



Honoring the Trust

Restoring Damaged Park Resources



The National Park Service **Environmental Response,
Damage Assessment, and Restoration Program**
Progress Report

2005



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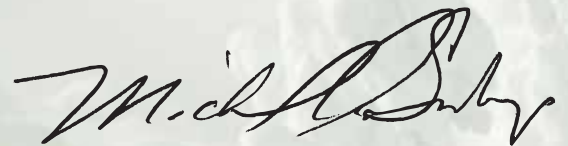
Message from the Associate Director for Natural Resource Stewardship and Science

The mission of the National Park Service (NPS) to protect the resources and resource values it holds in trust for the American people and make them accessible for public enjoyment is an ever-growing challenge in today's world. The demands placed on our park staffs and budgets from an increasing range of activities, especially from varied recreational interests and new technologies to issues of homeland security, challenge our management efforts to maintain the resources unimpaired for the enjoyment of future generations. When park resources are damaged or destroyed by willful or unplanned actions, the NPS must restore those resources—a process that can be expensive and filled with uncertainties.

One way the NPS can address such impacts is by seeking compensation from those responsible to restore the loss. In 1990, Congress passed the Park System Resource Protection Act (PSRPA), which provides the NPS with broad civil authority to seek reimbursement of its costs for protecting and restoring park resources, including cultural resources, park facilities, as well as natural resources, when they are threatened or harmed by unpermitted human activity.

In 1993, the NPS established a natural resources damage assessment and restoration program within the Environmental Quality Division here in Washington, D.C., to help implement the provisions of PSRPA and similar resource protection and cost recovery statutes. This report is intended to provide information on the program activities over the past few years, including information on the program structure, statutory framework, policy development, and recoveries received to support park restoration projects. The report is prepared by the Environmental Response, Damage Assessment and Restoration Branch (ERDAR). Scattered throughout the report are brief case examples highlighting successful damage claims and restoration projects.

The damage assessment and restoration process is a complex procedure that requires the partnership of scientific investigation, economics, and law to prepare and defend successful claims. Under the guidance and oversight of the damage assessment and restoration program, scientists, economists, cultural resource specialists, law enforcement rangers, restoration specialists, attorneys, and park managers are brought together to support parks facing serious damage claims all across the country. As a result, park natural resources including upland forest, desert vegetation, coral reefs, seagrass beds, and other important habitats are being restored, and cultural resource losses compensated so that the nation's natural and cultural heritage, as reflected in our national parks, can be enjoyed by present and future generations.



Michael A. Soukup
Associate Director for Natural Resource Stewardship and Science



Introduction

Each year, a variety of incidents cause significant impact to National Park System resources. Oil spills foul beaches and kill wildlife. Ship groundings crush coral reefs and scar seagrass beds. Property encroachments disturb habitat and impair landscapes. Many of these incidents also diminish visitor experiences or force people to forego their park visits altogether. While most of these incidents may be unintentional, illegal activities such as vandalism and poaching also cause significant detriment to National Park Service resources. Additionally, responding to these incidents and repairing the resulting injury siphons limited staff and financial resources from other park operations.

The National Park Service (NPS) must effectively address these incidents to fulfill its mission to preserve the resources and values of the NPS unimpaired for future generations. NPS has a number of management tools to accomplish this task, ranging from public education to law enforcement. One tool that has proven effective relies on the various statutes that authorize the NPS to seek compensation for damages in civil litigation. This compensation is then used to restore injured resources and reimburse the NPS for associated costs. For NPS, the most important civil damages authority is the Park System Resource Protection Act (PSRPA):¹

Other key laws include the Oil Pollution Act of 1990 (OPA) and the Comprehensive Environmental Response, Compensation and Liability Act (also known as Superfund or CERCLA).

About This Report

The intent of this report is to provide a brief overview of the NPS damage assessment and restoration program since its inception and to provide a summary of activities to date. This initial report will be followed by annual updates summarizing program activities and accomplishments. The program is guided by the policies and procedures found in *Director's Order 14* ("Resource Damage Assessment and Restoration") and the accompanying *DO 14 Handbook*. Copies of that guidance are available from the contacts listed on the inside back cover of this report or on the NPS website at <http://dataz.itc.nps.gov/npspolicy/DOOrders.cfm>.



Pryor oil well blowout, Obed Wild and Scenic River, Tennessee.

ERDAR can also provide hard copies, which include a CD containing the two NPS documents as well as the regulations and guidance for damage assessment under OPA and CERCLA.

Injuries and Damages

The terms "injuries" and "damages" are commonly used interchangeably. However, these two terms have different legal meanings.

An **injury** is an observable or measurable adverse change in a National Park System resource, or the loss or diminishment of services provided by a National Park System resource.

Damage, on the other hand, refers to the compensation sought to restore injured resources, replace lost services, and reimburse NPS for the costs of response and damage assessment.

¹ The statutory citation for PSRPA is 16 U.S.C. 19jj. Because of that, this statute is sometimes referred to simply as "19jj."



Section I Program Overview

National Program Office

In 1993, NPS formed the Washington-based office that became the Environmental Response, Damage Assessment, and Restoration (ERDAR) Branch. The office was established, in part, by a broader departmental-level initiative following the 1989 Exxon Valdez oil spill. Through this initiative, the U.S. Department of the Interior (DOI) intended to help bureaus to be better prepared and be more able to respond to these types of disastrous events. Early program efforts focused on using the lessons learned from the Exxon Valdez oil spill to inform national policy and guidance development for NPS and to coordinate damage assessment and restoration activities nationally. ERDAR was established to help parks affected by unusual events like oil and chemical spills and to manage and implement the damage authorities found in the newly passed Oil Pollution Act of 1990, which amended the existing Clean Water Act (CWA). Shortly after ERDAR was formed, the Park System Resource Protection Act (PSRPA) was amended to include all parks and all park system resources. Prior to the 1996 amendment, PRSPA only applied to parks with marine or Great Lake aquatic resources.

ERDAR is the primary contact for damage assessment and restoration expertise within NPS. The program is located in the Environmental Quality Division under the Associate Director for Natural Resource Stewardship and Science in Washington, D.C.

ERDAR is responsible for providing guidance for the appropriate and consistent application of federal damage assessment and restoration

Gettysburg Battlefield,
Pennsylvania.



Haleakala National Park, Hawaii.

The ERDAR Organization

ERDAR consists of three integrated programs: damage assessment, restoration, and economic support.

Headquarters—Washington, D.C.
Branch Chief, Program Analyst, and financial management and budgetary support.

Damage Assessment Unit—Atlanta, GA
Unit Manager and Senior Case Officers.

Restoration Unit—Denver, CO
Unit Manager, Restoration Project Managers, and contracting support services.

Economic Support Unit—Ft. Collins, CO
Economists.



Biscayne National Park, Florida.

What Are Services?

Services refer to the functions or uses provided by National Park System resources.

Ecological services are the functions performed by a resource for the benefit of other resources, such as a habitat providing food and refuge for wildlife.

Human use services are the uses park visitors make of resources, such as fishing and hiking.

authorities within NPS, and for coordinating NPS damage assessment and restoration cases. ERDAR also serves as the primary NPS liaison with outside entities involved in NPS damage assessment and restoration cases, including the DOI Office of the Solicitor and other federal agencies.

ERDAR provides the technical and managerial expertise required to successfully recover compensation for injured resources and to effect their restoration. Working in conjunction with park management and staff, ERDAR helps parks negotiate the challenging legal, scientific, procedural, and management issues that arise in litigation. The office helps to successfully defend NPS damage claims through consistent application of scientific, technical, and economic methodologies to assist in quantifying injuries, determining resource value, and calculating damages.

Legal Structure

The Park System Resource Protection Act (PSRPA) is the primary authority that allows NPS to seek compensation for injuries to National Park System resources, which include natural and cultural resources as well as facilities. Recovered funds are used to restore, replace, or acquire equivalent resources. The Act also authorizes NPS to monitor these resources. The statute initially applied only to marine or Great

Lakes parks, but was expanded in 1996 as part of the Omnibus Parks Act to cover injuries to resources within all National Park System units.

The PSRPA statute is brief and provides for damages. These damage provisions are compensatory in nature, not punitive; i.e., the statute gives NPS authority to seek recovery of certain costs, but not to punish parties when resources are injured. The costs are sought, if necessary, through civil litigation. Specifically, recoverable costs include:

- Costs of the response to the incident.
- Costs of fully assessing the nature and extent of the injuries and determining damages.
- Costs of restoring injured resources and/or replacing the services lost during the time that resources are injured, including the costs to monitor affected resources.

PSRPA also authorizes the retention of monetary donations or in-kind services to meet expected or ongoing response costs.

The Oil Pollution Act of 1990 (OPA) allows NPS to seek compensation for injuries to natural resources caused by the discharge of oil or the response actions related to the discharge of oil. This law limits the NPS recovery for injuries to natural resources and/or natural resource services.



Fontana Lake, Great Smoky Mountain National Park, Tennessee.

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), also known as Superfund, allows NPS to seek compensation for injuries to natural resources caused by the release of hazardous substances. As with OPA, this statute limits recoveries to injuries to natural resources and natural resource services.

While PSRPA is independent of authorities under OPA and CERCLA, it can be used to complement the OPA and CERCLA authorities. Because PSRPA has a much broader scope of coverage, it applies to all causes of action, not just oil and hazardous substance releases. In fact, it applies to all National Park System resources.

Damage Assessment and Restoration Process

The NPS damage assessment and restoration process involves both park and ERDAR staff and follows the logical sequence of steps documented in the *Damage Assessment and Restoration Handbook*. In broad terms, the primary steps include response, damage assessment, and restoration. Cases also involve administrative steps such as case classification and financial management. ERDAR provides case officers, biologists, economists, restoration project managers, and engineers to help park staff successfully navigate the damage assessment and restoration process.

Response

Response actions are the steps taken by park staff to prevent, abate, or minimize an injury (or imminent risk of injury) to park resources. While a wide variety of actions qualify as response actions, the most common include:

- Actions to protect public health and safety, including that of park staff;
- Actions to prevent or minimize the destruction, loss of, or injury to National Park System resources;
- Actions to abate or minimize the imminent risk of the destruction, loss of, or injury to Park System resources; and
- Actions to monitor the ongoing effects of incidents causing injury.

In general, response actions are undertaken by park staff to minimize impacts to National Park System resources and protect public health and safety. Initially, the park contacts ERDAR, which results in the establishment of a case file and assignment of a case officer. ERDAR then notifies the DOI Office of the Solicitor (SOL) and requests the assignment of an attorney. Involvement of the SOL at the earliest point in the process is essential. The park representative, the ERDAR case officer, and the solicitor make up the core case team.

What Is a Park System Resource?

A **Park System Resource** is any living or non-living resource that is located within the boundaries of a unit of the National Park System, except for resources owned by a non-federal entity. Park System resources include natural resources, cultural resources, and park facilities.



Mount Cadillac, Acadia National Park, Maine.

Yellowstone National Park, Wyoming.

Primary and Compensatory Restoration

These two categories of restoration are analogous to insurance coverage following an auto accident. An insurance company will typically pay the policyholder to repair the car. Such coverage is analogous to primary restoration because it returns the damaged car to its original condition.

The insurer may also provide equivalent transportation while the car is in the repair shop. That coverage is analogous to compensatory restoration in that it replaces the lost transportation services of the car while it is being repaired.

In consultation with ERDAR, and possibly SOL, park staff then determine whether PSRPA is applicable to the incident. The fundamental requirement for the applicability of PSRPA is that a Park System resource is injured. Certain other considerations are also relevant. The *Damage Assessment and Restoration Handbook* contains a detailed discussion of this determination.

Damage Assessment

The objective of the damage assessment is for the case team to prepare a claim for damages that can be presented to a responsible party for payment. The preparation of a defensible claim involves a number of actions:

- Determining whether an injury has occurred.
- Quantifying the extent and severity of the injury.
- Selecting appropriate restoration measures.
- Scaling selected restoration measures.
- Calculation of all costs.

These actions are intended to systematically examine the incident and to determine the type and amount of restoration needed to appropriately address any resulting injuries to park resources. Two broad categories of restoration are considered during this step: primary and compensatory restoration. Primary restoration actions are intended to return injured resources to their baseline conditions. The scale (or

amount) of those actions is dictated by the amount of work required to achieve those baseline (pre-injury) conditions. Compensatory restoration actions, on the other hand, replace the resource services lost during the time that a resource is injured until it reaches baseline conditions. The scale of those actions is dictated by the severity and duration of the service loss.

As an intermediate step between damage assessment and restoration implementation, the claim for damages is presented to the responsible party for payment. Resolution typically is accomplished through a negotiated settlement without resorting to a trial. Recovered funds are then deposited in the DOI Restoration Fund in park-specific and case-specific accounts. Recoveries remain in the fund until the park wishes to withdraw them. Funds deposited for restoration accrue interest until withdrawn. This fund does not charge management fees. The ERDAR case officer will guide the case team through developing a claim, negotiating a settlement, and supporting litigation.

Restoration

Restoration actions are taken to return injured park resources to their baseline conditions and to replace the associated lost resource services.

Restoration planning takes place before implementation and includes environmental and other required compliance.

Wildfire

Great Sand Dunes National Park, Colorado



On April 18, 2000, a wildfire swept by 50- to 60-mile-an-hour winds burned 3,100 acres, 2,403 of which were within the boundaries of the Great Sand Dunes National Park in Colorado. In addition to the vegetative loss, the fire destroyed two park structures.

The wildfire started south of the park from a yard debris burn on land owned and operated by an adjacent homeowner's association. Wind quickly spread the fire out of control, and it scorched mixed grass; shrub pinon/jupiter habitat; and aspen, cottonwood, and mixed conifer trees. NPS was forced to close the park during the popular Easter holiday weekend, preventing hundreds of visitors from using park resources.





Arches National Park, Utah.

Funds can be withdrawn from the Restoration Fund as needed.

ERDAR assigns a project manager to help park staff accomplish these actions. It is important to initiate these actions quickly to minimize any further injury that may occur due to the incident. The type of injury dictates the nature of planning and compliance and amount of restoration work that must be implemented. Additionally, NPS cooperation with multiple federal, state, or tribal agencies may be necessary when other damage assessment and restoration authorities apply (OPA or CERCLA). The ERDAR project manager will

help guide park staff in conducting restoration planning and compliance, withdrawing funds from the Restoration Fund, interacting with other agencies, and implementing restoration.

The final action in the damage assessment and restoration process is project completion. This involves filing a formal project completion report to document the expenditure of funds and the accomplishment of restoration. This final action ensures accountability for funds recovered from responsible parties. Any excess funds must be returned to the General Treasury as specified by the applicable law.

Types of Recoveries

There are two broad types of recoveries: monetary and restoration-based. Monetary recoveries are deposited in the Restoration Fund to fund restoration projects and to reimburse NPS for associated costs. Restoration-based recoveries are legal agreements among responsible parties to conduct the required restoration according to specific performance standards and with NPS oversight. A settlement may include one or both types of recoveries.



In addition to NPS, the U.S. Forest Service and the Bureau of Land Management filed claims against the homeowner's association for the fire. After lengthy negotiations with the association and its insurance company, a settlement was reached in an out-of-court media-

tion session in October 2004. Under the settlement, the association and its insurer agreed to pay \$695,000 to the agencies for

their fire suppression costs and to pay damages to NPS for the park structures destroyed by the fire.





Section II Program Activities

NPS' damage assessment and restoration program has grown and evolved since its inception in 1993. This section describes the program activities undertaken to create a systematic, legally sound, and fiscally responsible implementation process.

Policy and Guidance

On September 28, 2004, the NPS Director signed and implemented *Director's Order #14* (DO 14), which sets forth NPS policies, special delegations, roles, and responsibilities for collecting damages for injury to park resources. Accompanying DO 14 is the *Damage Assessment and Restoration Handbook*, which constitutes NPS standardized guidance and procedures for conducting damage assessment and restoration activities.

NPS developed DO 14 and the *Handbook* over several years. Before the policies and guidance procedures were finalized, NPS conducted extensive consultation with the Solicitor's Office, the Department of Justice (DOJ), and the Department of the Interior Restoration Program Office. In addition, several cases were worked in various park units under interim guidance to test the procedures and help define policy and guidance needs.

Legal Procedures

A successful damage claim depends on building a strong technical case to support the claim, as well as an equally strong legal defense of that claim. In response to this need, ERDAR developed and promoted a case team approach that includes the assignment of a DOI attorney early in the claim development phase to work with the technical team. Additionally, close coordination and frequent consultation with the DOJ Environmental Enforcement Section (which handles most of the civil resource damage claims for the United States) is also critical.



Park Ranger giving an interpretive talk.

Since PSRPA is a new law, little case law exists—no judicial interpretation of its provisions has been established. Early claims must therefore be solidly developed and defended since each case and potential litigation is, or might be, precedent-setting. ERDAR and/or the Solicitor must be contacted for guidance on any incident being considered for a damage claim under the PSRPA.

Role of NPS Within the DOI Restoration Program

The NPS restoration program is integrated with DOI's restoration program, which is administered by the Program Manager of the Restoration Program Office under the Assistant Secretary of Policy, Management and Budget. The DOI restoration program is overseen by a Restoration Executive Board consisting of senior



Pecos National Historical Park, New Mexico.

managers from all involved offices and bureaus of DOI. The Executive Board is responsible for broad oversight of departmental policy direction and approvals of the allocation of resources. The Associate Director for Natural Resource Stewardship and Science is the Executive Board member for NPS.

The Natural Resource Damage Assessment and Restoration (NRDAR) Work Group (DOI Work Group) is an important component of DOI's restoration program. The Work Group consists of members from each DOI bureau and involved offices. It provides staff support to the DOI Program Manager and the Executive Board. It usually meets eight times a year, and conducts monthly conference calls to provide overall operational and policy recommendations to the Executive Board. Some of the work carried out by the Work Group includes annual review and recommendation of damage assessment project funding; development of policies and procedures to implement the DOI NRDAR program; dispute resolution as provided in the DOI Departmental Manual; and development of integrated annual program budget initiatives. ERDAR provides the NPS members to the Work Group.

DOI Restoration Fund

The DOI Natural Resource Damage Assessment and Restoration Fund (NRDAR Fund) is managed by the Restoration Program Office and

helps support all bureau and involved DOI office activities as part of an integrated program management initiative. The fund consists of two major accounts:

- 1) **The Appropriated Account.** Each bureau receives \$78,000 annually from this account to cover participation in DOI program management activities. NPS uses its share to support the ERDAR members to the NRDAR Work Group. The appropriated account also supports individual damage assessment projects throughout DOI through an annual application and allocation process dealing primarily with CERCLA cases across the country. Section III of this report summarizes the support NPS has received from the Fund.
- 2) **The Receipt Account.** This part of the NRDAR Fund receives and retains DOI deposits obtained through settlements under CERCLA, OPA, CWA, and PSRPA into incident-specific accounts.

The NRDAR Fund has specific appropriations authority to receive funds for damage assessment and restoration activities from any source. Under the NPS statute, the Fund is also authorized to receive response costs. Receipts are held in no-year accounts until expended. Receipts can also be invested (in U.S. government securities only, such as Treasury Bills, Notes, and Bonds), and the interest earned on deposits

Colonial Pipeline Company Oil Spill Great Falls National Park and George Washington Memorial Parkway, Virginia



On March 28, 1993, a section of pipeline in Reston, Virginia, owned and operated by Colonial Pipeline Company burst near the Sugarland Run—an environmentally important tributary that feeds the Potomac River.

Designated an American Heritage River in 1998, the Potomac River basin represents a rich piece of American history. The basin contains the first evidence of inhabited structures

in North America—the homes of Paleo-Indians who lived in the Shenandoah Valley 12,000 years ago.

As a result of the ruptured pipeline, approximately 400,000 gallons of diesel fuel were discharged. Although some of the oil was initially contained using booms, a significant amount ran overland and found its way into Sugarland Run, extensively damaging this 20-square-mile watershed's streamside ecology and contaminating local drinking water. Floodwater from heavy spring rains carried traces of the oil as far as 50 miles downstream, and strong petroleum fumes drove visitors and NPS staff away from miles of riverside parks, including the Tidal Basin in Washington, D.C.—site of the historic Thomas Jefferson Memorial.

In response to the Sugarland Run oil spill, NPS partnered with the Fish and Wildlife Service and others to assess the damage to fish, wildlife, and the public's ability to use the



stays with the individual accounts. The NRDAR Fund also has authority to transfer monies to other federal and non-federal trustee agencies.

Funding Sources

The ERDAR program receives funding from several sources, including an annual appropriation and the DOI Program Management Fund.

Annual Appropriation. In FY 2004, ERDAR received \$1.354 million in appropriated funds for salaries and administrative support services, of which \$854,000 is in program base appropriations, and \$500,000 is in Natural Resource Challenge appropriations. The program does not have an emergency response or damage assessment fund to support park expenses in developing individual PSRPA cases. Costs recovered by ERDAR for its own case work are placed in the NRDAR Fund and are used on an individual priority basis to support future damage assessment work, training and outreach, special program development projects, and contracting needs. For facts and figures, see Section III, p. 21.

NRDAR Fund. As explained previously, the DOI Fund provides an annual appropriation of \$78,000 to cover NPS participation in the multi-bureau work group and integrated program management initiative. NPS also receives project funds in

support of individual damage assessment projects (primarily cases involving CERCLA).

Oil Spill Liability Trust Fund (OSLTF). OSLTF was established under the Oil Pollution Act of 1990. The fund is administered by the U.S. Coast Guard's National Pollution Funds Center (NPFC) in Arlington, Virginia.

The OSLTF has two major components: the Emergency Fund and the Principal Fund. The Emergency Fund pays for federal removal actions and funds the initiation of natural resource damage assessments by designated federal agencies, states, and tribes for injuries resulting from oil spills into the waters or shorelines of the United States. The Principal Fund is used for paying certain claims for uncompensated removal costs and natural resource damages resulting from oil spills. When an oil spill impacts an NPS unit, ERDAR coordinates park requests for OSLTF funding support.

Financial Management

The authority to recover costs and damages through civil lawsuits and to keep the money without further congressional oversight is a very powerful tool requiring careful accountability. The PSRPA, at 16 U.S.C 1911-3(c), requires that any monies collected and not used for the purposes for which they were collected must be



surrounding land and its natural resources. With cooperation and partial funding from the Colonial Pipeline Company, NPS and other trustees initiated numerous projects aimed at restoring injured natural resources and enhancing recreational uses in the area, including:

- Restoring the spawning habitats of shad and other fish species.
- Planting a 50-foot-wide buffer zone of native trees and shrubs on both banks of the badly eroded Sugarland Run.
- Improving wetland ecology by planting native shrubs to increase the biological diversity and the natural water-purifying effect of plant life.
- Providing accessibility to a viewing platform in Great Falls National Park.
- Enhancing opportunities for wildlife observation through the construction of a raised wetland boardwalk, the improvement of the access trail, and the installation of interpretive signs.





Valley Forge National Historical Park, Pennsylvania.

deposited into the U.S. Treasury's General Fund. To address this requirement and provide for a clear audit trail of all monies collected, ERDAR developed a financial accounting system for tracking deposits and withdrawals. The system was designed to ensure that the monies directly benefit the individual park that suffered the injury, are used to reimburse costs, and are spent on the restoration actions for which the funds were recovered.

When NPS or the DOI Fund manager receives a settlement check for a damage claim, the case team fills out a deposit slip or tracking form. The tracking form clearly identifies the purpose for which the monies were collected, including:

- Past assessment costs
- Future assessment and administrative costs
- Response costs (PSRPA only)
- Restoration
- Monitoring

NPS and NRDAR carefully manage these deposits. Past costs can be either left in the Fund to be used to support park activities at a later time or allocated immediately to repay NPS debts. Restoration funds must be used as defined by the statute to restore the injured resource. Since, in some cases, restoration and

monitoring of injured resources can be a long-term commitment, funds deposited into the DOI Fund accrue interest that stays with the account to help defray future cost increases.

Money allocated from the NRDAR Fund is tracked by use of a withdrawal slip indicating the kind of money being requested (e.g., past costs or restoration) and the purpose for the withdrawal. If restoration dollars are being withdrawn, a copy of a restoration plan or project statement must accompany the withdrawal slip to document that the money is used in ways consistent with provisions of the settlement agreement, judicial order, or consent decree. Once a restoration project is completed, the park must file a completion report with ERDAR to show that NPS spent the recovered funds for the reason for which they were collected, and that any remaining funds have been deposited into the appropriate Treasury account.

Economic Services

ERDAR's Economic Support Unit assists case teams in calculating the value of damages following the determination of injury. The economists, using a variety of economic tools that are available and appropriate for use in litigation, translate the nature and extent of injury caused

Grounding of the *Sergo Zakariadze* San Juan National Historic Site, Puerto Rico



In November 1999, the 454-foot Russian freighter *Sergo Zakariadze* ran aground off San Juan, Puerto Rico, damaging the breakwater that protects San Juan National Historic Site's El Morro Castle from the waves of the Atlantic.

The fort was built by the Spanish in 1539 to protect Puerto Rico's valuable colonial port

from invasion by sea. Perched 140 feet above the Atlantic, El Morro, together with San Juan's San Cristóbal Fort, was recognized as a world heritage site by the United Nations in 1983.

The ship was carrying 135,000 gallons of fuel and 30,000 gallons of lubricating oil, and many feared that the grounding would result in a spill. Additionally, the ship was weighted down with cargo—17,000 tons of cement that hardened when the grounding exposed it to water. The Environmental Protection Agency and the Coast Guard took emergency measures to safely offload the fuel and cement, lightening the ship and avoiding the environmental consequences of the ship breaking apart on the breakwater.



Once the ship was floated, NPS dispatched contractors to assess damage to the breakwater using multi-beam bathymetric and side-scan sonar technology, which revealed extensive damage to the structure. The wave height that the 40-foot-wide breakwater could mitigate had been reduced by 20 percent over a quarter of its 760-foot length, a

to the resource into an economic value or specific restoration measures intended to compensate the public. ERDAR's economists provide in-house expertise and qualify as expert witnesses in cases to support the use of standardized economic methodologies.

In addition, ERDAR's economists provide economic services on a variety of issues affecting NPS beyond specific damage assessment needs. The Unit has been requested to provide economic support, including economic evaluations and cost benefit analyses, for a variety of rule-making efforts such as snowmobile and personal watercraft regulations and on major compliance documents such as Environmental Impact Statements. The Economic Unit is also working on a number of special projects designed to address programmatic economic needs, including the establishment of baseline economic values for human lost use damages in a selected number of park units, the development of a Benefits Transfer database, and a variety of articles on various economic issues for NPS. The workload of this support unit is anticipated to increase each year.

Partnerships and Cooperation

Coordination and close consultation is required throughout all phases of damage assessment, restoration, and recovery—from the formulation of individual case teams involving ERDAR, a park, and the Solicitor's Office, through Departmental liaison for program and funding support, to the establishment of complex partnerships with DOJ for litigation support, other federal and state agencies, and the responsible parties on cooperative assessments.

When a case involves an oil spill or a release of a hazardous substance and there are multiple federal, state, or tribal agencies involved, a Natural Resource Trustee Council is usually formed. Council membership ranges from high-level representatives, such as an agency Assistant Secretary, to field staff, depending on the size and nature of the incident. Trustee council members have delegated authority from their agencies to make appropriate decisions. In large or complex cases, trustee councils may form advisory or subgroups (e.g. legal teams, peer review teams, economic teams, science technical advisory teams, etc.) to inform and advise the council on key decisions.



loss that severely reduced the structure's ability to protect El Morro. NPS divers confirmed the extent of the damage during a visual examination in May 2000 and noted that the injury left the core of the breakwater vulnerable to further damage by waves and tides.

Before beginning work, contractors conducted a detailed survey of the entire breakwater to determine the exact location and extent of the damage to the structure. After preparing a detailed restoration design, acquiring equipment and materials, completing the necessary permitting, and enduring several weather delays, the physical restoration of the breakwater began on September 23, 2001. Contractors placed 58 new armor stones totaling 1,505 tons along the seaward edge of the breakwater, replacing the estimated 1,000 tons of armor stones that were damaged or displaced during the grounding. A post-project bathymetric survey conducted after the placement of the final armor stones on October 25, 2001, indicated that the breakwater had been fully restored to its pre-injury condition.





Grounding of the *M/V Igloo Moon* Biscayne National Park, Florida



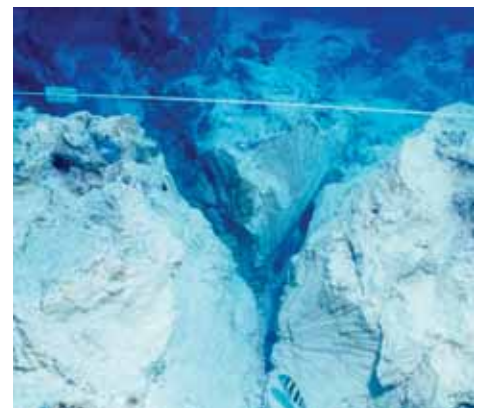
The Motorized Vessel (M/V) *Igloo Moon* ran hard aground in Biscayne National Park on November 6, 1996, at 5:00 a.m. The tanker crushed over 2,000 square meters of coral reef in the park. By 2:00 p.m. that same day, response actions by the park included NPS involvement in the Unified Command System, which provided safety, protection, and preliminary assessment by divers of the ship's status and extent of injuries to the reef.

ERDAR was notified to help initiate the damage assessment and restoration process and a case officer was dispatched.

Fortunately, none of the ship's five fuel tanks that ruptured during the grounding leaked petroleum into the surrounding park waters. However, the *M/V Igloo Moon's* cargo—6,600 metric tons of butadiene, a highly explosive chemical used in tire manufacture—kept teams on alert during the salvage operation. Despite this danger, both the ship's fuel and the butadiene were offloaded safely, lightening the ship so it could be freed.

With the ship ready to be towed to sea, NPS faced another environmental concern—moving the ship to open water could further injure the park's fragile ecosystem. Before the

M/V Igloo Moon's retreat, the contractor heading the salvage operation conducted a detailed hydrographic survey of surrounding waters. Using sonar to survey the topography



ERDAR currently represents parks on four different councils around the country. Although ERDAR staff can serve in this role, park staff are encouraged to participate in trustee council activities related to their park.

Training and Outreach

ERDAR offers a standardized training curriculum for the PSRPA and offers a course several times a year at the Federal Law Enforcement Training Center in Glynco, Georgia. PSRPA training is provided upon request and, depending on staff availability, at law enforcement refreshers, superintendent and chief ranger conferences, and natural resource management conferences. ERDAR also coordinates joint training programs when more than one park is involved in a case.

Standardized courses in damage assessment under CERCLA are offered through the Fish and Wildlife Service at the National Conservation Training Center in Shepherdstown, West Virginia. The National Oceanic and Atmospheric Administration also offers courses in damage assessment under OPA regulations.



Bryce Canyon National Park, Utah.

Point Reyes National Seashore, California.



of the sea floor, divers verified the route and the U.S. Coast Guard placed buoys to identify a clear route for the *M/V Igloo Moon* to return to sea with minimal additional injury.

Preliminary assessment of injuries indicated crushed reef structure and dead hard corals,

soft corals, and other biota. A full damage assessment was completed over the next two years. Primary restoration projects were designed to replace the crushed reef structure, and compensatory restoration projects



were selected and scaled to replace the ecological services that were lost. Scientific and economic experts from NPS and outside contractors were employed to assess these injuries and to prepare a claim for damages. Attorneys from the Solicitor's Office and DOJ provided legal support to ERDAR and the park in negotiating with the responsible parties (the ship's owner and insurer) and preparing for litigation.

In October 2000, NPS and the responsible parties reached a negotiated settlement that provided funds to implement the primary and compensatory restoration projects, and reimbursed NPS for the costs of response and damage assessment. Restoration planning and environmental compliance are underway.



Section III

Facts and Figures

The following graphs and charts summarize NPS response, damage assessment, and restoration funding; financial management; and program activities.



Ranger conducting an interpretive walk.

Figure 1
ERDAR FY 2004 Budget (Appropriated Funds)

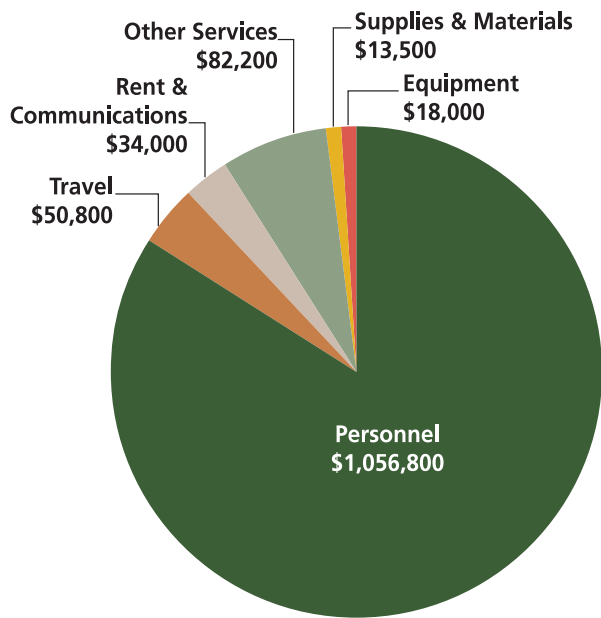


Figure 2
Funding by Source, FY 2004

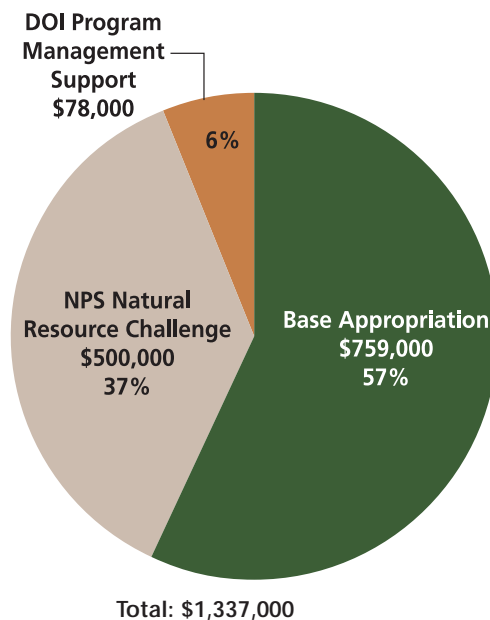
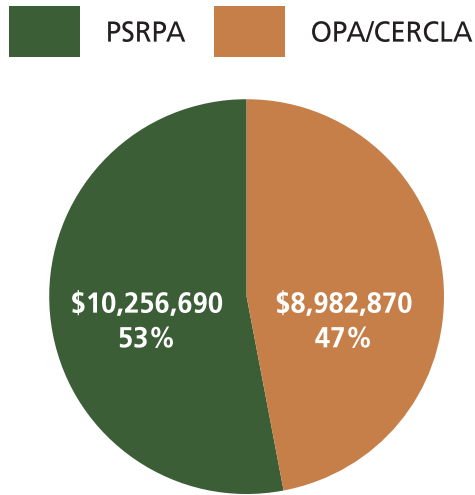


Figure 3
NPS Response and Restoration Recoveries
(Cumulative from FY 2002—2004)



Does not include restoration action performed by responsible parties in lieu of cash payments.

Figure 4
NPS Past Costs and Restoration Deposits into DOI NRDAR Fund
(Cumulative through FY 2004)

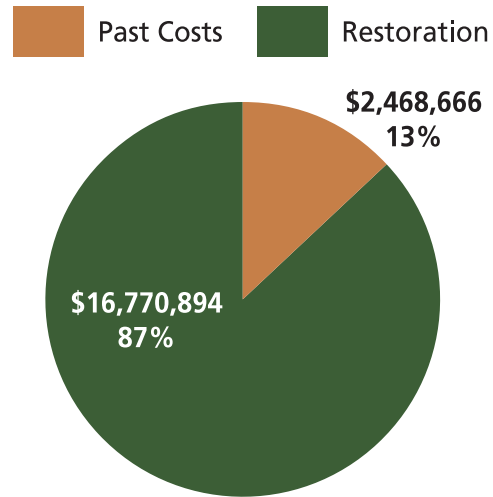


Figure 5
Status of Restoration Projects

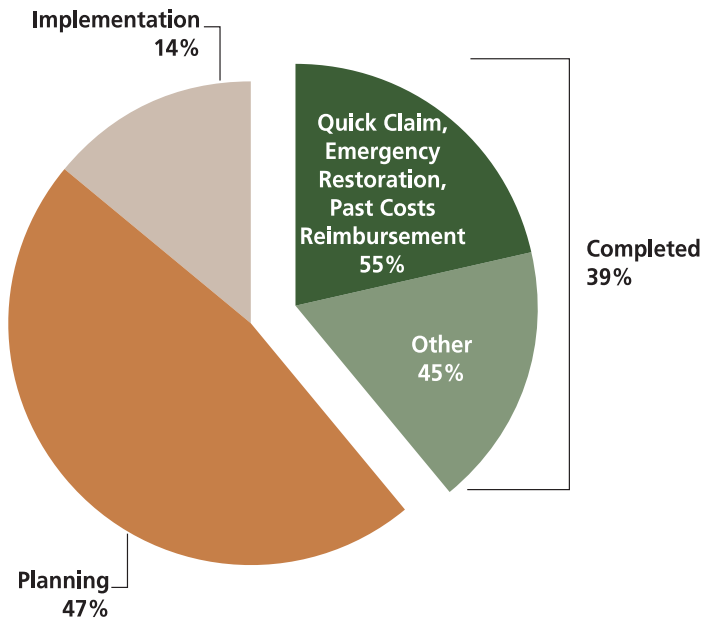


Figure 6
Damage Assessment Cases by Incident Type

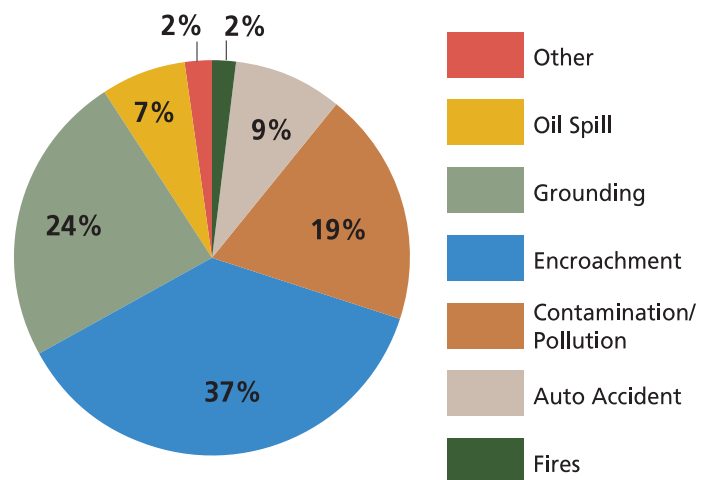
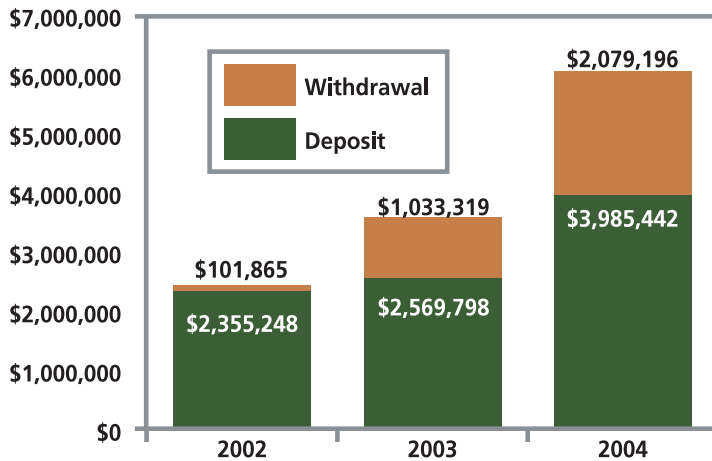


Figure 7
Summary of Cases by Regions and Washington

| Authorities | Total | Alaska | Appalachian Trail - Washington | Intermountain | Midwest | National Capital | Northeast | Pacific West | Southeast |
|--|-----------|----------|-----------------------------------|---------------|----------|---------------------|-----------|-----------------|-----------|
| Park System Resource Protection Act | 44 | 3 | 1 | 2 | 3 | 4 | 7 | 4 | 20 |
| Oil Pollution Act | 4 | | | | | | | 2 | 2 |
| Comprehensive Environmental Response, Compensation and Liability Act | 7 | | 1 | 1 | | | 3 | 1 | 1 |
| Total Cases on the Docket Jan 2004 | 55 | 3 | 2 | 3 | 3 | 4 | 10 | 7 | 23 |

Figure 8
Deposits and Withdrawals
FY 2002—2004



Wupatki National Monument,
Arizona.





National Park Service Mission

The National Park Service preserves unimpaired the natural and cultural resources and values of the National Park System for the enjoyment, education, and inspiration of this and future generations. The National Park Service cooperates with partners to extend the benefits of natural and cultural resource conservation and outdoor recreation throughout this country and the world.

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|---|--|
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Ranger at Vietnam Veterans
Memorial, Washington D.C.



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