary ways: Interviews were first coded using descriptive codes derived from the interview questions. Following the research questions as guides, every line, paragraph, or other section of text was coded for relevant themes.

Second, interviews were then coded by emerging patterns, themes and categories as part of the movement from data description to conceptual clarification. This involved reading and re-reading transcripts numerous times to ensure familiarity with the data.

Based on the focus group structure for this study, no effort was made to tease out the relative effects of gender, marital status, income, occupation, or other demographics of the participants at this time.

RESULTS/FINDINGS

Introduction

There is a dearth of formal evaluation or research that has occurred with ethnic communities visiting national parks in general, and the Golden Gate National Recreation Area, specifically. Formal evaluation has, however, been conducted with park education programs. Since these park educational programs are targeted to public schools, and the public school profile in San Francisco is representative of its diverse resident population, some evaluative information obtained has been adapted for park use and program planning.

It is also apparent that only informal outcomes evaluation has occurred with the outreach activities undertaken as part of the community groups' park program attendance. The GGNRA and Conservancy's community groups program has sought informal feedback by survey and a few small focus groups, yet few strategic or empirical efforts have occurred (personal communication, Naomi Torres, 1/21/07). The question remains, what do these efforts really mean to the community? The NPCA (pacific region) hired an intern around the same time as this study period to conduct a Bay Area survey to find out if group visits led to either individual visits or to other connections with the park. Contact NPCA for more information: 150 Post Street, Suite 310, San Francisco, CA 94108; Ph: (415) 989-9921; Email: pacific@npca.org; Internet: http://www.npca.org/pacific

Furthermore, little documented evidence has existed (i.e., no direct connection of benefits/outcomes attained by racial/ethnic groups); also no evaluation of constraints to visiting GGNRA by different cultural groups has been previously investigated. While nearly 100 people interviewed for this study represents a respectable and broad focus group sample for qualitative research on under-represented groups in general (n=99), this is still an insufficient sample size to be generalizable to overall experiences of each of these diverse populations around the Bay Area.

As one of five urban national parks, GGNRA is not alone in that (depending on the specific unit) many people do not distinguish nor differentiate between a city, county or national park. An important clarification which must be understood by readers of this report is that many references during the interview process provided indicators of park use and constraints, independent of type of park and overall management structure. Nonetheless, it is equally important that GGNRA (and other park managers) understand the implications of interview comments affect experiences of visitors and potential visitors regardless of setting. Comments can be transferable to other parks and should therefore be taken seriously.

> *"The Park Service deserves credit for tackling difficult issues in a genuine effort to make the sites, programs, and services they manage more reflective of people from diverse racial and ethnic backgrounds...Tight budgets limit the ability of diversity-enhancing programs to flourish and succeed. We cannot allow this process to be funded and first to be cut continue…"*
>
> ~ Tom Watkins, "This Land is Your Land", January 2007

COMMON BROAD CATEGORIES AMONG ALL ETHNIC GROUPS

1. **Recreation activities/GGNRA visitation/Companions –** Themes: A range of preferences for recreational activities (indoor and outdoor) was conveyed by participants (see recreational interests section that follows for each group). At least some people in each group had visited one or more of the GGNRA park sites, visit once or more times per year, and could mention the site by name. Family was reported as the number one 'recreation companion' (spouse/significant other and/or with children).

2. **Feelings about nature –** Themes: Nature is healthy (typically more emphasis on mental health (de-stress, etc). Reference to "God or spirituality" when speaking about nature.

3. **Representation** – Themes: Consensus among all groups regardless of park jurisdiction, in general, that park staff does not represent the ethnic/racial background of our community. Whether this "mattered" or not was approximately 50/50 across all groups.

4. **Knowledge**: Themes: All groups definitely cited "lack of information" about parks and park activities in their communities as well as in various sources of ethnic media. Individuals expressed interest in visiting if more information was easily available.

5. **Access/Accessibility** – Themes: Combined cost is the key factor that surfaced among all groups (e.g., entrance fees, gas/auto, parking, buying food, equipment/gear required for certain activities). Second, some safety and/or fear surfaced among all groups yet indicators (type) varied across groups (e.g., relating to unknown, poisonous flowers/plants, lack of knowledge/fear of wildlife, crime/criminal behavior, natural or environmental hazards)

6. **Communication** – Themes: Each group talked about bringing information into the community by their established/preferred modes of communication. "It's not what you say, but how you say it, where you say it, and what media you use to say it" *(Abridgment provided by the graduate research assistant on the project).* A key component related to "who" is carrying or delivering the message (e.g., to include the notion of desired value that park staff be representative of the community).

7. **Discrimination (perceived or real)** – Themes: The term *implicit* discrimination is used to explain respondent comments based on experiences as embedded, unspoken, hidden, and buried. The term *explicit* discrimination refers to respondents who could provide concrete details of at least one situation that resulted in a discriminatory act, statement or behavior of another person. This is an important variable to study when exploring this topic (e.g., constraints). There is a growing body of literature that addresses this facet and how discrimination is perceived or actually experienced continues to vary depending on ethnic group, geography, circumstances, etc.

BROAD DIFFERENCES ACROSS ALL ETHNIC GROUPS BY THEME

1. **Feelings about nature/outdoors** – State of being, "like home", bringing back memories of childhood - "like a kid again." Blacks did not mention anything about nature or parks relating to childhood memories or "bringing me back to my youth" whereas the majority of Latinos and Asians did. Technical/hard skills were lacking among some of the groups but not others (e.g., lack of knowledge about camping, inability to identify poison oak, etc).

2. **Representation** – Another theme also surfaced relating to "identification," meaning that some participants expressed frustration with an inability to identify with park staff. While all groups provided some indicators, the greatest concern seemed to come from mostly African Americans. Reference was made to the importance of "our history" and park "stories" or themes being told by Blacks. For example, stories about Buffalo Soldiers or some other aspect of African American history as told by Caucasian staff felt non-authentic. Having rangers who represent the culture of the community would promote greater interest and visitation among some individuals in the Black groups yet not as much of a concern with other individuals. For instance, this was also true with a proportion of Latino participants but not all. Relationship of park staff/rangers to the kids was noted as a lack of reflection of their culture represented as potential role models. "My kids don't see themselves in the parks on staff or with other visitors" was a statement made in one group. In every group, at least ½ and ½ felt it does versus does not matter. In every group but one, there are answers on both sides (*yes or no*, about whether race matters). The Chinese community in San Francisco (SF) was the only group that stated collectively that the race of the park staff does "not" matter. (See suggestions for future research).

3. **Discrimination (perceived or real)** – All groups, except the Chinese participants interviewed in SF (see note that follows), expressed some sort of "perceived discrimination" from staff or other visitors. The concept relating to one's perception does not mean 'less important.' *Note*: This group of recent Chinese immigrants was in the Bay Area for the least amount of time. Most other group's experiences were implicit ("bad looks, bad vibes, stares and glares"); and, a few people had also shared explicit examples such as racial slurs and harassment (by other visitors). The majority of experiences related to feelings of discomfort. Across groups, however, very little explicit or overt discrimination was reported during the interviews (common in the literature). Perceptions of discrimination varied across the focus groups where some people felt discomfort only from other visitors, other groups by park rangers, and one group by both visitors and staff. ***Indicators across groups***: Source, Severity, and Consistency. Blacks were the only group who consistently expressed feeling discriminated against in some capacity by both visitors and staff. Whether real or perceived, this is an important variable in their visit to a park.

4. **Employment** – Discussed more in African American groups than any other group. When it was mentioned in the Hispanic groups, it was either not a strong indicator or no emphasis was placed on this at all. For instance, providing training for youth "so they can get out of gangs" was only mentioned once. Employment was not mentioned with all groups, and not at all with the two Asian groups interviewed. Some groups (e.g., all Black groups and Latinos in Marin County) expressed lack of recruitment by the NPS to ethnic minority communities; others were not as aware or this did not matter.

5. **Knowledge/Lack of information** – Language specific issues surfaced with all non-English speaking individuals interviewed as a heavy concern (e.g., written materials, bilingual staff, signage). More than half of all participants in six out of eight groups spoke of not knowing how to get to the parks or where they were. Some people indicated having "no idea these NPS/GGNRA parks existed" or they never thought about it (went to parks and may not have known what park they are in). Several groups, but not all, discussed lack of knowledge of public transit routes to get to certain park areas. Additionally, lack of convenience for the Marin community to get to Marin Headlands was an interesting facet in that statements were made relating to "no buses go from Marin City to Marin Headlands." Residents have to take a bus back across the Golden Gate Bridge first, transfer to a different bus in the transfer lot, then come back across the Bridge on another route to enter the Headlands park areas. (*Note: The GGNRA has been attempting to address this with the GG Bridge Highway and Transit District, and MUNI as part of their access plan).*

6. **Experience gained with parks** – Where people are getting their experiences with the parks for African Americans was found to be almost entirely with school field trips and not with family. "White families give their kids personal experience yet most black families do not" (Black participant, East Palo Alto). Experiencing parks for Latino families, and in some cases the Asian participants, related to extended family and more communal ways of recreating for greater enjoyment and participation.

7. **Access/Accessibility** – This category was universal among all groups yet there were very few themes that were in common as every ethnic group interviewed had their own comments about this topic specific to their community. All but two groups indicated public transportation as a barrier to visiting parks (i.e., Asian community in San Mateo County and African American community in East Palo Alto). All groups cited lack of personal/private transportation except African Americans in East Palo Alto (EPA); the latter group did not cite personal/private transportation as a strong issue for lack of travel based on people interviewed. Each group had their own access or barrier issues *(see specific ethnic/racial group findings that follow in this report)*. Other differences were that, to some degree, groups mentioned lack of clean bathrooms, dogs (off-leash and frustration with dog feces) except the EPA African American community. Safety and fear relating to the unknown (e.g., poisonous flowers/plants), crime/criminal behavior towards self or family, lack of experience with (or comprehension of) natural or environmental hazards also surfaced and could be considered an "access" issue for many people.

8. **Communication** – In mono-lingual, non-English speaking communities statements were made about lack of publicity/marketing and how "written publicity doesn't always help" because some people (e.g., recent immigrants or individuals who are less educated) may be illiterate or materials/public relations information is not in their native language.

SAMPLE PERSPECTIVES, EXPERIENCES AND CONSTRAINTS WITHIN GROUPS

(See results of analysis that follows for more details)

African Americans/Blacks

SIMILARITIES	*DIFFERENCES*
Knowledge/Experience - Someone from each community reported not knowing the specific GGNRA park sites that existed. ***Accessibility --*** Important access barriers across groups included: Proximity to parks (i.e., Nat'l parks too far away; "better stuff to do closer to home"), concern about safety with respect to fear of flora and fauna, and the cost/affordability of visiting parks. Note: Fear related most to animals (lack of knowledge). ***Communication*** – Lack of publicity/advertising (in their community) identified by participants in all groups. P.R./News was significant in all communities relating to violent or unsafe conditions (e.g., search & rescue). All groups recommended bringing the message to their community, targeting children/schools, and using presentations (for visuals). Various local media sources were suggested (see Appendix). ***Representation*** – All groups agreed that park employees do not represent the racial/ethnic make up of their community. ***Employment*** – All groups acknowledged lack of recruitment as a barrier to employment with the NPS. Economic factors related to comments about need/interest to work in national parks via job prospects, and they've had no opportunities for training to assist with getting NPS jobs. Would like to see Black rangers at job fairs, and career days at schools. ***Discrimination*** – Each group expressed some sort of implicit discrimination among other visitors and staff (i.e., non-verbal cues creating discomfort).	***Education/Interpretation***: 2 out of 3 groups [SF & EPA] felt that telling "our story" is critical and "it needs to be told by us". ***Employment:*** The EPA group felt there may be institutional discrimination involved with lack of hiring Blacks; questions about NPS hiring practices. Two groups [SF & EPA] described the hiring practices of NPS as lengthy and too arduous. One group [MC] pointed out that internships or other similar programs must have sufficient financial incentive and lead to viable employment opportunities. ***Representation –*** Race of park rangers may or may not matter. Divided among the group. ***Accessibility -*** Transportation was not a barrier to park visitation for EPA participants but was for MC & SF participants. Fear of crime or criminal behavior was significant for SF participants. Two of the 3 groups [MC, SF] discussed barriers relating to the accessibility of trails. Other access themes included crowding [EPA], clean and modern facilities [SF, MC], not having proper equipment/clothing [MC], complexity of making reservations [EPA]. One participant [MC] expressed that rationale for the stewardship opportunities needs greater comprehension and incentive (e.g. park clean-ups most valuable when first there's caring about parks and not the only involvement). ***Communication -*** Two groups [MC, SF] thought printed materials were effective in communicating while the other group [EPA] thought this is not useful and an 'out of date' format. Two groups [SF, EPA] expressed the importance of representation and sincerity or authenticity in communication. Don't just create programs but follow up is key; the way message is delivered. ***Discrimination*** – Only one person in one group reported an explicit discrimination experience in a park.

KEY: EPA = East Palo Alto; MC = Marin City; SF = San Francisco

AFRICAN AMERICANS / BLACKS *(SF, East Palo Alto, Marin City ~ n=31)*

Knowledge/Experience

Someone from each community reported not knowing the specific GGNRA parks that exist. One group [EPA] discussed not differentiating between local, state and national parks. Two of the groups [MC, EPA] expressed lack of familiarity with where parks are and how to get to them (i.e., unfamiliar with the public transportation to and from the parks and fear of being stranded).

> *"A lot of these places that I have been were because of field trips and I think maybe they're not known; they're kind of secret places. They're not publicized. I wasn't aware of Point Reyes and the lighthouse before I went on the field trip with my son's class."*
>
> ~ Marin City, 40 year old, Black female

Two [MC, EPA] of the three groups expressed lack of knowledge regarding what to do in parks (in general and about special events that might occur). One participant [MC] thought it would be beneficial to have a 'tour guide' in order to get more out of the experience. One group [SF] spoke specifically about the lack of access to information about the park, emphasizing that not all Black people have access to the internet/email and if they do it is likely to be limited. Lack of experience with technical environmental/outdoor skills (i.e., identifying poison oak and basic survival) was also identified as a barrier in one group [MC].

Two [MC, SF] of the three groups stressed that school trips played an important role in exposure to experiences with national parks. One participant [SF] thought that family trips contributed to increased knowledge and experiences with parks. Others [SF, MC] disagreed stating that African American families "don't spend time out there" and that if these families visit parks "they're not going to them regularly." One [MC] of the groups also discussed the role of organizations, such as for youth (e.g., girl/boy scouts) in gaining experience and knowledge of parks.

One participant [EPA] stated that he never heard about an event of interest at the park until now (i.e., Buffalo Soldiers tour). This finding also relates to the theme of *communication.*

Representation – While all groups agreed the racial/ethnic makeup of the park employees did not represent their community, there were varied responses on "whether it matters". Participants in all three groups who thought 'YES' it does matter, all mentioned the importance of having someone to identify with and feeling uncomfortable with being the only person of color when visiting a park. Seventy-five percent of participants in two of the groups [EPA, MC] added the importance of racial/ethnic representation of the park staff as role models for children. One group [EPA] stated they would be: *Encouraged to go there (parks) more, ask curious questions, and treat parks different* if there were better representation. This same group [EPA] talked about the importance of representation in promoting interest/visitation to national parks. One group [SF] pointed out an observation of the disparity between the general population demographics and the park staff

> *"What do we get up and see when we walk out our doors? We look out at a multi-cultural society, but we never get to see that when we go to all these different places [parks]."*
>
> ~ San Francisco, black female, 41 years old

composition. For approximately ¼ of those participants who thought 'NO' it doesn't matter, they indicated the following: 1) There are other more significant barriers, 2) they are going to parks to experience nature, not people, so it doesn't matter, 3) 'white people have explored the park' so there was acceptance they were probably more knowledgeable anyway, and 4) 'it would be nice to have better representation' but it doesn't matter.

Our Story Being Told – All three groups stated the importance and power of having their story told by them. Two [SF, EPA] of the three groups stated they did not think Black people were sufficiently represented in the history/story of the park. One participant [EPA] stated feeling "bothered" by having a white man inaccurately tell 'our story' during a visit to one of the national park programs *(note: which program was not revealed).* Another participant [EPA] thought that having a Black ranger "had more of an effect" on his park experience. A participant from San Francisco thought there would be greater interest in the parks if their culture was represented at the park such as learning "Afro-Americans did this or that at the park" making a better cultural connection to history of the 'place.'

Employment/Recruitment – Lack of recruitment was cited as a barrier in all three of these groups. For example, participants talked about the need/interest in job announcements and advertising in accessible locations within their community, rangers at job fairs, career days at schools, general lack of knowledge about careers with NPS, and the need for training to assist with getting NPS jobs. Two [SF, EPA] of the three groups described the hiring practices of NPS as 'lengthy and too much'. Individuals within one of the groups [EPA] described park employment as: Only promoted to veterans, discouraging and not worth the time because NPS jobs are difficult to obtain (i.e., being fully qualified and still not offered a job), fulfilling diversity requirements through hiring people of color as 'janitorial' staff (e.g., perception of maintenance only), and the acuity that once you get a job with the NPS, it is just "only an old boy network." One group [SF] pointed out that if more ethnic minority people were working in parks, they would tell their communities "hey, you should come to this national park."

With regard to internships/apprenticeships and youth programs, one group [MC] stated that there must be sufficient financial incentive to participate and that there is greater interest in a program that has a likely sequence which will lead to employment. Participants in two of the groups [MC, EPA] described involvement (personally or someone they knew) with an internship/youth program that did not lead to viable employment opportunities.

> *"[To get to the] Marin Headlands, believe it or not, there is no Golden Gate Transit that goes there from here. You'd have to cross the bridge, get on a MUNI bus, just to do that. That's not fair. We have busses that go from here to Stinson Beach. Why couldn't we have a bus that goes from here back up in there [Marin], which is actually closer? I take kids everywhere, so that would be a nice little trip."*
>
> ~ Marin City, African American, 38 year old, male, working professional.

Accessibility

Proximity/availability of parks surfaced in all three Black groups as a barrier to access. Participants from all of the groups described some of the park sites as "too far away" (e.g., Marin City to Redwoods or Muir Woods or San Mateo county-based parks). Mass or private transportation was discussed in all three groups. Two [SF, MC] of the three

groups talked about the lack of private transport (i.e., own reliable car) as a barrier to visitation. Both of those same groups [SF, MC] described mass transport to the park as follows: Lacking and/or not having direct routes to the parks and challenging especially if you are taking children, lunch, and equipment with you on the bus. Two [EPA, SF] of the three groups discussed barriers related to private transport to the parks, the cost of gas, time to get to the parks and road hazards such as narrow roads and the lack of guard rails on winding roads and curves.

Concern about safety/fear of unknown plants and wildlife behavior was a common barrier discussed in all three groups. For example, one participant specifically mentioned fears related to: Bugs, snakes (e.g., rattlesnakes), spiders, insects, animals, mountain lions, bears, poison ivy, poisonous mushrooms, and not knowing "what's going to come out at you". The San Francisco group talked about concern for personal safety and fear of crime or criminal behavior as a barrier yet noted this relates mostly to local parks/community neighborhood parks. This group [SF] described local parks as being less safe than before. Findings of this study show expressed concerns about the safety of bringing children to the park, finding used drug paraphernalia on the beaches, the danger of pedophiles/sexual predators at the park, and people who need money (e.g., beggars/homeless people) becoming aggressive. These concerns can easily be transferred to being a barrier among potential visitation to national parks.

Cost and affordability was found to be significant in all three groups. The combined cost (transportation, food, entrance fees [where applicable], gift shop) of the visit to the park was described as "expensive". One group [SF] recommended that free events and inexpensive food would increase interest.

Activities/programming was brought up in all three groups. Participants in two [SF, MC] of the groups described a visit to the park as "boring". One participant [MC] brought up an interesting perspective about participation in trail restoration and stewardship projects. That is: "African Americans [are] only provided the chance to go if you're going to be doing some sort of trail restoration or stewardship project…but then they don't enjoy it because they're working."

Two [MC, SF] of the three groups talked about how access barriers related to facilities such as a preference for clean, well maintained and modern facilities. The Marin City group described local community park facilities (the ones that are most easily available in their neighborhoods) as inadequate because of broken BBQ pits/grills and that there are no bathrooms. This is an important message for any park managers from local to national settings. That is, the significance to visitor enjoyment of well-maintained and clean facilities is evident. Also, two [SF, MC] of the three groups described accessibility to the trails as a barrier. Trails that don't have seating/benches, have long hiking distance to the main attraction (because of both time and physical ability), are uneven, too steep and dangerous, lack trail markings and maps, and are overgrown were all stated as barriers. Fear of water (e.g., the ocean, bay, and lakes) [SF] was also brought up as a perceived environmental "hazard" limiting accessibility. For example, people (especially those with children) who are afraid of water, such as being unable to swim, considered this a barrier to visiting and being in close proximity to water-type resources.

A few people in one group [EPA] mentioned crowding as a barrier to access (e.g., some comments related to local city parks as well as beaches). Another group [MC] talked about not having companions interested in visiting the GGNRA parks. Not having the proper equipment or clothing was a barrier for one participant [MC]: *"I don't want to mess up no $120 Jordans!"* (i.e., Nike Air). One group [EPA] thought it was complicated to make reservations for a certain camping area on the days that they wanted to go.

Communication

All three Black groups talked about the lack of publicity/advertising about parks. One group [MC] talked about a lack of advertising in "targeted" media (e.g., *Jet* or *Ebony*). The type of news heard about parks is also significant. Findings of this study also show all three groups discussed incidents (unfavorable P.R./News) of highly publicized violent crimes that took place in national parks as being a constraint to their desire to visit.

All three groups recommend using presentations as a method of communication with their community such as career fairs, schools, and church functions. All groups thought that bringing the message to their community was important and agreed that targeting children/schools is an effective way to do that. Two [MC, SF] of the three groups recommended distributing printed materials like brochures, mail flyers, and pamphlets. The other group [EPA] thought that brochures were "out of date" and that just putting a pamphlet out some place was not useful. Two [EPA, MC] of the three groups thought that representation is important (i.e., having people of color make presentations or including people of color in advertisements for the park).

The "sincerity/authenticity" of the communication is important to two [MC, EPA] of the three groups, such as: Speaking their 'language' (e.g., via their cultural interests); the way the message is delivered; reaching the younger generation using unconventional avenues: seeing the decision makers face-to-face and for them to show their dedication to change; and using Black churches to get out the message. One participant [SF] suggested doing more research "to see what people are interested in."

Various local media sources were suggested as ways to reach people in their community. For example: Radio (local stations like KBLX and KMEL), TV (Black Entertainment Television (BET), Channel 4 News, CW, Mornings on 2, and Public Access TV), billboards/posters, advertisements on inside or outside panels of buses, and non-profit community organizations (libraries, clinics, job placement agencies, churches) were all suggested local sources.

Perceived Discrimination

Each group had someone in it that expressed the feeling of some sort of implicit discrimination among other visitors and staff. For example, people expressed feeling like they were being followed, watched by cashiers in gift shops/visitor centers, stares/glares by visitors ("as if we will destroy the park", perceptions of others based on stereotypes), and a couple of people noted being asked for their I.D. by a park ranger and not understanding why. One group [EPA] mentioned that they felt they were unfairly associated with the behavior of past visitors based on race. All groups mentioned feeling that they did not belong or were not welcome to visit parks (i.e., "we don't look the part," "feeling like we're not supposed to be there").

One group [SF] mentioned that they were intimidated (made to feel nervous) by other visitors. Volume of noise of their group (i.e., loud talking and generators from R.V.'s) surfaced in two groups [MC, EPA] as a cultural difference that lead to discrimination from park staff or other visitors. One participant discussed the perception that "White people act like they own the park" [SF].

In Their Own Words – African American/Black Community

Perceived Discrimination

"People don't want to go where they don't feel welcome."
[*Black Female, 40 years old, Marin City]*

"What [do] we get up and [see] when we walk out our doors? We look out at a multi-cultural [society], but we never get to see that when we go to all these different [parks]."
[San Francisco, Black Female, 41 years old, unemployed]

"I think the same opinion that we're hearing reflected in the room is the same opinion that the dominant culture, the white culture has about Blacks being in the woods…[that] we don't look the part."
[55 years old, African American Male, East Palo Alto]

Representation

"I definitely don't know of any [people of color] working at parks, but if there was? Yeah, I think I would be encouraged to go there more…To me I think it says… 'hey, you're welcome here.'" *[41 year old, Black Male, faith ministry worker, East Palo Alto]*

"You be like, 'well they're staring at me like I'm the only Black person…you want to have someone to identify with…[it] makes you feel like, 'hey, I want to be here.'"
[47 year old, black female, unemployed, San Francisco]

"Our Story" Being Told

Note: The following 3 quotes came from the same individual: *East Palo Alto, 36 year old, black male, county employee*

> "How are we telling our story, our true story? …To have a white man tell me something and…I knew it was wrong, but he was the only one there representing the park service. It bothered me."
>
> "At Yosemite I went on the tour about Buffalo Soldiers…[the Black ranger] told the story so eloquently from a point of passion I think that myself and the kids that I was with and my daughter who were on that tour, I think it had more of an effect.
>
> "We're doing not just African Americans but society a disservice if you don't have that ethnic mix of people telling their own story."

Employment*:*
Note: Two quotes by *Black female, 47 years old, San Francisco resident, unemployed:*

"I know a ranger here that's at the Presidio over at [the] Buffalo Soldiers exhibit…the reality is that the only other Black person besides him that I've seen on federal lands was the trash man."

"…If you want to get people there you get some minority people working for the different parks, national parks, they're gonna tell their people in their community 'hey you should come to this national park because we got this going for us and we got that going for us. We got this history…"

"They can hire some of us to do the networking how about that?"
[43 year old, black female, San Francisco, affiliated with City College]

"I know a ranger here that's at the Presidio over at [the] Buffalo Soldiers exhibit…the reality is that the only other [black] person besides him that I've seen on federal lands was the trash man."
[East Palo Alto, 36 year old, black male, county employee]

Knowledge/Experience

"If you've never been exposed to a park, how can there be an interest?"
[Black female, 40 years old, Marin City]

"I really didn't care whether it was a national park or a city park. I never made any distinction."
[Black male, 49 years old, East Palo Alto, Computer Security Company]

"A lot of people in the community, in Marin City, don't even know that these parks exist…It took me a while [to learn about them] and I'm a native of Marin."
[Marin City, African American male, 42 year old]

"A lot of these places that I have been were because of field trips and I think maybe they're not known, they're kind of secret places. They're not publicized. I wasn't aware of Point Reyes and the lighthouse before I went on the field trip with my son's class."
[Marin City, 40 year old, black female]

Accessibility

"[To get to the] Marin Headlands, believe it or not, there is no Golden Gate Transit that goes there from here. You'd have to cross the bridge, get on a MUNI bus, just to do that. That's not fair. We have busses that go from here to Stinson beach. Why couldn't we have a bus that goes from here back up in there, which is actually closer? I take kids everywhere, so that would be…a nice little trip."
[38 year old, African American male, recreation/community services professional, Marin City]

"Fifteen years ago, for me, the park had a comfort zone to where you could walk a little distance and leave your child, right here in San Francisco, we had the safest parks in the world. But now, it's a whole different world; it's a whole different thing. So your comfort zone isn't the same, but like I'm saying, as a parent and my personal opinion, I used to feel safe but now, especially with my grand-baby, the comfort zone is totally different. The environment is different, too."
[San Francisco, Black female, 41 years old]

"It seems like they want you to come out to do a stewardship project, and do cleanup for things, and some people aren't into that. They just want to be able to go, and that's the only opportunity they have to go, but then they don't enjoy it because they're working…African Americans [are] only provided the chance to go if you're going to be doing some sort of trail restoration or stewardship project."

[African American male, 30 years old, Marin City Schools, Marin City]

"We have a couple of access roads out to a trail right above us. For some reason or another they let those two trails, over on the other side of town, over-grow. So when they started overgrowing, people stopped going up there. We used to play up in the woods and go on the trails and come all the way around on the other side of town up by the water tank, but now you can't get through there unless you have a machete and cut your way through…the trails [still] exist if you look on the map, but the Park Service makes it seem like they want to keep us out."

[African American male, 30 years old, Marin City Schools, Marin City]

"…being a 42-year-old Black man, there are fears in regards to going to certain parks because you don't know what's going to come out at you!"

[African American male, 42 years old, East Palo Alto]

"I don't do nature so well because there's bugs and snakes and spiders and insects and little crawly things and slimy and wiggly things. So I stay away."

[53 year old, African American female, Marin City]

Communication

"There might be ads in papers, but it's not in targeted papers that African Americans will read like Jet or Ebony."

[30 year old, African American Male, Marin City Schools, Marin City]

"I prefer a Black male presenting information to my black son, telling him how he can get in."

[Black male, 44 years old, East Palo Alto, non-profit employee, also employment issue]also employment issue]

"They need to come out and advertise in the community."

[Black female, 41 years old, San Francisco]

Recreational Activities Enjoyed (sample):

Dancing	Swimming	Skating	Flying kites	Bowling	Basketball
Camping	Hiking	Biking	Barbecues	Picnics	Fishing
Watch SF Fleet week	Playground w/ kids	Weight Lifting/gyms	Dog Walking	Thinking & Meditation	Church Events
Jogging	Softball	Theatre	Tennis	Sightseeing	Jet skiing
Shopping	Movies	Watching sports	Walking	Playing chess	Using the computer

Outdoor Areas Visited and/or Frequented (sample):

Presidio	Fort Mason	Lake Anza	Alamo Park	Camp Cutter	Tilden Park
Angel Island	Muir Woods	Richmond Marina	Crissy Field	Dunes by the beach	Point Reyes
Lake Cunningham Park	Golden Creek	Water Park near Dublin	San Leandro Marino	Stinson Beach	Fisherman's Wharf
Small local parks	Marin Headlands	Yosemite	Golden Gate Park	Lands End trails	Alcatraz Island

SAMPLE PERSPECTIVES, EXPERIENCES AND CONSTRAINTS WITHIN GROUPS

(See results of analysis that follows for more details)

Hispanic / Latinos

SIMILARITIES	*DIFFERENCES*
Feelings about Nature – All groups expressed appreciation for the health (stress reduction) and spiritual benefits of nature. Nature related to spirituality in many ways. ***Cultural Differences –*** All groups described cultural difference with respect to going to/exploring, being in, and enjoying the outdoors. (i.e., how enjoyed). ***Representation –*** All groups agreed that park employees did not represent the racial/ethnic make up of their community. ***Knowledge/Experience –*** One or more persons from each community reported not knowing the specific GGNRA parks/sites existed or not knowing them by name. ***Communication*** – Lack of signage in Spanish in parks. Lack of Spanish language publicity and advertising in the community was identified as a barrier. All believe Spanish language/bi-lingual communication is crucial. All groups recommended targeting children and schools as good way to communicate. Use Spanish radio/T.V. ***Accessibility –*** Consistent across groups: No time, no money, lack of companions to visit with, crowds or lack thereof (some like crowds, some did not), Spanish language information and signs, dirty restrooms, lack of private transportation, concern for safety/fear of crime. - Lack of companions: Some said "kids are no longer interested so I won't go", dependent on others for transportation, lack of friends interested, don't like to be alone so don't want to go unless they could get friend or relative. - Cleanliness: Unclean bathrooms, and dog feces big issues for lack of visiting certain areas. - Safety and fear stemming from crime or criminal behavior by other visitors. - Lack of personal vehicles/private transportation. ***Discrimination*** – Each group reported at least one instance of explicit/overt discrimination (generally) in a park setting.	***Knowledge –*** Two groups noted lack of knowledge for what to do in parks. One group mentioned lack of knowledge for how to make reservations (camping). Not knowing how to get to and from parks was mentioned among 2 of 3 groups. ***Education*** – Two [HMB, SF] of the 3 groups stressed school teachers and field trips played an important role in exposure to national parks. Children going on field trips was valued with reluctance by immigrants depending on status (e.g., Need to sign permission slips = barrier). ***Experiences–*** Two of the groups [SR, SF] thought that family played an important role in perceptions and experience with the park. "Cultural contradictions" (SR): Parent relationships with their children and cultural attitudes towards nature vary. Class and language differences were evident and affect experiences and attitudes (about parks/natural resources). Crowds/Noise: Dislike from traffic or other visitor noise, some preferred. ***Representation –*** Race of park rangers may or may not matter/divided among groups. Two [SF, HMB] of the three groups noted better representation would create greater interest/visitation to the parks. ***Employment –*** One group [SR] acknowledged that lack of recruitment was a barrier to employment with NPS. One group [SF] expressed interest in youth programs in parks specifically to assist young people to 'get out of gangs'. ***Accessibility*** – Public transportation issue for SF and HMB (may relate to class or language). Lack of mass transportation was a barrier to park visitation for Latinos as reflected in "voice of the community" by SR participants. Having proper equipment was a barrier brought up in two of three groups. Fear of wildlife was only brought up in one group [SR]. ***Communication*** – P.R./News of violent incidents in national parks significant in only one community [SF]. One group [SR] suggested that using community presentations would be a good way to get the word out. One group [SR] noted sincerity of the message was important. ***Discrimination –*** Two groups [SR, SF] expressed some sort of implicit discrimination (by other visitors). SF group also expressed implicit discrimination from park staff. Explicit discrimination from other visitors was discussed in two groups [SF, SR] and from [local] park staff in the other group [HMB].

KEY: SR = San Rafael; HMB = Half Moon Bay; SF = San Francisco

HISPANICS / LATINOS *(San Francisco, Half Moon Bay, San Rafael ~ n=34)*

Knowledge/Experience

There was no consistency among all three Latino groups as to how experience with parks is gained. Two [HMB, SF] of the three groups stressed that school teachers and field-trips play an important role in exposure to and experience with national parks. Two groups [SR, SF] thought that family played an important role in perceptions and knowledge (or lack of) about parks. One [SF] of the groups also discussed the role of organizations (i.e., boy/girl scouts) in gaining experience and knowledge of parks.

> *"For me it [outdoors] is the most important thing in my life. It's the kind of resource and support that helps me emotionally and helps me to handle my work. If I'm not in contact with nature every day I'm going to be in shock and I can't handle my work. I really need to have, that for me is very necessary as food, as a breath is for me."*
>
> ~ San Raphael, 58 yr. old female, works with women's services

Two focus groups [SF, HMB] reported not knowing the names of the parks that they go to. While participants in the HMB and SR groups discussed not knowing the parks existed and [SR] not having information about the parks. One group [HMB] expressed the need for greater information about "what the park offers" and "what to do at the parks." Two of the groups [HMB, SF] discussed barriers associated with knowledge of how to get to parks (i.e., don't know the bus schedule, not familiar with how to drive there, not knowing how to read a map). A participant in the SF group described not knowing how to make a reservation (i.e., phone number, rules about making reservations). Lack of experience with technical skills was also identified as a barrier (e.g., map reading [HMB, SF], literacy [HMB], knowledge of how to swim and generally the outdoors [SR]).

Representation

All groups agreed that the racial/ethnic makeup of the park employees did not represent their community, however, responses varied on whether it matters (re: no agreement). Approximately half the participants in all three groups thought 'YES' it does matter, but there were distinctions as to why, and this varied between groups. Two [SF, HMB] of the three groups discussed how better representation (both the NPS staff composition and the cultural content of interpretive materials) would promote interest/visitation to parks. One participant [SR] thought that it would be a source of pride to come to a park and see a Latino/a in a position of authority or decision maker, not just a maintenance worker (also an *employment* variable, see next page). Another participant [SF] thought that better representation would demonstrate less discrimination toward Latinos [SF]. The HMB group stated that their comfort to seek information/ask questions is increased with "someone of our racial/ethnic makeup" (e.g., "looks like us" and "will speak Spanish").

For the other half of the participants who thought 'NO' it does not matter, they indicated: 1) It is more important for people to be friendly and helpful [SR]; 2) Race is not important as long as the person has strong feelings for their work and nature [SF]; 3) It would be helpful to have better Latino representation but it doesn't matter that much [HMB]; 4) Nationality doesn't affect me [HMB].

Employment/Recruitment
One group [SR] acknowledged that lack of recruitment was a barrier to employment with the NPS. One group [SF] expressed interest in youth programs in parks specifically to assist young people to 'get out of gangs'. (See also *representation* previous page).

Accessibility
There was a significant degree of consistency to various forms of *access* as barriers described by the Latino groups. Lack of companions to visit parks with surfaced in all three groups as a constraint to visiting. Crowding (both lack of and too much) may or may not be important. Participants in all three groups talked about lack of other people around as both good ("I like that…nobody's there") and bad (i.e., "very isolated place"). Language such as park materials, information, and signs not in Spanish, were constraints described in all three groups. For example, one participant said "English only flyers sent to our community are not useful". Facilities such as "dirty bathrooms or some out of order and general lack of restrooms" were emphasized as a constraint to access in all three groups. Two of the three groups [HMB, SF] brought up dogs as a constraint to park enjoyment (i.e., constant presence of dog feces, lack of dog control and care by the owner).

Lack of mass transportation to the park was brought up in two of the groups [SF, HMB]. Lack of private transportation was mentioned in all three groups. Someone from every group talked about not owning a car and relying on others for transportation to the park as a barrier. Other constraints mentioned related to private transportation where traffic, precarious roads, fear of break downs, and driving in inclement weather were key issues.

Concern for personal safety and fear of crime, in a variety of park settings, was another barrier expressed across all groups (i.e., fear of being raped, witnessing drug use, presence of homeless people, observing a physical fight, 'it is only safe if enough people are around', and avoidance of potential discrimination). Latinos also mentioned concerns about gang fights in local parks.

Having "limited time" to go out and enjoy the park was a constraint discussed in all three groups. That is, with large families (e.g., sometimes many children to take care of and sometimes living with extended family members) makes logistics for "packing up and going to the park" more challenging. Other *time* factors related to working two and, in some instances, three jobs. Cost was another factor discussed in all three groups (i.e., "it is a luxury to go to these parks", "we get paid minimum wage", and gas prices and entrance fees). Lack of proper equipment/clothing was discussed in two [SR, HMB] of the three groups as a constraint to access of the parks.

One participant in the San Rafael group discussed being uncomfortable in the outdoors as a constraint. Two of the groups [SF, SR] discussed proximity/availability of parks as a barrier. Being able to walk there is important in both groups [SF, SR]. Concern about safety/fear of flora and fauna was only brought up in one group [SR]. All groups recommended that organized tours would be a very effective way for Latinos to visit the parks. One participant brought up the point that "undocumented parents are afraid to sign their kids up for school field trips to the parks because they are afraid to sign their name to any document."

Communication

All three groups agreed a barrier to communication with local communities was the lack of publicity/advertising about parks in Spanish language in print as well as on TV and/or radio "for those who are illiterate." Negative news (bad P.R./News) heard about parks and forests was a significant constraint in one group [SF] who discussed a recent highly publicized incident that took place in one west coast forest. *(Note: News like this may have a generalized response effect unless people are already familiar with park sites).*

One group [SR] suggests using community presentations as a method of communication. All groups thought that bringing the park messages to their community through targeting children/schools is an effective way to do that. The "sincerity" with which the message is delivered was important in the San Rafael group.

Various local media sources were suggested as ways to reach people in their community. For example: Print (in Spanish Language), Spanish language radio, Spanish Language TV, non-profit/community organizations (libraries, recreation centers, churches) were all suggested as local media or other local resources widely used. Overall results show the majority of participants recommend Spanish language radio is preferred.

Perceived Discrimination, Prejudices

Approximately 1/3 of the participants in two groups [SR, SF] expressed some sort of implicit discrimination from other visitors. The SF group also expressed implicit discrimination from park staff *(which park or type of park was not stated).* For example, participants expressed "stares and glares" by other visitors, other visitors that "make you feel bad", park staff that was not able to answer a question from a non-English speaker, and observations of how other visitors situated themselves in a campground. Explicit discrimination (harassment and racial slurs) from other visitors was discussed in two groups [SF, SR] and from local/city park staff in the other group [HMB].

Cultural Differences

All groups described cultural differences with respect to going to, exploring, being in, and enjoying the outdoors through visiting national parks. Volume of noise from their group (i.e., loud music) surfaced in one group [SF] as a cultural difference that can cause friction. Preference for non-park activities, feeling detached, and not having interest in "exploring what's out there" was another cultural difference described by one group [HMB]. The SR group discussed various aspects of cultural differences that influence park interest and/or visitation such as negative associations with being in the outdoors carried over from their country/culture of origin or family, "it feels foreign because of the rules and attitudes," fear of doing something wrong that is okay in the country of origin, not speaking or reading signs in English. Two factors are important to note relating to cultural differences. First, the notion of "the outdoors" as both a "dirty place" and associated with a lower rural class experience versus place of pristine beauty serve as "contradictory" reference points [SF] and several people in the group agreed:

> *"As a Mexican, I grew up in a totally different kind of area. Urban Mexican, you know which is even different. So you really have a very contradictory relationship with outdoors, with the environment. Besides it's very difficult to find it as pristine as it is here. So you have this contradictory thing that it's supposed to be good, and unfortunately it's our tendency just to destroy it."*
>
> ~ San Rafael, 52 year old male, Latino, Self Employed Translator

"I'm pretty ambivalent about nature. My parents used to fight about nature. Anytime we went barefoot it was my mother who considered it dirty and anything that had to do with going out and experiencing dirt was not good. And my father was from the mountains in Puerto Rico and, so that was like, they were considered sort of lower-class, and so he didn't want anything to do with anything that hinted at lower-class. So when I grew up, we would go to the beaches in LA because the beach was clean; it was one of those clean places you could go because you could get washed off by the ocean and then they had showers. So I sort of still find my most comfort zone is the beach. And I can go hiking but still, I prefer pristine beauty, so the ruggedness of hiking and muddy trails …I've never been able to overcome that."

~ Latina female, 48 yrs old, works in youth services, Marin County

Second, the term "trans-culturate" was used. This can be interpreted as querying how you make the "park idea," or park experience, more culturally relevant. This is a unique comment by a 52 year old male, local professional, participating in the focus group in San Rafael that is worth noting (and this has never been seen in the literature by the P.I. of this study) as it pertains to "cultural differences":

> *"So one of the things that I have learned over the years, is that culture is something that not necessarily is translatable. You cannot just tell, 'well, this is the way that you do it, and you have to do it like that, because we do it like that.' Somebody just mentioned that these places [national parks] are done with the culture of this country, so how do you trans-culturate the whole thing? [the idea, experiences]*
>
> *How do you put in the mind of this different people, the idea of 'what do you need for the park to serve you?'… 'Well, what are you talking about? What is a park, or what is that?', you know, that kind of mentality."*

Regarding the concept of "cultural contradictions" – The Latino communities expressed some aversion to being outdoors and doing activities, yet convey that "nature is so attractive." Parents, at times, want their kids to "stay out of the dirt". This pertains to <u>their</u> parents (e.g., generational heritage) coming from poor families. This experience stems from not wanting to be associated with anything that can be viewed as lower class among their community (e.g., "getting dirty") or by others (e.g., dominant/white culture). Many people in the San Rafael group, for example, are children of immigrants so their parents discouraged them from recreating/playing outdoors because of how they associated nature in their home country. Hence, the construct of experiencing a contradictory relationship with nature surfaced as well. Nature is beautiful yet there are "too many rules" regarding how you can interact with it (e.g., can't just go hunting or even fishing in some places). Cultural attitudes regarding how nature is treated are very different (e.g., littering was stated as being widely accepted in many Latino communities). Pristine national parks were noted as being "foreign and distinctly American."

In Their Own Words – Latino Community

Cultural Differences, Prejudice, and Perceived Discrimination

"The unknown is frightening. But, I ask, if we are brave enough to come all the way here [to the United States], I believe that the whole point is to enjoy it."
[31 year old, Latina female, community worker, Half Moon Bay]

"It is not that I feel discriminated against all the time, but there are some people that make you feel bad."
[Latina female, San Francisco, student, 53 years old]

"A lot of immigrants are coming from poor rural areas so therefore, for them, the outdoors means something negative because they were really poor [in the outdoors, in their country]." *[San Rafael, 52 year old, Latino male, translator]*

"It's all that cultural stuff that gets in the way of them participating. Fear of being outdoors, undocumented, fear of not speaking the language, and ultimately the fear…of the signs all in English."
[Latina female, 52 year old, San Rafael, Latino services non-profit organization]

"You live this contradiction in a very interesting way. And you have to work with people who didn't have these opportunities and they clearly represent the majority of Spanish-speaking folks around. Their relationship with nature is even more contradictory. You know, I observe how they feel thoroughly alienated by all these sets of rules. Nature here is beautiful and better maintained. You don't want to go there because you are afraid of doing something wrong. People just want to kill the deer and do things that they usually do in their countries and you have a lot of restrictions [in America], and then you see animals that you do not see down there [country of origin] because they are part of your diet."
[52 year old male, San Rafael resident and professional in the community]

Representation/Identification

"It's a pride issue. If I see someone who's not a maintenance worker, who has a position of authority, who's helping to make decisions, I will not only frequent the parks more often, I will make sure I get other people to go."
[Latina female, 52 year old, San Rafael, Latino services non-profit]

"If there would be more Latinos working at the parks there would be more Latino people visiting them. I feel we would have more information about how to get to some places and on top of that we will be able to communicate in our own language."
[San Francisco, 45 year old, Latina female, Student]

"Our culture should be better represented, especially in the information that they hand out to the community." *[Latina female, 31 years old, community worker, Half Moon Bay]*

"No it doesn't matter to me much, if the rangers are Latino, Asian, or Anglo Americans. But it ***is*** of great help if there was a Latino person there who we can communicate with."
[Retied, Latino male, 65 years old, Half Moon Bay]

Knowledge/Education

"The same way you have come here to talk about these parks, I believe that in our community that is what is missing, someone who can explain to us the importance and why we need to go to the outdoors."
[Teacher child care center, Latina female, 39 years old, Half Moon Bay]

"Last time I went to the park with my family we brought food and when we arrived we searched for tables. When we found one, people came to tell us that the table was reserved. We don't know where to call to reserve a table. We need more information in Spanish because we don't know the rules, we aren't familiar with the phone numbers."
[59 year old, Latina female, staff counseling office, San Francisco]

Accessibility

"Every time we go to picnic the dogs come and eat our food, they wander around and the owners don't do anything. The same with their bowel movements! The owners don't clean after them." *[31 year old, Latina Female, GED student, San Francisco]*

"In Muir Woods…the sun was going down and I thought, 'I'm here by myself and I don't see anybody or hear anybody so I'm going back to the car.'"
[San Rafael, 47 year old, Latina female, Abused Women's Services]

"The economy is the starting problem for us, Latinos. First, we get paid minimum wages. A person that earns minimum wage does not have enough money for other priorities. For Latinos it is a luxury to go to these parks."
[Latina female, 41 years old, Child Care Worker, Half Moon Bay]

I like to go off by myself, so I end up going to Stinson beach a lot because I can walk for miles of beach and there's enough people around that I feel safe.
[Youth programs staff, 48 years old, Latina female, San Rafael]

"If you're in the parks and you don't have the right clothing or the right stuff, if you're on a hike and you have tennis shoes and everybody's got nice hiking boots…even if you're not discriminated against, you feel bad."
[52 year old, Latina female, Latino services non-profit, San Rafael]

"Going out alone as a brown woman to an isolated area is not safe for me when I know that the area is predominantly going to be Anglo."
[Youth programs staff, 48 years old, Latina female, San Rafael]

Communication

"We listen to the Spanish radio a lot, it would be good if they would announce [park information] on the radio stations that Latinos often listen to."
[31 year old, Latina female, community worker, Half Moon Bay]

"Having the intention of making diversity happen so that it includes people, and having the intention of seeing it a certain way so that you can kind of connect to it, having the intention of bringing folks in who wouldn't normally be there is really important."
[39 year old, Latino female, teacher child care center, San Rafael]

Recreational Activities Enjoyed (sample):

Reading	Hiking	Concerts	Parties	Dancing	Biking
Movies	Jogging	Exercise	Tai Chi	Picnics/BBQ	Crafts
Driving & Road Trips	Museums & Art shows	Volunteer w/ Church	Listen to music	Teach my kids	Attend kids sports games
Cooking	Walking	Watch TV	Play w/ kids	Soccer	Exercise
Basketball	Resting	Gardening	Swimming	Metaphysics	Explore

Outdoor Areas Visited and/or Frequented (sample):

Beaches	Mountains	Local parks	Dolores Park	Ocean Beach	Camp Taylor
Point Bonita	Golden Gate Park	Mount Tamalpais	Golden Gate Bridge areas	Great America	----

SAMPLE PERSPECTIVES, EXPERIENCES AND CONSTRAINTS WITHIN GROUPS

(See results of analysis that follows for more details)

Asians/Pacific Islanders and Recent Immigrants

SIMILARITIES	DIFFERENCES
Feelings about Nature – Both groups expressed appreciation for the mental & physical health benefits of nature. ***Knowledge/Experience –*** Someone from each community reported not knowing the specific GGNRA park sites existed. They also discussed lack of knowledge about where the GGNRA parks are and how to get there. ***Accessibility –*** Both groups recognized barriers to park access associated with the following themes: Limited time, lack of companions (others interested in or available) to go (also correlates with lack of transportation), not enough posted information about the park. Both groups discussed barriers associated with cleanliness of facilities, dirty bathrooms and dog feces were strong themes in both groups (parks in general): - Limitations relate to spouse/partner and/or children schedules and personal interests. Difficulty with coordinating. ***Representation–*** Both groups thought that park employees did not or mostly did not represent the racial/ethnic make up of their community. This was not a barrier to visiting. ***Communication*** – The Asian groups overwhelmingly recommended using print media to reach their community. Both groups thought that targeting children/schools would be a good way to communicate with their community	***Representation –*** One group expressed that park employees did not represent the racial/ethnic make up of their community. The other thought that it mostly does not represent their people. Race of park rangers may or may not matter. Divided among the group. San Francisco group stated non-issue others felt "it would be nice." DC participants expressed greater desire overall to see more Asians/Pacific Islanders on staff. ***Accessibility –*** Crowding and proximity or availability of parks was both an issue and a draw to Asian visitation. One group [SF] expressed language as a barrier. The other group [DC] talked about cost, concern about personal safety, and fear of crime/other hazards as a limitation to park visits. DC group mentioned trails not being well kept/maintained or well marked was an issue *(site not mentioned):* - One group [DC] had lots of safety and fear issues, the other group had none (recent immigrants) - Fears: Crime, bad weather, road hazards (getting there). - Discomfort included nudity on the beaches. ***Communication –*** Lack of and ineffective publicity/advertising was identified as a barrier by the DC group. P.R./News about violence in parks was brought up in the DC group. Same group thought presentations about the parks in the community would get the message out. ***Discrimination –*** Expression of various implicit discrimination relating to other visitors was reported from one group [DC]. This same group also reported one example of an explicit discrimination experience by park staff. The SF group expressed no problems. ***Miscellaneous –*** Appreciation / recognition expressed for identity of Golden Gate Parks logos/icons representing different park sites/areas.

KEY: DC = Daly City (mixed Asian/Pacific Island heritage from northern San Mateo County)
SF = San Francisco (recent Chinese Immigrants)

ASIANS & PACIFIC ISLANDERS *(San Francisco, San Mateo County) ~ n=24)*

Two Asian/Asian American focus groups were formed. The group that convened in San Mateo County was comprised of Chinese, Vietnamese, Filipino, Japanese, and Mien participants. The San Francisco group was comprised of 12 recent Chinese immigrants (living in the Bay Areas for two years or less at the time of the interview). Because of the lack of depth of content, the analysis was difficult as this group offered mostly superficial responses thereby allowing for less interpretation of the data. The brief duration of residence in the Bay Area may provide less actual opportunities to experience parks and therefore they may have had lower expectations.

The Chinese community maintains a cultural norm of *respect* and may experience embarrassment from speaking their mind to such an extent that free expression to an American, let alone a researcher, may not be appropriate (e.g., do they separate and make a distinction between independent researchers and actual park management and does it matter to them?). Furthermore, the fact they are recent immigrants does not tell us much about their life experiences, level of education or intellect, etc. in being comfortable responding to research questions.

Our observations, followed by the analysis, show that cultural connotations may play a role with people who are born in the U.S. or have lived here longer as they are clearly willing to say more in the interview process. Hence the "culture of respect" for others may not have allowed monolingual Chinese participants to engage us as researchers any deeper than what they were comfortable with on the surface out of fear of disrespecting our role in conducting the interview. According to the results, and substantiated by the Translator, transportation and language barriers were the top two major constraints to visiting GGNRA park sites in general ways (e.g., most comments fell in these categories).

Knowledge/Experience

Someone from each community reported not knowing the specific GGNRA park sites existed. Both groups expressed lack of familiarity with transportation to and from the parks (i.e., where parks are, how to get to the parks, fear of getting lost, and/or not knowing other transportation options aside from a car). One participant [DC] described an experience where they had rented bikes from a private company where there was no coordination of information between them: "After renting bikes, no info on ferry schedule to get back, we didn't want to bike the whole way." While another participant [DC] recognized "I know how to get to Ocean Beach, so I do go there."

Representation

One group [DC] expressed that park employees did not represent the racial or ethnic make up of their community. The other thought that it "mostly does not" represent their community. There were varied responses on whether it matters. No one in the SF group expressed that the racial/ethnic makeup of the community mattered. For those participants who thought "no" it doesn't matter, from both groups, they discussed the following rationale: It might be nice but personality and professionalism are more important; "friendliness" is more important, that the people who work there now are "very polite".

The participants [DC] who thought "yes" it does matter, mentioned that it would "make a difference to see someone who is of Asian decent". One participant expressed

interest in racial/ethnic representation of the park staff as role models for children (similar to the Black community). Another participant thought that better ethnic representation would create a more positive image.

Accessibility

Both groups recognized various constraints to park access. Both groups reported having limited time and included examples of other higher priorities such as "learning English" and having two jobs. The Asian groups agreed that having companions with them, like friends and family, was important to park access. Having "no one to go with me" was a barrier expressed in both groups and some of the reasons for this included: Companions are not interested, afraid, and/or too busy working. Another similar barrier includes limitations indicated because of family members' schedules, for instance: "I have to work around my husband's schedule" [SF], and "husband and children have limited time" [DC]. One participant [DC] expressed a strong companion preference, "where I go depends on where my friends want to go."

There were varied responses among the Daly City group as to whether proximity or availability of companions is a barrier to access for Asian communities. One participant praised the GGNRA for being "so close by". Other participants, however, thought that the parks were "off the beaten path" and that there were "other [parks] closer and more accessible".

Both groups brought up access barriers related to facilities. While a San Mateo County participant [DC] praised Muir Woods for having clean restrooms, other participants found dirty bathrooms in other areas to be a barrier to park enjoyment overall. Both groups acknowledged dislike for "dog owners do not clean up after their pets." Trails that are not well-kept were identified by one group [DC]. While posted information was important to both groups, for example, maps in parks that aren't clear, closing hours that are not posted, and trails that are not marked, all create concern and discomfort.

One participant [DC] discussed crowds as a good reason to visit a park (e.g., more playmates for my children, opportunity to interact with other adults.) Other participants in the same group [DC] were turned off by such high volume of other people such as traffic jams, crowded parking lots, and 'rowdy groups.'

Not owning a car (lack of private transportation) was also discussed as a limiting factor to park visitation by both groups. The SF group also thought that the mass transport was "not well done" with respect to park visitation. Another significant constraint for the SF group was language. Participants [SF] saw parks as inaccessible to one who does not speak English: "Once I've mastered English, then I'll go." They [SF] discussed barriers associated with not being able to communicate with park employees as well as posted/distributed information being in English only.

Cost was a barrier to several people in the Daly City group. They talked about the combined costs of park visitation as prohibitive (e.g., all varying associated costs), yet the SF group complimented that 'parks are free'. Participants in the Daly City group brought up various safety and fear concerns related to crime, weather, and hazards *(Note: These comments related to both city parks and GGNRA park sites).* Examples include: Uncertainty about the safety of parks for women and children, park seclusion, syringes found, aggressive panhandlers, bad weather, curvy and poorly marked roads.

Some activities/programming concerns were brought up in both groups. One participant [SF] expressed that "it's boring to just sit and watch" [the children play]. For example, a desire for more activities for adults was mentioned. "If there were more activities or facilities for the adults, it would be ideal. We wouldn't have to then just sit around watching the children play while we have nothing to do." Other participants [DC] discussed discomfort with the activities of other park users, especially nudity at Baker Beach. Fort Funston was described as not being child-oriented by one participant [DC]. Others expressed concerned and curiosity that they believe there are less programs than before [DC].

Both groups recommend organizing "free shuttle buses to take people to the parks from our community". The SF groups suggest providing coupons for concessions to the groups as another way to make the park more inviting and accessible. Both groups also suggest that better activities/programming would create interest from their community (e.g., organize dance and music performances; and plan interactive programs for children).

Communication

The Daly City group talked about both the lack of, and ineffectiveness of, publicity/advertising about parks in the community. One participant [DC] expressed that the pamphlets seem geared toward tourists, not people living in the local communities. Another participant expressed that media access is limited for seniors who are not savvy with technology. Bad P.R./news heard about parks was mentioned in the DC group who discussed a recent highly publicized incident of a tragedy that took place in the outdoors. This generates trepidation about venturing out if outdoor skills are lacking.

The Asian groups overwhelmingly recommended using print media to reach their community. They suggested, for example, sending letters to everyone in the community, distribute printed park information in the community, put flyers on bulletin boards at the senior centers, and advertise in the community newsletters/bulletins. One participant [DC] encouraged "forming relationships with local writers and encouraging them to write articles about the parks in local newspapers". The influence and effectiveness of logos and symbols was discussed by the DC group. Both groups thought that bringing the message to their community through targeting children/schools is an effective way to do that. One group suggests [DC] sending representatives to the senior centers to talk about parks. Various local media sources were suggested as ways to reach people in their community. For example: Radio (Chinese Language, AM1400), TV (advertise on Chinese channels), Newspapers (Ad in Chinese Newspaper), community organizations (churches) were all recommended local sources for disseminating information.

Perceived Discrimination

Expression of implicit discrimination relating to other visitors and staff was reported from one group [DC]. For example, people expressed feeling like the park ranger kept checking on them like they were "going to do something wrong", "stares/glares by visitors", and being asked for their I.D. by a park ranger (similar to Black participants). This group [DC] discussed getting bad 'vibes' from other visitors that made them feel "unwelcome" and "like we're trespassing". This same group [DC] also reported one explicit discrimination experience. "The ranger kept checking on us at Ocean Beach like we were going to do something wrong." (Indicated 'we felt we were being discriminated').

Cultural Keystones

Miscellaneous comments provided by the Cantonese Translator (direct quote)

I found the interaction with the focus group to be extremely interesting and rewarding. In the beginning, the participants were shy to speak up, but they quickly warmed up and spoke about their heartfelt thoughts and feelings about the questions that were asked of them.

11 out of these 12 Chinese participants are fairly new to this country, and I could feel that they felt somewhat helpless in their current situation about not being able to get around on their own (such as visiting the parks). Several of them have relatives who have been in America for a long time, yet these participants feel shy about wanting to trouble their relatives. As a Chinese person myself, I could understand their feelings. We often times don't like to trouble people too much and feel embarrassed about having to open our mouths to speak our minds. I have a strong feeling that some of the participants feel that by being able to come to America, they already had given their relatives or friends a lot of trouble and thus, for "small matters" such as going to parks for recreation, they want to be able to do it themselves.

Due to language barriers, they are afraid of stepping out and venturing around on their own. If they have resources as to how they could be more independent, they would definitely do it. These resources, as they had mentioned, could be through publicity such as advertisements in Chinese that they could easily notice near where they live. For example, bulletin boards in Chinatown, Chinese supermarkets, flyers, community-based radio stations, etc.

I grew up in several Asian countries myself and land is very scarce there. It is even rarer to have beautiful parks near the coastline. Our parks in Asia are quite different from the parks in the Bay Area. The different varieties in the flora and fauna in the Bay Area are dramatically different. Several participants mentioned that flowers here bloom a whole lot bigger, and there are many species and varieties of plants that we do get to see in Asia, it's just different. My parents noticed that, too, when they visited the Bay Area and they were absolutely fascinated by what they saw. They were in awe of the landscaping and how beautiful things were. Thus, I feel that these participants truly want to be able to explore the area more – but on their own and not being dependent on others. Due to the fact that most of them rely heavily on public transportation (as most Asians do back in Asia where it is not uncommon to get around on public transportation for one's entire life), getting very familiar with bus routes is key for them to get around.

These people are mostly in their late 30s to 50s, and the fear of getting lost in a place which is English-speaking and "non-Asian" could be intimidating. I think that once they have achieved such knowledge and information about better public transportation, they would feel more confident and more in control of their own lives in a new country and have a greater desire to venture out to the national parks in this area as well as support them in varying ways.

園

Cantonese for "Park"

In Their Own Words – Asian/Pacific Islander Community

Accessibility

"When I think about going to these places I don't want the same concept or same barriers in which if I go to San Francisco. I have the same parking issue, the time issue, it costs money to park, so if we can alleviate a lot of those barriers, monetary, location, transportation, then I think it would be a lot more accessible. The concept of going to Muir Woods, for example, it's like 'why do I want to go there because like living in the city, it's gonna cause the same type of stress.'"

[Vietnamese male, 32 years old, affiliated with Stanford University, San Mateo County]

"So I was a little uncomfortable at Baker beach because there were a couple of syringes that were found along the shore. And I'm not sure if it is [legal] or not but there were a few nude tanners along the coast and it made me a little uncomfortable!"

[Japanese female, 32 years old, San Mateo County, non-profit substance abuse services]

"I feel that many people in America have cars. GGNRA could go to schools or kindergartens and distribute pamphlets to the children. When these children bring the pamphlets home and show them to their parents, the parents could easily drive them to the parks. It's hardly a problem getting to the parks as long as they [the parents] know the way. When we go to the parks, it's mostly because our children want us to bring them there. Often times, transportation isn't the problem for Americans. It's a problem for new immigrants such as us."

[Chinese female, 41 years old, recent immigrant, San Francisco resident]

"I've had to depend on my relatives and friends to bring me there. Our trips to the parks often have to be worked around their schedules.

[Chinese female, 68 years old, retired, San Mateo County]

"I live close to a small park; it's only half a block from where I live and yet I don't go there just because it is kind of secluded and there are a lot of trees. I don't like the feel of it for some reason…I guess because it's not being heavily utilized and so I go to a bigger park where I see other kids and I think the interaction with seeing other people there is important to me - because if it's just me and my kids, it's really not as fun. They have a good time and they get to meet other kids and that's really what I like to do…I would drive to [the national park] in San Mateo County, and I live in San Bruno just to go to bigger park. And, definitely a clean park is also important."

[San Mateo County, 33 year old, Filipino female]

"Out of everything that's on the map [pointing to GGNRA map], I can actually remember being at Stinson Beach. I do live in the East Bay and I think that a lot of it is a lack of information that is provided and the only thing about Stinson Beach is getting there, it's not clearly marked, even on the driving trail. And, I didn't realize how curvy and a bit dangerous it is if you're not an experienced driver to go there. But once you go there, it's an amazing place and you just forget that it's very close by and it's a good experience to see something different than what you're used to - but again there is a lack of information.

[Relates to Accessibility and Communication; Hmong-Mien female, San Mateo County, 24 years old, affiliated with SFSU]

Perceived Discrimination

"I think when I first went to Ocean Beach there was a bonfire with a bunch of other people and some ranger people will pass by. I've never had any run-ins with personnel there, only that big bonfire it seemed that they [rangers] kept coming back periodically because I guess they thought that we would bust out with the alcohol sometime during the night so I don't know if it was more of an ageist thing or just kind of worried about young people in general. Rangers kept checking on us like we were going to do something wrong."

[27 year old, Filipino female from San Mateo County, affiliated with SFSU,]

"I don't know if it's just me but I always get the experiences where we're out fishing, where we're the minority of that population, I won't say the area, but pretty much a cop stopped us, not a ranger but it looked like a neighborhood watch or something and they asked if we lived in the area and if they could see our I.D. I was just taken aback because we're out there to have a good time and automatically you're just like 'I don't want to come back to this area' just because of the situation. We may be one out of a million that it happens to but it kind of sets you off your game."

[Vietnamese male, 32 years old, affiliated with Stanford University, San Mateo County]

Note: *San Francisco Focus Group/Recent Immigrants* ~ 9 participants have been to GGNRA parks. When asked whether they have ever felt uncomfortable in any parks they've ever been to here in the Bay Area or if they've experienced any discrimination, all participants in unison responded "no", never having any issues or problems or discomfort.

釣魚

Cantonese for: "to fish or go fishing"

Representation

"Growing up it would have been kind of nice to see a Filipino park ranger… that could give me the idea of, 'Oh, I could be a park ranger someday.' But I never even had that thought. It's always been a White male…but at the same time I think my experiences with park employees have always been pleasant, they're very friendly."

[34 year old male, Filipino, San Mateo County, non-profit substance abuse services]

"When we're going to the parks usually it's a White male that fits into that category of a national park ranger. If they had someone that represented more of the community surrounding the areas, it will be central as far as exposure especially to people in such an urban area. Also having someone that can, maybe, speak the same language and kinda understands the customs, you know not everybody goes to a park with a basket and burgers, you know? So to have someone that understands the background of why people go out there [is important] because there are some people that go out into the outdoors for spiritual reasons, and things like that, so it's not always just to have your everyday, Sunday 4th of July picnic. Better representation, also, could be a more of a positive image of being a park ranger…" ~

[Mien female, 24 years old, affiliated with SFSU, San Mateo County]

Knowledge/Experience

"I have never been to any of these [GGNRA] parks. Because primarily I don't know how to get to these parks and my relatives are afraid to get into these parks. However, I've been to Ocean Beach because I know how to get there myself."

[Chinese female, 68 years old, San Mateo County]

"It's not just the new immigrants, such as us, who don't know about the parks. Even our relatives who've been here for a long time aren't aware of other parks. They're only familiar with the Golden Gate Park. We need more advertisements and commercials to be aware of the parks. For example, when we saw an advertisement on the newspaper where we could fish for abalones, we cut out the advertisement and told our friends about it. Then we went together and it was very fun going with several other families. But if we don't know anything about the parks, then of course we wouldn't go. People actually enjoy going out to parks – especially people with kids at home."

[Knowledge and Communication; San Francisco, 35 year old female, recent Chinese immigrant]

"I go to the beach more than I go to parks. Going to the beach is more or less the same as going to the parks for me. The ocean is also a form of nature. When I look at the ocean, I could totally relax and let my imagination run wild. I feel that life in America is truly wonderful when I watch people fishing, jogging, playing and walking their dogs. Sometimes, I would even call my parents in China to tell them that I was at the beach and they could even hear the waves! I lived near the beach in Tsingtao when I was in China, and thus, I was especially happy when I ended up living near the beach here in America."

[Chinese female, 44 years old, recent immigrant, San Francisco resident]

Communication

"…I spend all my time learning English! There're so many things to learn. I've start learning from scratch so I've not yet reach the point where I could have the luxury of going to parks. But I know that when I've mastered the language, I would definitely go to parks all the time because I like nature! Pamphlets in English don't help us very much."

[41 year old female, recent Chinese immigrant, San Francisco]

"We would like to see more publicity and advertisements….And, normally we exchange information with each other. It would be good if they could have a flyer, that's just posted on the bulletin boards of these activity centers so we could actually see them….We are not like the young people, they have a lot of media to know a lot more information about these parks, they can go on the Internet they have lot's of different things that they can access to know about the parks, but we don't. We are not technologically savvy. Having flyers at our activity centers would be more ideal for us. And of course have them translated into Chinese." *[Chinese male, 69 years old, retired, San Mateo County]*

"They could provide free pamphlets or free newsletters or maps and place them in front of restaurants, supermarkets, bus stations and the BART…."

[San Francisco, recent immigrant, Chinese female, 26 years old]

"I think if they had a presentation or training about what we kind of went through because we're learning a lot here at this focus group. If you take community leaders like in religious settings, senior centers, people who have access to other folks, I think that's the best way to actually outreach to more people. I understand direct in front of 500 people, but also educating those who actually have direct contact with the masses. That might be a better way to actually disseminate the information."

[Vietnamese male, 32 years old, employed with Stanford University, San Mateo County]

Recreational Activities Enjoyed (sample):

Jogging	Fishing	Rollerblading	Photography	Library	Shopping
Cycling/bikes	Karaoke	Tai-Chi	Ping-pong	Hiking	Camping
Brisk walking	Go to fitness center	SR. Center activities	Chinese dancing	Learning English	Performance art
Reading in the park	Strolling on the beach	Walk along the marina	Watch the squirrels	Playing with my kids in the parks	Lawn bowling
Going to live shows/music	Spending time-family	Farmers markets	Watching beach volleyball	Explore green spaces	Picnics with family

Outdoor Areas Visited and/or Frequented (sample):

Stinson Beach	Fort Baker	Fort Funston	Muir Woods	Presidio	Lincoln Park
Hawaii Volcanoes Natl Park	Redwood Hills	Stinson Beach	Marin Headlands	McClaren Park	Golden Gate Park

RECOMMENDATIONS

> *"I like being in the outdoors because it makes me feel relaxed and comfortable. I'm retired now so often times we have gatherings with other friends or we have barbeques in the park and interact with each other. And also when we gather in the park we do Tai Chi and we dance as well. It is a very good place to do such activities. And when we go to the beach we like to fly kites; it reminds us of our childhood times."*
>
> *[Chinese American, San Mateo County]*

The current work of the Golden Gate National Recreation Area and Parks Conservancy, in relation to outreach and community engagement, is recognized and applauded. Continued systematic planning and intention will contribute to a growing success of connecting with culturally diverse communities around the Bay Area. It is recognized that, to be successful, this requires the joint commitment (and possibly additional resources) of both the park and Parks Conservancy. Incremental "steps in the right direction" must be taken; therefore, this list serves as a series of recommendations to consider and place to start and select ideas from rather than as an *action plan* for what can be done "tomorrow."

The following recommendations (in no particular order) are provided directly by the communities interviewed as well as based on knowledge and expertise of the research team. Some of these recommendations will require new authorities (like youth-adult apprenticeship employment ladder preferences via CCC's or I-YEL for example) while others require either the creation of GGNPC positions or opening of GGNRA positions (such as providing more outreach staff who reflect a particular Latino, African American, or Asian community. These recommendations are offered as a way to further 'build the bridges' the park and Conservancy is committed to:

- ✓ <u>NPS Centennial Celebration</u>: Involve these communities, by way of leaders, in the 2016 planning via invitation to events, and/or youth involvement (e.g., per list from this study as well as per contacts in the GGNRA visitor services division).

- ✓ <u>Community contacts/relationships</u>: Develop constructive relationships between providers and organizations representing ethnic/culturally diverse communities in the Bay Area. Take the contact list compiled from this study, plus suggested key contacts (existing relationships) with the GGNRA community outreach division and do the following:

    - Conduct a brief survey with these groups/organizations to gauge their general interest in GGNRA/GGNPC.
    - Take the results and divide the organizations into 3 tiers based on interest level.

- Determine which organizations to cultivate based on those with the greatest interest, and potential commitment, in engaging with the parks. Can occur via phone calls, mailers, invites to events, dialogue sessions, listening sessions, etc.
- Determine mutual interests then next steps and actions.
- Monitor what partnerships and programs to invest in via some sort of tracking mechanism/evaluation.

✓ Community liaison or Community Advisory Group:

1) Consider developing a joint outreach program between park and Conservancy staff to provide the outreach infrastructure in measurable steps to reach other counties (i.e., Crissy Field Center is a good model that currently exists);
2) Establish interface of trusted leader(s) in the community who can be the bridge, the interface between the park and the community;
3) Bring in all community liaisons together to the GGNRA and educate them about the parks and GGNRA/GGNPC can continue to learn about community interests and desires thereby possibly establishing county level working partnerships with community leaders and community-based organizations (CBOs); and
4) If Advisory group – Determine how often to meet (e.g., 2-3 times per year).

✓ Communication: Target communication efforts towards children and/or school groups. Send representatives (ethnic minority rangers and Conservancy outreach staff) into schools for programs, career days, etc. Make sure information contains, how much (if cost associated), and how to get there. Connect with journalists of ethnic media sources when promoting newsworthy events, stories, and park-related functions, celebrations, etc. Consider how key brochures and regular publications (currently only in English) can be provided in other primary languages like Spanish, Cantonese, etc.

✓ Personal Invitations: Whenever feasible, creating personal invites to communities is seen as more valued and important. Do not expect them to always seek information (or know where to find it) regarding park opportunities (education, interpretation, recreation, historical/natural/cultural resource information). This would work best through a series of CBO's to publish information to their community members (e.g., local newspapers/newsletters) and post in visible locations in the targeted communities (e.g., bulletin boards that are widely read, community centers).

✓ Cross-Cultural Task Force: Consider organizing a "Cross Cultural Taskforce" made up of interested individuals from GGNRA, GGNPC, and the Presidio Trust in order to reflect and make recommendations to accomplish the task-oriented work on the General Management Plan in a culturally sensitive manner. Invite two I-YEL students from the Crissy Field Center to be involved and participate on a rotating basis each year.

- ✓ Signage/materials: Considered by some as "common sense efforts". Invest in and ensure bilingual or tri-lingual signage (based on regionally dominant languages) is placed at all key sites/locations. Ensure these brochures, and other materials, are strategically placed at all Golden Gate National Recreation Area Visitor Centers.

- ✓ Employment Opportunities: Develop apprentice program targeting ethnically diverse youth. Build sequence of program/training opportunities for youth and young adults. More career days for minority communities. Youth to adulthood leading to career opportunities with the NPS. Post on targeted/specific community bulletin boards.

- ✓ Hiring policies/practices: Thoroughly examine hiring practices, determine current ethnic diversity on staff, analyze applicant rejection for reasons, determine where ads are being placed for job/position openings, attend local career fairs/school career days and send ethnic minority ranger (and/or bilingual ranger) whenever possible as role models.

- ✓ Organize shuttles or tour groups: Establish funding for a dedicated bus or van with a dedicated ranger or GGNPC outreach liaison to pick up community residents interested, bring them to one of the park sites, and provide a day (or xyz hours) of tour/activities in and through various park sites (e.g., family/friends group tour on quarterly or more basis in different communities). *Note*: While the participants often expressed they would best be served by a ranger representing their community, this may not be as essential as merely having someone who is sincere that they can relate to (re: friendly, knowledgeable and cares).

- ✓ Incentives/discounts: Offer incentives/discounts to the community. Examples include: Free/low cost entrance passes to fee-based park sites, souvenirs, dollar day (where certain concessions are "$1.00 all day"), coupons to visitor centers, etc.

- ✓ Advertising/marketing: Identify park partners to assist. Use ethnic media that target specific groups (*see Ethnic Media in the Bay Area sources in the Appendix*). Get public service ads on side of buses around the Bay Area (bus and bus stop marquees). Ensure advertisements consist of visibly identifiable people of color on marketing materials, advertisements, and brochures.

- ✓ Ethnic Media: Improve use of various Bay Area sources of ethnic media (T.V., radio, newspapers, newsletters, etc). Prioritize building relationships with key journalists for local ethnic newspapers and other types of media *(see Appendix)* to ensure park coverage to broader audiences.

- ✓ Park restoration: Personally invite/extend outreach to individuals interested in being on mailing lists and/or ethnic organizations. Engage the ethnic communities who live adjacent to the park to become involved. Consider hiring qualified young people from these communities (part-time and/or seasonal) through GGNPC, new authorities, for such hiring, or community-based positions.

- ✓ Stewardship and Trails Forever: Pair up work days with fun/leisure days in the parks. Another other option is to split up any given work day with recreational or interpretation/education so it's "not all work" (e.g., consider providing a van to also pick up community groups, or groups of interested individuals, for both work and play).

- ✓ Interpretation: Tell stories from the voice of specific ethnic groups. Contract/hire local ethnic minority professionals for cultural special events and/or specific culturally-based interpretive activities/programs.

- ✓ Customer service/sensitivity training: Ensure cultural competence is part of the Golden Gate National Recreation Area and Parks Conservancy training modules and considered as part of the annual performance evaluations. Encourage park partners to do the same.

- ✓ Organizational assessment of "diversity values and attitudes": Just as seeking a commitment from the community (e.g., via respected/trusted leaders) is important, an assessment of values and attitudes of all GGNRA and GGNPC staff is an equally effective tool yet must be sincere and voluntary. Determining this level of commitment can occur in many ways one of which includes comprehension of "where people are" in their values relating to cultural diversity and ability to follow through with plans as set forth by the park plans and initiatives. *(Note: This could become part of the above referenced training).*

- ✓ Seminars for community leaders: Personal invitation for community contacts from both this study and from efforts by the GGNRA visitor services division and GGNPC. Develop consistent and regular seminars (duration can be determined) for park education as well as continued learning about community needs. This can occur through partnership with GGNPC and/or the Headlands Institute.

- ✓ T.V. / Radio: Make sure the established/preferred means of communication for these media functions are used for predominant racial and ethnic communities targeted for community engagement.

- ✓ Direct Mail: "Bundle ads with my bills." Several participants suggested that promotional park information as 'inserts' with residential utility bills would get read "for sure."

- ✓ Community newsletters: Create relationship with editors in minority communities who work on local/neighborhood publications.

- ✓ Transportation: Sample constraint factors include the absence of available transport, lack of knowledge of what routes to take to 'get there,' inability to coordinate with friends or family who do have vehicles (e.g., impacts on independent, self-sustained access). Some people need basic information to support and introduce them to the public transportation system and gain confidence in its use.

    - The Bay Area Metropolitan Transportation Commission (MTC) can be a partner in these efforts: http://www.mtc.ca.gov/

    - There are a variety of Bay Area Transit Partners that can be engaged in GGNRA efforts for future planning and community engagement: http://www.transitinfo.org/partners.asp

    GGNRA can work with these departments to identify the scope for measures to improve transportation links between urban populations and various park sites within the Golden Gate National Recreation Area. Collaboration between local authorities in developing a potential "National Park Transport Plan" may provide a new avenue and approach for connecting these parks with ethnically diverse communities who express 'lack of access' as a major barrier to visitation and enjoyment.

Note: GGNRA has been working both with the MTC and county jurisdictions on improving access to recreational parklands. GGNRA and/or Conservancy staff should inform neighborhood and community groups that they will also need to voice their interests/concerns to insure they have greater county and regional priority. GGNRA could consider ways to advise neighborhood/community groups on how to express concerns and/or, at a minimum, provide necessary information for whom to contact. Perhaps GGNRA/Conservancy can join together with community leaders to come up with a strategy for "voicing their interest in public transport to parks" (e.g., sign a petition, write a form letter to have people sign and send in to MTC, email proper authorities, set up a community meeting with representatives from the community and the MTC, etc.)

Urban Trail Blazers, Crissy Field Center
Photo courtesy of the Crissy Center website

CONCLUSIONS

The Golden Gate National Recreation Area should strive to be in a position where all people have the opportunity to discover the natural, cultural, scenic, and recreational resources and amenities available. Central to realizing this goal is action to facilitate a greater proportion of culturally diverse groups to make informed decisions about visiting the park(s) and taking advantage of the recreational and educational opportunities offered.

Each of the communities interviewed had either directly experienced or expressed comprehension of the perceived benefits of visiting national parks. Examples include: Physical health (fresh air, exercise/walking for pleasure); mental and emotional well-being (stress-reduction, connecting with nature, finding inner-peace); opportunity to spend time with family, friends and their children (social interaction); and enjoyment of learning about the natural, cultural, scenic, and recreational resources of the parks.

Numerous constraint themes emerging from this study were consistent across ethnic groups regardless of county/city of residence. Results corroborated, in many ways, with the literature from previous studies across the country. For example, "mean what you say" (i.e., authentic communication) surfaced across cultures with the community focus group interviews in this study. This can be accomplished by follow through on any commitments made and creating a climate of confidence in under-represented groups about visiting the parks and wanting to return. The notion (among some ethnic groups) of "feeling not welcome" has begun to be overtly stated both in the research as well as recognized by the last few NPS Directors on down the 'chain of command' to field staff. This acknowledgement has led to not only new research efforts, but also continued action on the part of many parks across the country generating some success. Tried and true best practices relating to education, outreach, civic engagement, and partnerships are evident throughout the NPS; systematically, however, barriers continue to exist for many reasons.

Access, communication, workforce diversity, and other constraints can be mitigated with intentional actions and by augmenting community connections. As also revealed in this, and other studies, ethnic minorities connect with parks and nature in often deep and profound ways. These connections often relate to their earlier experiences, both positive and negative in assigning particular meaning. What that meaning is may be misunderstood or not known. Education, effective/non-traditional means of marketing programs, and developing culturally relevant activities must continue in forward motion. For instance, since a cross-cutting constraint among individuals interviewed simply related to "lack of knowledge," GGNRA and park partners should seek to continue increasing awareness of what GGNRA has to offer and where to go to enjoy it. Hence, forming partnerships with existing ethnically diverse community organizations, and potential new ones, with their own constituents will continue to be vital. Finally, regarding the concept of "relevance," five key components can be considered and thought about in relation to park use and community engagement:

- What does <u>it</u> have to do with our lives?
- Does <u>it</u> affect the air we breathe, the food we eat, our health, our children's education?
- Does <u>it</u> have an impact on our community? Our society?
- Does <u>it</u> illuminate issues that are important to our community?
- How does <u>it</u> impact local life?

You decide what "it" is!

RECOMMENDATIONS FOR FUTURE RESEARCH

At the initial completion of all analyses it appeared as if sufficient "data" was gathered on this topic. That is, when time and staff limitations precluded the researchers from fulfilling a ninth focus group, a "gut feeling" was that "we would probably not learn anything new" anyway. This could, indeed, irrefutably be accurate if any of the same racial or ethnic groups was engaged in another focus group interview process with the same series of questions. This fact notwithstanding, the reality is there are other ethnic and cultural groups that continue to be untapped who are potentially also underrepresented in park visitation and contributions to general management planning processes. The following suggestions would be worthwhile future GGNRA social science efforts on related subjects. Furthermore, these recommendations are outlined in a way that any organization can pursue such ideas in partnership with the park and/or the Conservancy, not that it has to be parks initiated or developed. That is, future research could be community-based organizations, foundations, university or park-partner grant and sponsored:

- One of the objectives stated that the results of this study could provide "input for development of a sampling design for future survey(s), generate further questions for surveys, and provide context and/or contribute toward follow-up of a community-based survey." The data of this study is rich in quantity and quality and should be utilized for development of content of such surveys.
- While some initial input and understanding was gained from recent immigrants in this study, there is still little understanding of the attitudes and experiences of this population relating to park visitation and/or management (e.g., "very different in America than in my country"). Given the current and growing immigration population, it would benefit GGNRA to know if immigrant status makes a difference in relationship to park staff and general ethnic and/or cultural connections with the parks and park activities overall.
- Although research on youth has and will continue to occur, more work is needed to understand how to improve the connections (e.g., meaning, sense of place, relevancy) between parks and younger populations ages 18 and under.
- Research with providers of outdoor recreational experiences and youth serving organizations could assess their use, continued interest (e.g., "likes/dislikes", satisfaction, etc.), and desires for future opportunities with GGNRA.
- Despite substantial growth of bi-racial and multi-racial populations in the Bay Area and across the country, very little research has been completed on this in the field of parks, recreation and tourism at this time. We have limited knowledge of how these identities mediate or influence the way people of mixed ethnic backgrounds experience parks.

Concluding comments: The GGNRA vision for "embracing diversity" (in all its complex forms) is critical, yet continued progress could best be determined where management has specific, measurable goals tied directly to both the General Management Plan and also to its strategic goals. Having parks and Conservancy leadership that publicly makes outreach and community engagement a priority by ensuring goals are set and progress measured with adequate resources provided is essential. While the urban treasures of the Golden Gate National Recreation Area are here for all people to "discover and enjoy," the future also depends on support of those currently missing from the ranks of visitors, voters, and/or those still needing to be educated about the many benefits of the parks existence and opportunities.

LIST OF WORK CITED

California State Parks (2005). "Park and recreation trends in California." Sacramento, CA. Report prepared by E. Sheffield, Chico State University with contributions from staff within the CA State Parks Planning Division. http://www.parks.ca.gov/planning

Chavez, D.J. (2001). Managing outdoor recreation in California: visitor contact studies 1989–1998. General Technical Report. PSW-GTR-180. Albany, CA: Pacific Southwest Research Station, Forest Service, U.S. Dept. of Agriculture; 100p.

Ewert, A., Chavez, D.J. & Magill (1993). *Culture, conflict, and communication in the Wildland-Urban Interface*. Boulder, CO: Westview.

Floyd, M.F. (2001). Managing national parks in a multicultural society: Searching for common ground. *George Wright Forum, (18)*3, 41-51. http://www.georgewright.org/183floyd.pdf

Floyd, M.F. (1999). Race, ethnicity and use of the National Park System. National Park Service, *Social Science Research Review, 1*(2):1-23. http://www.nature.nps.gov/socialscience/pdf/SSRR_2.pdf

Glaser, B.G. & Straus, A.L. (1967). *The discovery of grounded theory*. Chicago: Aldine.

Jackson, E.L. (2000). Will research on leisure constraints still be relevant in the twenty-first century? *Journal of Leisure Research*, 32(1), 62-68.

Jacobson, S.K., McDuff, M. D., & Monroe, M. (2006). *Conservation education and outreach techniques.* New York: Oxford University Press.

Johnson, C.Y., Bowker, J.M., & Cordell, K. (2001). Outdoor recreation constraints: An examination of race, gender, and rural dwelling. *Southern Rural Sociology,* 17, 111-133.

Lopez, A. (2001). "Racial/ethnic diversity and residential segregation in the San Francisco Bay Area." *Race and Ethnicity in California: Demographics Report Series, No. 1.* Center for Comparative Studies in Race and Ethnicity, Stanford University. All reports in the series are available online: http://ccsre.stanford.edu/RI_rp_RaceEthnic.htm

Makopondo, R. (2006). Creating racially/ethnically inclusive partnerships in natural resource management and outdoor recreation: The challenges, issues, and strategies. *Journal of Park and Recreation Administration, 24*(1), 7-31.

Martin, D.C. (2004). Apartheid in the great outdoors: American advertising and the reproduction of a racialized outdoor leisure identity. *Journal of Leisure Research,* 94.

McAvoy, L., Winter, P.L., Wilson-Outley, C., McDonald, D., & Chavez, D. (2000). Conducting research with communities of color. *Society & Natural Resources*, 13, 479-488.

National Parks Conservation Association. (n.d.) "The National Parks Community Partners Program", *Cultural Diversity and the National Parks, Working Together for Change*. Washington, DC: NPCA.

Philipp, S.F. (1995). Race and leisure constraints. *Leisure Sciences*, 17, 109-120.

Roberts, N.S. (2003). "Ethnic minority visitors and non-visitors: An examination of constraints regarding outdoor recreation participation in Rocky Mountain National Park." Unpublished Doctoral Dissertation. Colorado State University, Fort Collins, CO. Dissertation Abstracts International, No. 3114692.

Rodriguez, D.A. & Roberts, N.S. (2002). "State of the Knowledge Report: The association of race/ethnicity, gender, and social class in outdoor recreation experiences." National Park Service, Social Science Program, General Technical Report, Colorado State University, Fort Collins.
http://www.nature.nps.gov/socialscience/pdf/Rodriguez_Roberts_Rep.pdf

Shinew, K.J., Stodolska, M., Floyd, M., Hibbler, D., Johnson, C., & Santos, C. (2006). Race and ethnicity in leisure behavior: Where have we been and where do we need to go? Research reflection. *Leisure Sciences*, 28, 403-408.

Shinew, K.J., Floyd, M.F., & Parry, D. (2004). Understanding the relationship between race and leisure activities and constraints: Exploring an alternative framework. *Leisure Sciences*, 26, 181-199.

Sasidharan, V. (2002). Special Issue Introduction: Understanding Recreation and the Environment within the Context of Culture. *Leisure Sciences*, *24*, 1-11.

Solop, F.I., Hagen, K.K., & Ostergren, D. (2003). "Ethnic and Racial Diversity of National Park System Visitors and Non-Visitors." Technical Report. Social Research Laboratory, Northern Arizona University.
www.nature.nps.gov/socialscience/pdf/Ethnic_and_Racial_Diversity_Report_12_2003.pdf

Stanfield, J.H. & Dennis, R.M. (1993). *Race and ethnicity in research methods*. Newbury Park, CA: SAGE.

Tierney, P.T., Dahl, R. & Chavez, D.J. (1998). "Cultural Diversity in the Use of Underdeveloped Natural Areas by Los Angeles County Residents." Research paper PSW-RP-236. Albany, CA: Pacific Southwest Research Station, U.S. Department of Agriculture.

Watkins, T. (2007). "This land is our land: Support of our national parks." Forwarded column by E-mail by the NPS Public Affairs Office that appeared in the *Observer & Eccentric Newspapers* (Livona, MI), Thursday, January 25, 2007.

Winter, P.L., Jeong, W.C., & Godbey, G.C. (2004). Outdoor recreation among Asian Americans: A case study of San Francisco Bay Area residents. *Journal of Park and Recreation Administration, 22* (3), 114-136. http://www.nature.nps.gov/helpyourparks/diversity/pdf/OutdoorRecr_AsiansAmer-BayArea.pdf

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APPENDICES

APPENDIX A

Focus group questions for semi-structured interviews

Note: The introduction also consisted of an explanation of the NPS system and GGNRA park units (including maps and brochures) along with purpose of the study.

Tier 1 (priority):

1. How long have you lived in the Bay Area? In California?
2. What kinds of activities do you like to do for fun or recreation?
3. Do you enjoy being in the out-of-doors? How do you feel about nature/what does it mean to you?
4. Do you go to any of the parks around where you live? **[If yes]** what kinds of things do you usually do at these parks? **[If no]** Why don't you go to these parks?
5. Have you ever been to any of the parks that are part of the Golden Gate National Recreation Area (managed by the National Park Service)? *[Show map]*
6. a] **If yes**, which areas have you been to/visited? How often do you go to those areas?
   b] What do you usually do there and who do you go with?
   c] What do you like about these areas? *(Get at what makes the park lands special)*
   d] What do you dislike about these areas?
   e] **If no**, why don't you go to these areas? Can you give reason(s) why you have never been to any of the GGNRA parks? What would encourage you, and others you know, to go to one of the sites/park areas in GGNRA?
7. Do you think people who work in these parks represent the racial/ethnic make-up of people who live in your community? The SF Bay Area? Does this background of the staff impact you during your visits or would it matter when deciding whether to visit or not? Does race/ethnic representation of the Park staff make a difference to you one way or another? **[If yes]** In what way *[how/why]* does this matter?
8. How could GGNRA communicate differently to provide you with more information about the Parks/facilities/activities, etc? How best to communicate with more appealing/inviting reasons to visit the park? What messages are important to you as a visitor or potential visitor in future?
9. Is there anything that prevents you from visiting GGNRA at all or more often? Do you have any concerns about going to these Parks? *[Also include concept of fear]*
10. **If yes, visiting any GGNRA parks** have you ever felt uncomfortable while visiting the park? If so, please explain as best as you can.
11. **If yes, visiting any GGNRA parks:** Have you ever felt you were discriminated against in any way (while in a park)? [**If yes]**, please share how you felt or what happened?
12. Do you think that residents of your community are aware of the parks that are part of Golden Gate National Recreation Area? **[If no]** What else could the National Park Service do to increase awareness of these parks in your community?
13. How well do you think the parks that are part of GGNRA serve the needs of the residents of your community? What could the National Park Service do to make these parks better serve you and the residents of your community?

Tier 2 (secondary) / Possible follow up questions:

1. If you would like to receive information about GGNRA, what kind of information would you want to see and what is the best way for you to obtain that information? (e.g., What sources do you best receive info about recreational activities and places you might want to go/visit? Where do you get your information from?).

2. GGNRA is in the process of completing a new management plan for the Park. What kinds of management changes would you like to see happen to serve you better?
3. What do you associate with the word "trails?" Is there another word that better represents an image of what you like to do? Such as “walks?”
4. What do you do to stay "healthy?" What does that mean to you? Is there a way to better represent using parks to stay "healthy?"
5. Do residents in your community have access to transportation they need to get to or to use these parks?
6. Do these parks have the type and number of facilities and services that meet the needs of people in your community?

Tier 3 (if time and if necessary):

For use of probing to get more info if not answered in Tier 1 above:

1. Do you think these Parks are located **close enough** to your community to meet the needs of residents?
2. **Who** do you go to parks with?
3. If we have more questions for you, would you be willing to fill out a brief survey for us that we could send to you in the mail? *[If yes, get name/address]*

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APPENDIX B
Ethnic Media Resources – Bay Area

Ethnic media is specialized sources of information specifically designed to serve ethnic and cultural communities. Ethnic media comes in various formats including newspapers and other printed options (daily, weekly, monthly), TV/cable, radio, internet websites and others. The following key resources should be reviewed and pursued for consideration by GGNRA and/or GGNPC:

(1) ***Sample Bay Area Specific Sources:***

AFRICAN-AMERICAN/BLACK:

a] **"Oakland Post" Newspaper**
405 14th St., Suite 400
Oakland, CA 946**
Ph. (510) 287-8200
Note: "Small award winning community newspaper based in Oakland, California. The Oakland POST is a general newspaper, African American in focus, circulation 49,500 distributed in Oakland, Berkeley, Richmond and San Francisco. Also publishes "EL MUNDO", the oldest Latin weekly in northern California circulated in the cities of Oakland, Richmond, San Francisco and San Jose."

b] **"The Metro Reporter"**
Metro Reporter Group
1366 Turk Street
San Francisco, CA 94115

c] "**San Francisco BayView**"
National Black Newspaper
4917 Third Street
San Francisco California 94124
Phone: (415) 671-0789
Fax: (415) 671-0316
Email: editor@sfbayview.com

d] **San Francisco Cable Channel 29**
"Never Give Up" Ghetto TV LiVe To TaPe ~
Idell Wilson: Host/Executive Director
Air Time: Every Third Saturday of the Month @ 10:00 AM
P.O. Box 347507
San Francisco, CA 94134-7507
Ph. (415) 424-3420
E-mail: idellwilson2003@yahoo.com

HISPANIC/LATINO:

a] **"El Mensajero"** **(**San Francisco Hispanic Chamber of Commerce)
333 Valencia Street, Suite 410
San Francisco, CA 94103
Ph. (415) 206-7230
http://www.elmensajero.com/
Note: *Circulation:* "We distribute 112,139 weekly copies of our newspaper throughout the Bay Area. We are the only Spanish language newspaper that delivers the majority of our copies (93,885) to homes in zip codes that are Latino-dominant. Our circulation is audited by two reputable audit companies: Verified Audit of Circulation (VAC), and Certified Audit Circulation (CAC)."
Readership: "If you are planning to target the Spanish-speaking Hispanic market in the San Francisco Bay Area, there is no better option than El Mensajero. Newspapers are used by 56% of Hispanics to check advertising information; this is more than all other media combined! Spanish is also the most effective advertising language in the Hispanic market. Ads in Spanish are 61% more effective and 4.5 times more persuasive than English. Also, Bay Area Latino median incomes are 35% higher than Latinos throughout the U.S."

b] **"El Bohemio News"**
4178 Mission St
San Francisco, CA 94112
Ph. (415) 469-9579
www.elbohemionews.com

c] **"El Mundo"** (see Oakland Post, Publishers, African American community)
d] **Latino radio stations**: KSOL-FM/ KSQL-FM

CHINESE:

a] **"Sing Tao" Daily News**
625 Kearny St
San Francisco, CA 94108
Ph. (415) 989-7111
http://www.singtaousa.com/media/singtao.html
Note: Sing Tao Daily presents readers with comprehensive local, national, and international news of particular interest to the Bay Area Chinese, and most important news from China, Hong Kong and Taiwan.
b] **"World Journal"**
English version: http://www.worldjournal.com/wj-eng_list.php?sc_seq_id=1930
231 Adrian Road
Millbrae, CA 94030
Ph. (650) 692-9936
c] **"Ming Pao San Francisco, Inc"** (newspaper)
602 Kearny St
San Francisco, CA 94108; Ph. (415) 398-0288

d] **"Philippine News"**
235 Grand Ave., 2nd Floor
South San Francisco, CA 94080
1 888-PHILNEWS (744-5639) or 650-872-3000
info@philippinenews.com

e] **Chinese radio**: KSQQ-FM

(2) ***SF Politics*** provides a comprehensive list of popular mainstream and ethnic media in the San Francisco area (as well as state and national sources). They include links to contact information for daily, weekly, and monthly newspapers; neighborhood newspapers, TV News; Radio News; and Online sources (e.g., Blogs).
Information: http://www.sfpolitics.com/

(3) ***Ethnic News Service at the Center for Integration and Improvement of Journalism*** (CIIJ) at San Francisco State University. Information: http://ens.ciij.org/
Dr. Cristina L. Azocar, Director
Ethnic News Service, CIIJ, San Francisco State University
1600 Holloway Ave. Humanities 307
San Francisco, CA 94132
Ph. (415) 338-7434

(4) ***News Ghettos, Threats to Democracy, and Other Myths about Ethnic Media - Lessons from the Bay Area News Media Survey:*** This study is another source of locally relevant ethnic media information; research carried out by Browning, et al. (2003).

Full report: http://pri.sfsu.edu/reports/ETHNIC_MEDIA_FINAL_REPORT_103003.pdf

(5) ***State of the News media, Ethnic Alternatives***: The 2006 annual report on the State of the News Media for Journalism has extensive discussion on the Alternative Media:
http://www.stateofthenewsmedia.org/2006/narrative_ethnicalternative_intro.asp?media=10

(6) ***New America Media:*** A leading source of information on this topic (formerly the *New California Media*). There is a link on their site to multi-lingual, multi-cultural advertising services. They provide services to help plan, place and track ethnic media efforts. Information: http://news.newamericamedia.org/news

New America Media
275 9th Street
San Francisco, CA 94103
Ph. 415-503-4170
Fax 415-503-0970

"The National Directory of Ethnic Media is the most comprehensive listing of ethnic media, America's fastest growing segment of journalism reaching more than 50 million Americans. The directory provides information on over 1,800 ethnic media organizations in the United States, including print, online, radio and television. The print edition is organized by ethnicity and media type, with alphabetical and geographical indexes. The online edition also includes a custom search feature that allows you to create your own search for media by city, state, language, ethnicity, and media type."

A community approach to dog bite prevention

American Veterinary Medical Association
Task Force on Canine Aggression and Human-Canine Interactions

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Introduction and Problem Statement

Dog bites are a serious public health problem that inflicts considerable physical and emotional damage on victims and incurs immeasurable hidden costs to communities. Bites have been tolerated as a job-related hazard for utility and postal workers, but for many communities the problem may be more encompassing. Following a severe attack, there is usually an outcry to do something, and the something that is done often reflects a knee-jerk response. Only later do officials realize that the response was not effective and, in fact, may have been divisive for the community. To assist communities in avoiding such ineffective responses, the AVMA convened a Task Force on Canine Aggression and Human-Canine Interactions. Although the number of injuries will never be reduced to zero, Task Force members believe a well-planned proactive community approach can make a substantial impact. The information contained in this report is intended to help leaders find effective ways to address their community's dog bite concerns.[a]

Scope of the problem

Dogs have shared their lives with humans for more than 12,000 years,[1] and that coexistence has contributed substantially to humans' quality of life. In the United States, there are slightly more than 53 million dogs sharing the human-canine bond,[2,3] more dogs per capita than in any other country in the world.[1] Unfortunately, a few dogs do not live up to their image as mankind's best friend, and an estimated 4.5 million people are bitten each year,[4,5] although the actual number injured is unknown.[6] Approximately 334,000 people are admitted to US emergency departments annually with dog bite-associated injuries, and another 466,000 are seen in other medical settings.[6] An unknown number of other people who have been bitten do not sustain injuries deemed serious enough to require medical attention. Still another group of individuals is not represented by these data, those that incur injuries secondary to a bite or attempted bite. For example, a jogger may trip and break an arm while fleeing from a threatening dog.

Of concern too are the demographics of typical dog bite victims. Almost half are children younger than 12 years old.[6-8] People more than 70 years old comprise 10% of those bitten and 20% of those killed.[9,10]

Direct costs of dog bite injuries are high. The insurance industry estimates it pays more than $1 billion/y in homeowners' liability claims resulting from dog bites.[11] Hospital expenses for dog bite-related emergency visits are estimated at $102.4 million.[6] There are also medical insurance claims, workmen's compensation claims, lost wages, and sick leave-associated business costs that have not been calculated.

Which dogs bite?

An often-asked question is what breed or breeds of dogs are most "dangerous"? This inquiry can be prompted by a serious attack by a specific dog, or it may be the result of media-driven portrayals of a specific breed as "dangerous."[12,13] Although this is a common concern, singling out 1 or 2 breeds for control can result in a false sense of accomplishment.[14] Doing so ignores the true scope of the problem and will not result in a responsible approach to protecting a community's citizens.

Dog bite statistics are not really statistics, and they do not give an accurate picture of dogs that bite.[7] Invariably the numbers will show that dogs from popular large breeds are a problem. This should be expected, because big dogs can physically do more damage if they do bite, and any popular breed has more individuals that could bite. Dogs from small breeds also bite and are capable of causing severe injury. There are several reasons why it is not possible to calculate a bite rate for a breed or to compare rates between breeds. First, the breed of the biting dog may not be accurately recorded, and mixed-breed dogs are commonly described as if they were purebreds. Second, the actual number of bites that occur in a community is not known, especially if they did not result in serious injury. Third, the number of dogs of a particular breed or combination of breeds in a community is not known, because it is rare for all dogs in a community to be licensed, and existing licensing data is then incomplete.[7] Breed data likely vary between communities, states, or regions, and can even vary between neighborhoods within a community.

Wolf hybrids are just that: hybrids between wild and domestic canids. Their behavior is unpredictable because of this hybridization, and they are usually treated as wild animals by local or state statutes. Wolf hybrids are not addressed by this program.

Sex differences do emerge from data on various types of aggression. Intact (unneutered) male dogs represented 80% of dogs presented to veterinary behaviorists for dominance aggression, the most commonly diagnosed type of aggression.[1] Intact males are also involved in 70 to 76% of reported dog bite incidents.[7,15] The sex distribution of dogs inflicting unreported bites is not known. Unspayed females that are not part of a carefully planned breeding program may attract free-roaming males, which increases bite risk to people through increased exposure to unfamiliar dogs. Dams are protective of their puppies and may bite those who try to handle the young. Unspayed females may also contribute to the population of unwanted dogs that are often acquired by people who do not understand the long-term commitment they have undertaken, that are surrendered to animal shelters where many are destroyed, or that are turned loose under the misconception that they can successfully fend for themselves.[16]

Dog bite costs to a community

Costs associated with dog bite injuries cannot be readily measured, because so many intangible quality of life issues are involved. This makes it more difficult for community councils to justify the time, effort, and expense necessary to institute a bite reduction program when compared to a new fire truck, street paving, or city park. Intangible costs include time spent by volunteer and paid community officials on animal-related issues, deterioration of relationships between neighbors, building appropriate medical support, citizens' concerns about neighborhood safety for children,

homeowners' insurance costs within the community, and animal shelter support for unwanted pets. These are quality of life issues that ultimately determine the desirability of a community to its citizens and that can motivate proactive community officials to institute a prevention program.

This program

Reducing the incidence of dog bites requires active community involvement; passive attention or a token commitment is not sufficient. By actively focusing on dog bite prevention, the State of Nevada was able to reduce the incidence of bites by approximately 15%.[b] Members of the Task Force represented a broad range of disciplines and designed the program presented here. It was recognized that the community approach must be multidisciplinary and that different communities will have different needs based on their level of commitment, preexisting programs, and available resources. Although the best results will be obtained by adopting the entire prevention program, the program is designed so that it may be adopted as a whole or in part. Either way, the goal remains to reduce the incidence of dog bites within communities and improve quality of life for their citizens.

Multidisciplinary and Multiprofessional Groups

It is unlikely that a dog bite prevention program will begin in a complete vacuum. Typically, some formal program is already in place under the auspices of animal control, the health department, or local law enforcement. Efforts may also be under way by other groups such as educators or dog breeders. It makes sense to identify related activities to determine what needs are not being met, find likely sources of support or resistance, and avoid duplication of effort and potential turf battles (**Appendix 1**).[c]

Identify dog bite issues in the community

Each community has a unique set of dog bite-related problems and its own approaches to confronting them. A central task is to identify these particular issues. The project begins by assessing the political landscape regarding dog bites and dog bite prevention. Before launching a program, it is useful to pinpoint the degree of current and potential support among corporate and community leaders as well as legislators and senior staff in the dog bite prevention program's sponsoring agency.

Recognize hot buttons—Crafting a program is easier if the objectives mesh with a highly visible community issue. For example, there may be public outcry about dog waste or a publicized dog attack. Such a situation may provide impetus for a campaign to support licensing and leash laws or ordinances pertaining to reporting dog bites. When community groups and the media have already invested in finding a solution to the dog bite problem, program organizers can dovetail their efforts and work collaboratively with these groups.

Community interest—Knowing the degree of support that exists for a prevention program is important. The prior existence of a program suggests support, but this may not always be the case. The active support of a commissioner or health department head (local or state) is critical, because without his/her backing, a fledgling dog bite prevention program is vulnerable to shifting funding initiatives and political pressure. Public officials are influenced by vocal well-organized constituencies, so it is important to know what dog bite-related agendas are getting politicians' attention. It also helps to know whether any legislators have a strong interest in the dog bite issue.

Dogs in the news—News accounts can provide clues as to how dog-related issues have played out over time. Compare these accounts with available statistical data and scientific assessments for reliability.

Identify potential partners, allies, support, and funding sources

Determine which organizations in the community are likely to support program efforts or resist them. Some individuals and organizations will emerge as natural allies; some old hands will be glad to work with a new partner in the dog bite prevention field, and some will actively welcome a new focal point for dog bite prevention activity. Learning about various entities and their interest and involvement in dog bite control can help answer questions in the following areas.

Community resources—Organizations, agencies, businesses, and individuals offering training, assistance, consulting, library or computer search capabilities, in-kind contributions, volunteer help, or supplemental funding must be identified.

Currently available data—Before launching a major effort to collect dog bite data, it is wise to determine whether an assessment has already been done. Ask about reports related to injuries and costs from dog bites, surveys that include dog bite or dog ownership information, opinion surveys or other studies describing community perceptions about the need for dog bite prevention, and similar information. If possible, find out what happened to existing assessments and related recommendations. Knowing the history of previous evaluation and prevention efforts will help in development of a new program. If an assessment has been done, determine whether methods and conclusions are sound.

Legislation—It is important to know what interventions (eg, leash laws, "dangerous" dog ordinances) have been previously introduced and their history of success. Individuals involved in these efforts may be valuable allies in new programs. In addition, current ordinances should be evaluated to determine whether enforcement or revision could increase their effectiveness.

Barriers—Ownership of particular dog bite issues and potential turf battles should be confronted realistically. In addition, it must be acknowledged that a dog bite prevention program may attract opposition from groups on philosophical grounds (eg, groups that strongly support personal freedom argue that the gov-

ernment should not mandate licensing of dogs). Clubs for specific breeds may not be supportive if they fear their breed will be singled out in a negative way. Barriers can be overcome by a fresh approach to old problems or by agreeing to carve out areas of responsibility among interested groups. Typically, there are many more problems than there are organizations to tackle them, so it makes sense to avoid attacking similar issues.

Develop an advisory council

Obtaining community input can be as sophisticated as conducting public opinion surveys or holding focus groups to learn about what the community sees as pressing dog bite issues. More likely, there will be limited funds at the outset of the program, so more informal but also potentially valuable approaches may be required. These include meetings with potential partners and interested groups to learn about their constituencies' concerns. This type of informal interview can be a great help in uncovering key dog-related issues as perceived by the community. Talking with people in neighborhoods most affected by dog bite problems is important. For example, if there is a problem with dog bites in low-income neighborhoods, obtaining the views of people living there can help identify the nature of the problem and potential solutions.

An advisory council or task force that represents a wide spectrum of community concerns and perspectives creates a source of support for program initiatives. Advisory groups provide guidance for a dog bite prevention program and may focus on specific high-priority dog bite issues. Although organizing and maintaining an advisory council is labor-intensive, it can substantially benefit the program. Members may be able to provide access to useful information that is not otherwise easy for the coordinator to obtain. Members can also identify ways in which the program can work with appropriate voluntary organizations and associations. People with experience in dog bite control can offer perspective about the program and help identify potential pitfalls as well as successful strategies. Participation by members representing community organizations builds a sense of ownership in the dog bite prevention program.

Logistics in starting an advisory council include identifying organizations and individuals that should participate (Appendix 1), determining the size of the council, establishing a structure and operating procedures for the council and its regular meetings, assigning staff support, determining the relationship between the staff and the council, and reaching an agreement about key tasks. When community members and government officials work together to support the creation and development of a local task force, it enhances the group's visibility and impact.

To foster an involved and active advisory council, professionals agree that several criteria must be met. The number of participants should be kept manageable; 10 to 12 is a size that works well. If it is necessary to have more members for political reasons, breaking the group into smaller committees or working groups will improve the dynamics. For example, groups could coalesce around data issues, legislation and policy, and so on. Involving participants from the start in meaningful tasks will underscore that this is a productive group. In addition, people are more likely to support a program they participated in creating, because they have a sense of ownership.

Because each community's needs and priorities differ, the advisory council's major tasks will vary. The advisory council or one of its working groups may consider the following activities:

? coordinating efforts among participating organizations
? developing an action plan
? establishing dog bite prevention priorities
? generating public and legislative support for dog bite control
? identifying dog bite reporting sources
? interpreting data
? identifying and obtaining resources for program activities (educational, financial, staffing)
? providing technical expertise for the program
? recommending goals and objectives for prevention

It is recommended that the program be overseen by a paid coordinator. The program coordinator and other staff involved can contribute to the advisory council's success by good meeting planning and preparation, regular communication with members, working with the advisory council chairperson to set the agenda, and helping to solve problems that threaten to derail the process. As with any volunteer effort, a dog bite prevention advisory council is likely to thrive if the coordinator nurtures its members with regular expressions of appreciation.

Infrastructure

A coordinated effort is essential for success in any venture, and each individual or organization involved must have a clear sense of their/its responsibilities. Reducing the incidence of dog bites requires the cooperation of many groups, including animal control agencies, the human and veterinary medical communities, educators, departments of health, and the local licensing authority. Open and consistent communication is an integral part of an effective program, and one entity should be designated as the coordinating agency. A logical coordinating agency would be the health department or animal control. In addition, it is imperative that an appropriate agency be granted authority to conduct investigations and make recommendations.

Program coordinator

As previously mentioned, dog bite prevention efforts should be assisted by a paid staff person. Because the diversity of input is so great, it is recommended that the office of the advisory council's program coordinator be located within the municipality's coordinating agency. Individuals, agencies, or organizations that come into contact with or are aware of a "dangerous" dog or risky situation should provide this information to the coordinator. The coordinator should then relay all information to the proper recipients.

Animal control agencies

Animal control officers are the frontline in controlling animal bites. A well-resourced animal control agency is vital for public health and safety within any community. In some communities, animal control is a stand-alone agency. In others it is administered through the local city or county health director or is a subsidiary of the local police department or sheriff's office. Wherever located, the functions of animal control within communities are multiple, including:

? training of animal control officers and ancillary personnel
? licensing of dogs and cats
? enforcement of leash laws, ordinances, regulations, and statutes
? control of unrestrained and free-roaming animal populations
? investigation of animal bite-related incidents
? administration of rabies quarantine programs after an animal bites
? bite data management, analysis, and dissemination regulation of "dangerous" animals
? educational outreach within the community regarding responsible ownership, spay/neuter programs, control of "dangerous" animals, rabies vaccinations
? coordination of efforts

Larger communities often possess more resources to properly fund animal control agencies and provide adequate staff[17] and training; however, smaller animal control programs can also be effective, even when they operate on a limited budget. Dedicated personnel can accomplish much if they have community support, including support from law enforcement and the judiciary.

Preventive measures

Preventive measures are designed to minimize risk and should be addressed by all communities.

Control of unrestrained and free-roaming animals—Reasonable and enforceable laws or ordinances are required for good control of unrestrained or free-roaming animals (**Appendix 2**).[18] Laws written to ensure that owned animals are confined to their property or kept on a leash make freeing a community of unrestrained and free-roaming animals easier. Although most dog bites occur on the property where the dog lives, unrestrained or free-roaming dogs do pose a substantial threat to the public. Enforcement of restraint laws is, therefore, essential if the incidence of dog bites is to be reduced. It is important to protect animal owners by providing an adequate amount of time for them to claim animals that have been impounded. Because of economic constraints, the current standard in the industry is 3 working days; however, 5 days may be more reasonable to ensure successful owner-animal reunions. Control of unrestrained and free-roaming animal populations requires an adequately staffed, trained, and funded animal control agency.

Licensing of dogs—The primary benefit of licensing animals is identification, should that animal become lost. Licensing also ensures rabies vaccinations are current, allows quick identification in case of a bite incident, and provides revenue to help offset the costs of administering the animal control program. An effective program can be a source of reliable demographic data as well.

Vaccinations—Rabies vaccinations are normally a prerequisite for licensing dogs and cats, because they are an important control measure for a major public health concern. In addition to protecting pets, rabies vaccinations provide a barrier between infected wild animals and humans. Vaccination has reduced confirmed cases of rabies in dogs from 6,949 in 1947 to 126 in 1997.[19]

Breed or type bans—Concerns about "dangerous" dogs have caused many local governments to consider supplementing existing animal control laws with ordinances directed toward control of specific breeds or types of dogs. Members of the Task Force believe such ordinances are inappropriate and ineffective.

Statistics on fatalities and injuries caused by dogs cannot be responsibly used to document the "dangerousness" of a particular breed, relative to other breeds, for several reasons. First, a dog's tendency to bite depends on at least 5 interacting factors: heredity, early experience, later socialization and training, health (medical and behavioral), and victim behavior.[7] Second, there is no reliable way to identify the number of dogs of a particular breed in the canine population at any given time (eg, 10 attacks by Doberman Pinschers relative to a total population of 10 dogs implies a different risk than 10 attacks by Labrador Retrievers relative to a population of 1,000 dogs). Third, statistics may be skewed, because often they do not consider multiple incidents caused by a single animal. Fourth, breed is often identified by individuals who are not familiar with breed characteristics and who commonly identify dogs of mixed ancestry as if they were purebreds. Fifth, the popularity of breeds changes over time, making comparison of breed-specific bite rates unreliable.

Breed-specific ordinances imply that there is an objective method of determining the breed of a particular dog, when in fact, there is not at this time. Owners of mixed-breed dogs or dogs that have not been registered with a national kennel club have no way of knowing whether their dog is one of the types identified and whether they are required to comply with a breed-specific ordinance. In addition, law enforcement personnel typically have no scientific means for determining a dog's breed that can withstand the rigors of legal challenge, nor do they have a foolproof method for deciding whether owners are in compliance or in violation of laws. Such laws assume that all dogs of a certain breed are likely to bite, instead of acknowledging that most dogs are not a problem. These laws often fail to take normal dog behavior into account and may not assign appropriate responsibilities to owners.

Some municipalities have attempted to address notice and enforcement problems created by unregistered and mixed-breed dogs by including in the ordinance a description of the breed at which the ordi-

nance is directed. Unfortunately, such descriptions are usually vague, rely on subjective visual observation, and result in many more dogs than those of the intended breed being subject to the restrictions of the ordinance.

Animal control legislation has traditionally been considered a constitutionally legitimate exercise of local government power to protect public safety and welfare. Breed-specific ordinances, however, raise constitutional questions concerning dog owners' fourteenth amendment rights of due process and equal protection.[20] When a specific breed of dog is selected for control, 2 constitutional questions are raised: first, because all types of dogs may inflict injury to people and property, ordinances addressing only 1 breed of dog appear to be underinclusive and, therefore, violate owners' equal protection rights; and second, because identification of a dog's breed with the certainty necessary to impose sanctions on the dog's owner is impossible, such ordinances have been considered unconstitutionally vague and, therefore, to violate due process.

After a bite occurs

It is important to have a well-defined postbite program in place to minimize physical and emotional pain for dog bite victims. This allows animal control personnel to work efficiently, protects animals that are victims of false allegations, and provides the judiciary with reasonable alternatives that address a variety of situations. State laws may dictate parts of this process.

Investigation of animal bite-related incidents— Any animal bite or incident must be thoroughly investigated and substantiated by an agent of the empowered investigating authority such as an animal control officer, police officer, or peace officer. Ideally, the investigating authority should be the same authority that enforces related ordinances or laws to give continuity and credibility to all investigations. Investigating officers must be given authority to perform their duties by statute or ordinance. Clear, concise, standardized information concerning the incident must be obtained to ensure its successful resolution and facilitate long-term data collection (**Appendix 3**).

Postbite rabies quarantine programs—A healthy dog that is currently vaccinated against rabies and that bites a human should be examined by a licensed veterinarian to determine its health status. If no signs of illness compatible with rabies are detected, the dog should be quarantined. The Centers for Disease Control and Prevention has set the quarantine period for dogs, cats, and ferrets at 10 days, including the day of the bite. Vaccinated dogs can be allocated to 2 categories: those that have bitten a member of the immediate family and those that have bitten an individual outside the immediate family. Home quarantine can be considered for vaccinated dogs that have bitten a member of the immediate family, assuming the owner can confine the dog in a manner that prevents further exposure. Vaccinated dogs that have bitten a human outside of the immediate family generally should be quarantined at the local shelter or veterinarian's office. At the end of the quarantine period, the dog should undergo a physical examination. In addition, interim evaluations are highly recommended.

A dog that is not currently vaccinated against rabies and that bites a human should be considered a rabies suspect and be appropriately quarantined. Contact with the dog during the quarantine period should be strictly limited to individuals who have completed rabies prophylaxis and are up-to-date on serologic testing and booster vaccinations. Physical examinations should be conducted at the beginning and end of the quarantine period to determine the dog's health status. Quarantined dogs may be treated by a veterinarian, but rabies vaccines should not be administered to the dog until the quarantine period is complete. If at any time during the quarantine period the dog has signs of illness compatible with rabies, it should be humanely euthanatized and samples submitted for rabies testing.

Records of all bites must be kept, including information specifically identifying the dog and owner. These should be crosschecked with each incident for evidence of a chronic problem.

Identification and regulation of "dangerous" dogs—Certain dogs may be identified within a community as being "dangerous," usually as the result of a serious injury or threat. That classification, because it carries with it serious implications, should be well defined by law (**Appendix 4**). Any such definition should include an exclusion for justifiable actions of dogs. Procedures should be outlined that take into account the potential public health threat, are reasonable to enforce, and convey the seriousness of the situation to the owner. Although animal control officers or their statuary counterparts are responsible for collecting information, a judge or justice will hear evidence from animal control officers and the dog's owner to determine whether that dog fits established criteria for "dangerousness." In some municipalities, a hearing panel comprising a cross section of private citizens hears alleged "dangerous" dog evidence and has been given the authority to declare a dog "dangerous" if deemed appropriate. Any declaration by a hearing panel, judge, or justice is subject to judicial review.

A judge, justice, or hearing panel may promulgate orders directing an animal control officer to seize and hold an alleged "dangerous" dog pending judicial review. If a dog is determined to be "dangerous" by a judge, justice, or hearing panel, the owner of that dog is usually required to register the dog with the appropriate health department or animal control facility. The judicial process may also require the owner to follow other rigid requirements, including but not limited to permanent identification of offending dogs, training and assessment of dogs and owners, and having offending dogs spayed or neutered.

Because the judicial branch is such an integral part of any enforcement action, the judiciary must assist during formulation of "dangerous" dog laws. If the judiciary is involved, its members will be aware of the process that must be followed to declare a dog "dangerous." In addition, they will be aware of steps that have already been completed and the options available when a particular case reaches the courts.

Bite Data Reporting

Accurate and complete reporting of dog bites is an essential element of a bite prevention program. These reports are vital not only for case management and judicial review but for planning, implementing, and evaluating the status of the problem. Major goals of comprehensive dog bite data reporting include:

? accurately defining victim demographics to identify populations at greatest risk for bites and allow targeting of educational efforts
? defining dog and owner characteristics associated with higher risk so that an actuarial approach to the dog bite problem is possible (this facilitates effective program planning and proper targeting of control measures)
? defining high risk geographic areas at city, county, or neighborhood levels so that limited resources for animal control and public education can be appropriately deployed
? establishing baseline data so that the impact of specific elements of the bite prevention program can be assessed
? providing an accurate, detailed, unbiased, objective source of information for decision makers, media, and the public interested in the dog bite problem and its prevention
? providing critical information for proper management of dog bite cases

What should be reported?

At a minimum, a dog bite case should be defined as any medically-attended dog bite or any dog bite resulting in a report to an animal control or law enforcement agency. This would presumably cover those instances consuming public resources and would also include cases that may result in litigation.

A number of data elements should be captured on a report form such that it is comprehensive in scope without placing unnecessary burdens on reporting agencies (Appendix 3). Fatal and severe dog attacks on humans have been associated with prior or concurrent attacks on pets or livestock, so it is important that communities also track those incidents. Maintaining records of incidents of menacing behaviors of owned dogs running at large in the community may be found useful in later legal actions.

Who should report?

The goal is to report any medically treated dog bite or any bite resulting in a report to, or response from, an animal control agency, humane society with animal control responsibilities, or law enforcement agency. Therefore, the primary sources of data should be:

? animal control or law enforcement agencies responding to a dog bite complaint
? health professionals attending to a bite injury (hospital emergency staff, urgent care facility staff, private physicians, school or camp medical staff, medical staff of other entities such as military bases or reservations, and veterinarians)

Recognizing that many dog bites go unreported, a comprehensive program to assess dog bite incidence should consider possible secondary sources of data. These may include:

? anonymous surveys of high-risk populations (eg, school-age children) that may clarify the true extent of risk in a community
? anonymous surveys of the public (eg, phone surveys) that can help document the extent of bite injuries and provide a basis for estimating the ratio of unreported to reported bites
? reports from professionals including veterinarians, animal behaviorists, dog trainers, groomers, and kennel operators who are informed of a bite incident (mandating that any or all of these professions report bites may be unrealistic given the potential legal consequences of identifying an animal as a biter)

Reporting mandates are often inconsistent between jurisdictions or are poorly enforced. Current local and state reporting regulations should be reviewed, as should directives from health or veterinary officials. If current provisions are adequate, it may be necessary to implement procedures to reeducate professionals concerning their reporting obligations and periodically remind them of these obligations. When a failure to report is uncovered, it may be an opportunity to gain the attention of the professional, because sanctions may be imposed.

Who should receive reports?

Reporting should be coordinated by one agency. Logical agencies to coordinate reports include animal control or the public health department. The coordinating agency, perhaps through the dog bite prevention program coordinator, must assume responsibility for maintaining all information and disseminating that information to other appropriate individuals or agencies (eg, veterinarians, physicians, the dog owner, and those involved in follow-up educational efforts).

To insure consistency and compliance, regulations or procedures should unambiguously state to whom reports should be submitted and within what time frame the reports should be submitted.

Data management, analysis, interpretation, and dissemination

Because multiple sources may report the same case, procedures should be in place to permit combination of data from multiple sources into a single report. Avenues should be developed for electronic submission of reports to assist in rapid response, to streamline reporting to higher levels of government, and to facilitate data analysis. Whereas disposition of individual incidents is the first goal for reporting, there is much to be learned from looking at the overall picture. Keeping information in an electronic database simplifies the latter.

Data should be reviewed at regular intervals (no less than yearly) to determine whether the incidence and severity of dog bites is getting better, worse, or staying the same. Basic analysis consists of studying the characteristics of incidents, including:

? time—yearly trends, peak months, day of week, time of day. This can help with scheduling animal

control services as well as dispatch and response planning.

- ? place—locating every incident on a map with a pin. Are there hot spots? This can help target high risk areas for future control.
- ? person—victims and animal owners: age, sex, race, size. Can they be targeted for education?
- ? dog—proportion of offenders by sex and breed, proportion running at large, proportion neutered, proportion with prior reported problems, history of rabies vaccinations, licensing history. Have these proportions changed over time?

Successful evaluation and resolution of a community problem and accurate assimilation, evaluation, and use of quality data requires interactive assessment, feedback, and information exchange. City, county, and state public health practitioners, epidemiologists, and representatives of public health organizations (eg, the National Association of State Public Health Veterinarians, the Council of State and Territorial Epidemiologists, the Association of State and Territorial Health Officers, and the National Association of County and City Health Officials) can provide communities with considerable expertise in the acquisition and interpretation of dog bite data. Their participation should be encouraged.

Education

Education is key to reducing dog bites within a community. The list of those to be educated and those who may educate includes everyone who regularly comes into contact with dog owners and potential victims (eg, veterinarians, veterinary technicians and assistants, animal control officers, animal behaviorists, dog trainers, humane society personnel, physicians, school nurses, public health officials, teachers, and parents).

The purposes of this section are to educate city officials and community leaders about the role of various professionals in an educational program to reduce dog bites, provide starting references to ensure a core of knowledge for those professionals (**Appendix 5**), and assist in identification of the educational needs of various constituencies within a community.

Public officials and community leaders

Public officials and community leaders are the people to whom residents look for assistance with social problems. Their influence is important and well recognized. If a community dog bite prevention program is to gain public acceptance and be effective, community leaders must be well-informed about dog-related issues within their community and in general.

Professionals

Professionals from many backgrounds need to be involved in bite prevention programs. Their expertise is essential to making realistic decisions about what should and can be done to prevent or follow up on dog bite incidents and in recognizing what is normal or abnormal behavior for a dog. Several of these professionals will likely be members of the advisory committee, but all should be encouraged to be a part of a community's efforts to decrease the impact of a dog bite problem.

Many professions mentioned in this document are science-based. This means their members are used to making decisions on the basis of peer-reviewed data-supported information rather than gut feelings. This approach to decision making results in improved outcomes. Because the dog bite problem impacts so many different groups, networking between community leaders and professionals is important. The following sections describe ways that various professionals and community leaders can work together toward a common goal.

Veterinarians—Veterinarians are scientists trained for a minimum of 7 to 8 years and then licensed to diagnose and treat animal problems both medical and behavioral. Although most people think of veterinarians as performing animal vaccinations and surgical neutering, the practice of veterinary medicine includes all subdisciplines typically associated with human medicine. The study of animal behavior both normal and abnormal has become more important within the profession as animals have become more important to their owners. Dogs are now four-legged members of the family, rather than farm animals that help bring cows into the barn at milking time. With this change in the dog's role have come unrealistic owner expectations about what constitutes normal behavior for a dog. Veterinarians can educate dog owners as to what behavior is normal, can help dog owners teach their dogs to respond appropriately in various environments and provide referrals to reputable dog trainers, and can assist owners with behavioral problems, including those that have a medical basis or are responsive to medication.

Until recently, animal behavior was not often taught in veterinary curricula. Many veterinarians have had to acquire their knowledge of normal and abnormal canine behavior from continuing education programs and professional textbooks. For this reason, different veterinarians have different degrees of knowledge about behavior. All veterinarians, however, have access to board-certified veterinary behaviorists for help with behavioral problems beyond their expertise.

Although the time, physical, and emotional demands of veterinary practice can be overwhelming and leave limited time to devote to a formal community prevention program, veterinarians can substantially impact prevention efforts through their professional contact with prospective and current dog owners. This contact should begin before the pet is acquired. Providing unbiased information on pet selection can help prevent inappropriate owner-dog pairings. Prospective dog owners often make spur-of-the-moment selections that are based on warm-and-fuzzy feelings and unrealistic expectations. Encouraging prospective dog owners to seek information from their veterinarian about the characteristics and needs of various types of pets and encouraging future dog owners to ask for guarantees from puppy providers can minimize future problems. When owners take their newly

acquired dogs to their veterinarian for an initial examination and immunizations, the veterinarian has a second opportunity to provide these owners with good medical, nutritional, and behavioral advice.[21] Finally, veterinarians can educate owners during their dogs' routine examinations (asking appropriate questions can reveal problems an owner may not have recognized) or when their dogs are evaluated for specific problems.

Board-certified veterinary behaviorists—The American College of Veterinary Behaviorists (ACVB), an American Veterinary Medical Association-recognized veterinary specialty organization, certifies graduate veterinarians in the specialty of veterinary behavior. To become certified, a veterinarian must have extensive postgraduate training, sufficient experience, and pass a credential review and examination set by the ACVB. Diplomates of this organization work with problem animals by referral from the animal's regular veterinarian, consult with practitioners on cases, and give continuing education seminars on animal behavior. Although many communities may not have the benefit of a resident board-certified veterinary behaviorist, veterinarians have access to and may consult with their specialist colleagues when necessary.

Veterinary technicians—Veterinary technicians are integral members of the veterinary health care team who have been educated in the care and handling of animals, basic principles of normal and abnormal life processes, and routine laboratory and clinical procedures. They perform many of the same tasks for veterinarians that nurses and others perform for physicians. Veterinary technicians are often frontline people when it comes to educating pet owners, particularly in general veterinary practices; they greet clients and answer initial inquiries, clarify instructions, provide clients with appropriate print, audio, and video educational material, and answer questions. Certainly, they are an important part of the educational team when it comes to dog bite prevention.

Like veterinarians, veterinary technicians have several opportunities to educate clients. Veterinarians may be consulted prior to owners acquiring a new pet, and veterinary technicians can help provide information on appropriate pet selection. Veterinary technicians regularly counsel owners during new puppy appointments, and this is a particularly good opportunity to provide owners with information on bite prevention, including the importance of socialization and training. Routine physical examinations are times when veterinary technicians can reinforce the importance of these early lessons and training, and they can help veterinarians identify potential aggression problems through observation and dialog with owners. Veterinary technicians can also be tapped to educate nonpet-owning children and adults through school or other programs.

Veterinary technology programs do not always offer curricula in animal behavior and, consequently, many technicians do not have formal training in this area when they enter practice. Continuing education that includes basic principles of animal behavior is essential for veterinary technicians, just as it is for their employers. Maintaining a clinic reference library of appropriate print, audio, and video material for reinforcement and enrichment and for client education is useful.

Behavioral education for veterinary technicians relative to dog bite prevention should include recognition of classic canine behavioral displays and an understanding of the basic types of canine aggression and their prevention. The aim is to assist technicians in conveying dog bite prevention information to owners. Veterinary technicians must not be placed in the role of diagnosing or treating canine aggression.

Animal behaviorists—There are a number of scientists with PhD degrees in academic fields related to animal behavior who can serve as valuable resources for communities attempting to reduce dog bite injuries. Because of their science-based backgrounds, they can be particularly helpful in setting up protocols to determine the extent of the problem within a community and whether ongoing programs are having a substantial impact.

As a note of caution, the terms animal behaviorist or animal psychologist are often used by individuals who do not have strong scientific backgrounds but who want to work with problem dogs. There is no method to evaluate the competence of these individuals, and they may be more harmful than helpful to a community's efforts.

Dog trainers—This is a diverse group of individuals with no uniformly recognized credentialing body or measures of competence. Although there are many good dog trainers, there are also trainers that use inappropriate methods of behavioral modification that can negatively affect a dog's behavior, making the dog more dangerous to the owner and the community. It is important that communities make a concerted effort to work with responsible trainers who interact closely with veterinarians and PhD-degreed animal behaviorists. A qualified responsible dog trainer can be a valuable asset to a community advisory group.

Obedience training by itself does not prevent the development of behavior problems,[22] and animals that are sent to a training facility may not learn how to obey their owners, because the owners do not learn how to give commands. For problem animals, training is only part of the solution.

Physicians and nurses—With a dog residing in 1 of every 3 US homes and approximately 53 million dogs in the United States,[2,3,6] exposure of the physician or nurse, their family members, or their patients to dogs during the course of daily life is inevitable. Dogs have become important members of many families, and the presence of a pet in the home can affect an individual's own decisions about care. Most physicians are familiar with at least 1 example of a person refusing hospitalization, because there was no one else in the home to care for their pet.

Because 334,000 Americans are seen in emergency departments for dog bite injuries each year, 466,000 are seen in other medical practice settings, and 6,000

are hospitalized,[6] it behooves human healthcare providers to acquaint themselves with community and personal strategies to prevent dog bites. Furthermore, just as occurrences of infectious diseases such as measles are reported to enable investigation of outbreaks and development of control measures to protect the public, dog bites must be reported so that cause and prevention can be addressed. Communities differ in their requirements for reporting, and practitioners must understand what is required in their area.

Traditionally, when confronted with patients seeking care for dog bites, physicians and nurses have confined their roles to providing medical treatment. With the expanding roles of physicians and nurses, however, disease prevention has become an important issue. In addition to competently treating dog bites and their complications, healthcare providers need to be aware of critical roles they can play in reducing dog bite injuries.

Advising patients about safe behaviors appears effective in preventing injury.[23-26] Teaching children, parents, and patients who own dogs about proper behavior around dogs and responsible dog ownership is advisable given the frequency of human-canine contact in our society. Physicians can recommend contacting a veterinarian for pet selection information and advice if an individual or family is considering dog ownership, and for information about canine behavior and obedience training if a dog is already part of the family. Pediatricians provide age-appropriate injury prevention counseling during wellness visits.[26] Dog bite prevention should be a part of this counseling. Dog safety tips can also be included in packets of materials routinely sent home with new mothers.

When a patient is being treated for a bite, an opportunity exists to prevent future injury by teaching bite-avoidance strategies. Probing into the circumstances of the current bite may reveal which strategies should be emphasized. Taking advantage of teachable moments should be considered part of curative care. Consulting with a veterinarian may help human health care providers identify subjects they can address during postbite sessions.

As witnesses to the health-related outcomes of dog bites, physicians and nurses are particularly credible sources of information and can be effective spokespersons. Pediatricians and nurses should be full partners in community efforts to reduce dog bite injuries.

Animal control personnel—The staff of a well-resourced animal control program often includes an education coordinator who can train teachers, school nurses, and volunteers to become dog bite prevention educators within the community's school system (similar to volunteers in the McGruff crime prevention program presented to primary-school children). For animal control personnel, job-related continuing education is important. Programs are available through the National Animal Control Association.

Humane society/animal shelter/rescue group personnel—Dog bite injuries have negative repercussions for dogs as well as people, and humane society/animal shelter/rescue group personnel must deal with these issues. Dogs causing severe injuries may be brought to humane facilities for rabies quarantine or euthanasia. Dogs that have threatened to bite or that have nipped may be surrendered to shelters or rescue groups, sometimes without full acknowledgment by their owners.[16] Shelter personnel are forced to decide which dogs can be placed in new homes and which are not suitable for adoption. Progressive organizations work with veterinarians and animal control officers to educate their staff about safe dog handling and objective evaluation techniques. Record keeping and follow-up studies expand their knowledge base about what works in their community and what does not. Well-trained and dedicated humane society/animal shelter/rescue group personnel can be valuable community resources for public education as well.

Public

Public education is critical to the success of any dog bite prevention program, because half of all bites are inflicted by the family dog.[27] Only about 10% of bites are inflicted by dogs unknown to the victim.[7,15] A public education effort must target a variety of individuals and age groups, and one individual should be assigned to integrate its components. If a special advisory council or task force is convened, its paid coordinator would be a logical choice to coordinate the public education effort. Alternatively, the public education coordinator could be a member of a municipal group such as the local health department, animal control agency, or board of education, or a member of a stakeholder group such as a humane society or veterinary association. Many educational programs targeted at various audiences exist and are included in the dog bite prevention resource list found on the American Veterinary Medical Association Web site (www.avma.org). As new materials become available, they will be added to this resource list.

Children—Children are the most common victims of serious dog bites. Seventy percent of fatal dog attacks and more than half of bite wounds requiring medical attention involve children.[7,9,15] In addition, almost half of all children are bitten before 18 years of age.[27,28] The most vulnerable youngsters are 5- to 9-year-old boys,[6,7,8] but smaller children can also be seriously injured.[29] Dog bite injuries rank third only to bicycle and baseball/softball injuries as a leading cause of emergency admission of children to hospitals.[6] Children's natural behaviors, including running, yelling, grabbing, hitting, quick and darting movements, and maintaining eye contact, put them at risk for dog bite injuries. Proximity of a child's face to the dog also increases the likelihood that facial injuries will occur.[6,7,29-31]

Target group—The first step in a child education effort is determining what population of children to target and when. The logical primary audience is those at greatest risk: children in grades kindergarten through 4. Late winter or early spring appears to be the best time to institute a campaign, because the school year is concluding and, as children spend more time outside, exposure risk increases.[32] It is critical

that school administrators buy into the concept of a dog bite prevention program; therefore, requests to the school district must be made by committed convincing well-organized individuals. Because school curricula are crowded, time blocks for dog bite prevention education should be requested early within the school system's calendar year. If such a block of time is not available, an alternative is to have a veterinarian or physician present a 1-hour lecture or assembly program to the entire student body. Once dog bite prevention education has been included within the curriculum (or has been scheduled to be provided through a special lecture or assembly program), teachers, nurses, and volunteers should consider addressing the school's parent-teacher organization to inform parents of upcoming dog bite prevention training for their children.

Secondary efforts—Secondary targets include children in other settings, such as early education programs (eg, Head Start, day care centers, recreational centers, and camps).

Identifying instructors—Who teaches the material will depend on expertise within the community. For classroom instruction, teachers who have had in-service training, school nursing staff, health educators, or trained volunteers are logical choices. Stakeholder groups (eg, veterinarians, veterinary technicians, animal control officers, physicians, nurses, humane society staff) may provide a ready source of volunteers for classroom instruction and special programs.

Adults—Adult citizens must understand the need for and support a strong dog bite prevention program not only for their own safety but for the safety of others in their community. It is this understanding that gives a prevention program long-term stability. All adults should learn appropriate behaviors around dogs so that they can protect themselves, teach their own children, serve as an example for others, and reinforce appropriate behaviors in other children at every opportunity. Adults also serve as local eyes for animal control so that roaming dogs are controlled.

Educational materials sent home with school children, distributed by pediatricians during well-child visits, inserted in public utility bills, and produced by an enlightened local media are all reasonable approaches. Involving representatives of service organizations and community groups during a prevention program's planning and active stages will strengthen commitment.

Active adults (eg, joggers, bicyclists, golfers) whose outdoor activities provide greater exposure to dogs are most at risk for injury. To reach these individuals, bite prevention information should be provided to local interest groups, recreational facilities, and health clubs.

Target group—Primary adult targets within the community are those who have children and who are active in outdoor activities.

Secondary efforts—Secondary targets include individuals between the ages of 21 and 65 years.

Identifying instructors—Materials can be developed or selected by animal control personnel, veterinarians, veterinary technicians, or other people knowledgeable about dog behavior. Information can be distributed through a number of channels such as those identified above.

The elderly—As people age, they become more susceptible to injury and disease. Thinning skin increases risk of bruising, and a bite producing a simple puncture wound in a younger individual can cause a severe laceration in a senior citizen. Sensory perception decreases so that an elderly person may not see a threatening dog or may not be able to read its behavioral signals accurately. In addition, diminished motor skills mean that the elderly are less able to physically protect themselves or escape.

Another concern for the elderly is that their beloved pet may not be trustworthy around their grandchildren. Dogs not raised around small children or not frequently exposed to them may not be socialized toward them.[1] This increases the likelihood of aggressive behavior being directed toward these children.

An educational program for senior citizens can be implemented in various settings. Materials may be provided through community services for the elderly such as church groups, visiting nurse programs, meals-on-wheels, recreational centers, or travel groups. Secondary targets are shopping malls and the media. Trained volunteers, especially from dog-associated professions, are logical sources of information. Human healthcare professionals can be an important source of information for the elderly because of the frequency of their interactions.

Target group—Primary targets are grandparents and people aged 60 years or older who have dogs in their homes.

Secondary efforts—Secondary targets include other individuals who are at least 60 years old.

Identifying instructors—Physicians can interact with these people during clinic visits. Animal control personnel, veterinarians, veterinary technicians, and people knowledgeable about dog behavior can select or produce resource information.

Animal owners—People who own dogs have a wide variety of views about their responsibilities. For some, dog care means providing food and water when the thought occurs to them. At the other end of this spectrum is the person who actively makes sure the pet is appropriately fed, well-trained, licensed, and healthy. Some individuals view dogs as disposable items that can be abandoned at any sign of trouble or expense. Once a community establishes acceptable standards for responsible ownership, dog owners must be informed of these expectations and related ordinances, and rules must be enforced. Owners and future owners must be educated about their unique set of responsibilities, which include appropriate pet selection, providing quality nutrition, housing, and medical care, compliance with confinement and licensing requirements,

appropriate behavioral training, and supervision of interactions between dogs and children. Citizens must understand that pet ownership is an ongoing responsibility, not a passive activity.

Dog owners can be provided with information through various avenues. Veterinarians and their staff are logical educators and distributors. Local dog clubs and trainers provide services to more conscientious owners. Businesses that sell pet foods and supplies should also be encouraged to provide bite prevention materials to their customers. Information can be distributed with utility bills, and animal shelters can provide classes for people who are considering acquiring a pet. Incentives for attendance at bite prevention classes could include reduced fees for licenses and coupons for vaccinations, food, and obedience classes. The most difficult group of dog owners to reach is those with minimal attachment to their pets. Although strong enforcement of local regulations will change some owners into former owners, most will continue to own dogs. Therefore, education should be an integral part of any enforcement program. A good working relationship with the judiciary is critical so that offenders of animal-related ordinances are required to take courses that emphasize responsible ownership.

Target group—Primary targets are adults who already own dogs.

Secondary efforts—Secondary targets are adults who are considering getting a new dog.

Identifying instructors—Information for this target audience can come from various sources, and its distribution should be approached in a number of ways. Animal control officers and members of the legal profession can describe what is expected regarding local regulations and the serious consequences if these regulations are violated. Veterinarians and their staff can educate owners about vaccinations, neutering, restraint, and other health care issues. Dog club members and trainers can assist by providing socialization and training instruction and can help educate owners about being good dog-owning neighbors.

Victims—When someone becomes a dog bite victim, a teachable moment is created. How useful that moment becomes in preventing future incidents depends tremendously on the seriousness of the bite and the fear response of the victim. Scare-producing or threatening events are good times for dog bite prevention information to be conveyed. However, the time surrounding a serious injury is generally too emotionally charged to be of value for dog bite prevention education.

Who provides information to victims depends, in part, on who is contacted about the incident. In addition to medical personnel, animal control's investigative efforts usually require a home visit. Routine visits to a physician should include gathering historical information about the patient's interactions with dogs to identify patients who would benefit from additional education. Media stories that reinforce correct approaches to prevention can also touch many when they are most receptive.

Target group—Individuals who have recently been bitten by a dog seriously enough to require medical attention but not so seriously as to have sustained severe injuries are the primary target.

Secondary efforts—Secondary targets are individuals who have been bitten by a dog in the past.

Identifying instructors—Medical professionals and animal control personnel are the individuals who encounter this group.

Businesses—Community businesses need to address dog bite prevention as well. Certain businesses (eg, veterinary clinics, grooming and boarding facilities, animal control, pet sitting agencies) revolve around direct contact with dogs, and employee education is critical from a safety and liability standpoint. Employees of other businesses will occasionally encounter dogs in the course of their daily job activities (eg, utility workers, police officers, parcel carriers, and emergency medical technicians). Training conducted by an animal control officer or other knowledgeable professional may provide employees with the tools they need to safely handle contacts with at-large animals, attack/guard dogs, or dogs who simply reside on the premises of those facilities where they do business.

Target group—Primary targets are employees and business owners who will be working with dogs on a daily basis.

Secondary efforts—Employees of companies who are likely to encounter dogs in their daily business activities can be considered secondary targets.

Identifying instructors—Animal control personnel, veterinarians, veterinary technicians, and dog trainers who are experienced at dealing with dogs in a variety of environments. These individuals will need to customize presentations to the type of situations most likely encountered by the target audiences.

Media

The local media play an important role in a community's efforts at bite prevention. For this reason, it is suggested that 1 member of the advisory council or task force be a media representative. In addition, the advisory council can be proactive in helping the media convey important and appropriate messages. Sensational events provide an opportunity to convey important messages. Regular features can reinforce principles and keep educational efforts flowing.

Know the media

Your key to the public eye and ear is a selective up-to-date list of local media contacts who have an interest in animal issues. Such a list can be developed by undertaking a comprehensive media survey. Check the local library for publications that list names, telephone numbers, and short descriptions of your community's media outlets. Call each office or studio to discover which desks or departments should receive your inquiries and press releases. Read local newspapers and listen to local radio and television news and feature

programs to identify reporters and hosts who address animal issues. Finding out whether these individuals gather their own news or use wire services will allow you to target press releases and materials to those who are most likely to use them. Contact local freelance writers to see whether they would be willing to feature a bite prevention message in an upcoming piece. Be aware that your media list will be dynamic, and take time to update the names of specific contacts. Once a helpful story is published, or a reporter conveys your message during a broadcast, be sure to acknowledge that effort by sending a thank-you note or making an appreciative telephone call.

A spokesperson

The community should identify a spokesperson who has the expertise to address complicated dog bite-related issues, and this individual should be provided with media training so that he/she becomes an effective communicator with the print and broadcast media. It is the spokesperson's responsibility to convey information clearly, accurately, and promptly. In various situations, this individual can identify when there are not enough animal control officers to prevent dog packs from forming or when a dog has been "sicced" on a person as a weapon. A knowledgeable and effective communicator can turn a publicized bite into a learning opportunity by providing suggestions on how that bite could have been prevented (eg, the dog was not appropriately controlled or confined, or a child was left unsupervised).

Have information readily available

The advisory council or task force should create a 1-page fact sheet for use by the media and the spokesperson. This fact sheet should include the number of dog bite incidents occurring in the community during the past year, the number of dogs in the community, the number of licensed dogs in the community, what local laws govern dog ownership and control, and to whom problems should be reported. A list of community resources should also be available.

Ways to effectively convey information

Because animal stories are popular with the media, there are numerous opportunities to convey bite prevention information. Local broadcast programs and newspapers find regular segments about animals popular with viewers/listeners/readers, and most of those spots have enough time for short lessons. Another approach is to proactively bring animal stories to the media. Examples include a story about a shelter dog that visits nursing homes after being rescued and appropriately trained, a description of a guide or "hero" dog's training, or warm-weather tips for pets. Effective mechanisms for providing information vary with the medium but include:

News releases—Releases may be provided to print, radio, or television outlets. Releases should be double-space typed on stationery that provides the source of the announcement (ie, the advisory council or task force). Include the subject of the news release and contact information in the upper left corner. The mailing date of the release should be indicated along the right margin. The release should be written in inverted pyramid style, placing the most important information at the beginning. Releases should be limited to 1 page if possible.

Interviews—Interviews may be conducted by print, radio, or television reporters or hosts and, in the case of television and radio, may be live or taped. The individual being interviewed must be an excellent communicator and intimately familiar with dog bite issues and prevention. The interviewee may request a preinterview to get a grasp of the direction of the interview. It is advisable to tell the interviewer which issues you would definitely like to see addressed. Answers should be structured according to the program's time limits.

Talk shows—Most of the principles that apply to interviews also apply to talk shows, but in this situation there usually will be interaction with guests (who often hold opposing views), potentially with an audience, and with the host. Running through mock discussions prior to participation is helpful. Responses to questions or comments from those with opposing views should always be factual, sincere, and polite.

Public affairs programs—Many stations air 2 or 3 programs a week in which the station's news staff or station management interview a newsmaker, a spokesperson from an activist group, or a public relations representative from an industry. Issues in the news are often addressed by such programming. These provide a good opportunity to make your community aware of bite prevention efforts and to elicit support. Access to these programs may be requested by sending a letter to the station manager.

Bulletin board and community announcements— Many local television stations donate air time to announcements of community events. These are often broadcast in calendar format. This is an easy way to publicize educational events and responsible pet ownership classes.

Editorials—Editorials are used by print, radio, and television reporters to present their views on issues of public interest. Prepared statements describing the advisory council's approach to dog bite prevention can be provided to reporters for use in preparing an editorial or may be provided if a reporter presents an opposing viewpoint.

Public service announcements—Many radio and television stations donate time for **public service announcements (PSA)**; however, public service groups cannot specify when your PSA is to be aired. It is acceptable to suggest when you believe airing your PSA will be most effective. Most PSAs run for 30 to 60 seconds, although 10- and 20-second spots are also used. To mitigate the costs associated with production, you may want to contact local stations to see whether they offer sponsored placements, in which local advertisers donate time for specific public service messages. Public service announcements may consist of script only, sight and sound (simple or complex), or 16-mm film or videotape.

[a]See www.avma.org for additional and updated information.
[b]Anderson RD, Nevada Department of Public Health, Reno, Nev: Personal communication, 1999.
[c]National Center for Injury Prevention and Control. *Resource guideline for state and local injury control programs*; in preparation.

References

1. Beaver BV. *Canine behavior: a guide for veterinarians*. Philadelphia: WB Saunders Co, 1999.
2. Wise JK, Yang JJ. Dog and cat ownership, 1991–1998. *J Am Vet Med Assoc* 1994;204:1166–1167.
3. Center for Information Management. *US pet ownership and demographics sourcebook*. Schaumburg, Ill: American Veterinary Medical Association, 1997.
4. Sacks JJ, Kresnow M, Houston B. Dog bites: how big a problem? *Inj Prev* 1996;2:52–54.
5. Quinlan KP, Sacks JJ. Hospitalizations for dog bite injuries. *JAMA* 1999;281:232–233.
6. Weiss HB, Friedman DI, Coben JH. Incidence of dog bite injuries treated in emergency departments. *JAMA* 1998;2711:51–53.
7. Wright JC. Canine aggression toward people: bite scenarios and prevention. *Vet Clin North Am Small Anim Pract* 1991;21:299–314.
8. Parrish HM, Clack FB, Brobst D, et al. Epidemiology of dog bites. *Public Health Rep* 1959;74:891–903.
9. Sacks JJ, Sattin RW, Bonzo SE. Dog bite-related fatalities from 1979 through 1988. *JAMA* 1989;262:1489–1492.
10. Sacks JJ, Lockwood R, Hornreich J, et al. Fatal dog attacks, 1989-1994. *Pediatrics* 1996;97:891–895.
11. Beaver BV. Human-canine interactions: a summary of perspectives. *J Am Vet Med Assoc* 1997;210:1148–1150.
12. Lockwood R. Vicious dogs: communities, humane societies, and owners struggle with a growing problem. *Comm Anim Control* 1996;Mar/Apr:12–14.
13. Podberscek AL. Dog on a tightrope: the position of the dog in British society as influenced by press reports on dog attacks (1988 to 1992). *Anthrozoös* 1994;7:232–241.
14. Sacks JJ, Sinclair L, Gilchrist J, et al. Breeds of dogs involved in fatal attacks in the United States between 1979 and 1998. *J Am Vet Med Assoc* 2000;217:836–840.
15. Gershman KA, Sacks JJ, Wright JC. Which dogs bite? A case-control study of risk factors. *Pediatrics* 1994;93:913–917.
16. Line SW. Factors associated with surrender of animals to an urban humane society, in *Proceedings*. 135th AVMA Annu Conv, 1998;345–348.
17. Mays J. How many ACOs should you have? *NACA News* 1998;Jan/Feb:27.
18. American Humane Association, American Veterinary Medical Association, The Humane Society of the United States, Pet Food Institute. *Model dog and cat control ordinance.* Schaumburg, Ill: American Veterinary Medical Association, 1976.
19. National Association of State Public Health Veterinarians. *Compendium of animal rabies control*. *J Am Vet Med Assoc* 1999; 214:198–202.
20. Marmer L. The new breed of municipal dog control laws: are they constitutional? *University of Cincinnati Law Review* 1984;53:1067–1081.
21. Hart BL. Selecting, raising, and caring for dogs to avoid problem aggression. *J Am Vet Med Assoc* 1997;210:1129–1134.
22. Voith VL, Wright JC, Danneman PJ. Is there a relationship between canine behavior problems and spoiling activities, anthropomorphism, and obedience training? *Appl Anim Behav Sci* 1992;34: 263–272.
23. Quinlan KP, Sacks JJ, Kresnow M. Exposure to and compliance with pediatric injury prevention counseling—United States, 1994. *Pediatrics* 1998;102:E55.
24. Miller TR, Galbraith M. Injury prevention counseling by pediatricians: a benefit-cost comparison. *Pediatrics* 1995;96:1–4.
25. Bass JL, Christoffel KK, Widome M, et al. Childhood injury prevention counseling in primary care settings: a critical review of the literature. *Pediatrics* 1993;92:544–550.
26. Committee on Injury and Poison Prevention, American Academy of Pediatrics. Office-based counseling for injury prevention. *Pediatrics* 1994;94:566–567.
27. Jones BA, Beck AM. Unreported dog bites and attitudes towards dogs. In: Anderson RK, Hart BL, Hart LA, eds. *The pet connection: its influence on our health and quality of life*. Minneapolis: University of Minnesota, 1984;355–363.
28. Beck AM, Jones BA. Unreported dog bites in children. *Public Health Rep* 1985;100:315–321.
29. Thompson, PG. The public health impact of dog attacks in a major Australian city. *Med J Aust* [serial online] 1997;167:129–132. Available at: http://www.mja.com.au. Accessed April 24, 2000.
30. Wright JC. Severe attacks by dogs: characteristics of the dogs, the victims, and the attack settings. *Public Health Rep* 1985;100:55–61.
31. Karlson TA. The incidence of facial injuries from dog bites. *JAMA* 1984;251:3265–3267.
32. Harris D, Imperato PJ, Oken B. Dog bites—an unrecognized epidemic. *N Y Acad Med Bull* 1974;50:981–1000.
33. American Animal Hospital Association. Owner education is key to preventing pet behavior problems. *Paw Prints* 1995;Spring.
34. Arkow P. Animal control laws and enforcement. *J Am Vet Med Assoc* 1991;198:1164–1172.
35. Borchelt PL, Lockwood R, Beck AM, et al. Attacks by packs of dogs involving predation on human beings. *Public Health Rep* 1983;98:57–66.
36. Centers for Disease Control and Prevention. Dog-bite related fatalities United States, 1995-1996. *MMWR Morb Mortal Wkly Rep* 1997;46:463–467.
37. Hannah HW. Municipal animal control ordinances—some legal issues. *J Am Vet Med Assoc* 1998;213:38–39.
38. Hannah HW. Legal issues involved in the control of dangerous dogs. *J Am Vet Med Assoc* 1994;204:735–736.
39. Hannah HW. Dog-bite statutes. *J Am Vet Med Assoc* 1989;195:908–909.
40. Hannah HW. Veterinarians, dog bite statutes, and liability. *J Am Vet Med Assoc* 1981;179:662–663.
41. Lauer EA, White WC, Lauer BA. Dog bites: a neglected problem in accident prevention. *Am J Dis Child* 1982;136:202–204.
42. Lockwood R, Rindy K. Are "pit bulls" different? An analysis of the pit bull terrier controversy. *Anthrozoös* 1987;1:2–8.
43. Moss SP, Wright JC. The effects of dog ownership on judgments of dog bite likelihood. *Anthrozoös* 1987;1(2):95–99.
44. Podberscek AL, Blackshaw JK. Dog bites: why, when and where? *Aust Vet Pract* 1990;20:182–186.
45. AVMA animal welfare forum: human-canine interactions. *J Am Vet Med Assoc* 1997;210:1121–1154.
46. Segan DJ. When the dog bites: strategies for emergency management. *The Physician and Sportsmedicine* 1994;22:67–69.
47. Sosin DM, Sacks JJ, Sattin RW. Causes of nonfatal injuries in the United States, 1986. *Accid Anal Prev* 1992;24:685–687.
48. American Veterinary Medical Association. *Zoonosis updates from the Journal of the American Veterinary Medical Association.* Schaumburg, Ill: American Veterinary Medical Association, 1995.
49. AVMA Committee on the Human-Animal Bond. *The veterinarian's way of selecting a proper pet*. Schaumburg, Ill: American Veterinary Medical Association, 1986.
50. American Veterinary Medical Association. Dangerous animal legislation (position statement). *2001 AVMA membership directory and resource manual*, 2000:86.
51. Beaver BV. Profiles of dogs presented for aggression. *J Am Anim Hosp Assoc* 1993;29:564–569.
52. Borchelt PL. Aggressive behavior of dogs kept as companion animals: classification and influence of sex, reproductive status and breed. *Appl Anim Ethol* 1983;10:45–61.
53. Hart BL, Hart LA. Selecting pet dogs on the basis of cluster analysis of breed behavior profiles and gender. *J Am Vet Med Assoc* 1985;186:1181–1185.
54. Hart BL, Miller MF. Behavioral profiles of dog breeds. *J Am Vet Med Assoc* 1985;186:1175–1180.
55. Hopkins SG, Schubert TA, Hart BL. Castration of adult male dogs: effects on roaming, aggression, urine marking, and mounting. *J Am Vet Med Assoc* 1976;168:1108–1110.
56. Horwitz D. Pet misbehavior: the human-animal bond at risk. *Adv Small Anim Med Surg* 1998;11:1–3.
57. Landsberg GM. The distribution of canine behavior cases at three behavior referral practices. *Vet Med* 1991;Oct:1011–1018.
58. Landsberg B, Hunthausen W, Ackerman L. *Handbook of*

behaviour problems of the dog and cat. Boston: Butterworth-Heinemann, 1997;129–150.

59. Lund JD, Vestergaard KS. Development of social behaviour in four litters of dogs (*Canis familiaris*). *Acta Vet Scand* 1998;39:183–193.

60. Mathews JR, Lattal KA. A behavioral analysis of dog bites to children. *Dev Behav Ped* 1994;15:44–52.

61. Neilson JC, Eckstein RA, Hart BL. Effects of castration on problem behaviors in male dogs with reference to age and duration of behavior. *J Am Vet Med Assoc* 1997;211:180–182.

62. Netto WJ, Planta DJU. Behavioural testing for aggression in the domestic dog. *Appl Anim Behav Sci* 1997;52:243–263.

63. O'Farrell V, Peachey E. Behavioural effects of ovariohysterectomy on bitches. *J Small Anim Pract* 1990;31:595–598.

64. Overall K. When dogs bite: what you don't know can kill dogs. *DVM Newsmagazine* 1998;Apr:13S–20S.

65. Overall K. *Clinical behavioral medicine for small animals*. St Louis: Mosby, 1997;88–137.

66. Overall KA. Sex and aggression. *Canine Pract* 1996;20:16–18.

67. Overall K. Fearful aggression, anxiety case leads to intensive behavior modification protocol. *DVM Newsmagazine* 1995;May: 6S–10S.

68. Overall KL. Early intervention by owner can help prevent inappropriate play aggression. *DVM Newsmagazine* 1993;26(9):43.

69. Reisner IR, Erb HN, Houpt KA. Risk factors for behavior-related euthanasia among dominant-aggressive dogs: 110 cases (1989–1992) *J Am Vet Med Assoc* 1994;205:855–863.

70. Tan JS. Human zoonotic infections transmitted by dogs and cats. *Arch Intern Med* 1997;157:1933–1943.

71. Underman AE. Bite wounds inflicted by dogs and cats. *Vet Clin North Am Small Anim Pract* 1987;17:195–207.

72. Wright JC. Canine aggression: dog bites to people. In: Voith VL, Borchelt PL, eds. *Readings in companion animal behavior*. Trenton, NJ: Veterinary Learning Systems, 1996:240–246.

73. Zoonotic diseases in the immunocompromised: roles of physicians and veterinarians. *Am Assoc Food Hyg Veterinarians News-O-Gram* 1998;Nov/Dec:14–15.

74. American Veterinary Medical Association. *People and animals sharing the world*. Schaumburg, Ill: American Veterinary Medical Association, 1993.

75. Fleisher GR. The management of bite wounds. *N Engl J Med* 1999;340:138–140.

76. Talan DA, Citron DM, Abrahamian FM, et al. Bacteriologic analysis of infected dog and cat bites. *N Engl J Med* 1999;340:85-92.

Appendix 1

Groups potentially involved in dog bite prevention

A model program for preventing dog bites begins with assembling a local coalition. Wide representation of community views on the coalition helps ensure sufficient input and community acceptance of the program. Key players include:

- animal control officials
- attorneys, judges
- business sector (eg, local business leaders, insurance companies, pet stores)
- dog breeders and trainers
- educational system (eg, schools, parent-teacher organizations)
- health departments and public health associations
- humane societies
- human healthcare providers and associations (eg, nurses, pediatricians, community health centers, emergency medical service and ambulance companies, health maintenance organizations, hospitals, managed care organizations, medical associations, medical examiners' and coroners' offices, schools of medicine and public health, trauma centers)
- kennel clubs, dog clubs, assistance dog organizations
- law enforcement agencies
- local government officials
- media
- occupational safety organizations, agencies, and groups (eg, firefighters, meter readers)
- veterinary care providers and associations, allied staff, clinics, schools of veterinary medicine and veterinary technology
- volunteer nonprofit organizations (eg, boy/girl scouts; various "Y"s; 4-H clubs; chapters of the American Red Cross, Safe Kids, National Safety Council, and National Fire Protection Association; foundations; United Way; and civic groups [Kiwanis, Rotary])
- other groups (eg, sports recreation clubs [joggers, bicyclists], automobile clubs, extension offices)

Continued on next page.

Appendix 2

Model dog and cat control ordinance

Originally produced and published jointly by the American Veterinary Medical Association, the American Humane Association, the Humane Society of the United States, and the Pet Food Institute in 1976. Modifications have been made from the original version to reflect updated US Public Laws, current titles of other referenced documents, and present favored terminology and definitions concerning "dangerous" animals.

Section 1. Definitions

As used in this ordinance the following terms mean:

Animal—For the purpose of this ordinance, animal shall mean dog or cat.

Animal control authority—The person or persons designated to enforce this ordinance.

Animal establishment—Any pet shop, grooming shop, animal auction, performing-animal exhibition, kennel or animal shelter, except this term shall not include veterinary medical facilities, licensed research facilities, facilities operated by government agencies, or licensed animal dealers regulated by the USDA under the provisions of US Public Laws 89-544, 91-579, 94-279, 99-198, and 101-624.

Animal shelter—Facility designated or recognized by the [jurisdiction]* for the purpose of impounding and caring for animals.

At large—A dog or cat shall be deemed to be at large when off the property of the owner and not under restraint.

Humane manner—Care of an animal to include, but not be limited to, adequate heat, ventilation and sanitary shelter, wholesome food and water, consistent with the normal requirements and feedings habits of the animal's size, species, and breed.

Kennel—An establishment kept for the purpose of breeding, selling, or boarding dogs or cats or engaged in training dogs or cats.

Licensing authority—The agency or department of [jurisdiction] or any designated representative thereof charged with administering the issuance and/or revocation of permits and licenses under the provisions of this ordinance.

Livestock guarding dogs—Dogs kept for the primary purpose of protecting livestock from predatory attacks.

Neutered—Rendered permanently incapable of reproduction.

Nuisance—A dog or cat shall be considered a nuisance if it: damages, soils, defiles, or defecates on private property other than the owner's or on public walks and recreation areas unless such waste is immediately removed and properly disposed of by the owner; causes unsanitary, "dangerous," or offensive conditions; causes a disturbance by excessive barking or other noise making; or chases vehicles, or molests, attacks, or interferes with persons or other domestic animals on public property.

Owner—A person having the right of property or custody of a dog or cat or who keeps or harbors a dog or cat or knowingly permits a dog or cat to remain on or about any premises occupied by that person.

Person—Any individual, corporation, partnership, organization, or institution commonly recognized by law as a unit.

Pet shop—An establishment engaged in the business of buying or selling, at retail, dogs or cats or other animals for profit-making purposes.

Restraint—A dog or cat shall be considered under restraint if it is within the real property limits of its owner or secured by a leash or lead or under the control of a responsible person.

"Dangerous" dog or cat—A dog or cat that without justification attacks a person or domestic animal causing physical injury or death, or behaves in a manner that a reasonable person would believe poses an unjustified imminent threat or serious injury or death to one (1) or more persons or domestic animals.

Section 2. Licensing and rabies vaccination

a. Except as provided in Section 3, no person shall own, keep, or harbor any dog or cat over four (4) months of age within [jurisdiction] unless such dog or cat is vaccinated and licensed. The provisions of this section do not apply to animals owned by a licensed research facility or held in a veterinary medical facility or government operated or licensed animal shelter.

b. All dogs and cats shall be vaccinated against rabies by a licensed veterinarian, in accordance with the latest "Compendium of Animal Rabies Prevention and Control" authored by the National Association of State Public Health Veterinarians and published annually in the *Journal of the American Veterinary Medical Association*.

c. A certificate of vaccination shall be issued to the owner of each animal vaccinated on a form recommended by the Compendium. Each owner shall also receive a durable vaccination tag indicating the year in which it was issued.†

d. Application for a license must be made within thirty (30) days after obtaining a dog or cat over 4 months of age, except that this requirement will not apply to a nonresident keeping a dog or cat with the [jurisdiction] for no longer than sixty (60) days.

Written application for a dog or cat license shall be made to the [licensing authority] and shall include the name and address of the owner and the name, breed, color, age, and sex of the dog or cat. Applicants also shall pay the prescribed licensing fee and provide proof of current rabies vaccination.

e. The licensing period shall be for ‡ year(s). License renewal may be applied for within sixty (60) days prior to the expiration date. New residents must apply for a license within thirty (30) days of establishing residence.

f. A license shall be issued after payment of a fee of $____ for each unneutered dog or cat and $____ for each neutered dog or cat.§ Persons who fail to obtain a license as required within the time period specified in this section will be subjected to a delinquent fee of $____ .

g. License fees shall be waived for dogs serving the blind or deaf or government-owned dogs used for law enforcement. All other licensing provisions shall apply.

h. Upon acceptance of the license application and fee, the [licensing authority] shall issue a durable license tag including an identifying number, year of issuance, city, county, and state. Both rabies and license tags must be attached to the collar of the dog or cat.II Tags must be worn at all times and are not transferable. [Licensing authority] shall maintain a record of all licenses issued, and such records shall be available to the [animal control authority].

Section 3. Permits

a. No person shall operate an animal establishment without first obtaining a permit in compliance with this section

b. The permit period shall begin with the first day of the fiscal year and shall run for one (1) year. Renewal applications for permits may be made within sixty (60) days prior to the expiration date. Application for a permit to establish a new breeding animal establishment under the provisions of this ordinance may be made at any time.

c. Annual permits shall be issued upon payment of the applicable fee:

i. For each kennel authorized to house less than six (6) dogs or cats $ ____

ii. For each kennel authorized to house six (6) but not more than forty-nine (49) dogs or cats $ ____

iii. For each kennel authorized to house fifty (50) or more dogs and cats $ ____

iv. For each pet shop $ ____

v. For other animal establishments $ ____

d. A person who maintains a kennel of six (6) or more dogs or cats for breeding purposes may pay an annual permit fee or may elect to license individual dogs or cats as provided under Section 2. Every facility regulated by this ordinance shall be considered a separate enterprise, requiring an individual permit.

e. Under the provisions of this ordinance, no permit fee shall be required of any animal shelter. All other provisions shall apply. Any change in the category under which a permit is issued shall be reported to the [licensing authority] within sixty (60) days, whereupon reclassification and appropriate adjustment of the permit fee shall be made.

f. Failure to comply with the provisions of this section is subject to a fine of $____.

Section 4. Issuance and revocation of permits and licenses

a. The [appropriate authority] may revoke any permit or license if the person holding the permit or license refuses or fails to comply with this ordinance, the regulations promulgated by the [appropriate authority] or any other law governing the protection and keeping of animals.

b. If an applicant is shown to have withheld or falsified any material information on the application, the [licensing authority] may refuse to issue or may revoke a permit or license.

c. It shall be a condition of issuance of any permit for an animal establishment that the [appropriate authority] shall be permitted to inspect any and all animals and the premises where such animals are kept at any reasonable time during normal business hours. Where a permit is revoked for any cause, or pending appeal of any such action, the [appropriate authority] shall have power of entry on the premises and into all areas where animals are being kept. A person denied a permit may not reapply for a period of at least thirty (30) days. Each reapplication shall disclose any previous denial or revocation and shall be accompanied by a $____ fee.

Section 5. Owner responsibility

a. All dogs and cats shall be kept under restraint.

b. Every "dangerous" dog or cat, as determined by the [appropriate authority], shall be confined by its owner within a building or secure enclosure and shall be securely muzzled or caged whenever off the premises of its owner.

c. No dog or cat shall be allowed to cause a nuisance. The owner of every dog or cat shall be held responsible for every behavior of such dog or cat under the provisions of this ordinance.

d. Failure to comply with the provisions of this section shall be subject to a fine of $_____.

e. Dog and cat owners shall ensure that their dog or cat carries identification at all times in the form of microchip, tag, or other means to allow easy determination of the owners.

f. Livestock guarding dogs shall be exempt from nuisance regulations when performing duties protecting livestock on premises owned or controlled by the owner.

Section 6. Impoundment

a. Any dog or cat found running at large shall be impounded by the [animal control authority] in an animal shelter and confined in a humane manner. Immediately upon impounding a dog or cat, the [animal control authority] shall make every reasonable effort to notify the owner and inform such owner of the conditions whereby custody of the animal may be regained. Dogs and cats not claimed by their owners within a period of [five (5) full days]¶ in which the shelter is open to the public shall become the property of the [jurisdiction].

b. When a dog or cat is found running at large and its ownership is verified by the [animal control authority], the authority may exercise the option of serving the owner with a notice of violation in lieu of impounding the animal.

c. In the event that the [appropriate authority] finds dogs or cats to be suffering, it shall have the right forthwith to remove or cause to have removed any such animals to a safe place for care at the owner's expense or to euthanatize them when necessary to prevent further suffering. Return to the owner may be withheld until the owner shall have made full payment for all expenses so incurred.

d. Disposal of an animal by any method specified here in does not relieve the owner of liability for violations and any accrued charges.

Section 7. Redemption

a. Any animal impounded may be redeemed by the owner thereof within five (5) days upon payment of an impoundment fee of $____ , provided that if any such animal has been previously impounded, the impoundment fee shall be $____ . Payment of impoundment fees is not considered to be in lieu of any fine, penalty, or license fees.

b. Any animal confined for rabies quarantine, evidence, or other purpose may be redeemed by the owner thereof upon payment of a fee of $____ .

c. No animal required to be licensed or vaccinated under this ordinance may be redeemed until provisions for such licensing have been fulfilled.

Section 8. Adoption

An adoption fee of $____ shall be assessed at the time of adoption. No dog or cat shall be released for adoption as a pet without being neutered or without a written agreement from the adopter guaranteeing that the animal will be neutered. Vaccination fees, licensing fees, and veterinary costs may be assessed above and beyond the adoption fee.

Section 9. Interference

No person shall interfere with, hinder, or molest any agent of the [animal control authority] in the performance of any duty as herein provided.

Any person violating this section shall be deemed guilty of a misdemeanor and shall be subject to a fine of not less than $____ or more than $____ .

Section 10. Repeals (conflicting ordinances)

All other ordinances of the [jurisdiction] that are in conflict with this ordinance are hereby repealed to the extent of such conflict.

Section 11. Severability

If any part of this ordinance shall be held invalid, such part shall be deemed severable and the invalidity thereof shall not affect the remaining parts of this ordinance.

Section 12. Applicability

This ordinance shall be in full force and effect upon the expiration of days after its passage and publication.

Section 13. Safety clause

The [jurisdiction] hereby finds, determines, and declares that this ordinance is necessary for the immediate preservation of the public health, safety, and welfare of the [jurisdiction] and the inhabitants thereof.

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*For all occurrences of [ ], communities should insert their applicable agency. †The organizations developing this model ordinance recommended that licensing tags show, in addition to the license number, the city or county and state in which the animal is registered. This helps to alleviate the problem of an animal being left unidentified or unclaimed because it has been transported from one state to another and has no reference to the issuing city or county on the license tag. ‡Where blanks are found without insertions, communities should insert applicable fees or conditions. §Differential license fees for neutered animals serve as an incentive for responsible pet ownership. IIBreakaway collars are recommended when tags are affixed to collars worn by cats. ¶It is recognized that holding periods will be determined to some degree by availability of facilities; however, it is important to ensure a reasonable opportunity for owners to reclaim their dog or cat.

Appendix 3

Recommended data elements for reports of dog bites

Data element	Comment
Notifications of dog attacks on humans	A card or telephone report to be submitted by those providing care to the human victim
Name of victim	
Address of victim	
Telephone (home and work)	
Parent contact information (if a minor)	
Incident date and time	
Reported to whom	
Date and time of report	
Notifications of dog attacks on animals	A card or telephone report to be submitted by those providing care to the animal victim
Owner of victim	
Type of victim	
Address of owner	
Telephone (home and work)	
Incident date and time	
Name and address of owner or custodian of attacking dog	
Reported to whom	
Date and time of report	
For animal control investigations	
Agency information	
Case number	
Report date and time	
Incident date and time	
Who reported the case	
Report received by	
Location of incident	
Victim information	
Name	
Breed (if animal)	
Age and date of birth	
Sex	
Address	
Telephone (home and work)	
Parent contact information (if minor)	
Rabies immunization status (if animal)	
Owner information	
Name	
Age and date of birth	
Sex	
Address	
Telephone (home and work)	
Dog information	
Name	
Breed	Indicate by whose designation (eg, owner report, animal control officer, law enforcement officer). This is important if breed data are to be interpreted.
Sex	
Age	
Weight	
Reproductive status	
Name of veterinarian	
Rabies vaccination date	
Rabies tag number	
License number	
Microchip number	
Degree of confinement at time of bite	Identifying different forms of confinement (eg, chaining, tethering, electronic fence) is important if risk associated with these practices is to be assessed.
Prior incidents	
Obedience training	
Circumstances of the bite	
Victim account	
Owner's account	
Witness account (contact information)	
Number of dogs involved	Attacks by multiple dogs may account for 20 to 30% of incidents. Forms for these animals could be given case numbers with a special designation (eg, 123A, 123B).
Injury information	
Location of injury	
Nature of injury	
Severity of injury	
Animal disposition	
Quarantine location	
Date of quarantine	
Date to be released	
Quarantined by	
Euthanatized	

Continued on next page.

Appendix 4

Model legislation for the identification and regulation of "dangerous" dogs

A. Actions allowed by authorized persons prior to hearing
   1. If any dog shall attack a person or domestic animal who was peaceably conducting himself in any place where he may lawfully be, any person, for the purpose preventing imminent injury or further injury, may use such force as is required to stop the attack.
   2. A police officer or peace officer acting pursuant to his statutory duties may, where the threat of serious injury to a person or domestic animal is imminent and unjustified, use such force as is required to prevent such injury.

B. Definitions
   1.
      a. "Dangerous dog" means any dog which without justification attacks a person or domestic animal causing physical injury or death, or behaves in a manner that a reasonable person would believe poses an unjustified imminent threat of serious injury or death to one or more persons or domestic animals. A dog's breed shall not be considered in determining whether or not it is "dangerous." Further,
      b. No dog may be declared "dangerous"
         i. If the dog was protecting or defending a person within the immediate vicinity of the dog from an attack or assault;
         ii. If at the time the person was committing a crime or offense upon the property of the owner, or custodian, of the dog;
         iii. If the person was teasing, tormenting, abusing or assaulting the dog, or in the past had teased, tormented, abused or assaulted the dog;
         iv. If the dog was attacked or menaced by the domestic animal, or the domestic animal was on the property of the owner, or custodian, of the dog;
         v. If the dog was responding to pain or injury, or protecting itself, its kennels or its offspring;
         vi. If the person or domestic animal was disturbing the dog's natural functions such as sleeping or eating.
         vii. Neither growling nor barking, nor both, shall alone constitute grounds upon which to find a dog to be "dangerous."
   2. "Attack" means aggressive physical contact initiated by the dog.
   3. "Serious injury" means any physical injury consisting of broken bones or a permanently disfiguring laceration requiring either multiple stitches or cosmetic surgery.
   4. "Domestic animal" means any animal commonly kept as a pet in family households in the United States, including, but not limited to dogs, cats, guinea pigs, rabbits and hamsters; and any animals commonly kept for companion or commercial purposes.

C. Hearing procedure
   1. Any person may make a complaint of an alleged "dangerous" dog as that term is defined herein to a police officer or peace officer of the appropriate municipality. Such officers shall immediately inform the complainant of his right to commence a proceeding provided for in Paragraph 2, immediately below, and, if there is reason to believe the dog is a "dangerous" dog, the officer shall forthwith commence such proceeding himself.
   2. Any person may, and any police officer, or peace officer acting within the scope of his statutory duties, shall make a complaint under oath or affirmation of an allege dangerous" dog as that term is defined herein to any municipal judge or justice. Thereupon, the judge or justice, or hearing panel subject to judicial review, shall immediately determine if there is probable cause to believe the dog is a "dangerous" dog and, if so, shall issue an order to any police officer or peace officer pursuant to his statutory duties or animal control officer directing such officer to immediately seize such dog and hold same pending judicial determination as herein provided. Whether or not the judge or justice, or hearing panel subject to judicial review, finds there is probable cause for such seizure, he shall, within five (5) days and upon written notice of not less than three (3) days to the owner of the dog, hold a hearing on the complaint.

D. Where a dog is determined pursuant to clear and convincing evidence at a duly constituted hearing to be "dangerous," the judge or justice, or hearing panel subject to judicial review, shall require the owner of said animal to register such animal (with the appropriate Health Department or animal control facility), and to provide prompt notification to (the appropriate Health Department or animal control facility) of any changes in the ownership of the animal; names, addresses and telephone numbers of new owners; any change in the health status of the animal; any further instances of attack; any claims made or lawsuits brought as a result of further instances of attack; the death of the animal. In addition, the judge or justice, or hearing panel subject to judicial review, may require any or all of the following, but items 5, 6 and 11, or any one of them, may only be imposed where there has been serious injury to a person.
   1. Indoors, when not alone, the dog be under the control of a person eighteen (18) years or older. (Provisions for the dog to be outdoors must also be made.)
   2. Outdoors and unattended, the dog be kept within a locked fenced area from which it cannot escape.
   3. When outdoors the dog must be attended and kept within a fenced area from which it cannot escape.
   4. When outdoors the dog must be attended and kept on a leash no longer than six (6) feet and under the control of a person eighteen (18) years of age or older.
   5. When outdoors the dog must be attended and muzzled. Such muzzle shall not cause injury to the dog or interfere with its vision or respiration but shall prevent it from biting any person or animal.
   6. Outdoors and unattended, the dog must be confined to an escape-proof kennel of the following description:
      a. Such kennel shall allow the dog to stand normally and without restriction, and shall be at least two and one half (2.5) times the length of the dog, and shall protect the dog from the elements.
      b. Fencing materials shall not have openings with a diameter of more than two (2) inches, and in the case of wooden fences, the gaps shall not be more than two (2) inches.
      c. Any gates within such kennel or structure shall be lockable and of such design as to prevent the entry of children or the escape of the animal, and when the dog is confined to such kennel and unattended such locks shall be kept locked.
      d. The kennel may be required to have double exterior walls to prevent the insertion of fingers, hands or other objects.
   7. Placement of a sign or signs of a description and in places directed by the judge or justice, advising the public of the presence and tendencies of said animal.
   8. Attendance by the dog and its owner/custodian at training sessions conducted by a certified applied animal behaviorist, board certified veterinary behaviorist or other recognized expert in the field and completion of training or any other treatment as deemed appropriate by such expert. The owners of the dog shall be responsible for all costs associated with the evaluation and training ordered under this section.
   9. Neutering or spaying of the dog at the owner's expense, unless medically contraindicated.
   10. That the dog be permanently identified by tattooing or by injecting an identification microchip, using standard veterinary procedures and practices, identification number and the identification of the person performing the procedure to be registered with the (appropriate health department or animal control facility) as indicated above.
   11. The procurement of liability insurance in an amount to be determined by the judge or justice, but in no case in an amount of less than fifty thousand dollars ($50,000), covering the medical and or veterinary costs resulting from future actions of the dog (a determination of liability shall be made in accordance with the laws of the jurisdiction). This condition may not be imposed if it is shown that no such insurance is available for a reasonable premium.
   12. If any of the above conditions ordered by a judge or justice, or hearing panel subject to judicial review, are not complied with, the owner shall be subject to a fine of not more than ten thousand dollars ($10,000).
   13. If a further incident of attack occurs under such circumstances that the dog, after a hearing as described above, is determined to be a "dangerous" dog, the judge or justice, or hearing panel subject to judicial review, may impose or reimpose any applicable directives listed above; additionally, humane destruction of the dog may be ordered, but only where the further incident involves serious injury to a person.

Appendix 5

Suggested reading for professionals (numbers correspond to cited references)

Group	Reference numbers
Public officials and community leaders	4, 6, 8-9, 10, 12, 14-16, 18, 20, 27-28, 30, 32-47
Veterinarians	1, 4-10, 12, 14-16, 27-28, 30, 32, 35-36, 39, 41-73
Veterinary technicians	7, 12, 16, 28, 43-45, 47, 50-57, 59,61, 63-64, 66-69, 74
Physicians and nurses	4-6, 8-10, 12, 14-15, 27-28, 30, 32, 35-36, 41, 43, 45-48, 60, 70-71, 73, 75-76
Humane society/animal shelter/ rescue personnel	4-6, 10, 12, 14-15, 27-28, 30, 35-36, 41-43, 51-55, 61, 66, 69, 71

Keeping Pets and People Healthy : Worms

By Food and Drug Administration (FDA)

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Pets occupy an esteemed place in many of our households, often being treated as members of the family. They offer a source of amusement, pleasure, and companionship. They provide opportunities for outdoor exercise and socialization. And, according to some studies, they can decrease our blood pressure, cholesterol levels, and triglyceride levels.

But along with the emotional rewards and health benefits of pet ownership also come health risks. Pets — and other animals — can give us diseases.

Animal diseases that can be transmitted to humans are known as zoonotic diseases, or zoonoses. Some people are more likely than others to get zoonoses: the elderly, pregnant women, infants and children less than 5 years old, people undergoing treatments for cancer, people who have received organ transplants, and people with suppressed immune systems, such as those with HIV/AIDS.

If you fit into one of these categories, the Centers for Disease Control and Prevention (CDC) advises avoiding contact with certain animals that are more likely than others to carry diseases: reptiles (turtles, lizards, and snakes), baby chicks, and ducklings.

The list of zoonoses is long and continues to grow as people travel to more remote parts of the world and bring diseases back with them, and as animals that carry diseases are imported. The first human outbreak of monkeypox, a rare smallpox-like disease, occurred in the United States in May 2003. The disease was believed to have been brought into the country in April by a shipment of rodents and other small mammals imported from Africa. These animals infected prairie dogs being sold as pets, which in turn infected humans in close contact with the prairie dogs.

In June 2003, in response to the monkeypox outbreak, the Food and Drug Administration and the CDC banned the import of all African rodents, and the transport, sale, and release into the environment of prairie dogs and six species of African rodents. In November 2003, both agencies issued a new rule that clarifies and extends the import and transport restrictions for these animals. This interim rule, which is open for public comment until Jan. 20, 2004, gives an increased measure of protection to help prevent future outbreaks of monkeypox in the United States.

Even if people never leave the country or acquire a pet from further away than their local animal shelter, they may still be vulnerable to getting certain diseases from pets. Fortunately, the risk of getting a disease from your pet is small, and you can minimize the risk by practicing good personal hygiene, keeping pet areas clean, controlling disease-carrying insects, and getting regular vaccinations and veterinary care for pets.

Parasites, bacteria, fungi, and viruses are the culprits responsible for spreading many diseases from pets to humans. Some are more common and troublesome for pets and pet owners than others.

Related articles & books

Is Beer Good For The Bone Health?
Drinking beer may be good to keep our bones strong because it is a significant source of dietary silicon, which contributes to bone mineral density and prevents osteoporosis, suggests a new research.

Dark-Roasted Coffee Brews Better For Stomach?
Dark-roasted coffee brews, such as espresso and French roast, appear to be much gentler on the stomach than their lighter counterparts, because these roasts contain a substance that tells the stomach to reduce production of acid, European scientists have

Flip Flops Can Reduce Knee Pain
For those who suffer have knee pain from arthritis, wearing flatter and more flexible shoes may reduce the complications associated with osteoarthritis in the joints and keep them much more comfortable, says a new research.

Worms

Worms, such as roundworms and hookworms, can infect dogs, cats, and some other animals. Worms can also infect people if they ingest the organisms or, in the case of hookworms — which can penetrate the skin — if they walk barefoot on infected soil.

Worms live in the intestines of animals and are expelled in the stool. If left untreated in pets, homes and yards can become contaminated from worm eggs that are passed in animal feces and hatch in the soil. If your animal has worms, get it treated and clean up after it promptly, advises Linda Wilmot, D.V.M., a veterinary medical officer in the FDA's Center for Veterinary Medicine (CVM). "Don't give the eggs that are passed in the feces time to hatch."

More than 90 percent of puppies are born with worms, says Wilmot. Mother dogs can pass worms to their puppies before birth and both dogs and cats can pass it to their offspring through their milk after birth.

Touching the stool or contaminated soil and then touching the mouth or handling food are common routes of transmission of worms to humans. Children are at risk for acquiring worms if they walk barefoot or play in the dirt where an infected dog has defecated or on the floor where a dog may have tracked in dirt or feces.

Hookworm larvae can cause painful inflammation in areas where they penetrate a person's skin and crawl just below the skin's surface. The larvae can also travel through the body, eventually reaching the small intestine. There they develop into half-inch-long worms, attach themselves to the intestinal wall, and suck blood.

Roundworms may also cause problems. "Between 5 percent and 20 percent of children have been infected by dog roundworm at some time in their lives," says Larry Glickman, V.M.D., Dr.P.H., a professor of epidemiology and environmental health at the Purdue School of Veterinary Medicine. In most cases, it never becomes apparent and doesn't need to be treated, he says. But in some cases, larvae migrate through the body and damage tissues and organs.

Just one roundworm larva has been known to damage the retina of the eye and cause blindness. Glickman developed an eye fluid test, used by some eye doctors and the CDC, to detect the dog roundworm in people's eyes so they can be treated before permanent damage sets in.

Prevention and early treatment are the best defenses against worms, says Wilmot. FDA-approved drugs are available to destroy worms that infect dogs, cats and people. Guidelines from the CDC and the American Association of Veterinary Parasitologists advise using deworming drugs in dogs and cats beginning at two weeks of age. Your veterinarian can provide dewormers and a treatment schedule.

Adult animals should have their stool tested at least annually by a veterinarian, who can also prescribe drugs to help prevent your pet from getting worms in the future.

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About the Author

FDA is A United States government body that oversees medical devices, including contact lenses, intraocular lenses, excimer lasers and eyedrops. In the US, these products must be approved by the FDA before they can be marketed.

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Would You Displace? It Depends! A Multivariate Visual Approach to Intended Displacement from an Urban Forest Trail

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A dichotomous choice survey was applied to explore the contributions of various social conditions to intended displacement from the main trail of a recreation area in Vienna, Austria. The trail scenarios were depicted as digitally calibrated images which systematically displayed combinations of levels of crowding with different mixes of user types, group sizes, compliance behavior, direction of movement, and placement within the image. Intended displacement was measured by interviewing 237 visitors on-site. The resulting model documents that the intention to displace is influenced by all six systematically controlled social factors as well as the interactions between crowding and several other design variables. High visitor numbers, unleashed dogs, small group sizes, more face to face encounters, a mix of user types moving at different speeds and several combinations between them increased intentions to displace.

KEYWORDS: *Controlled experiment, crowding, urban forest, social carrying capacity, stated preference model, use displacement, visitor behavior.*

Introduction

Over the past decades, investigations on use displacement have made significant contributions to outdoor recreation research. The concept of displacement describes one type of behavior visitors exhibit in reaction to unwanted conditions (Kuentzel & Heberlein, 1992, Shelby, Bregenzer, & Johnson, 1988). Besides management actions and resource specific conditions (Hall & Shelby, 2000), crowding, user conflicts and visitor behavior have been recognized for modifying behavior of visitors to recreation areas. Most

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studies on social aspects of displacement have measured crowding, visitor behavior or user conflicts as a scaled variable in one specific setting (Manning & Valliere, 2001; Shelby et al., 1988). Such a study design does not account for the complexity of real-world situations in which displacement may be affected by other social setting components. This shortcoming may be more serious for studies in urban environments, as trail use in multiple-use and high-use urban settings is characterized by diverse visitor groups and diverse behaviors, which results in a more complex recreation experience compared to wilderness settings or remote areas. For example, besides crowding, other and often competing socials factors such as the direction of movement, different degrees of visitor behavior, mixes of user types, personal needs for space, and various shares of group size might influence displacement of urban trail users. Consequently, investigations of use displacement should consider these influencing factors and present these concomitantly, leading to a more realistic description of trail use.

Researchers focused on use displacement as one potential explanation for the consistently low relationship between visitor satisfaction and concurrent reports of crowding (Manning & Valliere, 2001; Robertson & Regula, 1994; Shelby & Heberlein, 1986). Displacement is a behavioral coping mechanism and was originally described as a process of social succession (Schreyer & Knopf, 1984), where original visitors are replaced by succeeding visitors better adapted to changes in the recreation setting.

Several types of use displacement have been recognized (Manning & Valliere, 2001): spatial displacement occurs when visitors shift their use to other locations within the same area (intra-spatial) or move away from the area to other areas (inter-spatial). Another type of displacement describes visitors' change in their timing of visits. Activity displacement is defined as visitors changing their primary activity (Robertson & Regula, 1994). Some studies observed several displacement mechanisms concomitantly (Arnberger & Brandenburg, 2002; Johnson & Dawson, 2002; Manning & Valliere, 2001; Robertson & Regula, 1994).

Use displacement by crowding has been investigated for several types of areas and activity types. Among water-based users displacement by crowding was found in many studies (Hall & Shelby, 2000; Kuentzel & Heberlein, 1992; Robertson & Regula, 1994; Shelby et al., 1988). Regarding trail users, Johnson and Dawson's survey (2002) among Adirondack wilderness hikers documented spatial and temporal displacement by crowding. Similarly, Arnberger and Brandenburg (2002) documented both spatial and temporal displacement by crowding of suburban national park visitors. Manning and Valliere (2001) found relatively high levels of use displacement by local residents caused by visitor behavior and high use levels around Acadia National Park.

While research has repeatedly documented a relationship between crowding, user conflicts or visitor behavior and displacement, there has been limited success in establishing causal connections between use displacement and other social factors such as the direction of movement and the distance

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to other users as well as in assessing the effects of social factors in combinations with other social factors. One reason for these deficiencies may be the research methods employed to measure displacement behavior. Most past research used verbal descriptions, which may be unable to capture the complexity of recreation experiences in dense situations. Over the past few years, visual approaches using digitally manipulated images have been applied to investigate crowding in general as well as the relationship between displacement and crowding specifically (Laven, Manning, & Krymkowski, 2005; Manning, 2001; Manning, Valliere, Wang, & Jacobi, 1999). Respondents were asked about the maximum number of other users or user groups tolerable before they would shift their use to a different location or time. Especially denser situations are much more conducive to visual presentation than to verbal descriptions, and allow for a more realistic and accurate evaluation of indicators causing displacement (Manning, Lime, Freimund, & Pitt, 1996). These benefits apply equally to research and management applications, as interviewees on the one side and managers and researchers on the other are truly confronted with the same conditions, as opposed to inferring from mere verbal or written descriptions.

Most of these visual-based studies, however, used an univariate approach in the sense that visitors are asked about displacement in a single-item question focusing on crowding or conflict only, instead of treating the recreation experience as a multi-attribute phenomenon. If one were to investigate the same topic in high-use recreation areas with high probabilities for crowding perceptions and user conflicts due to user mixes and various visitor behaviors, the deficiencies of the conventional method would quickly become apparent. Consequently, especially in high use areas, investigations of displacement should also consider other influencing factors and explore causes for displacement from recreation trails more holistically based on a more realistic mode of presentation.

The purpose of this study is to explore several driving forces of use displacement in one multivariate approach. We will investigate whether (1) intentions to displace are inherently influenced by several competing social factors such as visitor behavior and user composition, and (2) these factors might influence each other in a positive or negative manner, leading to measurable interactions between these variables; for example, the importance of visitor composition might differ under low-use and high-use conditions. In order to accommodate the multivariate nature of these research questions, this study will use a dichotomous choice survey with visual presentation of several social factors which might contribute to intended displacement. Besides the number of people, five additional variables (i.e. placement of visitors within the image, user types, visitor behavior, group size and direction of movement) will be strictly controlled in a fractional factorial design. For simplicity this study will focus on variations in the social setting only, while keeping the physical setting constant. As such, this study will contribute to the theory and method of displacement research by developing an innovative method of data collection (i.e. digitally calibrated images) that

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depicts elements of crowding, conflict and different types of visitor behavior in one image, and applies displacement research to an urban setting.

Methods

Study Area

Data were collected in the Wienerberg recreation area, which is situated in the south of Vienna, Austria. The municipal forest department manages this 120-hectare area. Forest dominates the area, and several sections of it are conservation areas. The urban forest provides about 14 km of gravel trails and many paths. Bicycling is permitted on some trails, and dogs are allowed, but must remain on a leash. Residential and business areas, a hospital, and garden allotments surround the area. The forest was established in the late 1980s and its recreational use has increased steadily since, especially as a result of continuous housing developments nearby. Long-term visitor counting was conducted using permanent video monitoring at access points resulting in an annual use estimate of around 1.2 million visits by mostly very regular users (Arnberger, 2003).

Data Sampling

The data used for the analysis in this study were collected as part of a larger project designed to develop a baseline understanding of recreational use in the Wienerberg forest (Arnberger, 2003). Several investigations of recreational use were conducted between 2002 and 2003 using a mix of long-term and short-term counting methods, as well as on-site interviews. On six days during the late summer and early fall of 2002, on-site interviews were conducted in the forest along the main trail section. The interviews took place on three randomly selected work days and three Sundays. The interviewers were employees of the institute, mostly students, who were carefully trained in the use of the survey forms. They asked visitors if they were willing to participate in a 15-minute interview. Once the interview was completed, the next visitor encountered, regardless of user type, was asked to participate in the study. Interviewers registered group size, activity type (biking, hiking, etc.), whether the visitor was accompanied by dogs on or off a leash, and interview time. In total 629 visitors were approached and 292 visitors agreed to the interview (46% response rate), of which 237 (38%) completed all of the questions. Reasons for refusal mostly included trivial issues, but more systematic biases were introduced because bicyclists and joggers were less likely to stop for an interview than walkers. As a result, walkers with and without dog were over-represented in the sample compared to actual numbers (Arnberger, 2003).

The survey instrument consisted of two components. The first part contained a conventional questionnaire on socio-demographic characteristics and visit-related questions such as motivations, perceived crowding, origin, and length of stay. In the second part of the interview, each respondent was

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shown the digitally calibrated images in four choice sets. Each set contained four color images presenting various recreational scenarios (Figure 1). Thus each respondent evaluated 16 images. The presentation order of choice-sets and their versions were rotated systematically to avoid starting point bias. First, generic preferences were assessed by asking visitors to choose the most and the least preferred scenario of the four assembled in each choice set (see Arnberger & Haider, 2005); thereafter intended displacement was extracted by asking the visitors whether 1) the scenario considered the best of the set of four, and, as a separate question, 2) the worst scenario of the four was so intolerable that it would prompt them to shift their use from the trail. Only the results about intentions to displace from the main trail will be presented below.

Measuring Intended Displacement: a Referendum Style Question

The intention to displace from the main trail of the study area was investigated with a referendum style choice question pertaining to two images, the best and the worst, of each set. The referendum style choice ques-

Figure 1. Example of a choice set consisting of digitally calibrated images—each image depicts a different combination of six social setting attributes.

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tion is one possible question among the many question formats used in stated preference / choice surveys, which consider the multivariate trade-off behavior of respondents (Louviere, Hensher, & Swait, 2000). The referendum style question elicits a dichotomous choice response to yes or no question instead of a rating scale. This format has been suggested as the most appropriate form of response elicitation of intended behavior, particularly in contingent valuation (Arrow, Solow, Portney, Leamer, Radner, & Schuman, 1993). Obviously, this question goes beyond preference elicitation and clearly extracts a behavioral intention.

The strength of stated choice lies in its ability to predict how the public will respond to various policy or management alternatives, including arrangements of resources, quality of visitor experiences, facilities, services and/or regulations that may not currently exist, and avoid the problem of multicollinearity (Haider, 2002). Stated choice analysis has been applied to study public preferences and choice behavior concerning a range of recreation-related issues such as visitor preferences for wilderness management issues (Lawson & Manning, 2002), tourism destination choice (Haider & Ewing, 1990), and beach preferences of rafters (Stewart, Larkin, Orland, & Anderson, 2003).

In stated preference models, alternatives are defined as combinations of attributes and each alternative is evaluated as a whole. Random utility theory postulates that choices can be modeled as a function of the attributes of the alternatives (Ben-Akiva & Lerman, 1985). The overall utility of alternative i is represented as (McFadden, 1974):

$$U_i = V_i + \varepsilon_i. \tag{1}$$

It is assumed that the overall utility (U_i) contained in the alternative is represented by a utility function that contains a deterministic component (V_i), defined as $V_i = \beta_0 + \beta_1 X_{1,i} \ldots + \beta_k X_{k,i}$ where the betas are the part-worth utilities, and a stochastic component (ε_i). Selection of one alternative over another implies that the utility (U_i) of that alternative is greater than the utility of any other alternative (U_j).

The maximum likelihood analysis produces a regression estimate, standard error and t-value for each attribute level. The results of the logit model supports the estimation of parameters that allow the estimation of the probability of choice of a given alternative as a function of the attributes comprising that alternative and those attributes of all other alternatives in the choice set (for a detail discussion about stated choice see Louviere et al., 2000).

The referendum style question applied in this survey can be analyzed in a binomial logit model (Ben-Akiva & Lerman, 1985) of the form

$$\text{Prob}\ [i \text{ chosen}] = e^{V_i}/(e^{V_i} + 1). \tag{2}$$

During data preparation for analysis the rule of transitivity was applied to classify the responses to the remaining two images of each choice set,

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which were rated neither best nor worst: Whenever the most preferred scenario out of four was judged as leading to displacement, the other three scenarios of the choice set were also deemed as contributing to displacement. On the other extreme, when the least preferred scenario was not judged as inducing displacement, the other scenarios were also deemed as not contributing. When the best image was judged as not contributing while the worst was, then the two middle images were ignored for analysis.

Attributes

In the analysis each image is treated as a generic scenario containing all attributes under consideration, except of the scenario with no people in the image. The computer-generated images contained six attributes (Table 1) and were constructed following an Addelman type asymmetric main effects plan (Addelman, 1962) with one eight level variable and 5 four level variables, requiring a total of 128 images, which were presented in 32 choice sets. Fractional factorial designs involve the selection of a particular subset of complete factorials, so that particular effects of interest can be estimated as efficiently as possible without loosing substantial information. Orland, Daniel, and Haider (1995) called the generation of images that follow a strict design plan "digitally calibrated images".

The images contained systematic representations of the following six attributes: (1) number of visitors, (2) user type, (3) group size, (4) placement of visitors within the image, (5) presence of dogs and whether dogs are on or not on a leash, and (6) the direction of movement. The number of visitors was shown in eight levels, the next three attributes consisted of four levels each, and the direction of movement and the dog attribute were defined in three levels. The three levels of direction of movement were also treated as one four-level variable, as the balanced situation of 50/50 was used twice. Adobe Photoshop 6.0 software was used to create the images according to the fractional factorial design plan. The background of the images was a 200m-section of the main trail in the north of the forest. The presented trail segment is well-known, popular and heavily used by various user groups, because it offers a panoramic view. Most visitors to the forest use this trail section at one time or another. Consequently, the topic of use displacement was particularly relevant to this trail section.

In order to contain the calibration of images within realistic visitor numbers, the maximum number of people to be presented in the images was determined from actual counting results (Arnberger, 2003). Peak hourly visitor numbers were translated to approximately 12 persons visible in the scene at the same time and therefore this eight level variable was measured with 0 to 12 persons per scene. User types were displayed to assess the potential influence of user conflicts and were depicted as various shares of walkers, bicyclists and joggers. Different subtypes of users, such as sportive fast moving bicyclists and recreational bicyclists were not included. In a further simpli-

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TABLE 1
Estimates of the Binary Logit Model

Attributes and levels	Parameter estimate	*SE*	*t*
Intercept	***3.425	0.173	19.753
Number of persons depicted			
Linear (L)	***−0.340	0.078	−4.378
Squared (S)	***−0.120	0.030	−3.987
Placement of visitors			
30% Fore-, 40% Mid-, 30% Background.[a]	−0.016		
60% Fore-, 40% Mid-, 0% Background.	−0.241	0.192	−1.256
10% Fore-, 60% Mid-, 30% Background.	0.068	0.140	.485
0% Fore-, 40% Mid-, 60% Background.	0.188	0.235	.802
Dog number and leash rate			
No dog.	**0.475	0.158	2.886
Dogs leashed.[a]	0		
Dogs unleashed.	**−0.437	0.158	−2.765
Group size			
30% Single, 40% Pair, 30% Triple.[a]	0.174		
60% Single, 40% Pair, 0% Triple.	*−0.310	0.129	−2.396
30% Single, 60% Pair, 10% Triple.	−0.140	0.127	−1.102
0% Single, 40% Pair, 60% Triple.	0.275	0.152	1.810
User type			
80% Walkers, 10% Bicyclists, 10% Joggers.[a]	0.297		
40% Walkers, 50% Bicyclists, 10% Joggers.	−0.152	0.135	−1.122
40% Walkers, 10% Bicyclists, 50% Joggers.	−0.046	0.220	−.209
20% Walkers, 40% Bicyclists, 40% Joggers.	−0.100	0.210	−.476
Direction of movement			
50% towards, 50% away from camera.[a]	−0.127		
75% towards, 25% away from camera.	−0.087	0.129	−.678
25% towards, 75% away from camera.	0.214	0.143	1.494
Interactions			
L × 60% Fore-, 40% Mid-, 0% Background.	**−0.303	0.115	−2.638
L × 0% Fore-, 40% Mid-, 60% Background.	***0.487	0.135	3.608
L × 40% Walkers, 10% Bicyclists, 50% Joggers.	**0.389	0.122	3.186
L × 20% Walkers, 40% Bicyclists, 40% Joggers.	**−0.367	0.130	−2.820
S × 60% Fore-, 40% Mid-, 0% Background.	**0.124	0.046	2.711
S × 0% Fore-, 40% Mid-, 60% Background.	***−0.197	0.056	−3.542
S × 40% Walkers, 10% Bicyclists, 50% Joggers.	**−0.139	0.050	−2.805
S × 20% Walkers, 40% Bicyclists, 40% Joggers.	***0.171	0.049	3.462
S × 75% towards, 25% away from camera.	***0.110	0.031	3.588
S × 25% towards, 75% away from camera.	**−0.088	0.032	−2.752
Rho^2	.745		
$Rho^2_{adj.}$	.680		
Log Likelihood (0):	−3408.21		
Parameter model:	−870.54		
Log likelihood ratio test compared to main effects model	***35.94		

***p <.001; **p <.01, *p <.05
Note. [a] = Reference category.

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fication, only adults were displayed to avoid confounding with variables that were not controlled in the study design.

The attribute "placement within the image" described the placement of persons in the fore-, mid- or background. For an accurate position of people, the 200m-trail section was divided into three equal distance zones. To ensure that the scale and size of people was correct, size comparisons of people in actual photos depending on placement within the image were undertaken. By means of that attribute, the influence of the distance to others on the intentions to displace could be assessed. Dogs were always placed in the mid- or foreground to enable a differentiation between leashed and unleashed dogs.

The influence of visitor behavior was presented in two ways. Potentially unwanted behavior was included by displaying unleashed dogs, and groups walking, jogging or cycling side by side thereby narrowing the trail. Due to design limitations, reliable results concerning the latter attribute were only possible when more than three persons were displayed in the picture. The 3-level attribute dogs was described by no dogs, leashed dogs and unleashed dogs. Only walkers were depicted with dogs because the counting inventory showed that only a small minority of joggers and bikers were accompanied by dogs. Dogs were only displayed when more than two people were on the scene. The attribute "direction of movement" contained three levels and described the proportion of people walking, cycling or jogging away from the vantage point, as opposed to facing it. In all images, all persons and dogs in the images were placed in a manner that each dog and person remained fully visible as much as possible.

To test propositions about the social factors and their interactions at use levels of only one or two people per scene, several rules needed to be established for executing the statistical design plan: the variable number of users always had the highest priority; the distribution of these individuals within a scene was regarded as more important than group size, and group size was regarded as more important than the direction of movement. When allocations within a specific attribute level were not unambiguously clear, i.e. in the case of some combinations between the number of people and their distribution, then the highest shares of each level were considered: when one person was required in the image and the distribution level required a distribution of 60% in the foreground, 40% in the midground and 0% in the background, then the person was placed in the foreground; on the other hand, when the design plan called for a distribution within the image of 30% in the foreground, 40% in the midground and 30% in the background, than that single person was placed in the midground. When one person was supposed to be in the image and the direction of movement level required a 50:50 direction, then this level was systematically changed: one image contained the person walking, jogging or cycling away from the vantage point, in the next image the person was facing it. When the design called for two persons and a user mix of 40% joggers, 40% bikers, 20% walkers, one jogger and one biker was displayed; for a user mix of 50% joggers, 10% bikers and

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40% walkers, one jogger and one walker was depicted. Finally, situations of low use levels (i.e. images with none, one or two persons) were presented less frequently, because these situations were not conducive to all possible combinations with other variables. In the analysis, the impossible combinations of zero people in the image and all other attributes were set to zero.

For the analysis, all attributes except the crowding variable, were effects coded (Louviere et al., 2000), where an N-categorical variable needs to be defined by N-1 estimates only. Consequently, for all attributes one level is defined as the negative sum of the other level estimates, and these base levels do not contain any reference to a standard error or t-ratio. Effects coding guarantees independence of all variables from the intercept, and the estimates indicate the magnitude of difference of the respective attribute level from the mean for that attribute (Louviere et al., 2000). The attribute "number of persons" was transformed into a continuous variable with a linear and squared term using centered orthogonal polynomial coding (Louviere et al., 2000; Montgomery, 2001), fitting the eight parameter coefficients best and allowing the estimation of two-way interactions between user numbers and other attributes. Therefore, the estimates of a binomial logit model are all relative to each other, and should be interpreted as such. Since the model has been designed as a multivariate study with six variables from the outset, the joint interpretation of all variables is possible. This data analysis was undertaken in LIMDEP 7.0 (Green, 1998). A significance level of $p < .05$ was chosen.

Results

Visitor Characteristics

Respondents consisted of an equal mix of women and men, and 53% were between 31 and 60 years of age. The majority of visitors interviewed were walkers (63%) and dog walkers (25%), whereas only 6% were joggers and 4% were bikers. More than half of the visitors live within a 15-minute walking distance to the forest, and nearly all visitors reside in Vienna. One quarter of the respondents visits the forest daily in summer and a further 52% at least once a week. About 13% of the interviewees perceived the forest as overcrowded on weekends and on holidays, and a further 49% reported crowded or slightly crowded perceptions; on work days, in contrast, use levels were reported as too high by only 0.4% of respondents.

Intended Displacement

Table 1 presents the binomial logit parameter coefficients and standard errors for the main effects as well as select interactions between user numbers and other attributes, which were significant at the $p < .05$ level. Only interactions between the number of people and the other variables were estimable, because the variable number of people was coded as a linear and quadratic parameter, which provided the degrees of freedom to estimate

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these interactions. In the main effects only model (not shown here), all effects except the direction of movement were significant at the $p < .05$ level. When adding all interactions between the number of users and the respective other attributes, only two main effects remained significant, but each attribute had at least one significant interaction parameter. Therefore, for the final model all main effects, but only the significant interaction estimates, were retained. The log likelihood ratio test between this final model and the main effects only model (Louviere et al., 2000, p. 53) showed a significant improvement of fit for this latter model (last row of Table 1). The rho-square statistic of .68 indicates an excellent fit for the model, although leading authorities in choice modeling clarify that while the rho square statistic is statistically analogous to the R^2 in a multiple regression, it cannot be interpreted as such (Train, 2003, p. 72).

The high positive intercept indicates that the majority of the recreational scenarios were deemed as not contributing to displacement by a majority of respondents. We purposely do not express this share in terms of percent of the total sample during our initial discussion of the individual results, because of the relative nature of this observation as a function of the other variables, as will be discussed below. The utility curve for number of people depicted in the images reflects an increasingly negative slope after two persons all the way to 12 persons per scene (Figure 2). None of the main effects of the attribute "placement of people within the image" was significant in the model. However, the significant interactions implied that at high-use levels people in the foreground contributed much more negatively to the evaluation of an image than at low-use levels. When only one person was displayed in the background, the evaluation also resulted in a negative coefficient, hinting towards a negative evaluation of undercrowded situations.

A situation with no dogs resulted in the highest positive part-worth utilities of that attribute, and unleashed dogs were evaluated as the worst attribute level. Single individuals contributed to intended displacement significantly more than larger groups. The attribute "user type" also had no significant main effect; however, the interactions revealed that the more people an image contained, the more respondents expressed intentions to displace under the most diverse mixes of users (20% walkers, 40% bicyclists, 40% joggers), while scenes with high proportions of walkers received the most positive evaluation. At low-use levels, joggers were evaluated negatively compared to mid-use levels. Similarly, none of the main effects of the attribute "direction of movement" had an influence, but the interactions were significant. The level with more users walking, cycling or jogging away from the vantage point was evaluated more positively at high-use levels, whereas the direction of facing the observer was evaluated correspondingly more negatively.

The statistical nature of the binary logit model, and the assumption that utilities are integrated additively in the exponents, makes the model compensatory. Therefore, the part-worth utilities can be used to calculate the proportion of respondents with displacement intentions for any specific com-

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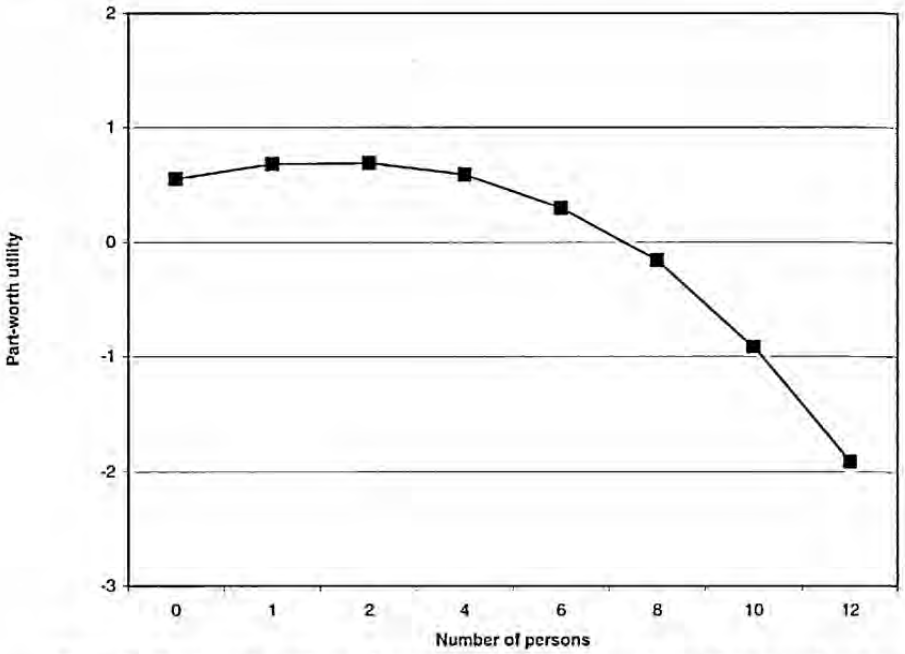

Figure 2. Part-worth utilities of respondents' intentions to displace as a function of the number of persons in the images.

bination of variables, by substituting the estimates into Equation (2). Results for six such scenarios are graphed in Figure 3, where the number of users in the image are shown on the x-axis, and the proportion of users with intended displacement on the y-axis. The scenarios consist of different combinations of the other five attributes and one can plot the proportion of respondents with displacement intentions for each of these scenarios as a function of the number of users shown in the image. These scenarios were simply chosen for the purpose of documenting the huge discrepancies that may be associated with different combinations of the six social factors, affecting displacement behavior by varying magnitudes. Scenario 1 assumes a rather simple situation with a homogenous user mix (80% hikers) placed mostly in the foreground of the image, predominantly single users, an equal direction of movement by users, and leashed dogs. Scenario 2 introduces a more diverse user mix, equally distributed along the trail with dogs still being leashed, and couples and a low proportion of people facing the observers. Relative to Scenario 1, in Scenario 2 the proportion of users with intentions to displace actually drops slightly between four and ten users in the scene. Scenario 3 depicts mostly single users, who are predominantly placed in the foreground, without dogs and an equal share of direction of movement.

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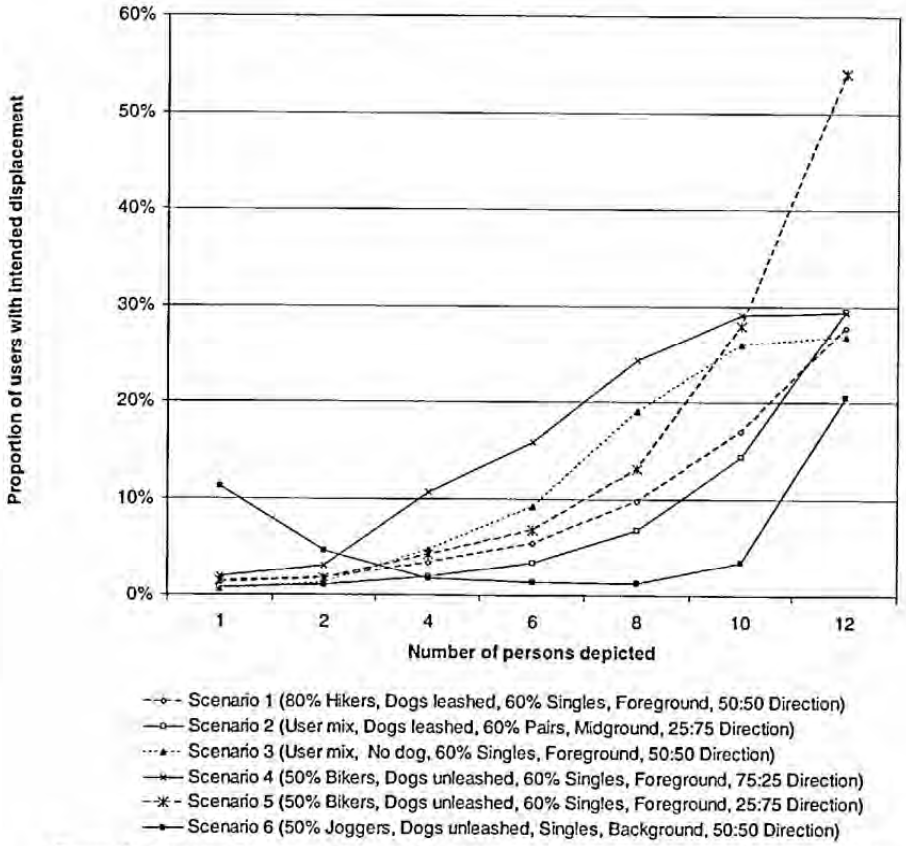

Figure 3. Share of respondents with intended displacement as a function of the number of persons in image for six select scenarios.

Compared to Scenario 2, the share of respondents with intended displacement rises, especially when 6 to 10 people are present. Scenario 4 contains mainly single cyclists in the foreground and this scenario also adds unleashed dogs and a low proportion of people facing the observers, further increasing the shares of visitors with intended displacement. Overall it is noteworthy that for these first four scenarios the proportion of respondents with intended displacement are uniformly low (below 3%) for one and two persons in the image, and uniformly high (between 27% and 30%) at 12 persons in an image. However, the shapes of the displacement curves differ for each scenario, potentially leading to huge differences between four and ten people in a scene. The properties of Scenario 5 are identical to Scenario 4 on all attributes except for direction of movement (predominantly towards the observer). It represents an extremely intolerable situation at very high-use

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times (12 individuals in the image) when 54% of respondents would displace. Scenario 6 contains the highest share of joggers, and users were shown predominantly as singles and placed into the background. This scenario leads to a high level of intended displacement at both low and high user numbers. These few examples should suffice to document that intended displacement indeed depend on additional circumstantial characteristics.

Discussion

The results of the analysis of these images containing six social variables controlled by an experimental design document clearly that several variables in addition to visitor numbers affect the park visitors' intentions to displace. Furthermore, several of these variables are also affected by the magnitude of other social variables, which is reflected in the significant interactions between use levels and other attributes. The fact that these subtleties of behavior are recognized in the data analysis seems to reflect the high quality of the responses to these digitally calibrated images.

When interpreting in the following the part-worth utilities of each of these variables it is important to keep in mind that the nature of fractional factorial design keeps the estimates of each of the variables independent of the others. The crowding curve by itself (number of people in scene, Figure 2) shows that once use levels increase to six or more people, the likelihood to displace increases rapidly due to the combined effect of a significant negative linear and quadratic estimate. Similar to other studies in different environments (Hall & Shelby, 2000; Kuentzel & Heberlein, 1992; Robertson & Regula, 1994; Shelby et al., 1988), crowding was found to be a crucial factor of displacement in an urban forest. However, its exact contribution to displacement and absolute magnitude depends on the situation characterized by the five other social factors included in the model.

The position of people in the images did not matter per se (as a main effect), but it matters under high use conditions, when people placed mostly into the foreground of the image are judged more negatively, indicating that respondents may be very susceptive if they are with many others in close distance. On the other hand, a situation of very few people in the background also contributed to displacement. Maybe concerns about personal safety and low levels of social stimuli evoke minimum capacities for some respondents given a situation with very few visitors on-site in the park (see Luymes & Tamminga, 1995). Displacement by undercrowding is a rather neglected area of research with potentially important implications for urban recreation (Kaplan & Kaplan, 1982).

The presence of unleashed dogs, representing a variable of inappropriate behavior, is another factor increasing intentions to displace, regardless of use levels. The negative evaluation of unleashed dogs is understandable, because dogs are not always under control. In the forest itself, there is a high actual share of dog walkers present: more than 16 % of all park users counted by the one-year observation walked dogs, and at 22% the rate of

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keeping them on leash was very low (Arnberger, 2003). Therefore, situations with no dogs will entice respondents to continue using the trail, while leashed dogs were regarded as neither contributing to displacement nor keeping users on the trail.

Another variable affecting visitor behavior was group size, which defined a group simply as individuals walking side by side. Surprisingly, bigger group sizes contribute less to displacement intentions compared to single persons. Initially we had assumed that the behavior of walking side by side, which narrows the trail for other passing users, would be judged as less tolerable by park users, in particular at high-use times. This result about group size also contrasts findings by Manning and Valliere (2001) who found that large visitor groups blocking recreation trails would lead to displacement by local residents. Similarly, Roggenbuck, Williams and Watson (1993) and Stankey (1973) found in their research about crowding perceptions that group sizes with more than six persons were less preferred by hikers. However, research by these authors was focused on remote areas, and the discrepancy in the definition of group sizes makes any direct comparison between the studies difficult. One can assume that at least in situations of up to three persons per group, bigger groups imply fewer social contacts in total and seem to produce a more ordered situation that requires less attention compared to situations with high shares of singles, where each individual can display different behavior patterns (Baum & Paulus, 1991). In contrast, one single person in the image contributes significantly to displacement behavior. Investigating more specific reasons for this observation, whether it is the fear of one single person, especially if the person is male, or the lack of entertainment due to too few social contacts should be the focus of future research.

The interactions between user type and the number of persons reveal that the more people an image contains, the less tolerant respondents become about a mixed use situation, especially with a high share of faster moving users such as bicyclists and joggers, while the most homogeneous condition with high shares of slow moving users (80% walkers) received the most positive evaluation. The concurrent presence of several activities pursued with different speeds results in different user behaviors and may contribute to displacement due to the more heterogeneous and unpredictable trail situation, which may also lead to user conflicts; the high share of walkers among respondents in this study might have contributed to this trend. In particular, a situation with one single jogger contributed to use displacement. Similar responses in low-use situations can be evoked by displaying one walker or one biker in the background. These responses may document concerns about personal safety by some respondents due to the lone situation; alternatively, other respondents might be displeased because the low-use situation provides insufficient stimulation and entertainment.

Finally, the evaluations of these recreation scenarios worsen even more when the direction of movement is towards the observers at high-use levels; respondents may dislike to be confronted with many fleeting social contacts, and prefer to walk behind others. So far, the direction of movement has not

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been researched extensively in recreation research (Fredman & Hörnsten, 2001), and the evaluation of this factor as a function of use levels brought new insights.

Consequently, when the number of visitors encountered exceeds more than six people, and the situation is at the same time characterized by inappropriate visitor behavior, i.e. unleashed dogs, high shares of individuals, people situated in the foreground, more face to face encounters, a mix of user types moving at different speeds, or any combination between them, the cognitive complexity of the rather heterogeneous situation and the chance for user conflicts increases, and intentions to displace increase even faster.

These insights can be documented in a more holistic and meaningful way in a scenario analysis, in which combinations of attributes can be compared for their respective likelihood of displacement. Especially due to the significance of several interaction effects these scenarios improve the ease of interpretation, and also make cumulative effects more apparent. The overall pattern of the scenarios in Figure 3 shows that at very low user counts, the other social variables remain without major influence on the propensity to displace in most cases, except in Scenario 6, where a remarkable share of respondents expressed intentions to displace because of one single person, in particular one jogger, placed in the background. On the other extreme, when the number of users reaches peak numbers as is usual for a Sunday afternoon in spring (i.e. the 12 people in the scene correspond with the absolute peak number of visitors as determined from long-term video observations), then several different scenarios will quickly prompt approximately 30% of respondents to displace, and extreme scenarios exist for which the model predicts over 50% displacement (Scenario 5).

Interesting variations between the scenarios occur for the variable number of people in between those extremes. Scenarios 1 and 2 exceed the 10% tolerance mark only for more than eight and nine individuals in the image respectively, while Scenario 3 reaches that same threshold already at six people, and Scenario 4 below four people. Despite the fact that Scenarios 1 to 4 had similar starting points (at 1 person per image) and end points (at 12 persons per image), the shapes of these curves are rather different, and would lead to rather disparate interpretations of displacement. This shows that intentions to displace appear to be affected by several variables and especially by the interactions among those variables. These variations in use displacement intentions should have implications for future research on displacement as well as park management.

Conclusions

This study started from the premise that classical displacement research, with its univariate focus on the number of people or user conflicts in a recreation area, might be too constrained a focus, which does not do justice to the true complexities of urban trail use. It was proposed that other salient

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variables influence the evaluation of trail use, and therefore, the study adopted a visual-based dichotomous choice survey, in which six variables characterizing typical social trail use conditions were depicted in each digitally calibrated image. The results suggest strongly that intended displacement depends on several factors as well as their interactions and that user numbers, visitor behavior or user conflicts used as sole variables of investigation are insufficient indicators for exploring displacement for urban trail uses.

The technique of digitally calibrated images, which allows for the visualization of several variables by strictly following a fractional factorial design plan, has been crucial in achieving the high quality of data collected here, which permitted the investigation of the role of social factors and their relationship among each other in dependence of the other factors in a controlled manner. In appreciation of the technique it must be emphasized that respondents evaluated these complex images without any additional written descriptions. Therefore, the fact that all six variables emerged as statistically significant proves their influence on use displacement, and also shows the applicability of the research method to a dense multi-use urban recreation setting. The fact that several interactions between the number of users in the image and other social factors also were significant and actually instrumental for making the model much more interpretable enhances the relevance of this approach even more. Apparently, respondents managed to process this complex visual information consistently and systematically.

The predictive capacity of the binomial logit model can be potentially used to explore the likely effects of different scenarios, which may represent different, yet nevertheless feasible management options (Figure 3). If the management goal is to increase social carrying capacity of the trail, this study has documented that it seems to be possible to influence carrying capacity in several ways, as the dynamic relationships between six social factors significantly influence visitors' decisions in a compensatory manner. Consequently, controversial management measures such as limiting use, which may be unacceptable in an urban setting can be avoided and substituted by other, more acceptable, management actions such as influencing visitor behavior or user composition.

However, before deriving any management implications and policy inferences, further research should investigate whether some features in the images such as the identification of user types placed in the background had an influence on responses. Maybe some respondents were not able to differentiate between walkers and joggers when placed in the background. One additional challenge when using digitally calibrated images is that pictorial representations inevitably contain clues in addition to the design variables which can also affect the evaluations. Some of these additional stimuli could be categorized and added as non-orthogonal variables to the analysis. In our study, one example for such an "uncontrolled" additional variable might be the kind of persons (i.e. gender) displayed. Some of these relationships could be detected using additional interactions between all these variables,

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In addition, displacement behavior might be more accurately addressed with a systematic survey in the residential areas as another source of information for inter-area displacement within an urban system.

Future research should also investigate the relationships between perceptions of crowding and the intentions to displace based on such visual stimuli for which no other studies exist. Similarly, the relationship between intentions to displace and actual and revealed displacement behavior would require a much more detailed investigation. Using the same images, Arnberger and Haider (2005) found that crowding-averse respondents preferred low-use levels, homogeneous trail use conditions and people placed in the background, whereas crowding-tolerant respondents preferred a certain

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Adaptive Management Ideas – GOGA Dog Mgmt. Plan/EIS

- General monitoring vs. monitoring for specific areas?
- Sampling protocol and storage of data and evaluation
- Boulder plan monitors for: (see p. 9 of their plan)
    - visitor access
    - safety and conflict
    - resource protection
    - dog management
    - education (including Leave No Trace message)
- Other ideas
    - erosion / social trails
    - poop
    - compliance with rules (see Boulder's survey program)
    - TAG program participation
    - wildlife: Birds / other T & E / other sensitive species
    - visitor experience and visitor safety / variety of use / attacks

Adaptive Management																				
		Locations																		
Issues and Impact Topics	**Mori Point**	**Milagra Ridge**	**Sweeny Ridge/Cattle Hill**	**Pedro Point Headlands**	**Stinson Parking Lots/Picnic Areas**	**Homestead Valley**	**Fort Baker**	**Alta Ave. Fire Road**	**Oakwood Valley**	**Muir Beach**	**Marin Trails**	**Baker Beach**	**Fort Miley**	**Crissy Field**	**Ocean Beach North of Stairwell #21/South of Sloat Blvd.**	**Fort Funston**	**Tennessee Valley**	**Rodeo Lagoon**	**Rodeo Beach**	**Fort Mason Parade Grounds**
1. Vegetation - trampling and disturbance		X	X - both sites	X			X		X		X	X				X				
2. Species of Concern (T&E Species):																				
Western Snowy Plover															X					
Bank Swallow Colony																				
Mission Blue Butterfly		X	X				X	X	X		X									
Red-legged Frog/S F Garter Snake	X	X	X - Cattle Hill	X						X?	X						X?			
Tidewater Goby																		X		
Salmonids					X	X	X											X		
3. Visitor Experience - including recreational and aesthetic resources; disturbance	X							X		X		X		X	X	X			X	X
4. Cultural Resources - erosion of earthworks							X						X			X				
5. Shorebird Concentrations										X; 0 7/km		X; 4/km			X; 7-26/km	X; 9/km				
Note: Sites already controlled by fencing or desginated protection not listed in this table																				

GGNRA DOG MANAGEMENT PLAN
ADAPTIVE MANAGEMENT STRATEGIES
PRELIMINARY DRAFT

PURPOSE

Adaptive Management is a tool developed to address

ADAPTIVE MANAGEMENT

OVERVIEW OF ADAPTIVE MANAGEMENT FRAMEWORK

PROBLEM STATEMENT AND DESIRED CONDITIONS

Resource	Problem Statement	Desired Condition
Snowy Plovers	Dogs off leash, and dogs on leash with walkers intruding into areas used by wintering and non-breeding Western Snowy Plovers cause disturbance to resting and feeding Western Snowy Plovers by chasing or otherwise causing birds to flee. The repeated energy loss can result in birds of poor physical condition which affects ability to survive and breed. Localities of concern are primarily at Crissy Field and Ocean Beach Units of GGNRA but other sand beaches and dune areas of GGNRA could have disturbance issues on occasion.	Western Snowy plovers protection areas would provide suitable habitat for non-breeding birds from May 16 to June 30 every year. This type of disturbance would be minimized in identified protection areas.
Bank Swallows	Dogs off leash intruding into areas used by nesting Bank Swallow cause disturbance by chasing or otherwise causing birds to flee away from their nesting colony, interrupting feeding of young, etc. There is a second source of disturbance from visitors trying to climb the sand cliffs from the beach. The repeated energy loss affects ability to successfully rear young, and compromises the health of adults resulting in the inability to breed successfully. Health and condition would also impact the entire colony's ability to migrate to their winter range.	Disturbance of bank swallows caused by dogs and visitors at the sand cliffs at Fort Funston, and other areas important for bank swallows should they be identified, would be kept to minimal levels to protect the bank swallow colony.
Mission Blue Butterfly	Dogs off leash, and dogs on leash with walkers intruding into areas of intact coastal shrub habitat, in areas off designated trails. Off trail activity degrades and fragments the habitat, trampling plants and denuding vegetated areas.	Off trail areas would be protected from human activity to allow the coastal shrub habitat to flourish and to protect habitat for Mission blue butterfly.
Visitor Experience	Conflicts between dogs walked off leash and other visitors can be particularly intense along the beach areas of the park, as this area attracts large numbers of visitors, both with and without dogs, on weekends and during the summer or on warm days. Because the GGNRA manages much of the	GGNRA provides a range of natural, historic, and developed settings and is able to accommodate a large variety of visitor experiences. Visitors would be able to enjoy their experience at GGNRA without

Comment [MBE1]: ADD IN MANAGEMENT PRINCIPLES FROM RISK CRITERIA SPREADSHEET

Comment [MBE2]: How does this differ from a standard?

	publicly accessible San Francisco Bay and ocean coastal lands in the region, park personnel have stated that the increased numbers of visitors and resulting conflicts among them are of great concern. Walkers, hikers, joggers, bikers, horseback riders, wildlife watchers, and those seeking a quiet and natural experience are all potentially disturbed by running, barking dogs—particularly by those that chase or harass people or wildlife. Dogs can also indirectly affect visitors by leaving waste on beaches, on trails, or near the park's aquatic resources. Although signs indicate that owners are responsible for removing pet waste, this rule is not always followed. Dog waste can have an adverse impact on visitors, resources, and the safety of park staff tasked with cleaning up after irresponsible owners.	being negatively affected by the activity of other visitors' dogs.
Public Health and Safety	Injuries to visitors from dogs jumping on them, chasing them, or harassing them, or biting them are a serious concern as are injuries to rangers who rescue dogs or dog owners. In the year 2000, for example, 15 dogs and two dog owners were rescued from the cliffs at Fort Funston (NPS 2001c). Two ranger injuries were reported in the course of these rescues. If dogs had been leashed, these rescues would not have been needed. Visitors have reported being jumped on and knocked down by unrestrained dogs. Park police have received reports from visitors of dogs knocking down visitors resulting in physical injury (scrapes, broken ankle, etc). The park has had complaints from people who are so frightened of off-leash	Visitors to GGNRA and park staff would have a safe experience and not experience bodily injury as a result of an encounter with dogs. The health of visitors and staff would not be affected by dog feces in park areas.

	dogs that they avoid visiting the park entirely or visit only when least likely to encounter dogs. Even dogs on leashes can be frightening to some people, such as joggers or other dog walkers, when dogs bark or strain at the leash. With the number of dogs in the park, dog feces left behind is an unpleasant experience and a potential health hazard.	
Cultural Resources	????	

INDICATORS AND STANDARDS

A major premise of this adaptive management plan is that desired conditions can be translated into measurable indicators and standards. Indicators and standards reflect desired conditions and enable park management to determine whether desired conditions are being realized. "Indicators", which are measurable variables, are determined first; "standards" are the acceptable measurements (i.e., values) for that indicator. Standards should be quantitative, measurable where possible.

The table below presents example indicators and standards for dog management. These data are included for information purposes only and do not reflect approved indicators and standards.

Resource	Indicator	Standards
Snowy Plovers	Number of disturbances of snowy plovers caused by dogs	No more than x disturbances per monitoring period.
Bank Swallows	Number of disturbances of bank swallows caused by dogs.	No more than x disturbances per monitoring period.
Mission Blue Butterfly	The amount of bare ground in coastal shrub habitat.	No more than x% of a xxx sq ft area shall be composed of bare ground as compared to a similar natural area.
Visitor Experience	1. Number of complaints filed with the park 2.	1. The number of complaints is at a level visitors would find tolerable (e.g. an average of no more than x per month).
Public Health and Safety	Number of dog-related injury complaints filed with the park.	The number of dog-related injury complaints is at a level visitors would find tolerable (e.g. an average of no more than x per month).
Cultural Resources		

Comment [EE3]: At this time we have no baseline data for any of these resources to use to develop standards The first action should be to develop baseline data on which to base standards

MONITORING

Monitoring is intended to test the success and efficacy of management actions implemented by the Dog Management Plan. The specific objectives of monitoring are to

1. reduce the uncertainty of current conditions by gathering additional data where data are lacking
2. develop and refine protocols for collecting data that are cost effective, efficient, and explicitly linked to management actions.
3. develop thresholds/criteria for data evaluation that will facilitate the adaptive management process.

Detailed monitoring protocols would be developed for each standard to ensure accurate, valid data. Monitoring would begin as soon as a standard is selected and a monitoring protocol is developed.

MANAGEMENT ACTIONS

If monitoring revealed that a standard associated with an indicator was being violated, then desired conditions would not be realized and management action would be initiated. Management actions could determine that the violation was caused by natural variation and that the standard needed to be adjusted, or a new indicator and standard selected to better reflect desired conditions. Actions to manage or limit impacts from dogs in GGNRA would be implemented when the standard was violated due to impacts associated with dogs in GGNRA. Management could include the following (this list is subject to revision):

1. Enforcement of regulations (e.g., patrols, notifications, citations)
2. Education (e.g., information signs and exhibits, interpretive programs, visitor center exhibits, brochures and fliers, public meetings, meetings with user groups)
3. Site management (e.g., barriers, area closure, redirection of visitors with dogs to suitable sites)
4. Regulation (increase the level of restriction for dog use in the area)

Management actions would comply with the requirements of NEPA, NHPA and other applicable legislation.

ADAPTIVE MANAGEMENT PHASING PLAN (if applicable at GGNRA?)

What Adaptive Management is Not

2003 GDUI GUIDE DOG INTERFERENCE/ATTACK SURVEY RESULTS
November 2003

Principal Investigators:
Ginger Bennett Kutsch and Jon Steuerwalt
Guide Dog Users, Inc. Special Task Force on Guide Dog Protection

BACKGROUND

In 2003, Guide Dog Users, Inc. (GDUI) appointed a special task force to investigate the growing concern related to attacks and interference against guide dog teams by loose or uncontrolled dogs. The task force conducted a survey of GDUI members and other dog guide handlers in order to explore the extent of interference and dog attacks on guide dog teams as well as the impact that such attacks have on both the blind handler and the guide dog.

METHOD

The GDUI Task Force designed a 40-question interview related to dog guide handlers' experiences with, and attitudes about, interference or attacks by uncontrolled dogs. For the purpose of the survey, the term “interference” was defined as "any interaction between the guide dog team and a loose or uncontrolled dog that interfered with the team’s ability to travel freely and safely". The definition did not include interactions where a guide dog was physically harmed by the loose or uncontrolled dog or where the interaction was initiated by the guide dog. The term "attack" was defined as "an intentional bite by a loose or uncontrolled dog, or direct aggression that caused harm to the guide dog and/or the handler".

Survey respondents were all guide dog handlers who were attending the annual national convention of the American Council of the Blind (ACB) held in Pittsburgh, PA during July 5 through July 9, 2003. Of the 197 guide dog handlers who were in attendance at the ACB convention, 119 (60.4%) participated in the survey.

Six sighted volunteers conducted the survey. Each volunteer read the survey questions to an individual guide dog handler and recorded the answer to each question onto a separate answer sheet.

Key Findings

- 42% of all respondents reported having experienced an attack(s) by a loose or uncontrolled dog
- 74% of attacks occurred on public property such as a sidewalk or side of the road.
- 89% of all respondents reported having experienced interference by a loose or uncontrolled dog.
- 90% experienced interference on public property such as a sidewalk or the side of a road.

- 74% experienced interference by a dog that was leashed but inadequately controlled
- 51% experienced interference by the same dog more than once
- The average cost of an attack or interference was $440.00.

2003 GUIDE DOG USERS, INC. QUESTIONNAIRE & RESULTS
SECTION 1 - INTERFERENCE

1. Have you and your dog guide ever experienced interference by a loose or uncontrolled dog?
Yes 106 (89.1% of all respondents)

2. If yes, how many times in the last 6 months have you and your dog experienced interference?
Respondents who indicated one or more incidents in prior 6 months: 90 (75.6% of all respondents)
Range of incidents in prior 6 months experienced by those respondents who reported at least one incident: low=1, high=90
Average number of incidents in prior 6 months months experienced by those respondents who reported at least one incident: 7.9

3. Have you and your dog ever experienced interference by the same dog more than once?
Yes: 54 (50.9% of all who have experienced interference)

4. Have you and your dog ever experienced interference by a dog that was leashed but inadequately controlled?
Yes: 78 (73.6% of all who have experienced interference)

5. Have you and your dog ever experienced interference while traveling on a public right of way such as a sidewalk or a side of the road?
Yes: 95 (89.6% of all who have experienced interference)

6. Do you ever plan alternate routes to avoid known dogs?
Yes: 50 (47.2% of all who have experienced interference)

7. As a result of interference, my dog exhibited the following behavior (Please choose all that apply):
a. fearful of other dogs: 19 (17.9% of all who have experienced interference)
b. fearful of traveling in the location where the incident occurred: 28 (26.4% of all who have experienced interference)
c. aggressive toward other dogs: 25 (23.6% of all who have experienced interference)
d. other: 24 (22.6% of all who have experienced interference)
e. no behavior changes: 36 (40.0% of all who have experienced interference)

8. Have you ever needed to work with a guide dog trainer to “retrain” your dog after problems with interference?
Yes: 19 (17.9% of all who have experienced interference)

9. As a direct result of interfering dogs, did you have to retire your dog?
Yes: 4 (3.8% of all who have experienced interference)

10. During an episode of interference, did you ever feel that your health or safety was at risk due to the interference?
Yes: 67 (63.2% of all who have experienced interference)

11. To what extent do you fear incidents of interference by a loose or uncontrolled dog? (Please choose one.)
a. minor concern but does not effect my behavior: 41 (38.7% of all who have experienced interference)
b. moderate concern such as planning safer routes away from known dogs: 48 (45.3% of all who have experienced interference)
c. major concern such as limiting travel in order to avoid known dogs: 11 (10.4% of all who have experienced interference)
d. other: 4 (3.8% of all who have experienced interference)
e. none: 2 (1.9% of all who have experienced interference)

SECTION 2 - DOG ATTACKS

12. Have you and your dog guide ever been attacked by a loose or uncontrolled dog?
Yes: 50 (42.0% of all who respondents)

13. If yes, how many times in the past 3 years have you and your dog experienced a dog attack?
Respondents who indicated one or more attacks in prior 3 years: 38 (31.9% of all respondents)
Range of attacks in prior 3 years experienced by those respondents who reported at least one attack: low=1, high=6
Average number of attacks in prior 3 years experienced by those respondents who reported at least one attack: 1.9

14. Have you and your dog ever been attacked by the same dog more than once?
Yes: 11 (22.0% of all who have experienced attack)

15. Have you and your dog ever been attacked by a dog that was leashed but inadequately controlled?
Yes: 25 (50.0% of all who have experienced attack)

16. Have you and your dog ever been attacked while traveling on a public right of way such as a sidewalk or the side of a road?
Yes: 37 (74.0% of all who have experienced attack)

17. Do you ever plan alternate routes to avoid known dogs?
Yes: 24 (48.0% of all who have experienced attack)

18. Please choose the word that best describes the extent of your dog's physical injuries after an attack. (Please choose one.)

a. mild: 19 (38.0% of all who have experienced attack)
moderate: 14 (28.0% of all who have experienced attack)
severe: 4 (8.0% of all who have experienced attack)
d. none: 13 (26.0% of all who have experienced attack)

19. As a direct result of an attack, my dog exhibited the following behavior:
(Please choose all that apply):
a. fearful of other dogs: 20 (40.0% of all who have experienced attack)
b. fearful of traveling in the location where the incident occurred: 22 (44.0% of all who have experienced attack)
c. aggressive toward other dogs: 17 (34.0% of all who have experienced attack)
d. other: 7 (14.0% of all who have experienced attack)
e. no behavior changes: 9 (18.0% of all who have experienced attack)

20. As a direct result of an attack, did you have to work with a guide dog trainer to "retrain" your dog?
Yes: 17 (34.0% of all who have experienced attack)

21. As a direct result of an attack, was your dog temporarily or permanently disabled?
Yes: 11 (22.0% of all who have experienced attack)

22. As a direct result of an attack, did you have to retire your dog?
Yes: 3 (6.0% of all who have experienced attack)

23. During an episode of a dog attack, did you ever feel that your health or safety was at risk due to the attack?
Yes: 29 (58.0% of all who have experienced attack)

24. Please choose the word that best describes the extent of your own physical injuries resulting from an attack. (Please choose one.)
a. mild: 12 (24.0% of all who have experienced attack)
b. moderate: 5 (10.0% of all who have experienced attack)
c. severe: 1 (2.0% of all who have experienced attack)
d. none: 31 (62.0% of all who have experienced attack)

25. To what extent do you fear subsequent attacks by a loose or uncontrolled dog?
(Please choose one.)
a. minor concern but does not affect my behavior: 14 (28.0% of all who have experienced attack)
b. moderate concern such as planning safer routes away from known dogs: 21 (42.0% of all who have experienced attack)
c. major concern such as limiting travel in order to avoid loose or uncontrolled dogs: 12 (24.0% of all who have experienced attack)
d. other: 1 (2.0% of all who have experienced attack)
e. none: 2 (4.0% of all who have experienced attack)

SECTION 3 - COSTS RESULTING FROM INTERFERENCE AND DOG ATTACKS

Note: Of 119 respondents, 108 (90.8%) experienced either interference, attack or both.

26. Did you have new or additional expenses as a result of the interference/attack(s)?
Yes: 25 (23.1% of all respondents who reported an interference or attack)

27. What types of new or additional expenses resulted from the interference/attack(s)? (Please choose all that apply.)
a. Veterinary services: 16 (64.0% of respondents who had additional expenses)
b. Medication (for your guide dog): 9 (36.0% of respondents who had additional expenses)
c. Medical Services (for you): 9 (36.0% of respondents who had additional expenses)
d. Medication (for you): 5 (20.0% of respondents who had additional expenses)
e. Replacement/repair of personal property: 1 (4.0% of respondents who had additional expenses)
f. Lost wages: 2 (8.0% of respondents who had additional expenses)
g. Transportation: 10 (40% of respondents who had additional expenses)
h. other: 6 (24.0% of respondents who had additional expenses)

28. Average dollar amount of each category of additional expenditure for each respondent who indicated any additional expenditure)
a. Veterinary services: $138.24
b. Medication (for your dog guide): $110.84
c. Medical services (for you): $21.08
d. Medication (for you): $5.84
e. Replacement/repair of personal property: $1.00
f. Lost wages: $12.00
g. Transportation: $32.72
h. Other: $37.32
Average dollar amount of additional expenditure for each respondent who indicated any additional expenditure: $359.04
Average dollar amount of additional expenditure for each respondent who experienced either interference or attack: $83.11

29. Please identify any other negative impacts or consequences - monetary or otherwise - that resulted directly from the interference/attack which are not adequately covered in the preceding questions and answers:
Number of respondents who indicated having experienced some other type of negative consequence of interference or attack: 21

SECTION 4 - FEELINGS/ATTITUDES ABOUT INTERFERENCE AND DOG ATTACKS

30. Dog interference and attacks jeopardize my ability to move safely through the environment
a. Strongly Agree: 69 (63.9% of respondents)
b. Somewhat Agree: 38 (35.2% of respondents)
c. Undecided: 1 (o,9% of respondents)
d. Somewhat Disagree: 6 (5.6% of respondents)
e. Strongly Disagree: 4 (3.7% of respondents)

31. Dog interference and attacks jeopardize my right to travel freely on routes of my choice.
a. Strongly Agree: 97 (82.9% of respondents)
b. Somewhat Agree: 15 (12.8% of respondents)
c. Undecided: 5 (4.3% of respondents)
d. Somewhat Disagree: 12 (10.3% of respondents)
e. Strongly Disagree: 3 (2.6% of respondents)

32. Dog interference and attacks jeopardize the ability of my dog guide to safely and effectively perform its duties.
a. Strongly Agree: 107 (90.7% of respondents)
b. Somewhat Agree: 9 (7.6% of respondents)
c. Undecided: 2 (1.7% of respondents)
d. Somewhat Disagree: 5 4.2% of respondents)
e. Strongly Disagree: 4

33. Loose or uncontrolled dogs pose one of the most dangerous situations for guide dog teams in today's environment.
a. Strongly Agree: 113 (95.8% of respondents)
b. Somewhat Agree: 4 (3.4% of respondents)
c. Undecided: 1 (0.8% of respondents)
d. Somewhat Disagree: 2 (1.7% of respondents)
e. Strongly Disagree: 2 (1.7% of respondents)

SECTION 5 - DEMOGRAPHICS

34. Your age:
Average age of respondents: 46.3
Age range of respondents: low=21, high=72

35. Your gender:
Male: 31 (26.1% of all respondents)
Female: 88 (73.9% of all respondents)

36. Your dog's age:
Average age of guide dog: 5.0
Age range of respondents: low=2, high=11.5

37. Your dog's gender:
Male: 56 (% of all respondents)
Female: 62 (% of all respondents)

38. I live in the following area:
Rural: 12 (10.1% of all respondents)
Suburban: 53 (44.5% of all respondents)
Urban: 54 (45.4% of all respondents)

39. I typically travel in the following area.
Rural: 3 (4.1% of all respondents)
Suburban: 28 (37.8% of all respondents)
Urban: 43 (58.1% of all respondents)

40. What state do you live in:
Respondents reside in 33 states, the District of Columbia and 3 different Canadian cities.

GGNRA DOG MANAGEMENT PLAN
ADAPTIVE MANAGEMENT STRATEGIES
PRELIMINARY DRAFT

PURPOSE

Adaptive Management is a tool developed to address uncertainties associated with proposed actions. ~~In this instance, NPS is considering a new rule for dog management within Golden Gate National Recreation Area.~~ The intent is to protect resources while allowing an accepted practice where it does not cause unacceptable impacts to park resources. The purpose of the Adaptive Management Strategies is to identify resources where exact impacts are unknown, ~~or~~ difficult to assess accurately, or where the condition on the ground is fluid and requires changing management strategies, to identify the desired condition for these resources, to describe potential monitoring techniques, and to change management strategies to meet desired conditions for specific resources as necessary.

PROBLEM STATEMENT AND DESIRED CONDITIONS

Resource/Location	Problem Statement	Desired Condition
Snowy Plovers at Chrissy Field and Ocean Beach	Dogs off leash, and dogs on leash with walkers intruding into areas used by wintering and non-breeding Western Snowy Plovers cause disturbance to resting and feeding Western Snowy Plovers by chasing or otherwise causing birds to flee. The repeated energy loss can result in birds of poor physical condition which affects ability to survive and breed. Localities of concern are primarily at Crissy Field and Ocean Beach Units of GGNRA but other sand beaches and dune areas of GGNRA could have disturbance issues on occasion.	Western Snowy plovers protection areas would provide suitable habitat for non-breeding birds from May 16 to June 30 every year. This type of disturbance would be minimized in identified protection areas.
Bank Swallows at Fort Funston	Dogs off leash intruding into areas used by nesting Bank Swallow cause disturbance by chasing or otherwise causing birds to flee away from their nesting colony, interrupting feeding of young, etc. There is a second source of disturbance from visitors trying to climb the sand cliffs from the beach. The repeated energy loss affects ability to successfully rear young, and compromises the health of adults resulting in the inability to breed successfully. Health and condition would also impact the entire colony's ability to migrate to their winter range.	Disturbance of bank swallows caused by dogs and visitors at the sand cliffs at Fort Funston, and other areas important for bank swallows should they be identified, would be kept to minimal levels to protect the bank swallow colony.
Mission Blue Butterfly/Coastal Shrub Habitat at Fort Funston	Dogs off leash, and dogs on leash with walkers intruding into areas of intact coastal shrub habitat, in areas off designated trails. Off trail activity degrades and fragments the habitat, trampling plants and denuding vegetated areas.	Off trail areas would be protected from human activity to allow the coastal shrub habitat to flourish and to protect habitat for Mission blue butterfly.
Visitor Experience at San Francisco area park units	Conflicts between dogs walked off leash and other visitors can be particularly intense along the beach areas of the park, as this area attracts large numbers of visitors, both with and without dogs, on weekends and during the summer or on warm days. Because the GGNRA manages much of the	GGNRA provides a range of natural, historic, and developed settings and is able to accommodate a large variety of visitor experiences. Visitors would be able to enjoy their experience at GGNRA without

Comment [MBE1]: Should we include some Marin county sites? We did talk about having the roving monitoring team going to ALL ROLA areas and monitoring for resource and visitor conflict/safety issues

	publicly accessible San Francisco Bay and ocean coastal lands in the region, park personnel have stated that the increased numbers of visitors and resulting conflicts among them are of great concern. Walkers, hikers, joggers, bikers, horseback riders, wildlife watchers, and those seeking a quiet and natural experience are all potentially disturbed by running, barking dogs—particularly by those that chase or harass people or wildlife. Dogs can also indirectly affect visitors by leaving waste on beaches, on trails, or near the park's aquatic resources. Although signs indicate that owners are responsible for removing pet waste, this rule is not always followed. Dog waste can have an adverse impact on visitors, resources, and the safety of park staff tasked with cleaning up after irresponsible owners.	being negatively affected by the activity of other visitors' dogs.
Public Health and Safety at San Francisco area park units	Injuries to visitors from dogs jumping on them, chasing them, or harassing them, or biting them are a serious concern as are injuries to rangers who rescue dogs or dog owners. In the year 2000, for example, 15 dogs and two dog owners were rescued from the cliffs at Fort Funston (NPS 2001c). Two ranger injuries were reported in the course of these rescues. If dogs had been leashed, these rescues would not have been needed. Visitors have reported being jumped on and knocked down by unrestrained dogs. Park police have received reports from visitors of dogs knocking down visitors resulting in physical injury (scrapes, broken ankle, etc). The park has had complaints from people who are so frightened of off-leash	Visitors to GGNRA and park staff would have a safe experience and not experience bodily injury as a result of an encounter with dogs. The health of visitors and staff would not be affected by dog feces in park areas.

	dogs that they avoid visiting the park entirely or visit only when least likely to encounter dogs. Even dogs on leashes can be frightening to some people, such as joggers or other dog walkers, when dogs bark or strain at the leash. With the number of dogs in the park, dog feces left behind is an unpleasant experience and a potential health hazard.	
Cultural Resources at Fort Funston	Need to determine with park if we should monitor earthworks at Ft Funston	

Criteria to Evaluate Data

Comment [MBE2]: The criteria are your thresholds These need to be developed It goes without saying that they are based on laws and regs, but they are also

To assess the data collected, criteria would need to be developed for each resource. These criteria must be objective, based in law or regulation where possible, and easily evaluated. From the criteria thresholds would be developed that would trigger management actions. Below are some examples of laws that would be used to develop criteria to assess impacts of the preferred alternative on resources. The intent is develop criteria that match the intent of the law, regulation or policy.

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1. Endangered Species Act – the snowy plover is protected under the ESA. The ESA has clearly defined actions that are considered violations of the Act. Harassment and harm of protected species is not permitted under ESA. Monitoring could be conducted to assess if plovers were harassed or harmed as a result of the preferred alternative.
2. National Historic Preservation Act – requires that resources listed on or eligible for listing on the National Register not be adversely affected by proposed actions. Earthen works at many of the units are identified cultural resources. Monitoring of the earthworks would identify erosion or damage.
3. NPS Organic Act – requires that resources be maintained unimpaired for the enjoyment of future generations.
4. NPS Management Policies – The NPS Management Policies provide guidance for all resources, including visitor experience and public safety, and protection of resources, all of which could be suitable for development of criteria. An overarching criteria would be avoiding unacceptable impacts, which if violated could lead to impairment. Another criteria is the requirement that NPS provide the same protection to state and locally protected species as that afforded to federally protected species, where practical. Monitoring could be conducted to assess if bank swallows were harassed or harmed as a result of the preferred alternative.
5. GGNRA Mission – the mission of the park is to "preserve for public use and enjoyment certain areas …possessing outstanding natural, historic, scenic, and recreational values, and in order to provide for the maintenance of needed recreational open space necessary to urban environment and planning".

MONITORING

Monitoring is intended to test the success and efficacy of management actions implemented by the Dog Management Plan. Monitoring would be targeted to assess the effects of the preferred alternative on the specific resources identified above, to assess if desired conditions are maintained under the preferred alternative. The specific objectives of monitoring are to

1. reduce the uncertainty of current conditions by gathering additional data where data are lacking

2. develop and refine protocols for collecting data that are cost effective, efficient, and explicitly linked to management actions
3. develop thresholds/criteria for data evaluation that will facilitate the adaptive management process

Monitoring Protocols and Activities

Comment [MBE3]: NOTE TO PARK STAFF: THESE WILL BE GENERATED IN GREATER DETAIL

Detailed monitoring protocols would be developed to ensure accurate, valid data. Monitoring would begin as soon as a monitoring protocol is developed. The park will create a two-person roving monitoring team that would monitor each ROLA site on a rotating basis, evaluating and documenting lack of compliance as described below. In addition, that team will evaluate and include complaints made by the public and citations as part of the monitoring data that could lead to a management change per the adaptive management strategy.

Below are potential monitoring activities that could be used to assess impacts of dogs on park natural resources, visitor experience, and public health and safety. Monitoring activities for visitor experience and health and safety are combined as most provide insight to impacts to each:

Western Snowy Plover/Bank Swallow

Dog harassment of wildlife per ESA and ROLA definition:

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- Observations of dogs that intentionally or unintentionally annoy, pursue, hunt, harass, harm, wound, chase, attack, capture, or kill wildlife.
- ~~flushing, chasing or killing birds or other wildlife in the park (especially in protected areas) should be reported and documented.~~
- Citations resulting from disturbance or harassment of wildlife should be reported for monitoring purposes.

Visitor Experience/Public Safety and Health

- Dogs in noncompliance with the special regulation for off-leash dogwalking, 36 CFR 2.15, or the Superintendent's Compendium, in those areas subject to adaptive management.
- Dog Excrement: Incidents of dog-owners failing to remove excrement or general observations of excrement left in the park should be monitored and reported. Monitoring could be carried out as observations by park staff and a record of visitor complaints.
- Dogs that:
  - annoy, harass, or attack people, livestock, or other leashed or unleashed dogs,
  - enter leash-required or dog-prohibited areas, and/or
  - dig, destroy vegetation, or enter fenced or closed areas.

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- ~~Dogs interacting with non-guardians (jumping on, licking, pawing, chasing, biting): Observations and reports of dogs perceived as negatively interacting with visitors other than their guardians should be monitored and reported. Additionally complaints or injuries resulting from these interactions should also be reported and documented for monitoring purposes.~~

  - ~~Dogs in noncompliance with park regulations: Any dogs found to be in violation of regulations will be documented and reported. This would include off-leash dogs in on-leash only areas and on-leash or off-leash dogs in no-dog areas. Any citations or observations by park staff and visitor complaints should be reported and documented for monitoring purposes.~~

Coastal Shrub Habitat/ Mission Blue Butterfly

- Vegetation monitoring: Coastal shrub habitat vegetation should be monitored in park areas where dogs are allowed (on-leash and off-leash) and compared to control vegetation sites that are known to be rarely visited or closed to visitors. Monitoring of vegetation would focus on destruction or deterioration of plants and habitat, especially inside protected areas.

~~**Criteria to Evaluate Data**~~

~~To assess the data collected, criteria would need to be developed for each resource. These criteria must be objective, based in law or regulation where possible, and easily evaluated. Below are some examples of laws that would be used to develop criteria to assess impacts of the preferred alternative on resources. The intent is develop criteria that match the intent of the law, regulation or policy.~~

~~1.Endangered Species Act – the snowy plover is protected under the ESA. The ESA has clearly defined actions that are considered violations of the Act. Harassment and harm of protected species is not permitted under ESA. Monitoring could be conducted to assess if plovers were harassed or harmed as a result of the preferred alternative.~~

~~2.National Historic Preservation Act – requires that resources listed on or eligible for listing on the National Register not be adversely affected by proposed actions. Earthen works at many of the units are identified cultural resources. Monitoring of the earthworks would identify erosion or damage.~~

~~3.NPS Management Policies – The NPS Management Policies provide guidance for all resources, including visitor experience and public safety, and protection of resources, all of which could be suitable for development of criteria. One example is the requirement that NPS provide the same protection to state and locally protected species as that afforded to federally protected species, where practical. Monitoring could be conducted to assess if bank swallows were harassed or harmed as a result of the preferred alternative.~~

~~4.GGNRA Mission – the mission of the park is to "preserve for public use and enjoyment certain areas …possessing outstanding natural, historic, scenic, and~~

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Comment [MBE4]: This is covered in the ROLA definition above

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Comment [MBE5]: This is covered in the ROLA definition above

Comment [MBE6]: The criteria are your thresholds These need to be developed It goes without saying that they are based on laws and regs, but they are also

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~~recreational values, and in order to provide for the maintenance of needed recreational open space necessary to urban environment and planning".~~

MANAGEMENT ACTIONS

If monitoring revealed that the desired condition for a resource was not being met, a responsive management action would be initiated. Management actions could determine that the violation was caused by natural variation and that the desired condition needed to be adjusted, or a new criterion selected to better reflect desired conditions. Actions to manage or limit impacts from dogs in GGNRA would be implemented when the desired condition was not met due to impacts associated with dogs in GGNRA. Management could include the following (this list is subject to revision):

1. Enforcement of regulations (e.g., patrols, notifications, citations)
2. Education (e.g., information signs and exhibits, interpretive programs, visitor center exhibits, brochures and fliers, public meetings, meetings with user groups)
3. Site management (e.g., barriers, area closure, redirection of visitors with dogs to suitable sites)
4. Regulation (increase the level of restriction for dog use in the area)

Management actions would comply with the requirements of NEPA, NHPA and other applicable legislation.

Table 2, Potential Management Actions by Alternative, presents ideas for consideration. Management Actions are presented as "IF" "THEN" statements. IF monitoring indicates an unacceptable condition (to be determined using criteria identified above and others), THEN NPS would consider a proposed action and monitoring would continue to evaluate the effectiveness of the new action. IF conditions persist or worsen, THEN further action, often more protective or restrictive, would be evaluated and implemented if deemed necessary.

Because the alternatives under evaluation could cause the implementation of new rules, education and enforcement are important first steps for nearly all adaptive management actions. If through education and enforcement, the unacceptable condition can be corrected, more restrictive action can be avoided. If education and enforcement are not sufficient to protect the resource, then NPS would need to evaluate more protective actions.

The IF/THEN statements in Table 2 are preliminary. More management options will be added as the Adaptive Management Plan is developed.

Resource/Location	Alternatives	Management Options
Snowy Plovers at Chrissy Field and Ocean Beach	No dogs with the exception of service dogs	IF non-service dogs are present, THEN need to increase education and enforcement.
	No dogs with the exception of service dogs from July 1 to May 15 (plover overwintering season). On leash May 16 through June 30.	IF flushing rate of plovers due to presence of dogs between May 16 & June 30 is unacceptable, THEN need to 1) determine cause (on-leash or off-leash dogs – existing monitoring data should answer); 2) develop response. 1. IF on-leash dogs are too close to plovers, THEN 1) increase education and enforcement to keep dogs at least 30 feet from birds, monitor results. 2. IF flushing rate of plovers due to on-leash dogs persists, THEN consider closing area to dogs year round

Comment [MBE7]: Can you make this header repeat on each page?

Bank Swallows at Fort Funston	ENTIRE BEACH: On leash except for seasonal (April 1 – August 15) closure of strip of beach at the foot of northernmost bluffs to protect Bank Swallows.	IF dogs on leash cause unacceptable rate of flushing, THEN increase education and enforcement. IF flushing rate remains unacceptable, evaluate impact of flushing on community and consider closing beach to dogs. IF dogs are present during closure period THEN, increase education and enforcement.
	NORTH BEACH: No dogs with the exception of service dogs from beach access trail north to OB; SOUTH BEACH: ROLA from beach access trail to sand ladder at s. end of FOFU beach	IF dogs are observed entering North Beach from South Beach, THEN increase education and enforcement on South Beach. IF dogs off leash cause flushing rate of bank swallows on North Beach at unacceptable levels, THEN evaluate need to alter rule on South Beach. Step down approach: 1. Increase education & enforcement. IF not adequate THEN: 2. Convert South Beach to on-leash and monitor impacts to North Beach Bank Swallows. IF not adequate, THEN, 3. Consider closure of South Beach.

Comment [MBE8]: NOTE FOR PARK STAFF - WHAT CONSTITUTES UNACCEPTABLE TBD

	NORTH BEACH: No dogs with the exception of service dogs from beach access trail north to OB; SOUTH BEACH: On leash south from beach access trail to sand ladder at s. end of FOFU beach	IF dogs are observed entering North Beach from South Beach, THEN increase education and enforcement on South Beach. IF dogs on-leash cause flushing rate of bank swallows on North Beach at unacceptable levels, THEN evaluate need to alter rule on South Beach. Step down approach: 1. Increase education & enforcement. IF not adequate THEN: 2. Consider closure of South Beach.
	NORTH BEACH: On leash from beach access trail north to OB except for seasonal (April 1 – August 15) closure of strip of beach at the foot of northernmost bluffs to protect Bank Swallows SOUTH BEACH: ROLA south from beach access trail to sand ladder at s. end of FOFU beach	IF dogs on leash cause unacceptable rate of flushing on North Beach; THEN increase education and enforcement. IF flushing rate from on-leash dogs on North Beach remains unacceptable, evaluate impact of flushing on community and consider closing beach. IF dogs are present during closure period THEN, increase education and enforcement. IF dogs-off leash cause flushing rate of bank swallows on North Beach at unacceptable levels, THEN evaluate need to alter rule on South Beach.

		Step down approach: 1. Increase education & enforcement. IF not adequate THEN: 2. Convert South Beach to on-leash and monitor impacts to North Beach Bank Swallows. IF not adequate, THEN, 3. Consider closure of South Beach. NOTE – consideration of closure of either beach needs to consider action on other beach
Mission Blue Butterfly/Coastal Shrub Habitat at Fort Funston	TBD	TBD
Visitor Experience at San Francisco area park units	Various	Within a park area: IF undesirable interactions between dogs and other visitors reaches problem level, THEN increase education and enforcement. IF undesirable interactions between dogs and other visitors reaches unacceptable level, THEN evaluate need to alter dog rule.
Public Health and Safety at San Francisco area park units		IF visitor safety incidents from dogs reach problem level, THEN increase education and enforcement. IF visitor safety incidents from dogs reach problem level, THEN change dog rule to

		next level of restriction (if a ROLA, convert to on-leash, if on-leash, convert to closed).
Cultural Resources at Fort Funston	Dogs are not permitted on earthworks.	IF degradation of earthworks caused by dogs is observed, THEN increase education and enforcement. IF degradation of earthworks caused by dogs persists for defined period of time, THEN consider options for preventing dog access to earthworks: 1) barriers 2) more restrictive dog rules

GGNRA DOG MANAGEMENT PLAN
ADAPTIVE MANAGEMENT STRATEGIES
PRELIMINARY DRAFT

PURPOSE

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Bank Swallows at Fort Funston	Dogs off leash intruding into areas used by nesting Bank Swallow cause disturbance by chasing or otherwise causing birds to flee away from their nesting colony, interrupting feeding of young, etc. There is a second source of disturbance from visitors trying to climb the sand cliffs from the beach. The repeated energy loss affects ability to successfully rear young, and compromises the health of adults resulting in the inability to breed successfully. Health and condition would also impact the entire colony's ability to migrate to their winter range.	Disturbance of bank swallows caused by dogs and visitors at the sand cliffs at Fort Funston, and other areas important for bank swallows should they be identified, would be kept to minimal levels to protect the bank swallow colony.
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	publicly accessible San Francisco Bay and ocean coastal lands in the region, park personnel have stated that the increased numbers of visitors and resulting conflicts among them are of great concern. Walkers, hikers, joggers, bikers, horseback riders, wildlife watchers, and those seeking a quiet and natural experience are all potentially disturbed by running, barking dogs—particularly by those that chase or harass people or wildlife. Dogs can also indirectly affect visitors by leaving waste on beaches, on trails, or near the park's aquatic resources. Although signs indicate that owners are responsible for removing pet waste, this rule is not always followed. Dog waste can have an adverse impact on visitors, resources, and the safety of park staff tasked with cleaning up after irresponsible owners.	being negatively affected by the activity of other visitors' dogs.
Public Health and Safety at San Francisco area park units	Injuries to visitors from dogs jumping on them, chasing them, or harassing them, or biting them are a serious concern as are injuries to rangers who rescue dogs or dog owners. In the year 2000, for example, 15 dogs and two dog owners were rescued from the cliffs at Fort Funston (NPS 2001c). Two ranger injuries were reported in the course of these rescues. If dogs had been leashed, these rescues would not have been needed. Visitors have reported being jumped on and knocked down by unrestrained dogs. Park police have received reports from visitors of dogs knocking down visitors resulting in physical injury (scrapes, broken ankle, etc). The park has had complaints from people who are so frightened of off-leash	Visitors to GGNRA and park staff would have a safe experience and not experience bodily injury as a result of an encounter with dogs. The health of visitors and staff would not be affected by dog feces in park areas.

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Cultural Resources at Fort Funston	Need to determine with park if we should monitor earthworks at Ft Funston	

MONITORING

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2. develop and refine protocols for collecting data that are cost effective, efficient, and explicitly linked to management actions
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Monitoring Protocols and Activities

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Below are potential monitoring activities that could be used to assess impacts of dogs on park natural resources, visitor experience, and public health and safety. Monitoring activities for visitor experience and health and safety are combined as most provide insight to impacts to each:

Western Snowy Plover/Bank Swallow

- Dog harassment of wildlife per ESA:
    - Observations of dogs flushing, chasing or killing birds or other wildlife in the park especially in protected areas) should be reported and documented.
    - Citations resulting from disturbance or harassment of wildlife should be reported for monitoring purposes.

Visitor Experience/Public Safety and Health

- Dog Excrement: Incidents of dog-owners failing to remove excrement or general observations of excrement left in the park should be monitored and reported. Monitoring could be carried out as observations by park staff and a record of visitor complaints.

- Dogs interacting with non-guardians (jumping-on, licking, pawing, chasing, biting): Observations and reports of dogs perceived as negatively interacting with visitors other than their guardians should be monitored and reported. Additionally complaints or injuries resulting from these interactions should also be reported and documented for monitoring purposes.

- Dogs in noncompliance with park regulations: Any dogs found to be in violation of regulations will be documented and reported. This would include off-leash dogs in on-leash only areas and on-leash or off-leash dogs in no dog areas. Any citations or observations by park staff and visitor complaints should be reported and documented for monitoring purposes.

Coastal Shrub Habitat/ Mission Blue Butterfly

- Vegetation monitoring: Coastal shrub habitat vegetation should be monitored in park areas where dogs are allowed (on-leash and off-leash) and compared to control vegetation sites that are known to be rarely visited or closed to visitors. Monitoring of vegetation would focus on destruction or deterioration of plants and habitat, especially inside protected areas.

Criteria to Evaluate Data

To assess the data collected, criteria would need to be developed for each resource. These criteria must be objective, based in law or regulation where possible, and easily evaluated. Below are some examples of laws that would be used to develop criteria to assess impacts of the preferred alternative on resources. The intent is develop criteria that match the intent of the law, regulation or policy.

1. Endangered Species Act – the snowy plover is protected under the ESA. The ESA has clearly defined actions that are considered violations of the Act. Harassment and harm of protected species is not permitted under ESA. Monitoring could be conducted to assess if plovers were harassed or harmed as a result of the preferred alternative.
2. National Historic Preservation Act – requires that resources listed on or eligible for listing on the National Register not be adversely affected by proposed actions. Earthen works at many of the units are identified cultural resources. Monitoring of the earthworks would identify erosion or damage.
3. NPS Management Policies – The NPS Management Policies provide guidance for all resources, including visitor experience and public safety, and protection of resources, all of which could be suitable for development of criteria. One example is the requirement that NPS provide the same protection to state and locally protected species as that afforded to federally protected species, where practical. Monitoring could be conducted to assess if bank swallows were harassed or harmed as a result of the preferred alternative.
4. GGNRA Mission – the mission of the park is to "preserve for public use and enjoyment certain areas …possessing outstanding natural, historic, scenic, and recreational values, and in order to provide for the maintenance of needed recreational open space necessary to urban environment and planning".

MANAGEMENT ACTIONS

If monitoring revealed that the desired condition for a resource was not being met, a responsive management action would be initiated. Management actions could determine

that the violation was caused by natural variation and that the desired condition needed to be adjusted, or a new criterion selected to better reflect desired conditions. Actions to manage or limit impacts from dogs in GGNRA would be implemented when the desired condition was not met due to impacts associated with dogs in GGNRA. Management could include the following (this list is subject to revision):

1. Enforcement of regulations (e.g., patrols, notifications, citations)
2. Education (e.g., information signs and exhibits, interpretive programs, visitor center exhibits, brochures and fliers, public meetings, meetings with user groups)
3. Site management (e.g., barriers, area closure, redirection of visitors with dogs to suitable sites)
4. Regulation (increase the level of restriction for dog use in the area)

Management actions would comply with the requirements of NEPA, NHPA and other applicable legislation.

Table 2, Potential Management Actions by Alternative, presents ideas for consideration. Management Actions are presented as "IF" "THEN" statements. IF monitoring indicates an unacceptable condition (to be determined using criteria identified above and others), THEN NPS would consider a proposed action and monitoring would continue to evaluate the effectiveness of the new action. IF conditions persist or worsen, THEN further action, often more protective or restrictive, would be evaluated and implemented if deemed necessary.

Because the alternatives under evaluation could cause the implementation of new rules, education and enforcement are important first steps for nearly all adaptive management actions. If through education and enforcement, the unacceptable condition can be corrected, more restrictive action can be avoided. If education and enforcement are not sufficient to protect the resource, then NPS would need to evaluate more protective actions.

The IF/THEN statements in Table 2 are preliminary. More management options will be added as the Adaptive Management Plan is developed.

Resource/Location	Alternatives	Management Options
Snowy Plovers at Chrissy Field and Ocean Beach	No dogs with the exception of service dogs	IF non-service dogs are present, THEN need to increase education and enforcement.
	No dogs with the exception of service dogs from July 1 to May 15 (plover overwintering season). On leash May 16 through June 30.	IF flushing rate of plovers due to presence of dogs between May 16 & June 30 is unacceptable, THEN need to 1) determine cause (on-leash or off-leash dogs – existing monitoring data should answer); 2) develop response. 1. IF on-leash dogs are too close to plovers, THEN 1) increase education and enforcement to keep dogs at least 30 feet from birds, monitor results. 2. IF flushing rate of plovers due to on-leash dogs persists, THEN consider closing area to dogs year round

Bank Swallows at Fort Funston	ENTIRE BEACH: On leash except for seasonal (April 1 – August 15) closure of strip of beach at the foot of northernmost bluffs to protect Bank Swallows.	IF dogs on leash cause unacceptable rate of flushing; THEN increase education and enforcement. IF flushing rate remains unacceptable, evaluate impact of flushing on community and consider closing beach to dogs. IF dogs are present during closure period THEN, increase education and enforcement.
	NORTH BEACH: No dogs with the exception of service dogs from beach access trail north to OB; SOUTH BEACH: ROLA from beach access trail to sand ladder at s. end of FOFU beach	IF dogs are observed entering North Beach from South Beach, THEN increase education and enforcement on South Beach. IF dogs off leash cause flushing rate of bank swallows on North Beach at unacceptable levels, THEN evaluate need to alter rule on South Beach. Step down approach: 1. Increase education & enforcement. IF not adequate THEN: 2. Convert South Beach to on-leash and monitor impacts to North Beach Bank Swallows. IF not adequate, THEN, 3. Consider closure of South Beach.

	NORTH BEACH: No dogs with the exception of service dogs from beach access trail north to OB; SOUTH BEACH: On leash south from beach access trail to sand ladder at s. end of FOFU beach	IF dogs are observed entering North Beach from South Beach, THEN increase education and enforcement on South Beach. IF dogs on-leash cause flushing rate of bank swallows on North Beach at unacceptable levels, THEN evaluate need to alter rule on South Beach. Step down approach: 1. Increase education & enforcement. IF not adequate THEN: 2. Consider closure of South Beach.
	NORTH BEACH: On leash from beach access trail north to OB except for seasonal (April 1 – August 15) closure of strip of beach at the foot of northernmost bluffs to protect Bank Swallows SOUTH BEACH: ROLA south from beach access trail to sand ladder at s. end of FOFU beach	IF dogs on leash cause unacceptable rate of flushing on North Beach; THEN increase education and enforcement. IF flushing rate from on-leash dogs on North Beach remains unacceptable, evaluate impact of flushing on community and consider closing beach. IF dogs are present during closure period THEN, increase education and enforcement. IF dogs-off leash cause flushing rate of bank swallows on North Beach at unacceptable levels, THEN evaluate need to alter rule on South Beach.

		Step down approach: 1. Increase education & enforcement. IF not adequate THEN: 2. Convert South Beach to on-leash and monitor impacts to North Beach Bank Swallows. IF not adequate, THEN, 3. Consider closure of South Beach. NOTE – consideration of closure of either beach needs to consider action on other beach
Mission Blue Butterfly/Coastal Shrub Habitat at Fort Funston	TBD	TBD
Visitor Experience at San Francisco area park units	Various	Within a park area: IF undesirable interactions between dogs and other visitors reaches problem level, THEN increase education and enforcement. IF undesirable interactions between dogs and other visitors reaches unacceptable level, THEN evaluate need to alter dog rule.
Public Health and Safety at San Francisco area park units		IF visitor safety incidents from dogs reach problem level, THEN increase education and enforcement. IF visitor safety incidents from dogs reach problem level, THEN change dog rule to

		next level of restriction (if a ROLA, convert to on-leash, if on-leash, convert to closed).
Cultural Resources at Fort Funston	Dogs are not permitted on earthworks.	IF degradation of earthworks caused by dogs is observed, THEN increase education and enforcement. IF degradation of earthworks caused by dogs persists for defined period of time, THEN consider options for preventing dog access to earthworks: 1) barriers 2) more restrictive dog rules

GGNRA DOG MANAGEMENT PLAN
ADAPTIVE MANAGEMENT STRATEGIES
PRELIMINARY DRAFT

PURPOSE

Adaptive Management is a tool developed to address uncertainties associated with proposed actions. The intent is to protect resources while allowing an accepted practice where it does not cause unacceptable impacts to park resources. The purpose of the Adaptive Management Strategies is to identify resources where exact impacts are unknown, difficult to assess accurately, or where the condition on the ground is fluid and requires changing management strategies, to identify the desired condition for these resources, to describe potential monitoring techniques, and to change management strategies to meet desired conditions for specific resources as necessary.

PROBLEM STATEMENT AND DESIRED CONDITIONS

Resource/Location	Problem Statement	Desired Condition
Snowy Plovers at C~~h~~rissy Field and Ocean Beach	Dogs off leash, and dogs on leash with walkers intruding into areas used by wintering and non-breeding Western Snowy Plovers cause disturbance to resting and feeding Western Snowy Plovers by chasing or otherwise causing birds to flee. The repeated energy loss can result in birds of poor physical condition which affects ability to survive and breed. Localities of concern are primarily at Crissy Field and Ocean Beach Units of GGNRA but other sand beaches and dune areas of GGNRA could have disturbance issues on occasion.	Western Snowy plovers protection areas would provide suitable habitat for non-breeding birds from May 16 to June 30 every year. This type of disturbance would be minimized in identified protection areas.
Bank Swallows at Fort Funston	Dogs off leash intruding into areas used by nesting Bank Swallow cause disturbance by chasing or otherwise causing birds to flee away from their nesting colony, interrupting feeding of young, etc. There is a second source of disturbance from visitors trying to climb the sand cliffs from the beach. The repeated energy loss affects ability to successfully rear young, and compromises the health of adults resulting in the inability to breed successfully. Health and condition would also impact the entire colony's ability to migrate to their winter range.	Disturbance of bank swallows caused by dogs and visitors at the sand cliffs at Fort Funston, and other areas important for bank swallows should they be identified, would be kept to minimal levels to protect the bank swallow colony.
Mission Blue Butterfly/Coastal Shrub Habitat at Fort Funston	Dogs off leash, and dogs on leash with walkers intruding into areas of intact coastal shrub habitat, in areas off designated trails. Off trail activity degrades and fragments the habitat, trampling plants and denuding vegetated areas.	Off trail areas would be protected from human activity to allow the coastal shrub habitat to flourish and to protect habitat for Mission blue butterfly.
Visitor Experience at park units with visitor use conflicts	Conflicts between dogs walked off leash and other visitors can be particularly intense along the beach areas of the park, as this area attracts large numbers of visitors, both with and without dogs, on weekends and during the summer or on warm days. Because the GGNRA manages much of the	GGNRA provides a range of natural, historic, and developed settings and is able to accommodate a large variety of visitor experiences. Visitors would be able to enjoy their experience at GGNRA without

	publicly accessible San Francisco Bay and ocean coastal lands in the region, park personnel have stated that the increased numbers of visitors and resulting conflicts among them are of great concern. Walkers, hikers, joggers, bikers, horseback riders, wildlife watchers, and those seeking a quiet and natural experience are all potentially disturbed by running, barking dogs—particularly by those that chase or harass people or wildlife. Dogs can also indirectly affect visitors by leaving waste on beaches, on trails, or near the park's aquatic resources. Although signs indicate that owners are responsible for removing pet waste, this rule is not always followed. Dog waste can have an adverse impact on visitors, resources, and the safety of park staff tasked with cleaning up after irresponsible owners.	being negatively affected by the activity of other visitors' dogs.
Public Health and Safety at San Francisco area park units	Injuries to visitors from dogs jumping on them, chasing them, or harassing them, or biting them are a serious concern as are injuries to rangers who rescue dogs or dog owners. In the year 2000, for example, 15 dogs and two dog owners were rescued from the cliffs at Fort Funston (NPS 2001c). Two ranger injuries were reported in the course of these rescues. If dogs had been leashed, these rescues would not have been needed. Visitors have reported being jumped on and knocked down by unrestrained dogs. Park police have received reports from visitors of dogs knocking down visitors resulting in physical injury (scrapes, broken ankle, etc). The park has had complaints from people who are so frightened of off-leash	Visitors to GGNRA and park staff would have a safe experience and not experience bodily injury as a result of an encounter with dogs. The health of visitors and staff would not be affected by dog feces in park areas.

	dogs that they avoid visiting the park entirely or visit only when least likely to encounter dogs. Even dogs on leashes can be frightening to some people, such as joggers or other dog walkers, when dogs bark or strain at the leash. With the number of dogs in the park, dog feces left behind is an unpleasant experience and a potential health hazard.	
Cultural Resources at Fort Funston	Need to determine with park if we should monitor earthworks at Ft Funston	

Criteria to Evaluate Data

Comment [MBE1]: The criteria will lead to thresholds, yet to be developed

To assess the data collected, criteria would need to be developed for each resource. These criteria must be objective, based in law or regulation where possible, and easily evaluated. From the criteria thresholds would be developed that would trigger management actions. Below are some examples of laws that would be used to develop criteria to assess impacts of the preferred alternative on resources. The intent is develop criteria that match the intent of the law, regulation or policy.

1. Endangered Species Act – the snowy plover is protected under the ESA. The ESA has clearly defined actions that are considered violations of the Act. Harassment and harm of protected species is not permitted under ESA. Monitoring could be conducted to assess if plovers were harassed or harmed as a result of the preferred alternative.
2. National Historic Preservation Act – requires that resources listed on or eligible for listing on the National Register not be adversely affected by proposed actions. Earthen works at many of the units are identified cultural resources. Monitoring of the earthworks would identify erosion or damage.
3. NPS Organic Act – requires that resources be maintained unimpaired for the enjoyment of future generations.
4. NPS Management Policies – The NPS Management Policies provide guidance for all resources, including visitor experience and public safety, and protection of resources, all of which could be suitable for development of criteria. An overarching criteria would be avoiding unacceptable impacts, which if violated could lead to impairment. Another criteria is the requirement that NPS provide the same protection to state and locally protected species as that afforded to federally protected species, where practical. Monitoring could be conducted to assess if bank swallows were harassed or harmed as a result of the preferred alternative.
5. GGNRA Mission – the mission of the park is to "preserve for public use and enjoyment certain areas …possessing outstanding natural, historic, scenic, and recreational values, and in order to provide for the maintenance of needed recreational open space necessary to urban environment and planning".

MONITORING

Monitoring is intended to test the success and efficacy of management actions implemented by the Dog Management Plan. Monitoring would be targeted to assess the effects of the preferred alternative on the specific resources identified above, to assess if desired conditions are maintained under the preferred alternative. The specific objectives of monitoring are to

1. reduce the uncertainty of current conditions by gathering additional data where data are lacking

2. develop and refine protocols for collecting data that are cost effective, efficient, and explicitly linked to management actions
3. develop thresholds/criteria for data evaluation that will facilitate the adaptive management process

Monitoring Protocols and Activities

Comment [MBE2]: NOTE TO PARK STAFF: THESE WILL BE GENERATED IN GREATER DETAIL AFTER THE RD BRIEFING

Detailed monitoring protocols would be developed to ensure accurate, valid data. Monitoring would begin as soon as a monitoring protocol is developed. The park will create a two-person roving monitoring team that would monitor each ROLA site on a rotating basis, evaluating and documenting lack of compliance as described below. In addition, that team will evaluate and include complaints made by the public and citations as part of the monitoring data that could lead to a management change per the adaptive management strategy.

Below are potential monitoring activities that could be used to assess impacts of dogs on park natural resources, visitor experience, and public health and safety. Monitoring activities for visitor experience and health and safety are combined as most provide insight to impacts to each:

Western Snowy Plover/Bank Swallow

- Dog harassment of wildlife per ESA and ROLA definition:
  - Observations of dogs that intentionally or unintentionally annoy, pursue, hunt, harass, harm, wound, chase, attack, capture, or kill wildlife.
  - Citations resulting from disturbance or harassment of wildlife should be reported for monitoring purposes.

Visitor Experience/Public Safety and Health

- Dogs in noncompliance with the special regulation for off-leash dogwalking, 36 CFR 2.15, or the Superintendent's Compendium, in those areas subject to adaptive management.
- Dog Excrement: Incidents of dog-owners failing to remove excrement or general observations of excrement left in the park should be monitored and reported. Monitoring could be carried out as observations by park staff and a record of visitor complaints.
- Dogs that:
  - annoy, harass, or attack people, livestock, or other leashed or unleashed dogs,
  - enter leash-required or dog-prohibited areas, and/or
  - dig, destroy vegetation, or enter fenced or closed areas.

Coastal Shrub Habitat/ Mission Blue Butterfly

- Vegetation monitoring: Coastal shrub habitat vegetation should be monitored in park areas where dogs are allowed (on-leash and off-leash) and compared to control vegetation sites that are known to be rarely visited or closed to visitors.

Monitoring of vegetation would focus on destruction or deterioration of plants and habitat, especially inside protected areas.

MANAGEMENT ACTIONS

If monitoring revealed that the desired condition for a resource was not being met, a responsive management action would be initiated. Management actions could determine that the violation was caused by natural variation and that the desired condition needed to be adjusted, or a new criterion selected to better reflect desired conditions. Actions to manage or limit impacts from dogs in GGNRA would be implemented when the desired condition was not met due to impacts associated with dogs in GGNRA. Management could include the following (this list is subject to revision):

1. Enforcement of regulations (e.g., patrols, notifications, citations)
2. Education (e.g., information signs and exhibits, interpretive programs, visitor center exhibits, brochures and fliers, public meetings, meetings with user groups)
3. Site management (e.g., barriers, area closure, redirection of visitors with dogs to suitable sites)
4. Regulation (increase the level of restriction for dog use in the area)

Management actions would comply with the requirements of NEPA, NHPA and other applicable legislation.

Table 2, Potential Management Actions by Alternative, presents ideas for consideration. Management Actions are presented as "IF" "THEN" statements. IF monitoring indicates an unacceptable condition (to be determined using criteria identified above and others), THEN NPS would consider a proposed action and monitoring would continue to evaluate the effectiveness of the new action. IF conditions persist or worsen, THEN further action, often more protective or restrictive, would be evaluated and implemented if deemed necessary.

Because the alternatives under evaluation could cause the implementation of new rules, education and enforcement are important first steps for nearly all adaptive management actions. If through education and enforcement, the unacceptable condition can be corrected, more restrictive action can be avoided. If education and enforcement are not sufficient to protect the resource, then NPS would need to evaluate more protective actions.

The IF/THEN statements in Table 2 are preliminary. More management options will be added as the Adaptive Management Plan is developed.

Resource/Location	Alternatives	Management Options
Snowy Plovers at Crissy Field and Ocean Beach	No dogs with the exception of service dogs	IF non-service dogs are present, THEN need to increase education and enforcement.
	No dogs with the exception of service dogs from July 1 to May 15 (plover overwintering season). On leash May 16 through June 30.	IF flushing rate of plovers due to presence of dogs between May 16 & June 30 is unacceptable, THEN need to 1) determine cause (on-leash or off-leash dogs – existing monitoring data should answer); 2) develop response. 1. IF on-leash dogs are too close to plovers, THEN 1) increase education and enforcement to keep dogs at least 30 feet from birds, monitor results. 2. IF flushing rate of plovers due to on-leash dogs persists, THEN consider closing area to dogs year round

Resource/Location	Alternatives	Management Options
Bank Swallows at Fort Funston	ENTIRE BEACH: On leash except for seasonal (April 1 – August 15) closure of strip of beach at the foot of northernmost bluffs to protect Bank Swallows.	IF dogs on leash cause unacceptable rate of flushing; THEN increase education and enforcement. IF flushing rate remains unacceptable, evaluate impact of flushing on community and consider closing beach to dogs. IF dogs are present during closure period THEN, increase education and enforcement.
	NORTH BEACH: No dogs with the exception of service dogs from beach access trail north to OB; SOUTH BEACH: ROLA from beach access trail to sand ladder at s. end of FOFU beach	IF dogs are observed entering North Beach from South Beach, THEN increase education and enforcement on South Beach. IF dogs off leash cause flushing rate of bank swallows on North Beach at unacceptable levels, THEN evaluate need to alter rule on South Beach. Step down approach: 1. Increase education & enforcement. IF not adequate THEN: 2. Convert South Beach to on-leash and monitor impacts to North Beach Bank Swallows. IF not adequate, THEN, 3. Consider closure of South Beach.

Comment [MBE3]: NOTE FOR PARK STAFF - WHAT CONSTITUTES "UNACCEPTABLE" WILL BE DETERMINED AFTER THE RD BRIEFING

Resource/Location	Alternatives	Management Options
	NORTH BEACH: No dogs with the exception of service dogs from beach access trail north to OB; SOUTH BEACH: On leash south from beach access trail to sand ladder at s. end of FOFU beach	IF dogs are observed entering North Beach from South Beach, THEN increase education and enforcement on South Beach. IF dogs on-leash cause flushing rate of bank swallows on North Beach at unacceptable levels, THEN evaluate need to alter rule on South Beach. Step down approach: 1. Increase education & enforcement. IF not adequate THEN: 2. Consider closure of South Beach.

Resource/Location	Alternatives	Management Options
	NORTH BEACH: On leash from beach access trail north to OB except for seasonal (April 1 – August 15) closure of strip of beach at the foot of northernmost bluffs to protect Bank Swallows SOUTH BEACH: ROLA south from beach access trail to sand ladder at s. end of FOFU beach	IF dogs on leash cause unacceptable rate of flushing on North Beach; THEN increase education and enforcement. IF flushing rate from on-leash dogs on North Beach remains unacceptable, evaluate impact of flushing on community and consider closing beach. IF dogs are present during closure period THEN, increase education and enforcement. IF dogs-off leash cause flushing rate of bank swallows on North Beach at unacceptable levels, THEN evaluate need to alter rule on South Beach. Step down approach: 1. Increase education & enforcement. IF not adequate THEN: 2. Convert South Beach to on-leash and monitor impacts to North Beach Bank Swallows. IF not adequate, THEN: 3. Consider closure of South Beach. NOTE – Potential closure of either beach needs to consider action on other beach

Resource/Location	Alternatives	Management Options
Mission Blue Butterfly/Coastal Shrub Habitat at Fort Funston	TBD	TBD
Visitor Experience at San Francisco area park units	Various	Within a park area: IF undesirable interactions between dogs and other visitors reaches problem level, THEN increase education and enforcement. IF undesirable interactions between dogs and other visitors reaches unacceptable level, THEN evaluate need to alter dog rule.
Public Health and Safety at San Francisco area park units		IF visitor safety incidents from dogs reach problem level, THEN increase education and enforcement. IF visitor safety incidents from dogs reach problem level, THEN change dog rule to next level of restriction (if a ROLA, convert to on-leash, if on-leash, convert to closed).
Cultural Resources at Fort Funston	Dogs are not permitted on earthworks.	IF degradation of earthworks caused by dogs is observed, THEN increase education and enforcement. IF degradation of earthworks caused by dogs persists for defined period of time, THEN consider options for preventing dog access to earthworks: 1) barriers 2) more restrictive dog rules.

GGNRA DOG MANAGEMENT PLAN
ADAPTIVE MANAGEMENT STRATEGIES
PRELIMINARY DRAFT

PURPOSE

Adaptive Management is a tool developed to address uncertainties associated with proposed actions. The intent is to protect resources while allowing an accepted practice where it does not cause unacceptable impacts to park resources. The purpose of the Adaptive Management Strategies is to identify resources where exact impacts are unknown, difficult to assess accurately, or where the condition on the ground is fluid and requires changing management strategies, to identify the desired condition for these resources, to describe potential monitoring techniques, and to change management strategies to meet desired conditions for specific resources as necessary.

PROBLEM STATEMENT AND DESIRED CONDITIONS

Resource/Location	Problem Statement	Desired Condition
Snowy Plovers at Crissy Field and Ocean Beach	Dogs off leash, and dogs on leash with walkers intruding into areas used by wintering and non-breeding Western Snowy Plovers cause disturbance to resting and feeding Western Snowy Plovers by chasing or otherwise causing birds to flee. The repeated energy loss can result in birds of poor physical condition which affects ability to survive and breed. Localities of concern are primarily at Crissy Field and Ocean Beach Units of GGNRA but other sand beaches and dune areas of GGNRA could have disturbance issues on occasion.	Western Snowy plover~~s~~ protection areas would provide suitable habitat for non-breeding birds ~~from May 16 to June 30~~ every year. This type of disturbance would be minimized in identified protection areas.
Bank Swallows at Fort Funston	Dogs off leash intruding into areas used by nesting Bank Swallow cause disturbance by chasing or otherwise causing birds to flee away from their nesting colony, interrupting feeding of young, etc. There is a second source of disturbance from visitors trying to climb the sand cliffs from the beach. The repeated energy loss affects ability to successfully rear young, and compromises the health of adults resulting in the inability to breed successfully. Health and condition would also impact the entire colony's ability to migrate to their winter range.	Disturbance of bank swallows caused by dogs and visitors at the sand cliffs at Fort Funston, and other areas important for bank swallows should they be identified, would be kept to minimal levels to protect the bank swallow colony.
Mission Blue Butterfly/Coastal Shrub Habitat at Fort Funston	Dogs off leash, and dogs on leash with walkers intruding into areas of intact coastal shrub habitat with the species' host plant, along trail edges and in areas off designated trails. ~~Off trail activity~~ Activity along trails and off trails in these areas degrades and fragments the habitat, trampling host plants and denuding vegetated areas.	~~Off trail areas~~Areas of host plants would be protected from human activity to allow the coastal shrub habitat to flourish and to protect habitat for Mission blue butterfly.
Visitor Experience at park units with visitor use conflicts	Conflicts between dogs walked off leash and other visitors can be particularly intense along the beach areas of the park, as this area attracts large numbers of visitors ~~, both with and~~	GGNRA provides a range of natural, historic, and developed settings and is able to accommodate a large variety of visitor

Comment [ses1]: Should we also be addressing shorebirds?

Comment [ses2]: Changed seasonal restriction to all year round

Comment [MBE3]: We can address shorebirds, but remember that the AMS strategy is only looking to address a couple indicator species Won't have the time or money to monitor for all of them

Comment [MBE4]: Not sure by what you mean by the "species' host plant"

	~~without dogs,~~ on weekends and during the summer or on warm days. Because the GGNRA manages much of the publicly accessible San Francisco Bay and ocean coastal lands in the region, park personnel have stated that the increased numbers of visitors and resulting conflicts among them are of great concern. Walkers, hikers, joggers, bikers, windsurfers, kiteboarders, horseback riders, wildlife watchers, and those seeking a quiet and natural experience are ~~all~~ potentially disturbed by ~~running, barking~~ large numbers of off leash dogs—particularly by those that chase or harass people or wildlife. Dogs can also indirectly affect visitors by leaving waste on beaches, on trails, or near the park's aquatic resources. Although signs indicate that owners are responsible for removing pet waste, this rule is not always followed. Dog waste can have an adverse impact on visitors, resources, and the safety of park staff tasked with cleaning up after irresponsible owners.	experiences. Visitors would be able to enjoy their experience at GGNRA without being negatively affected by the activity of other visitors' dogs.
Public Health and Safety at San Francisco area park units	Injuries to visitors from dogs jumping on them, chasing them, or harassing them, or biting them are a serious concern as are injuries to rangers who rescue dogs or dog owners. In the year 2000, for example, 15 dogs and two dog owners were rescued from the cliffs at Fort Funston (NPS 2001c). Two ranger injuries were reported in the course of these rescues. If dogs had been leashed, these rescues would not have been needed. Visitors have reported being jumped on and knocked down by unrestrained dogs. ~~Park police have~~ The park has received	Visitors to GGNRA and park staff would have a safe experience and not experience bodily injury as a result of an encounter with dogs. The health of visitors and staff would not be affected by dog feces in park areas.

Comment [ses5]: We need updated stats here

	reports from visitors of dogs knocking down visitors resulting in physical injury (scrapes, broken ankle, etc). Visitors can be negatively impacted by unwanted approaches by off leash dogs and by dog feces left in park areas. The park has had complaints from people who are so frightened of off-leash dogs that they avoid visiting the park entirely or visit only when least likely to encounter dogs. Even dogs on leashes can be frightening to some people, such as joggers or other dog walkers, when dogs bark or strain at the leash. With the number of dogs in the park, dog feces left behind can ~~is~~ create an unpleasant experience ~~and~~ , a potential health hazard and a noticeable odor. ~~-~~	
Cultural Resources at Fort Funston	Need to determine with park if we should monitor earthworks at Ft Funston	

Criteria to Evaluate Data

Comment [MBE6]: The criteria will lead to thresholds, yet to be developed

To assess the data collected, criteria would need to be developed for each resource. These criteria must be objective, based in law or regulation where possible, and easily evaluated. From the criteria, thresholds would be developed that would trigger management actions. Below are some examples of laws that would be used to develop criteria to assess impacts of the preferred alternative on resources. The intent is to develop criteria that match the intent of the law, regulation or policy.

1. Endangered Species Act – the snowy plover is protected under the ESA. The ESA has clearly defined actions that are considered violations of the Act. Harassment and harm of protected species is not permitted under ESA. Monitoring could be conducted to assess if plovers were harassed or harmed as a result of the preferred alternative.
2. National Historic Preservation Act – requires that resources listed on or eligible for listing on the National Register not be adversely affected by proposed actions. Earthen works at many of the units are identified cultural resources. Monitoring of the earthworks would identify erosion or damage.
3. NPS Organic Act – requires that resources be maintained unimpaired for the enjoyment of future generations.
4. NPS Management Policies – The NPS Management Policies provide guidance for all resources, including visitor experience and public safety, and protection of resources, all of which could be suitable for development of criteria. An overarching criteria would be avoiding unacceptable impacts, which if violated could lead to impairment. Another criteria is the requirement that NPS provide the same protection to state and locally protected species as that afforded to federally protected species, where practical. Monitoring could be conducted to assess if bank swallows were harassed or harmed as a result of the preferred alternative.
5. GGNRA Mission – the mission of the park is to "preserve for public use and enjoyment certain areas …possessing outstanding natural, historic, scenic, and recreational values, and in order to provide for the maintenance of needed recreational open space necessary to urban environment and planning".

MONITORING

Monitoring is intended to test the success and efficacy of management actions implemented by the Dog Management Plan. Monitoring would be targeted to assess the effects of the preferred alternative on the specific resources identified above, to assess if desired conditions are maintained under the preferred alternative. The specific objectives of monitoring are to

Comment [ses7]: Is this the correct description, or should we say the final Dog Management Plan or ?

Comment [MBE8]: For now it should probably be preferred alternative

1. reduce the uncertainty of current conditions by gathering additional data where data are lacking

2. develop and refine protocols for collecting data that are cost effective, efficient, and explicitly linked to management actions
3. develop thresholds/criteria for data evaluation that will facilitate ~~the~~ adaptive management ~~process~~actions.

Monitoring Protocols and Activities

Comment [MBE9]: NOTE TO PARK STAFF: THESE WILL BE GENERATED IN GREATER DETAIL AFTER THE RD BRIEFING

Detailed monitoring protocols would be developed to ensure accurate, valid data. Monitoring would begin as soon as a monitoring protocol is developed. The park will create a two-person roving monitoring team that would monitor each ROLA site on a rotating basis, evaluating and documenting lack of compliance as described below. In addition, that team will evaluate and include complaints made by the public and citations as part of the monitoring data that could lead to a management change per the adaptive management strategy.

Comment [ses10]: Is this detail from the park?

Comment [MBE11]: Yes

Below are potential monitoring activities that could be used to assess impacts of dogs on park natural resources, visitor experience, and public health and safety. Monitoring activities for visitor experience and health and safety are combined as most provide insight to impacts to each:

Western Snowy Plover/Bank Swallow

- Dog harassment of wildlife per ESA and ROLA definition:
  - Observations of dogs that intentionally or unintentionally annoy, pursue, hunt, harass, harm, wound, chase, attack, capture, or kill wildlife.
  - Citations and warnings resulting from disturbance or harassment of wildlife ~~should be reported~~will be reported in the Local File for monitoring purposes.

Visitor Experience/Public Safety and Health

- Dogs in noncompliance with the special regulation for off-leash dogwalking, 36 CFR 2.15, or the Superintendent's Compendium, in those areas subject to adaptive management.
- Dog Excrement: Incidents of dog-owners failing to remove excrement or general observations of excrement left in the park should be monitored and reported. Monitoring could be carried out as observations by park staff and a record of visitor complaints.
- Dogs that:
  - annoy, harass, or attack people, livestock, or other leashed or unleashed dogs,
  - enter leash-required or dog-prohibited areas, and/or
  - dig, destroy vegetation, or enter fenced or closed areas.

Comment [ses12]: Will we have two dog regs in play in the park after a special reg in place?

Comment [MBE13]: Yes

Coastal Shrub Habitat/ Mission Blue Butterfly

- Vegetation monitoring: Coastal shrub habitat vegetation should be monitored in park areas where dogs are allowed (on-leash and off-leash) and compared to control vegetation sites that are known to be rarely visited or closed to visitors.

Monitoring of vegetation would focus on destruction or deterioration of plants and habitat, especially inside protected areas.

MANAGEMENT ACTIONS

If monitoring revealed that the desired condition for a resource was not being met, a responsive management action would be initiated. Management actions could determine that the violation was caused by natural variation and that the desired condition needed to be adjusted, or a new criterion selected to better reflect desired conditions. Actions to manage or limit impacts from dogs in GGNRA would be implemented when the desired condition was not met due to impacts associated with dogs in GGNRA. Management could include the following (this list is subject to revision):

1. Increased e~~E~~nforcement of regulations (e.g., patrols, notifications, citations)
2. Increased e~~E~~ducation (e.g., information signs and exhibits, interpretive programs, visitor center exhibits, brochures and fliers, public meetings, meetings with user groups)
3. Site management (e.g., barriers, area closure, redirection of visitors with dogs to suitable sites)
4. Regulation (increase the level of restriction for dog use in the area)

Management actions would comply with the requirements of NEPA, NHPA and other applicable legislation.

Table 2, Potential Management Actions by Alternative, presents ideas for consideration. Management Actions are presented as "IF" "THEN" statements. IF monitoring indicates an unacceptable condition (to be determined using criteria identified above and others), THEN NPS would consider a proposed action and monitoring would continue to evaluate the effectiveness of the new action. IF conditions persist or worsen, THEN further action, often more protective or restrictive, would be evaluated and implemented if deemed necessary.

Because the alternatives under evaluation could cause the implementation of new rules, education and enforcement are important first steps for nearly all adaptive management actions. If through education and enforcement, the unacceptable condition can be corrected, more restrictive action can be avoided. If education and enforcement are not sufficient to protect the resource, then NPS would need to evaluate more protective actions.

The IF/THEN statements in Table 2 are preliminary. More management options will be added as the Adaptive Management Plan is developed.

Resource/Location	Alternatives	Management Options
Snowy Plovers at Crissy Field and Ocean Beach	No dogs ~~with the exception of service dogs~~	IF ~~non-service~~ dogs are present, THEN need to increase education and enforcement.
	~~No dogs with the exception of service dogs from July 1 to May 15 (plover overwintering season).~~ On leash ~~May 16 through June 30.~~	IF ~~flushing rate of plovers due to presence of dogs between May 16 & June 30 is unacceptable~~off leash dogs are present, THEN need to increase education and enforcement ~~need to 1) determine cause (on-leash or off-leash dogs – existing monitoring data should answer); 2) develop response.~~ ~~1.IF on-leash dogs are too close to plovers, THEN 1) increase education and enforcement to keep dogs at least 30 feet from birds, monitor results.~~ ~~2.IF flushing rate of plovers due to on-leash dogs persists, THEN consider closing area to dogs year round~~

Comment [ses14]: Remove throughout as we did in matrix

Comment [MBE15]: We should talk about this

Formatted: Bullets and Numbering

Resource/Location	Alternatives	Management Options
Bank Swallows at Fort Funston	ENTIRE BEACH: On leash except for seasonal (April 1 – August 15) closure of strip of beach at the foot of northernmost bluffs to protect Bank Swallows.	IF dogs on leash cause unacceptable rate of flushing; THEN increase education and enforcement. IF flushing rate remains unacceptable, evaluate impact of flushing on community and consider closing beach to dogs. IF dogs are present during closure period THEN, increase education and enforcement.
	NORTH BEACH: No dogs ~~with the exception of service dogs~~ from beach access trail north to OB; SOUTH BEACH: ROLA from beach access trail to sand ladder at s. end of FOFU beach	IF dogs are observed entering North Beach from South Beach, THEN increase education and enforcement on South Beach. IF dogs off leash cause flushing rate of bank swallows on North Beach at unacceptable levels, THEN evaluate need to alter rule on South Beach. Step down approach: 1. Increase education & enforcement. IF not adequate THEN: 2. Convert South Beach to on-leash and monitor impacts to North Beach Bank Swallows. IF not adequate, THEN, 3. Consider closure of South Beach.

Comment [MBE16]: NOTE FOR PARK STAFF - WHAT CONSTITUTES "UNACCEPTABLE" WILL BE DETERMINED AFTER THE RD BRIEFING

Resource/Location	Alternatives	Management Options
	NORTH BEACH: No dogs ~~with the exception of service dogs~~ from beach access trail north to OB; SOUTH BEACH: On leash south from beach access trail to sand ladder at s. end of FOFU beach	IF dogs are observed entering North Beach from South Beach, THEN increase education and enforcement on South Beach. IF dogs on-leash cause flushing rate of bank swallows on North Beach at unacceptable levels, THEN evaluate need to alter rule on South Beach. Step down approach: 1. Increase education & enforcement. IF not adequate THEN: 2. Consider closure of South Beach.

Resource/Location	Alternatives	Management Options
	NORTH BEACH: On leash from beach access trail north to OB except for seasonal (April 1 – August 15) closure of strip of beach at the foot of northernmost bluffs to protect Bank Swallows SOUTH BEACH: ROLA south from beach access trail to sand ladder at s. end of FOFU beach	IF dogs on leash cause unacceptable rate of flushing on North Beach; THEN increase education and enforcement. IF flushing rate from on-leash dogs on North Beach remains unacceptable, evaluate impact of flushing on community and consider closing beach. IF dogs are present during closure period THEN, increase education and enforcement. IF dogs-off leash cause flushing rate of bank swallows on North Beach at unacceptable levels, THEN evaluate need to alter rule on South Beach. Step down approach: 1. Increase education & enforcement. IF not adequate THEN: 2. Convert South Beach to on-leash and monitor impacts to North Beach Bank Swallows. IF not adequate, THEN: 3. Consider closure of South Beach. NOTE – Potential closure of either beach needs to consider action on other beach

Resource/Location	Alternatives	Management Options
Mission Blue Butterfly/Coastal Shrub Habitat at Fort Funston	TBD	TBD
Visitor Experience at San Francisco area park units	Various	Within a park area: IF undesirable interactions between dogs and other visitors reaches problem level, THEN increase education and enforcement. IF undesirable interactions between dogs and other visitors reaches unacceptable level, THEN change dog rule to next level of restriction (if a ROLA, convert to on-leash, if on-leash, convert to closed).~~evaluate need to alter dog rule.~~
Public Health and Safety at San Francisco area park units		IF visitor safety incidents from dogs reach problem level, THEN increase education and enforcement. IF visitor safety incidents from dogs reach problem level, THEN change dog rule to next level of restriction (if a ROLA, convert to on-leash, if on-leash, convert to closed).
Cultural Resources at Fort Funston	Dogs are not permitted on earthworks.	IF degradation of earthworks caused by dogs is observed, THEN increase education and enforcement. IF degradation of earthworks caused by dogs persists for defined period of time, THEN consider options for preventing dog

Comment [ses17]: Why only SF areas and not Marin?

Comment [MBE18]: I don't know that we have ID'd whether it would be a strategy for all sites, or just a couple of the high use ones

Comment [ses19]:

		access to earthworks: 1) barriers 2) more restrictive dog rules.

GGNRA DOG MANAGEMENT PLAN
ADAPTIVE MANAGEMENT STRATEGIES
PRELIMINARY DRAFT

PURPOSE

Adaptive Management is a tool developed to address uncertainties associated with proposed actions. The intent is to protect resources while allowing an accepted practice where it does not cause unacceptable impacts to park resources. The purpose of the Adaptive Management Strategies is to identify resources where exact impacts are unknown, difficult to assess accurately, or where the condition on the ground is fluid and requires changing management strategies, to identify the desired condition for these resources, to describe potential monitoring techniques, and to change management strategies to meet desired conditions for specific resources as necessary.

PROBLEM STATEMENT AND DESIRED CONDITIONS

Resource/Location	Problem Statement	Desired Condition
Snowy Plovers at Crissy Field and Ocean Beach	Dogs off leash, and dogs on leash with walkers intruding into areas used by wintering and non-breeding Western Snowy Plovers cause disturbance to resting and feeding Western Snowy Plovers by chasing or otherwise causing birds to flee. The repeated energy loss can result in birds of poor physical condition which affects ability to survive and breed. Localities of concern are primarily at Crissy Field and Ocean Beach Units of GGNRA but other sand beaches and dune areas of GGNRA could have disturbance issues on occasion.	Western Snowy plover protection areas would provide suitable habitat for non-breeding birds every year. This type of disturbance would be minimized in identified protection areas.
Bank Swallows at Fort Funston	Dogs off leash intruding into areas used by nesting Bank Swallow cause disturbance by chasing or otherwise causing birds to flee away from their nesting colony, interrupting feeding of young, etc. There is a second source of disturbance from visitors trying to climb the sand cliffs from the beach. The repeated energy loss affects ability to successfully rear young, and compromises the health of adults resulting in the inability to breed successfully. Health and condition would also impact the entire colony's ability to migrate to their winter range.	Disturbance of bank swallows caused by dogs and visitors at the sand cliffs at Fort Funston, and other areas important for bank swallows should they be identified, would be kept to minimal levels to protect the bank swallow colony.
Mission Blue Butterfly/Coastal Shrub Habitat at Fort Funston	Dogs off leash, and dogs on leash with walkers intruding into areas of intact coastal shrub habitat containing the species' host plants, along trail edges and in areas off designated trails. Activity along trails and off trails in these areas degrades and fragments the habitat by trampling host plants and denuding vegetated areas.	Areas of host plants would be protected from human activity to allow the coastal shrub habitat to flourish and to protect habitat for Mission blue butterfly.
Visitor Experience at park units with visitor use conflicts	Conflicts between dogs walked off leash and other visitors can be particularly intense along the beach areas of the park, as this area attracts large numbers of visitors on weekends	GGNRA provides a range of natural, historic, and developed settings and is able to accommodate a large variety of visitor

	and during the summer or on warm days. Because the GGNRA manages much of the publicly accessible San Francisco Bay and ocean coastal lands in the region, park personnel have stated that the increased numbers of visitors and resulting conflicts among them are of great concern. Walkers, hikers, joggers, bikers, windsurfers, kiteboarders, horseback riders, wildlife watchers, and those seeking a quiet and natural experience are potentially disturbed by large numbers of off leash dogs—particularly by those that chase or harass people or wildlife. Dogs can also indirectly affect visitors by leaving waste on beaches, on trails, or near the park's aquatic resources. Although signs indicate that owners are responsible for removing pet waste, this rule is not always followed. Dog waste can have an adverse impact on visitors, resources, and the safety of park staff tasked with cleaning up after irresponsible owners.	experiences. Visitors would be able to enjoy their experience at GGNRA without being negatively affected by the activity of other visitors' dogs.
Public Health and Safety at San Francisco area park units	Injuries to visitors from dogs jumping on them, chasing them, or harassing them, or biting them are a serious concern as are injuries to rangers who rescue dogs or dog owners. In the year 2000, for example, 15 dogs and two dog owners were rescued from the cliffs at Fort Funston (NPS 2001c). Two ranger injuries were reported in the course of these rescues. If dogs had been leashed, these rescues would not have been needed. Visitors have reported being jumped on and knocked down by unrestrained dogs. The park has received reports from visitors of dogs knocking down visitors resulting in physical injury (scrapes, broken ankle, etc). Visitors can be	Visitors to GGNRA and park staff would have a safe experience and not experience bodily injury as a result of an encounter with dogs. The health of visitors and staff would not be affected by dog feces in park areas.

	negatively impacted by unwanted approaches by off leash dogs and by dog feces left in park areas. The park has had complaints from people who are so frightened of off-leash dogs that they avoid visiting the park entirely or visit only when least likely to encounter dogs. Even dogs on leashes can be frightening to some people, such as joggers or other dog walkers, when dogs bark or strain at the leash. With the number of dogs in the park, dog feces left behind can create an unpleasant experience, a potential health hazard and a noticeable odor.	
Cultural Resources at Fort Funston	Need to determine with park if we should monitor earthworks at Ft Funston	

Criteria to Evaluate Data

To assess the data collected, criteria would need to be developed for each resource. These criteria must be objective, based in law or regulation where possible, and easily evaluated. From the criteria, thresholds would be developed that would trigger management actions. Below are some examples of laws that would be used to develop criteria to assess impacts of the preferred alternative on resources. The intent is to develop criteria that match the intent of the law, regulation or policy.

1. Endangered Species Act – the snowy plover is protected under the ESA. The ESA has clearly defined actions that are considered violations of the Act. Harassment and harm of protected species is not permitted under ESA. Monitoring could be conducted to assess if plovers were harassed or harmed as a result of the preferred alternative.
2. National Historic Preservation Act – requires that resources listed on or eligible for listing on the National Register not be adversely affected by proposed actions. Earthen works at many of the units are identified cultural resources. Monitoring of the earthworks would identify erosion or damage.
3. NPS Organic Act – requires that resources be maintained unimpaired for the enjoyment of future generations.
4. NPS Management Policies – The NPS Management Policies provide guidance for all resources, including visitor experience and public safety, and protection of resources, all of which could be suitable for development of criteria. An overarching criteria would be avoiding unacceptable impacts, which if violated could lead to impairment. Another criteria is the requirement that NPS provide the same protection to state and locally protected species as that afforded to federally protected species, where practical. Monitoring could be conducted to assess if bank swallows were harassed or harmed as a result of the preferred alternative.
5. GGNRA Mission – the mission of the park is to "preserve for public use and enjoyment certain areas …possessing outstanding natural, historic, scenic, and recreational values, and in order to provide for the maintenance of needed recreational open space necessary to urban environment and planning".

MONITORING

Monitoring is intended to test the success and efficacy of management actions implemented by the Dog Management Plan. Monitoring would be targeted to assess the effects of the preferred alternative on the specific resources identified above, to assess if desired conditions are maintained under the preferred alternative. The specific objectives of monitoring are to

1. reduce the uncertainty of current conditions by gathering additional data where data are lacking

2. develop and refine protocols for collecting data that are cost effective, efficient, and explicitly linked to management actions
3. develop thresholds/criteria for data evaluation that will facilitate adaptive management actions.

Monitoring Protocols and Activities

Detailed monitoring protocols would be developed to ensure accurate, valid data. Monitoring would begin as soon as a monitoring protocol is developed. The park will create a two-person roving monitoring team that would monitor each ROLA site on a rotating basis, evaluating and documenting lack of compliance as described below. In addition, that team will evaluate and include complaints made by the public and citations as part of the monitoring data that could lead to a management change per the adaptive management strategy.

Below are potential monitoring activities that could be used to assess impacts of dogs on park natural resources, visitor experience, and public health and safety. Monitoring activities for visitor experience and health and safety are combined as most provide insight to impacts to each:

Western Snowy Plover/Bank Swallow

- Dog harassment of wildlife per ESA and ROLA definition:
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Visitor Experience/Public Safety and Health

- Dogs in noncompliance with the special regulation for off-leash dogwalking, 36 CFR 2.15, or the Superintendent's Compendium, in those areas subject to adaptive management.
- Dog Excrement: Incidents of dog-owners failing to remove excrement or general observations of excrement left in the park should be monitored and reported. Monitoring could be carried out as observations by park staff and a record of visitor complaints.
- Dogs that:
    - annoy, harass, or attack people, livestock, or other leashed or unleashed dogs,
    - enter leash-required or dog-prohibited areas, and/or
    - dig, destroy vegetation, or enter fenced or closed areas.

Coastal Shrub Habitat/ Mission Blue Butterfly

- Vegetation monitoring: Coastal shrub habitat vegetation should be monitored in park areas where dogs are allowed (on-leash and off-leash) and compared to control vegetation sites that are known to be rarely visited or closed to visitors.

Monitoring of vegetation would focus on destruction or deterioration of plants and habitat, especially inside protected areas.

MANAGEMENT ACTIONS

If monitoring revealed that the desired condition for a resource was not being met, a responsive management action would be initiated. Management actions could determine that the violation was caused by natural variation and that the desired condition needed to be adjusted, or a new criterion selected to better reflect desired conditions. Actions to manage or limit impacts from dogs in GGNRA would be implemented when the desired condition was not met due to impacts associated with dogs in GGNRA. Management could include the following (this list is subject to revision):

1. Increased enforcement of regulations (e.g., patrols, notifications, citations)
2. Increased education (e.g., information signs and exhibits, interpretive programs, visitor center exhibits, brochures and fliers, public meetings, meetings with user groups)
3. Site management (e.g., barriers, area closure, redirection of visitors with dogs to suitable sites)
4. Regulation (increase the level of restriction for dog use in the area)

Management actions would comply with the requirements of NEPA, NHPA and other applicable legislation.

Table 2, Potential Management Actions by Alternative, presents ideas for consideration. Management Actions are presented as "IF" "THEN" statements. IF monitoring indicates an unacceptable condition (to be determined using criteria identified above and others), THEN NPS would consider a proposed action and monitoring would continue to evaluate the effectiveness of the new action. IF conditions persist or worsen, THEN further action, often more protective or restrictive, would be evaluated and implemented if deemed necessary.

Because the alternatives under evaluation could cause the implementation of new rules, education and enforcement are important first steps for nearly all adaptive management actions. If through education and enforcement, the unacceptable condition can be corrected, more restrictive action can be avoided. If education and enforcement are not sufficient to protect the resource, then NPS would need to evaluate more protective actions.

The IF/THEN statements in Table 2 are preliminary. More management options will be added as the Adaptive Management Plan is developed.

Resource/Location	Alternatives	Management Options
Snowy Plovers at Crissy Field and Ocean Beach	No dogs	IF dogs are present, THEN need to increase education and enforcement.
	On leash	IF off leash dogs are present, THEN need to increase education and enforcement

Resource/Location	Alternatives	Management Options
Bank Swallows at Fort Funston	ENTIRE BEACH: On leash except for seasonal (April 1 – August 15) closure of strip of beach at the foot of northernmost bluffs to protect Bank Swallows.	IF dogs on leash cause unacceptable rate of flushing; THEN increase education and enforcement. IF flushing rate remains unacceptable, evaluate impact of flushing on community and consider closing beach to dogs. IF dogs are present during closure period THEN, increase education and enforcement.
	NORTH BEACH: No dogs from beach access trail north to OB; SOUTH BEACH: ROLA from beach access trail to sand ladder at s. end of FOFU beach	IF dogs are observed entering North Beach from South Beach, THEN increase education and enforcement on South Beach. IF dogs off leash cause flushing rate of bank swallows on North Beach at unacceptable levels, THEN evaluate need to alter rule on South Beach. Step down approach: 1. Increase education & enforcement. IF not adequate THEN: 2. Convert South Beach to on-leash and monitor impacts to North Beach Bank Swallows. IF not adequate, THEN, 3. Consider closure of South Beach.

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	NORTH BEACH: No dogs from beach access trail north to OB; SOUTH BEACH: On leash south from beach access trail to sand ladder at s. end of FOFU beach	IF dogs are observed entering North Beach from South Beach, THEN increase education and enforcement on South Beach. IF dogs on-leash cause flushing rate of bank swallows on North Beach at unacceptable levels, THEN evaluate need to alter rule on South Beach. Step down approach: 1. Increase education & enforcement. IF not adequate THEN: 2. Consider closure of South Beach.

Resource/Location	Alternatives	Management Options
	NORTH BEACH: On leash from beach access trail north to OB except for seasonal (April 1 – August 15) closure of strip of beach at the foot of northernmost bluffs to protect Bank Swallows SOUTH BEACH: ROLA south from beach access trail to sand ladder at s. end of FOFU beach	IF dogs on leash cause unacceptable rate of flushing on North Beach; THEN increase education and enforcement. IF flushing rate from on-leash dogs on North Beach remains unacceptable, evaluate impact of flushing on community and consider closing beach. IF dogs are present during closure period THEN, increase education and enforcement. IF dogs-off leash cause flushing rate of bank swallows on North Beach at unacceptable levels, THEN evaluate need to alter rule on South Beach. Step down approach: 1. Increase education & enforcement. IF not adequate THEN: 2. Convert South Beach to on-leash and monitor impacts to North Beach Bank Swallows. IF not adequate, THEN: 3. Consider closure of South Beach. NOTE – Potential closure of either beach needs to consider action on other beach

Resource/Location	Alternatives	Management Options
Mission Blue Butterfly/Coastal Shrub Habitat at Fort Funston	TBD	TBD
Visitor Experience at San Francisco area park units	Various	Within a park area: IF undesirable interactions between dogs and other visitors reaches problem level, THEN increase education and enforcement. IF undesirable interactions between dogs and other visitors reaches unacceptable level, THEN change dog rule to next level of restriction (if a ROLA, convert to on-leash, if on-leash, convert to closed).
Public Health and Safety at San Francisco area park units		IF visitor safety incidents from dogs reach problem level, THEN increase education and enforcement. IF visitor safety incidents from dogs reach problem level, THEN change dog rule to next level of restriction (if a ROLA, convert to on-leash, if on-leash, convert to closed).
Cultural Resources at Fort Funston	Dogs are not permitted on earthworks.	IF degradation of earthworks caused by dogs is observed, THEN increase education and enforcement. IF degradation of earthworks caused by dogs persists for defined period of time, THEN consider options for preventing dog access to earthworks:

		1) barriers 2) more restrictive dog rules.

GGNRA DOG MANAGEMENT PLAN
ADAPTIVE MANAGEMENT STRATEGIES
PRELIMINARY DRAFT

PURPOSE

Adaptive Management is a tool developed to address uncertainties associated with proposed actions. The intent is to protect resources while allowing an accepted practice where it does not cause unacceptable impacts to park resources. The purpose of the Adaptive Management Strategies is to identify resources where exact impacts are unknown, difficult to assess accurately, or where the condition on the ground is fluid and requires changing management strategies, to identify the desired condition for these resources, to describe potential monitoring techniques, and to change management strategies to meet desired conditions for specific resources as necessary.

PROBLEM STATEMENT AND DESIRED CONDITIONS

Resource/Location	Problem Statement	Desired Condition
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Bank Swallows at Fort Funston	Dogs off leash intruding into areas used by nesting Bank Swallow cause disturbance by chasing or otherwise causing birds to flee away from their nesting colony, interrupting feeding of young, etc. There is a second source of disturbance from visitors trying to climb the sand cliffs from the beach. The repeated energy loss affects ability to successfully rear young, and compromises the health of adults resulting in the inability to breed successfully. Health and condition would also impact the entire colony's ability to migrate to their winter range.	Disturbance of bank swallows caused by dogs and visitors at the sand cliffs at Fort Funston, and other areas important for bank swallows should they be identified, would be kept to minimal levels to protect the bank swallow colony.
Mission Blue Butterfly/Coastal Shrub Habitat at Fort Funston	Dogs off leash, and dogs on leash with walkers intruding into areas of intact coastal shrub habitat containing the species' host plants, along trail edges and in areas off designated trails. Activity along trails and off trails in these areas degrades and fragments the habitat by trampling host plants and denuding vegetated areas.	Areas of host plants would be protected from human activity to allow the coastal shrub habitat to flourish and to protect habitat for Mission blue butterfly.
Visitor Experience at park units with visitor use conflicts	Conflicts between dogs walked off leash and other visitors can be particularly intense along the beach areas of the park, as this area attracts large numbers of visitors on weekends	GGNRA provides a range of natural, historic, and developed settings and is able to accommodate a large variety of visitor

Comment [ses1]: Should we also be addressing shorebirds?

Comment [MBE2]: NEED TO DEFINE SPECIFIC GEOGRAPHIC AREAS – as it could change depending on whether we are addressing an off-leash area vs an on-leash area, or a no dog area, such as the WPA

Comment [ses3]: Changed seasonal restriction to all year round

Comment [MBE4]: We can address shorebirds, but remember that the AMS strategy is only looking to address a couple indicator species Won't have the time or money to monitor for all of them

	and during the summer or on warm days. Because the GGNRA manages much of the publicly accessible San Francisco Bay and ocean coastal lands in the region, park personnel have stated that the increased numbers of visitors and resulting conflicts among them are of great concern. Walkers, hikers, joggers, bikers, windsurfers, kiteboarders, horseback riders, wildlife watchers, and those seeking a quiet and natural experience are potentially disturbed by large numbers of off leash dogs—particularly by those that chase or harass people or wildlife. Dogs can also indirectly affect visitors by leaving waste on beaches, on trails, or near the park's aquatic resources. Although signs indicate that owners are responsible for removing pet waste, this rule is not always followed. Dog waste can have an adverse impact on visitors, resources, and the safety of park staff tasked with cleaning up after irresponsible owners.	experiences. Visitors would be able to enjoy their experience at GGNRA without being negatively affected by the activity of other visitors' dogs.
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Comment [ses5]: We need updated stats here

	negatively impacted by unwanted approaches by off leash dogs and by dog feces left in park areas. The park has had complaints from people who are so frightened of off-leash dogs that they avoid visiting the park entirely or visit only when least likely to encounter dogs. Even dogs on leashes can be frightening to some people, such as joggers or other dog walkers, when dogs bark or strain at the leash. With the number of dogs in the park, dog feces left behind can create an unpleasant experience, a potential health hazard and a noticeable odor.	
Cultural Resources at Fort Funston	Need to determine with park if we should monitor earthworks at Ft Funston	

Criteria to Evaluate Data

Comment [MBE6]: The criteria will lead to thresholds, yet to be developed

To assess the data collected, criteria would need to be developed for each resource. These criteria must be objective, based in law or regulation where possible, and easily evaluated. From the criteria, thresholds would be developed that would trigger management actions. Below are some examples of laws that would be used to develop criteria to assess impacts of the preferred alternative on resources. The intent is to develop criteria that match the intent of the law, regulation or policy.

1. Endangered Species Act – the snowy plover is protected under the ESA. The ESA has clearly defined actions that are considered violations of the Act. Harassment and harm of protected species is not permitted under ESA. Monitoring could be conducted to assess if plovers were harassed or harmed as a result of the preferred alternative.
2. National Historic Preservation Act – requires that resources listed on or eligible for listing on the National Register not be adversely affected by proposed actions. Earthen works at many of the units are identified cultural resources. Monitoring of the earthworks would identify erosion or damage.
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5. GGNRA Mission – the mission of the park is to "preserve for public use and enjoyment certain areas …possessing outstanding natural, historic, scenic, and recreational values, and in order to provide for the maintenance of needed recreational open space necessary to urban environment and planning".

MONITORING

Monitoring is intended to test the success and efficacy of management actions implemented by the Dog Management Plan. Monitoring would be targeted to assess the effects of the preferred alternative on the specific resources identified above, to assess if desired conditions are maintained under the preferred alternative. The specific objectives of monitoring are to

1. reduce the uncertainty of current conditions by gathering additional data where data are lacking

2. develop and refine protocols for collecting data that are cost effective, efficient, and explicitly linked to management actions
3. develop thresholds/criteria for data evaluation that will facilitate adaptive management actions.

Monitoring Protocols and Activities

Comment [MBE7]: NOTE TO PARK STAFF: THESE WILL BE GENERATED IN GREATER DETAIL AFTER THE RD BRIEFING

Detailed monitoring protocols would be developed to ensure accurate, valid data. Monitoring would begin as soon as a monitoring protocol is developed. The park will create a two-person roving monitoring team that would monitor each ROLA site on a rotating basis, evaluating and documenting lack of compliance as described below. In addition, that team will evaluate and include complaints made by the public and citations as part of the monitoring data that could lead to a management change per the adaptive management strategy.

Below are potential monitoring activities that could be used to assess impacts of dogs on park natural resources, visitor experience, and public health and safety. Monitoring activities for visitor experience and health and safety are combined as most provide insight to impacts to each:

Western Snowy Plover/Bank Swallow

- Dog harassment of wildlife per ESA and ROLA definition:
  - Observations of dogs that intentionally or unintentionally annoy, pursue, hunt, harass, harm, wound, chase, attack, capture, or kill wildlife.
  - Citations and warnings resulting from disturbance or harassment of wildlife will be reported in the Local File for monitoring purposes.

Visitor Experience/Public Safety and Health

- Dogs in noncompliance with the special regulation for off-leash dogwalking, 36 CFR 2.15, or the Superintendent's Compendium, in those areas subject to adaptive management.
- Dog Excrement: Incidents of dog-owners failing to remove excrement or general observations of excrement left in the park should be monitored and reported. Monitoring could be carried out as observations by park staff and a record of visitor complaints.
- Dogs that:
  - annoy, harass, or attack people, livestock, or other leashed or unleashed dogs,
  - enter leash-required or dog-prohibited areas, and/or
  - dig, destroy vegetation, or enter fenced or closed areas.

Coastal Shrub Habitat/ Mission Blue Butterfly

- Vegetation monitoring: Coastal shrub habitat vegetation should be monitored in park areas where dogs are allowed (on-leash and off-leash) and compared to control vegetation sites that are known to be rarely visited or closed to visitors.

Monitoring of vegetation would focus on destruction or deterioration of plants and habitat, especially inside protected areas.

MANAGEMENT ACTIONS

If monitoring revealed that the desired condition for a resource was not being met, a responsive management action would be initiated. Management actions could determine that the violation was caused by natural variation and that the desired condition needed to be adjusted, or a new criterion selected to better reflect desired conditions. Actions to manage or limit impacts from dogs in GGNRA would be implemented when the desired condition was not met due to impacts associated with dogs in GGNRA. Management could include the following (this list is subject to revision):

1. Increased enforcement of regulations (e.g., patrols, notifications, citations)
2. Increased education (e.g., information signs and exhibits, interpretive programs, visitor center exhibits, brochures and fliers, public meetings, meetings with user groups)
3. Site management (e.g., barriers, area closure, redirection of visitors with dogs to suitable sites)
4. Regulation (increase the level of restriction for dog use in the area)

Management actions would comply with the requirements of NEPA, NHPA and other applicable legislation.

Table 2, Potential Management Actions by Alternative, presents ideas for consideration. Management Actions are presented as "IF" "THEN" statements. IF monitoring indicates an unacceptable condition (to be determined using criteria identified above and others), THEN NPS would consider a proposed action and monitoring would continue to evaluate the effectiveness of the new action. IF conditions persist or worsen, THEN further action, often more protective or restrictive, would be evaluated and implemented if deemed necessary.

Because the alternatives under evaluation could cause the implementation of new rules, education and enforcement are important first steps for nearly all adaptive management actions. If through education and enforcement, the unacceptable condition can be corrected, more restrictive action can be avoided. If education and enforcement are not sufficient to protect the resource, then NPS would need to evaluate more protective actions.

The IF/THEN statements in Table 2 are preliminary. More management options will be added as the Adaptive Management Plan is developed.

Resource/Location	Alternatives	Management Options
Snowy Plovers at Crissy Field and Ocean Beach	No dogs	IF dogs are present, THEN need to increase education and enforcement.
	On leash	IF ~~flushing rate of plovers due to presence of dogs between May 16 & June 30 is unacceptable~~off leash dogs are present, THEN need to increase education and enforcement ~~need to 1) determine cause (on-leash or off-leash dogs – existing monitoring data should answer); 2) develop response.~~ ~~1.IF on-leash dogs are too close to plovers, THEN 1) increase education and enforcement to keep dogs at least 30 feet from birds, monitor results.~~ ~~2.IF flushing rate of plovers due to on-leash dogs persists, THEN consider closing area to dogs year round~~

Comment [ses9]: Remove throughout as we did in matrix

Comment [MBE8]: Suzie – need exact location – b/c the if/then threshold would change based on the location – i e if in a no plovers area, vs a off-leash area

Comment [MBE10]: Suzie – I agree with thtese edits, at least for the no dogs areas BUT the deleted stuff would work well for areas where dogs are allowed off-leash, or on leash, where we would be interested in the flushing rate

Comment [MBE11]: We should talk about this

Formatted: Bullets and Numbering

Resource/Location	Alternatives	Management Options
Bank Swallows at Fort Funston	ENTIRE BEACH: On leash except for seasonal (April 1 – August 15) closure of strip of beach at the foot of northernmost bluffs to protect Bank Swallows.	IF dogs on leash cause unacceptable rate of flushing; THEN increase education and enforcement. IF flushing rate remains unacceptable, evaluate impact of flushing on community and consider closing beach to dogs. IF dogs are present during closure period THEN, increase education and enforcement.
	NORTH BEACH: No dogs from beach access trail north to OB; SOUTH BEACH: ROLA from beach access trail to sand ladder at s. end of FOFU beach	IF dogs are observed entering North Beach from South Beach, THEN increase education and enforcement on South Beach. IF dogs off leash cause flushing rate of bank swallows on North Beach at unacceptable levels, THEN evaluate need to alter rule on South Beach. Step down approach: 1. Increase education & enforcement. IF not adequate THEN: 2. Convert South Beach to on-leash and monitor impacts to North Beach Bank Swallows. IF not adequate, THEN, 3. Consider closure of South Beach.

Comment [MBE12]: NOTE FOR PARK STAFF - WHAT CONSTITUTES "UNACCEPTABLE" WILL BE DETERMINED AFTER THE RD BRIEFING

Resource/Location	Alternatives	Management Options
	NORTH BEACH: No dogs from beach access trail north to OB; SOUTH BEACH: On leash south from beach access trail to sand ladder at s. end of FOFU beach	IF dogs are observed entering North Beach from South Beach, THEN increase education and enforcement on South Beach. IF dogs on-leash cause flushing rate of bank swallows on North Beach at unacceptable levels, THEN evaluate need to alter rule on South Beach. Step down approach: 1. Increase education & enforcement. IF not adequate THEN: 2. Consider closure of South Beach.

Resource/Location	Alternatives	Management Options
	NORTH BEACH: On leash from beach access trail north to OB except for seasonal (April 1 – August 15) closure of strip of beach at the foot of northernmost bluffs to protect Bank Swallows SOUTH BEACH: ROLA south from beach access trail to sand ladder at s. end of FOFU beach	IF dogs on leash cause unacceptable rate of flushing on North Beach; THEN increase education and enforcement. IF flushing rate from on-leash dogs on North Beach remains unacceptable, evaluate impact of flushing on community and consider closing beach. IF dogs are present during closure period THEN, increase education and enforcement. IF dogs-off leash cause flushing rate of bank swallows on North Beach at unacceptable levels, THEN evaluate need to alter rule on South Beach. Step down approach: 1. Increase education & enforcement. IF not adequate THEN: 2. Convert South Beach to on-leash and monitor impacts to North Beach Bank Swallows. IF not adequate, THEN: 3. Consider closure of South Beach. NOTE – Potential closure of either beach needs to consider action on other beach

Resource/Location	Alternatives	Management Options
Mission Blue Butterfly/Coastal Shrub Habitat at Fort Funston	TBD	TBD
Visitor Experience at San Francisco area park units	Various	Within a park area: IF undesirable interactions between dogs and other visitors reaches problem level, THEN increase education and enforcement. IF undesirable interactions between dogs and other visitors reaches unacceptable level, THEN change dog rule to next level of restriction (if a ROLA, convert to on-leash, if on-leash, convert to closed).
Public Health and Safety at San Francisco area park units		IF visitor safety incidents from dogs reach problem level, THEN increase education and enforcement. IF visitor safety incidents from dogs reach problem level, THEN change dog rule to next level of restriction (if a ROLA, convert to on-leash, if on-leash, convert to closed).
Cultural Resources at Fort Funston	Dogs are not permitted on earthworks.	IF degradation of earthworks caused by dogs is observed, THEN increase education and enforcement. IF degradation of earthworks caused by dogs persists for defined period of time, THEN consider options for preventing dog access to earthworks:

Comment [ses13]: Why only SF areas and not Marin?

Comment [MBE14]: I don't know that we have ID'd whether it would be a strategy for all sites, or just a couple of the high use ones Perhaps this could be different for different alts

		1) barriers 2) more restrictive dog rules.

For Intro Section:

Adaptive management strategies have been created to ~~protect the mission of the park.~~ ensure that the purpose, need, and objectives of the dog management plan are successfully achieved. Adaptive management strategies have been developed for on-leash areas, ROLAs, and adjacent areas and trails. These strategies evaluate the failure to comply with 36 CFR 2.15(a)(5) (pet disposal), 36 CFR 2.31(a)(3) (vandalizing dog management signs and fencing), 36 CFR 2.34 (a)(1) (hazardous conditions), and the new ~~dog rule~~36 CFR Part 7 special regulation on dog management at GGNRA. Examples of violations ~~would~~ include dog bites or physical injuries or dog-related fighting,~~;~~ hazardous conditions including pet rescue, unwanted harassing or aggressive behavior,~~;~~ ~~and~~ destruction of property related to dog management, and failure to comply with pet excrement disposal conditions. Based on monitoring, when adverse impact levels increase to moderate due to park visitors not complying with ~~the new~~ dog management rules, adaptive management strategies would be triggered to reduce the impacts back to minor or negligible. Adaptive management strategies would be implemented in two steps. When impacts increase to short-term and moderate, step 1 would be implemented, which~~this~~ would ~~focus on~~includes focused enforcement of regulations and education. If impacts ~~would~~ increase to long-term and moderate, step 2 would be implemented, which would flip an area to the next greater restriction to dogs (ROLA to on-leash, and on-leash to no dogs).~~include no longer allowing dog walking in on-leash areas and requiring dog walking on leash within the ROLAs.~~

For Conclusion:

The impacts summarized above for Alternatives B through E assume compliance with proposed regulations. If noncompliance occurs, these impacts could be elevated to a short-term or long-term, moderate, adverse impact. If this occurs, adaptive management strategies would be implemented to reduce the impacts back to a minor level.

Pro's / Con's list for GOGA dog mgmt plan / EIS adaptive mgmt strategy

Pros of not including in plan:

- Substantially less complex, resulting in one less thing to challenge (although it's exclusion could encourage a challenge from the enviro community)
- Provides finality to dog groups and other interested parties
- Monies spent on adaptive management could be funneled to LE for dog compliance

Cons of not including in plan:

- Would not meet Jon Jarvis's directive as RD that the plan include a carrying (user) capacity strategy. Adaptive management implements this strategy.
- Key reason for adaptive management is that the baseline data on impacts from dogs is not well substantiated for some areas and impact topics, primarily because the park has conducted very little monitoring relative to dog impacts. The adaptive mgmt strategy reevaluates the baseline based on up-to-date monitoring for three key areas: wildlife, vegetation, and visitor experience/health and safety. The impacts analysis for noncompliance assumes that impacts will not go beyond a long term moderate impact because adaptive management will kick to prevent such impacts, first through additional, focused education and enforcement, and then through flipping an area to the next most restrictive dog mgmt regime (off-leash to on leash, or on leash to no dogs).
- Does not allow for flexibility, resulting in possible re-initiation of two key processes, leaving park without a remedy if noncompliance is widespread:
    - NEPA: The plan/NEPA document allows for a limited range of actions and responses. If the dog plan falls outside of what is analyzed, a new NEPA document could be required to take action
    - Rulemaking: If impacts are greater than envisioned, park may be left without a remedy to manage dogwalking short of rulemaking, unless deemed an emergency. The preamble to 1.5 made clear that its use is for normal, everyday actions, not for significant closures, alterations, or anything highly controversial. Management actions affecting dogs will almost certainly trigger 36 CFR 1.5(b) rulemaking because of the controversy involved. 1.5 requires notice and comment rulemaking in part to serve as a due process requirement, especially where criminal penalties could apply --- as would be the case for dogwalking. With adaptive mgmt in the plan and rule, the park will be able to take follow-up actions for managing dogs without revisiting rulemaking, because the rule will have specifically outlined future possible changes. Adaptive mgmt in the dog plan is broad enough to allow management discretion, but specific enough to

avoid future rulemakings. *Note that a rulemaking was required for Ocean Beach and Crissy Field WPA species closures because of the controversy.*

- Will require a contract modification for a new impacts analysis for noncompliance which could delay plan release by approximately four months and cost upwards of 30-40K. EQD will most likely not be able to absorb this cost in FY10.
- Without monitoring, park will not know where to concentrate LE and other management responses based on scientific monitoring.

Appendix 3

Brief Descriptions of
Current and Historic Monitoring Programs
within the SFAN Parks

Monitoring Programs in the Golden Gate/Point Reyes Administered Parks

Monitoring programs currently exist under the parks vital signs model developed in 1997 that include the marine, freshwater, and terrestrial plant and vertebrate components. Several threatened or endangered (T&E) species, plant communities, water quality, air quality, geologic processes, and non-native invasive plants and animals are currently monitored. Most of these monitoring programs require a review of protocols before being included in the SFAN long-term monitoring program. Six programs were funded for monitoring activities as their protocols were more fully developed and peer reviewed. These include: Prairie Falcons at PINN; Landbirds at GOGA, JOMU, PINN and PORE; Western Snowy Plovers at GOGA and PORE; Stream fish assemblages including salmonids at GOGA, JOMU, PINN and PORE; Northern Spotted Owls at MUWO and PORE; and Pinnipeds at GOGA and PORE. These six indicators have long-term datasets and established programs in place at Network parks. Peer review of the six protocols has either been completed or is underway.

Air/Meteorology: Point Reyes, a Class I Air Quality park, has monitored air quality for over 20 years. The Interagency Monitoring of Protected Visual Environments (IMPROVE) program has been in operation since 1988 at the North District Ranger Station. Three types of visibility measurements are undertaken in the IMPROVE network: particle (or aerosol), scene, and optical. The mass and chemical composition of the suspended fine particulate matter (PM-2.5) and the mass of coarse particulate matter (PM-10) is measured by the particle monitor. A history of the station and PORE data are located at the IMPROVE website. PORE operates a digital camera at the lighthouse at many parks to help educate the public on air quality issues. These cameras are linked to the internet and often show the effects of air pollution such as visibility impairment. Because these cameras are typically located near air quality monitoring sites, the camera web pages display other information along with the photo such as current levels of ozone, particulate matter, or sulfur dioxide air pollutants, visual range, and weather conditions. The digital photos are usually updated every 15 minutes, while air quality data values are revised hourly. The photos are available at: http://www2.nrintra.nps.gov/air/webcams/index.htm.

The Bay Area Air Quality Management District (BAAQMD) operates an air quality station at Fort Cronkhite at GOGA that monitors dioxin.

Point Reyes NS has maintained weather records from the Point Reyes Lighthouse since approximately the 1910's. Rainfall data at Bear Valley Headquarters have been kept since 1964. The current weather station at Bear Valley records rainfall, wind speed, wind direction, relative humidity, and temperature. Additional weather stations were recently deployed on Inverness Ridge (PORE), Mt. Wanda (JOMU), EUON and a station is expected to be deployed on Sweeney Ridge (GOGA). Rainfall data also are currently collected at the lighthouse and in the Olema Creek, Pine Gulch Creek, Redwood Creek, and Easkoot Creek Watersheds. A database is being created for weather data within the parks.

There are also weather stations in Point Reyes that are managed by other agencies (such as the U.S. Coast Guard, Scripps Institute of Oceanography, and the Department of Health Services).

Geologic Resources: Because the parks lie along several earthquake faults, the USGS Geological Resource Division monitors seismic events continuously at Point Reyes and Golden Gate.

Water Resources: Comprehensive water quality monitoring is currently ongoing at PORE and GOGA. This includes ambient monitoring at 33 sites in PORE (since 1999) and 23 in GOGA (since 2000). Additionally, monitoring has also been conducted at about 15 sites in PRES within various time frames. Aquatic bioassessment for macroinvertebrates has been conducted at 10 sites within PORE, as well as sites within GOGA and PINN.

Water quality parameters monitored included temperature, pH, dissolved oxygen, salinity, specific conductance, nitrates, nitrites, orthophosphates, fecal/total coliform, and total suspended solids. Detailed results of PORE monitoring efforts are presented in the Point Reyes National Seashore Water Quality Monitoring Report (Ketcham 2001). Results indicate that 33% of samples exceeded the non-contact recreational limit for fecal coliform (2,000 MPN/100mL). Ammonia levels toxic to aquatic species occurred in 3.1% of the samples. However, the majority of samples were collected during winter storm events when non-point source pollution from agricultural areas (including dairy and beef operations) occurred. Under most other conditions, water quality criteria were met. Management actions stemming from the water quality monitoring program have been implemented at pastoral sites within PORE.

Recreational monitoring programs are in place at PORE and GOGA. The Marin County Public Health Department (coordinating with PORE staff) has been monitoring three beaches at the Seashore. Three additional recreational water bodies have been monitored by PORE since 1999. Four beaches have been monitored by NPS staff at GOGA (since 1998). Four additional GOGA recreational sites have been monitored by the City and County of San Francisco.

Beaches were typically monitored weekly or bi-weekly from May through November with monthly monitoring the remainder of the year. One pond at PORE was posted for exceeding contact recreational fecal coliform standards (200 MPN/100mL). PORE staff also assisted in monitoring efforts within the Tomales Bay Watershed. These efforts resulted in postings at four sites within the watershed (but outside of the Seashore).

Vegetation: Vegetation mapping for all of the parks has been conducted over the past five years and is near completion with an accuracy assessment in final draft. Many of the plots developed for this map could be used for long-term monitoring. Several rare plant species have been monitored within the parks over the past several years. Each park has a weed management database, which is used to document occurrences (species, location

and extent), plan restoration and record removal efforts. PORE has conducted rangeland monitoring plant composition and biomass since 1998.

Wildlife: Primarily species of special concern or federally listed species have been monitored annually in the last 5 + years within the parks (SFAN Monitoring Plan, Appendix 2), including Northern Spotted Owl, Western Snowy Plover, coho salmon and steelhead trout, mission blue butterfly, Myrtle's silverspot butterfly and Bank Swallows. At selected sites, red-legged frog populations have been monitored since 1993. The Tule elk population at PORE has been extensively monitored since 1972; the exotic fallow and axis deer populations have been surveyed sporadically. There are also several long-term monitoring studies (10-30 years) of landbirds by PRBO Conservation Science (PRBO) at select locations in the parks and of waterbirds/shorebirds by the Audubon Society and PRBO (see **Landbirds** below). The U.S. Fish and Wildlife Service monitored the Common Murre breeding population at Point Reyes Headlands from 1996 – 2002. Monthly counts of Townsend's big-eared bats have been monitored at two locations since 1990.

Landbirds: Landbird monitoring has been conducted in PORE and GOGA at various levels of intensity, with various combinations of methods, and in several seasons depending on study site for more than 30 years.

Intensive landbird monitoring—constant effort mist netting and nest monitoring—has been ongoing in PORE at a single site (Palomarin Field Station) since 1966 and 1980, respectively. Mist netting occurs year round; nets are operated in a standardized fashion; run six days per week from 1 April to 27 November and three days per week for the remainder of the year; data are contributed to the Monitoring Avian Productivity and Survivorship (MAPS) program (DeSante et al. 2001). Nest monitoring takes place within California coastal scrub; study species are color banded; all plots have grid stakes; territories of all species are mapped; vegetation around each nest is assessed; data are contributed to the Breeding Biology Research and Monitoring Database (BBIRD) program (Martin et al. 1997). Point counts are also conducted annually at Palomarin.

The monitoring efforts at Palomarin have already contributed greatly toward meeting the objectives listed below (e.g., DeSante and Geupel 1987, Johnson and Geupel 1996, Chase et al. 1997, Gardali et al. 2000, Chase 2002, Ballard et al. 2003, Gardali et al. 2003).

In addition to Palomarin, MAPS stations are run at four sites, BBIRD nest monitoring at one site (though several have had nest monitoring in the past), point counts at all sites, and territory mapping at one site in PORE and GOGA. Additional survey locations were added during the inventory phase of the NPS Natural Resource Challenge.

Marine: Nearshore ocean productivity is monitored by University of California Bodega Marine Lab using Coastal Ocean Dynamics Application Radar (CODAR) and an Acoustic Doppler Current Profiler (ADCP) between Point Reyes Headlands and Bodega Head. Intertidal communities have been monitored at select sites along the shorelines of GOGA and PORE by the respective parks and by NOAA for at least the since 1996.

Marine surveys by NOAA have been conducted annually from Point Arena to Monterey Bay since 1985. This dataset includes seabird, pinniped, and cetacean sightings in the waters of PORE and GOGA. Pinnipeds have been counted biweekly at Point Reyes headlands since 1995 and the breeding populations of harbor seals and elephant seals have been monitored at PORE and GOGA since 1976 and 1981, respectively.

Multi-Species Inventory and Monitoring at Point Reyes NS: An inventory program for amphibians, reptiles, and small/medium mammals was implemented at Point Reyes National Seashore in 1998. The project was funded by USGS monitoring funds and more recently, by SFAN I&M program funds. The goal of this work has been to determine whether fairly simple, yet scientifically based techniques could be used to track vertebrate populations across a variety of habitats including grasslands, riparian, scrub, and coniferous forests. Using a combination of three types of traps, artificial cover boards, and remote-triggered cameras, the presence of 58 species of vertebrates has been documented during the first three years of operation. The protocol worked well in the variety of habitats sampled and could easily be applied to other situations. The program is cost effective and can be implemented with a single field person. Modifications to the trapping scheme are being tested to further improve efficiency and effectiveness.

Multi-Species Inventory and Monitoring at Golden Gate NRA: Begun in 1988, GOGA started surveying small vertebrate amphibians, reptiles and mammals in many habitats (Howell 1992). The protocols applied include a stratified random sampling design based on habitat type as classified by the California Department of Fish and Game (Mayer and Laudenslayer 1988). This project was funded by a number of sources over the years including GOGA, Earthwatch, and the California Department of Fish and Game. Surveys have been conducted using line transects, variable circular plots, live traps, Sherman box traps. Pitfall traps are used if determined necessary based on field observations. Over 500 plots have been sampled and an additional 20 plots in upland habitat, forests, and around coastal lagoons will be completed.

Current Monitoring Programs specific to Pinnacles NM

Air/Meteorology: The NPS Air Quality Office and EPA established a monitoring station near the east entrance of the park in 1987. An air clarity study has been completed, but particulate and ozone monitoring continues. Despite occasional hazy days, the air quality at the Monument is a defining feature and an important resource.

The Monument has an official weather station located at the base of Condor Gulch that was established in the 1930s. This station has provided long-term data, but the spatial variation in weather and climate has not been examined. The air quality station also provides meteorological data, but data are available only after the station's establishment in 1987.

Bats: In 1997 a colony of Towsends big-eared bats was discovered in the Bear Gulch Caves, one of the most heavily used areas in the park. The caves were closed and monitoring of the population was initiated. It was determined that the caves were used by both a maternity colony and as a hibernaculum for the bats. Monitoring continued, and a

management plan for the caves was developed to allow use of the caves during times when the colony of bats would be least affected. An integral part of this management plan is the continued monitoring of the bats in the caves to ensure a healthy population is maintained in the park.

Fire: In 1989 and 1990 fire monitoring plots were established to monitor the effects of prescribed burning on the vegetation of the park. Since they were established only a few prescribed burns have been accomplished, but data for these plots could be used to determine long-term changes in vegetation.

Pigs: In 2002 a monitoring study began at Pinnacles to look at the effects of pigs and pig rooting on various aspects of the ecosystem. This project is very closely tied to our pig eradication project, with the hope that some changes could be detected over time with the removal of the pigs.

Geology: Seismic activities in the Monument continue to be monitored by the US Geological Survey. There is a seismometer along the Chalone Creek Fault and a corresponding seismometer in the Beach Gulch Visitor Center that provides a continuous record of seismic activity. The purpose of continued monitoring is to learn more about earthquake phenomena. The information provides staff with data to illustrate and interpret the natural processes still shaping the Pinnacles.

Raptors: Pinnacles National Monument has monitored cliff nesting raptors and the impacts of rock climbing on their nesting success since 1987. Raptor monitoring data is collected through the breeding season from January to July, and includes: nesting phenology, timing of breeding cycle, foraging ecology, reproductive behavior, reproductive success, and the impact rock climbing has upon these. Raptor advisories and climbing/off-trail hiking closures go into effect every year during the raptor breeding season, to protect nesting birds of prey from human disturbance. The monitoring data that is collected is summarized annually and used to determine the status of the population and refine management strategies in the future.

Small Birds: The small bird population at Pinnacles was initially studied over a three year period of time from 1983-1985 by Avery and VanRiper (1986). This was replicated from 1997-1999 by Buranek and Fesnock (1999), including an analysis comparing the data from the first survey. Results indicated that the small bird community at Pinnacles is quite dynamic, with more variation between years than between surveys in some cases. Continued monitoring of the small bird populations will be valuable for future management in the park.

Exotic Plant Species: Pinnacles has been systematically removing and monitoring invasive non-native plants since 1997. Information on the location of each species as well the total number of plants removed is documented. Monitoring of invasive non-native plant species will allow managers to not only determine the effectiveness of the treatments, but will document the areas that have been and may be subject to future invasions.

Night Skies: Baseline data for monitoring dark night skies were collected at Pinnacles from 2000-2003. Continued periodic monitoring will help determine the condition of our dark night skies and will help articulate the value of this vanishing resource and the effects that it loss will have on the biological resources in the park.

Climbing Areas: Monitoring was conducted on climber access/staging areas in 1980s and again in the late 1990s. This monitoring program documents the extent of disturbance associated with climbing activities and will help inform the park during the development of the climbing management and wilderness management plans.

Oak Regeneration: Plots for long-term monitoring of oak recruitment in both valley oak and blue oak woodlands in the park were established in 1999. Data documents the presence and condition of seedlings as well as the presence of associated species and pig damage in the areas.

Trail Use: In 1999 trailmaster counters were installed on the major trails of the park to monitor visitor use. Data from these counters documents seasonal variations in use as well as weekly and daily use patterns. The park continues to collect this data, and intends to utilize the data when developing alternatives during the revision of the GMP.

Stream Surveys: The streams in the park have been surveyed annually since 1998 for aquatic vertebrates, with special emphasis on California red-legged frog populations. A population of exotic fish was removed from the park in 1998, and one of the primary reasons for the annual surveys is to check for the presence of fish. Beginning in 2001 more detailed surveys occurred in conjunction with establishing baseline data for the inventory and monitoring program.

Literature Cited

Avery, M. L., and C. van Riper III. 1986. Bird community survey at Pinnacles National Monument. CPSU/UCD Tech. Rep. No. 24.

Ballard, G., G. R. Geupel, N. Nur, and T. Gardali. 2003. Long term declines and decadal patterns in population trends of songbirds in Western North America, 1979 – 1999. Condor **105**:737-755.

Buranek, S. and A. Fesnock. 1999. Small bird summary report: comparing two avifaunal surveys (1983-1985 and 1997-1999) at Pinnacles National Monument.

Chase, M. K. 2002. Nest site selection and nest success in a Song Sparrow population: the significance of spatial variation. Condor **104**:103-116.

DeSante, D. F. and G. R. Geupel. 1987. Landbird productivity in central coastal California: the relationship to annual rainfall and a reproductive failure in 1986. Condor **89**:636-653.

DeSante, D. F., K. M. Burton, P. Velez, and D. Froehlich. 2001. MAPS Manual: 2001 Protocol. The Institute for Bird Populations, Point Reyes Station, CA.

Gardali, T., G. Ballard, N. Nur and G. R. Geupel. 2000. Demography of a declining population of Warbling Vireos in coastal California. Condor **102**:601-609.

Howell, J. A. 1992. Coastal scrub and prairie wildlife inventory, Golden Gate National Recreation Area, California. Symposium on Biodiversity of Northwestern California, Santa Rosa, CA, October, 1991:134-140.

Johnson, M. and G. R. Geupel. 1996. The importance of productivity to the dynamics of a Swainson's Thrush population. Condor **98**:133-141.

Ketcham, B. 2001. Point Reyes National Seashore Water Quality Monitoring Report May 1999-May 2001.

Martin, T. E., C. R. Paine, C. J. Conway, W. M. Hochachka, P. Allen, and W. Jenkins. 1997. BBIRD (Breeding biology research and monitoring database) field protocol. Montana Cooperative Wildlife Research Unit, University of Montana, Missoula, MT.

Mayer, K.E., and W.F. Laudenslayer, Jr. eds. 1988. A guide to the wildlife habitats of California. Calif. Dept. of Fish and Game, Sacramento, California.

Correspondence ID: 39 **Project:** 11759 **Document:** 38106 **Private:** Y
Name: private
Outside Organization: Unaffiliated Individual
Affiliation:
Received: Jan,14,2011 16:28:03
Correspondence Type: Web Form
Correspondence: The proposed recommended alternatives for baker beach, fort funston and crissy field have access issues that question both the fairness and legal viability of the plan.

Given that the park service has proposed off leash dog walking, under voice control, as a valid recreational activity it has a responsibility to ensure that all users have equal access to partake in this activity. This means equal parking, facilities, and physical access.

For those with disabilities, pregnant, with young children, or elderly, it is often difficult to walk, even a very well trained dog, on leash for great distances. For example, at Crissy Field the parking is so limited near the acceptable off leash areas that it would make it essentially useless to these types of users. Plus there are no nearby facilities. The same goes for the beach access at Fort Funston.

How can you enable a recreational activity that only a few can use?

Continous off leash access from parking lot, to facilities to off leash designated areas is a must in all cases. Otherwise you are discriminating. It is an issues of law and fairness.

Correspondence ID: 245 **Project:** 11759 **Document:** 38106 **Private:** Y
Name: private
Outside Organization: Unaffiliated Individual
Affiliation:
Received: Jan,21,2011 11:59:09
Correspondence Type: Web Form
Correspondence: I know you'll get a lot of mail from the pro-dog community. I've reviewed your alternatives, and hope the options selected work out.
I just wanted to let you know there are also members of the community that are anti-dog, of which I am one.
The experience at the park is compromised when dogs are present.

Best of luck.

Correspondence ID: 277 **Project:** 11759 **Document:** 38106
Name: Lewis, Steve
Outside Organization: Unaffiliated Individual
Affiliation:
Received: Jan,22,2011 19:30:39
Correspondence Type: Web Form
Correspondence: Greetings,

The document is fine and a good start. In my opinion leashes required rules should be extended to all public parks areas without exception.

My reasoning is that the needs of guide dog users are being ignored entirely. With dogs roaming freely, the guide dog team can be endangered. Dogs like to test each other. The average unleashed dog has not been trained in the discipline it takes to tobe responsibly unleased unless that dog is in a fenced dog park.

An unleashed dog rushing the guide dog team can make the guide dog skittish and afraid. That puts the guide dog team at risk. If the guide dog is more worried about being rushed by another dog, that guide is not doing it's job and injury to both the guide dog and guide dog user could occur.

The risk to the guide dog team is only the beginning. The guide dog may be retrained, however the reinforcement training may not work. That means the $70,000 guide dog is now useless and the guide dog user is left without a guide all because of someone wanting to allow their dog to run loose.

Most people with pet dogs are not aware that there are state and federal laws governing distracting a guide dog. An unleashed dog charging the guide fits that criteria. Perhaps leash regulations will help prevent the unleashed dogs owner from paying for that very expensive guide dog.

I would urge changes to be made to these rules to account for guide dogs and guide dog users.

Regards,

Steve Lewis

Correspondence ID: 282 **Project:** 11759 **Document:** 38106 **Private:** Y
Name: private
Outside Organization: Unaffiliated Individual
Affiliation:
Received: Jan,23,2011 00:00:17
Correspondence Type: Web Form
Correspondence: I wholeheartedly support the dog management plan. I often take my son to Crissy Field to play at the beach and practically every time we are there, a dog or dogs will come up to our picnic area and try to steal food or urinate on us and the owners do nothing. There is a sense of arrogance I get from the dog owners, they feel because the beach is a no leash area, we are there at our own risk. In fact, one dog owner did try and blame it on us for having a picnic in an area where dogs roam free. My son loves playing at Crissy Field, we spend almost all our vacation days there with his friends playing in the water, but the constant need to fend dogs from urinating or running through our picnic area is one experience I can definitely do without.

Correspondence ID: 303 **Project:** 11759 **Document:** 38106 **Private:** Y
Name: private
Outside Organization: Unaffiliated Individual
Affiliation:
Received: Jan,23,2011 11:04:54
Correspondence Type: Web Form
Correspondence: I strongly feel that the issue here is not so much the person who comes out and enjoys the parks with their one leashed dog, perhaps taking fido off for a quick run or ball/frisbee chase. The issue here is almost 100 percent the professional dog walkers who have more then two dogs and at sometimes up to ten that are off leash with no voice control over them. I have one dog and sometimes she does not listen to me so there is NO way that a dog walker has control over a large number of dogs let alone how they would ever know where the dog is littering. How do I know this? I see it everyday as a worker in the Presidio and sometimes even while far away from a trail I or my co-workers step in it. This goes far beyond having these dog walkers buy a pricey permit because they will and then continue to do what their doing. The parks are for all people just not people with dogs. Would this be an issue in Yosemite or Yellowstone park? I don't think so.

Thank you.
Jeff Wright

Correspondence ID: 306 **Project:** 11759 **Document:** 38106 **Private:** Y
Name: private
Outside Organization: Unaffiliated Individual
Affiliation:
Received: Jan,23,2011 11:19:38
Correspondence Type: Web Form
Correspondence: I am a small person, 75 years old, who greatly enjoys GGNRA. The sight of a large off-leash dog bounding toward me is truly scary. I like dogs and I have owned dogs, but with a strange dog I do not know what to expect and fear being knocked down or worse. Also, as a nature lover, I deeply resent the damage that dogs do to bird and plant habitats. I can see dogs on my city street any day; I go to GGNRA to see species that I cannot see at home. These species have as much right to survive as do domestic pets. I am deeply opposed to off-leash dogs in GGNRA and other public parks.

Correspondence ID: 799 **Project:** 11759 **Document:** 38106 **Private:** Y
Name: private
Outside Organization: Unaffiliated Individual
Affiliation:
Received: Feb,26,2011 21:56:32
Correspondence Type: Web Form
Correspondence: I agree with most of the changes, although I would like to see more restrictions on dogs in grassy areas. How will this be enforced? Currently, my visits to Sutro Heights Park and the Airfield at Crissy Field are often ruined by off-leash dogs. How will a change in the law actually be enforced?

Overall, I support the changes for the areas we frequent.

Correspondence ID: 930 **Project:** 11759 **Document:** 38106 **Private:** Y
Name: private
Outside Organization: Unaffiliated Individual
Affiliation:
Received: Mar,04,2011 00:09:49
Correspondence Type: Web Form
Correspondence: I believe that dogs should be ideally be restricted to fenced-in areas. A less desirable alternative would be to allow only on-leash access to restricted areas. No dog should be off-leash and running free in GGNRA.

I lived adjacent to GGNRA in Marin for many years, went to school at UCSF, and extensively used the recreation area for running, hiking, and photography. I have never enjoyed being chased by a large, barking dog as I ran, with the owner invariably yelling from a distance, "don't worry, he won't bite." I have also seen too many times an off-leash dog defecating with no owner in sight. These same off-leash dogs invariably are chasing birds, squirrels, and other animals. They disturb native animals and ruin native plants.

The feces left by dogs present an infectious disease hazard. They carry a number of intestinall parasites or worms such as roundworms, hookworms, and coccidia, some of which can infect humans. They also carry Brucella, Campylobacter, Cryptosporidium, Giardia, Lyme Disease, Coxiella, Rabies, Salmonella, and Rocky Mountain Spotted Fever, many of which can be transmitted by exposure to their feces or by dog bite. At San Francisco General Hospital, we have seen over the years innumerable dog bites and many of these parasitic and bacterial infections transmitted by dogs.

I understand that this is a very emotional issue for dog owners, who show up en masse for public hearings. I do, though, believe that there is a large majority of GGNRA users who would like to see dogs in fenced in areas or at least always on a leash, and do not enjoy dodging dog feces left by the irresponsible few. This majority does not attend public meetings or reveal their identities because they are intimidated by some of the more intense and uncompromising dog owners.

Correspondence ID: 943 **Project:** 11759 **Document:** 38106 **Private:** Y
Name: private
Outside Organization: Muir Beach resident Unaffiliated Individual
Affiliation: Member
Received: Mar,04,2011 11:35:06
Correspondence Type: Web Form
Correspondence: I don't agree with closing Muir Beach to dogs altogether. Muir Beach is not only part of the NPS, but is also part of a community, and the Park should take into consideration the community needs as well as the public at large. For many residence of Muir Beach, the beach is the only safe public area to walk dogs. I actually wouldn't object to allowing dogs on-leash if it is a viable alternative to banning dogs altogether. Allowing dogs on leash would mitigate many of the safety and habitat concerns that seem to be the main objections to allowing dogs in areas that are both wildlife habitat and public recreation. I hope the NPS will realize that to many dog owners their dogs are as much a part of the family as children and it would be a great loss to many families not to be able to enjoy family outings with the "whole" family.

Correspondence ID: 959 **Project:** 11759 **Document:** 38106
Name: N/A, N/A
Outside Organization: Unaffiliated Individual
Affiliation:
Received: Mar,04,2011 17:38:05
Correspondence Type: Web Form
Correspondence: I'm very happy the dog problem is being addressed.

I'm a runner, and an environmentalist .. . .and am long tired, tired, tired of seeing people with dogs off leash in on-leash areas, and unwilling to respect the wildlife preserves by bringing their dogs there.

Mind you- I don't hate dogs. I know they can be walked and run with on-leash-happily for both dog and owner. I've done it.

But keep them on leash in public. This is the law and it's about public safety.

I've been attacked by a dog while riding a bike, and another dog charged 2 of us while on horseback-causing the person I was with to fall and be injured. The owners of the dogs in both cases cared more about their dogs' "freedom" than about our safety. (I can provide more details on both incidents- if you like.)

Amazingly, someone I know, a yoga instructor, was running with his large (scary looking) dog around Phoenix Lake. The dog was nowhere near him. I called out and asked him to leash his dog- and he refused.

This last, especially, was yet another example of Marin County residents' overly-developed-sense -of-entitlement; is it generational? Cultural? I'm from Georgia and this kind of attitude did not fly where I came from.

Basically, if you don't want a dog encounter, don't go on the trails in the water district land, or on any of the trails in open space whether state or government land- the dogs are off leash- at least half of them. This is not fair to people seeking to enjoy the area, nor is it legal.

It seems to me if you want to let your dog run free, you need to purchase acres of land, and fence it and let them go there. Otherwise- people need to grow up, behave, take responsibility and follow the rules.

One final note: I hear the the water quality on at least one trail/fire road are in Novato has been seriously degraded due to dogs, off leash, running free and defecating in the creeks. I am sorry that I did not write down the exact location, and if it is again brought to my attention, will send it along.

Correspondence ID: 1076 **Project:** 11759 **Document:** 38106
Name: N/A, N/A
Outside Organization: Unaffiliated Individual
Affiliation:
Received: Mar,07,2011 23:37:08
Correspondence Type: Web Form
Correspondence: I've attended one of the GGNRA public open houses (SF State) regarding the dog management plan. After attending, I got a better idea of how much of current off leash dog areas are actually being taken away, especially at Fort Funston. The only areas that will be off leash is the sandy area near the parking lot and a section of the beach.

The area near the parking lot is not an area for dog WALKING. It is more of a dog run. Families who want to walk their dog off leash would no longer be able to receive the hiking experience from the trails. I go to Funston with kids now and they love the fact that they can run free on the trails with the dog.

The suggested plan for Funston would not be accesible to disabled people on wheelchairs and canes and for families who bring their kids in strollers. In order to get to the trail where dogs will be only allowed on leash, everyone would have to go through the sandy area or the Chip Trail because the Funston suggested alternative map that was presented at the meeting shows that the paved area that leads to the rest of the trail (Sunset Trail) is off limits to ALL dogs, whether on or off leash. How is someone with a cane or wheelchair who is there with a dog supposed to get to the trail where dogs are allowed on leash? How are people in wheelchairs going to be able to utilize the proposed off leash sandy area when they can't even maneuver in it?

Beach access for off leash dog walking will be extremely difficult for those with canes and inaccesible all together to those who are wheelchair bound. The only access to the beach is down the flight of stairs near the parking lot and down the VERY STEEP sandy beach access trail. That is not practical or safe to anyone who is disabled. So in reality, someone wheelchair bound with a dog really has NO place in Funston to be with an off leash dog. GGNRA should do a review of their plans for Funston to consider disabled people.

Also, the section of the beach that is suggested for off leash dog walking is only from the staircase of the parking lot to the beach access trail. This stretch of the beach includes the outflow pipe. More often than not, the tide is high at that area and there is no way to get around that outflow pipe. So when tide is high, there's more space that is lost for off leash walking. Sometimes the tide is so high that you can't even access the beach safely in the proposed designated off leash section of the beach.

Considering the amount of use that Funston gets with people, dogs, hikers and hanggliders, it really isn't in as bad of a condition that GGNRA keeps reporting it to be. In my experiences in the past 10 years, it has been kept CLEAN, SAFE, and PLEASANT. Dog owners and dog groups organize numerous clean up days, in which they technically don't have to, since it should be up to National Park Services to maintain the recreational areas (which I do not see them at Funston often). And please clarify that these areas that GGNRA are trying to make changes to are RECREATIONAL AREAS, not national parks or the wilderness. With any type of RECREATIONAL AREA, whether dogs are allowed or not, there is bound to be wear and tear of the land.

At the meeting I asked a park ranger what is GGNRA's plans regarding more effective barriers for the plants that they want to conserve/protect and the answer I got was very disappointing. I was told that it takes a long time for GGNRA to come up with the funding to replace the barriers and blown down fences, and it's not the priority at the moment. The current barriers now are posts with ropes, which are often covered up by the sand when the wind blows. Those barriers do not do a good job of preventing dogs OR HUMANS from crossing them. There were 4 teenagers the other day WITHOUT a dog who were able to easily step over the ropes and walk all over the plants. PLEASE STOP

MAKING STATEMENTS THAT IMPLY THAT IT'S ONLY DOGS THAT DO "DAMAGE"! If GGNRA is able to find the time and funding to create this 2400 page plan for almost 10 years, why is it so hard to spend some time and money to replace the barriers to PROTECT the plants and environment you want to conserve? Isn't that GGNRA's main goal of all this? Also, by not taking immediate action to the fences blown down at the trail near the cliffs, human safety is at risk too! Maybe GGNRA can consider compromising, and instead of taking away off leash walking areas from dogs and people who visit the park the most, put some time and effort into improving the barriers and fences.

Please reconsider your plans and also take into consideration how your plans will affect the future of other public areas.

Correspondence ID: 1169 **Project:** 11759 **Document:** 38106
Name: Massara, Mark a
Outside Organization: Unaffiliated Individual
Affiliation:
Received: Mar,09,2011 13:33:47
Correspondence Type: Web Form
Correspondence: Thank for this work. It is long overdue. Dogs are not inherently bad. However, the GGRNA, and the Ocean Beach - Fort Funston areas in particular are adversely degraded by the sheer number of dogs whose owners insist on using these fragile beaches as a dog park. Just yesterday while coming out of the water from surfing I witnessed a woman watch her dog defecate in the shallow water and then just walk away. It happens all the time, virtually everyday. This is middle of the beach, where we have snowy plovers and where dogs are SUPPOSED to be on leashes. As someone who uses the middle of Ocean Beach virtually everyday, I can assure that dogs are rarely leashed.

Similarly, most dog owners have no idea their dogs chase endangered plovers because they never actually see the chase since the dogs are generally far off ahead of them. When confronted, dog owners are generally not reasonable or educated about the rules, instead they yell obscenities and get aggressive with anyone who doesn't allow their dogs complete freedom to roam.

I personally have seen dogs run up and pee on innocent bystanders - children even - who just happen to be sitting on the beach.

Worst of all by far is the dramatic proliferation of professional dog walkers using Ocean Beach and Fort Funston as a free, publicly subsidized dog run for their private profit gain. Two weeks ago I was surrounded at Fort Funston by over 30 wild, unleashed dogs. Two women were sunning themselves about 100 yards away. I was physically attacked by a foaming, vicious dog. I picked up a stick to defend myself. Suddenly one of the woman ran screaming at me to get off the beach and go somewhere else.

What is happening in the GGNRA is horrible. Unruly dog owners have virtually taken over the beach for single purpose tax subsidized uses, and the beach is disgusting and dirty. Wild animals and non-dog business operators feel as though we've been kicked off the beach.

We look forward to reasonable limits being placed upon dog owners so that the public and wildlife may once again enjoy the beach and public property.

Correspondence ID: 1273 **Project:** 11759 **Document:** 38106 **Private:** Y
Name: private
Outside Organization: Unaffiliated Individual
Affiliation:
Received: Mar,16,2011 09:25:51
Correspondence Type: Web Form
Correspondence: I would like to see more dog free zones created and enforced. My husband is disabled and it is important that he walks. He needs a cane because he is unstable and is easily caused to fall. He fell in the park because he a dog ran up to him and jostled his cane. Luckily he was on a soft surface and suffered no fractures. However, in a slightly different location the outcome would have been much worse. He no longer goes to the park for this reason.

Correspondence ID: 1466 **Project:** 11759 **Document:** 38106 **Private:** Y
Name: private
Outside Organization: Unaffiliated Individual
Affiliation:
Received: Mar,25,2011 22:06:39
Correspondence Type: Web Form
Correspondence: I am writing in support of the GGNRA Draft Dog Management Plan / Environmental Impact Statement. Specifically, my focus has been on Fort Funston. I attended the comment period at San Francisco State on March 5th and appreciated the time I had to meet and speak with rangers and professional dog walkers.

I ride horses out at Fort Funston and access the trails, beach and Fort Funston three times a week. I grew up in San Francisco and walked our family dogs at Fort Funston in the 80s and 90s. Even now, I frequently dog sit for friends and visit Fort Funston on foot. The change in the habitat there is depressing. Seeing dogs harass the dwindling bird life is very sad; watching people not pick up after their dog is enough to make me go nuts. The lack of cooperation and understanding of shared open space has been a source of great frustration for me. Over the last ten years, I have witnessed three accidents involving dogs and horses. One involved the rider being hospitalized. One involved the death of the dog. For these reasons, I am firmly in support of all that the GGNRA Draft Dog Management Plan is attempting to do. I feel that Alternate C is a compromise for everyone but is much better than the status quo. I firmly support ongoing dialogue and clearer policy.

With that in mind, my biggest concern is a lack of signage that alerts people to the park's boundaries and the laws we all should follow. And what about charging people to park their cars at Fort Funston, a means to collect funds to help pay for signage and habitat restoration?

I am also in support of ROLAs being rotated so the land is not overused and if conflicts arise, an on-leash policy being implemented. That is safer for everyone. I am also in favor of fenced in dog run areas as an alternative but I feel that Alternate C is a much better direction to take.

Thank you,

Lisa Dunmeyer

Correspondence ID: 1467 **Project:** 11759 **Document:** 38106 **Private:** Y
Name: private
Outside Organization: Unaffiliated Individual
Affiliation:
Received: Mar,26,2011 08:23:51
Correspondence Type: Web Form
Correspondence: I am commenting on the portion of the Dog Management Plan for Ocean Beach San Francisco. My wife and our two children have lived at 45th Avenue and Lawton for 15 years. I am strongly in favor of the preferred plan, where dogs are prohibited from the beach. Countless times, since my children were babies, we have had excursions to Ocean Beach ruined by dogs on and off leashes doing the following, among many other offenses:

1. Approaching us and angrily attacking us, running all over our beach blanket throwing sand in our faces and on our picnic food. My children were terrified while the owners look at us like it was our fault and do absolutely to control their dogs. Needless to say, our picnics were ruined.

2. Dogs approaching me with completely unknown intentions. I do not know if they are playful or will bite me. Their owner is obliviously walking hundreds of yards away, paying absolutely no attention to where their dog is located or what it is doing. Or the owner is close by looking at me like I'm a strange person to be scared of their dog.

3. Watching unleashed dogs chasing the protected snowy plover birds into the water, with, as usual, the owners not caring or calling or controlling at all. This is upsetting to me.

4. Countless times stepping on dog feces on the beach.

5. Constant loud and disturbing barking of dogs, ruining what I thought what a sensitive environmental area.

Every other national park and recreation area has strict restrictions on dogs. Why can't this be enforced on Ocean Beach? My understanding from the signs posted currently at every entrance to the beach is that for almost the entire year dogs are required to be leashed. Why is this rarely, if ever, enforced? This tells my children that laws can be fragrantly disobeyed by citizens with absolutely no consequences, day after day, year after year.

I think dogs need to be prohibited from the snowy plover protected area because if the law says a leash is required, dog owners will continue to disobey the law. Dog owners view themselves as being entitled to let their dogs run free in a beautiful San Francisco open space. I do not agree. Humans have priority over animals in our civilized society. Do we need to add this to the United States constitution to make it clear?

When illegal unleashed dogs attack humans, the owners inevitably say "oh, he's friendly, he never hurts anybody". But we have laws in this country for a reason. The vast majority of people don't drive cars drunk but it is illegal because of those who do, and the damage they cause. And most people pay attention and don't drink and drive, both for moral and legal reasons. Shouldn't dog owners obey the leash laws? They sure don't on Ocean Beach, only perhaps 10% of the dogs I see there are on a leash.

Finally, if GGNRA does implement a new dogs rule on Ocean Beach, please enforce it vigorously. Otherwise this entire process is a waste of time.

Thank you for the opportunity to comment,

I am withholding my name because I don't want angry dog owners contacting me.

Correspondence ID: 1567 **Project:** 11759 **Document:** 38106
Name: Richards, Denise
Outside Organization: Unaffiliated Individual
Affiliation:
Received: Mar,29,2011 00:00:00
Correspondence Type: Park Form
Correspondence: I walk my dog 2x a day at Fort Funston because I have plantar fascitis, which does not allow me to walk on loose sand or unpaved ground. Funston has a lot of off-leash paved areas currently, where I am able to walk without pain. Over the years, I have observed many elderly and disabled people walking their dogs there because they are able to use their canes and walkers on the paved path, while their dogs can exercise on the sand.

The new restrictions are clearly discriminatory towards disabled people. You propose to confine us to an area that is mostly loose sand. I believe that there are enough disabled dog owners that a class-action suit can be brought against you for violating the Americans with Disability Act. I am actually thinking about initiating a suit myself and am planning to talk to a friend who is a class-action attorney.

This idea/plan is poorly thought out, inappropriate for today's economy. I have suggested to Gov. Brown that budget cuts might start with the GGNRA. You are clearly out of touch with the desires of the citizens whose taxes pay your salary.

Correspondence ID: 1666 **Project:** 11759 **Document:** 38106
Name: Walker, Brooks
Outside Organization: Unaffiliated Individual
Affiliation:
Received: Mar,30,2011 00:00:00
Correspondence Type: Park Form
Correspondence: I have an 8 year old lab + I walk her daily at Crissy Field - it would be impossible for her to get enough exercise on leash and I am 82 years old and need to walk on the path for mobility & access-

Please respect our need to have Crissy Field remain open to off leash dogs.

Correspondence ID: 1752 **Project:** 11759 **Document:** 38106
Name: N/A, N/A
Outside Organization: Unaffiliated Individual
Affiliation:
Received: Apr,01,2011 00:00:00
Correspondence Type: Park Form
Correspondence: The elderly and mobility impaired "people" want equal access with -- ROLA -- it is all about "our joy" of watching and being out in nature w/ your dog and others off leash! Help maintain "less restriction" on the elderly people's access to ROLA for Crissy Field - EAST Beach + Fort Funston. Thank you.

I've heard that some seniors are fearful of off leash dogs jumping on them or knocking them over, that is a small minority. I know a number of senior citizens that go there specifically to interact with people and their dogs, it is the only joy in life they have!! Some seniors need this fresh air, peace of mind, 'socialization' so it is not just dogs that need to keep Fort Funston a ROLA - senior citizens need it too!!!

Correspondence ID: 1794 **Project:** 11759 **Document:** 38106 **Private:** Y
Name: private
Outside Organization: Unaffiliated Individual
Affiliation:
Received: Apr,02,2011 20:34:54
Correspondence Type: Web Form
Correspondence: Dogs, both on leash and especially off leash, have negative impacts on birds and other wildlife. Off leash dogs can inhibit visitors from feeling comfortable and enjoying areas of the GGNRA, particularly the beach at Crissy Field, all of Fort Funston and most of Ocean Beach. Fort Funston is so totally overrun by dogs that it can no longer be enjoyed for hiking and bird watching.

In the GGNRA dogs should always be on leash. Compliance needs to be strictly enforced, 100%. Commercial dog walking should not be allowed in the GGNRA.

Habitat and wildlife preservation should always be the priority for the GGNRA. Greater restrictions on dogs are overdue and badly needed.

Correspondence ID: 2057 **Project:** 11759 **Document:** 38106
Name: Zhang, Yinlan
Outside Organization: None Unaffiliated Individual
Affiliation: Member
Received: Apr,12,2011 13:32:18
Correspondence Type: Web Form
Correspondence: I fully support the Nps preferred alternative in this eis. There are plenty of places for dogs, but only a few for rare wildlife. Also, dogs detract from experiences in nature as their owners don't always pick up their waste and when they are off leash, they could be especially disruptive. Park services lands are the prize of the public lands system and the highest priority should be given to preserving wildlife and their habitats and conserving the natural elements that make experiences in the national parks so special for all.

Thank you,

Yinlan Zhang

Correspondence ID: 2076 **Project:** 11759 **Document:** 38106 **Private:** Y
Name: private
Outside Organization: Unaffiliated Individual
Affiliation:
Received: Apr,12,2011 16:12:44
Correspondence Type: Web Form
Correspondence: I endorse Alternative D, the most protective option identified in the process.

I respect the pragmatic compromises that are being suggested by the GGNRA in their prefered option recommendations, but I know that I, and many people that I know (not to mention the multitude of other impacted species, and the generations of the future) would be happiest with the most stringent protection of the remaining natural and public access areas around us.

As a parent of a young child I am frequently upset that the freedom of myself and my child to enjoy the recreation areas is marred by my child's natural fear of unknown dogs that are often larger than he is. Dogs on leash are intimidating enough when their human companions may not be fully attentive to the dogs' reach at all times, and can not stop the growling and barking which is inevitably a part of the nature of many dogs, but dogs off leash are a great concern to me in terms of worrying about my child's safety, and force me to have to regularly actively and defensively manage the distance between us, be on constant watch for approaching dogs, and to insert myself physically between dogs and my child.

I am also an advocate of the protection of natural areas and threatened species. These areas and species should be preserved as best we can: for the generations of the future; to maintain a balance of our environment as best we can; to serve as essential sites and features of education, spiritual and mental health connection with nature; and to be safeguarded as potential genetic and informaiotn for future needs. To the extent that dog access to the areas of the Golden Gate National Recreation Areas threatens and undermines the safety, enjoyment and protection of these important places - as I understand/experience to be significant - I fervently support restrictions which promote continued access of the many species who have these areas as their home, and the safety and enjoyment of the many people who wish to have their appreciation unmarred.

Thank you for your consideration, and I have my fingers crossed the rights and concerns of the rest of us, now and into the future, are not overrun by the selfish, narrow, and vocal interest of people whose love for animals and the rights of others to access public natural areas other ends with themselves and the single species that they choose to keep as companions.

(P.S. I heard about the EIS and the dog management plan from signs at Ocean Beach).

Correspondence ID: 2087 **Project:** 11759 **Document:** 38106 **Private:** Y
Name: private
Outside Organization: Unaffiliated Individual
Affiliation:
Received: Apr,12,2011 22:07:57
Correspondence Type: Web Form
Correspondence: I urge you to require all dogs on Ocean Beach be kept on leash at all times. Voice control has proven not to be effective.

I have run and walked on Ocean Beach for over 40 years. In recent years there have been an increased number of unleashed dogs on the beach. I have been bitten by an unleashed dog while running on Ocean Beach. When running with friends who have a dog on leash, their dogs have been attacked by unleashed dogs. Each of these behaviors is natural of dogs. By their very nature and breeding, they attack running prey, in this case me. A leashed dog appears to be in a weakened position and is fair game for an unrestrained dog.

Often the owners of unleashed dogs are hostile when I ask them to control their dog. When I ask them to restrain their dog, they are often openly hostile. I have been called crazy, cursed at, and given the "finger".

I should not have to take a subservient position to dogs. They should all be required to be on leash, not just voice control, while on Ocean Beach

Correspondence ID: 2161 **Project:** 11759 **Document:** 38106 **Private:** Y
Name: private
Outside Organization: Unaffiliated Individual
Affiliation:
Received: Apr,13,2011 11:28:52
Correspondence Type: Web Form
Correspondence: I strongly oppose any dogs in the GGNRA. In this, I am supported by many others; seniors like myself, disabled people, blind people, many of whom have refrained from using the GGNRA where irresponsible dog owners refuse (and most often are not able)to control their dogs. Dogs are a huge liability. You cannot share spaces with them; they run all over everything -- including you -- they bark, whine, yap, thus destroying the beautiful sounds of nature with their angry, hostile noise. They urinate and defecate everywhere. Some of them are vicious, and attack people and other animals at will. Even the leashed ones befoul any area they are in.

Not only are dogs a huge headache for everyone and everything except their doting owners, they are lethal to wildlife, which the GGNRA is mandated to protect. Here is a link to a recent study that gives evidence for this:

http://www.care2.com/causes/animal-welfare/blog/mans-best-friend-is-wildlifes-worst-enemy/

Thank you for your attention

Correspondence ID: 2179 **Project:** 11759 **Document:** 38106
Name: Mogannam, Antoinette
Outside Organization: Equestrian Unaffiliated Individual
Affiliation: Member
Received: Apr,13,2011 16:54:03
Correspondence Type: Web Form
Correspondence: Hi,

My name is Antoinette Mogannam and I have boarded my horse at Mar Vista Stables in Daly City for 16 years.

My horse and I have been attacked by off leash dogs numerous times down on the beach below Fort Funston, once the police were involved as well as Chris Powell/GGNRA. One of the incidents, left my horse with numerous bites from an unleashed pit-bull, and a dog with a broken jaw - not the ending any animal owner wants. There have been other incidents such as these involving other equestrians, too many to count anymore.

My efforts in the way of phone calls to the rangers and letters to the GGNRA to do something about the growing off leash dog situation never seems to make a difference as enforcement stays minimal, phone calls to rangers ignored, and people and animals are still getting hurt.

I often feel a tragedy will have to occur before this problem gets resolved and the simple solution to keep dogs on leash finally gets implemented.

Thank you!
Antoinette
415-699-6894

Correspondence ID: 2268 **Project:** 11759 **Document:** 38106 **Private:** Y
Name: private
Outside Organization: Unaffiliated Individual
Affiliation:
Received: Apr,22,2011 19:04:37
Correspondence Type: Web Form
Correspondence: I am delighted that you are considering more restrictive dog rules as I am a frequent hiker who find dogs sniffing at me, barking at me, licking me all extremely noxious. I do not believe voice control is adequate in any event- it is not a reasonable alternative to dogs being on leash. If a spot is okay for off leash dogs, such as Crissy field, I will avoid that place. I hope you will make the requirement for dogs to either be outlawed or on leash as broad as possible so that people like me will not be imposed upon by the dogs of others. When I ask people to take charge of their dogs, the usual response is "he's friendly." I should not be required to make friends with other people's dogs against my wishes. Thank you for your assistance with this most unpleasant issue.

Correspondence ID: 2304 **Project:** 11759 **Document:** 38106 **Private:** Y
Name: private
Outside Organization: Unaffiliated Individual
Affiliation:
Received: Apr,26,2011 22:16:46
Correspondence Type: Web Form
Correspondence: My comments are from my personal experience only. This last weekend, we were walking with our granddaughters, ages 7 and 9, where there were several dogs off leash. Although I have no doubt that the dogs were friendly enough, their enthusiasm scared both our girls, to the point of their wanting us to pick them up.

Additionally, I stepped in what should have been collected and thrown in the trash.

I also have significant allergies, that I can manage with daily medication. One close encounter with fur can set me back the rest of the day. I would like to have enjoyed our day without all the drama.

Correspondence ID: 2308 **Project:** 11759 **Document:** 38106 **Private:** Y
Name: private
Outside Organization: Unaffiliated Individual
Affiliation:
Received: Apr,27,2011 01:35:46
Correspondence Type: Web Form
Correspondence: I am commenting on the GGNRA Draft Dog Management Plan/EIR. I cannot comment on all the parks in the plan, but in general I believe the stricter the regulations on dog walking on public land the better. It is an unfortunate fact that no matter what regulations you impose, there will be people who disregard them. Every time I go to the park I see dogs off leash where they are supposed to be leashed.

I frequently go to Ocean Beach and Fort Funston. Many times I have been harassed by unleashed large dogs that run up to me ferociously barking as if they are going to attack me, while the dog owner is unable to get the dog to back off. I have been scared so many times that my boyfriend thinks I should carry a weapon to the beach with me.

At Fort Funston and lower Ocean Beach I have seen solitary (professional, I presume) dog-walkers with 14-15 dogs off-leash. Usually the number is over ten dogs per dog-walker. They cannot control all those dogs and they don't watch them closely enough to pick up their feces. Many dog owners feel their dog's poop is "part of nature" so it's okay to leave it on the beach.

On at least two occasions I have also seen packs of big dogs running around in the cliffs in the succulents while I was walking down to the beach from the Fort Funston hang-glider launch, with no owner in sight. Also, people walk their dogs through the areas that are supposed to be protected, preferring to walk on the succulents than get their shoes sandy on the walking path.

I feel that I have a right, as a taxpayer, to access public beaches and parks without harassment from vicious barking dogs or even friendly/curious wet dogs splashing me. Furthermore, the dogs run after the birds in the surf. For these reasons I support the required leashing of dogs in all public parks and beaches.

You will certainly need more staff to catch violators; there will be many people who ignore whatever plan is chosen (I have never once seen a ranger on the beach or in the park - do you have them?)

Correspondence ID: 2566 **Project:** 11759 **Document:** 38106 **Private:** Y
Name: private
Outside Organization: Sierra Club Unaffiliated Individual
Affiliation: Member
Received: May,02,2011 23:38:41
Correspondence Type: Web Form
Correspondence: I have frequented the GGNRA for over 40 years. It is a great place to go to be in contact with nature and to observe the abundance of plant and animal life.
I can appreciate that dog lovers might want their animals to run free BUT many do not and will not control their animals.
There are many urban areas for these pets. I do not want to be bothered by other peoples pets and I do not want to see wildlife harassed by them.
There is absolutely no reason for dogs to go free in these wildlife rich areas.
Therefore I support:

--Requiring all off-leash areas to be enclosed to protect park users, wildlife, and other dogs.
AND
--Limiting off-leash recreation to areas where it will not have negative impacts on sensitive wildlife and habitats.

Correspondence ID: 2798 **Project:** 11759 **Document:** 38106
Name: Zebker, David
Outside Organization: Unaffiliated Individual
Affiliation:
Received: Apr,05,2011 00:00:00
Correspondence Type: Letter
Correspondence: April 1, 2011
Frank Dean
General Superintendent
Golden Gate National Recreation Area
Fort Mason, Building 201
San Francisco, CA 94123

Dear People:

This is regarding the Draft Dog Management Plan/DEIS

Dogs running around without a leash are a major problem in the Golden Gate National Recreation Area. Too often the dogs get too close to people who are afraid of them, barking wildly. I see them on trails, such as the Battery to Bluffs Trail, where they are not allowed. I would also like them to be required to be leashed in areas like Baker Beach where they share space with pedestrians enjoying the Coastal Trail. There are enough dog running areas where dogs may run unleashed in San Francisco that there is no reason they should be terrorizing pedestrians and wildlife in the Golden Gate National Recreation Area.

Please adopt a plan that regulates dogs more strictly and enforce it.

Sincerely,
David Zebker

Correspondence ID: 2813 **Project:** 11759 **Document:** 38106
Name: Cancelmo, Sally
Outside Organization: Unaffiliated Individual
Affiliation:
Received: Mar,31,2011 00:00:00
Correspondence Type: Letter
Correspondence: March 30, 2011

Sally Cancelmo
2247 Sutter Street
San Francisco CA 94115

Frank Dean
General Superintendent GGNRA
Fort Mason, Bldg 201
San Francisco CA 94123

RE: Dog Management Plan

Dear Superintendent Dean,

I am a San Francisco resident who has been walking dogs in the GGNRA for 21 years primarily at Crissy Field and Baker Beach. I believe that the Preferred Alternatives cited in the DEIS are too restrictive, will result by design in an overflow into restricted areas and will not accomplish the goal of providing both protection of resources and recreation for all user groups.

Crowding will create problems
The Preferred Alternative at Crissy Field, by eliminating dogs from the East Beach particularly during weekday hours, and the airfield also largely empty during the week, will force greater interaction between a greater number of dogs and their owners (especially during high tides) in a much smaller area. One reason that there are relatively few problems with dog aggression is that there is enough space at Crissy for everyone to interact when they wish to and not because density has been forced on them. Solution: Make the East Beach and parts of the Airfield off limits between 10 to 4 on weekends. Allow full use during the week.

The Preferred Alternative does not address needs of two user groups: seniors and families with children and dogs.
Elderly people with dogs, and families with both children and dogs do not have a viable alternative in this plan. The distance to the Central Beach makes it difficult for frail seniors and impossible for families with kids and dogs to manage to move themselves and their gear (strollers, beach stuff) from the parking lot over the bridge to the beach. Solution: same as above: full weekday use and timed use on the weekends.

Rotting Fences Allow Dogs to Enter Restricted Areas (see pp 569- 573)
It is unfair to accuse dogs of entering the dune areas at Crissy Field when the existing fences are rusted, broken or down in many areas. The original design at Crissy Field of fencing at the dunes and double fencing on the path does work when they are properly maintained. The post and cable fence at the beginning of the Wildlife Protection area is a true success. The majority of owners and their dogs honor the fence line. Solution: Don't blame the dogs for park maintenance failures.

Why forbid dogs on the West Beach when the Snowy Plovers are not there for almost half the year!
Last year the six Snowy Plovers on the West Beach departed in March and did not return until November. I am perfectly happy, as are most dog owners, to protect the birds WHEN THEY ARE THERE. I look forward to their return each winter. The post and cable fence at the beginning of the Wildlife Protection area is a true success. Ticket the

dogs and their owners and other users who plant themselves in the middle of the plover area.

Solution: Ticket the dogs and their owners and other users and school groups who plant themselves in the middle of the plover area each winter. Provide volunteers on the weekends who can explain about the plovers to uneducated users. The only volunteer I ever see on the West Beach is there during the week when the beach is walked on-leash by regulars who know and honor the WPA.

Prohibit dogs on the West Beach when the Snowy Plovers are actually there, then allow dogs the rest of the time. This beach is completely underused during the plover off-season and would provide an outlet for the overcrowding on the Central Beach. Also, at the Wildlife Protection area another sign should be placed on the last post before the Bay so that everyone can be alerted to the restrictions at low tide.

Do Not Move Post and Cable Fence East
Show me the justification, scientific or otherwise, that the existing and successful fencing needs to be moved again! The plovers rest a third of a beach away from this fencing. Why increase crowding on an already overcrowded beach (by your design) by altering the size of the WPA.

Solution: Leave the post and cable fence where it is. Ticket the scofflaws.

No Dogs on Baker Beach is inconsistent with traditional use and there are no dune resources west of Lobos Creek
The western end of Baker Beach has been an off leash area since the 1979 Pet Policy. There are no dunes or vegetation here. Very few picnickers use this end of the beach so there are no problems with conflict west of Lobos Creek. This beach is empty empty during the week. Solution: Allow off leash west of Lobos Creek on weekdays; perhaps timed use on weekends.

The Poison Pill is an end around the Public Process

I am appalled at this provision. Is it legal? It certainly isn't transparent. The GGNRA has been woefully inadequate through the years in providing education, materials and proper signage to users about rules, etiquette, etc.

How is this 75% to be measured and by whom? A ranger told me that it will be assessed not by number of citations, but by "observation". Forgive, me but this seems to be a sneaky, and not very transparent way of undercutting the process and eliminating off-leash. Without
stipulating how this measurement is to be taken, there will be no trust in the numbers and an justified outcry, if off-leash is rescinded.

Solution: Don't rule by poison pill. Put rangers on the ground to educate the public, particularly on weekends. Provide good signage. Work with the public instead of threatening them.

I know that a management plan is necessary. I would like to see one that honors the longstanding off-leash recreational use of our coast and beaches as mandated in the turnover of this land to the GGNRA. If the plan is to succeed, without the need for a poison pill and constant surveillance, it must be fair and provide adequate space for dog owners.
Thank you for your attention to my response.

Sincerely,

Sally Cancelmo

Correspondence ID: 3138 **Project:** 11759 **Document:** 38106
Name: N/A, N/A
Outside Organization: Unaffiliated Individual
Affiliation:
Received: May,22,2011 22:47:41
Correspondence Type: Web Form
Correspondence: I strongly support Alternative B (the preferred alternative) for the San Mateo County properties. In addition, specifically for Rancho Corral de Tierra, a new land soon to be acquired by GGNRA, I strongly support on-leash dog walking ONLY. I hike regularly in this area and off leash dogs are a public safety hazard. On numerous occasions, I have nearly been attached by off leash dogs. This is a very frightening experience and significantly interferes with my enjoyment of this beautiful land. As many dogs currently roam off leash on this property, the on-leash law will need to be strictly enforced once GGNRA begins to manage the land. I would not want to completely ban dogs from this property as many members of the dog walking community in this area do keep their dogs on leash and pick up after their dogs. However, in my 13 years of experience hiking in this area, voice control DOES NOT WORK for many dogs and should never be allowed on any of these lands. Aggressive dogs can cause significant safety hazards and limit the enjoyment of others who want to use the land without fear of being attacked by a dog. These off leash dogs also do significant damage to trails and foliage, scare and chase other natural animals in the habitat (birds, rabbits, etc) and generally create havoc in the entire natural environment.

Thank you for taking my comments into consideration.

Correspondence ID: 3548 **Project:** 11759 **Document:** 38106 **Private:** Y
Name: private
Outside Organization: Unaffiliated Individual
Affiliation:
Received: May,27,2011 01:47:01
Correspondence Type: Web Form
Correspondence: I strongly prefer that the Marin Headlands Trails of Tennessee Valley, Coastal Trail, Coyote Ridge and Miwok Trails exclude dogs.
I also strongly prefer that dogs not be allowed on Muir Beach, and that they be on leash at Stinson Beach and/or the beach is divided into two sections, with one being dogs allowed and one being dogs not allowed. This would need to be clearly posted and enforced to ensure that dogs don't wander to the wrong side and that dog owners understand the rules.

My stance comes as a result of several incidences over the years of dogs approaching us in a threatening way. We have had the experience, on more than one occasion, of off-leash dogs growling and baring their teeth and charging at us and our on-leash dog who was not evoking a challenge. We have children and felt that their safety was in immediate peril. One time on the Miwok Trail, I was terrified, especially since the dog owner was claiming his dogs were nice, even while they growled and charged at us. Many owners like him have claimed their dogs are harmless, even as their dogs displayed behavior to the contrary, and they refused to leash the dogs even though it was supposed to be an on-leash trail.
I feel that the on-leash rule almost never works, since no one is there to enforce it. I cannot go on a relaxing hike if I have to be the one to contend with those who do not respect the rules nor my right to feel secure.
On the main Tennessee Valley trail, where dogs are not allowed at all, I have never had a problem and have only seen a dog once. It seems obvious that people will not bring dogs if they are not allowed at all and this rule is clearly posted. But if the rules are confusing or if they are more lenient, such as if on-leash is okay, then it seems a majority of people will let their dogs off-leash, and perhaps just carry the leash separately. I have seen this more times than not. If I politely ask them to put their dog on a leash while they pass us, the response is typically that their dog is harmless, and they would rather argue and defend their dog's character than to comply with the rule and my request. It seems the only way to change this would be to not allow dogs in those areas.
It has been hard to relax at Muir Beach with so many dogs running loose, including dogs of breeds that are statistically more likely to seriously injure people. I want to be able to go to this beach and relax and not worry about being bothered by dogs nor worry about my children's safety. It's sad, but this is the one and only reason I haven't gone to this beach in a long time, and I should be able to go and feel safe since this is our nearest beach.
Please consider that hikers, runners, beach-goers should be allowed a good number of beautiful trails and beaches where they can enjoy nature and not have to deal with dogs. The dogs have plenty of places to enjoy, it seems that with the way the rules are now, they are held in higher regard than those of us who want dog-free options.

Correspondence ID: 3632 **Project:** 11759 **Document:** 38106
Name: Jones, Paul A
Outside Organization: Unaffiliated Individual
Affiliation:
Received: May,27,2011 17:02:49
Correspondence Type: Web Form
Correspondence: I am writing to support the preferred alternative as presented in the DEIS. Although I have some reservations about all elements of the plan, I believe that it is basically sound and should be supported. I have two dogs and have had several negative experiences while walking my dogs on GGNRA lands. One time, at Fort Funston, one of my dogs was chased in a very aggressive manner by a pit bull and eventually was bitten by this same animal. All this occurred while the owner of the other dog watched from afar as I tried to break them up. The bite drew blood but otherwise didn't hurt my dog badly. However, the interaction with the dog's owner was very disturbing. The man said our dogs were "playing" but I think not and few dog owners would agree that if another animal bites and draws blood that they two animals are playing together. This is one example among many of where there was inadequate control by dog owners over their pets. One other time worth mentioning happened when I took my son to Fort Funston when he was 4 years old. A commercial dog walker was unable to control an animal that lunged at my son to get the stuffed toy in my son's hand. The large dog slammed into my son and caused him to hit his head on the course asphalt pavement. I called the park police and reported this incident at the time. My son has suffered permanent disfigurement to the forehead from this fall.

In short, I think the NPS needs to put a rule in place that curtails the seemingly out-of-control offleash dog access in some parts of GGNRA to restore a modicum of safe recreational access for all park users. I think this DEIS is going in the right direction, though some relaxation of "no dogs" could occur in some parts of GGNRA lands in Pacifica with no detrimental effect to the natural environment, including listed species habitats. For example, the Baquiano Trail and the Sneath Lane access trail from the parking lot to the Baquiano Trail could be allowed for onleash access.

Finally, I support a carefully analyzed and implemented compliance strategy to ensure full compliance with all rules related to dog management. Things are far to lax now and must be brought under control The basic elements of such an approach are in the plan, but actual implementation is not ensured by simply writing a plan. There must be coordinated follow through with the affected cities and neighborhoods, good signs, and then enforcement. Without this, all the effort expended to date the the NPS will be essentially wasted.

I appreciate all the hard work and extensive analysis that went into the DEIS by the GGNRA and other NPS staff. They are to be commended for this diligence and attention to the complicated social and environmental aspects of this issues.

Sincerely,
Paul Jones

Correspondence ID: 3659 **Project:** 11759 **Document:** 38106 **Private:** Y
Name: private
Outside Organization: Unaffiliated Individual
Affiliation:
Received: May,27,2011 21:44:43
Correspondence Type: Web Form
Correspondence: I would prefer to have dogs banned from Mori Point, Malagra Ridge, and Sweeney Ridge altogether....no leashed or unleashed dogs. I have done extensive hiking and biking at all locations mentioned and many dog owners begin their walks with theri dogs on leash and then take the leash off when they get away from parking areas. I have seen dogs chasing birds, squirrels and other wildlife.

If all dogs are banned it is easier to regulate. There is no way that rangers and other law enforcement can make sure all dogs remain on leash. By eliminating all dogs one doesn't have to follow everyone to make sure they conform to leash law. Just keep all dogs out and don't worry about leash or no leash.

Pacifica is going to create a special dog recreation area where dog owner can run their dogs without leash.

Correspondence ID: 3925 **Project:** 11759 **Document:** 38106 **Private:** Y
Name: private
Outside Organization: Unaffiliated Individual
Affiliation:
Received: May,30,2011 12:59:30
Correspondence Type: Web Form
Correspondence: I DO NOT SUPPORT OFF-LEASH DOGS IN NATIONAL PARKS.

I am a 20 year San Francisco home owner AND a dog owner. I do not want off-leash dogs in any of our parks.

Dogs are dangerous and frightening. My dog was recently attacked and almost killed by three Great Danes that were off-leash. It was a horrible experience.

Only if dogs are controlled will I ever feel safe again.

Thank you.

Sharon Starr

Correspondence ID: 3941 **Project:** 11759 **Document:** 38106 **Private:** Y
Name: private
Outside Organization: Unaffiliated Individual
Affiliation:
Received: May,30,2011 13:58:22
Correspondence Type: Web Form
Correspondence: May 28 2011

Frank Dean, General Superintendent
Golden Gate National Recreation Area
Building 201, Fort Mason
San Francisco, CA 94123-0022

Re: Comments on Draft Dog Management Plan/Environmental Impact Statement

Dear Mr. Dean,

I am writing to request that the Draft Dog Management Plan be modiï¬ use in the GGNRA more, rather than less, accessible. I am concerned about the welfare of dogs and dog owners, particularly the urban population that exists in and around the GGNRA lands.

The reality is that the park lands under discussion are part of an urban community, not a wilderness.

The GGNRA is a unique urban open space, the historical result of lands preserved from residential and commercial development as a result of military
use and political will in the Bay Area. It was created to serve the outdoor recreational needs of a large metropolitan area. The current analysis and recommendations fail to consider dogs as part of the urban environment in which the GGNRA was created.

Dogs and dog-walking, both on and off leash, existed in the lands now controlled by the GGNRA before the GGNRA was created.

People and dogs have lived together in urban environments for thousands of years and will continue to do so. It is critical to the emotional and physical health of dogs to be able to exercise fully. This is rarely possible on leash or in small postage stamp sized "dog areas"

If dogs are not given adequate exercise they are prone to more physical health problems. More importantly they often exhibit more behavior problems that affect people. As a veterinarian of 30 years I can tell you that dogs that need exercise and do not get it are more likely to have aggression related issues, including dog bites. I am concerned that if you do you not continue to provide space for dogs to run you will see an increase in the incidence of dog related problems.

The dog policy in the GGNRA has always differed from the policy in other national parks for valid reasons. Dogs should be regarded not as something foreign from which the environment must be protected, but as part of the urban environment which can co-exist in harmony with the other parts of that environment.

Given that people will continue to have dogs, and that these park lands have permitted dogs to run, there is an established expectation that they will continue to do so. Many people made responsible decisions to get dogs while thinking that they had a wonderful place close by to exercise them

It is unfair to punish all responsible dog owners with such severe measures for the problems created by a few dog owners. For example, we do not see similar severe measures being taken against bicyclists for the actions of a few.

Elderly people, special needs people and lower income people are more severely and unfairly punished by these current GGNRA proposals because they will have to travel so far to properly take care of their dogs. They may not be able to do so and may be forced to surrender their beloved companions.

A culture is judged by its wisdom and kindness to the old, the frail and to animals. This harsh proposal reflects poorly on the awareness of the GGNRA. There are more cooperative and community oriented approaches to this problem. A collaborative, educational approach is more humane and balanced.

A multi-use policy is appropriate for the GGNRA, including an adequate balance for dog-friendly and non-dog areas. The vast majority of GGNRA lands are already closed to dogs. The GGNRA should continue to allow a signiï¬ on-leash and off-leash use. The GGNRA policy should be made more, rather than less, dog friendly and expand dog
use areas to allow even more responsible dog ownership enjoyment.

Sincerely yours,

Pamela Bouchard DVM.

Correspondence ID: 4056 **Project:** 11759 **Document:** 38106 **Private:** Y
Name: private
Outside Organization: Unaffiliated Individual
Affiliation:
Received: May,30,2011 19:03:56
Correspondence Type: Web Form
Correspondence: Thank you for making a plan to try to control dogs in the GGNRA. But I don't like the preferred alternative plan, I think it does not give enough protection to people or to wildlife or the land, and beaches. I like dogs and it would be nice if there were more parks just for them but I think you need to do more to control dogs at Ocean Beach, Chrissy Field, and other beaches and at other parts of the GGNRA because most dog owners either do not understand the affect their dogs have, or don't know how to train their dogs, or maybe they just don't care.

I have been fishing at Ocean Beach for almost 30 years, and Chrissy Field, and other Presidio beaches since the Army left. I have seen many dogs create problems at both places. I have been attacked by dogs at the beach near Fort Funston, at other parts of Ocean Beach, at the wildlife zone at Chrissy Field and at the part of the beach just west of the Saint Francis yacht club. They did not bite me but I was very scared. Two of those times the dog owner was mad at me for trying to scare their dog away even though their dog almost bit me.

At Chrissy Field some fisherman go very early in the morning because when the dogs come and splash in the water it scares fish. Some fish come very close to shore but leave if dogs are in the water. Most of Chrissy Field is spoiled for fishing most of the day and for any other activity than running dogs because of all the dogs there.

I have seen dogs off leashes attack horses at the beach near Fort Funston and attack other dogs and other people at Ocean Beach, and Chrissy Field. I don't know about horses on beaches but this is about dogs. You should not let dogs without leashes in any part of the GGNRA at any time. Most people cant control their dogs even on leashes, and almost none I see in the GGNRA or in San Francisco can control their dogs at all just by talking to them without leashes.

I see many dog owners ignore the rules about dogs at the wildlife area for Chrissy Field but I have never seen anyone get a ticket for that. Most of the time I see the same people doing it again another day even if a GGNRA person talks to them. Most dogs I see without leashes chase birds, which does not look that bad but I have read it is bad for the birds.

I know fishermen who have had unleashed dogs steal their bait and one who was fishing when a dog ran up and grabbed his lure and got hooked.

I have seen many dog owners let their dogs go to the bathroom on the beach and I often find plastic bags filled with dog waste on the beach.

I have read some dog owners say there is not enough areas to take their dogs and GGNRA beaches are next to San Francisco which is a big city. I don't think this matters because it is what a dog does in the GGNRA that matters.

I am getting older and I am worried about what might happen in the future if a dog tries to bite me and I am too old to dfend myself. Sometimes I am the only person around except for the dog owner, who may not catch a dog in time. I see some older people fishing sometimes and I wonder what would happen to them.

About how I would like to hear about future reports, meeting, other info: I read local news websites. I did see some areticles on neighborhood news websites but never saw any ads

or announcements from GGNRA on them. I would like to see GGNRA announce some of these things on local news websites, in addition to the news areticles they write.

Correspondence ID: 4111 **Project:** 11759 **Document:** 38106
Name: Swope, David S
Outside Organization: Unaffiliated Individual
Affiliation:
Received: May,30,2011 21:20:58
Correspondence Type: Web Form
Correspondence: Dear GGNRA,

I am writing to enthusiastically support leash restrictions on Alta Trail from Marin City to Oakwood Valley Trail.

As someone who lives near the entrance to Alta, my family and I are always surrounded by dogs off-leash as we try to walk or jog along the trail.

The trail is often used by 'professional' dog-walkers, who take many off-leash dogs of various sizes on the trail, without any voice control. Many of these dogs are intimidating types of dogs.

I was recently bitten on the thigh while jogging near the entrance to Alta Trail by an off-leash dog, and to this day, I am nervous around any dog-large or small.

It has gotten to the point where my wife will not walk on the trail by herself, even armed with pepper spray. And our 9-year-old boy, who actually likes dogs, will not leave my side while walking the trails.

One of our concerns is that from the end of Donahue to the trailhead, there seems to be no rules at all about off-leash dogs, even though it is "private" land. We would like to encourage more enforcement of the leash laws on the trail from the parking area to the trailhead.

Thank you for your help.
Sincerely,

David Swope
Jennifer Diessel
Ethan Swope

85 Buckelew St
Sausalito, CA 94965
415-272-4420

Correspondence ID: 4163 **Project:** 11759 **Document:** 38106
Name: Chi, Chin
Outside Organization: former member of the San Francisco Commission on Animal Control and Welfare
Unaffiliated Individual
Affiliation: Member
Received: May,30,2011 22:46:20
Correspondence Type: Web Form
Correspondence: I don't understand why this issue keeps coming up in this very divisive way. In Chinese, an animal is a "moving object" as opposed to inanimate things which are called "standing-not-moving objects". It is a basic physical need for dogs to be able to run about off leash freely in the parks at least several times a week, if not every day. It is cruelty to a dog to not be able to provide this kind of exercise for it. Children need also to be able to play in the parks without any fears. And of course native plants, animals, etc. need to be protected.

I've never been a guardian to a dog but in the four years I took my granddaughter to the park when she was a baby, then a toddler, I never saw any conflict between the above three concerns. On the contrary, one morning I saw a young mother with a toddler and a big dog, off leash in Mountain Lake Park (a medium-sized park in the Richmond District of San Francisco with a little lake, lots of birds, children and off-leash big dogs who do not restrict themselves to just the off-leash dog run)showing her little daughter how to pick up their dog's feces and dispose of it responsibly, then after thoroughly brushing the dog for a while, she gathered his combed out fur and placed the soft furry ball behind some bushes surrounded by trees. Noticing we were watching her, she explained with a smile: "The birds like the fur for their nests."

Although this may have been a special incident that represented support by one person for all three concerns,the needs of the dogs, the children and protection of other species, it is typical that most people enjoying this park sympathize with all three and do not feel they are mutually exclusive. We certainly never felt the three conflicted!

If there is a real concern about off-leash dogs "attacking" children in the smaller parks, one simple way would be to restrict off-leash dog walking during the hours when children most often play there such as from 9:00 a.m to 5:00 p m. That would be a restriction working people could easily abide by since that is the time they are usually at work anyway. It is usually before 9:00 a m. or after 5:00 p.m. that they have time to walk their dogs. As for children, especially toddlers, I've never seen a child in the park before 9:00 a.m. or after 5:00 p m.

With regard to protecting endangered species from off-leash dogs, you need only to prohibit dogs from running near their home areas. If they are "Cliff Swallows" or something like that, then prohibit the dogs from running around near the cliffs, but why prohibit them from running in the entire or most of the vast park?

All the laws and restrictions being considered for the dogs will impact most the poorer people who have dogs, those who do not have a back yard or a car in which they can drive the dog to some off-leash run area. The result of that will be more abandonment of dogs and more left in shelters who will then be almost inevitably euthanized. Why?! Just so that some may show off how much they "care" about children or the environment?

All these problems and suggestions for resolution have been brought up again and again. Why do we keep rehashing them? It's a waste of time and money. There are simple common-sense solutions, so let's work together on implementing them!

Chin Chi (Ms)
Former member (for five years) of the San Francisco Commission on Animal Control and Welfare

Correspondence ID: 4269 **Project:** 11759 **Document:** 38106
Name: Day, Theresa
Outside Organization: Unaffiliated Individual
Affiliation:
Received: Apr,14,2011 00:00:00
Correspondence Type: Letter
Correspondence: To Whom it May Concern,

Thank you for allowing public comment on the DEIS. I completely support placing tighter restrictions on dogs using Golden Gate National Recreation Areas. I believe they are needed to protect the snowy plover and all wildlife in these areas. Dogs should be kept out of parts of San Francisco's Crissy Field, Ocean Beach and Fort Funston, and I agree with Michael Lynes that the proposed rules don't go far enough.

As a senior citizen, I don't feel safe when dogs are allowed to run free. I have been bitten, had my food taken, water shaken on me and had dogs running between my legs causing me to fall, while owners of the dogs did nothing to prevent these occurances. And the owners disrespect posted signs and get defensive when they are pointed out.

I have never heard of any dog owners getting cited for violations. There has to be monitary fines for violations, especially repeat offenders. And all dogs should be licensed.

Sincerely,

Theresa Day

Correspondence ID: 4318 **Project:** 11759 **Document:** 38106
Name: Wasserman, Jeff M
Outside Organization: Unaffiliated Individual
Affiliation:
Received: May,20,2011 00:00:00
Correspondence Type: Letter
Correspondence: Dear Sirs/Ma'am,

I am writing to convey my concern about the park's current policy of allowing off-leash dogs all almost all the Golden Gate National Recreation Area, and to request that any future rules or regulations require dogs to be on a leash in most park areas. I have a six year old son and I frequently take him to the Crissy Field Beach, and we are constantly over-run by off-leash dogs who have taken over the beach. The dogs urinate and defecate all over the beach, and while many owners do clean up their dog's poop, some do not and no one can do anything about all the dog urine all over the beach. Kids who play in the sand are constantly exposed to this dog urine and excrement, which is both unpleasant and unhealthy. On many occasions my son has been approached by a fast running dog, which has often frightened him. I have refrained from taking my son to Fort Funston at all, despite the beautiful vistas and the interesting hang gliders, due to that park being completely overrun by off-leash dogs that spoil the park experience for anyone who is not a dog owner. Again, dogs at Fort Funston urinate and defecate all over the park which can't be good for the natural environment and the species of animal and plants that live there.

My suggestion is that the GGNRA require all dogs to be on-leash, but that you request a waiver from the National Park Service from the current six foot leash requirement, and allow dogs to be on leashes up to 12 feet long, to allow more freedom to dog owners and their pets. A 12 foot leash permits a dog to run a little while still being under control by their owner. I also believe that the GGNRA should designate or develop two or more fenced off-leash dog areas on GGNRA lands in Marin County and in San Francisco, much like other jurisdictions, so owners who want to run their dogs off-leash can do so in these areas. Examples of these fenced off-leash dog areas exist in Golden Gate Park and in my own town of Alameda.

Thank you for your consideration of my suggestions. There is a reason that every other town, city, and county requires dogs to be on leash in their parks. Unleashed dogs pose a threat to each other, to children and adults visiting the parks, and to the natural environments, wildlife, and plants that make our parks such wonderful places to visit.

Sincerely,

Jeff M. Wasserman

Correspondence ID: 4354 **Project:** 11759 **Document:** 38106
Name: Meyer, Amy
Outside Organization: Unaffiliated Individual
Affiliation:
Received: May,24,2011 00:00:00
Correspondence Type: Letter
Correspondence:

Amy Meyer
5627 Clement Street
San Francisco, CA 94121
415-221-8+27 a7w2m@earthlink. net

GGNRA PROPOSED DOG MANAGEMENT POLICY' A PERSONAL REVIEW
I am going to state first my only fundamental disagreement with this NPS document. While I am pleased with the wholehearted efforts, and in general the results achieved by NPS staff and citizens who reviewed thoroughly the management of dogs in the Golden Gate National Recreation Area, it is presented in a context that is profoundly wrong. In Volume I, on page i the following appears:

PURPOSE OF GOLDEN GATE NATIONAL RECREATION AREA
The purpose of GGNRA is to offer national park experiences to a large and diverse urban population while preserving and interpreting its outstanding natural, historic, scenic, and recreational values.

The purposes of the GGNRA are clearly stated in the enabling clause of its legislation, P.L. 92-589: "...to preserve for public use and enjoyment certain areas... possessing outstanding natural, historic, scenic, and recreational values... the Golden Gate National Recreation Area...is hereby established. In the management of the recreation area the Secretary of the Interior... shall utilize the resources in a manner which will provide for recreation and educational opportunities consistent with sound principles of land use planning and management. In carrying out the provisions of this Act, the Secretary shall preserve the recreation area, as far as possible in its natural setting, and protect it from development and uses which would destroy the scenic beauty and natural character of the area."

I helped develop the legislation that established the GGNRA. It came into existence with a movement "to bring parks to the people where the people are," and yes, one of its objectives of this movement was to give the Bay Area's urban population (and a few other urban areas in other parts of the country as well) a chance to experience a national park close to home - the key being a national park experience, not a city or county park experience. However, visitors come from all over the United States and all over the world to this park. It is not a local park and cannot be administered as if it were. Briefly, it was suggested before the legislation passed that it be called the Golden Gate Urban National Recreation Area, but Congressman Phillip Burton quickly pushed away that idea. Almost none of the GGNRA is urban. Our park at the Golden Gate protects a national icon and is rich in natural areas and a wide variety of ecosystems. The park also is home to one of the largest numbers of endangered species in the national park system.

The GGNRA is a national park in an urban area. It has to be administered to achieve the goals of its legislation. That includes managing it in the same way as all of the other 393 units of the national park system are managed. What is being offered here is a unique attempt to give a portion of the local population a chance to use the park in a way it has enjoyed for many years. This accommodation can be successful only if it does not diminish the values for which the park was established.

I have personally re-visited several areas of the park with which I am most familiar to see how they are being used by the general public, especially by those members of the public who bring dogs to the park. Most of all, I want the park to administer its lands so that wildlife and the habitat upon which wildlife depends are protected. In general, I am much in favor of having dogs able to be off-leash in areas traditionally used for this purpose' as

long as their owners can control them and habitat and wildlife are only minimally affected. However, visitors, both local and those from far away who do not want to share their park visit with dogs, should have opportunities to have equivalent experiences in places of similar natural and scenic value. The park is big enough for that. Any changes in the national regulation' which permits only dogs on leash where they are allowed at all' must be done with the protection of the natural resources, and with the experiences and safety of all visitors in mind.

I reviewed the proposed regulations for licensing dogs and for permits for commercial dog walkers. I watched group dog walkers at several sites and agree that a maximum of 6 dogs is the most that should be allowed under a permit. Those who try to walk more dogs more often have insufficient control over some of them. Dogs who come to the park should be licensed. It will take further thinking to figure out how NPS can enforce that requirement in this park when some people bring in dogs from outside this region.

Here is my view of the areas of the park I know best that are proposed to have leashed and unleashed dogs as an accommodation to the wishes of many local people:

LANDS END/FORT MILEY

I favor Alternative D for this area. It has steep topography with narrow trail corridors in most places. It is appropriate to have dogs on leash on the Coastal Trail so that all visitors may have a good experience. The people who use the widest portion of this trail between Pt. Lobos Avenue and the end of the improved area are often older, disabled, or appear to be visitors from other countries. The El Camino del Mar Trail up to the steps has little space for dogs to run off on either side owing to density of habitat and steep topography. It seems appropriate for a regulated off-leash area (ROLA).

I prefer Alternative D because it also allows dogs off-leash in the very narrow strip of land between the golf course fence and the drop-off to the bunkers.

Oddly, some trails are not shown on the maps, including one that connects the golf course fence line trail with the E. Ft. Miley picnic tables and one that continues the El Camino del Mar Trail past the steps to the parking lot behind the Legion of Honor. These areas have many opportunities for dogs to go off-trail into habitat areas. They should be on-leash areas. It should also be noted that the end of the fence line trail does not connect directly with the Legion of Honor parking lot and there is probably a 50' elevation difference between them. Walkers who try to connect in this area will be on San Francisco RPD land some of the time. Dogs should be on leash in all of these areas because of cars and museum visitors.

OCEAN BEACH

I am in favor of the GGNRA's Preferred Alternative for Ocean Beach with one addition. I have inquired as to why the regulated off-leash area (ROLA) ends at Stairwell 21 and have been told the stairwell marks a buffer zone for the protected area for the snowy plover directly to the south. However, I think this is drawing a line in the sand which is hard to patrol and is more likely to be disrespected. It would be more sensible to make the ROLA/snowy plover boundary at the south end of the esplanade, where dogs can go on leash onto the trail that goes toward the zoo. This is only several hundred feet of distance. It gives better continuity and still leaves a buffer zone for the birds.

FORT FUNSTON

The fort has a large number of people who have used it for dog walking and sociability for many years. It is severely eroded in large places. Watching dogs run and chase balls and sticks I see them move from denuded areas into areas which have been or could be rehabilitated for habitat, rather than given over to sand and ice-plant. Post and rail (coated wire) fencing such as is used on Milagra Ridge and Crissy Field is needed here, both to

keep dogs out of vegetated or re-vegetating habitat and to give people and dogs a definite place to be or a clear path along which to move. Such fencing does not have to dominate the landscape.
I favor Alternative D which provides an upland area for the dogs and also a part of the beach as shown on the maps. There should be a connecting ROLA path between the upland and the beach, fenced as necessary to keep animals and people out of habitat.

CRISSY FIELD, east, west, and central

The most uncaring, self-centered dog owners I have encountered walk on the Golden Gate Promenade. Many of them do not keep their dogs under voice control so that others can walk without being bothered. My grandson froze against my leg several times in the course of the three Tuesday mornings we were there, (I have not tried the area on a weekend or holiday.) My instinctive reaction is to suggest that the Promenade is no place for unleashed dogs because it is too narrow and because of the attitude of the dog owners. Also, I think the Promenade with its splendid views of the Golden Gate is an area that should welcome visitors from outside San Francisco, and I don't think it does at this time.

The dogs and their owners seem to do better along the beach, probably because the dogs have room to roam and seem to be more interested in the other dogs they meet and the balls or sticks their owners are throwing. However, the owners also seem to be more aware and respectful of other people on the beach that their dogs move to encounter and to call them off.
My grandson may also feel he has more room to avoid them.

There are certain areas along the beach favored by the commercial dog walkers' two or three may congregate together. There may be 12 - 18 dogs at a time in one place. In general, these dog walkers seem to keep relatively good control over their dogs. Not having a dog with me, I don't really know how these small packs of dogs relate to single animals coming down the beach but I have not seen any incidents.

Therefore, I support maximum leash restrictions on the Promenade, while favoring a broad area for off- leash on the beach, consonant with wildlife protection. I haven't been able to observe the interactions of dogs with people on the former airfield.

Having written the above, I checked the Plan maps and find I support the Preferred Alternative.
An additional note: A friend told me that she and her husband unwittingly wandered into the wildlife protection area on the beach side because the signage was not clear enough on that side so that they didn't realize they had entered it. If this has not been mentioned before, I hope someone will check this out at both high and low tide to make sure the signage is very observable along the beach.

MILAGRA RIDGE

This area has wonderful views and its scenery has a wild aspect. Its many different species of wildflowers contribute to that scene and I understand there is much wildlife. I was impressed with the protective postÂ¬and-rail (wire) fencing of sensitive areas; it did not dominate the scene but it would keep dogs and people out of habitat.

I was shown the transects of the people who do butterfly studies in the area, and was told of the many volunteers who work to keep out the exotics and help with restoration of degraded areas.
All the dogs I saw on a sunny Sunday afternoon were leashed. I agree that anyone walking more than 3 dogs along the proposed trail, even on leashes, could affect the habitat and wildlife.

I think the Preferred Alternative is the right choice for Milagra Ridge. It has areas both for leashed dogs and for people who do not wish to be with dogs. Although I noted there

previously have been citations for dogs off leash, I think this is a place where community cooperation and compliance could be fostered.

MORI POINT

On a Sunday morning with changeable weather there were fewer people on Mori Point than I have seen on previous weekday and Saturday visits. I saw the great progress in native plant restoration and trails since my most recent visit last fall. Mori Point is a poster child for the encouragement of park stakeholders through community activism. Many of the plantings on Old Mori Road are obviously just taking hold.

There is some fencing but many of those plantings and the natural areas behind them as well as the ponds cannot be well protected from off-leash dogs.

When I paid a subsequent visit on a sunny Sunday afternoon, the situation was about the same except that there were more people and dogs. In general, the people with dogs paid attention to the behavior of their animals. I saw only small incursions into habitat. But I think dogs have to be leashed along Old Mori Road.

About half the dogs I saw were on leash. It is evident why they should be on leash on the Old Mori Road and the Coastal Trail and why they particularly should not be allowed on the Headlands Trail which is already beaten down just by human visitors. In the Preferred Alternative three trail segments have no dogs which should provide a good alternative experience for those who do not wish to encounter them.

I endorse the Preferred Alternative.

RODEO BEACH

There were relatively few people with dogs on the beach on a weekday morning. Several classes of elementary school children were there, probably from the Headlands Institute (NatureBridge). There was plenty room for everyone who was there, and if there were a lot more people there, I think there would still be a lot of room. I favor the Preferred Alternative, which gives plenty of room for dogs off leash, but also allows some beach that is dog-free for picnickers and beach games.

CONCLUSION

I think there will be a continuing need for Education for some time to come concerning the status of the GGNRA as a national park. When I went with Howard Levitt to a neighborhood meeting, a man who said he is retired and loves to be out with his dog at Fort Funston said (paraphrased!) that he did not understand why the habitat could not be fenced so he could play with his dog wherever else he wanted to go. This lack of awareness of the special nature of a national park has unfortunately spread throughout the community during the 30+ years that dogs have been allowed off-leash, most of all in the last 10 years.

It is going to take a concentrated effort to educate, backed by an insistence on Compliance and provision of Enforcement to make this special rule work. Frankly, a 75% compliance is viewed as a "C+" grade. I think it is too low, because too many people in the most contentious places, especially Crissy Field but also Fort Funston, will see too many dog owners getting away with too much. The rule has to expect a higher level of compliance' like 90%' because there has to be a critical mass of acceptance of the terms of the Special Rule for it to work.

Amy Meyer
May 20, 2011

Correspondence ID: 4463 **Project:** 11759 **Document:** 38106
Name: Dale, Maggie
Outside Organization: Unaffiliated Individual
Affiliation:
Received: Jun,01,2011 00:00:00
Correspondence Type: Letter
Correspondence: To Members of the Negotiated Rulemaking Committee for Dog Management,

I have lived in the Outer Richmond for 4 years now and am a regular visitor to Lands End. I am writing because I have been in (and witnessed) numerous dangerous situations with dogs and their owners while walking the Coastal trail and I fear it is only a matter of time before someone is seriously injured. This trail is heavily used by joggers, tourists and hikers of all ages. In several parts, the trail is narrow, uneven, steep and bordered by cliffs. There are blind corners, tight turns and several stair cases. When dogs both leashed and unleashed are being led through these sections, it creates serious congestion and apprehension for the parties involved, as well as the potential for serious injury. Alternative D is the best proposal, because it does not allow dogs in the above-mentioned areas. I have included some pictures I took the last time I walked the trail. This was after 3 minutes on the trail if that is any indication of how often these potentially hazardous situations arise.

Thank you for your time,

Maggie Dale - San Francisco resident and weekly hiker on the Lands' End Coastal Trail

Correspondence ID: 4479 **Project:** 11759 **Document:** 38106
Name: Feldstein, Julie
Outside Organization: Crissy Field Dog Group Unaffiliated Individual
Affiliation: Member
Received: May,31,2011 00:00:00
Correspondence Type: Letter
Correspondence: May 27, 2011
Frank Dean, General Superintendent
Golden Gate National Recreation Area
Fort Mason, Building 201
San Francisco, CA 94123-0022

Dear Mr. Dean,
My name is Julie Feldstein and I live in the outer Richmond District. My family has been San Francisco dog owners for 12 years and we currently own 2 yellow labs. We take our dogs to run everyday, either at Crissy Field, Baker Beach or in the Presidio. I am strongly opposed to the proposed changes to the dog leash laws. It is my understanding that the GGNRA feels that dogs damage the beaches and park land and bother other wildlife, such as birds. Although there are a few irresponsible and inconsiderate dog owners, my experience is that the vast majority of dog walkers are, MORE environmentally aware and considerate than most non dog owners. If you have ever gone to Baker Beach after a warm sunny weekend, you will see lots of trash. It was not dog walkers who left it there ' it was the general population of non dog owners. Guess who picks that trash up on Monday morning - dog walkers! Most dog walkers also play a major role tidying up the beaches and paths they walk on EVERY DAY! I am a member of the Crissy Field Dog Group (as well as Save the Bay) and part of our dues are used to provide plastic bags so that all dog walkers can pick up after their dogs. Doesn't this show that the better course is to work with responsible groups like Crissy Field Dog Group, who are already working with their own money and time, to create a compromise that works for all parties. The dog associations have proven with their actions they are willing to do what it takes ' how about the GGNRA showing that same kind of interest and involvement?
I also strongly object to the idea of paying park police to sit and monitor the beaches with the intended purpose of issuing tickets to owners with dogs off leash. What a waste of time and resources! In this day of restricted budgets ' it is unnecessary and a big waste of money.
would propose that beaches and parks be open to dogs off leash during restricted hours of the day. I have seen this program work very effectively on a beach where my parent's live in Massachusetts. Why not allow dogs off leash before 10:00 am and after 5:00 pm? This allows people to enjoy the beaches without worrying about dogs, yet give dog owners plenty of time to enjoy the beaches and parks as well.

In closing, I would like to add that the proposal for restricting the area dogs are allowed to run off leash to certain small areas, such as a portion of Crissy Field, is going to create aggressive dog problems. Does the GGNRA not realize that forces too many dogs into one area creates problems? This is a prescription for dog fights and worse. The proposed changes will undoubtedly create more problems than they solve.

Please work with the population of responsible dog owners - we should be all in this together. Sincerely,

Julie Feldstein
139 25th Ave., San Francisco, CA 94121 Member, Crissy Field Dog Group.

Correspondence ID: 4585 **Project:** 11759 **Document:** 38106
Name: Begle, Christine M
Outside Organization: Unaffiliated Individual
Affiliation:
Received: May,31,2011 00:00:00
Correspondence Type: Letter
Correspondence: Dear Mr. Dean,

I've been in the Bay Area since 1993, and my husband, Marc Weibel, is a life-long Bay Area resident who has lived in San Francisco since 1990. We have lived in the Sunnyside neighborhood in San Francisco since 2007. We are current members of several local environmental organizations, including the Golden Gate Audubon Society, WildCare, and the Marine Mammal Center, as well as national organizations such as the Nature Conservancy and the Ocean Conservancy. We have contributed to the Golden Gate National Parks Conservancy and California Audubon, and have participated in California Coastal Clean Up Day. We participate on the local birdwatching e-mail list, SFBirds, on Yahoo Groups. In short, we appreciate our local natural environment, and we love birds.

We are also dog owners ' our current dog is a rescue from Northern California Family Dog Rescue, and our previous dog came from the Milo Foundation.

I am writing to comment on the proposed changes to the rules concerning dogs in the GGNRA. Since Ocean Beach is our main destination within the GGNRA, I will restrict my comments to the proposal for that area.

We visit Ocean Beach from one to three times each week, usually walking along the beach between Sloat Boulevard and Judah Street. As birdwatchers, we enjoy seeing the Snowy Plovers and other shorebirds. As responsible dog owners, we always keep our dog on leash, pick up waste, and do not disturb the wildlife. We treasure our ability to visit this unique location with our dog, and we respect other people, wildlife, and the law.

We are very disappointed that the GGNRA prefers Alternative C, which would prohibit dogs from Ocean Beach south of Stairwell 21.

We support the year-round leash law proposed in Alternative E, which would protect the habitat and migrating shorebirds, and allow responsible dog owners to continue to use Ocean Beach.

1. Safety
As a woman who often walks alone with her dog, I find Ocean Beach invaluable. To me, it is a singular location in the city of San Francisco not only due to its beauty, but because the 3.5 mile round trip between Sloat and Judah is flat, free of traffic, and where, with my dog, I feel safe to walk alone. Losing the ability to walk on Ocean Beach with my dog would be an immeasurable loss to me. Without my dog, I would not feel free to walk Ocean Beach.

Not only does my own dog make me feel safer, but other people walking dogs makes me feel safer. The stretch of Ocean Beach between Sloat and Judah is little used, and without the people with dogs, there would hardly be anyone left. I would feel too removed from civilization to feel safe walking alone.

Many who use this part of Ocean Beach are dog owners, and I've noticed that many are women walking alone with their dogs, like me. I did not see anything in the EIS that considered who the current users are and who would be affected by the ban of dogs from Ocean Beach, so I wanted to provide this data point.

Restriction to the Coastal Trail, as proposed in Alternative C, is not a comparable experience. The trail's proximity to 35 mph traffic, the occasional camper in the dunes, and its distance from shore and shorebirds, makes it less safe, beautiful, and peaceful.

2. Enforcement
Whichever alternative is chosen must be enforced. Without enforcement, I predict that those who disobey the dog laws will continue to do so. If the preferred Alternative C is selected, only those of us who obey laws will end up being punished, and none of the goals of the new rules will be achieved.
In the years that I have been visiting Ocean Beach, I have only seen park rangers on the beach once -- January 10, 2010. (It was such a notable event that I wrote it down.) If there were more enforcement, I wonder if we would need to be having this discussion now.

3. "No-Dog Experience"
The EIS describes surveys that asked people whether they support off-leash dogs or not. I did not see any questions asking whether people wanted a dog-free experience, yet the GGNRA is making policy decisions based on this position. I saw no data to support the claim that this desire exists within the community.

Even given that some people don't like dogs, Ocean Beach is wide and open enough that no one need interact with a unwanted dog, except perhaps during a very high tide.
Many people do enjoy dogs. We do not allow our dog to approach strangers, but strangers often approach us to meet our dog. (It happened even more often with our previous dog, Prunella, who was in a dog wheelchair. She was very popular.) We love seeing dogs on the beach, especially during the years when we didn't have one of our own. We love the chance meetings we have with our fellow San Franciscans and their dogs, and the people we meet appear to feel similarly. I feel that Ocean Beach without dogs would be a very different, less friendly place indeed.

4. Share Ocean Beach
While I see some dog owners like myself who comply with the law, of course there are many who do not. While I do not approach every non-complying owner, I am happy to have had one friendly, positive conversation with one that resulted in her leashing her dog. It gave me hope that increased education (along with enforcement) can result in everyone sharing the beach ' people, wildlife, and dogs.

We love Ocean Beach ' it's where my husband asked me to marry him. Our wedding party was at the Beach Chalet. Afterwards, we had a bonfire ' in one of the approved fire pits, of course ' so that we could celebrate with our dog. We hope to always visit Ocean Beach, and always to be welcomed with our dog.

This past winter, we were birding Crissy Field, and saw banners in the Warming Hut that promoted "parks for all forever." These banners saddened me because I felt that GGNRA's "all" did not include us. I hope the alternative that the GGNRA chooses takes into consideration the needs of all its users, including responsible dog owners.

We hope you will choose Alternative E. Please continue to allow dogs on leash on Ocean Beach.

Thank you for reading my comments.

Sincerely,
Christine Martinez Begle

Correspondence ID: 4625 **Project:** 11759 **Document:** 38106
Name: Meria, John
Outside Organization: Unaffiliated Individual
Affiliation:
Received: May,17,2011 00:00:00
Correspondence Type: Letter
Correspondence: I've been nipped in the butt by one of two off leash German shepherd dogs on the lower hillside of Milagra Ridge. This was a dog whose owner was calling him back as he charged the thirty feet to me. He was not responding to her voice control. It's as if someone is pointing a loaded gun at you to have a dog which can spring into action with or without command. l wouldn't sav it was a viscous attack but l had bruise points where the teeth hit but no punctures.

On Pacifica's ocean front levee I had to dance for a smaller dog as it was circling around and biting at my shins. It was almost comical because the dog had a leash attached and the owner was scrambling around trying to pick it up where it was dragging on the ground. The couple had two dogs and both were yelling at their barking biting dog. Another observer, as well as myself, told them to get the dog off. The dog's teeth only caught my cuff.

A most intimidating encounter was with "Chico". The tiny dog charged out in front of his masters as he came at my ankles yip yipping, as a Chihuahua does, and made several approaches and raised a ruckus as we were passing. But most surprising was that J had to watch my backside because he even launched another charge run fifteen feet back at me.This couple also had two dogs off leash and we were in the GGNRA posted area of Mori Point.

I've seen a mother in the oceanfront picniC area have to scramble across her picnic blanket to protect her youngster from a gamboling labrador which was not on leash. Then I heard the thoughtless remark by the owner, "he's friendly". A large dog can do damage to you by bumping into you. Just ask my wife who needed knee surgery after a friendly dog bump. Additionally, I know people whose dog;s were mauled and seriously damaged by another dog. They were unable to make a case against the offending dog's owner because their own dog was not on leash.

Older people, older couples and set-in-their ways youngsters who believe that suburbia and a/l open park lands are their dog's unrestricted domain, have to accept the new reality of many people and wildlife sharing the same space. Dog owners are a minority group and dogs don't have civil rights equal to citizens.

Until recently we had a pet cattle dog but opted to leash him when it became an enforced county law. I think I knew him well enough to not trust him in all drcumstances. My dog was not a factor in any of these incidents I mentioned as he was not along with me when they happened. I am for leashing dogs on city streets, on beaches and in parks including GGNRA lands.

I also think that along with a dog and cat's licensing, there should be a waste management fee for the processing of feces and litter, whether flushed down the toilet or thrown in the garbage,.can/based on animal size and paid to the licensor. But don't get me started.

Sincerely,
John Meria

Preliminary Adaptive Management for Snowy Plover
Ocean Beach Snowy Plover Protection Area

Problem Statement:

The Pacific Coast population of the Western Snowy Plover (*Charadrius alexandrinus nivosus*) was placed on the federal endangered species list as threatened by the U.S. Fish and Wildlife Service (USFWS) in 1993. Primary reasons for listing the Western Snowy Plover as threatened are loss of habitat due to encroachment of non-native vegetation, predation, and disturbance from recreation.

Pacific Coast and interior populations of Western Snowy Plover as well as other species of shorebirds winter in coastal habitats that provide resting and feeding habitat including portions of GGNRA (Table 1). Wintering birds must accumulate fat as an energy reserve for successful migration and breeding. The Snowy Plover Recovery Plan (USFWS 2007) describes the impact off-leash dogs can have on wintering plovers. It specifically recommends that dogs be excluded, or on-leash at beaches where snowy plovers winter.

GGNRA currently has two locations seasonally important to wintering Western Snowy Plover and other shorebirds: 1) Ocean Beach Western Snowy Plover Protection Areas (SPPA) and 2) the Crissy Field Wildlife Protection Area (WPA). From 1997 until December 2004, dogs were required to be leashed within the Ocean Beach SPPA and dogs were prohibited within Crissy Field WPA according to recommendations provided in existing GGNRA management plans. A court ruling in 2004 allowed park visitors to walk dogs off-leash in both areas (NPS 2006). Unleashed dogs in the protected areas may result in 1) birds responding to the dogs (and pedestrians) as a perceived predator and flee; 2) dogs chase the birds (NPS 2006). Both actions result in birds increasing energy expenditure that can result in loss of condition for successful migration and/or breeding. Currently, Superintendent's Compendium amendments are used to seasonally prohibit unleashed dogs in the protected areas, however, compliance with the restrictions has not been adequate (NPS 2007).

Management Options:

1. Dogs on Leash
2. No dogs

Monitoring Program:

Adaptive Management Criteria

Data Collected	Snowy Plover Protection Area	Other Area
1) Number of Western Snowy Plovers		
2) Number of Dogs Observed		
3) Number of Dogs Off-Leash		
4) Number of Dogs Chasing Birds		

Validation:

1) Focus is on monitoring of dogs rather than on Western Snowy Plovers. Because the birds at Ocean Beach are a wintering aggregation, factors may influence the abundance of birds using the Ocean Beach Western Snowy Plover Protection Area or other know wintering locations such as breeding success, weather, and overall population changes that are not discernible at the wintering site or attributable to dog management.

2) Monitoring would occur when regulations are implemented, after a preliminary period of educational programs, preliminary enforcement, etc.

3) Ideally, dogs within the Western Snowy Plover Protection Area would decline to zero with education, enforcement and compliance.

Decision Step:

1) Non-compliance < 5% - no change
2) Non-compliance 5-10% - Re-initiate education effort
3) Non-compliance > 10% - change management action to No Dogs

Historically, the percentage of dogs off-leash has been high. In 2006, prior to implementation of leash requirements in November, 2006, the median percentage of dogs off-leash in the Snowy Plover Protection Area was 79%. Since implementation of leash requirements, dogs off-leash has remained at around 60%. However, it is anticipated that with effective education and enforcement, compliance can be increased. In accordance with the findings and recommendations of the Snowy Plover Recovery plan, it is recommended that only a minimal level of non-compliance should be tolerated to avoid impact to this species.

The Seeing Eye

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2011 Dog Attack & Interference Survey
United States Report

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Introduction

Established in 1929, The Seeing Eye, Inc., provides specially bred and trained dogs to guide people who are blind or visually impaired. With over 80 years of experience, The Seeing Eye is a leading expert on advocacy issues related to the safe and effective travel of guide dog teams. Nationwide, approximately 8,500 people who are blind or visually impaired partner with guide dogs to increase their ability to move about safely, effectively and independently. One significant issue that continually threatens both the physical and emotional well-being of guide dog teams is attacks and interference by aggressive dogs.

These incidents are far more dangerous than simple dog-to-dog altercations. The safety of the guide dog team depends largely on the dog's ability to concentrate on its work. When distracted from these duties, the dog and its blind owner become instantly vulnerable to harm. People who are blind must face dog attacks and interference without the ability to use vision to protect themselves or their guide dogs.

Even without physical injury, attacks and interference can negatively affect a guide dog's behavior and work performance. When a dog is no longer able to work as a guide due to the physical or emotional effects of interference or attack, it is devastating to the blind handler to lose this valued companion and source of mobility.

The blind person as well as the guide dog school may also suffer economic damages. In many instances, the blind person is forced to incur an additional burden of veterinary and/or medical expenses, lost wages, and/or unexpected transportation costs. Additionally, the cost incurred by the guide dog school to breed, raise and train a replacement guide dog and to instruct the blind person to work with a new dog well exceeds $50,000.

Background

According to the National Centers for Disease Control and Prevention in Atlanta, 4.7 million Americans suffer dog bites each year, and almost 800,000 bites per year are serious enough to require medical attention. Additionally, the American Veterinary Medical Association and insurance company statistics report that there are over one million dog bite reports filed annually.

While the prevalence of loose or uncontrolled dogs may be inferred by the frequency with which Americans suffer dog bites, there is little data that indicates the extent of adverse interactions between guide dog teams and loose or uncontrolled dogs.

In order to better identify the scope of this problem, The Seeing Eye conducted a study to confirm anecdotal information indicating that guide dog teams experience a high frequency of attacks and interference; to identify possible interventions to help reduce their frequency; and to establish baseline data to assist with future studies.

Method

The Seeing Eye designed a 55-question survey related to guide dog handlers' experiences with attacks and interference by aggressive dogs. For the purpose of the survey, the term "dog attack" was defined as "a negative encounter with another dog that bites or otherwise physically harms you or your guide dog." The term "interference" was defined as "any dog that aggressively obstructs, intimidates, chases, harasses or otherwise jeopardizes the safety and emotional well-being of you or your guide dog."

The survey was open from December 13, 2010, to January 29, 2011, through a web based survey vendor. Guide dog handlers from the United States and Canada were notified of the opportunity to participate in the online survey through web communications including emails, social networking sites, blogs, newsletters and word-of-mouth. Those individuals who were unable to or did not wish to access the online survey had the option of calling The Seeing Eye's toll-free phone number to request that the survey be administered by telephone. The total number of respondents from the United States was 744, 80 of which were interviewed by phone. This report only covers the results collected from U.S. respondents. Persons seeking information from the Canadian study should contact The Seeing Eye.

Since the topic of the survey was known in advance to those invited to participate, it is possible that a self-selection bias positively influenced the frequency of attacks and interference reported in the results of the study. The advocacy team attempted to mitigate the possibility of any such self-selection bias by encouraging guide dog handlers to participate in the survey regardless of whether they had or had not experienced an attack or interference. Nevertheless, the effects of that encouragement were not under strict control.

Questions about the frequency of breeds involved in interference/attacks were purposely omitted in this survey. A representation ratio to compare the relative risks between breeds is irrelevant to this study as any dog, regardless of its breed, can pose a threat to the health and safety of a guide dog team.

Results

Frequency and Location of Attacks

The Seeing Eye 2011 dog attack and interference survey revealed that 44% of respondents (324 out of 744) had experienced at least one attack. Of those, 58% were

attacked more than once. Findings also showed that 83% (617 respondents) had experienced interference by an aggressive dog. The vast majority of attacks (80%) and interference (83%) occurred on a public-right-of-way such as a sidewalk or roadway. In cases involving the most recent attacks, 74% happened when respondents were being guided by their dogs within 30 minutes walking distance from their homes. Most of them (80%) travel by foot within their neighborhood on a daily basis.

Circumstances of Attacks and Interference

The survey data indicated that dog owners who let their animals run loose or fail to adequately secure their home properties are not the only ones who pose a threat to the guide dog team's safety. Many dog owners do not seem to understand that a working dog should not be distracted while performing its duties as a guide. For instance, pet owners who allow a leashed dog to make physical contact with a guide dog or to otherwise distract or interfere with a guide dog (either out of ignorance or because they are unable to control their dog) needlessly risk the safety of the working team. Likewise, tying a dog out in a public place and leaving it unsupervised can also pose a hazard.

Survey respondents were asked to select from a list of circumstances under which instances of attack and interference took place. Those who experienced more than one attack were asked to mark all that applied. Results showed that:

- 76% of respondents reported they had been attacked at least once by a loose dog
- 47% of respondents said they had been attacked at least once by a dog that was leashed but inadequately controlled by its handler
- 13% of respondents said they had been attacked at least once by a dog that was tied but left unsupervised

Similar findings were recorded for incidents of interference by dogs that were loose but the latter two circumstances increased substantially (see the chart below for more details) during episodes of interference.

Circumstance	Attacks	Interference
Dog was loose	76%	79%
Dog was leashed but owner did not control it	47%	58%
Dog was tied and left unsupervised	13%	27%

Season and Time of Incident

When asked to report specific details of the attack (those experiencing more than one attack were asked to base their responses on the most recent incident), nearly one-third (31%) reported that attacks occurred in the summer (June, July or August) and 25% in the spring (March, April, or May). More than one-third (40%) of attacks occurred

between 2 p.m. and 6 p.m., while 29% of the attacks happened between 10 a.m. and 2 p.m.

Over half of the respondents reported that they were “not sure” when asked if there was a particular time of year (64%) or time of day (57%) that they were more likely to experience interference. For those respondents who did identify a time of year, the most common response (24%) was summer (June, July, and August) and for the time of day, 17% reported that interference happened between 2 p.m. and 6 p.m.

Animal Control & Police

The survey also explored the effectiveness of animal control and police intervention. Findings revealed that 64% (207 out of 324 respondents) who experienced an attack did not report their most recent incident to animal control or the police. The top two reasons for not reporting the attack were that 38% of the respondents did not feel that the physical harm was severe enough for them to file a complaint and 29% said they were unable to identify the attacking dog or its owner. Out of the 117 respondents that did report the incident, almost two thirds (60%) were dissatisfied with the way the incident was handled. When asked why, many respondents expressed frustration with the lack of "follow-up" while several others noted inadequate enforcement and insufficient knowledge/understanding about the serious nature of attacks against guide dog teams.

Out of those respondents who experienced interference, 73% (452 out of 617) did not report their most recent incident to animal control or the police. The top two reasons for not reporting interference were that the respondents did not feel that the emotional harm was severe enough for them to file a complaint (48%); or because the respondents were unable to identify the attacking dog or its owner (31%). Out of the 166 respondents that did report the incident, over half (55%) were dissatisfied with the way the incident was handled.

Identification of the Attacking Dog's Owner

In 37% of the most recent incidents, the owner of the attacking dog was not identified. This is due, in part, to the fact that the majority of respondents (74%) reported that they were not walking with a sighted person at the time of the attack. Moreover, almost half of the respondents who were traveling by themselves reported that there were either no witnesses (25%) or that it was unknown if witnesses were present (23%) at the time of the attack. In many instances, a blind handler's visual limitation can make it difficult to report observations and descriptions that may otherwise help to identify the attacking dog or its owner. Moreover, a disturbing number of owners/handlers whose dogs have attacked or interfered with a guide dog team have reportedly walked away from the incident without offering assistance or taking responsibility for their dog’s actions.

Attacks and Interference by the Same Dog
Over one third (34%) of all respondents who experienced an attack reported experiencing subsequent incidents by a dog that had caused problems in the past. Nearly half (45%) of those who experienced interference noted the same problem with repeat offenders.

The high incidents of dogs that have repeatedly caused problems suggest a lack of responsibility on the part of the offending dog's handler. These incidents may also be due, in part, to the handler's failure to report prior attacks and interference or because of the lack of enforcement by local authorities.

Negative Impact on Guide Dog
Following an attack, guide dogs may be unable to work because of physical injuries. A less obvious, but equally as harmful, effect occurs when guide dogs develop undesirable behaviors towards other dogs. These behaviors may be temporary or permanent but either circumstance compromises the team's ability to work safely and effectively. In the survey, 35% of respondents reported that, after the most recent attack, their dog's behavior negatively changed towards other dogs. When asked to report the biggest change(s), exactly half (50%) noted that their dog became easily distracted by other dogs; 43% became aggressive around other dogs; 43% became fearful or shy around other dogs; 25% were more worried about potential threats than working responsibly; and 11% developed a lack of confidence when working. Out of the 25% of respondents who reported negative behavior changes in their dogs after interference, most changes were similar to that of dogs that had been attacked. One exception was that dogs that had been attacked were more likely to become fearful or shy of other dogs (see the chart below for more details).

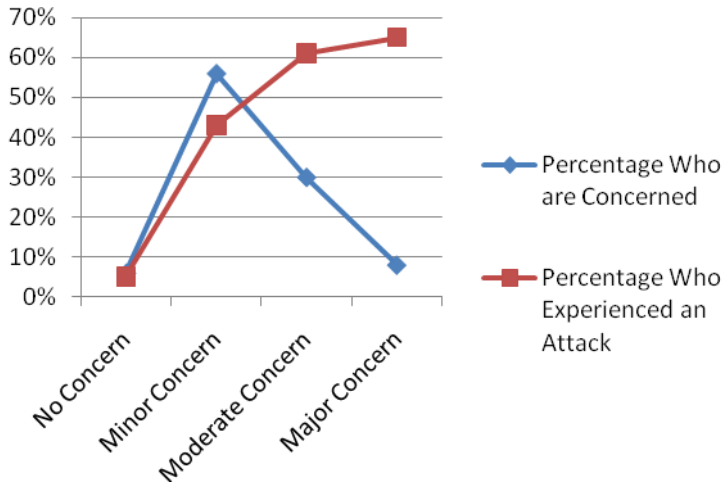
Behavior	Attacks	Interference
Easily distracted by other dogs	50%	59%
Aggressive towards other dogs	43%	32%
Fearful/shy of other dogs	43%	25%
More worried about potential threats than working responsibly	25%	24%
General lack of confidence while working	11%	8%

In the more severe cases, 16% (52) of the guide dogs that were attacked were temporarily unable to work and 3% (10 dogs) were retired from service. Out of the more severe incidents of interference, 2% (15) dogs were retired from service.

Effect on the Guide Dog Handler
It is important to realize that people who are blind can incur physical injuries secondary to those that may be directly inflicted by an aggressive dog. During the confusion of an attack/interference and its aftermath, handlers can easily become disoriented in their

surroundings. Without being safely oriented to their immediate surroundings, handlers can sustain physical injuries from hazards such as changes in elevation or oncoming traffic. For example, one guide dog handler recently sustained a concussion when she inadvertently stepped off a curb and fell while her dog was trying to flee from a menacing dog. In the survey, 37% (120 respondents) became temporarily disoriented as a direct result of an attack and 32% (197 respondents) became disoriented as a result of interference.

The survey also explored the psychological effects of attacks and interference. Guide dog handlers often experience varying degrees of anxiety when they become aware that another dog is present. The fear of not knowing if the dog is friendly or aggressive or whether or not the dog is properly restrained or confined can be most unsettling. The level of concern is often greater for those who have previously experienced negative encounters with aggressive dogs. For instance, 6% (41) respondents said they felt “no concern” about dog attacks. Not surprisingly, nearly all (85%) of these respondents had never experienced an attack. The most common response, 56% (413 respondents), said that they had "Minor concern but generally does not affect my usual routine." Just over half of these respondents (57%) had never experienced an attack. Out of the 30% of respondents (226) who selected "Moderate concern such as planning alternate routes to avoid known dogs," 39% reported never experiencing an attack. Finally, out of the 8% (63) respondents who recorded "Major concern such as limiting travel whenever possible in order to avoid loose or uncontrolled dogs," 35% had never experienced an attack. In all four categories, respondents who had not been attacked showed less concern than those who had been attacked -- particularly when the level of concern increased. This same pattern held true for those respondents who experienced interference.



Conclusion

Although the actual number of guide dog teams in the United States that are harmed due to attacks and interference remains unknown, the 2011 Seeing Eye survey clearly indicates that uncontrolled dogs can pose a serious threat to all guide dog teams.

Findings also show that attacks and interference can inflict considerable physical and/or emotional damage on victims and substantially reduce the team's ability to work safely, confidently, and effectively. The Seeing Eye strongly believes that a well-planned, proactive community approach is the best way to make a substantial reduction in the number of guide dog teams who experience attacks and interference.

Recommendations

The following information is intended to help communities find effective ways to protect guide dog teams from attacks and interference by aggressive dogs.

Guidance for Dog Owners & the General Public

Dog attacks and interference against guide dog teams are largely preventable. The first step is to realize that any dog, even a family pet, is capable of causing harm if it is threatened, in pain, out of control, protecting its "territory" or trained to be aggressive (whether deliberate or inadvertent).

Guide dogs are not like ordinary pets. Thousands of dollars and hours are invested in the breeding, raising and training of guide dogs before they are paired with a blind person. Dogs that are permitted to disrupt the work of a guide dog, whether they are on or off a leash, can pose a serious threat to the guide dog team. Pet owners should keep their dogs properly restrained and confined at all times to prevent dangerous situations for both the guide dog team and the pet dog. Members of the public who are aware of a dog that is loose in their neighborhood should alert animal control. If someone witnesses an attack on a guide dog team, they should identify themselves to the handler and offer assistance. Finally, the owner of the attacking or interfering dog must take responsibility for their dog's actions.

Guidance for Law Enforcement Officials

Data from The Seeing Eye survey clearly shows that the vast majority of attacks and interference occur on public property. Many of these incidents involved repeated offenses by the very same dog. It is important to recognize that these incidents are far more dangerous than simple dog-to-dog altercations. The imminent danger to a blind individual whose guide dog is being attacked or subjected to interference is potentially far greater than that of pet owners, who do not require the services of their dogs to walk about safely and independently.

If law enforcement agencies were to step up their efforts to restrain dogs at large, especially in areas where guide dog teams typically travel, these negative encounters could be greatly reduced. Likewise, timely action when responding to calls and thoroughly investigating and reporting all interference and attack incidents involving guide dog teams would also help to minimize future risks.

Guidance for State and Local Legislators
Most local and state laws prohibit dogs from roaming about unleashed and unsupervised. Yet the majority of attacks and interference reported in this study occurred on public property by a loose dog. These incidents grossly interfere with a blind person's ability to walk freely and safely within their communities or anywhere else they wish to go.

Tougher laws that offer around-the-clock protection by the police should be enacted. Animal control officers, whose services are typically not available outside standard business hours, and whose resources are often limited, cannot be relied upon to successfully remedy an attack situation in a timely and effective manner. These laws should also require that the owner of the attacking dog be responsible for all veterinary, medical, and other costs resulting from the attack, including the costs for remedial training or replacement of the guide dog.

Guidance for Guide Dog Handlers
The most important step that guide dog handlers can take to minimize the risk of attacks and interference is to be proactive. Handlers can work with their local animal control and police agencies to help officials and community members gain a better understanding of how dogs that are not properly restrained or confined can jeopardize the safety of a guide dog team. Handlers may also wish to ask for greater enforcement of leash laws in areas where they routinely travel; put emergency numbers in their cell phone directories; and pack a collapsible white cane as an alternative means of mobility.

Finally, practicing daily obedience in a variety of locations can help handlers maintain a leadership position within the partnership. This will minimize the likelihood that a guide dog will become overly distracted in the presence of other dogs. Handlers can check with their guide dog schools for further tips.

Acknowledgements

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John Keane, Manager, Instruction & Training
Roger Woodhour, Volunteer
Sheila Woodhour, Volunteer

TABLE 3. RISK FACTORS BY SITE
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FUNDAMENTAL RESOURCES AND VALUES

The Foundation Statement for GOGA and MUWO defines the two parks purpose, significance, and fundamental resources and values. Fundamental resources and values are those elements of the park that are the most important and are essential to maintaining the park's significance. Fundamental resources for GOGA include geologic resources, the marine environment, coastal ecosystems, threatened and endangered species, water resources, fortifications and military installations, Alcatraz Island, dramatic settings, preserved open spaces, diverse park settings, park access, and archeological sites. Fundamental resources for MUWO include old-growth forest and the conservation movement. The following table addresses these fundamental resources by developing desired conditions for their preservation, function, and management. Where possible, fundamental resources are called out as topical rows under the headings of Natural Resources and Cultural Resources. In other areas of the table, the fundamental resources and values are addressed through other resource category rows that better lend themselves to being organized and treated according to management zones. GOGA's and MUWO's fundamental resources and values have been thoughtfully incorporated into this table and should continue to serve as the bedrock for GMP development.

	DIVERSE OPPORTUNITIES FOR VISITORS	SCENIC CORRIDOR	EVOLVED CULTURAL LANDSCAPE	HISTORIC IMMERSION	NATURAL	SENSITIVE RESOURCES	PARK OPERATIONS
Zone Concept	A park area that provides a range of natural, historic or developed settings, and is able to accommodate a large variety of visitor opportunities. Significant park resources are preserved while accommodating different levels of visitor uses. The visitor is provided with a wide range of educational, interpretive and outdoor recreation opportunities to enjoy and appreciate the park's resources.	A scenic marine, road, or trail corridor that provides for sightseeing and associated recreational opportunities. Resources could be modified to highlight and enhance the natural, cultural, and scenic values, as well as provide for a safe tour route.	The historic scene reflects its significant historic, archeological, agricultural, architectural, and related landscape features while being adaptively reused for contemporary park and partner uses. Contributing exterior or interior historic elements are preserved and interpreted, while providing for adaptive reuse of the sites, structures and buildings that compose the landscape. The historic scene can contribute to visitor interpretation and exploration of the historic values and events while providing for other types of visitor opportunities. Working landscapes could be an aspect of this zone.	The sites, structures, and cultural landscapes are evocative of their period of significance. Select exteriors and designated portions of interior spaces are managed to protect their historic values and attributes. Visitors are provided opportunities to explore history first hand by experiencing cultural resources and exploring past stories and events.	These areas retain their natural, wild characteristics and would be managed to preserve natural resources and maintain resource integrity while accommodating low to moderate levels of visitor use. Visitors would have opportunities to directly experience and understand the natural resources in these areas. Visitor use would be managed to preserve important resource values and could include controlled and managed access. External threats to resource values would be aggressively addressed.	These areas consist of fundamental resources that are very sensitive to a variety of impacts, and are provided the highest level of protection. The natural and/or cultural resources are managed to preserve their fundamental values while being monitored and possibly studied for scientific and historic investigation. Access to these areas would be highly controlled, including possible closures and restricted access. External threats to resource values would be aggressively addressed.	Areas that primarily support developed and secured facilities for operations and maintenance functions of the park and its partners. This zone is managed to provide operation facilities that are safe, secured, and appropriate for uses required for park management. Access to these areas for visitors would be limited and controlled for purposes of orientation, organized meetings and access to park administration.
Natural Resources	Natural resources provide distinct visitor opportunities and experiences through a range of park settings. The natural elements of these park settings would help define and locate visitor opportunities and	Visitor opportunities and park operations would be managed to maintain and restore natural resource integrity. Natural resources would be managed to provide viewing	Visitor opportunities and park operations would be managed to maintain and restore natural resource integrity. Natural resources are	Visitor opportunities and park operations would be managed to maintain and restore natural resource integrity. The natural elements	Natural resource integrity would be maintained by preserving and restoring natural resources and their processes, systems, and values.	Natural resource integrity would be maintained by preserving and restoring natural resources and their processes, systems, and values.	Natural resources would be managed to accommodate operational uses/activities and to facilitate sustainable park maintenance operations.

	DIVERSE OPPORTUNITIES FOR VISITORS	SCENIC CORRIDOR	EVOLVED CULTURAL LANDSCAPE	HISTORIC IMMERSION	NATURAL	SENSITIVE RESOURCES	PARK OPERATIONS
	would be the backdrop for interpretation, visitor use/activities, and services.	opportunities that allow visitors to view high quality natural resources and their inherent scenic qualities.	often an integral component of cultural landscapes and would be managed to highlight the cultural resources and their associated values and characteristics. Natural resource objectives would be pursued in collaboration with, and where they complement, cultural resource objectives.	of cultural resources and designated cultural landscapes would be managed to highlight the cultural resources and their associated values and characteristics. Natural resource objectives would be pursued in collaboration with, and where they complement, cultural resource objectives.	Natural functions and processes would be re-established in human-disturbed areas of the park to improve and maintain the resource integrity of the park.	Rare and exceptional natural resources, processes, systems, and values would be preserved and enhanced, unless specifically managing for sensitive cultural resources. Natural functions and processes would be re-established in human-disturbed areas of the park to improve and maintain the resource integrity of the park.	The intrusion of park maintenance and operations activities on the surrounding park setting would be minimized through planning, design, screening, and noise reduction efforts. No park development actions would be taken that would preclude future natural resource protection or restoration.
Geologic Resources	**Natural geologic processes, including natural physical shoreline processes,** would be left unimpeded except when required to protect human health and safety. To the greatest extent possible, infrastructure would be designed or relocated to avoid geologic resources and hazards, as well as paleontological resources. Impacted areas would be restored to the greatest extent possible. Geologic and **paleontological** features and resources would be protected from visitor use impacts.	**Natural geologic processes, including natural physical shoreline processes,** would be left unimpeded except when required to protect human health and safety. To the greatest extent possible, infrastructure would be designed or relocated to avoid geologic resources and hazards, as well as paleontological resources. Impacted areas would be restored to the greatest extent possible. Geologic and **paleontological** features and resources would be protected from visitor use impacts.	**Natural geologic processes, including natural physical shoreline processes,** would be left unimpeded except when required to protect human health and safety and to protect important cultural resources. Impacted areas would be restored to the greatest extent possible. Geologic and **paleontological** features and resources would be protected from visitor use impacts.	**Natural geologic processes, including natural physical shoreline processes,** would be left unimpeded except when required to protect human health and safety and to protect important cultural resources. Impacted areas would be restored to the greatest extent possible. Geologic and **paleontological** features and resources would be protected from visitor use impacts.	**Natural geologic processes, including natural physical shoreline processes,** would be left unimpeded except when required to protect human health and safety. Impacted areas would be restored to the greatest extent possible. Unique geologic features would be preserved and **paleontological resources** would be undisturbed.	**Natural geologic processes, including natural physical shoreline processes,** would be left unimpeded except when required to protect human health and safety. Impacted areas would be restored to the greatest extent possible. Unique geologic features would be preserved and **paleontological resources** would be undisturbed.	**Natural geologic processes, including natural physical shoreline processes,** would be left unimpeded to the extent possible. Impacted areas would be restored to the greatest extent possible. Unique geologic features would be preserved and **paleontological resources** would be protected while meeting operational needs. Avoidance and mitigation would be used to minimize impacts to geologic and paleontological resources. Where impacts are unavoidable, paleontological resources will, if necessary, be collected and properly cared for.

	DIVERSE OPPORTUNITIES FOR VISITORS	SCENIC CORRIDOR	EVOLVED CULTURAL LANDSCAPE	HISTORIC IMMERSION	NATURAL	SENSITIVE RESOURCES	PARK OPERATIONS
Water Resources	**Natural hydrologic systems and processes** would be left unimpeded to the greatest extent possible. Impacted areas would be restored to the greatest extent possible. Hydrologic systems and processes would be re-established while incorporating visitor use objectives. Potential impacts from visitor use, including erosion, surface and groundwater contamination, and alteration of natural processes would be avoided or minimized.	**Natural hydrologic systems and processes** would be left unimpeded to the greatest extent possible. Impacted areas would be restored to the greatest extent possible. Hydrologic systems and processes would be re-established while incorporating visitor use objectives. Potential impacts from visitor use, including erosion, surface and groundwater contamination, and alteration of natural processes would be avoided or minimized.	**Natural hydrologic systems and processes** would be left unimpeded, unless some alteration was required to protect cultural resources. Impacted areas would be restored to the greatest extent possible. Hydrologic systems and processes would be re-established while incorporating cultural resource and visitor use objectives. Potential impacts from visitor use, including erosion, surface and groundwater contamination, and alteration of natural processes would be avoided or minimized.	**Natural hydrologic systems and processes** would be left unimpeded, unless some alteration was required to protect cultural resources. Impacted areas would be restored to the greatest extent possible. Hydrologic systems and processes would be re-established while incorporating cultural resource and visitor use objectives. Potential impacts from visitor use, including erosion, surface and groundwater contamination, and alteration of natural processes would be avoided or minimized.	**Natural hydrologic systems and processes** would be left unimpeded. Impacted areas would be restored to the greatest extent possible. Dynamic, sustainable hydrologic systems and processes that support the diverse native life unique to the region would be re-established.	**Natural hydrologic systems and processes** would be left unimpeded. Impacted areas would be restored to the greatest extent possible, unless specifically managing for sensitive cultural resources. Dynamic, sustainable hydrologic systems and processes that support the diverse native life unique to the region would be re-established.	**Natural hydrologic systems and processes** would be left unimpeded to the greatest extent possible. Previously impacted areas would be restored to the greatest extent possible. Potential impacts from park operations, including erosion, surface and groundwater contamination, and alteration of natural processes would be avoided or minimized.
Marine Environment	The **natural physical processes** of marine and coastal areas would be left unimpeded to the extent possible. Impacted areas would be restored to the greatest extent possible. Marine resources would be protected from visitor use impacts.	The **natural physical processes** of marine and coastal areas would be left unimpeded to the extent possible. Impacted areas would be restored to the greatest extent possible. Marine resources would be protected from visitor use impacts.	The **natural physical processes** of marine and coastal areas would be left unimpeded to the extent possible. Impacted areas would be restored to the greatest extent possible. Marine resources would be protected from visitor use impacts	The **natural physical processes** of marine and coastal areas would be left unimpeded to the extent possible. Impacted areas would be restored to the greatest extent possible. Marine resources would be protected from visitor use impacts	The **natural physical processes** of marine and coastal areas would be left unimpeded to the extent possible. Impacted areas would be restored to the greatest extent possible. Protection of marine areas that support the conservation of native species and biodiversity would be maximized.	The **natural physical processes** of marine and coastal areas would be left unimpeded to the extent possible. Impacted areas would be restored to the greatest extent possible. Protection of marine areas that support the conservation of native species and biodiversity would be maximized, unless specifically managing for sensitive cultural resources.	The **natural physical processes** of marine and coastal areas would be left unimpeded to the extent possible. Impacted areas would be restored to the greatest extent possible. Marine resources would be protected from impacts from park operations.
Coastal Ecosystems: Vegetation	**Native vegetation** (including aquatic vegetation) and vegetation communities would be preserved to the greatest	**Native vegetation** (including aquatic vegetation) and vegetation communities would be preserved to the greatest	**Native vegetation** (including aquatic vegetation) and vegetation communities would be	**Native vegetation** (including aquatic vegetation) and vegetation communities would be	**Native vegetation** (including aquatic vegetation) and vegetation communities would be	**Native vegetation** (including aquatic vegetation) and vegetation communities would be	**Native vegetation** (including aquatic vegetation) and vegetation communities would be

	DIVERSE OPPORTUNITIES FOR VISITORS	SCENIC CORRIDOR	EVOLVED CULTURAL LANDSCAPE	HISTORIC IMMERSION	NATURAL	SENSITIVE RESOURCES	PARK OPERATIONS
	extent possible. Species that can withstand and support intense visitor use may be desired in developed areas or areas that receive high levels of trampling. **Exotic invasive plants** could be present, but would be suppressed and actively managed.	extent possible. Vegetation – focused on sites lacking native habitat value - could be modified in this zone to accommodate and enhance scenic views. Intact native habitat loss will be mitigated through restoration actions to result in no net loss. Species that can withstand and support high levels of visitor use and trampling may be desired. **Exotic invasive plants** could be present, but would be suppressed and actively managed.	preserved to the greatest extent possible, while supporting cultural landscape values. Nonnative species (contributing) could be desired and maintained to provide vegetation communities and patterns that support cultural landscape values and/or to tolerate high levels of visitor use. These areas would be managed to minimize potential impacts to adjacent native vegetation. Non-contributing **exotic invasive plants** could be present, but would be suppressed and actively managed with the goal of eradication.	preserved to the greatest extent possible, while supporting cultural resource values. Nonnative species (contributing) could be desired and maintained to provide vegetation communities and patterns that support cultural resource values and/or to tolerate high levels of visitor use. These areas would be managed to minimize potential impacts to adjacent native vegetation. Non-contributing **exotic invasive plants** could be present, but would be suppressed and actively managed with the goal of eradication.	preserved to the greatest extent possible with the goal of conserving native biodiversity. **Exotic invasive plants** could be present, but would be contained and actively managed with the goal of eradication.	preserved to the greatest extent possible with the goal of conserving native biodiversity. **Exotic invasive plants** could be present, but would be contained and actively managed with the goal of eradication.	preserved to the greatest extent possible. Impacts from park operations on these areas and on adjacent vegetation would be minimized. Species that can withstand and support operational uses may be desired. **Exotic invasive plants** could be present, but would be suppressed and actively managed.
Coastal Ecosystems: Aquatic and Terrestrial Wildlife	**Native wildlife** and wildlife habitat would be protected from visitor use impacts to the greatest extent possible and wildlife watching opportunities would be available. **Exotic invasive animals** would be managed to the extent feasible, with emphasis on species that have inordinate impacts on native communities or are associated with human health risks.	**Native wildlife** and wildlife habitat would be protected from visitor use impacts to the greatest extent possible. **Exotic invasive animals** would be managed to the extent feasible, with emphasis on species that have inordinate impacts on native communities or are associated with human health risks in high use areas.	**Native wildlife** and wildlife habitat would be preserved to the greatest extent possible while maintaining the integrity of cultural landscapes. Consequently, wildlife habitat may appear more “groomed” in this zone to meet cultural landscape preservation goals. **Exotic invasive animals** would be managed to the extent feasible, with emphasis on species that have inordinate impacts on native communities or are associated with human health risks in high use areas.	**Native wildlife** and wildlife habitat would be preserved to the greatest extent possible while maintaining cultural resource values. Consequently, wildlife habitat may appear more “groomed” in this zone to meet cultural resource goals. **Exotic invasive animals** would be managed to the extent feasible, with emphasis on species that have inordinate impacts on native communities or are associated with human health risks.	**Native wildlife** communities and ecosystem processes would be preserved and promoted to the greatest extent possible. **Exotic invasive animals** would be managed with the goal of eradication.	**Native wildlife** communities and ecosystem processes would be preserved and promoted to the greatest extent possible. **Exotic invasive animals** would be managed with the goal of eradication.	**Native wildlife** communities would be protected to the greatest extent possible. **Exotic invasive animals** would be managed to the extent feasible, with emphasis on species that have inordinate impacts on native communities or are associated with human health risks.

	DIVERSE OPPORTUNITIES FOR VISITORS	SCENIC CORRIDOR	EVOLVED CULTURAL LANDSCAPE	HISTORIC IMMERSION	NATURAL	SENSITIVE RESOURCES	PARK OPERATIONS
T&E Species and their Habitat	T&E species and designated critical habitats would be functional and managed to support species requirements.	T&E species and designated critical habitats would be functional and managed to support species requirements	T&E species and designated critical habitats would be functional and proactively managed to support species requirements. Listed species and their habitats would be restored where compatible with cultural landscape objectives.	T&E species and designated critical habitats would be functional and managed to support species requirements	T&E species and designated critical habitats would be functional and proactively managed to support species requirements, including recovery actions. Natural habitat conditions and processes would be re-established.	T&E species and designated critical habitats would be functional and proactively managed to support species requirements, including recovery actions.	T&E species and designated critical habitats would be functional and managed to support species requirements
Natural Sounds (Soundscapes) and Dark Night Skies (Lightscapes)	**Natural sounds** would be audible and would enhance the visitor experience in this zone. The natural soundscape would often be mixed with sounds from human activity and visitor use. In some areas, the soundscape would be affected by development. During times of low visitation, including nighttime and off-peak times, the natural soundscape could predominate, with occasional noise-free intervals.	**Natural sounds** would be audible and would enhance the visitor experience in this zone. The natural soundscape would often be mixed with sounds from human activity and visitor use. During times of low visitation, including nighttime and off-peak times, the natural soundscape could predominate. In areas away from roads there could be frequent and prolonged noise-free intervals.	**Natural sounds** would be audible and would enhance the visitor experience in this zone. The natural soundscape would often be mixed with sounds from human activity and visitor use. The soundscape would be affected by the developed landscape. During times of low visitation, including nighttime and off-peak times, the natural soundscape could predominate, with occasional noise-free intervals.	**Natural sounds** would be audible and would enhance the visitor experience in this zone. Historically appropriate sounds would also enhance the experience of this zone. The soundscape would be affected by the developed landscape. During times of low visitation, including nighttime and off-peak times, the natural soundscape could predominate, with occasional noise-free intervals.	The **natural soundscape** would be intact in this zone and would be an important part of the visitor experience. Natural sounds would occasionally be mixed with sounds from human activity and visitor use. Noise disturbance of wildlife would be minimal in this zone.	The **natural soundscape** would be intact in this zone and would be an integral part of the visitor experience. Natural sounds would occasionally be mixed with sounds from human activity and visitor use. Noise disturbance of wildlife would be minimal in this zone.	**Natural sounds** would be audible and would enhance the visitor experience in this zone. Natural sounds would be mixed with sounds from human activity, visitor use, and park operations. During times of low operations activity, the natural soundscape could predominate, with occasional noise-free intervals.
	Dark night skies and natural lightscapes would enhance the visitor experience in this zone. Outdoor lighting would provide adequate illumination for visibility and visitor expectation while minimizing light pollution.	**Dark night skies** and natural lightscapes would enhance the visitor experience in this zone. Outdoor lighting would provide minimal visibility and light pollution would be minimized. Only essential lights would be installed, and would be operational only when needed. Nocturnal lightscapes would be preserved and restored to the extent possible.	**Dark night skies** and natural lightscapes would enhance the visitor experience in this zone. Outdoor lighting would provide adequate illumination for visibility while minimizing light pollution. Nocturnal lightscapes would be preserved and restored to the extent possible.	**Dark night skies** and natural lightscapes would enhance the visitor experience in this zone. Outdoor lighting would provide adequate illumination for visibility while minimizing light pollution. Nocturnal lightscapes would be preserved and restored to the extent possible while achieveing historic preservation goals, such as re-creating historic lighting from the period of significance.	**Dark night skies** and natural lightscapes are integral to the visitor experience in this zone. Nocturnal lightscapes would be preserved and restored. Only essential lights would be installed, and would be operational only when needed. Outdoor lighting would provide minimal visibility and light pollution would be minimized. This zone provides an opportunity to demonstrate	**Dark night skies** and natural lightscapes are integral to the visitor experience in this zone. Nocturnal lightscapes would be preserved and restored. No permanent outdoor lighting would be allowed except as needed for emergency response, critical natural resource goals, or emergency communications.	**Dark night skies** would be preserved to the greatest extent possible while accommodating operational needs and uses. Outdoor lighting would provide adequate illumination for visibility while minimizing light pollution. This zone provides an opportunity to demonstrate environmental leadership and educate the public about light pollution.

	DIVERSE OPPORTUNITIES FOR VISITORS	SCENIC CORRIDOR	EVOLVED CULTURAL LANDSCAPE	HISTORIC IMMERSION	NATURAL	SENSITIVE RESOURCES	PARK OPERATIONS
					environmental leadership and educate the public about light pollution.		
Cultural Resources	Cultural resources would provide distinct visitor opportunities and experiences through a range of park settings. The cultural elements of these park settings would be the backdrop for interpretation, visitor use/activities, and services.	The scenic qualities of cultural resources or designated cultural landscapes are managed to preserve their visual and historic characteristics.	Cultural resources would be preserved by managing for adaptive reuse. Historic values and characteristics are preserved for interpretation and enjoyment.	Cultural sites, structures, and landscapes are preserved to reflect their period of significance, allowing people to experience these resources first-hand to learn about their associated stories and events.	Fundamental cultural resources and values are preserved unless specifically managing for sensitive natural resources.	Fundamental sensitive cultural resources and values are preserved unless specifically managing for sensitive natural resources. These fundamental cultural resources are stabilized and preserved to maintain their integrity.	Cultural resources could be preserved by adaptive reuse for the purposes of park operations and administration.
Historic Structures	Based on their condition, National Register significance, and suitability for recreational, visitor use/educational, or operational/administrative purposes, **historic structures** are rehabilitated, stabilized, allowed to deteriorate naturally, or are removed if they become unsafe.	Based on their condition, National Register significance, and suitability for recreational, visitor use/educational, or operational/administrative purposes, **historic structures** are rehabilitated, stabilized, allowed to deteriorate naturally, or are removed if they become unsafe.	**Historic structures** undergo preservation treatments ranging from stabilization to restoration, based on whether they are fundamental park resources, their National Register significance, condition, and interpretive value.	**Historic structures** are rehabilitated or restored to their period of significance, based on whether they are fundamental park resources, their National Register significance, condition, and interpretive value.	Based on their condition, National Register significance, safety considerations, and suitability as elements of the primitive visitor experience, **historic structures** are stabilized, become "discovery sites" that are allowed to deteriorate naturally, or are removed.	**Historic structures** that are fundamental resources are rehabilitated or restored to preserve their significant values. Stabilization of those structures with poor/fair condition and high integrity will occur.	Most **historic structures** are rehabilitated to serve aforementioned functions. Historic structures not suited to rehabilitation for adaptive use are stabilized or, if in low condition/low integrity, removed.
Cultural Landscapes	**Cultural landscapes** are managed to perpetuate their scenic values. Elements may be adapted to accommodate visitor use/education or park and partner administration.	**Cultural landscapes** are managed to perpetuate their scenic values. Elements may be adapted to accommodate visitor use/education or park and partner administration, as well as to improve the sightseeing experience.	**Cultural landscapes** are rehabilitated to emphasize their significant features based on the level of historical documentation available and their National Register significance.	**Cultural landscapes** are rehabilitated or restored to emphasize their significant features based on the level of historical documentation available and their National Register significance.	**Cultural landscapes** are allowed to gradually revert to a more natural state, except where significant landscape resources can be preserved without compromise to natural resource values.	**Cultural landscapes** that are fundamental resources are rehabilitated or restored to preserve their significant values. Appropriate treatments for cultural landscapes will be balanced with the retention of natural resource values.	**Cultural landscapes** are modified to enable fully functional park operations, while preserving character-defining features.
Ethnographic Resources	**Access for traditional activities** is preserved. Minor elements may be adapted to accommodate visitor use/education or park and partner	**Access for traditional activities** is preserved. Minor elements may be adapted to accommodate park or partner activities.	**Access for traditional activities** is preserved. Minor elements may be adapted to	**Access for traditional activities** is preserved. Minor elements may be adapted to	**Access for traditional activities** is preserved.	**Access for traditional activities** is preserved. Fundamental ethnographic	**Access for traditional activities** is preserved. Minor elements may be adapted to

	DIVERSE OPPORTUNITIES FOR VISITORS	SCENIC CORRIDOR	EVOLVED CULTURAL LANDSCAPE	HISTORIC IMMERSION	NATURAL	SENSITIVE RESOURCES	PARK OPERATIONS
	administration.		accommodate visitor use/education.	accommodate visitor use/education.		resources are rehabilitated or restored to preserve their significant values.	aforementioned functions.
Archeological Resources	**Archeological resources** are protected from unauthorized removal or other destructive activities. Stabilization, and/or rehabilitation of historic archeological resources may be incorporated into visitor opportunities.	Corridors incorporate reference to **archeological sites** in the vicinity, and may be developed around archeological properties as long as those properties remain protected from detrimental treatment. Information derived from them shall be used to enhance recreational and educational opportunities on developed natural and cultural corridors. **Archeological resources** are protected from unauthorized removal or other destructive activities.	**Archeological resources** that contribute to a cultural landscape, or sites which may be enclaves within landscapes of other periods, may be stabilized, rehabilitated, or restored for interpretation or as part of landscape enhancement. Sites within evolved cultural landscapes are protected from unauthorized removal or other destructive activities.	**Archeological sites** incorporated into visitor historic immersion opportunities are stabilized and protected to allow their public exposure without threat of damage, removal, or vandalism. **Archeological resources** are identified and collections derived from them are studied to provide a richer context for public education. Newly discovered sites are studied and the property itself or information derived from it is incorporated into visitor experiences.	**Archeological resources** are identified, evaluated, and provided stabilization, security, or other protection commensurate with their significance and sensitivity.	**Archeological resources** are identified, evaluated, and provided stabilization, security, or other protection commensurate with their significance and sensitivity.	Significant **archeological sites** are protected from operational or maintenance impacts.
Submerged Cultural Resources	**Archeological values** are protected from unauthorized removal or other destructive activities. They are interpreted and exhibited as appropriate.	**Archeological values** are protected from unauthorized removal or other destructive activities. They are interpreted and exhibited as appropriate.	**Archeological values** are protected from unauthorized removal or other destructive activities They are interpreted and exhibited as appropriate.	**Archeological values** are protected from unauthorized removal or other destructive activities. They are interpreted, exhibited and occasionally excavated as appropriate to immerse visitors in cultural resource values.	**Archeological values** are protected from unauthorized removal or destructive activities. They are interpreted and exhibited as appropriate.	**Archeological values** are protected from unauthorized removal or other destructive activities. They are interpreted and exhibited as appropriate.	**Archeological values** are protected from unauthorized removal or other destructive activities. They are interpreted and exhibited as appropriate.
Museum Collections	**Collections** are preserved and made accessible to researchers. Elements may be used for exhibits and visitor education.	**Collections** are preserved and made accessible to researchers. Elements may be used for exhibits and visitor education.	**Collections** are preserved and made accessible to researchers. Elements may be used for exhibits and visitor education.	**Collections** are preserved and made accessible to researchers. Elements may be used for exhibits and visitor education.	**Collections** are preserved and made accessible to researchers.	**Collections** are preserved and made accessible to researchers. Elements may be used for exhibits and visitor education at selected sites.	**Collections** are preserved and made accessible to researchers. Elements may be used for exhibits and visitor education.

	DIVERSE OPPORTUNITIES FOR VISITORS	SCENIC CORRIDOR	EVOLVED CULTURAL LANDSCAPE	HISTORIC IMMERSION	NATURAL	SENSITIVE RESOURCES	PARK OPERATIONS
Visitor Experience	Visitors would have the opportunity to participate in a range of recreational, interpretive and educational opportunities supported by a variety of visitor services.	Visitors would have the opportunity to take a scenic tour through the corridor with multiple opportunities to stop along the route for sightseeing, wildlife viewing, picnicking or interpretive opportunities.	Visitors would have the opportunity to explore designated portions of historic landscapes and structures while participating in contemporary activities.	Visitors would have the opportunity to be immersed in an historic setting. Visitors could experience the sights, sounds, and activities that are evocative of the site's period of significance.	Visitors would have the opportunity to be immersed in a natural environment and could seek out areas where they could experience natural sounds, tranquility, closeness to nature and a sense of remoteness and self-reliance. Visitor use would be managed to ensure that activities and their intensities are compatible with protecting resource integrity.	Visitors would have the opportunity to experience and understand the fundamental resources in the zone. In particular, visitors would be able to understand and value the sensitive nature of these resources. Visitor use would be highly controlled and managed to ensure that activities and their intensities are compatible with protecting resource integrity.	Visitors would have the opportunity for limited and controlled access to these areas for purposes of orientation, organized meetings, stewardship activities and access to park administration.
*Types of Activities**	Recreational activities could include: **Beach activities** such as informal beach sports, walking, swimming, picnicking and surf fishing.	Recreational activities could include: **Beach activities** such as informal beach sports, walking, swimming, picnicking and surf fishing.	Recreational activities could include: **Beach activities** such as informal beach sports, walking, swimming, picnicking and surf fishing.	Recreational activities could include: **Beach activities** such as guided or self-guided interpretive walks, tours or participating in historic interpretive programs.	Recreational activities could include: **Beach activities** such as walking, swimming, and surf fishing.	Recreational activities could include: **Beach activities** such as walking, guided tours.	Recreational activities could include stewardship activities.
	Marine activities such as fishing, scuba diving, boating, crabbing, kayaking/canoeing, surfing, sightseeing.	**Marine activities** such as fishing, scuba diving, boating, crabbing, kayaking/canoeing, surfing, sightseeing.	**Marine activities** such as fishing, scuba diving, boating, crabbing, kayaking/canoeing, surfing, sightseeing.	**Marine activities** such as guided or self-guided boat/kayaking trips or scuba diving tours relevant to historic interpretive programs.	**Marine activities** such as fishing, scuba diving, crabbing, kayaking/canoeing, surfing, sightseeing.	**Marine activities** such as kayaking/canoeing, sightseeing, guided tours.	N/A
	Land related activities such as developed camping, overnight lodging, picnicking, biking, hiking, walking, running, horseback riding, hang gliding, sightseeing, bird and wildlife viewing.	**Land related activities** such as developed camping, overnight lodging, picnicking, biking, hiking, walking, running, horseback riding, hang gliding, sightseeing, bird and wildlife viewing.	**Land related activities** such as overnight lodging, picnicking, biking, hiking, walking, running, horseback riding, sightseeing, bird and wildlife viewing.	**Land related activities** such as guided and self-guided walks, hikes, tours, experiential learning (may include overnight stays) or historic study.	**Land related activities** such as primitive camping, hiking, walking, biking, horseback riding, sightseeing, bird and wildlife viewing.	**Land related activities** such as hiking, walking, sightseeing, bird and wildlife viewing, guided tours.	N/A
	Other kinds of activities: exploring historic sites and structures, participating in interpretive programs, participating in stewardship programs, nature study, photography,	**Other kinds of activities**: exploring historic sites and structures, participating in interpretive programs, participating in stewardship programs, nature study, photography,	**Other kinds of activities**: exploring historic sites and structures, participating in interpretive programs, participating in	**Other kinds of activities**: exploring historic sites and structures, participating in interpretive programs, participating in	**Other kinds of activities**: exploring historic sites and structures, nature study, photography, artistic endeavors, participating in	**Other kinds of activities**: guided trips through historic sites and structures, participating in stewardship programs.	N/A

	DIVERSE OPPORTUNITIES FOR VISITORS	SCENIC CORRIDOR	EVOLVED CULTURAL LANDSCAPE	HISTORIC IMMERSION	NATURAL	SENSITIVE RESOURCES	PARK OPERATIONS
	artistic endeavors.	artistic endeavors.	stewardship programs, nature study, photography, artistic endeavors.	stewardship programs, photography, artistic endeavors.	stewardship programs.		
	In addition, **special and organized events** such as family events, community celebrations, and foot races could be allowed when appropriate but measures would be taken to mitigate impacts to resources and other visitors during these events.	In addition, **special and organized events** such as family events and community celebrations may be allowed, but group sizes may be limited. Measures may be taken to mitigate impacts to resources and other visitors during these events.	In addition, **special and organized events** such as family events and community celebrations may be allowed, but group sizes may be limited. Measures may be taken to mitigate impacts to resources and other visitors during these events.	In addition, **special and organized events** such as family events and community celebrations may be allowed, but group sizes may be limited. Measures may be taken to mitigate impacts to resources and other visitors during these events.	In addition, a limited number of **special and organized events** could be permitted, but events would be highly regulated and monitored to mitigate impacts to resources and other visitors during these events.	No **special and organized events** would be permitted.	No **special and organized events** would be permitted.
Interpretation/ Education/ Orientation	Visitors would **gain an understanding** about the significance of the park's natural (including marine), scenic and historic resources and the potential threats to those resources. Further, visitors would especially **value** the diverse recreational and educational opportunities in close proximity to the urban area, as well as the natural and cultural resource values of the park.	Visitors would **gain an understanding** about the significance of the park's natural (including marine), scenic and historic resources and the potential threats to those resources. Further, visitors would especially **value** the scenic natural and cultural landscape and the associated recreation opportunities.	Visitors would **gain an understanding** about the significance of the park's historic and cultural resources and the strategy of adaptive reuse to sustain the preservation of historic structures. Further, visitors would especially **value** the preservation of historic structures and the associated unique opportunities provided via adaptive reuse.	Visitors would **gain an understanding** about the significance of the park's historic and cultural resources and the long standing physical and spiritual connection of people to these lands. Further, visitors would especially **value** the park's unique history and the opportunities to be immersed in the cultural setting.	Visitors would **gain an understanding** about the significance of the park's natural resources (including marine) and the potential threats to those resources. Further, visitors would especially **value** the wild setting and the opportunity to explore these natural areas.	Visitors would **gain an understanding** about the significance of the park's sensitive resources (including marine) and the potential threats to those resources. Further, visitors would especially **value** the protection of sensitive resources and the opportunity to understand their significance.	Visitors would **gain an understanding** about opportunities in the park. Further, visitors would especially **value** orientation information.
	A **high level** of visitor orientation and interpretive services is available in this zone.	A **high level** of visitor orientation and interpretive services is available in this zone.	A **moderate to high level** of visitor orientation and interpretive services is available in this zone.	A **high level** of visitor orientation and interpretive services is available in this zone.	A **low to moderate level** of visitor orientation and guided/unguided interpretive services is available in this zone.	A **low to moderate level** of visitor orientation and guided/unguided interpretive services is available in this zone.	A **minimal to moderate level** of visitor orientation would be available depending on the site.
	Presentation of interpretive themes would occur through a broad array of visitor interpretive opportunities.	**Presentation of interpretive themes** would occur through a broad array of visitor interpretive opportunities.	**Presentation of interpretive themes** would occur through a broad array of visitor interpretive opportunities.	**Presentation of interpretive themes** would occur through a broad array of visitor interpretive opportunities.	**Presentation of interpretive themes** would most often occur outside or at the entry to this zone through printed media and information kiosks, with some guided programs within the zone.	**Presentation of interpretive themes** would most often occur outside or at the entry to this zone through printed media and information kiosks, with some guided programs within the zone.	**Presentation of interpretive themes** would not be emphasized in this zone.
Scenic Views	**Outstanding views** of iconic natural, cultural	**Outstanding views** of iconic natural, cultural	**Outstanding views** of iconic natural,	**Outstanding views** of iconic cultural	**Outstanding views** of iconic natural,	**Outstanding views** of iconic natural,	**Outstanding views** of iconic natural,

	DIVERSE OPPORTUNITIES FOR VISITORS	SCENIC CORRIDOR	EVOLVED CULTURAL LANDSCAPE	HISTORIC IMMERSION	NATURAL	SENSITIVE RESOURCES	PARK OPERATIONS
	and scenic resources would be an integral part of the visitor experience of this zone.	and scenic resources would be an integral part of the visitor experience of this zone.	cultural and scenic resources may be available and would enhance the visitor experience of this zone.	resources would be an integral part of the visitor experience of this zone.	cultural and scenic resources may be available if unobstructed views occur naturally. If available, views would enhance the visitor experience of this zone.	cultural and scenic resources may be available if unobstructed views occur naturally. If available, views would enhance the visitor experience of this zone.	cultural and scenic resources may be available if unobstructed views occur naturally. If available, views would enhance the visitor experience of this zone.
Skills, Risk, Time Required	**Challenge, risk and testing of outdoor skills** are generally unimportant to most visitors in this zone. Visitors of all **levels of physical ability** would enjoy this zone. The **time commitment** needed to experience this zone would vary from a very short period of time to several hours, possibly including overnight stays.	Opportunities for **challenge, risk and testing of outdoor skills** would be available within this zone. Visitors of all **levels of physical ability** would be able to enjoy many of the areas within this zone. The **time commitment** needed to experience this zone would vary from a very short period of time to several hours, possibly including overnight stays.	**Challenge, risk and testing of outdoor skills** are generally unimportant to most visitors in this zone. Visitors of all **levels of physical ability** would be able to enjoy most areas of this zone. The **time commitment** needed to experience this zone would vary from a very short period of time to a few hours, possibly including overnight stays.	**Challenge, risk and testing of outdoor skills** are generally unimportant to most visitors in this zone. Visitors of all **levels of physical ability** would be able to enjoy most areas within this zone. The **time commitment** needed to experience this zone would typically be an hour or more, possibly including overnight stays in support of experiential learning.	**Challenge, risk and testing of outdoor skills** are generally important to most visitors accessing this zone. There would be limited **universal access** opportunities. **Time commitment** to experience this area would typically be an hour or more, possibly including overnight stays.	**Challenge, risk and testing of outdoor skills** may be important to visiting this zone. **Universal access** opportunities are unlikely. The **time commitment** needed to experience this zone would typically be a few hours.	**Challenge, risk and testing of outdoor skills** are unimportant to visitors in this zone. Visitors of all **levels of physical ability** would have some access to this zone depending on the site. The **time commitment** needed to experience this zone would vary from a very short period of time to several hours.
Use Levels/ Density/ Encounters	High **use levels** in centralized activity nodes are expected, leading to the likelihood of high rates of **encounters** between visitors. **Groups** of many sizes are accommodated.	Moderate to high **use levels** are expected along scenic corridors, leading to the likelihood of moderate to high rates of **encounters** between visitors, particularly at activity nodes such as overlooks, day-use areas and waysides. **Groups** are accommodated, but group sizes could be limited based on facility capacities and/or experiential objectives.	Moderate **use levels** are expected around focused activity nodes, leading to the likelihood of moderate **encounters** between visitors and park/partner staff. **Group sizes** could be limited based on facility capacities and/or experiential objectives.	Moderate **use levels** are expected around focused activity nodes, leading to the likelihood of moderate **encounters** between visitors and park/partner staff. **Group sizes** could be limited based on facility capacities and/or experiential objectives.	Low to moderate **use levels** would be expected in this zone, with moderate use levels often found at entry points or points of interest. A moderate rate of **encounters** with other visitors and park staff would be expected, but opportunities for solitude might be found in certain areas if a visitor seeks it. **Group sizes** could be limited to protect experiential and resource protection objectives.	Low to moderate **use levels** are expected in these areas. At entry points or points of interest, moderate **encounters** between visitors would be expected. As visitors travel away from these areas, there would be increased opportunities for a low number of **encounters** with other visitors and park staff. **Group sizes** could be limited to promote resource protection objectives.	Low **use levels** would be expected since this area is intended for staff and visitors on official business. **Encounters** with other visitors would be low, but **encounters** with park staff would be high.
Levels of Development &	**Development patterns** could include a diversity of facilities to support	**Development patterns** may include road and trail corridors and associated	**Development patterns** may include a blend of historic and	**Development patterns** would include historic resources	**Development** would be minimal and would be aimed at facilities	There would be minimal, if any, **development** except	**Development patterns** would include a diversity of

	DIVERSE OPPORTUNITIES FOR VISITORS	SCENIC CORRIDOR	EVOLVED CULTURAL LANDSCAPE	HISTORIC IMMERSION	NATURAL	SENSITIVE RESOURCES	PARK OPERATIONS
Management	visitor use, mixed with open space and natural settings.	day-use facilities that support and direct visitor use, mixed with open space, cultural landscapes, or natural settings.	modern buildings to support visitor use and services.	and may include non-historic visitor facilities if they can be blended into the historic fabric of the site.	that provide access, public safety and resource protection (e.g., trails, sanitation facilities, and fencing)	for some visitor facilities such as trails to allow for the concentration and direction of visitor use while protecting resources.	facilities to support visitor services and park administration mixed with open space and maintained natural settings.
Type/Character of Visitor Access	**Access opportunities** are a dominant aspect of the zone, with multiple transportation modes that are highly interconnected to allow for user defined access to and within the zone.	**Access opportunities** are defining elements of the visitor experience to this zone and are interconnected and designed to encourage use of multiple modes during a tour.	**Access opportunities** are complimentary to the historic setting and consist of multiple transportation modes that are interconnected to provide user defined access as well as connect points of interest to facilitate storytelling related to cultural resources.	**Access opportunities** are complimentary to the historic setting and consist of a highly orchestrated system of managed links and nodes that connect points of interest and facilitate storytelling related to cultural resources.	**Access opportunities** are subordinate to the natural setting and may be highly managed (i.e., restrictions on access) to protect resources and desired visitor experiences, as necessary.	**Access opportunities** would be highly managed (i.e., permitted access, area closures) to protect sensitive resources.	**Access opportunities** would be limited and controlled for purposes of orientation, organized meetings, and access to park administration.
	Vehicular and non-vehicular access would be provided for to and throughout the zone. **Trail type** X would be appropriate in this zone.	**Vehicular and non-vehicular access** would be provided for to and throughout the zone. **Trail type** X would be appropriate in this zone.	**Vehicular and non-vehicular access** would be provided for to and throughout the zone. **Trail type** X would be appropriate in this zone	**Vehicular and non-vehicular access** would be provided for to and throughout the zone. **Trail type** X would be appropriate in this zone	**Vehicular access** may be permitted to major destinations and access points, but **non-vehicular access** would be the primary mode of transportation throughout the zone. **Trail type** X would be appropriate in this zone	**Vehicular access** may be permitted to major access points, but **non-vehicular access** would be the primary mode of transportation throughout the zone. **Trail type** X would be appropriate in this zone	**Vehicular and non-vehicular access** would be provided to administrative facilities. Trails would not likely be found in the zone, but pedestrian sidewalks and crosswalks would be appropriate in this zone.
Types of Facilities	**Types of facilities** that could be provided include: **Interpretive:** visitor centers/contact stations, amphitheaters, interpretive kiosks,	**Types of facilities** that could be provided include: **Interpretive:** visitor contact stations, interpretive kiosks, small gathering places for interpretive programs,	**Types of facilities** that could be provided include: **Interpretive:** visitor contact stations, interpretive kiosks, small gathering places for interpretive programs,	**Types of facilities** that could be provided include: **Interpretive:** interpretive kiosks, small gathering places for interpretive programs,	**Types of facilities** that could be provided include: **Interpretive:** Trailhead kiosks	**Types of facilities** that could be provided include: **Interpretive:** Trailhead kiosks	**Types of facilities** that could be provided include administrative offices, maintenance, storage, parking, pedestrian walkways, waste water and utility management and other operational needs.
	Recreational: designated trails, designated activity areas, boardwalks, picnic facilities, boat docks,	**Recreational:** designated trails, designated activity areas, boardwalks, picnic facilities, boat docks,	**Recreational:** designated trails, designated activity areas, picnic facilities, boat	**Recreational:** designated trails, picnic tables, boat docks/designated boat put-ins, temporary	**Recreational:** designated trails, designated primitive campsites (with associated facilities	**Recreational:** designated trails	**Recreational:** N/A

	DIVERSE OPPORTUNITIES FOR VISITORS	SCENIC CORRIDOR	EVOLVED CULTURAL LANDSCAPE	HISTORIC IMMERSION	NATURAL	SENSITIVE RESOURCES	PARK OPERATIONS
	designated non-motorized boat launch sites, fishing platforms, temporary boat tie-ups, horse stables, designated camping areas,	designated non-motorized boat launch sites, fishing platforms, temporary boat tie-ups, horse stables, designated camping areas,	docks, designated non-motorized boat launch sites, temporary boat tie-ups	boat tie-ups,	such as ??), designated non-motorized boat launch sites,		
	Support: overnight lodging facilities, retail/rental/food outlets, large event gathering areas, sanitation facilities, parking areas, transportation facilities (multi-modal hubs, bike paths, roads)	**Support:** overnight lodging facilities, retail/rental/food outlets, sanitation facilities, parking areas, transportation facilities (multi-modal hubs, bike paths, roads)	**Support:** overnight lodging facilities, retail/rental/food outlets, sanitation facilities, parking areas, transportation facilities (multi-modal hubs, bike paths, roads),	**Support:** sanitation facilities, parking areas, transportation facilities (multi-modal hubs, bike paths, roads)	**Support:** trailhead sanitation facilities, limited parking areas and access roads (focused on the periphery of the zone to the extent possible)	**Support:** trailhead sanitation facilities, limited parking areas and access roads (focused on the periphery of the zone to the extent possible)	**Support:** N/A
Visitor Services	**Visitor support services** such as equipment rentals, food and beverage services, overnight accommodations, and thematic retail stores may be available throughout this zone in appropriate areas.	**Visitor support services** such as equipment rentals, food and beverage services, and overnight accommodations may be available throughout this zone in appropriate areas.	**Visitor support services** such as equipment rentals, food and beverage services, overnight accommodations, and thematic retail stores may be available throughout this zone in appropriate areas.	**Visitor support services** such as food and beverage services, thematic retail stores may be available in this zone in appropriate areas.	No **visitor support services** would be expected in this zone.	No **visitor support services** would be expected in this zone.	No **visitor support services** would be expected in this zone.

* - The activities listed within each zone are permissible uses/activities in that zone, but may not be available everywhere in that zone. Regarding dog walking and beach fires as a visitor activity – the results of the separate planning processes addressing these activities will be integrated into the GMP when available and as appropriate.

GLOSSARY

Archeological resource – Any material remains or physical evidence of past human life or activities which are of archeological interest, including the record of the effects of human activities on the environment. They are capable of revealing scientific or humanistic information through archeological research.

Biological diversity, biodiversity, or native biodiversity – The full range of variety and variability within and among living organisms and the ecological complexes in which they occur; encompasses ecosystem or community diversity, species diversity, and genetic diversity [US Congressional Biodiversity Act, HR1268 (1990)].

Containment – The act or process of maintaining an intensively managed buffer zone that separates an area infested with exotic and invasive plants (weeds), where suppression activities prevail, from largely uninfested areas, where eradication activities prevail.

Cultural landscape – A geographic area, including both cultural and natural resources and the wildlife or domestic animals therein, associated with a historic event, activity, or person or exhibiting other cultural or aesthetic values. There are four general types of cultural landscapes, not mutually exclusive – historic site, historic designed landscape, historic vernacular landscape, ethnographic landscape.

Dark night skies – Night skies that are unaffected by human-created light sources (i.e., free of light pollution).

Eradication – The act or process of reducing the reproductive success of an exotic and invasive species or specified population in largely uninfested areas to zero and permanently eliminating the species or population within a specified period of time. Once all specified populations are eliminated or prevented from reproducing, intensive efforts continue until the source is eliminated.

Ethnographic resource – A site, structure, object, landscape, or natural resource feature assigned traditional legendary, religious, subsistence, or other significance in the cultural system of a group traditionally associated with it.

Exotic invasive plants and animals – Species that are not native to a particular region and impact native plant and animal communities by displacing native vegetation and disrupting habitats as they become established and spread over time.

Historic structure – A constructed historic work, usually immovable by nature or design, consciously created to service some human activity. Examples are buildings of various kinds, monuments, dams, roads, railroad tracks, canals, millraces, bridges, tunnels, locomotives, nautical vessels, stockades, fortifications and associated earthworks, Indian mounds, ruins, fences, and outdoor sculpture.

Light pollution – (1) The illumination of the night sky caused by artificial light sources, decreasing the visibility of stars and other natural sky phenomena. Also includes other incidental or obtrusive aspects of outdoor lighting such as glare, trespass into areas not needing lighting, alternation of nighttime landscape, and negative impact to ecosystems; (2) Any adverse effect of artificial light including sky glow, glare, light trespass, light clutter, decreased visibility at night, and energy waste (International Dark-Sky Association).

Museum collection – Assemblage of objects, works of art, historic documents, and/or natural history specimens collected according to a rational scheme and maintained so they can be preserved, studied, and interpreted for public benefit.

Natural lightscape – The natural resources and values that exist in the absence of human-caused light.

Natural soundscape resources – All the natural sounds that occur, including the physical capacity for transmitting those natural sounds and the interrelationships among natural sounds of different frequencies and volumes. Natural sounds occur within and beyond the range of sounds that humans can perceive, and they can be transmitted through air, water, or solid materials.

Noise-free interval – A time interval during which no anthropogenic (unnatural) sounds are heard. This is used as one metric for visitors' experience of quiet.

Prescribed fire – Any fire ignited by trained experts to meet specific objectives. Prescribed fire is often used to approximate the natural vegetative disturbance of periodic fire occurrence. This vegetative management tool is used to maintain fire dependent ecosystems and restore those outside their natural balance.

Preservation – The act or process of applying measures to sustain the existing form, integrity, and material of a historic structure, landscape, or objects. Work may include preliminary measures to protect and stabilize the property, but generally focuses upon the ongoing preservation maintenance and repair of historic materials and features rather than extensive replacement and new work. For historic structures exterior additions are not within the scope of this treatment; however, the limited and sensitive upgrading of mechanical, electrical, and plumbing systems and other code-required work to make properties function is appropriate.

Rehabilitation – The act or process of making possible an efficient compatible use for a historic structure or landscape through repair, alterations, and additions while preserving those portions or features which convey its historical, cultural, and architectural values.

Restoration – (1) The act or process of accurately depicting the form, features, and character of a historic structure, landscape, or object as it appeared at a particular period of time by means of the removal of features from other periods in its history and reconstruction of missing features from the restoration period; (2) The resulting structure, landscape, or object; (3) The act or process of removing undesirable characteristics or features from lands of significant environmental or agricultural value and reestablishing natural conditions, features, and processes in order to help restore or maintain said value.

Stabilization – A type of preservation maintenance which involves an action to render an unsafe, damaged, or deteriorated property stable while retaining its present form.

Suppression – (1) The act or process of reducing the vigor of exotic and invasive plant (weed) populations within an infested area, decreasing the propensity of weed species to spread to surrounding lands, and mitigating the negative effects of weed populations on infested lands. Suppression efforts may employ a wide variety of integrated pest management (IPM) techniques; (2) All the work of extinguishing or confining a fire beginning with its discovery.

Visitor(s) – A person(s) who goes to or stays at a place for a particular purpose, generally to view and experience the park's resources, opportunities, and activities.

SUMMARY OF MANAGEMENT ZONES

	DIVERSE OPPORTUNITIES FOR VISITORS	SCENIC CORRIDOR	EVOLVED CULTURAL LANDSCAPE	HISTORIC IMMERSION	NATURAL	SENSITIVE RESOURCES	PARK OPERATIONS
Zone Concept	A park area that provides a range of natural, historic or developed settings, and is able to accommodate a large variety of visitor opportunities. Significant park resources are preserved while accommodating different levels of visitor uses. The visitor is provided with a wide range of educational, interpretive and outdoor recreation opportunities to enjoy and appreciate the park's resources.	A scenic marine, road, or trail corridor that provides for sightseeing and associated recreational opportunities. Resources could be modified to highlight and enhance the natural, cultural, and scenic values, as well as provide for a safe tour route.	The historic scene reflects its significant historic, archeological, agricultural, architectural, and related landscape features while being adaptively reused for contemporary park and partner uses. Contributing exterior or interior historic elements are preserved and interpreted, while providing for adaptive reuse of the sites, structures and buildings that compose the landscape. The historic scene can contribute to visitor interpretation and exploration of the historic values and events while providing for other types of visitor opportunities. Working landscapes could be an aspect of this zone.	The sites, structures, and cultural landscapes are evocative of their period of significance. Select exteriors and designated portions of interior spaces are managed to protect their historic values and attributes. Visitors are provided opportunities to explore history first hand by experiencing cultural resources and exploring past stories and events.	These areas retain their natural, wild characteristics and would be managed to preserve natural resources and maintain resource integrity while accommodating low to moderate levels of visitor use. Visitors would have opportunities to directly experience and understand the natural resources in these areas. Visitor use would be managed to preserve important resource values and could include controlled and managed access. External threats to resource values would be aggressively addressed.	These areas consist of fundamental resources that are very sensitive to a variety of impacts, and are provided the highest level of protection. The natural and/or cultural resources are managed to preserve their fundamental values while being monitored and possibly studied for scientific and historic investigation. Access to these areas would be highly controlled, including possible closures and restricted access. External threats to resource values would be aggressively addressed.	Areas that primarily support developed and secured facilities for operations and maintenance functions of the park and its partners. This zone is managed to provide operation facilities that are safe, secured, and appropriate for uses required for park management. Access to these areas for visitors would be limited and controlled for purposes of orientation, organized meetings and access to park administration.
Natural Resources	Natural resources provide distinct visitor opportunities and experiences through a range of park settings. The natural elements of these park settings would help define and locate visitor opportunities and would be the backdrop for interpretation, visitor use/activities, and services.	Visitor opportunities and park operations would be managed to maintain and restore natural resource integrity. Natural resources would be managed to provide viewing opportunities that allow visitors to view high quality natural resources and their inherent scenic qualities.	Visitor opportunities and park operations would be managed to maintain and restore natural resource integrity. Natural resources are often an integral component of cultural landscapes and would be managed to highlight the cultural resources and their associated values and characteristics. Natural resource objectives would be pursued in collaboration with,	Visitor opportunities and park operations would be managed to maintain and restore natural resource integrity. The natural elements of cultural resources and designated cultural landscapes would be managed to highlight the cultural resources and their associated values and characteristics. Natural resource objectives would be pursued in collaboration with,	Natural resource integrity would be maintained by preserving and restoring natural resources and their processes, systems, and values. Natural functions and processes would be re-established in human-disturbed areas of the park to improve and maintain the resource integrity of the park.	Natural resource integrity would be maintained by preserving and restoring natural resources and their processes, systems, and values. Rare and exceptional natural resources, processes, systems, and values would be preserved and enhanced, unless specifically managing for sensitive cultural resources. Natural functions and	Natural resources would be managed to accommodate operational uses/activities and to facilitate sustainable park maintenance operations. The intrusion of park maintenance and operations activities on the surrounding park setting would be minimized through planning, design, screening, and noise reduction efforts. No park development actions would be taken that would preclude

	DIVERSE OPPORTUNITIES FOR VISITORS	SCENIC CORRIDOR	EVOLVED CULTURAL LANDSCAPE	HISTORIC IMMERSION	NATURAL	SENSITIVE RESOURCES	PARK OPERATIONS
			and where they complement, cultural resource objectives.	and where they complement, cultural resource objectives.		processes would be re-established in human-disturbed areas of the park to improve and maintain the resource integrity of the park.	future natural resource protection or restoration.
Cultural Resources	Cultural resources would provide distinct visitor opportunities and experiences through a range of park settings. The cultural elements of these park settings would be the backdrop for interpretation, visitor use/activities, and services.	The scenic qualities of cultural resources or designated cultural landscapes are managed to preserve their visual and historic characteristics.	Cultural resources would be preserved by managing for adaptive reuse. Historic values and characteristics are preserved for interpretation and enjoyment.	Cultural sites, structures, and landscapes are preserved to reflect their period of significance, allowing people to experience these resources first-hand to learn about their associated stories and events.	Fundamental cultural resources and values are preserved unless specifically managing for sensitive natural resources.	Fundamental sensitive cultural resources and values are preserved unless specifically managing for sensitive natural resources. These fundamental cultural resources are stabilized and preserved to maintain their integrity.	Cultural resources could be preserved by adaptive reuse for the purposes of park operations and administration.
Visitor Experience	Visitors would have the opportunity to participate in a range of recreational, interpretive and educational opportunities supported by a variety of visitor services.	Visitors would have the opportunity to take a scenic tour through the corridor with multiple opportunities to stop along the route for sightseeing, wildlife viewing, picnicking or interpretive opportunities.	Visitors would have the opportunity to explore designated portions of historic landscapes and structures while participating in contemporary activities.	Visitors would have the opportunity to be immersed in an historic setting. Visitors could experience the sights, sounds, and activities that are evocative of the site's period of significance.	Visitors would have the opportunity to be immersed in a natural environment and could seek out areas where they could experience natural sounds, tranquility, closeness to nature and a sense of remoteness and self-reliance. Visitor use would be managed to ensure that activities and their intensities are compatible with protecting resource integrity.	Visitors would have the opportunity to experience and understand the fundamental resources in the zone. In particular, visitors would be able to understand and value the sensitive nature of these resources. Visitor use would be highly controlled and managed to ensure that activities and their intensities are compatible with protecting resource integrity.	Visitors would have the opportunity for limited and controlled access to these areas for purposes of orientation, organized meetings and access to park administration.
Use Levels/Group Activity	High **use levels** in centralized activity nodes are expected, leading to the likelihood of high rates of **encounters** between visitors. **Groups** of many sizes are accommodated.	Moderate to high **use levels** are expected along scenic corridors, leading to the likelihood of moderate to high rates of **encounters** between visitors, particularly at activity nodes such as overlooks, day-use areas and waysides. **Groups** are accommodated, but group sizes could be limited based on facility capacities and/or experiential	Moderate **use levels** are expected around focused activity nodes, leading to the likelihood of moderate **encounters** between visitors and park/partner staff. **Group sizes** could be limited based on facility capacities and/or experiential objectives.	Moderate **use levels** are expected around focused activity nodes, leading to the likelihood of moderate **encounters** between visitors and park/partner staff. **Group sizes** could be limited based on facility capacities and/or experiential objectives.	Low to moderate **use levels** would be expected in this zone, with moderate use levels often found at entry points or points of interest. A moderate rate of **encounters** with other visitors and park staff would be expected, but opportunities for solitude might be found in certain areas if a visitor seeks it. **Group sizes** could be	Low **to moderate use levels** are expected in these areas. At entry points or points of interest, moderate **encounters** between visitors would be expected. As visitors travel away from these areas, there would be increased opportunities for a low number of **encounters** with other visitors and park staff. **Group sizes** could be limited to	Low **use levels** would be expected since this area is intended for staff and visitors on official business. **Encounters** with other visitors would be low, but **encounters** with park staff would be high.

	DIVERSE OPPORTUNITIES FOR VISITORS	SCENIC CORRIDOR	EVOLVED CULTURAL LANDSCAPE	HISTORIC IMMERSION	NATURAL	SENSITIVE RESOURCES	PARK OPERATIONS
		objectives.			limited to protect experiential and resource protection objectives.	promote resource protection objectives.	
Recreational Activities*	Activities could include: • Hiking • Bicycling • Horseback riding • Picnicking • Fishing • Motorized and non-motorized boating • Developed camping • Overnight lodging • Education • Stewardship • Special events	Activities could include: • Hiking • Bicycling • Horseback riding • Picnicking • Fishing • Motorized and non-motorized boating • Developed camping • Overnight lodging • Education • Stewardship • Special events	Activities could include: • Hiking • Bicycling • Horseback riding • Picnicking • Fishing • Motorized and non-motorized boating • Overnight lodging • Education • Stewardship • Special events	Activities could include: • Guided or self-guided tours, including walking, horseback riding or boating • Picnicking • Education • Stewardship • Special events	Activities could include: • Hiking • Bicycling • Horseback riding • Picnicking • Fishing • Non-motorized boating • Primitive camping • Education • Stewardship • Special events (limited)	Activities would be controlled and restricted and could include: • Hiking • Guided tours • Non-motorized boating • Education • Stewardship • Research	Activities could include: • Education • Stewardship
Levels of Development & Management	Development patterns could include a diversity of facilities to support visitor use, mixed with open space and natural settings.	Development patterns may include road and trail corridors and associated day-use facilities that support and direct visitor use, mixed with open space, cultural landscapes, or natural settings.	Development patterns may include a blend of historic and modern buildings to support visitor use and services.	Development patterns would include historic resources and may include non-historic visitor facilities if they can be blended into the historic fabric of the site.	Development would be minimal and would be aimed at facilities that provide access, public safety and resource protection (e.g., trails, sanitation facilities, and fencing)	There would be minimal, if any, development except for some visitor facilities such as trails to allow for the concentration and direction of visitor use while protecting resources.	Development patterns would include a diversity of facilities to support visitor services and park administration mixed with open space and maintained natural settings.
Types of Facilities and Services	Facilities/services could include: • Visitor contact • Restrooms • Trails • Picnic facilities • Boating facilities • Horse stables • Developed campsites • Overnight lodging • Roads and parking • Multi-modal hubs • Event areas • Equipment rentals • Food and beverage services • Retail stores	Facilities/services could include: • Visitor contact • Restrooms • Trails • Picnic facilities • Boating facilities • Horse stables • Developed campsites • Overnight lodging • Roads and parking • Multi-modal hubs • Event areas • Equipment rentals • Food and beverage services	Facilities/services could include: • Visitor contact • Restrooms • Trails • Picnic facilities • Boating facilities • Horse stables • Developed campsites • Overnight lodging • Roads and parking • Multi-modal hubs • Event areas • Equipment rentals • Food and beverage services • Retail stores	Facilities/services could include: • Restrooms • Trails • Picnic facilities • Boating facilities • Roads and parking • Multi-modal hubs • Event areas • Food and beverage services • Retail stores	Facilities/services could include: • Restrooms • Trails • Picnic facilities • Boating facilities (non-motorized) • Primitive campsites • Limited parking (located on the periphery of the zone) • Limited access roads (located on the periphery of the zone)	Facilities/services could include: • Restrooms • Trails • Limited parking (located on the periphery of the zone) • Limited access roads (located on the periphery of the zone)	Facilities/services could include: • Administrative offices • Maintenance • Storage • Roads and parking • Pedestrian walkways • Wastewater and utility management

* The activities listed within each zone are permissible uses/activities in that zone, but may not be available everywhere in that zone.

Monitoring Management Strategy (MMS) --- Future To Do's

Goal: To collect detailed information on number and type of regulatory violations, and to collect targeted information on key resources impacted by dogs.

Timeline: Monitoring commitments begin after the special regulation for dog walking is promulgated.

Purpose:

- To ensure that site-specific information exists should the park need to further regulate dog walking in the future
- Source of feedback to the dog walking community about problem areas - can strengthen partnerships where issues are addressed jointly.

Future needs to implement compliance monitoring:

- Develop a detailed monitoring plan with specific monitoring methodology, data management, and reporting. This adds detail to the general monitoring framework described in the dog plan/EIS.
    - Monitoring for compliance provides raw data. Interpretation of that data, such as how it affects visitor use, is subject to park interpretation. Development of indicators and standards may be helpful here to guide park interpretation of the data.
    - The monitoring plan must be peer reviewed before implementation (DO-11B). Public comment on the methodology after a preliminary peer review is recommended. The final peer review would address public comments received. (These requirements may change based on ongoing revisions to DO-11B and subsequent guidance materials).
    - How is data interpreted, peer reviewed, published?
    - How does management act on this data?
- Funding

Future needs to implement natural / cultural resources monitoring:

- Develop a detailed monitoring plan with specific monitoring methodology, data management, and reporting.
    - What are the critical resources? Are there indicator species that could serve as proxy for groups of species?
    - Which types of monitoring will be most effective? (Which resource impacts can be measured? They may not be the same as monitoring critical resources)
    - Which areas require greater focus (high use, sensitive resources, level of compliance, etc).
    - How is data interpreted, peer reviewed, published?
    - How does management act on this data?
- Funding

Draft Compliance-Based Management Strategy
GGNRA dog management plan/EIS

Background:

The compliance-based management strategy has been designed to encourage compliance with sections of the Code of Federal Regulations (CFR) applicable to dog management, and ensure protection of park resources, visitors and staff. It will provide the framework for monitoring and recording observed noncompliance with the applicable sections of the CFR, including the new 36 CFR Part 7 special regulation, and will guide use of park resources to address those violations. Noncompliance with federal regulations related to dog management will be met with a range of management responses.

Timeline:

Monitoring will begin with plan implementation, or soon thereafter. A detailed monitoring plan will be developed to guide compliance monitoring, data management, and reporting.

All areas and zones (see FAQ 1 below) addressed by the dog management plan will be subject to monitoring. Starting with the implementation of the dog management plan, months 1-3 will be a public education period, and in months 3-6 the monitoring strategy will be tested. During months 6-18, a baseline of numbers and rates of visitors with and without dogs, numbers of dogs per visitor, type of use (on-leash or voice-control) and noncompliance with regulations (includes noncompliance observed but not resulting in citations) will be established. After this baseline has been established, monitoring efforts may be prioritized, with the park reducing the frequency of monitoring in low use or high compliance areas to focus on areas with high use or low compliance as needed. Monitoring will continue in all areas for at least 4 years. However, all areas addressed in the dog management plan will be periodically monitored for changes in baseline to reprioritize monitoring as needed. Park management responses will focus on areas with demonstrated noncompliance with the regulations, as described in the primary management response section below. Monitoring will inform park management and law enforcement when, where, and how to prioritize responses to noncompliance. If the rolling 12 month average for compliance in any of the management zones addressed by the dog management plan falls below 75% (measured as the percentage of total dogs / dog walkers observed during the previous 12 months not in compliance with the regulations), park management actions as described in the secondary management response will be implemented. The initial 12 month rolling average is based on data collected during months 6-18 after the dog management plan initiation. Regular monitoring of an area over a 12 month period is required before secondary management responses (see below) can be implemented.

NPS will prepare annual reports documenting monitoring data collected and any consequent management actions, which will be made available to the public. NPS will also release a preliminary report providing baseline data after the first 6 months of monitoring (month 12 after plan initiation).

Standard: Compliance with federal regulations applicable to dog management.

Indicators: Noncompliance with federal regulations applicable to dog management (see chart below).

Vegetation Damage	Wildlife Disturbance	Disturbance to T&E Species	Violation of Areas Closed to Dogs (T/E and Sensitive Habitat)	Violation of Areas Closed to All (T/E and Sensitive Habitat)	Violation of Areas Closed to Dogs (Safety)	Hazardous Condition (aggressive behavior, pet rescues)	Degree of Compliance with special regulation (no dogs, on-leash, ROLA)	Gov't Property Damage	Pet Excrement
36 CFR 2.1 (a) (1) (ii)	36 CFR 2.2(a)(2)	36 CFR 2.2 (a) (2), 50 CFR Part 17	NEW PART 7 SPECIAL REGULATION	36 CFR 1.5 (f)	36 CFR 1.5 (f), NEW PART 7 SPECIAL REGULATION	36 CFR 2.34 (a)	NEW 36 CFR PART 7 SPECIAL REGULATION	36 CFR 2.31 (a) (3)	36 CFR 2.15 (a) (5)

Triggers and management responses:

1. Primary management response: When noncompliance is observed at an area, NPS would weigh appropriate management options and would respond from a suite of potential actions that include: focused enforcement of regulations, education (e.g., additional information and regulatory signs and exhibits, brochures and fliers, public meetings, meetings with user groups, etc.), establishment of buffer zones to protect sensitive habitat and species, time/use restrictions, and SUP restrictions.
    a. Areas with the highest rates of noncompliance, and/or sensitive resources, will receive first priority for primary management responses[1].
    b. Aggressive dogs or unsafe behavior (e.g. resulting in cliff rescues) are treated on an individual, case-by-case basis, and may result in banning a particular dog from the park, or if applicable, a special use permit (SUP) restriction. However, violations recorded by the monitoring team will count towards the rate of noncompliance.

2. Secondary management response: When compliance falls below 75% over a yearly rolling average (measured as the percentage of total dogs / dog walkers observed during the previous 12 months not in compliance with the regulations), in a management zone (on-leash, voice-control, or no dogs) in any of the specific areas addressed by the plan, the zone's management changes to the next more restrictive level of dog management, for example:

[1] If Section 7 consultation pursuant to the Endangered Species Act requires preparation of a Biological Opinion, management responses related to threatened and endangered species will be governed by the Terms and Conditions described in the Biological Opinion, and would be separate from the compliance based strategy. Emergency closures for listed species protection may also occur outside of the compliance-based strategy.

ROLA to on-leash, or on-leash to no dogs. The secondary management response could not be implemented until after the first 18 months, during which the monitoring plan will be tested and baseline data collection begun. Note that primary management responses may continue to apply.

FAQ's:

1. What is an area versus a zone? An area is a specific geographic site. The dog management plan addresses 21 areas, plus new lands. A zone denotes a type of use allowed in an area (on leash, voice-control, or no dogs). An area may have more than one zone, depending on the alternative.
2. Will the monitoring plan be peer-reviewed before implementation? Yes, the plan will be subject to peer review, as required by DOI policy to ensure integrity of scientific data. Such a review will include monitoring protocols to ensure statistical rigor and accuracy, and training of monitoring staff to ensure uniform measurement and interpretation of data.
3. How do law enforcement citations or other instances of noncompliance, such as a case incident report, factor into the 75% criteria in the secondary management response? While violations will likely occur that are not documented by the monitoring team, including those resulting in law enforcement citations, those would not count towards the cumulative total for a particular zone, because the number of incidents of noncompliance at any zone must be measured against the total number of dogs in the area during monitoring. However, all violations reported to the park, including citations, may be used to inform the monitoring team where to focus its efforts.
4. Does baseline information factor into the 75% criteria in the secondary management response? No. Baseline information is used to prioritize monitoring initially, and reevaluate monitoring if use patterns change. It does not set a standard against which the 75% criteria is measured. The 75% criteria is measured as the percentage of total dogs / dog walkers observed during the previous 12 months not in compliance with the regulations.
5. What are some examples of the compliance-based strategy in practice at different periods in time?
    a. Month 15 of the plan implementation: The monitoring team visits a specific area at random times of the day and week. The team will count the total number of dogs, dog walkers and types of use (on-leash, voice control) over a pre-set monitoring period, while also recording the number of violations in each zone contained in the area. This information will be compiled with the preceding months' monitoring data to develop a cumulative total number of dogs and violations. Information gained through monitoring will direct use of park resources to initiate primary management responses as required. In 3 more

months the monitoring team will have 12 months of data to evaluate, to determine if a secondary management response is warranted.

b. Month 18 of the plan: The monitoring team has continued to visit this specific area at random times of the day and week, following the same monitoring protocols as noted above. If compliance falls below 75% based on the previous 12 months' monitoring data in one of the zones, in spite of the park's primary management actions, the zone will change to the next most restrictive dog management regulation.

6. What kind of public notice will be provided before initiation of the secondary management response? The public will receive notice when an area is approaching the 75% failure benchmark, most likely through a website, notices posted in the specific area, and outreach to affected groups.
7. After the secondary management strategy has been initiated, if compliance later rises above 75%, can a zone within an area be changed back to the next least restrictive management regime? No. The secondary management response is a permanent change given NPS's limited administrative resources. The NPS goal is that compliance rates stay above 75% after the primary management response, but believes that the possibility of a permanent secondary management response will help ensure this.
8. Why is the secondary management response set at a 75% failure rate: The dog management plan/EIS and the resulting special regulation, along with existing regulations applicable to dog management, determine appropriate behavior for visitors with dogs within Golden Gate National Recreation Area. NPS does not condone any level of noncompliance, and the primary management response detailed above is sufficient to address noncompliance where it is not widespread. The secondary management response is meant to apply when it is clear that park management has been unable to reduce noncompliance through conventional means, and when there is continued and widespread noncompliance occurring over a longer period of time, at which point the benefits in allowing the use is outweighed by the NPS administrative burden required to manage the use, draining limited resources needed for other important park programs. The secondary management response provides visitors with dogs an additional incentive to comply with the dog regulations, and because it is site-specific, it encourages a communal response to address noncompliance. It also places a burden on NPS to take an initial, proactive approach to dog management by addressing individual violators and by increasing public awareness through community education and outreach, and not punish the majority for individual or isolated violations. At the same time, this secondary response is intended to ensure that NPS does not allow activities that do not correspond with its primary conservation mandate. It recognizes that NPS has multiple competing priorities to address with its funding and does not have unlimited resources with which to ensure compliance with dog regulations. Compliance less than 75% would not be acceptable for park operations, and could only be addressed through increased restrictions.

9. Rationale for 18 month period before a secondary management response could initially be applied:
    a. Months 0-6: provides for a 3 month public education period after plan implementation, and an additional 3 months to test, possibly modify, and implement the monitoring plan.
    b. Months 7-18: provides one year to implement the full range of possible management actions addressing noncompliance as outlined in the primary management response, and provides 12 months of monitoring data.
    c. One year rolling average is measured at the end of each month; after the initial 18 months action could be taken after any month as long as there are 11 consecutive preceding months of data.

Draft Compliance-Based Management Strategy
GGNRA dog management plan/EIS

Background:

The compliance-based management strategy has been designed to encourage compliance with sections of the Code of Federal Regulations (CFR) applicable to dog management, and ensure protection of park resources, visitors and staff. It will provide the framework for monitoring and recording observed noncompliance with the applicable sections of the CFR, including the new 36 CFR Part 7 special regulation, and will guide use of park resources to address those violations. Noncompliance with federal regulations related to dog management will be met with a range of management responses.

Timeline:

Monitoring will begin with plan implementation, or soon thereafter. A detailed monitoring plan will be developed to guide compliance monitoring, data management, and reporting.

All areas and zones (see FAQ 1 below) addressed by the dog management plan will be subject to monitoring. Starting with the implementation of the dog management plan, months 1-3 will be a public education period, and in months 3-6 the monitoring strategy will be tested. During months 6-18, a baseline of numbers and rates of visitors with and without dogs, numbers of dogs per visitor, type of use (on-leash or voice-control) and noncompliance with regulations (includes noncompliance observed but not resulting in citations) will be established. After this baseline has been established, monitoring efforts may be prioritized, with the park reducing the frequency of monitoring in low use or high compliance areas to focus on areas with high use or low compliance as needed. Monitoring will continue in all areas for at least 4 years. However, all areas addressed in the dog management plan will be periodically monitored for changes in baseline to reprioritize monitoring as needed. Park management responses will focus on areas with demonstrated noncompliance with the regulations, as described in the primary management response section below. Monitoring will inform park management and law enforcement when, where, and how to prioritize responses to noncompliance. If the rolling 12 month average for compliance in any of the management zones addressed by the dog management plan falls below 75% (measured as the percentage of total dogs / dog walkers observed during the previous 12 months not in compliance with the regulations), park management actions as described in the secondary management response will be implemented. The initial 12 month rolling average is based on data collected during months 6-18 after the dog management plan initiation. Regular monitoring of an area over a 12 month period is required before secondary management responses (see below) can be implemented.

NPS will prepare annual reports documenting monitoring data collected and any consequent management actions, which will be made available to the public. NPS will also release a preliminary report providing baseline data after the first 6 months of monitoring (month 12 after plan initiation).

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