Current Operations

While visitors are most likely to interact with staff at one of the seashore's visitor centers, there are many other employees at Point Reyes National Seashore who perform tasks critical to the park accomplishing its mission. A goal of the business plan is to evaluate the strategic allocation of resources in a manner that is comparable across parks nationwide. A universal list of six functional areas excluding investments and non-operations activities enables cross-park unit comparison. These functional areas are based on the grouping of various programs that are the responsibility of a park to perform, such as volunteer programs, contracting, and cultural resource management.

Functional areas do not necessarily match the organizational structure of the park, thus, the business plan process has enabled park management to fully capture the costs associated with program areas that span divisions. For example, volunteer programs are critical to the seashore's operations and are operated independently in multiple divisions. The business plan captures all labor and other expenditures related to management of volunteer programs—including development and announcement of volunteer opportunities, recognition programs, relationship management with partner organizations, and annual reporting—as expenses associated with Park Administration,

A volunteer sets up a viewing scope at the Tomales Point Elk Reserve. PHOTO BY KRISTIN GILLISS

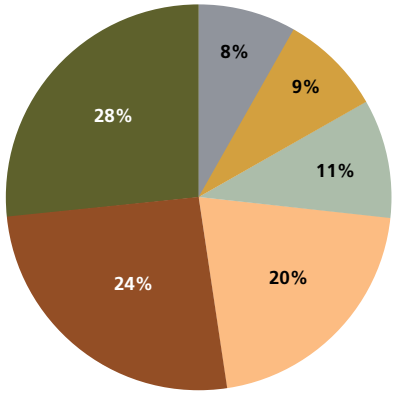
Opposite: Sierra Club members work on a Point Reyes coastal dune restoration project. NPS PHOTO

although staff performing these duties may work on the Trail Crew overseeing the Adopt-A-Trail program or in Interpretation managing the Snowy Plover Docent program.

Expenditures associated with the following functional areas exclude labor and other expenses connected to one-time projects or investments and external support services. Expenditures associated with projects such as the Giacomini Wetlands Restoration Project are significant one-time costs which parks incur in order to solve current problems or provide for future park development. Expenditures associated with support services provided to other parks and agencies are also excluded from this analysis. These are programs for which the national seashore receives network funding, such as the inventory and monitoring program for the San Francisco Bay Area Network.

In Fiscal Year 2006 Point Reyes National Seashore operated with 115 full-time equivalent (FTE) employees, including seasonal employees. An FTE is equal to 2,080 hours of work per year. The national seashore was also supported by network-funded positions, grant-funded individuals, and volunteers. The following pages detail the operating functions of the national seashore.

Point Reyes National Seashore
Fiscal Year 2006 Operational Expenditures



- Resource Management
- Visitor Experience and Enjoyment
- Law Enforcement and Visitor Safety
- Facility Operations
- Facility Maintenance
- Management and Administration

Management and Administration: ***Fiscal Year 2006 – $782,739***
Administration is responsible for facilitating park operations through functions such as finance, human resources, contracting, concessions and fee management, and information technology. Additionally, business management handles parkwide planning and safety, volunteer programs, partnerships, and external affairs.

Facility Operations: ***Fiscal Year 2006 – $1,116,430***
Facility Maintenance: ***Fiscal Year 2006 – $2,337,397***
Point Reyes National Seashore operates and maintains 700 assets and asset features. Assets include buildings, historic structures, roads and trails, potable water systems, and wastewater systems. The park strives to be a leader in sustainable development and design. Facilities Operations includes tasks that are necessary for the immediate use of a resource. Facilities Maintenance includes activities required to prolong the life of an asset for continued use in the future.

Law Enforcement and Visitor Safety: ***Fiscal Year 2006 – $1,056,082***
Wildland Fire Management: ***Fiscal Year 2006 – $1,660,251***
Law Enforcement includes front- and backcountry patrol, marine operations, and marijuana control. Law Enforcement rangers monitor buildings, campgrounds, trails, and parts of the Tomales Bay and Pacific Ocean shore. This function also includes Wildland Fire Management, which is responsible for emergency fire response and fire planning.

Resource Management: ***Fiscal Year 2006 – $1,948,202***
Point Reyes National Seashore preserves and protects both natural and cultural resources. Managing these resources includes activities such as monitoring special status species, restoring natural hydrologic and ecological processes, and archiving archeological discoveries. Point Reyes National Seashore also operates one of 17 Research Learning Centers and has a robust science program.

Visitor Experience and Enjoyment: ***Fiscal Year 2006 – $827,759***
This function is responsible for interacting with the public through interpretation, environmental education, and visitor center operations. As the most visible part of national seashore operations, this function is responsible for providing for visitor enjoyment and for helping people to make connections to the resources of Point Reyes National Seashore.

Management and Administration

Management and Administration (M&A) at Point Reyes National Seashore is responsible for general management and administrative duties relating to all aspects of national seashore operations, planning, external relations, and resource stewardship.

Finance, Human Resources, and Contracting

Finance prepares the budget for Point Reyes National Seashore. This function also tracks reimbursable accounts, cross charges, and project money to ensure spending is in accordance with guidelines. In the future, Finance plans to hire a budget technician to help with budgeting at the national seashore. Human Resources is responsible for all activities related to recruitment, training, position classification, maintenance of official personnel records, and overall administration of employee benefit programs. Human Resources attempts to attend job fairs at universities to increase staff diversity. However, these activities are limited because of staff size and budget. Contracting is responsible for procurement activities and administration of the government charge card program.

Fee Collection and Concessions

Point Reyes National Seashore administers fees for campgrounds and shuttle bus operations, and issues special use permits for filming, events, ranching, residence, and right-of-way use. Point Reyes National Seashore issued 165 special use permits in Fiscal Year 2006. The national seashore currently has four walk-in campgrounds and allows camping on beaches at Tomales Bay. During winter, the national seashore offers a shuttle bus as a means of visitor transportation to view elephant seals and whales. This bus also alleviates traffic congestion and reduces overall carbon emissions.

Point Reyes National Seashore allows ranching and residence within park boundaries as a means of preserving the agricultural heritage of Marin County. Cost recovery amounts collected from ranching operations are used for purposes such as environmental impact monitoring of ranch operations, cattle fencing to protect riparian habitat, and historic ranch building improvements.

There are currently four concessions operating within the national seashore: Stewart Horse Camp, Drake's Beach Café, Hostelling International, and Five Brooks Stables. Additionally, the park's cooperating association, the Point Reyes National Seashore Association, sells convenience items in the bookstore.

Partnerships

The Point Reyes National Seashore Association (PRNSA) has been a long-standing partner of the national seashore since 1964. PRNSA partners with the national seashore to deliver educational content to visitors and school groups and to sponsor major projects. Past projects include building the Bear Valley Visitor Center, constructing the Clem Miller Environmental Education Center for school groups to use while at the park, running the summer camp program at Clem Miller, providing more than 40,000 children and adults with overnight educational experiences, and teaching more than 30,000 people about the natural history of Point Reyes through the award-winning Field Seminar programs.

In partnership with the park and the National Park Foundation, PRNSA has raised more than $5.7 million in non-NPS funds for implementing the Giacomini Wetlands Restoration Project since 2004. In addition to financing the project, PRNSA is acting as the principal agent for all contractors working on this massive undertaking. By assuming this role, PRNSA is taking on new leadership responsibilities for national seashore projects.

Volunteer Programs

Point Reyes National Seashore relies on volunteers to provide additional support for all divisions. Volunteers are recruited from the local community, universities, and the internet. As mentioned in the Volunteer Analysis part of this business plan, individuals can assist the park through the National Park Service Volunteers in Parks (VIP) program. Additional funding and staff training would allow the national seashore to enhance this program and to recruit more volunteers.

The Point Reyes National Seashore Annual Volunteer Appreciation Dinner allows the park an opportunity to celebrate the accomplishments of many dedicated individuals. PHOTO BY KRISTIN GILLISS

MANAGEMENT AND ADMINISTRATION OPERATIONAL PRIORITIES

Ensure that Point Reyes National Seashore is well managed and funded.
Point Reyes National Seashore currently administers operations and manages resources through eight divisions. Each division is staffed with highly trained and certified personnel. Retention and funding of these professionals is a top priority for the national seashore.

Reassess fees for current market conditions.
Point Reyes National Seashore is working to reassess fees charged to ranches and residents of the national seashore. By doing this, the park hopes to determine appropriate market rates for rent, services, and support provided by Point Reyes National Seashore.

Bring administration staffing and systems up to modern standards.
Point Reyes National Seashore hopes to bring administrative support up to standard in terms of staffing and systems.

SO CLOSE, YET SO FAR AWAY

Although located near the Silicon Valley, the San Francisco Bay Area National Park network is in serious need of information technology (IT) resources. Point Reyes National Seashore, Golden Gate National Recreation Area, San Francisco Maritime National Historical Park, John Muir National Historic Site, Eugene O'Neill National Historic Site, Rosie the Riveter National Historical Park, and Pinnacles National Monument all share four information technology professionals. Point Reyes National Seashore alone has 143 users, 147 computers, six servers, and three separate telephone systems, which are maintained by one shared IT professional. Simple information technology requests can take months to resolve.

Top: Fiona O'Kelly of Point Reyes National Seashore Association helps operate the Clem Miller Environmental Education Center. PHOTO BY DAVID MIYAKO **Center: Point Reyes National Seashore Administration Sign,** PHOTO BY DAVID MIYAKO **Bottom: Information Technology Specialist Aimee Davis—one of four people, seven parks,** PHOTO BY DAVID MIYAKO **Far right: Point Reyes National Seashore Association logo**

"I love that we can support the park in their goals while at the same time exposing children to environmental education, stewardship, and care for Point Reyes."

—FIONA O'KELLY
POINT REYES NATIONAL
SEASHORE ASSOCIATION

Point Reyes
National Seashore Association

Facility Operations and Maintenance

From smoothing the surface of the road to Limantour Beach to mitigating erosion on Coast Trail, the operations and maintenance activities of Point Reyes National Seashore ensure the built environment is managed to optimize operational efficiencies while providing stakeholder access and reducing degradation of the seashore's assets. Achieving this goal entails routine custodial services, monitoring, preventative maintenance, and repair. For example, as a park ranger leads a program at the Point Reyes Lighthouse, the operations and maintenance staff's work ensures that the restrooms are clean, the water in the drinking fountain meets public health requirements, the building is well-lit, and the roof is maintained despite wind speeds as high as 130 miles per hour. The Facility Operations and Maintenance administrative team manages more than 700 park assets and asset features, including buildings, residences, roads, trails, and water and wastewater systems through the National Park Service Facility Management Software System (FMMS). In addition to planning, budgeting, operating, and evaluating needs of assets, the administrative team coordinates data management with branch managers to track and record workload and project planning, work site supervision, and routine safety inspections. Staff also compiles utility costs and sets water and sanitation rates for non-National Park Service customers.

In all of these activities, Facility Operations and Maintenance management and staff act as resource stewards. The national seashore employs sustainable practices and works to conserve energy and water whenever possible. In addition, Point Reyes National Seashore was selected by the National Park Service as a Center for Environmental Innovation in 2002 *(see profile "A Showcase of Sustainable Practices")*. The national seashore is committed to not only educating the public on sustainable practices, but also to utilizing such practices and becoming a leader in the area of environmental innovation. Sustainable design and engineering are primary considerations in all park planning efforts to ensure resources are preserved for future generations. From using "green" cleaning products to installing solar energy systems, environmental stewardship also guides daily operations and maintenance decisions.

Buildings, Grounds, and Utilities Maintenance
The Buildings, Grounds, and Utilities team assures that statutory, regulatory, and procedural controls are met regarding the maintenance of all the buildings, grounds, and utilities within

FACILITIES OPERATIONS AND MAINTENANCE OPERATIONAL PRIORITIES

Upgrade water system infrastructure.
The provision of safe drinking water for visitors, staff, and residents is an important responsibility of the seashore. An initial capital outlay to install regional water systems designed for low operations and maintenance would enable the seashore to save on labor costs associated with daily monitoring of water quality in the future.

Conserve energy and reduce consumption.
As a Center for Environmental Innovation, Point Reyes National Seashore is committed to identifying creative approaches to environmental stewardship, such as implementing new solar energy systems, seeking alternative fuel vehicles, and utilizing recycled building materials and green cleaning supplies.

Reduce total number of assets and implement preventive maintenance plan for remaining assets.
Management is evaluating the condition of all seashore facilities and the priority assigned to each asset. The park asset management plan developed will be used to ensure future resource allocations target maintaining high-priority assets in good condition. Management will evaluate demolishing low-priority assets in poor condition.

Identify operational efficiencies and opportunities for knowledge sharing between branches.
Staff will invest time and resources to share technical knowledge internally to build long-term capacity.

DEFERRED MAINTENANCE BACKLOG (OPERATIONS VERSUS MAINTENANCE)

The National Park Service distinguishes between operations and maintenance to better quantify the deferred maintenance backlog of a given park unit. To meet operational needs, many parks have deferred maintenance of structures over time. This deferral has led to rapidly deteriorating assets within the National Park Service, which need to be addressed before they become unsalvageable.

Facilities Operations includes activities such as removing hazardous trees, stocking restroom supplies, and changing light bulbs. These types of tasks are necessary for the immediate use of a resource. Facilities Maintenance includes activities such as repairing roofs, fixing wastewater systems, and replacing broken windows. These kinds of duties are required to prolong the life of an asset for continued use in the future.

Tomales Point Trail, PHOTO BY KRISTIN GILLISS

Point Reyes National Seashore, including normal repairs of buildings, painting, plumbing, and roof maintenance. This oversight includes 39 housing units, 64 wastewater systems, five public water systems, 29 private water systems, 16 actively used administrative buildings, four backcountry campgrounds, two bayside campgrounds, three major visitor complexes, one research center, and two environmental education centers. The Buildings, Grounds, and Utilities staff responds to 95 percent of all work orders submitted at the national seashore, and staff is responsible for planning and completing the repair of systems and structures. Emergency repair needs, such as those caused by floods or fire, limit staff's ability to allocate time to preventative maintenance and inspections.

Buildings, Grounds, and Utilities Operations

From changing light bulbs in the Bear Valley Visitor Center to collecting litter or monitoring water from backcountry campgrounds, the day-to-day activities that comprise Buildings, Grounds, and Utilities operations impact the national seashore's resources and public health. In addition to routine cleaning and custodial work at buildings and campgrounds, staff inspects and adjusts utility components daily to maintain full-service to seashore facilities. For example, public water systems require daily monitoring to ensure water quality, yet some systems, such as that at Glen Camp, are only reached after a two-hour journey on a winding, unpaved road. The logistics of monitoring these systems has limited staff time available for preventative maintenance.

Trails Maintenance

The Trails Branch maintains and repairs more than 113 miles of former ranch and logging roads that comprise Point Reyes National Seashore's trail system. A visitor survey conducted by the national seashore revealed that a majority of park visitors include a hike along the seashore's trail system during their visit. Maintaining these popular trails to ensure visitor access and safety entails cleaning more than 1,500 drainage devices each year, routine maintenance of almost 350 trail signs, and removal of vegetation such as poison oak and stinging nettles along trail sides. The national seashore relies substantially on partnership and volunteer programs to perform trail maintenance. The seashore's partnership with Youth Conservation Corps is in its twenty-third year, and the annual crew of 10-15 enrollees accounts for maintenance of 50 miles of trails. In addition, in 2006, the Adopt-A-Trail program boasted more than 370 volunteers, ranging

Facilities Management team members install a new sign for the Resource Management Division. With only one staff person, the sign shop at Point Reyes creates approximately 70 new signs each year for projects, public health and safety, and visitor information. In addition to maintaining and repairing existing signs, the sign shop completed more than 100 work orders in FY 2006, including upgrading stop signs with reflective material, detailing law enforcement ranger vehicles and boats, painting roadside curbs, designing safety decals, and installing wayside road signs and interpretive exhibits.
PHOTO BY KRISTIN GILLISS

A historic preservation crew member performs delicate work to restore a window on the historic Lifesaving Station, a national historic landmark. PHOTO BY KRISTIN GILLISS

Opposite: National Park Service carpenters proudly pose next to a carriage house dating to the 1920s at Home Ranch. The historic preservation crew removed rotten wood and installed a historically accurate timber sill foundation. PHOTO BY KRISTIN GILLISS

from local school groups to returned Peace Corps volunteers, who maintained approximately 10 miles of trails. Management of these programs requires significant staff time. While staff members perform some maintenance, such as mowing, on all trails each year, they typically are able to perform more intensive cyclic maintenance, including drainage and tread repair, on only 50 miles, or one-third of trails, annually. The Trails Branch gives highest priority to maintenance of Point Reyes National Seashore's most popular trails, such as the Coast Trail.

The ranching and logging legacy of Point Reyes poses unique challenges for the Trails Branch staff. Rather than narrow hand-built trails, the trails at the seashore are 30- to 45-foot-wide former road beds constructed with heavy equipment. Almost 96 trail miles, or 85 percent of the national seashore's trails, are located in congressionally designated wilderness areas where the use of mechanical devices is prohibited. Maintenance of these wide trails is time-consuming and difficult. Often, though, maintenance is critical as these former roads were designed and constructed based on utilitarian, not environmental, considerations. Where trails lead directly uphill rather than following the topography of the land, erosion and resultant pollutant and sediment runoff to local water sources can be mitigated by maintenance. However, without labor- and supply-intensive rerouting or redesign projects, these former roads will continue to be high-maintenance and high-environmental impact assets. Management remains committed to leveraging all new trail construction project money, such as the rerouting of Estero Trail in conjunction with the Coastal Watershed Restoration Project, to ensure the construction of low-maintenance, resource-friendly trails.

Roads Maintenance

The Roads Branch maintains and repairs almost 37 miles of paved roads, 60 miles of unpaved roads, 21 paved parking lots, 37 unpaved parking lots, and all associated fencing and vehicle barriers. Similar to trail maintenance, keeping these former ranching roads in good condition requires a sophisticated understanding of drainage devices and erosion control. In Fiscal Year 2006 a crew of six employees maintained these assets by cleaning ditches and culverts, grading roads, doing asphalt overlays, patching potholes, filling cracks, and striping. An additional staff person was dedicated to sign repair and replacement for the more than 660 signs at Point Reyes National Seashore.

HISTORIC STRUCTURES MAINTENANCE

A historic preservation crew works on restoring, repairing and stabilizing the almost 300 historic structures maintained by the national seashore, including historic ranch buildings, the 130-year-old Point Reyes Lighthouse, and Point Reyes Lifeboat Station, which is a national historic landmark. The historic preservation crew's projects fuse maintenance and craftsmanship, and these projects are more expensive in terms of both labor and material expenditures. For example, restoring one window in the Lifeboat Station based on the guidance in the "Secretary of the Interior's Standards for the Treatment of Historic Properties" may require up to 40 hours of labor between scraping, sanding, patching a frame to preserve the original wood, repainting, and reinstallation. To stabilize the floor of the barn at Teixeira Ranch in Olema Valley in 2006, this team of talented cultural resource stewards hand-hewed timbers with historic hand tools—a broad axe, felling axe, adze, and slick—to match the original timbers being replaced. Increased material costs reflect the additional expense incurred by requirements unique to historic structure maintenance, such as the need to have lumber milled to be 2 x 4 inches instead of the modern 1.5 x 3.5 inches.

The Point Reyes National Seashore team is one of only three historic preservation crews in the Pacific West Region of the National Park Service. Team members frequently travel at the invitation of other parks to contribute to preservation projects, but there continues to be increased demand for their services at the national seashore. In 1995 the number of structures at the seashore listed by the National Register of Historic Structures was 190; today, the number has increased to 279. As these assets age, increased cultural cyclic maintenance funding will be needed. In Fiscal Year 2006 the budget was $282,259. In addition, management expects increased need for repair and rehabilitation projects.

Priority: Maintain 127 of 297 historic structures listed in "good" condition and increase to 137.

The agricultural history at Point Reyes includes a large number of historic ranch buildings. Additional funding for preventive maintenance would enable the historic preservation crew to maintain those structures already listed in "good" condition. Project funding is required to improve the status of additional structures.

Preservation Work
In Progress
NATIONAL PARK SERVICE
Point Reyes Historic
Preservation Crew
CAUTION

A member of the park roads crew maintains a trailhead sign area. PHOTOS BY KRISTIN GILLISS

Drivers, cyclists, and hikers depend on Roads Branch staff for safe, timely access to resources, facilities, and residences. Drivers on the national seashore's roads include visitors, staff, concessioners, and residents. Lack of maintenance not only makes roads more dangerous, it also makes transportation more time-consuming. Well-maintained roads increase the efficiency of staff members who are required to utilize them for daily operations, such as monitoring water quality at Wildcat Campground. The campground is accessible only by a dirt road which is also frequently used by visitors exploring the seashore on horseback. This road is difficult to maintain, particularly during the rainy season, but the Roads Branch staff members work to ensure that it and other roads are safe and accessible. One of the greatest challenges to completing maintenance faced by the Roads Branch is frequent requests from other branches for equipment and staff support for other services. For example, the Roads Branch is comprised of skilled workers familiar with operating the heavy equipment often required by other park programs. Staff frequently hauls rock and materials for natural resource management projects or operates a backhoe in support of repairing a broken water line for the utilities team.

Trails and Roads Operations

Trails and Roads Operations also include hazardous and downed tree removal. Downed trees often block trail or roadside ditches and prevent water from flowing though culverts installed beneath trails or roads. The result of overflowing ditches can be erosion of the trail or road surface. The Roads Branch presently depends on equipment loans from the U.S. Coast Guard to perform some of these activities.

In addition, Point Reyes National Seashore has 140 mowable road shoulders that are routinely mowed to improve fire protection and increase sight distance along winding, cliffside roads. Clearing vegetation from roadsides requires both mowing with heavy equipment and hand operation of weed trimmers for areas that are more difficult to access. The Roads Branch endeavors to mow and clear vegetation from roadsides at least four times each year. In recent years, the Roads Branch has partnered with the natural resources management team to adjust its mowing schedule to respect the breeding and nesting seasons of native species.

ON THE PATH TO ENVIRONMENTAL WORK

Sarah Shimizu, Trail Crew

"I love being outside—to work out here and be in the field five days a week—I couldn't ask for anything more. When I was at Point Reyes Summer Camp, I wished that I could be out here all of the time. I got my wish."

After eight years at PRNSA's environmental education summer camp, Sarah joined the Youth Conservation Corps (YCC) in 2001 when she was 17. She returned the following year as a YCC youth leader. Since then, she worked at the seashore five consecutive years as a seasonal trail crew member, and is now a crew leader for the YCC. "We work really hard," she said. "It teaches kids to have a really good work ethic." When asked what keeps bringing her back, Sarah replied, "The seashore—it's beauty, and the people. I have great co-workers."

Sarah is entering her senior year at Humboldt State University where she is studying botany, anthropology, and appropriate technology in the environmental resource engineering department. Her senior project focuses on the native garden at Kule Loklo, the seashore's replica Coast Miwok village. "I'm going to be doing something like this the rest of my life, work that engages my body and my mind; YCC and the trail crew are what started me on that path. I'm really grateful."

MAKING A DIFFERENCE NOW AND FOR THE FUTURE

Karen McKey, Utility System Operator and Repairer
"I get to help care for and protect this beautiful, incredible place and assure the impact that we leave on it is healthy. As long as we're providing safe drinking water and good facilities that operate and function to the best ability, then we're making sure we're taking care of the park for both visitors today and future generations."
PHOTO BY KRISTIN GILLISS

ENHANCING NATURAL PASSAGES

The Point Reyes trail crew constructs a new bridge as part of the Coastal Watershed Restoration Project.
At this site, the project involves removal of an existing road crossing within an official wilderness area and the reroute of the Estero Trail. The bridge will allow for natural hydrological process and fish passage. It will ultimately allow for the reintroduction and enhancement of endangered fish populations, including federally threatened steelhead trout and federally endangered coho salmon.
PHOTO BY KRISTIN GILLISS

Law Enforcement and Visitor Safety

Law Enforcement

Law Enforcement and Visitor Safety (LE) is responsible for investigating crimes against the United States and for monitoring activities and enforcing regulations on the national seashore's 71,000 acres of land, surrounding water areas, and 21,000 acres of other National Park Service lands in the San Francisco Bay Area. Law Enforcement accomplishes this with six patrol rangers and two LE supervisors (eight rangers in total). Point Reyes National Seashore coordinates with other law enforcement agencies such as the U.S. Coast Guard and the Marin County Sheriff's Department. Ensuring visitor safety and protecting resources requires a variety of activities including front- and backcountry patrol, marijuana cultivation control, search and rescue, and marine operations along the coast of the Pacific Ocean and in Tomales Bay.

Frontcountry patrol focuses on more accessible areas within the national seashore including parking lots, beaches, and areas prone to illegal camping, vandalism, and resource violations. Back-country patrol focuses on areas that are less accessible, including trails and walk-in campgrounds. Eight rangers patrol these areas and conduct all other law enforcement activities. Present staffing levels allow for adequate frontcountry patrol for minor resource violations such as off-leash dogs, off-trail bicycling, and driving infractions. Major incidents such as drowning, assaults, domestic violence, and vehicle accidents can consume all available staff time. The national seashore would like to increase its back-country patrol efforts to educate campers about safety, expand resource-based protection, and to monitor trail use.

In addition to ensuring visitor safety, LE is responsible for protecting the seashore's abundant natural and cultural resources. Activities include the deterrence of poaching, as well as the enforcement of camping and marine equipment regulations. Abalone and elk antler poaching are areas of concern. Rangers frequently encounter individuals that collect more abalone than permitted and divers that do not follow regulations. Antler poaching has decreased since the 1990s because of intensive monitoring in recent years. Given additional staff, LE would like to increase efforts to monitor poaching activities and to educate visitors about the effects of poaching on the natural environment.

Deterring marijuana cultivation is the largest area of concern. Point Reyes National Seashore is one of the top four illegal marijuana growing sites of the national parks within California.

LAW ENFORCEMENT AND VISITOR SAFETY OPERATIONAL PRIORITIES

Protect Point Reyes National Seashore visitors and resources in a safe manner.
Law Enforcement and Visitor Safety (LE) is responsible for protecting visitors and resources through patrol activities. LE would like to respond to a greater percentage of visitor safety and resource protection issues in a way that ensures ranger safety. Law Enforcement and Visitor Safety would also like to increase efforts to deter marijuana cultivation within the national seashore.

Increase marine operations.
Law Enforcement and Visitor Safety would like to decrease the number of incidents and fatalities in Tomales Bay. Many accidents and fatalities occur along the opening of the Bay. Abalone poaching is also of concern. Increased marine operations would allow LE rangers to enforce boating safety regulations and to monitor poaching more closely.

A Point Reyes National Seashore Law Enforcement and Visitor Safety ranger inspects a beached vessel. PHOTO BY DAVID MIYAKO

LAW ENFORCEMENT AND VISITOR SAFETY OPERATIONAL PRIORITIES (continued)

Implement the strategies of the fire management plan. Wildland Fire will continue to implement the objectives of the fire management plan (FMP) by strategically reducing acres of highly flammable vegetation that threaten key resources, public safety, and nearby communities. The division is charged with clearing areas of defensible space around structures and creating zones of reduced vegetation that would slow the progress of wildfires and increase the effectiveness of firefighters as they work to suppress wildfires. The division would like to enhance efforts to use prescribed burning and mechanized vegetation management to continue to create areas with less flammable vegetation where strategically needed and maintain areas that were previously treated. The objective of these efforts is to reduce the potential reoccurrence of a catastrophic fire such as the 1995 "Vision Fire," which destroyed 44 homes in a subdivision adjacent to the national seashore. The division will be mindful of the need to reduce impacts to air quality and global warming by following the emissions reduction measures for prescribed burns adopted in the FMP.

Continue to support the fire management programs within the San Francisco Bay Area Parks Network. Wildland Fire Management provides planning, emergency response, and training for other national parks in the San Francisco Bay Area and works cooperatively with other Seashore divisions to achieve shared goals. Wildland Fire also builds working relationships with local agencies and organizations to reduce fire hazards, improve fire prevention, and enhance natural and cultural resources both in the Bay Area Network parks and in the wildland urban interface. The division would like to enhance efforts to develop fire hazard reduction projects, provide regulatory compliance support, and provide expertise in the preparation of education, interpretation, research, and monitoring strategies for the Bay Area Network of national parks.

Law Enforcement works to monitor activities related to marijuana cultivation and to catch drug trafficking organization leaders operating within the national seashore. Law Enforcement also works to eradicate marijuana fields upon discovery, which can consume multiple days and require extensive labor. In 2006 Point Reyes National Seashore confiscated and destroyed 45,000 marijuana plants, worth about $110 million. Law Enforcement would like to continue deterring marijuana cultivation in a manner that is safe for the seashore's rangers. Any effort to discover and eradicate marijuana gardens requires all eight patrol rangers, staff from Golden Gate National Recreation Area, and nearby law enforcement agencies for safety purposes.

Point Reyes National Seashore LE rangers conduct a search and rescue operation. PHOTO BY DAVID MIYAKO

Search and rescue encompasses all activities related to assisting lost or injured visitors. All law enforcement personnel are certified first responders for injuries. Most incidents occur in backcountry areas, which require rangers to hike long distances. Incidents include occurrences such as visitors falling off horses, lost and injured hikers, missing bicyclists, and boat accidents.

Law Enforcement rangers patrol around Tomales Bay and the coast of the Pacific Ocean on an infrequent basis. Rangers need to be certified in water operations, and boat maintenance is labor-intensive because of the saltwater environment of the seashore. Incidents such as boating safety violations occur frequently in Tomales Bay. Marine patrol would be used primarily for poaching abatement and search and rescue if staff time was made available. Law Enforcement also works with the U.S. Coast Guard when necessary and when legal jurisdiction permits. Point Reyes National Seashore would like to increase marine operations to reduce the number of visitor safety incidents on the water, to reduce poaching, and to build relations with the U.S. Coast Guard.

Law Enforcement maintains and monitors dispatch and security alarm systems. Members of the LE staff also issue keys and alarm codes to individuals. The national seashore presently has two separate transponder stations that are not linked with each other. Additionally, Law Enforcement is required to carry a separate radio system to communicate with the Marin County Sheriff's Department. Point Reyes National Seashore radios need repair or replacement more frequently than other national park units because of the corrosive saltwater environment.

"There's no more slow season at Point Reyes National Seashore. Every season has its own unique problems. We've found that anything that can happen in San Francisco can happen here. And pretty much has."

—BRUCE DOMBROWSKI
POINT REYES LE RANGER

Wildland Fire Management

Wildland Fire Management provides emergency suppression response to all national seashore wildfires, plans and implements fire prevention and education programs, and works closely with local agencies to ensure coordination of efforts in all facets of wildland fire management. Additionally, the division provides emergency fire suppression response for other units of the San Francisco Bay Area Network including Golden Gate National Recreation Area, Muir Woods National Monument, Pinnacles National Monument, John Muir National Historic Site, and Eugene O'Neill National Historic Site. Wildland Fire also provides training to the Presidio of San Francisco Fire Department. Wildland Fire is not responsible for structural fire response.

Wildfires threaten the safety of visitors, staff, and adjacent communities, and could destroy important natural and cultural resources. Wildland Fire implements the fire management plans (FMPs) adopted for the seashore and for each of the Bay Area Network parks. The FMPs detail hazard reduction projects, which reduce the risk of catastrophic wildfires occurring in the national parks. Examples of hazard reduction projects include creating and maintaining areas of defensible space around national seashore structures, constructing shaded fuel breaks in strategic areas that would aid firefighters in suppressing wildfires, and conducting prescribed burns to reduce highly flammable vegetation along heavily traveled highways. During the Vision Fire of 1995, 44 homes were destroyed and 12,000 acres were burned. Wildland Fire would like to ensure that such a fire does not occur again.

Fire crews, planners, and ecologists work closely with the Natural and Cultural Resource divisions on many FMP projects. Certain invasive plants are widespread throughout the national seashore and grow very densely. These plants could outcompete native plants for space and nutrients and create areas of high fire hazard.

Wildland Fire develops plans to reduce ignition materials through prescribed burns and other means. The division ensures that its actions comply with all federal environmental regulations, develops post-burn reports, studies the effects of fire, seeks to educate the public about the effects of fire, and consistently strives to improve the safety of visitors, residents, and staff by reducing the risk of wildfires. Wildland Fire monitors fire behavior and the long-term outcomes of prescribed burns and other hazard reduction projects that do not involve burning. Fire ecologists and fire planners use this data to determine if past projects perform as expected. The division continually researches new strategies for improving methods employed in prescribed burns and other treatments.

The division is charged with implementing the Federal Wildland Fire Policy. The national seashore works closely with neighboring Fire Safe Councils and fire departments in developing community wildfire protection plans that promote the safety and protection of areas in the federal wildland urban interface. The division consults with local entities throughout the state that have received grants from the National Park Service and need assistance in developing effective project plans and completing regulatory requirements.

Firefighters work in an amber atmosphere of heat and smoke. NPS PHOTO

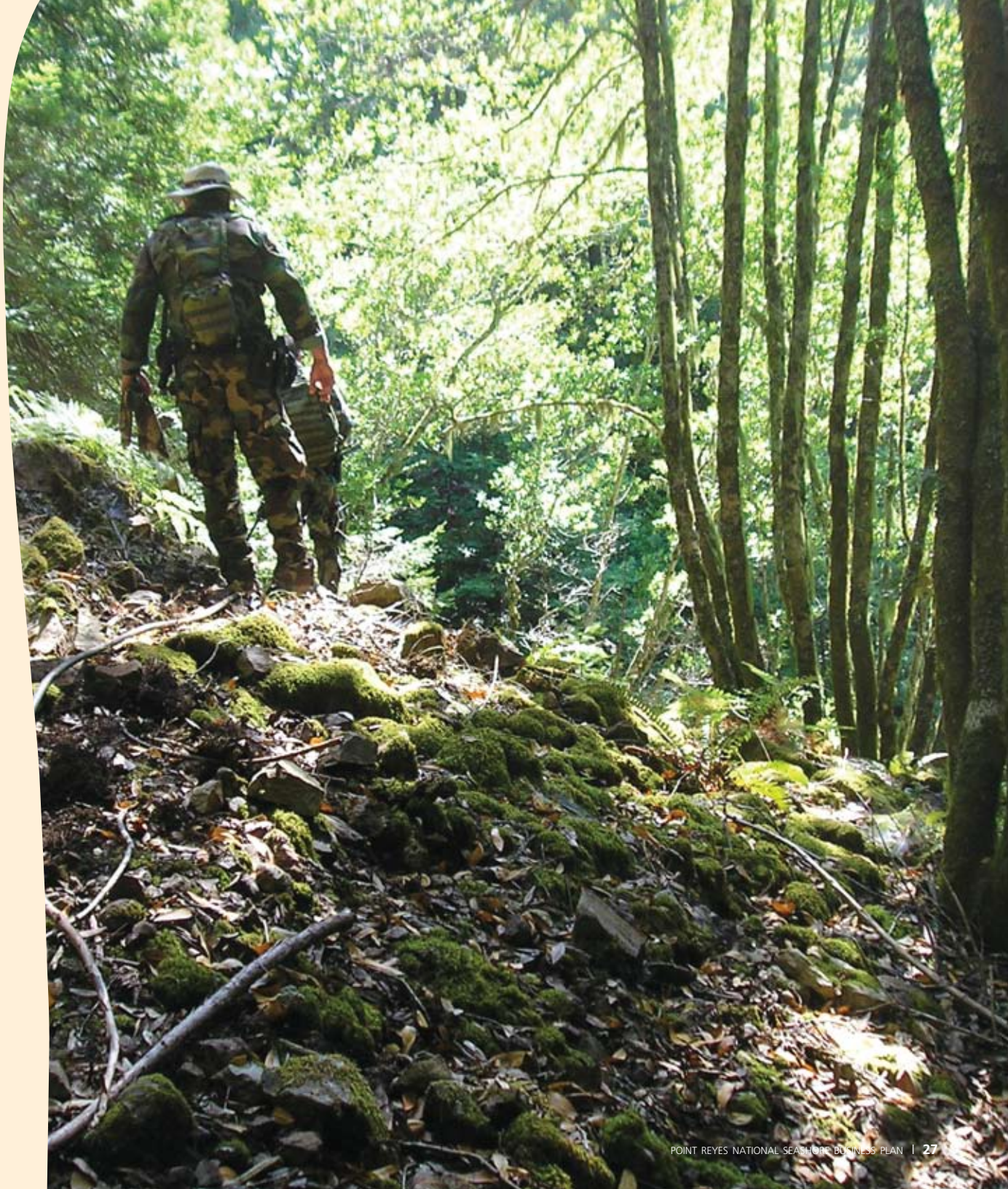
MARIJUANA ERADICATION AT POINT REYES

In 2006 Point Reyes National Seashore eradicated 45,000 marijuana plants from park lands. Federal lands are preferred growing spots for many marijuana producers because of laws that require individuals convicted of cultivating marijuana to forfeit the land upon which their plants are grown. In the past, law enforcement rangers would fly around the park to spot marijuana gardens from the air. Some marijuana growers have learned from these past efforts and have set up infrastructure under tree canopies to hide from air patrol. Air operations are still helpful to spot gardens that are not under tree canopies.

Growers will smuggle individuals from neighboring countries to work in the fields. Often, these smuggled individuals will not know where they are or be able to discuss the greater trafficking organization. Growers will till the land and set up infrastructure such as propane tanks and other equipment, which ruin the natural environment.

Given the substantial street value these plants have, growers will also set up defenses around their gardens. Law Enforcement and Visitor Safety rangers have found firearms in the past. For safety reasons, all eight patrol rangers must work together to monitor fields.

Marijuana eradication consumes all protection staff time when fields are discovered. Plants must be destroyed the day they are found because growers will collect the remaining plants if they are not destroyed in a timely manner. This involves heavy manual labor to hack plants, often requiring many volunteer hours. Eradication efforts are expensive because of increased labor needs and the use of helicopters to transport plants away from the garden site. The national seashore would like to continue deterring marijuana cultivation on park lands.



Law Enforcement and Visitor Safety rangers patrol park lands that are vulnerable to marijuana growing operations. NPS PHOTO

Resource Management

Point Reyes National Seashore and the surrounding marine sanctuaries protect and support a diverse array of cultural and natural treasures. From the Coast Miwok people who shared the land with elk and mountain lions for more than 2,000 years to the courageous crew of the Point Reyes Lifeboat Station who shared the sea with migrating Pacific gray whales 100 years ago, the natural abundance of the Point Reyes region has attracted and supported people for thousands of years, creating a tapestry of stories, interactions and experiences that continue to shape cultures and to affect the land. Managing the entwined cultural and natural landscape of Point Reyes National Seashore is a balancing act as complex as the web of life it seeks to preserve.

Natural Resource Management

When Congress established Point Reyes National Seashore in 1962, the enabling legislation cited the importance to save and preserve "a portion of the diminishing seashore of the United States that remains undeveloped" in the public interest and to administer the Seashore "without impairment of its natural values . . . in a manner supportive of the maximum protection, restoration, and preservation of the natural environment." Congress identified Point Reyes as a seashore of national importance because it was accessible to a large urban population center, relatively unspoiled, and because of the "great variety of scenery within a relatively small compass—ocean beaches, arid high cliffs, sand dunes and low but rugged mountains, forested areas and expanses of pasturelands, small fresh water lakes and ponds, and that delight of the geologist, the San Andreas Fault." The great variety of natural resources continues to make Point Reyes a unique haven 30 miles northwest of San Francisco. Resource management staff work to preserve the natural ecosystems which Congress set aside for the benefit of future generations.

Today, the seashore has the largest active agricultural acreage of any national park. Two large historic ranching districts, comprising more than 28,000 acres, or about one-third of national seashore-administered lands, are active beef and dairy ranches. The seashore also contains almost 33,000 acres of former agricultural land now officially designated as wilderness under public law. This ranching legacy means that, even in areas designated as wilderness, there are existing dams, culverts, roads, and water infrastructure. The Natural Resource team employs science-based management to ensure that natural ecosystems and native species—such as the northern spotted owl, purple needle grass, and steelhead trout—are identified, protected, and perpetuated in this unique environment with a complex history of use. It accomplishes this goal in part by preserving lands, waters, and watersheds with natural processes and cycles, mitigating the environmental impact of current uses, and restoring lands and waters altered by past uses to more natural conditions wherever possible. Restoration of ecological and hydrological processes to a more naturally functioning state encompasses rehabilitating watersheds, native plant communities, native wildlife species, natural geomorphic processes, and coastal waters.

Park staff and volunteers perform daily monitoring of fish populations at Point Reyes National Seashore. PHOTO BY KRISTIN GILLISS

Science-informed Decision Making

In addition to preserving and restoring habitat, staff conducts inventory, monitoring, and research of the national seashore's natural resources and associated processes. Over 45 percent of North American avian species and nearly 18 percent of California's plant species are found in the park. The Biological Resource Management Division of the National Park Service reported that in Fiscal Year 2006 Point Reyes National Seashore contained 27 federally protected endangered and threatened species. Staff develops and implements recovery plans for the 50 federal, state, and locally listed species that occur in grasslands, forests, scrub, dunes, and wetlands throughout the seashore. The NPS calculates the percentage of threatened and endangered species improving at each park as a measure of effective natural resource management. In Fiscal Year 2006, the national seashore reported 14.81 percent of special status species as improving, while the national average was 43.68 percent. However, the seashore's 27 special status species in Fiscal Year 2006 ranked sixth highest in the National Park Service, and the seashore may have more species improving than parks with a smaller number of special status species. Point Reyes National Seashore has led efforts to focus on a more institutionalized approach to data collection and inventory and monitoring at local parks. It hosts a team focused on the San Francisco Bay Area parks that has established protocols for monitoring species such as the Myrtle's silverspot butterfly and the western snowy plover.

The establishment of an inventory and monitoring program has provided park managers with critical data on which to base decisions for listed fish species, western snowy plovers, and northern spotted owls. The national seashore also has an active internal monitoring program. For example, tule elk are a special

An NPS range technician discusses a head cut repair with the Point Reyes roads foreman. Point Reyes National Seashore has partnered with ranch operators, community organizations, and state and federal regulatory agencies to study the effectiveness of 10 demonstration best management practices at reducing non-point source pollutant delivery from the pastoral lands administered by the seashore to the Tomales Bay watershed as part of a cooperative effort to improve water quality on NPS rangelands. PHOTO BY KRISTIN GILLISS

status species reintroduced to Point Reyes National Seashore in 1978. Since then, elk numbers have increased from 10 animals to more than 500, one of the largest populations in California, with a free-ranging population of about 50 animals in the Limantour Wilderness area of the seashore. The reintroduction of this free-ranging herd is an important step in the ecological restoration of the park, but both herds require adaptive management based on constant monitoring of population dynamics and disease. The population's success to date is an indicator of the positive impact of staff and volunteer monitoring efforts. Program managers at the national seashore actively seek to mitigate threats to special status species and believe some species may be improving. Additional data and active management is needed to fully understand whether populations are stable or increasing. Staff would like to increase documentation and analysis efforts with additional resources. For example, while rare plant species have comprehensive baseline data, staff members lack the ability to collect data to determine status and trends of populations.

Maintaining the diversity and resilience of native species includes detecting, controlling, and mitigating or eradicating non-native plant and animal species to promote naturally functioning ecosystems. Scientists at the national seashore have identified non-native axis and fallow deer and non-native plants such as Cape ivy, broom, beachgrass, iceplant, and jubata grass as priority species to target for control or eradication. National Park Service funding spent on invasive species control is second only to wildfire management. The presence of these invasive species threatens native flora and fauna at Point Reyes National Seashore, and time spent minimizing the impacts of non-native species limits staff's ability to focus on recovery plans for rare animal and plant species. The NPS's California Exotic Plant Management Team provides support to the seashore's vegetation team to control and eradicate invasive plant species. In Fiscal Year 2007, the seashore will initiate an ambitious 15-year effort to remove all non-native deer within seashore boundaries.

A Holistic Approach to Managing Natural Resources

Natural Resource Management staff members often work closely with Facility Management staff to ensure the built environment at the seashore protects native resources. For example, the seashore's hydrologist will review a proposed culvert replacement to ensure the new design will allow fish passage. When possible, Resource Management staff seeks to improve rather than maintain existing design. In this example, the hydrologist might suggest replacing a failed culvert with a bridge if it would greatly enhance fish habitat and passage.

Natural Resource staff is eager to collaborate with other national seashore divisions to identify innovative solutions to address human-caused resource degradation. This commitment to improving resources necessitates significant time dedicated to planning and compliance for projects ranging from small-scale soil mitigation to large habitat restoration projects. While an increased project budget has enabled staff to accomplish goals related to resource stewardship, staff has spent increasingly more time on the administrative aspects of compliance related to projects. This time limits the ability of personnel to focus on program-related work. Staff would like to work more closely with other divisions, but they have limited project availability due to resource constraints as well. For example, the range program might save time if the Roads Branch used the auger on the back of its heavy equipment to bore holes in the ground for fence posts rather than the range manager digging them manually, but the Roads Branch may not have staff available to support outside projects in addition to regular operational duties. Project completion for other resource management projects may depend upon hiring an outside contractor, ultimately increasing the cost of projects, versus having work performed by seashore personnel.

The national seashore's commitment to both protecting water resources and restoring native vegetation converge in the Natural Resources Division's range management program. Commercial agricultural activities, such as livestock grazing, dairy farming, and horse ranching, operated by private tenants on ranching lands under special use permits and reservations of use from the seashore have a great impact on the native species and local watersheds. Point Reyes National Seashore's ranching zone is administered in a manner that preserves the seashore's cultural landscape and natural resources by incorporating best management practices into ranching activities. This includes demonstration projects and the creation of customized ranch unit plans. These plans will include steps to minimize soil erosion, protect surface water from increased sediment loads, and restore deteriorated rangeland resources when feasible. For example, in Fiscal Year 2006 the seashore supported a project at Kehoe Ranch to restore a polluted natural spring by relocating a drinking trough to a better location and introducing solar pumps to supply it. The

NATURAL RESOURCE MANAGEMENT OPERATIONAL PRIORITIES

Preserve and Protect natural resources to restore natural hydrologic and ecological processes.
The Giacomini Wetlands, Coastal Habitat, and Drakes Estero Coastal Watershed Restoration Projects and Non-Native Deer Management Project demonstrate the national seashore's commitment to restoring ecological and hydrological processes to a more naturally functioning state. These projects include restoration of watersheds, native plant communities, native wildlife species, and natural geomorphic processes.

Manage, control, and remove non-native invasive plant and animal species to promote naturally functioning ecological systems.
Invasive plant and animal species threaten native flora and fauna at the national seashore. Staff has identified non-native deer and non-native plants such as Cape ivy, broom, beachgrass, iceplant, and jubata grass as priority species to target for control or eradication.

Manage special use permits in the Ranching Zone to promote stewardship and improve resource condition.
Staff will manage ongoing agricultural activities in a manner that employs planning and best practices to improve resource condition. This entails development of ranch unit plans, resource condition and water quality monitoring, permit oversight, and identification of improvement projects.

CULTURAL RESOURCE MANAGEMENT OPERATIONAL PRIORITIES

Build a more robust archeology program.
Point Reyes National Seashore is the site of a rich prehistoric and maritime history that has yet to be fully explored. Increased resources would enable staff to inventory and find new archeological sites, including locating and recovering artifacts from the wreck of *San Agustin*.

Increase access to museum collection.
The creation of finding tools and website aids will enable staff to make the seashore's museum and archive collection accessible to staff, researchers, and the public.

area was also seeded with native plants by a volunteer team. The rancher reports that the relocated trough is much healthier for the cows, and the range manager believes the spring and range are in greatly improved condition.

Funding Mechanisms and Future Challenges

Increased professionalization of the Natural Resource staff has benefited the program areas dramatically, but it has also increased salary costs in the division and therefore limited hiring flexibility for additional non-permanent staff. In Fiscal Year 2000, 84 percent of the Natural Resource Management Division's appropriated base budget was allocated to salaries for permanent full-time staff. In Fiscal Year 2006, 99 percent of base funding expenditures were salaries for six permanent employees. One consequence of limited funding flexibility has been an increased need for program managers to identify alternative fund sources for projects and additional staff. Natural Resource staff has excelled at competing successfully for outside grants and project funds within the National Park Service. While the Natural Resource Management Division has only six staff whose salaries are supported by appropriated base funds, more than 30 employees comprise the division. In addition to positions supported through outside grants and federal project money, the division manages regionally and network-funded positions hosted by Point Reyes National Seashore focused on exotic plant management, fire planning and management, aquatic ecology, and inventory and monitoring.

Natural Resource Management staff members believe past projects have increased the level of knowledge about the park's resources dramatically, but maintaining current staffing levels will be difficult without additional base funding. Many non-base-funded staff perform tasks critical to the seashore's present operations. For example, preservation of the national seashore's water resources includes habitat enhancement and restoration projects; water quality monitoring and restoration; and monitoring and management related to fisheries. Staff also collaborates on watershed-scale planning and restoration within and adjacent to the seashore's boundaries. Currently, however, there is only one base-funded position in the Natural Resource Management Division focused on the seashore's extensive water resources. Supporting positions dedicated to these activities have been funded by grants, partner organizations, or regional funding for the portion of time allocated to Point Reyes National Seashore. However, implementation of large-scale wetland and

"We preserve history and facilitate the research needs of the park and the public. I feel strongly that the museum program can work with the park and partners to facilitate modern research needs. People want to see change over time. It's one of the places where researchers can see change over time by studying specimens, objects, and documents. I love working here because I can connect people to resources. To be able to connect any type of researcher, from a person researching their genealogy, to PhDs to park staff. It's our mission to preserve history, but it's also important to allow people to use the resources."
—Carola DeRooy, Archivist
PHOTO BY DAVID MIYAKO

riparian projects is an ongoing need to preserve and protect native aquatic resources, and water quality is an overarching issue for the ecological health of the seashore. In addition, the national seashore will continue to manage special use permits in the ranching zone to promote stewardship and improve resource condition. The range manager is presently funded by fees received for special use permits; however, the range technician is only a two-year position funded by grants from the state of California and PRNSA, even though the position is critical to the completion of projects and ranch unit plans. As senior program managers in water resources, vegetation, and wildlife are increasingly obligated to identify and compete for external funding for both staff and projects, their expertise is diverted from managing and preserving the natural resources at the national seashore.

Student interns collect data in the field at Point Reyes National Seashore. NPS PHOTO

Instilling the role of science in decision making to the next generation and the public is a primary role of the Pacific Coast Science and Learning Center. NPS PHOTO

PACIFIC COAST SCIENCE AND LEARNING CENTER

The Pacific Coast Science and Learning Center (PCSLC) is one of 17 research learning centers at national parks. It was established at Point Reyes National Seashore in 2001 to increase the scope and effectiveness of research toward science-based management and preservation of coastal resources. The PCSLC promotes research partnerships with universities and research groups and informs a wide range of audiences about new research pertaining to the resources of coastal parks.

The Pacific Coast Science and Learning Center connects scientists with national parks and science with people. The PCSLC combines existing facilities with the skills of researchers and education specialists to develop and share scientific information for park management and public learning. These efforts help to reduce the backlog of high-priority research needs. From 2002 to 2007, non-federal funds raised for research, management, and education by the PCSLC totaled $1,053,000. The research enabled by the PCSLC has expanded the national seashore's ability to inventory, monitor, and care for the historical and natural resources under its care. The PCSLC also oversees several of the inventory and monitoring program's marine and coastal projects. With the help of volunteers and partners, this program provides scientists and managers with baseline information and long-term trends within Point Reyes National Seashore ecosystems.

PCSLC facilitates research at the national seashore by overseeing processing, permitting, and documentation of researchers. Research projects at Point Reyes more than doubled from 53 in 2002 to 113 in 2006. Researchers are provided with support to assist the National Park Service with understanding, managing, and preserving coastal ecosystems. The PCSLC is a field station for collaborative research activities, providing researchers with laboratory, office, and dormitory facilities and access to park's extensive biological and cultural datasets. Since 2005 the PCSLC has provided more than 2,000 researcher-nights to scientists working on resource management questions at the seashore. Access to park data and other amenities enables researchers to make maximum use of their time and project funds. The PCSLC works to ensure a high rate of interaction exists between researchers and park staff. The PCSLC also connects researchers with high school and college students seeking high-quality internships and exposure to scientific research. For example, more than 40 interns have worked one on one with researchers since 2003.

While the PCSLC serves the needs of all national park sites within the San Francisco Bay Area including Golden Gate National Recreation Area, John Muir National Historic Site, Pinnacles National Monument, Eugene O'Neill National Historic Site, the Presidio of San Francisco, Fort Point National Historic Site and Muir Woods National Monument, most effort is focused on marine and coastal projects and programs. For example, in 2006, the PCSLC provided logistical, financial, planning, or permitting support to 100 percent of researchers at Point Reyes National Seashore and 66 percent of researchers working at Bay Area national parks.

PACIFIC COAST SCIENCE AND LEARNING CENTER OPERATIONAL PRIORITIES

Prioritize research needs of the park based on park planning, management, and restoration activities and promote access/provide inducements (housing, interns, seed funds) for researchers in those areas.
The PCSLC will identify emerging research needs at the national seashore and facilitate the use of national parks for scientific inquiry, particularly in high-priority research areas.

Engage in the state of California's Marine Life Protected Area Act planning process.
Scientists and staff at Point Reyes National Seashore remain committed to ocean and coastal stewardship. They will continue to collaborate with federal, state, and local stakeholders to support the science-based identification, assessment, and establishment of marine protected areas off the coast of Point Reyes National Seashore and Golden Gate National Recreation Area and promote research and monitoring programs to assess their efficacy.

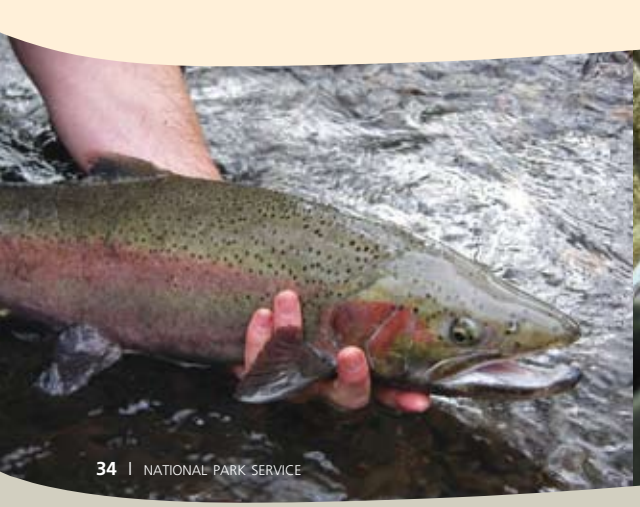
Develop a science communication plan.
To support science-informed decision making, PCSLC will increase access to research information, including inventory and monitoring of natural resources, to the public, the scientific community, and Point Reyes National Seashore managers. This may be done through science communication interns, stronger ties to National Marine Sanctuaries and the Point Reyes Interpretation Division, science seminars, development of research briefs, and more.

RECENT AND UPCOMING HABITAT RESTORATION PROJECTS

Giacomini Wetlands Restoration Project
The project is the largest restoration project in Point Reyes National Seashore history. It is designed to restore 550 acres of a historic salt marsh that was diked in the 1940s to allow for a dairy ranch.

Coastal Habitat Restoration
Restoration of the national seashore's coastal habitat and processes will protect numerous listed plant species and the federally threatened western snowy plover which nests on seashore beaches. Line item construction will restore 300 acres; National Park Service funds will restore 80 acres near the Point Reyes Headlands; other grants are pending for additional acres parkwide.

Left: Gumplant is native to the coastal dunes and salt marshes of the national seashore, PHOTO ©KATE PETERLEIN; **Below, left to right: ocean run steelhead at Pine Gulch Creek; park biologist examines elephant seals; newborn tule elk calf after radio collaring.** NPS PHOTOS



RECENT AND UPCOMING HABITAT RESTORATION PROJECTS (continued)

Drakes Estero Coastal Watershed Restoration Project
The project includes a number of specific physical treatments within five coastal watersheds, all draining into the Drakes Estero system, the centerpiece of Point Reyes National Seashore and one of the most ecologically significant estuarine areas in the state of California. The project will remove or replace nine facilities (culverts and dams) currently in various states of disrepair and restore natural conditions and increase estuarine habitat. The project will reduce the maintenance demands at Point Reyes, eliminate the risk of catastrophic failure of culverts and dams, and increase sustainability, both operationally and ecologically, within these small coastal watersheds. Overall, the project will restore fish access to 20 miles of streams.

Right: Mudflats at Drakes Estero, PHOTO ©SUSAN VAN DER WAL**; Below, left to right: California red-legged frog,** NPS PHOTO**; male western snowy plover with chicks,** PHOTO ©CALLIE BOWDISH**; showy Indian clover, thought to be extinct until 1993 when it was rediscovered in Sonoma County, one of only two experimental populations in the world grows within the national seashore where an experimental population was reintroduced and is monitored by vegetation staff,** NPS PHOTO BY JANE RODGERS**; coho salmon smolts at Redwood Creek** NPS PHOTO.

Kule Loklo, near park headquarters at Bear Valley, is a replica of a Coast Miwok village that features a sweat lodge, a dance house, tepee-shaped structures, and shade arbors, used by local Indians for religious ceremonies and reunions. NPS PHOTO

Cultural Resource Management

The national seashore's cultural resources reflect more than 2,000 years of human history and interaction with the land, including archeological sites, historic structures, ethnographic resources, cultural landscapes, and historic objects and archives. A team comprised of an archivist, curator, and archeologist researches, collects, and preserves other park history ranging from European exploration to wireless communication. The national seashore museum collection includes an archive of almost 500,000 items such as documents, photographs, and maps related to park administrative and resource management records and 14,000 objects related to cultural and natural history. The museum also manages the seashore's library. Point Reyes National Seashore has received excellent ratings from the National Park Service for the percentage of museum standards being met. In Fiscal Year 2006, the national seashore met 81.37 percent of museum facility standards compared to the national average in the NPS of 69.72 percent. The establishment of a museum and the professionalization of cultural resource staff over recent years have enabled the seashore to expand its focus from archiving items and objects to providing access to those items for researchers, staff, and visitors. In the future, staff plans to create finding aids and provide web access to the national seashore's collection. While staff manages Coast Miwok archeological sites and catalogs the physical remnants of the indigenous culture, the seashore itself is a living history to be experienced by visitors. Kule Loklo, a recreated village, provides a place for seasonal tribal events, and operating beef and dairy ranches capture California's rich agricultural history.

The development of a more robust terrestrial and maritime archeological presence is a chief priority of the Cultural Resources

Some of national seashore's dairy and beef producers in the "Ranching Zone" are fourth-generation farmers and ranchers. Today, park managers are also interested in exploring how livestock might be managed to reduce weeds and enhance native species in the national seashore. NPS PHOTO

Division. Coast Miwok archeological sites and artifacts, the 1595 wreck of the Manila Galleon *San Agustin*, and sites believed to be related to the landing of Sir Francis Drake in 1579 are considered fundamental resources of Point Reyes National Seashore. Currently, an archeologist is on staff at the national seashore fewer than two days each week. This deficiency is reflected in the seashore's Fiscal Year 2006 Budget Scorecard result: 14.61 percent of the seashore's archeological sites were listed in good condition compared to the national average of 63.75 percent of sites. The very below average score is partly a result of staff's efforts to document and address the sites in worst condition first; however, management believes its present archeological capacity makes it difficult to improve this score significantly. The majority of identified archeological sites at the national seashore are not in stable condition, either because of erosion along coastal bluffs or because they are located in active agricultural zones where there is a higher potential for destruction. Preservation efforts are limited by resource constraints and data recovery efforts at sites is usually not possible. An enhanced archeological presence at the seashore could dramatically augment knowledge of maritime and prehistoric history at Point Reyes National Seashore by increasing staff's ability to preserve sites and recover data.

As cultural resources are identified, protected, and preserved, staff works closely with the Natural Resource Management team to ensure cultural resources and landscapes are managed in a manner that protects or improves the health and integrity of natural resources. Cultural and Natural Resource Management staff are currently developing a comprehensive resource stewardship strategy to provide science- and scholarship-based strategies to achieve and maintain the desired conditions of the national seashore's natural and cultural resources.

Visitor Experience and Enjoyment

Interpretive rangers are responsible for interacting with visitors and for helping people make a connection to the resources of Point Reyes National Seashore. The function does this through three primary methods: visitor center operations, interpretation, and education.

Visitor Center Operations

The national seashore's three visitor centers provide the primary means for individuals entering Point Reyes National Seashore to obtain both essential and enriching information that enables them to have a safe, enjoyable, and educational experience at the park. All interpretive facilities offer opportunities for visitors to obtain in-depth information on natural and cultural resources found in the park and to become familiar with ecological and environmental principles.

Point Reyes National Seashore has received a 100 percent visitor satisfaction rating for the past four years, despite staffing challenges that cause the main visitor center to close at 5:00 p.m. amidst a steady stream of visitors arriving well past closing hours in the summer. Additional staffing would allow the national seashore to better meet visitor demand.

Interactions with staff help protect the national seashore's resources as well. For example, Point Reyes National Seashore is a nesting area for the endangered western snowy plover. The seashore found that visitors were bringing their dogs to the beach nesting areas of these birds despite posted signs informing individuals of dog restrictions. After implementing a docent program to educate visitors, 46 percent of chicks fledged from nests as opposed to 22 percent before the program existed.

Visitor centers provide valuable safety information. By interacting with visitor center staff, visitors are more likely to encounter warnings about potentially dangerous areas of the park including the area's attractive, yet dangerous, shoreline.

Interpretation

Interpretation at Point Reyes National Seashore consists of formal and informal interpretation and media development. Formal interpretation comprises all ranger-conducted, scheduled interpretive activities at the seashore. Informal interpretation allows for spontaneous interpretive contacts on trails or at facilities and other areas of the seashore. Interpretive media include all seashore-produced publications, exhibits, bulletin boards, audio/visual programs, and the Point Reyes National Seashore website. Interpretive rangers also conduct special events such as the "Big Time" festival celebrating the Coast Miwok Indian culture.

Point Reyes National Seashore uses interpretation to foster public understanding and appreciation of national parks and their significant cultural, natural, and recreational resources, and to support preservation of these resources. The national seashore uses four interpretive themes to accomplish these objectives:

1. Point Reyes National Seashore and the surrounding marine sanctuaries protect and support an abundance and diversity of species and their essential habitats in a wild and natural state. These resources are a benchmark for monitoring environmental change.
2. The natural abundance of the Point Reyes region has attracted and supported people for thousands of years, creating a tapestry of stories, interactions, and experiences that continues to shape cultures and affect the land.
3. Point Reyes National Seashore provides an outdoor classroom and laboratory for the study of geological and ecological processes and changing land use values that will foster a greater understanding of and caring for America's public lands.
4. Point Reyes National Seashore is a land in motion where geologic processes continue to define the landscape and influence our lives.

Each employee is required to submit an interpretive competency certification as part of his or her performance appraisal. This certification is part of the National Park Service *Interpretive Renaissance*, which seeks to develop and implement professional standards, among other things. Current staffing levels do not allow for program auditing, which is a structured method for feedback relating to an interpretive program.

Education

The education program at Point Reyes National Seashore provides opportunities for students to experience and appreciate the natural and cultural resources of the park and the region. All programs and materials foster park stewardship and introduce students to a wide range of environmentally responsible outdoor activities. The education program is interdisciplinary, using

A Point Reyes National Seashore interpretive ranger leads visitors on the Earthquake Trail walk.
PHOTO BY KRISTIN GILLISS

"For us interpretation is the voice of the resource. We have a chance to help visitors experience the cool stuff we have here and to connect to the world around them."

— JOHN GOLDA
POINT REYES INTERPRETIVE RANGER

science, art, and history as tools for cognitive and behavioral learning in topics that support park goals as well as local, state, and national curricula. Teams consisting of teachers, resource specialists, park partners, and park interpreters develop all materials and programs. During Fiscal Year 2006, the seashore reached over 6,000 school children with educational programs.

Point Reyes National Seashore also relies on partner organizations to provide educational programs to people of all ages. For example, the Point Reyes National Seashore Association runs the Clem Miller Environmental Education Center, which hosts overnight science camp programs. However, even with help from partners, the seashore must turn away a number of school programs each year due to the lack of staffing capacity.

Point Reyes National Seashore also provides curriculum and facilities to teachers who wish to use the seashore for science education purposes. The seashore would like to give funding assistance to schools for buses and other expenses so that teachers can bring their students to the area for hands-on education. These buses would be especially helpful in reaching underprivileged groups in more remote school areas. This type of funding is currently unavailable.

The Bear Valley Visitor Center offers opportunities for visitors to obtain in-depth information on natural and cultural resources within Point Reyes National Seashore and to become familiar with ecological principles.
PHOTO BY DAVID MIYAKO

VISITOR EXPERIENCE AND ENJOYMENT OPERATIONAL PRIORITIES

Maintain and increase visitor center operation levels.
Point Reyes National Seashore has three visitor centers, which close in the early evening. The seashore would like to increase the operating hours of the visitor centers to accommodate user demand in the evening.

Incorporate technology into interpretation.
Point Reyes National Seashore would like to acquire portable electronic devices to use in conjunction with interpretive programs. This would allow interpreters to reach a younger, technology-oriented demographic. The national seashore would also like to produce podcasts and to acquire additional bandwidth to enable a live webcam from the Point Reyes Lighthouse.

Continue producing high-quality publications and website content.
The national seashore presently self-produces numerous publications. Multiple duties and time constraints challenge the abilities of the Visitor Experience and Enjoyment (VEE) staff to fully support this type of duty. Staff would like to continue producing high-quality publications and website content as their time allows. Additional time would allow for development of an increased number of educational and informative publications.

INTERPRETING WHICH LANGUAGE?

Though the title "interpreter" is not well known, interpretive rangers are among the most recognizable staff within the National Park Service. Interpreters operate the visitor centers, conduct ranger-led programs, and administer special events. Encounters with interpretive rangers are among the highlights of most visitors' park experiences. In contrast, environmental education at the national seashore is responsible for developing school curriculum related to park resources. The purpose of interpretation and education in the National Park Service is to provide memorable, meaningful, and inspirational experiences related to the parks and to strengthen public understanding of the full meaning and relevance of the nation's natural and cultural resources. The sight of a ranger directing a group of people on a trail was once common. Mounting fiscal pressures have diminished this aspect of the national park landscape. Interpreters translate the language of the rocks, trees, animals, and cultures within an area. Environmental educators develop curricula for schools to use when teaching the next generation of environmental stewards.

The duties of an interpretive ranger at Bear Valley Visitor Center include visitor center operations, interpretation, and education. PHOTO BY DAVID MIYAKO

Right: Point Reyes National Seashore visitors enjoy birdwatching at Chimney Rock. PHOTO BY JANE RODGERS