

NATIONAL PARKS FOR THE 21ST CENTURY

SUMMARY: Students will write and develop solutions to current and projected problems in a national park.

GOAL: For students to develop an understanding of the complexity of managing a national park

OBJECTIVES: Students will (1) develop an understanding of key objectives recommended to guide the management of the National Park System in the 21st century and (2) apply their understanding of these objectives to solve current and projected park management problems.

GRADE LEVEL: Sixth through twelfth

TIME REQUIRED: This activity is divided into four parts. Each part takes 45 to 60 minutes, depending on grade level and length of class discussion. Parts I and II may be taught as separate lessons providing students with a introduction to national park management.

LOCATION: Classroom

MATERIALS: Background Pages and Park Management Team Pages - one per student. Orientation Page - for teacher use. Park Problem Pages - one divisional set per student group. Any resources on national parks in general or specific national park units will enrich this activity.

SUBJECTS: Social Science, Language Arts, Mathematics, Science

KEY WORDS: Legislation, Stewardship, Objectives, Natural and Cultural Resources, Management, Interpretation, Administration, Maintenance, Budget, Artifact

BACKGROUND: Before doing this activity, carefully read over the background pages which are based on the book, National Parks for the 21st Century, The Vail Agenda, Library of Congress Card Number: 92-60471, National Park Service Document Number: D-726, International Standard Book Number: 0-9603410-7-2. Also read the Park Management Team Pages. The full four-part activity correlates well with another activity in the "National Park Idea" curriculum titled "National Park System, The Way It Works."

INSTRUCTIONAL SEQUENCE:

Part I. As a class read and discuss the Background Pages and answer the three questions.

Part II. Read the Park Management Team Pages and as a class discuss how a national park is managed. Ask the students what division of park management they would like to work in and why.

Part III. Divide your students into five groups. Explain that each group will play the role of a working division in the National Park Service. Read the Park Orientation Page to the class. Pass out the Park Problem Pages. There is a Park Problem Page for each group (division) to focus its work. Each group discusses and writes solutions for its division's park problems.

Part IV. These written solutions will guide a class oral presentation that serves as the culmination of this lesson. Each division should be given five to ten minutes to share its problems and solutions. Make sure that groups are heterogeneously grouped according to reading ability. If reading is problematic, one student per group could be the reader or the teacher could read the selection to the class. All students should have a copy of the written materials in hand so they can follow along and refer to materials when they are answering questions and doing activities.

Some of the words in the Background Pages may be new to students. These include: Legislation, Promote, Regulate, Conform, Conserve, Unimpaired, Mission, Objectives, Resource, Stewardship, Adjacent, Access, Diverse, Unique, Attributes, Interpretation, and Complex. If some or all of these words are new to your students, list them on the board and have the students find and mark the words on their papers. Then the whole class or small groups can read them in context to develop definitions. Students may refer to this list as they read and discuss the activity. Each student should write his/her own answers.

EXTENSION/ENRICHMENT: (1) Students could hold a meeting and write their own "Vail Agenda" for the future of the national parks, perhaps giving it the name of their school or town. (2) Students could create a model for any part of the "Vail Agenda." For instance, they could plan (and implement, if possible) an educational program for the national park nearest them in which older students teach younger students about their park. (3) With your class discuss a situation (either a real one or one that could happen) that involves resource stewardship and protection in a national park. Write and/or be prepared to act out the story of the situation.

ASSESSMENT: Student work and presentations provide samples for assessment and inclusion in student portfolios. When each "division" of the national park presents its solutions to the class, the presentation and products to support the presentation can be used for assessment of each group or individual.

BACKGROUND

The original mission of the National Park Service was defined in 1916 by the legislation which created it:

"The service thus established shall promote and regulate the use of the Federal areas known as national parks, monuments, and reservations...by such means and measures as conform to the fundamental purpose of said parks, monuments, and reservations, which purpose is to conserve the scenery and the natural and historic objects and the wild life therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations."

Though this mission remains the same today, more specific guidelines were needed to determine the current condition of the Park Service and to provide a future vision.

In 1991, a gathering of people from both government and private groups met to develop a written plan for the future of the national parks of the United States. In this written plan, the authors said:

"The National Park Service is charged with the management of the nation's most precious natural and cultural resources. These resources are inextricably woven into our national heritage, and they provide citizens the world over with invaluable opportunities for recreation, appreciation of beauty, historical reflection, cultural enrichment, and environmental education. It is the responsibility of those involved in park management and policy formulation to ensure the protection of the resources managed by the National Park Service. Yet, fulfilling this enormous responsibility is neither easy nor free of controversy."

The written plan that resulted from this work is called National Parks for the 21st Century, the Vail Agenda. In this book, the following four objectives help form the vision for the National Park Service:

Objective 1 - Resource Stewardship and Protection. The primary responsibility of the National Park Service must be protection of the park resources. Preserving and protecting the resources of the parks requires many different people working together. This means not only national park employees, but also property owners adjacent to the park, other people near the park, and sometimes with people far away. Additionally, visitor activities that might be appropriate at one site (a lake open to swimming at a national recreation area) may be totally inappropriate at another site (a lake closed to swimming to protect birds nesting at a national park). Rules and regulations for visitors must fit each site. The balance between visitor enjoyment and resource protection is always a delicate balance.

Objective 2 - Access and Enjoyment. Each park unit should be managed to provide the nation's diverse public with access to recreational and educational enjoyment of the lessons contained in that park unit, while maintaining unimpaired those unique attributes that are its contribution to the National Park System. While public access and enjoyment are essential elements of the park system, it should not be the goal of the National Park Service to provide visitors with mere entertainment and recreation. Instead, the public should be provided with enjoyment and understanding of each park in view of its special features. This is entertainment, education, and recreation with meaning.

Objective 3 - Education and Interpretation. It should be the responsibility of the National Park Service to interpret and convey each park unit's and the park system's contributions to the nation's values, character, and experience. Appreciation of a place, a time, or an event is in direct proportion to how much a person knows/learns about that place, time, or event. The challenge of national parks lies in the incredible diversity of people who visit them and in the diversity of the parks themselves. To meet that challenge, there must be a great variety of ways to learn about national parks, including (but not limited to): on-site visitor centers, professional interpreters, interpretation by other people, written and visual materials, educational outreach to schools, and research opportunities for interested professionals and students.

Objective 4 - Science and Research. The National Park Service must engage in a sustained and integrated program of natural, cultural, and social science resource management and research aimed at gathering and using the information needed to manage and protect park resources. Park management decisions must be based on the best information available, and that information must be founded on careful research about the human and natural systems in and around national parks.

The national parks of the United States are one of the greatest resources of all time. To assure that they remain "unimpaired for the enjoyment of future generations," every citizen must develop an understanding of the complex issues facing the National Park System so that the best decisions governing their future will be made on a firm foundation of understanding.

Questions

1. The legislation (law) that created the National Park Service in 1916 stated what the National Park Service would be and do. This legislation is written at the beginning of the background section. What does it mean? What does it say about how people can use national parks?
2. Primary means first or most important. Why are resource stewardship and protection the primary responsibility of the National Park Service?
3. Why is it important for people to be educated about the national parks?

PARK MANAGEMENT TEAM

The National Park Service employees that take care of our parks have many skills and perform a variety of jobs. They work in one of five management groups called divisions. The Superintendent is the park leader. He or she is responsible for making sure that all divisions work well together. The management divisions are described below. Think about which division you might like to work for if you were a National Park Service employee.

The Division of Administration plans the budget and helps with other financial matters within the park such as purchasing and payroll. This division is also in charge of all park property, buys supplies, and pays the bills. It makes recommendations to the Superintendent about how the budget is distributed between the divisions. Administration helps the rest of the park do their jobs. Administration is the park's business office.

The Division of Natural Resources Management is responsible for making sure that all the park resources, including plants, animals, water, air, water, and cultural artifacts, are preserved in as good a condition as possible. Resources Management works closely with all the other divisions to ensure that natural and cultural resources are protected. Its responsibilities include inventorying and monitoring park resources. This division also conducts research to learn more about the park resources. And it works to correct problems that might be harming the park. The people that work in Resources Management are biologists, scientists, geologists, or even archeologists.

Employees in the Division of Maintenance are required to do many different types of work. Maintenance workers are the people who do the carpentry, plumbing, and electrical repair in the park. They also clean and maintain park facilities. Maintenance crews take care of the roads, trails, and signs. They provide clean restrooms, pick up litter, empty trash cans, provide safe drinking water, and repair anything that becomes broken. Maintenance is very important to the overall protection of the park resources.

The Division of Visitor & Resource Protection Park rangers have a full range of duties including: road and trail patrol, fire suppression and control, search and rescue, first aid, wilderness management, fee collection, handling all emergency operations, and law enforcement. Park rangers working in law enforcement protect the resources by making sure that visitors follow the park rules. They inform visitors about the rules, but may give tickets to people who do not follow the rules.

The Division of Interpretation and Cultural Resources is responsible for interpreting (communicating) information about the park's natural and cultural resources. Park interpreters are also responsible for increasing public awareness and understanding of the values of our National Park System. This is accomplished through visitor center exhibits, campfire programs, guided walks and tours, brochures, pamphlets, signs, bulletin boards, and educational programs. The park visitor centers and museums are managed by the division as well as the collection and exhibition of cultural resources. The Division of Interpretation works closely with all divisions.

ORIENTATION PAGE

It is the year 2010 and you work in Wonderland National Park, California, a beautiful park located in the Cascade Mountain Range. It is an easy two-hour drive from large urban areas. The park has many beautiful lakes and streams. It is a land of volcanoes and thermal areas where hot springs bubble to the surface. A single two-lane road runs through the center of the park from north to south. The road is open only in the summer and fall, as winter snows keep it closed the rest of the year. Winter access is limited.

The most popular summer visitor use area in the park is at scenic Summer Lake. The largest park campground is located within one-fourth mile of the lake; it includes a picnic area and a camper store that sells groceries, souvenirs, gifts, and other camping basics. There is a small visitor center/museum, as well as a ranger station and park maintenance facilities. Summer Lake is an outstanding recreation and wildlife habitat area. Because of its scenic beauty and easy accessibility, overuse by people in the Summer Lake area is threatening park resources. Other places within the park are also being affected by visitor overuse.

In the last 25 years, the population in the counties surrounding the park has grown to 1,250,000 people. Visitation in the park has grown to over 1,000,000 per year with visitors coming from all over the world. Management compared to the past has become complex causing conflicts between the need to protect park resources and to allow public access and enjoyment. Managing and running a national park requires careful planning and good decision making.

Your class is the management staff of Wonderland National Park. Using the Park Problem Pages, your task is to develop solutions for current and projected park problems which best protect its resources and allows public use. The solutions you develop will provide the guidelines for running Wonderland. Be sure that each division solves its problems in a way that best protects the park and provides for visitor use. A recommendation for action with justification must be included by each division.

DIVISION OF MAINTENANCE - PARK PROBLEM PAGE

Taking care of a national park used by almost one million people requires a lot of maintenance and upkeep. It takes a professional staff of skilled, trained people to maintain all of the facilities used by the public and by the national park staff. The Maintenance staff takes care of the roads, trails, campgrounds, and picnic areas. Besides these facilities, there are buildings which include historic structures, visitor centers, garages, houses, and office buildings that require maintenance. It is a lot of work to maintain a national park. There are also trash, sewage, and utilities (water and electricity) that have to be taken care of in order to keep the park open and safe for people.

With a limited amount of employees and money to maintain the park this year, the Maintenance staff has to determine which projects have to be done in order to keep the park open and provide the best visitor services. You can only choose five projects that need to be done this summer. The remaining projects will have to be done at a later date. As a group, choose and make a list of the five top projects. Then write down your reasons for choosing each project.

1. Repaint the headquarters office building.
2. Open and maintain water systems in campgrounds.
3. Open all campgrounds that were closed in winter.
4. Resurface park roads.
5. Rewire the electrical system in the Science Center.
6. Put new roofs on the seasonal employee houses.
7. Build recycling bins for the campgrounds.
8. Paint the benches at the Summer Lake amphitheater.
9. Make new trail signs for the backcountry trails.
10. Rebuild and restore four historic buildings.
11. Rebuild trail bridges damaged by winter snow.
12. Repair boat launch at Summer Lake.
13. Clear trails of fallen trees.
14. Install lights in visitor center.
15. Build new picnic area.

DIVISION OF VISITOR & RESOURCE PROTECTION - PARK PROBLEM PAGE

The Summer Lake area is one of the most popular areas in the park. It has a campground, picnic area, access to trails, and great fishing. Because of its popularity, the area is getting overrun by people. More and more people create more problems for the rangers who are trying to protect the park and also provide for visitor safety.

In order to provide the best service to the public, with a limited staff, the Chief Park Ranger and his/her district rangers have to decide on the best way to deal with park problems. With only two park rangers available at any one time in the area of Summer Lake, the Chief Park Ranger and the district rangers have to make sure their staff knows what problems should be taken care of first. Your job is to put the following situations needing immediate ranger assistance (help) in an order of one to ten. Number one would be the highest priority and number ten the lowest. You then need to be able to explain to the class why you chose the order you did.

1. A camper cuts a finger on an axe while cutting firewood.
2. A dog is running loose at the lake and is chasing ducks which is not allowed in a national park.
3. Children and adults are feeding deer in the campground which is not allowed in a national park.
4. A camper reports an "out of control" small fire at the campground.
5. A visitor has locked his keys in his car at the visitor center and needs the rangers to help open his car.
6. A visitor is picking flowers and collecting rocks at the picnic area which is not allowed in a national park.
7. A visitor wants to talk with a ranger about night camping in the park's wilderness area.
8. There is a Black Bear on the park road creating a traffic problem.
9. Some kids are swimming in the "no swimming area" of the lake.
10. A visitor has lost her camera and wants to report it to a ranger.

DIVISION OF INTERPRETATION & CULTURAL RESOURCES
PARK PROBLEM PAGE

With more and more people visiting the park each year, especially the Summer Lake area, the Division of Interpretation, with its limited staff, is faced with the challenge of how to best educate and inform the visitors about the park and its resources.

Expecting a busy summer, the Interpretive staff is looking at other methods in addition to traditional ranger-led walks, talks, and campfire programs to teach visitors about the park. The staff has come up with a list of eight methods for informing visitors. It is a real challenge because park visitors are children and adults from not only the United States, but from all over the world. The methods must be carefully looked at by the staff. As part of the Interpretive staff, your job is to choose three methods that you feel will be used most often by three groups: (a) families, (b) adults, and (c) children. Make a list of your choices for each of the three groups. The same method can be used by more than one group. The interpretive methods for sharing information about the park are listed below.

1. Self-guided trail brochure - interpretive brochures used with numbered posts along nature trails that inform visitors about special features.
2. Cassette and/or CD interpretive guides - audio guides used to explain park features along its roads, in historic buildings, or about exhibits, and an orientation guide to the park.
3. Roadside exhibits - displays and signs along roads at turnouts, scenic overlooks, historical buildings, and at special places that provide information about the park's natural and cultural history.
4. Books and pamphlets - written information sold in visitor centers, park stores, and ranger stations that provide specific or general information about the park. Some book titles: Trees of Wonderland National Park, Flowers of Wonderland, Wonderland's Volcanoes.
5. Videos - tapes providing a general park overview or specific information about a major subject of interest in the park. Videos are 15 to 60 minutes long and are purchased by visitors. Videos are also shown in the visitor centers to provide new visitors with park orientation or information.
6. Park newspaper - a small paper (eight pages or less) published by the park which is given to visitors as they enter the park. It contains a wide variety of park information.
7. Self-guided junior ranger programs - programs that provide children with activities to learn and discover the park's natural and cultural history.

8. Self-guided family discovery programs - programs that provide families with a variety of activities to learn and discover the park's natural and cultural history.

DIVISION OF NATURAL RESOURCES MANAGEMENT - PARK PROBLEM PAGE

Summer Lake has been a popular lake to fish for trout for over 100 years. A fish stocking program (placing fish raised in hatcheries in park lakes) has been in existence for over 60 years to provide more fishing opportunities for visitors. In keeping with the goals of the National Park Service of protecting the park's lake ecosystems, the fish stocking program is going to be stopped at Summer Lake and all other lakes beginning next summer. The Resources staff is concerned that Summer Lake will be fished out in the next few years if it is no longer stocked and individuals are still allowed to catch five fish a day. The staff needs to come up with a plan to maintain a healthy trout population; it may mean people can no longer fish the lake.

There are many other things to consider in making a decision about fishing at Summer Lake. The lake is a community made up of many interrelated lifeforms. Mammals, insects, amphibians, and many different plants call Summer Lake their home. It is a nesting area for a diverse bird population including Canada Geese, mallards, warblers, and a variety of songbirds. It is also an important resting site for birds on long migratory flights. The decisions made on managing the lake affect more than just people and fish.

The division has come up with the following list of management options. Your job as resource managers is to come up with what you feel is the best option for providing public enjoyment of Summer Lake and protecting the lake and its fish population. Be prepared to explain which option you choose and why to the class.

1. Allow no fishing in the lake at all. Possible impacts: (a) people would have to go to other places to fish, (b) no fishing by the public could result in more wildlife using the lake, (c) trout populations could increase on their own, and (d) people would be upset at losing their right to fish and complain.
2. Allow visitors to catch a limit of two fish. Possible impacts: (a) people could still enjoy fishing at Summer Lake, (b) the lake could be fished out, resulting in a lake with no fish, and (c) decline in wildlife due to the increase in people and the lack of fish as a possible food source.
3. Allow for "catch and release" fishing at the lake (catching fish with barbless hooks and returning them to the lake). Possible impacts: (a) visitors could enjoy fishing without depleting the lake of fish, (b) wildlife dependent on fish such as Bald Eagles could use the lake, maintaining a well balanced lake ecosystem, and (c) the Resources staff would be keeping within the guidelines for protecting and preserving the park.
4. If you do not like any of the options above, come up with your own.

DIVISION OF ADMINISTRATION - PARK PROBLEM PAGE

The park budget needs to be reduced by 10 percent over the course of the next five years. The Superintendent and his/her Administrative staff must make \$100,000 worth of cuts in order to balance the budget. As part of the Division of Administration you need to carefully examine all of the items on the Budget Page and their impacts. As a group you then need to choose the items you wish to cut that total \$75,000.

The Superintendent has told you that you can not cut high priority items such as health/safety, visitor protection, and law enforcement. Remember, you also want to protect the park resources while providing for public use. These are tough decisions that have to be made. Be prepared to share the list of items you are cutting in the budget with the rest of the class. Remember, the items have to add up to \$75,000.

PROPOSED CUTS	IMPACTS	SAVINGS
Eliminate Backcountry Ranger	8,000 visitors not served, limited monitoring of park resources	\$ 8,000
Shorten Operating Season at Prime Visitor Contact Areas (June 20-September 4)	10,000 visitors not served, visitor center and campgrounds would close early (visitor impact)	\$17,000
Cut Water/Sewer Operations Parkwide	Will result in an increased number of visitor complaints due to lack of water and closed restrooms, would affect 450,000 visitors annually	\$35,700
Close Winter Use Area	20,000 visitors not served, school programs would be eliminated, increased problems with the winter visitor center because of inattention to its maintenance	\$35,000
Eliminate One Employee from Division of Interpretation	5,000 visitors not served, 120 interpretive programs eliminated	\$ 6,000
Shorten Season for Three Maintenance Employees (Road Crew)	Deterioration of roads and buildings and increased long term costs from not performing maintenance	\$11,000
Eliminate Trail Maintenance	Deterioration of 150 miles of trails, portion of Pacific Crest Trail would be affected, 8,000 visitors impacted	\$19,000
Reduce Number of Portable Toilets at Visitor Center	Would affect 450,000 annual visitors, cause lines at available toilets, impact maintenance of remaining facilities	\$ 7,000
Reduce Maintenance of Park Facilities	Visitors impacted by reduced maintenance of headquarters area grounds, buildings, restrooms, and trash removal	\$ 5,000
Delay Road Opening Three Weeks	62,000 visitors not served, impact on concession operations, economic hardship for counties surrounding the park	\$25,000
Delay Summer Lake Campground Opening Three Weeks	5,000 visitors not served	\$15,000
Close Two Campgrounds	8,000 visitors not served	\$25,000