RESOURCE MANAGEMENT PLAN



ACADIA

National Park • Maine

United States Department of the Interior • National Park Service

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INTRODUCTION

The Resource Management Plan (RMP) for Acadia National Park (ACAD) describes the natural and cultural resources contained within the Park as well as current or potential activities for managing those resources. A wide variety of research initiatives, baseline studies and inventories, and manipulative and protective techniques are integrated into a comprehensive management program.

The Park was originally established as Sieur de Monts National Monument by presidential proclamation (# 1339) on July 8, 1916. Enduring name changes (Lafayette National Park - 1919, Acadia National Park - 1929) and a constantly changing boundary reflecting sporadic land acquisitions, Public Law 99-420 (1986) finally established the park's legislative boundary and outlined the park's role in acquiring further lands and conservation easements. Most of ACAD's land has been acquired through donation, juxtaposing public with private lands and creating a noncontiguous boundary.

ACAD preserves approximately 16,500 hectares in Hancock and Knox Counties, located along the Maine coast in the northeastern United States. It consists of land on Mount Desert Island (MDI) (approximately 50% of the entire island's land mass), plus both portions of and entire outlying smaller islands, a portion of Isle au Haut to the southwest of MDI, and the tip of the Schoodic Peninsula located on Maine's mainland to the east of MDI (Figures 1 & 2). In addition, the Park holds over 150 conservation easements in the Penobscot and Frenchman Bay areas. The Park was created to protect the natural beauty of the highest rocky headlands along the Atlantic shore of the United States, and the enabling legislation specifically mentioning the "historic significance" of the area and the unique natural resources which were of great "scientific interest".

Located just north of the populated eastern seaboard, the natural and cultural resources of ACAD provide a recreational opportunity for several million visitors each year. The principles and objectives for managing Park resources were established in the General Management Plan (1992) identifying the preservation of the scenic, natural, and cultural resources while offering Park visitors an increased awareness of their natural and cultural heritage.

The recent General Management Plan (GMP) (NPS 1992) describes its significance as a mix of islands and ocean unequaled along the Atlantic coast of the United States. Natural resources, as described within the GMP, emphasize the Park's unique location as a transition zone between temperate, deciduous, and northern coniferous forests overlaying glacially sculptured granite mountains with interspersed glacially scoured lakebeds and bounded by the high rocky headlands. Noteworthy natural resources within the Park include old-growth forests, sub-alpine communities, heaths and marshes, an exceptionally diverse flora, over 40 species of mammals, and documented sightings of over 300 bird species. Significant cultural resources include light stations, 19th century frame buildings, a 80 km carriage road system with 17 stone bridges, and the Islesford Historical Museum.

FIGURE 1. REGIONAL MAP DEPICTING ACADIA NATIONAL PARK AND ENVIRONS.

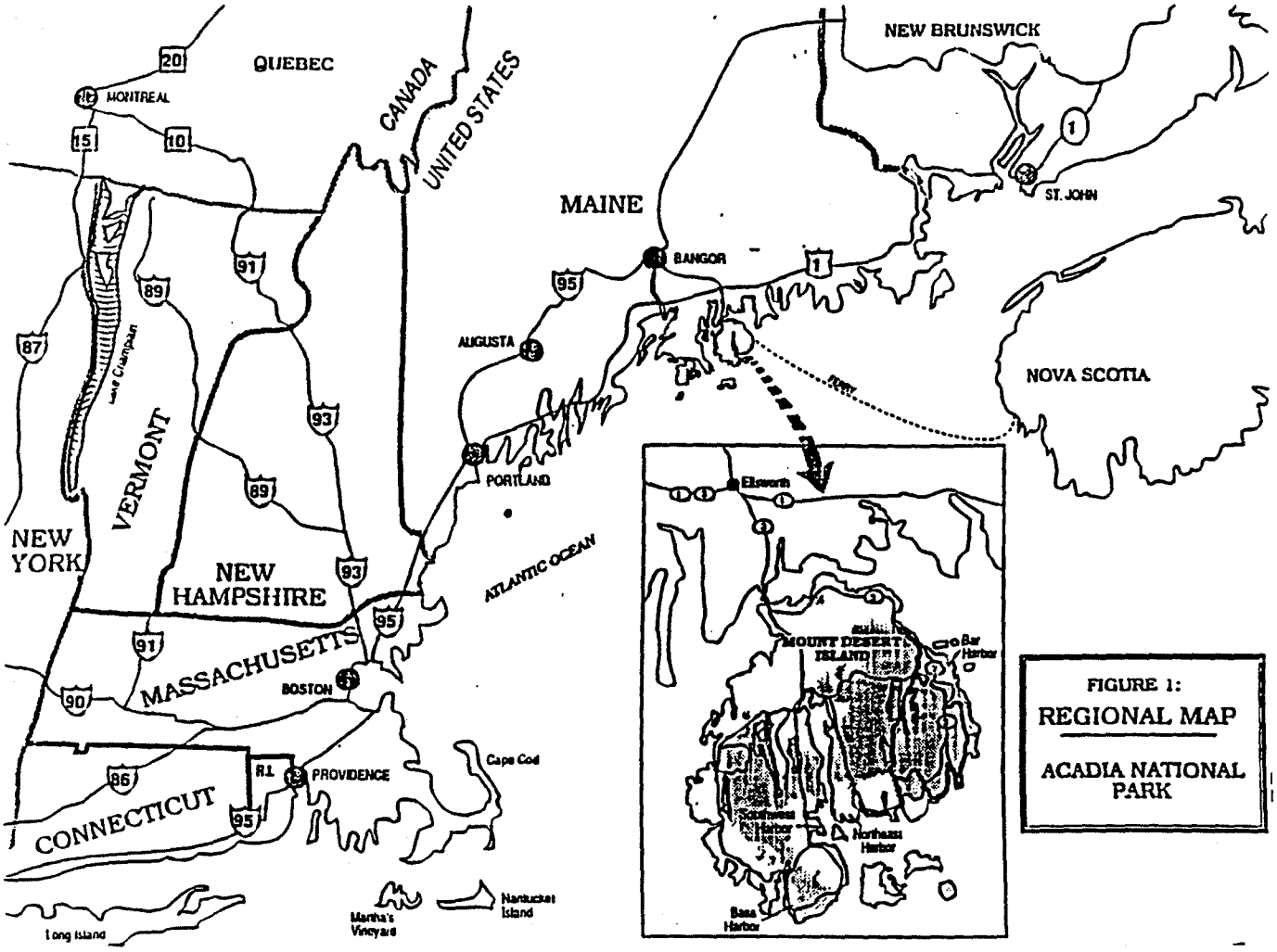
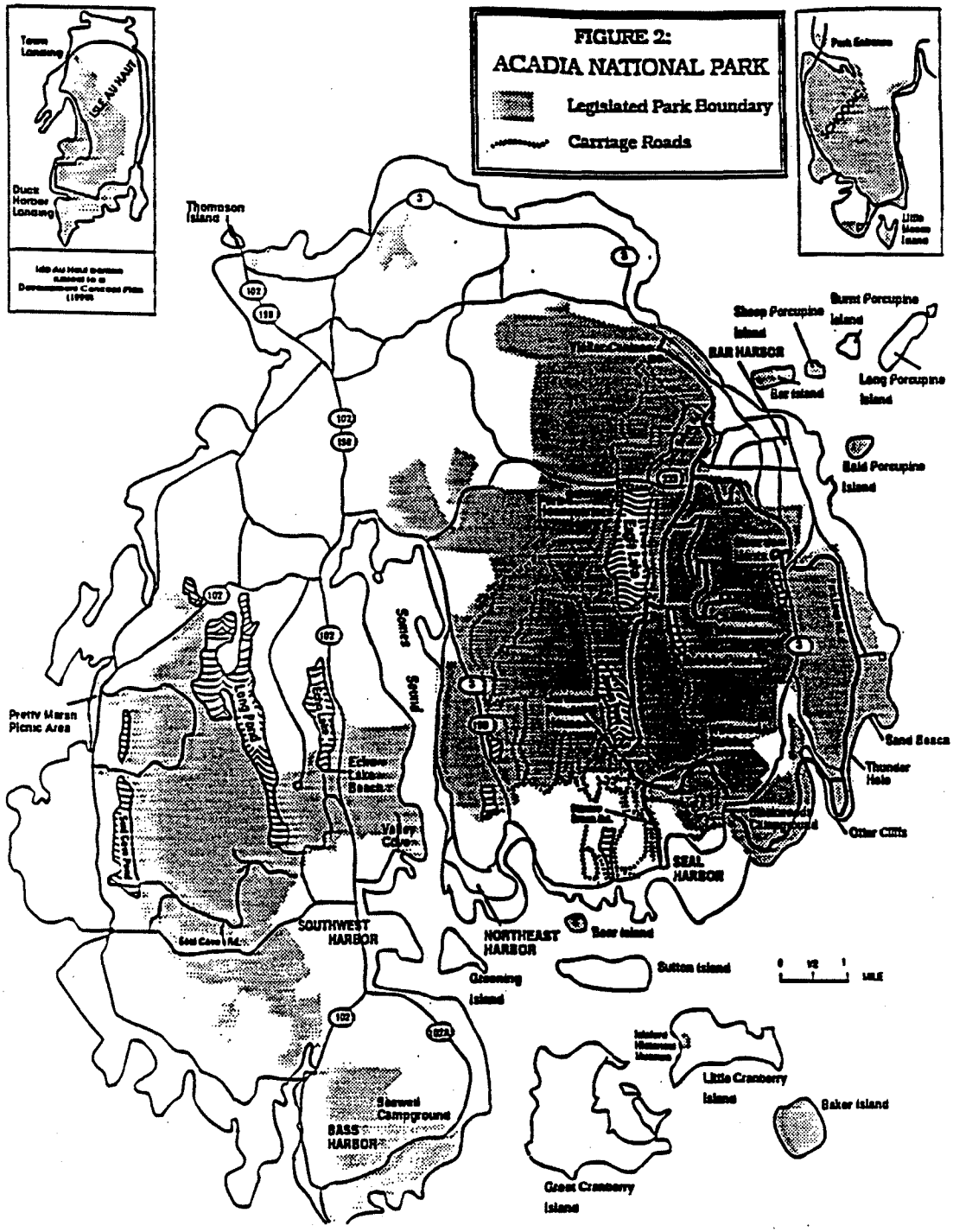


FIGURE 1:
REGIONAL MAP

ACADIA NATIONAL PARK

FIGURE 2. BOUNDARY MAP FOR ACADIA NATIONAL PARK. ISLE AU HAUT AND THE SCHOODIC PENINSULA ARE NOT SHOWN IN THEIR EXACT LOCATIONS. REFER TO TEXT.



Throughout ACAD's history, project funds from Washington and the North Atlantic Region (NAR) have resulted in a variety of scientific research and inventories (Greene et al. 1992); however, efficient resource monitoring and/or implementation of research recommendations have been woefully inadequate due to a lack of Park-based resource management programs. This has resulted in mostly token emergency (e.g., beaver management due to flooding on public-use roads) natural and cultural resource management and monitoring programs. Several community and taxa inventories are needed and even minimal curatorial operations are still lacking.

Continuing development pressures adjacent to the Park create increased fire danger, pollution, and habitat loss. High seasonal and concentrated visitor use may adversely affect local faunal and floral communities. Together, these represent a complex array of resource issues and related problems. Active management and/or manipulation of the Park's resources will likely become necessary in the face of such adverse impacts, but is contingent on a commitment from Park management and continued support from Washington and the NAR.

As ACAD approaches the 21st century, the specific objectives of this RMP are:

To maintain and understand ecosystem function in as natural a condition as possible.

Integrate the management of natural resources with the cultural heritage of the area.

To identify and delineate the entire spectrum of resources within ACAD and to insure their continued viability.

To establish and conduct efficient periodic inventory, monitoring, and assessment of the major resource systems within the Park.

Insure public access and appreciation of ACAD's resources while providing adequate protection and preservation.

Protect, preserve, and restore as appropriate, the cultural resources and heritage through expanded cultural resource programs.

PRESENT RESOURCE STATUS

NATURAL RESOURCE BASELINE INFORMATION

This overview describes present baseline information for ACAD's important natural resources. Levels of completeness of baseline data are based upon the standards for Natural Resources Inventory and Monitoring (I&M) for Level I (NPS 1991). A summary of all available information for ACAD's major resource groups is provided at the end of the RMP (Greene et al., 1992).

A potential tool for storing and analyzing baseline information on these resources is a Geographic Information System (GIS) which is now available at the Park using personal computer based ARCINFO . Several thematic maps (e.g., soils, vegetation [ca. 1979], shoreline, water bodies) are now available on the GIS. Ultimately, effective implementation of this RMP will only be realized by staff use of this system and the acquisition of a dedicated GIS specialist.

Vegetation Resources

The Park's flora has been described in several publications and voucher specimens exist in both Park and university herbariums around the country (e.g., University of Maine at Orono, College of the Atlantic, University of Minnesota, Harvard University). A Park-wide rare plant inventory was recently completed (Greene 1990). Several plant communities (e.g., sub-alpine vegetation) and a few species are at the edge of their range or are found on only a small portion of Park-owned land (e.g., pitch pine [Pinus rigida], jack pine [Pinus banksiana], scrub oak [Quercus ilicifolia]), or are on the Maine threatened and endangered plant list (e.g., [Calamagrostis stricta var. inexpansa]).

The most recent aerial photography of Park fee boundary area was purchased from the National Aerial Photography Project (U.S. Geological Survey) in 1991, and plans are to acquire photos of the Park easement areas as funding becomes available. The Park has requested assistance from the NPS GIS division to digitize and photo interpret the new photography (including ground truthing), although this project remains unfunded. The Park's current vegetation maps were developed from aerial photography flown in 1979 have been digitized and are now available on the Park's GIS. Additional aerial coverage (ca. 1940-86) are also available but are not prepared for GIS application.

Floral investigations began in the 1890's and Greene (1990) compiled a comprehensive species list conducting literature and field surveys. Additional field surveys are needed to document all records and distributions. Other vegetation investigations and research have and are being conducted to determine the effects of air pollutants on various species, effects of human disturbance on vegetation (i.e, off trail impacts), beach stabilization, characterizing intertidal, sub-alpine, and heath plant communities, fire (see next section), documenting aquatic vegetation especially in response to non-point nutrient inputs, and numerous works on forest types including old-growth stands (see Greene et al. 1992, for a complete list of work on these topics). Most of this data are not incorporated into the park GIS with the rare plant inventory being one exception.

Level I of the Inventory and Monitoring Standards have been met for certain aspects of the vegetation resource but not for others. For example, an initial rare plant inventory has been completed for vascular plants with a similar effort needed on bryophytes and other non-vascular species. Additional data (area distribution, population size and locations, etc.) are necessary to develop management plans and monitoring programs for all rare or sensitive plant species. Coordination with other plant conservation programs has been initiated.

Fire. Recent research examined fire history for Acadia and MDI dating back 6000 BP and found that large fires occurred at 100-150 year intervals. This research creates an extensive data base illustrating MDI's fire occurrence for the last several thousand years. Also, the information documents vegetative communities and fire's role in the ecology of island vegetative communities. The work was completed using pollen and charcoal analyses (see Patterson and Backman 1988). Other historical data on fire occurrence exists (Patterson et al. 1983) including a large fire that burned approximately 1/3 of MDI in 1947; since that time all fires have been suppressed. General fuel inventories for the Park have been completed (Patterson et al. 1983) and permanent vegetative and fuel monitoring programs have been established. Site specific inventories are currently underway and will continue at various locations within the Park. Fire behavior for northeastern plant communities and the utility of certain fuel reduction methods (i.e., role of prescribed fire) is largely unknown. On-going research is addressing these questions and how this information will be used to manage and protect Park and adjacent area resources in the future.

A new position, Fire Management Officer (FMO), was added to the Resource and Visitor Protection Division in 1990. The FMO has completed the Fire Management Plan (FMP) which is being circulated for technical and management review at this time. The plan (FMP) describes how detailed fuel load information will be incorporated into prescriptions for small scale research burns using recent research data and the excellent long-term (> 50 years) records of climatic data to determine island fuel burning models, vegetative response, and the viability of fire as a management tool. Nevertheless, the current level of information, with the exception of short-term fire history, does not yet meet the Level I Standards for Inventory and Monitoring. This information is necessary for a proactive fire management program.

Threatened, Endangered, and Rare Plant Species. As noted, an inventory of rare and endangered plants has recently been completed for MDI and Isle au Haut. The Schoodic portion of the Park should also be inventoried in the future. Level I of the Inventory and Monitoring Standards will be attained with a complete inventory. Completion of the inventory is the first step in establishing a long-term management program. A project statement has been prepared to establish a management plan based on Greene's (1990) vegetative inventory and using White and Bratten (1981) and GRSM (1991, Rock pers. comm.). Locational data for species of concern is available using the Park GIS. However, updated species distribution maps and management plans for all species will be necessary to insure the protection and preservation of these species.

Exotic Plant Species. A list of exotic plants was identified and the location of the 12 most ecologically invasive and geographically widespread alien species is available for the Park (McInnes 1986). This information needs to be updated to effectively monitor the distribution of these species and identify the long-term program needs for alien species control (see IPM section).

Purple loosestrife (Lythrum salicaria) was identified as the principal species of concern within the Park and data are now being collected to determine the annual and cumulative effectiveness of control efforts on populations of this species. Permanent transects have been established to evaluate control actions and monitor long-term wetland community compositions and data will continue to be collected and analyzed.

Animal Resources

Information on occurrence and management of animal species is extensive for some species while little information exists on others. Data for some animal taxa exceed minimum Level I requirements and species and distribution investigations are needed for several entire fauna taxa (e.g., amphibians, fish, landbirds, bats, shorebirds, reptiles, and most fresh and salt waters, and tidal zone invertebrate groups) do not meet minimum Level I requirements. Basic population ecology research is needed for several key species (e.g., harlequin duck [Histronicus histronicus], bog lemming [Synaptomys cooperi], etc.) and other research may be identified upon completion of species status inventories.

Wildlife observation data exists and continues to be collected; however, the quality and accuracy of this information is suspect. The entire data base needs to be computerized to determine the usefulness of this data and the park hopes to use volunteer assistance to achieve this objective.

Continuing development adjacent to the Park, changing land and water use practices, and increasing island visitation is of concern as the impacts to park fauna resources is unknown at this time.

Mammals. Research has periodically been conducted on beaver (Castor canadensis) and white-tailed deer (Odocoileus virginianus) (Favour 1940, Gilbert and Harrison 1982, Mclaughlin 1968, Saeki 1991). Recent data are also available on river otter (Lutra canadensis) (Dubuc 1987), MDI's coyote (Canis latrans) population (Winter 1990), and the effects of browsing on vegetation by deer and snowshoe hare (Lepus americanus) (Saeki 1991). Small mammal populations have been monitored in recent years as a result of various research projects (Hazen Connery et al. 1992, Garmen 1992). Coman (1987) presents the most up-to-date mammal information on MDI. This data base for some groups meets NPS Level I Inventorying and Monitoring requirements but is still lacking for others.

Beaver harvests from non-Park land on MDI have declined in recent years compared to the 1970's (Maine Department of Inland Fisheries and Wildlife [MDIFW] Harvest Records). In

addition, there has been a large decline in the number of active beaver colonies within the area burned by the 1947 fire compared to the 1960's and '70s (Mueller-Schwarze 1979). While subsequent hardwood regeneration provided an increased food source post-fire, questions remain as to the influence of other factors (physical land attributes, vegetation, precipitation, trapping vs. non-trapping) on this population. Information on beaver population size and historical distribution is currently being collected. Digitization of vegetation maps will better discern activity in relation to the amount of available habitat at different time periods. Given the apparent connection between beaver activity and MDI otter populations (Dubuc et al. 1990), further information on MDI beaver will hopefully assist the Park in addressing the issues of biodiversity, succession, and habitat loss on adjacent private lands.

The feasibility of reintroducing fisher (Martes pennanti) to Park lands is currently being completed. The study is constructing a model to examine survival rates of fisher (and selected other mammal species yet to be determined) as a possible preliminary step toward fisher reintroduction on MDI. Additional furbearer work is needed to focus on population status and distribution, the effects of trapping and habitat loss, and species ecology reflective of the changing land use on MDI with the Park as a refugia.

Other recent studies have inventoried mammal populations on Park lands. Historical mammal investigations were reviewed by Green et al. (1992) and may be identified in the resource management bibliography and library.

Birds. ANP and MDI are well known for their diversity of birds (330 documented species, Jones pers. comm.), many which are neotropical migrants and may serve as regional, international and global indicators of ecosystem conditions (Temple et.al., 1989). The landbird monitoring program has been identified in the RMP (ACAD-048) as an important natural resource and significant factor in visitor enjoyment. In preparation for landbird monitoring funding, the Park (Super 1993) conducted a preliminary field investigation of Park nesting landbird species and habitats, analyzed monitoring methodologies to determine their suitability to Park species and habitats, and contacted other NPS, other agency, and university researchers about monitoring methodologies and strategies. The report (Super 1993) reviewed Park options and recommended a step-up monitoring program based on funding availability. The program could be easily fitted to other terrestrial monitoring designs as outlined in the Park's Long-term Ecolgical Monitoring Plan (Connery et al. 1993).

Park staff have continued to monitor peregrine falcons (Falco peregrinus) in recent years to determine breeding success following the extensive reintroduction program of the mid 1980's. After several years of apparent failure, a pair of falcons successfully produced young in 1991, 1992, and 1993. Detailed information on the behavior of both parents and young have been collected and has been used annually in updating management actions (i.e., protection, interpretation, etc.) at the site and in monitoring the species with the state. Prey remains have been collected from the nest site and analyses will be performed as funding becomes available.

The location of bald eagle nesting sites within the Park are monitored cooperatively by

MDIFW and the Park on an annual basis with specific locations and data being maintained by the state. In response to low reproduction rates, research began in 1993 to examine the population ecology, prey sources and level(s) of toxic contaminants, and types and extent of disturbances for the bald eagles in the Frenchman and Blue Hill Bay areas.

The Park will seek additional opportunities to work cooperatively with MDIFW and other local bird advocacy groups in establishing monitoring programs for other Federal and State listed bird species of concern and with other groups of birds (e.g., shorebirds, waterbirds, etc.). The Park is a cooperating member of the state's Partner's in Flight Program.

Fish. Cold and warm water fish species, including non-native brown trout are stocked in both Great Ponds and NPS waters by MDIFW and this practice has been on-going for many years. Stocking species lists are available and are updated annually. This information represents only what the State of Maine puts into these water bodies and should not be considered a thorough baseline inventory of this resource. In addition, the effect of this stocking on the native fish species ecology and genetic purity is unknown. Harvest data (i.e, harvest season, sex and age, total numbers, etc.) are lacking for fish species from all island water bodies. Current information does not meet Level I I&M Standards.

The Park is currently involved in developing a Water Resources Management Plan (WRMP). The plan will specifically recommend programs and action levels for inventory, monitoring, mitigation, and research for fish in Park waters. The Park is identified as a co-participant in a regional park fisheries inventory program that has been identified as a high priority in the region (i.e., FY 94). The inventory and research results will complement programs identified in the WRMP.

Amphibians and Reptiles. A statewide inventory of reptiles and amphibians has been completed but no comprehensive field survey has been conducted specifically within the Park or on MDI. Coman (1987) summarized herptile field observations and reports for MDI and surrounding islands. Recent herptile inventories of park lands on several small islands documented reptiles and amphibians.

Amphibian populations are recognized as indicators of microhabitat changes resulting from direct management activities, macrohabitat changes and habitat fragmentation (Hunter et al. 1992), or non-point sources of pollution (Jones 1986). Due to their contribution in monitoring aquatic community health (Jones 1986) and direct links with other park resource monitoring (i.e., air and water), the park has identified an amphibian inventory and monitoring project (ACAD-021a) as the second highest priority in the RMP. This inventory project has been submitted for FY94 funding by the NBS and investigations will be conducted in the four commonly recognized amphibian habitat types found in the Park.

Invertebrates (other than insects). Invertebrates comprise a diverse group of organisms found in many park habitats and vegetative communities. Early and recent investigations (see Greene et al. 1992) have produced species lists of the more common species for most of the major Park habitats (i.e., marine, tidal zone, brackish, freshwater and

terrestrial). Current information does not meet Level I I&M Standards.

New investigations need to be completed to verify species status and distribution and establish the baseline for monitoring programs. Indicator species would be used to investigate population status and ecology, to detect human impacts and over-use, and monitor other anthropogenic influences. The WRMP will be helpful in identifying possible indicator species, a strategy for re-investigating the major habitats, and identifying both monitoring programs and necessary research projects.

Insects. The park has an invaluable data set of insect fauna (Johnson 1927, Proctor 1946) with over 6500 species identified in Proctor's 27 field seasons of collecting. This diversity presents an unparalleled opportunity to monitor populations and related ecosystems. Identifying candidate taxa to be inventoried and monitored has professional support and has been proposed for the park (ACAD-N-0047).

Ginsberg (pers. comm., 1993) has conducted initial surveys in confirming taxa that have regional distribution and replicating previous collections (Proctor 1946). Continued funding (RMP Project Statement ACAD-N-047) will implement a three year study that will reinventory selected invertebrate taxa, establish a regional T&E/rare species list, identify suitable monitoring protocols and key monitoring locations, developing reference literature and a regional reference roster of entomologists and taxa specialists, and recommend species to be monitored in park communities (i.e., forest, aquatic, shoreline, etc.).

Insect monitoring programs are recommended for terrestrial, freshwater, saltwater, and marine habitats (see Proposed Long-term Monitoring Plan - Res. Mgmt. files.) The Park is a cooperator with the U.S. Forest Service Forest Health Monitoring Program and will continue to monitor gypsy moth (Lymantria dispar), spruce budworm (Choristoneura fumiferana), and hemlock looper (Lambdina fiscellaria) populations. This data base is extensive (see Integrated Pest Management Plan) and available on a regional basis for several parks. As a result, trends and comparative analyses can be made for the past ten years.

Among several insect pest issues at ACAD, the most destructive to park resources is the carpenter ant (Camponotus pennsylvanicus). The Park has numerous historic structures, many which have known insect infestations. Carpenter ant activity is reported annually in some of these buildings and presents a threat to employees, visitors, and the integrity of these resources.

Public Health and Safety. Several insect species are drawn to human waste collection and transfer sites and are an annual nuisance and safety risk for summer visitors. The park's Integrated Pest Management Plan (Connery 1991) initiated operational activities and public awareness messages on refuse and garbage management to reduce opportunities for yellowjackets (Vespula maculifrons, V. vulgaris) honeybees (Apis mellifera), bald-faced hornets (Vespula maculata), and paper wasp (Polistes fuscatus) at heavily used visitor sites.

Lyme disease has recently been reported from MDI in the vicinity of Bar Harbor. The northern deer tick (Ixodes dammini), primary vector of Lyme disease in the northeast is also present on MDI. Park staff conducted extensive small mammal surveys to determine the distribution of this and other tick species on MDI. The Park cooperated with Maine Medical Associates (Connery et al., 1992) in determining the presence, distribution, and rate of tick infection with the Lyme disease spirochete, Borrelia burgdorferi in the Park. Ixodes dammini are located primarily on athe eastern side of MDI and IAH, with very low infection rates of B. burgdorferi. Visitor risk is low but not absent, and continuiing education efforts directed to visitors and employees are appropriate.

The presence of giardia on MDI or within ACAD is unknown at this time. Bacteria levels (coliform) for local fresh and salt water, are monitored by the state and the Park at several Park visitor use areas. The data is shared between agencies and exceeds Level I I&M Standards.

The status of other zoonoses (e.g., tularemia, rabies) is unknown, but is thought to be extremely low on MDI based on State monitoring efforts. The Park meets the Inventory and Monitoring Level I Standards for other public health risks.

Aquatic Resources

A large variety of water quality information has been collected within the Park and on MDI by park staff, local universities and private individuals. While study objectives for this work have varied considerably, much of this data is useful to the Park as baseline information. A Water Resources Management Plan (WRMP) "Scoping Report" has been completed (NPS 1990) outlining the available information on the Park's water resources. This document, while not providing all the pertinent baseline information, synthesizes the most important water resource issues and provides the necessary reference and background information needed for developing the WRMP. Of particular importance are investigations on surface chemistry for 22 lakes and ponds and 18 streams, calibrated watershed research for Upper Hadlock Pond, nutrient and hydrologic data from Bass Harbor Marsh and Somes Sound, and the identification of important Park and MDI water resource issues. Data from these investigations are being used in the development of the Water Resources Management Plan by providing information on the condition of and inputs to watersheds and the baseline status for some of sensitive aquatic resources on MDI. This will be especially important as most major watersheds that enter ACAD do not lie entirely within Park boundaries. Thus, impacts associated with increasing development including sewage disposal, increased water withdrawals, and non-point source pollution originating outside the Park may affect surface and ground water resources in these watersheds.

A major influence relating to the management of water resources in Acadia National Park is the question of jurisdiction of "Great Ponds" which are lakes 10 acres or larger. The state has maintained jurisdiction of these water bodies based on the "Great Ponds Ordinance of Massachusetts Bay" of 1641-1647. Activities such as non-native fish stocking, hunting, trapping, and winter off-road vehicle (ORV) use are allowed by the state on Great Ponds.

The Park also collects precipitation data as part of the National Atmospheric Deposition Program (NADP) and the information exceeds Level I Inventory and Monitoring Standards.

The park cooperates with the Maine Department of Environmental Protection (DEP) and the MDI League of Towns in limited monitoring of basic water quality parameters of MDI Great Ponds. Temperature and secchi disk readings have been collected since the 1970's for several Great Ponds on MDI. Selected lakes on MDI have been intensively sampled every three years for a variety of physical and chemical parameters. With the exception of the fisheries resource which has been monitored and managed by the MDIFW for several decades, little is known about the biological condition of water resources in ACAD. In 1993 the park began sampling bacterial water quality at Echo lake, Long Pond, Lakewood, and Sand Beach swimming areas. Water quality in both Great Ponds and Park-owned waters is presumed to be excellent (Division of Fisheries, MDIFW, pers. comm.)

In summary, baseline data for ACAD's aquatic resources is very good in some areas but almost non-existent in others. With regard to NPS Inventory and Monitoring Standards, each resource component within the Aquatic Resource category (e.g., fishery, water chemistry) must be examined individually to determine the particular standard level. A variety of references for this resource category are available and a list can be found in the Historical Resource Inventory for ANP (Greene et al. 1992) and the water resources Scoping Report (NPS 1990).

Air Resources

The park, a Class 1 area under the Clean Air Act and the only NPS Class 1 area in the Northeast, cooperates with the NPS Washington Air Quality Division (WASO-AQD) and the North Atlantic Regional Office in implementing the air resources program. ACAD is one of 24 NPS air monitoring TREND sites. TREND sites represent the NPS's long-term air monitoring network and have been selected as representative of ecoregions, as well as areas of known air quality problems such as ozone non-attainment, atmospheric deposition, and visibility impairment at Acadia.

The air quality monitoring program at ACAD includes data on ozone, sulfur dioxide, nitrogen oxides, non-methane organic compounds/volatile organic compounds, visibility (optical and view monitoring), and particulate data and is establishing an excellent long-term data base. Since monitoring began in 1982, ozone levels at ACAD have occasionally exceeded the national standard, and have frequently exceeded the stricter state standard. Overall, ACAD has accumulated a significant data base for its air resources and exceeds Level I I&M Standards.

Due to its status as an area of significant national interest, Acadia has been a focal point in regional and state research and monitoring efforts aimed at verifying and quantifying present air quality conditions. The park has participated in regional air quality research studies with the Environmental Protection Agency, several northeastern state air resource agencies, Northeast States for Coordinated Air Use Management (NESCAUM), and Canadian agencies.

Previous air quality related research has focused on the biological effects of air pollution, primarily ozone. Eckert (91,92) and others have investigated ozone effects on vegetation, and have documented injury to several species at concentrations at or near historical levels. Additional research aimed at determining the effects, if any, of atmospheric deposition including mercury and toxic contaminants, and increased acidification on aquatic resources is needed.

Geologic Resources

The geology of the Park may be defined as a combination of marine erosion, glaciation, igneous activity, and sedimentation. There has been much research conducted on ACAD's geological landscape and a wealth of information is currently available.

Baseline data for most of the Park's geologic resources exceeds Level I NPS Inventorying and Monitoring Standards for MDI (NPS 1989b). It should be noted, however, that little of this information has been collected with Park management needs in mind. Much of the research has been conducted to satisfy academic inquiries and may not be immediately applicable to the needs of Park management. Nevertheless, some of the noteworthy studies that have been conducted include: Bradley 1983, Chadwick 1939, Metzger 1979, Raisz 1929.

A complete soil survey has been completed for MDI by the Soil Conservation Service's update of the Hancock County Soil Survey and is available in digital form as a Park GIS data layer. The published report of the soil survey is not expected until 1995 (Dupruis, pers. comm.).

Aesthetic Resources

Jacobson and Dominie (1988) identified historic, scenic vistas and viewsheds from numerous locations in the park. Many of these vistas have become overgrown due to lack of maintenance and have eliminated these aesthetic resources from park visitors.

Rieley's (1989) comprehensive work identified the location and description of vistas located along the Rockefeller Carriage Roads. Selected vistas were cut by the ACAD maintenance staff in 1988. Selected vistas were cut by the ACAD maintenance staff in 1988 and the University of Maine's Forestry Camp have been involved in the clearing of several vistas along the Carriage Road system over the past few years. This work was completed under a cooperative agreement between the University and the Park.

Special funding to rehabilitate the Carriage Road System was approved by Congress and began in FY92. The project identified other vistas suitable for rehabilitation with the work scheduled to begin in 1994 and last through 1998. All work projects require NEPA and historical compliance and must be completed prior to any additional field activities.

Baseline information on the aesthetic resources currently does not meet Level I I&M Standards. Sufficient detailed information does not exist depicting all historic vistas and

concomitant floral and faunal changes that have taken place over the years.

NATURAL RESOURCES

This section is an overview of ACAD's significant natural resources issues and gives an assessment of the current condition of these resources, program activities, and funding needs. Categories for this section are based on topics presented in the NPS-77, Natural Resource Management Guideline (NPS 1991). Specific resources problems and proposed programs with identified funding needs are identified in the project statements.

Additional information on specific natural resources and natural resource management programs in the Park can be found either in :

Specific action plans (see list in Table of Contents)

Park specific research reports (see Natural Resource Bibliography, Greene et al. 1991)

RMP project statements found later in this document.

Vegetation Resources

Current vegetation patterns within ACAD reflect 18th and 19th century land management practices. Hardwoods now dominate where fire or other manipulative activities removed coniferous forests. More recently, vegetative communities and ecological processes on the eastern half of MDI reflect the 1947 fire that burnt approximately 17,000 acres. Most of these areas will ecologically succeed back to coniferous forests and an understory of spruce (Picea spp.) can be found in many hardwood and scrubland communities. On the western half of the MDI and on IAH, however, mature spruce-fir forests dominate the landscape with areas of heavy fuel buildups. With residential development expected to continue on MDI into the foreseeable future, the residential community/Park interface is growing and the threat of catastrophic fire presents the need to manage and protect both community and Park resources. This development also results in fragmented vegetative communities with changing structure, composition and richness, less opportunity for genetic exchange and altered ecological processes.

While the Park's natural resource management goals are defined within an ecological as well as sociological framework, future management decisions will become increasingly difficult as remaining land on MDI outside of ACAD's boundary changes from agricultural with few owners to residential with numerous small landowners.

Special status plants continue to be threatened by development, Park maintenance projects, heavy visitation, and a lack of current inventory and monitoring information. Small stands of jack pine (Pinus banksiana) exist within ACAD's boundaries. Recent research (Conkey et al. 1991) has shown that this species may be lost if the current fire management practices continue. Also a small population of scrub oaks (Quercus ilicifolia) exists along the western edge of Somes Sound and is another species at the edge of its

range in ACAD. Park management will determine if these stands are to be artificially maintained or if ecological succession will be allowed to function unimpeded which may result in the possible loss of this species in the park.

Other park vegetative resources have been identified by the Maine Natural Heritage Program's Critical Areas Program. Identified as significant natural resources or resource areas located within the state, the Park is cooperating with the State in the protection and management of these unique natural resources. The areas identified in the park include old growth pine and spruce stands, coastal mountain tops, heaths, intertidal zones and islands. The areas are described in several reports (Greene et al., 1992) and copies can be located in the Resource Management Office.

Two of these areas are unique old-growth forests with one 10 acre stand dominated by eastern white pine (Pinus strobus) and the other being a virgin spruce/fir forest occupying approximately 200 acres on Bernard and Mansell Mountains. The second stand is dominated by uneven aged red spruce (Picea rubens) and some trees are 200+ years of age and represent one of the few virgin spruce/fir forests along the entire coast of Maine (NPS 1981). Although the stands are not in immediate danger, current resource information would be valuable in addressing community change for other stands as well as provide information about the effects of climate change, air pollutants and acid deposition on mature and old-age forests and the resident species.

The main exotic plant species of concern is purple loosestrife. This species has invaded several roadsides and a few marshes in the Park threatening native vegetative species with the potential to effect whole systems. Effectiveness of the past and on-going management control programs is being determined to guide future management programs and activities. Park efforts have also included educating local nurseries and the general public in curbing the expansion of this alien species.

Air pollutants are known to impact plants and are suspected of causing abundance and distribution shifts for some species and within and between vegetative communities. Of special note are the research projects that have been investigating the effects of ozone on native vegetation (see bibliography, Greene 1992). Despite several air quality studies conducted on MDI and IAH (Wetmore 1984, Sanchini 1988, Jagels 1986, Jagels et al. 1989), results are inconclusive as to how ozone manifests itself in vegetation. A five year research effort to determine the effects of ozone on various plant species will be completed in 1994 (Eckert 1989). While it is generally felt that ACAD's vegetation is being impacted, the extent is unknown.

Scientific investigations have reported on the impacts of trampling and dispersed use on alpine vegetation (Synder 1974, Willard and Marr 1970). The park has documented increasing visitation in sub-alpine areas and the increasing development of social trails and related effects on vegetative communities and sensitive species have been recognized as an important management concern. Research to characterize the sub-alpine community and quantify use numbers and patterns began in 1991 (Foley et al. 1991). Sub-alpine areas in the parked are identified in the Maine Critical Areas Program and several species of state listed plants (Greene 1988) have been identified as of particular concern, especially alpine clubmoss (Lycopodium selago).

As noted, a rare vascular plant inventory was recently completed and there are several state listed plants within the Park. The only occurence of prototype quillwort (Isoetes prototypus) in the United States occurs in the Park. Several plants exist only in small populations within the Park (Greene 1990) and should be monitored through an approved management plan (see ACAD-N-071). Additional inventory work is necessary to more thoroughly survey all Park lands and conservation easements. The Park will continue to cooperate with the state in the protection and mitigation of activities affecting state listed species. All Park projects and operations comply with NEPA and other applicable federal and state laws to determine if the proposed activity will negatively impact these or other park resources.

Interaction of Vegetation with Beaver, Deer, and Snowshoe Hare. The 1947 fire returned the eastern half of MDI to early successional vegetative communities and have resulted in a mosaic of hardwood forests. These early successional vegetative communities and hardwood forests provide exceptionally suitable wildlife habitat for some island and park mammals due to forage availability and productivity. Increased hardwood availability encouraged deer and beaver populations to expand from the 1950s to the 1970s. Deer reduction programs were conducted in the 1960's to control the expanding deer population and resulting severe overbrowsing on park and island vegetation. Beaver populations reached highs in the late 1970s (Mueller-Schwartze 1978), but these populaion numbers have apparently fallen in the last decade due to a decrease in suitable habitat from overuse and continued succession.

Research into the browsing impacts on vegetation by deer and snowshoe hare was recently completed (Saeki 1991). Deer and hare do not appear to be overbrowsing the Park's vegetation at this time as had been documented and reported in the 1960s. In fact, research results suggest that populations of these species may be declining as determined by the high availability of preferred browse species (Saeki 1991).

Beaver distribution on MDI reflects their use of successional hardwood forest communities, many resulting from the 1947 fire. The suppression of fire and control of disturbances limits the regeneration of suitable beaver habitat and restricts an increase and expansion of the beaver populations on MDI. Further investigations and research are needed to determine beaver use impacts on vegetative composition, structure, and succession, and the effects of forest succession on beaver populations and habitat. The Park continues to manage beaver family groups that threaten park, private and state property with preventative management actions.

Animal Resources

Coyotes were first observed and documented on MDI in the early 1980's and their arrival raised questions pertaining to their affect on the other native island canine species (i.e., fox, Vulpes vulpes) and mammal populations as well as with visitor and local residents activities. Coyote ecology research was initiated in 1988 to determine spatial relationships, interaction with and distribution relative to the other MDI canine. Habitat use and preference were also determined. The principal investigator has offered to

conduct further data analysis with the final report expected in early 1994. Additional research to determine the interaction of deer and coyotes on MDI was initiated in the fall of 1991.

Beaver water impoundments and dam creation have been a problem since the 1960s as their activities flooded and undermined roads, flooded private property, and created safety hazards. These problems, although still prevalent, have decreased due to fewer beavers and the use of preventive management techniques, such as "beaver dam-foolers" in recent years. The park continues to develop a beaver management program and recognizes preventive techniques (i.e., education, preventive management actions, and habitat evaluations, etc.) as effective management practices in reducing nuisance problems, property damage, and maintaining beaver populations in the park. The program will repeat aerial cache surveys followed by ground-verification, similar to the 1989 survey, on a three year interval in monitoring beaver status and distribution. It is estimated that the beaver population has declined since the late 1970's.

Further investigations and research are needed to determine the availability of suitable beaver habitat, impacts of beaver activities on human structures and facilities, and the effects of human development and activities (e.g., trapping, water flow and quality, etc.) on beaver populations and ecology. Otter populations are directly linked to active beaver flowages (Dubuc et al. 1990) and further indicate the importance of understanding beaver ecology and the dynamics of wetland resources. Additional research will provide information on other species directly influenced by beaver activities (i.e., birds, other furbearers, etc.).

The effect of trapping and hunting on Park furbearers, upland gamebirds, and waterfowl populations and ecology are unknown. These activities occur on lands adjacent to and on the Great Ponds located in the Park. Most visitors and residents are unaware of this potential threat to park resources and ecosystem processes. Recent declines in trapping harvest and tagged pelt numbers for the MDI area raise concern about furbearer populations status and raise questions whether one or a combination of factors are responsible. Additional investigations and research are needed.

The presence of Lyme disease in New England raises a safety concern for Park visitors and MDI residents. Lyme disease vectors and pathogens have been identified on MDI (Connery et al. 1992, Ginsberg and Ewing 1988). The threat of humans contracting Lyme disease within the Park is possible and warrants the Park's continued monitoring of ticks and presentation of educational information about Lyme disease.

Twenty-three peregrine falcon chicks were hacked from a mountain within the Park in the mid-1980's (Breen and Anderson 1992). Peregrines returned to historical eyries in 1987, but no successful nesting occurred until 1991. Since then, ten peregrine chicks (i.e, 3 in 1991, 3 in 1992, 4 in 1993) have successfully fledged and left the Precipice Cliff face on the east side of Champlain Mountain. This event marks the first time in over 30 years this raptor has successfully bred in the Park. The Park has instituted an integrated monitoring and interpretive program at the Precipice Cliff Trail parking area during the last three breeding seasons providing protection, species information, and interpretive outreach to several thousand visitors each summer. These chicks represent approximately 40% of

Maine's known peregrine production for the 1991-93 years (Super 1993, unpubl., ACAD management report).

Park lands on the southern shore of Isle au Haut are a major wintering area for the western Atlantic population of harlequin ducks (Histrionicus histrionicus). The duck's status is unknown, but recent surveys indicate that the western Atlantic population is declining from the estimated 1989 population of 400 (Mittlehauser 1991). Annual surveys continue to be funded by the Maine Dept. of Inland Fisheries and Wildlife and the Park. The species was listed on the state's Species of Special Concern and as an endangered species in Canada in 1991. The duck is currently listed as a Category 2 species on the federal T&E roster (US Fish and Wildlife Service 1992) with that status being reviewed for possible upgrading to Threatened or Endangered. Although hunting has not been permitted in Canada and the United States in the past few years, the harlequin still faces hunting pressure in Greenland, Iceland, and other summer breeding and staging areas. Threats to the species wintering and breeding grounds, winter prey base, and ecology are generally unknown. The Park is working closely with MDIFW to locate funding and develop a research and monitoring program for this species.

The status of other native animal species (i.e, amphibians, insects, bats and other mammals, furbearers, most invertebrates, and many birds) is largely unknown. An unknown number of these species may be found to be federally or of special concern in the state. Continued development and changing successional patterns may result in the continuing loss or alteration of key habitat areas or the separation of genetic pools. Reintroductions are unlikely due to the loss of habitat and changing land use practices. Species knowledge is necessary to develop management programs and recovery plans. The Park has conducted investigations for flying squirrels (Glaucomys spp.), and spruce grouse (Canachites canadensis) and modeled population scenarios for the fisher (Martes pennanti) and other small furbearers based on habitat and prey availability. Additional investigations will provide much needed information in protecting species and habitats while establishing baseline distribution and population status and determining species of special management concern (i.e., T&E, etc.). Large mammals, (e.g., bear [Ursus americanus], moose [Alces alces], and feline predators), in addition to white-tail deer, are occasionally observed on MDI and regularly reported on park lands on the Schoodic Peninsula. Surveys of these species are needed to determine their presence within and adjacent to the Park.

Integrated Pest Management. In cooperation with the U.S. Forest Service, gypsy moth (Lymantria dispar) and spruce budworm (Choristoneura fumiferana) populations have been monitored over the last several years and hemlock looper (lambdina fiscellaria) monitoring began in 1993. This data base is extensive (see Integrated Pest Management Plan) and available on a regional basis for several parks. As a result, trends and comparative analyses can be made for the past ten years.

The Park has numerous historic structures many of which have unknown pest infestations. Carpenter ants (Camponotus pennsylvanicus) occur in several buildings each year and yellowjackets (Vespula maculifron, V. vulgaris) honeybees (Apis mellifera), bald-faced hornets (Vespula maculata), and paper wasps (Polistes fuscatus) are an annual nuisance

with summer visitors.

Detailed action plans for species of concern are available in the Integrated Pest Management Plan (which was approved in 1991) as well as a more detailed description of animal and plant pests found in the Park, current problems as well as an historical overview. In summary, information in this area meets minimum Level I Inventorying and Monitoring Standards.

Public Health and Safety. Lyme disease has recently been reported from MDI in the vicinity of Bar Harbor. The northern deer tick (Ixodes dammini), primary vector of Lyme disease in the northeast is also present on MDI. Park staff conducted extensive small mammal surveys to determine the distribution of this species on MDI (Hazen Connery et al. 1992). Ticks submitted by visitors and employees are also being examined for the presence of the Lyme Disease spirochete, Borrelia burgdorferi.

The presence of giardia on MDI or within ACAD is unknown at this time. Bacteria levels (coliform) for local fresh and salt water, are monitored by the state. These data are available to the Park and exceed Level I I&M Standards.

The status of other zoonoses (e.g., tularemia, rabies) is unknown, but the state monitors such diseases and occurrence on MDI is thought to be low. The Park has met Level I of the Inventory and Monitoring Standards for Lyme Disease but not for many other public health risks previously mentioned.

Aquatic Resources

Water resources are an important component of natural processes and resources in the park. They help to define the park's scenic splendor, provide recreation, and some lakes are the source of drinking water for the communities on the island. Watersheds are closely related to adjacent terrestrial communities and reflect the inputs they receive and the outputs they provide (Likens 1985).

Numerous lakes and ponds are found within the Park or contiguous to the park boundary, and several are the sources of drinking water for island towns. However most MDI watersheds lie, at least partially, outside of the Park boundary. Impacts associated with development adjacent to Park lands, including increased water withdrawals, sewage disposal, and nonpoint source pollution, may affect surface and ground water resources. Other impacts to water resources may come from terrestrial or marine oil or hazardous waste spills, high visitor use, atmospheric deposition, economic development, and adjacent landfills. Impacts could be subtle or catastrophic. Monitoring of a few selected lakes on MDI, primarily for physical and chemical parameters, has been conducted intermittently by the Park and state since the late 1970's. More recently the park, state and the MDI League of Towns have joined together to conduct expanded monitoring for 12 lakes on Mount Desert Island. However, a more comprehensive monitoring program is needed to track the full range of water resource conditions at the park, and to serve as an early diagnostic/warning system of impacts and threats. The Park will continue to work with

the towns in identifying land use planning policies and in monitoring development to meet state and local water and environmental regulations.

The Park, in cooperation with the University of Maine, is currently preparing a Water Resource Management Plan (WRMP) which will provide long-term guidance for managing water resources. The plan will identify key issues and management concerns and recommend research, monitoring and management actions for all water and aquatic resources in and adjacent to the Park.

The Worcester landfill of Southwest Harbor was documented in the late 1970's as a source of leachate pollution in the Marshall Brook watershed and connecting Bass Harbor Marsh estuary. Monitoring Marshall Brook and several adjacent private wells adjacent to the landfill by a consultant hired by the Town of Southwest Harbor was recently discontinued. Although Marshall Brook is the major fresh water source for the Bass Harbor marsh/estuary, there are concerns that other sources of human-caused pollution are impacting the Bass Harbor Marsh system. A study was undertaken in 1991 to evaluate the sources and timing of nutrient inputs to determine whether adjacent antiquated septic systems and/or other human sources vs. natural eutrophication (or both) are the causative reason(s) for the algal blooms in the marsh.

Lakes and ponds on MDI larger than 10 acres are classified as "Great Ponds" by the state which maintains jurisdiction for these waters based on the "Great Ponds Ordinance of Massachusetts Bay" in 1641-1647. The ordinance grants "fishing and fowling" rights and the right of access to these ponds by the public. Both native and non-native fish species (e.g., brown trout [Salmo trutta]) have been stocked in the Great Ponds and other Park water bodies by the MDIFW. The effect of this stocking is unknown on the native species gene pool as well as on other aquatic species and related ecological processes. Other than annual state stocking statistics, the Park has little information on the fisheries in these waters, or on annual harvest and fishing effort data. Sport fishing is an important historical and current recreational activity on MDI, which is reflected by MDIFW's long-term stocking of Great Ponds and other smaller NPS owned water bodies. The Water Resource Management Plan will review MDIFW's fish stocking policy and recommend management strategies and research needed to address local sport fishing interests, MDIFW's program objectives, and NPS policy and objectives. Project statements, both at the park and regional level, have been developed to conduct a baseline inventory of ACAD's fisheries resource, and funding is being sought through the Natural Resource Protection and Preservation (NRPP) Program, National Biological Survey (NBS) Research Program, and NPS Washington Water Resource Program.

In general, water resources at ACAD are considered to be in very good condition. However, several specific concerns exist including landfill leachates, suspected point and non-point pollution problems from recent development and/or land-use changes, over-burdened and failing park wastewater systems, bacterial water quality at swim beaches, Safe Drinking Water Act requirements for town water sources, and atmospheric deposition. The park cannot adequately evaluate current and future water resource conditions based on the limited information now available from a few sites, nor develop the management strategy needed to interact locally on land-use developments and zoning issues with towns, state and other interested parties. The WRMP is expected to identify

a comprehensive water protection strategy that outlines water quality inventory and monitoring needs, research, planning, and jurisdictional responsibility to guide long-term management of the park's water resources.

Air Resources

Based on modeling of regional emission source data and back trajectory analysis it is generally felt that airborne pollutants carried from the eastern metropolitan (New York City/Philadelphia/Northern New York) and northern midwestern/Great Lakes (including Canada) industrial corridors significantly affect ACAD's airshed. Elevated levels of ozone are known to cause health problems for the general public, and research conducted at Acadia has shown adverse impacts to park vegetation. Sulfur dioxide/sulfate emissions contribute significantly to visibility impairment and to acid deposition. ACAD posted a health advisory for ozone for the first time in 1988 based on exceedances of the National Ambient Air Quality Standard (NAAQS). The park has continued to post health advisories for ozone, which is currently based on the stricter state standard of .081 ppm.

Visibility data collected since the early 1980's indicate visual air quality at ACAD is among the poorest in the NPS. Although this time period is too short to determine a trend it is generally believed that standard visual range at Acadia has been reduced dramatically over the past several decades and thus represents an existing adverse impact. Atmospheric deposition data collected over the past 12 years indicate acidic inputs are approximately 5 times normal levels. ACAD's ecosystem has very low natural buffering capacity and little is known about potential adverse impacts to aquatic systems and organisms.

In addition to impacts from the long range transport of pollutants several hundred miles away, there is concern with the continued development of major and secondary emission sources within the state. The possible development or modification of fossil-fuel or biomass electrical power plants and large paper mills, within 100 km of ACAD, have been proposed for different areas of central Maine. The park will continue to work closely with the NPS Air Quality Division and the state (MDEP) to evaluate these proposals and their potential effect on Park resources, as required in the Clean Air Act's regulatory authority for Class I areas.

The Clean Air Act of 1990 requires major reductions in air pollutants which promises to significantly improve air quality at ACAD and other NPS units. Continued long-term monitoring will provide a means of measuring the amount and rate of improvement.

Geologic Resources

The dynamic forces of geomorphology are largely absent and impacts to the mountain ranges and geologic resources of MDI reflect either on-going geophysical forces and/or human activities from the past two centuries. Also the increasing number of visitors to the island and park have resulted in soil erosion and impacts to sensitive vegetative species and communities in all use areas and especially along the highly used trails in the Park. A closer review, reveals the historic mining activities that occurred in the Park and

vicinity where granite and/or gravel were mined and exported for local and regional development. Many of these sites have never been reclaimed and only preliminary surveys have been conducted in identifying what, if any, rehabilitation and revegetation activities may be needed.

The shallow soils which overlay MDI's unique geology, offer relatively little buffering capacity from acidic precipitation. The continuing deposition of acid precipitation is suspected of adversely impacting the soil resource's buffering capability which then will affect species, processes and all island and Park ecosystem components.

Sand Beach, a small calcareous beach, on the southeastern half of MDI (see Figure 1) has fluctuated in width due to prevailing climatic and marine hydrologic events. A beach morphology evaluation (Barden 1970) was recently repeated (i.e., J.H. Connery, pers. comm., 1988-89) to evaluate changes in the rates and seasonality of beach morphology. The project found that there has been little change in beach structure and dynamics during the last twenty years.

The coastal geology also reflects the dynamic interaction of climatic and marine forces observed at cobble beaches, tideline sea caves, stacks, and arches, as well as at historic cobble beaches and other shoreline formations that now lie several hundred feet above and inland of the present high tide line. Little is known of the ecology of the tideline sea caves and the descriptive characteristics and spatial extent for all of these phenomena have not been adequately documented. This data provides much needed information to monitor climatic change, biological diversity, human use and disturbance impacts, and provides references and benchmarks for resource protection.

Sea level rise represents a potential problem for areas like Sand Beach as well as intertidal marshes. Although very unlikely over the short-term (100 years), this type of threat should be considered for long range management planning.

Aesthetic Resources

The Park visitor's experience from scenic vistas and panoramic views is being diminished by the continuing development on private lands and lack of Park maintenance for most of the historically maintained vistas.

Community planning is underway and the Park needs to be fully involved to insure the future integrity of island resources both in and surrounding the Park. The Park's discontinuous parcels and easements, irregularly shaped boundary, and lack of adequately surveyed and marked boundary lines further complicate the pressures placed upon Park resources by developers and adjacent landowners.

Road modification and upgrading of visitor contact areas have been made to accommodate an increasing number of visitors. Nevertheless, high visitation impacts the Park's resources and warrants the development of carrying capacity objectives and measures for both high and low-density opportunities. Trail erosion, nonpoint source pollution, human waste disposal, increased water use concomitant with continuing development, vegetation

trampling, and increased volume of solid waste continue within a limited land base have been identified by Park and community leaders and continued planning and management cooperation is required to protect island values and Park resources.

While many visitors to MDI do not come specifically to visit the Park, once here, many experience Rockefeller's carriage road system. While this resource has enormous cultural significance (see cultural resources section of this Plan), restoration and preservation of this resource will undoubtedly affect associated Park natural resources. It will be incumbent on NPS management to insure the integration of inventorying, compliance, monitoring, and assessment procedures are completed prior to and during any such work.

CULTURAL RESOURCE BASELINE INFORMATION

The following information summarizes the status of Cultural Resource Baseline information for ACAD. Please refer to the NPS Cultural Resource Management Guideline (NPS-28), Chapter 2, Pages 3 through 22 for a complete discussion of the purpose and contents of these documents.

Planning Documents

Preauthorization and authorization - Current and approved. No further action required.

Statement for Management (SFM) - Currently out of date and in need of revision. SFM will be updated within 2 years of the completion of the General Management Plan (i.e., 1993).

Outline of Planning Requirements - Currently out of date and in need of revision. OPR will be updated in conjunction with the SFM.

General Management Plan - Approved 1992. No further action required.

Development Concept Plan (DCP) - A DCP was completed and approved in 1989 for the Isle au Haut unit. The remainder of the Park has been specifically addressed in the General Management Plan (GMP).

Resource Management Plan (RMP) - Draft plan submitted for review and approval in 1991. Updated plan (i.e, 12/1993) awaiting approval.

Interpretive Prospectus (IP) - The current IP is outdated. An updated plan is currently being prepared with a completion date of 1994.

Ethnographic Program Strategy - Has not been completed, but is needed. Preliminary recommendations submitted to the park by NARO ethnographer in 1993.

Servicewide inventories, lists, catalogs, and registers

Cultural Resources Bibliography (CRBIB) - The current bibliography dates from January 14, 1987 and must be updated.

Cultural Sites Inventory (CSI) - needed (per conversation with NARO Archaeologist 9/25/90)

List of Classified Structures (LCS) - The list of classified structures on file dates from November 25, 1986 with an review scheduled for 1994.

National Catalog of Museum Objects - Submissions to the National Catalog of Museum

Objectives were made annually; however, there will be no submission for FY90. A large backlog remains to be cataloged but there is no one to carry out this work.

National Register of Historic Places - Five places have been listed on the National Register.

Ethnographis Resources Inventory (ERI) - Service-wide data categories and other inventory components are currently in development. Temporary database is recommended. NARO ethnographer can assist with construction.

Basic Cultural Resource Documents

Archaeological Overview and Assessment - An archaeological overview and assessment has never been done for ACAD but is needed. (See project statement C-11)

Archaeological Identification Studies - These studies have not been conducted but may be required following the completion of an archaeological overview and assessment.

Archaeological Evaluation Studies - Same status as identification studies.

Ethnographic Overview and Assessment - This report has not been completed for the Park but is needed.

Ethnographic Program - This action plan may be required pending the completion of the ethnographic overview and assessment. At this time, however, it is not applicable.

Historical Base Map - Historic base maps have not been prepared for ACAD but are required.

Historic Resource Study (HRS) - These studies currently are needed: identifying properties eligible for inclusion on the National Register of Historic Places; documenting the significance of the Islesford collection to regional, state, and local research (while creating funding aids); and documenting the hiking trails. The National Register HRS was initiated by NARO but the contract was never completed. The Islesford collection study has been submitted for cooperating association funding for 1991. The trail study is described as a project but not funded.

Park Administrative History - An administrative history has not been prepared but is highly recommended (See project statement: C-18).

Scope of Collections Statement is currently in need of revision. It does not cover major portions of the collection.

Special Resource Studies and Plans

Archaeological and Ethnological Collections Studies - these studies have not been

conducted despite a large collection of prehistoric artifacts. Needed (See project statement in Museum Collections Sections)!

Archaeological Data Recovery Studies - A number of site studies have been completed as required by various Park development projects.

Collection Management Plan (CMP)- An expanded draft is scheduled to be reviewed and approved in 1994.

Collection Storage Plan (CSP)- A draft collection storage plan for Islesford Historical Museum and MDI was prepared in 1989.

Collection Condition Survey (CCS)- This assessment is needed; however, with no Park staff to carry on with resulting recommendations by professional conservators, it will be an exercise in frustration.

Cultural Landscape Report (CLR) - A CLR was prepared for the carriage road system (Rieley and Brouse 1989). Colonial landscape assessments were completed for Sieur de Monts and Ocean Drive portion of the Park Motor Road. However, a wide variety of significant Park cultural landscapes, including the remainder of the motor road and many hiking trails, remain undocumented. (See project statement: C-02).

Ethnohistory - None have been prepared, but Cranberry Isles should be a priority.

Exhibit Plan - needed.

Historic Furnishings Report - None have been prepared to date, but should be completed for the Carroll Farm, Storm Beach Cottage, and the Blue Duck Store.

Historic Structure Preservation Guide (HSPG) - HSPG's have not been prepared for any park structures. Preparation of these guides is one of the park's highest needs.

Historic Structure Report (HSR) - With the exception of the Carroll House, Bear Island Lightstation, and Baker Island Lightkeeper's House; these reports have not been completed but must be completed before historic preservation guides can be prepared.

Social Impact Study - This subject will be addressed in the Park's GMP.

Special History Study - Special History Studies have not been prepared but are recommended for the Park Loop Road and other cultural developments in the Park.

Traditional Use Study - These studies have not been conducted but are needed to document traditional use and management regimes of cultural and natural resources in the park and adjacent lands by Native Americans (Passamaquoddy, Penobscot, and Micmac) and long-term year-round and seasonal residents of MDI, the Schoodic Peninsula, Isle au Haut, Little Cranberry, and other nearby islands.

Cultural Affiliation Study - Recommended if park receives requests from Native

American Tribes for repatriation of unaffiliated human remains under the Native American Graves Protection Act (NAGPRA).

Rapid Ethnographic Assessment - Recommended in conjunction with planning efforts where ethnographic data is needed on specific types of traditional resource use and management such as fishing and hunting on Great Ponds and sweet grass harvesting.

CULTURAL RESOURCES

Sites

An archaeological overview and assessment has never been prepared for ACAD and is still needed, although a number of individual studies, investigations, and excavations have been conducted. Individual sites evaluated include:

Frazier Point, Duck Harbor Group, Sand Beach, Mosquito Harbor, Thompson Island, Bennett Cove, Wonderland Peninsula, and Schoodic Peninsula (excavated by the University of Maine, contract number CX2000-6-0022, May 1977).

Fernald Point (excavated by the University of Maine under contract number 6-0022-77-03, February 1980.)

St. Croix Archaeological Site, St. Croix Island International Historic Site.

In addition, David Sanger conducted an archaeological survey in 1974 and Rhodes and Naglich made archaeological investigations in 1983. The best known site (National Register) at Fernald Point, is fairly well protected from human disturbance by its location on Somes Sound with access limited by private property. There are at least 22 recorded sites (NARO and WASO RMP reviewers), not including St. Croix Island. At the current time, it would appear that the studies conducted to date are not adequate to manage the archaeological resources of the Park. A comprehensive overview and assessment is strongly recommended. (R. Hsu, NAR Archaeologist, pers. comm.).

Structures

An inventory of structures completed in 1984 (Arbogast) evaluated all structures in ACAD. Twenty-seven structures have been listed in the National Register and over 40 additional structures may be eligible. Structures' significance arises from associations with 19th century lifestyles (Gilley House, Lightstations, Carroll House, Blue Duck General Store), with J.D. Rockefeller's road building (carriage road bridges, gatelodges), and the formation of the Park and preservation movements (Sieur de Monts springhouse, Old Farm/Storm Beach, Islesford Museum). The remaining structures are now being evaluated for thematic nomination by a private contractor. All structures require stabilization, preservation, monitoring, cyclic maintenance,
and/or oversight to arrest or prevent deterioration. For example, slate roof tiles on the Islesford Historical Museum and the gatelodges are falling off, birds inhabit the Baker Island Lightkeeper's quarters, each rainstorm floods the Carroll House cellar, and mortar is deteriorating in carriage road bridges and gatelodges. At the present time, there is no comprehensive plan to manage and preserve important Park structures. HSR's, HSPG's, and adequate cyclic maintenance funds are critically needed.

Collections

ACAD has over 68,000 artifacts in three separate groupings. One group, located on MDI, contains the Carroll homestead furnishings and tools, restored carriages and carriage parts, archives, early photographs, furniture of the Park's founder, and archaeological items from road construction projects. Another group, kept on Little Cranberry Island, contains the Islesford Historical Museum collection of books, 18th and 19th century town records, documents, maritime and farming tools, furnishings, and photographs. The third grouping is stored at colleges and universities nationwide as well as the State museum. It consists of natural science and archaeological collections.

Attaining collections accountability by reducing the backlog of uncatalogued artifacts has been the one area of real progress for cultural resources at ACAD. However, continuation of this work is subject to the availability of Washington collections accountability funding distributed by the Region.

Since FY90 there has been no additional WASO funding for any further ACAD accountability efforts, although two cataloguing work details have allowed piecemeal progress. Collection needs in the areas of staffing, conservation, and storage remain unanswered.

Cultural Landscapes

Two 19th century homestead farm areas associated with National Register houses (Baker Island, Carroll Homestead), the nineteenth century cottage estate of the Park's founder and first superintendent, the approximately 50-mile National Register Carriage Road system with its 16 bridges and two gatelodges, and the 27-mile Park Motor Road system are all in need of cultural landscape identification, documentation and repair/maintenance prescriptions.

Beatrix Farrand, a landscape architect, designed landscaping to accompany the carriage roads as well as their original design by Frederick Law Olmstead, Jr. This was a major component of the Loop Road construction.

Ethnographic Resources

Because of its location, land acquisition history and unique mix of natural and cultural resources, ACAD has extensive ethnographic resources and several traditionally associated groups. Ethnographic resources within the park include Native American sacred sites, including Cadillac Mountain and Sieur de Monts spring, local family homesteads and cemetaries, various plants and animals harvested as part of traditional subsistence strategies, historical documents, and artifacts of continuing importance to contemporary groups of island residents. Use of vernacular place names is still quite commomn.

Ethnographic resources may also be recognized as other types of cultural and natural resources. Traditional use and management strategies need identification and

documentation. Park management plans for ethnographic resources should be developed in consultation with traditionally associated groups. These plans should address resource uses on lands adjacent to and within the park because some resources are not found exclusively within the park, and some traditional uses, such as hunting and trapping, may affect park resources (e.g. animal populations).

CULTURAL CONTEXT THEMES (NPS 1987)

Thematic Framework: (Each of the following headings correspond to those found in the previously mentioned reference)

I. Cultural Developments:
- B: Post Archaic
  - 14. Hunters/Gatherers of the Eastern Woodlands
- D: Ethnohistory of Indigenous Americanb Populations

II. European Colonial Exploration
- B. French

XIV. Transportation
- B: Ships, Boats, Lighthouses

XVI. Architecture

XVII. Landscape Architecture

XVIII. Technology/Transportation

XXX. American Ways of Life
- J: Occupational and Economic Classes

XXXII. Conservation of Natural Resources
- C: Conservation Movement Matures,1908-1941
  - 6. Origin and Development of the NPS

XXXIII. Historic Preservation
- D. Regional Efforts:
  1. New England, 20th Century
  2. Private Historical Societies

NATURAL RESOURCE MANAGEMENT PROGRAM

(See Appendices for RMP Software Outputs)

OVERVIEW OF CURRENT PROGRAMS AND NEEDS

The priority of the Park's first comprehensive RMP (1982) was to assemble baseline data to determine the type and condition of resources that were in the Park. However, due to inadequate base funding for personnel and infrastructure costs and project support, systematic data collection has been sporadic. Although ACAD is the North Atlantic Region's (NAR) only "National Park", the natural resource program (e.g., permanent basefunded personnel, budget, and operational resources) was the smallest among the NAR's four largest natural resource oriented areas (Cape Cod, Gateway, Fire Island, and ACAD) throughout the 1980's. As a result, projects and programs were often reactionary being based on available WASO and NARO program monies and the interests of research programs and scientists with only a few efforts addressing Park management concerns. Simply put, little pro-active management planning and resource stewardship can be achieved until the program is properly funded and staffed.

This plan is designed to continue and expand upon the objectives outlined in the first plan and the recently completed Park General Management Plan (GMP). New information reflecting management needs and the results of completed projects of the 1980s have also been incorporated. This RMP is designed to accomplish the following tasks: describe the present and future resource management program including budgetary, staffing, infrastructure, and program needs; monitor and assess the status and condition of all Park resources and ecosystems realizing that most are only portions or subsets of populations or systems found within the local geographical area; work cooperatively with other state, federal, and private management agencies and individuals in developing a holistic stewardship and management program for island and area resources including monitoring adjacent land use practices and development; identify and describe existing base-line data gaps along with the funding and program strategies and products to be received; identify projects and program needs arising from recent local and national initiatives and concerns, and previous research and monitoring; and provide an impetus for action plans for those resources where sufficient data exist and corrective and mitigatory actions have been recommended.

A thorough natural resource bibliographic inventory was completed in 1992 (Greene et al.) and is being updated annually. This work was funded as part of the national "Inventorying and Monitoring Initiative" in 1990 and compiled all previous research and natural resource management work related to the Park's natural resources. The bibliography provides an invaluable overview of science and natural resource management at ACAD and for the island over the past 130 years for Park managers, resource specialists, and park and non-park supported research and management efforts. Additional funding is being sought to maintain and expand upon this work. The bibliography outlines present levels of resource knowledge and gives locations for reference materials as well as recommends what inventory, monitoring, research is needed.

ACAD's natural resource management objectives over the next five years can be summarized as follows:

Develop the natural resource management program by (1) securing base funding to support the full complement of specialists as identified in the Park target staffing organization and for the development of resource and management programs, (2) acquiring one time funding to construct adequate infrastructure and support services to accommodate the full development of the Division of Resource Preservation, and (3) hiring the full complement of specialists and services that have been identified to meet the needs and mission of the park (GMP 1992).

Implement the Fire Management Plan pursuant with the acquisition of implementation funding and close coordination with the local town fire departments and the State of Maine.

Complete and implement Water Resource Management Plan pursuant with base funding to implement water quality, hydrologic, and aquatic biological and physical monitoring, protection, planning and research.

Develop, in cooperation with the other Park divisions, a comprehensive geographical information and data management system that serves to share and exchange data in monitoring, protecting, and planning for the preservation of natural and cultural resources of the park and for their use and enjoyment as found to be appropriate to the mission of the Park (GMP 1992) and the service. Further, (1) continue to acquire and develop spatial and relational data through cooperating agreements, contracted projects, and by staff specialists, (2) hire a full complement of GIS and data managers and specialists to develop and manage these programs activities, and (3) integrate the application of this data in analyzing and monitoring resources condition, strengthening the decision-making processes, and planning and managing park programs and operations.

Monitor air resources in an effort to maintain air quality through proactive assessment programs with the state (MDEP) and federal (EPA) authorities, especially involving new or existing permit processes and educational and interpretative programs.

Cooperate in developing an effective, comprehensive educational and interpretive program in the park and with other educational institutions thatinstructs visitors and local residents about the Park's diverse and complex array of resources, systems, and processes. The program will seek to enhance the visitors' understanding of the impacts and threats to Park resources and their stewardship role in protecting and preserving Park resources.

Develop resources protection programs based on resources impact assessments and use carrying capacity objectives and standards; utilizing research, resource and visitor monitoring programs, and educational/interpretative outreach programs.
Synthesize baseline data collected from research and subsequent monitoring and

develop management plans, especially for sensitive, threatened, and endangered animal and plant species (state and federal) and resources specifically mentioned in the enabling legislation or other planning/management document (i.e., GMP, LPP).

Develop and implement a Long Term Monitoring (LTM) Program that provides an early diagnostic warning system, based on present natural resource conditions and with established limits of variation, to identify agents of change and evaluate management actions.

CULTURAL RESOURCE MANAGEMENT PROGRAM

(See Appendices for RMP Software Outputs)

OVERVIEW OF CURRENT PROGRAMS AND NEEDS

There is no current day-to-day program for cultural resources management at Acadia. Disjointed cultural resources activities do occur in Acadia, subject to the vagaries of project funding, but no overall program exists.

There is no cultural resources management specialist. Oversight of cultural Resources (CR) activities is a collateral duty of the already fully-occupied Chief Interpreter. One temporary curator position, funded haphazardly for nine years represented the main CR effort at the Park. The position has remained lapsed since August 1992. Curatorial work is only one segment of the entire CR picture. Large areas of concern for cultural resources which lack planning, funding , and direction include: identifying and evaluating the park's cultural sites, historic structures and cultural landscapes; updating and overseeing the cultural resources section of the RMP; and managing and coordinating CR projects at Acadia overall.

Given the lack of a program manager, the Park is mired in a losing battle to patch up and catch up through NARO work details and myriad funding sources such as volunteer, donated, project funds, etc. An approach such as this cannot help but be reactionary and in most instances, provide textbook examples of "too little, too late".

UNMET NEEDS

Unmet needs, in addition to the establishment of a cultural resource program and staff(C-01), can be generally described in terms of the list of systemwide cultural resources issues. These include: (1) an archaeological resource identification and assessment (C-011) (D. Hsu, NAR Archaeologist, per. comm., 9/90); museums collections are incompletely catalogued (C-001, C-003, C-007, C-015, C-019) (mainly archives at Isleford, photos and archives on MDI), Ethnographic overviews and oral histories (C-023, C-024, C-025, C-026, C-027) are needed (recommended by Pearson (1984) and Joseph (1993)); Historic Structure Reports and assessments of condition are needed for most Register Structures (C-002, C-004, C-008, C-009, C-010, C-012, C-013); Historic Structure Guides (C-006) are needed (most Register Structures); Historic Resource Studies are needed of the historic hiking trail (C-017) and the significance of the Islesford collection (C-020)at a minimum, while the Park also needs an administrative history (C-018); Cultural landscape reports are needed for Baker Island, Caroll Homestead, Old Farm estate, and Sieur de Mont Spring (C-002, C-021); Park preservation maintenance in stabilization and cyclic maintenance (C-008) are inadequate; rehabilitation of historic structures and cultural landscapes need to be prioritized and scheduled for completion based on the structure and landscape reports; to minimize or eliminate deterioration of collection objects, a treatment and protection program is needed (C-003, C-007, C-015); Inadequate storage and control for museum objects is described in the CSP and needs immediate attention (C-007, C-016);
Reduction of erosion and weathering impacts to cultural sites (C-002, C-005, C-010, C-014); Animal and insect damage are not addressed (C-003, C-007); Infrequent regional

staff visits provide little program continuity for cultural site monitoring, protection and program development (C-001, C-007); Security and fire prevention systems are all but nonexistent (C-016)(refer to Acadia response to 80-1); Shoreline erosion continue to impact sites (C-014) and deterioration of mortar at the gatehouses and other structures (C-008, C-009, C-010, etc.) (Isleford Museum-stabilization and repair efforts are scheduled for FY94) are resulting in stone and slate loss; Cultural viewsheds are threatened by continued development beyond park boundaries (C-002, etc.); Conflicting management activities and development from use and adaptation of buildings under consideration for thematic nomination to the register (i.e., Storm Beach cottage, Seawall Campground Ranger Station, Thunder Hole Ranger Station, etc.); Professional staff is not only insufficient, it is nonexistent. This remains the single most crippling factor for cultural resources at Acadia and impacts all cultural resource type categories. The CSP is in final draft, the CMP (C-22) is drafted and a CCS is badly needed.

A summary of the above described needs by cultural resource type are as follows:

Sites - C-011, C-014
Structures - C-004, C-005, C-006, C-008, C-009, C-010, C-012, C-013, C-017, C-021, C-023, C-024.
Museum Collections - C-003, C-007, C-015, C-016, C-019, C-020, C-24.
Cultural Landscapes - C-002, C-021.
Ethnography - C-023, C-024, C-025, C-026, C-027

BASIC FUNDING NEEDS

*NOTE: Table 1, personnel, and Table 2, funding for the current fiscal year, are not included because these funds do not exist.

Management - Hire a Cultural Resource Specialist to oversee the cultural resource program components of planning, management, and compliance (45.0 K).

Curation - Hire one professional curator and one temporary museum technician to bring collection to accountability and preservation standards; then maintain those standards (55.0 K).

Security - Fund a seasonal staff of two museum guides, supervised by the Curator, to staff the Islesford Museum during the summer season (15.0 K).

Conservation - Fund an account for conservation for historic objects, photographs, and documents. (15.0 K).

CULTURAL RESOURCE MANAGEMENT ANNUAL OPERATING FUNDS

Current: 0 Required: 130.0

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APPENDIX 1: RMP SOFTWARE OUTPUTS

TABLE 1: NPS RESOURCE PERSONNEL

TABLE 2: NATURAL AND CULTURAL CURRENT YEAR FUNDING

CULTURAL RESOURCE PROJECT STATEMENT LISTS
- By Project Number
- By Priority

CULTURAL RESOURCE PROJECTS PROGRAMMING SHEETS
- Funded (Programming Sheet 1)
- Unfunded (Programming Sheet 2)

NATURAL AND INTERDISCIPLINARY RESOURCE PROJECT STATEMENT LISTS
- By Project Number
- By Priority

NATURAL AND INTERDISCIPLINARY RESOURCE PROGRAMMING SHEETS
- Funded (Programming Sheet 1)
- Unfunded (Programming Sheet 2)

CULTURAL RESOURCE PROJECT STATEMENTS BY PROJECT NUMBER

NATURAL RESOURCE PROJECT STATEMENTS BY PROJECT NUMBER

12/13/93
14:38:09

TABLE 1
NPS RESOURCE PERSONNEL
(current year only)

FY: 93
PARK: ACAD
REGION: NARO

TYPE OF NPS EMPLOYEE	FTEs OF RESOURCES WORK		
	Natural	Cultural	Total
Research Scientists	0.5	0.0	0.5
Resources Specialists	7.0	0.0	7.0
025 Park Rangers Res Mgmt	1.0	0.1	1.1
025 Park Rangers Res Prot	8.5	0.0	8.5
025 Park Rangers Res Interp	5.2	5.2	10.4
Maintenance Personnel	4.2	16.7	20.9
Total of RES Personnel	26.4	22.0	48.4
TOTAL PARK FTE: 89.0 PERCENT	29.7%	24.7%	54.4%

End of data

TABLE 2
NATURAL AND CULTURAL
CURRENT YEAR FUNDING
($ in thousands - by activity type)

FUNDING SOURCE	TOTAL	RES	MIT	MON	PRO	INT	ADM
SDEV	400.00	0.00	0.00	0.00	400.00	0.00	0.00
RCCM	25.00	0.00	25.00	0.00	0.00	0.00	0.00
SNAQ	20.00	0.00	0.00	20.00	0.00	0.00	0.00
SNRP	50.00	50.00	0.00	0.00	0.00	0.00	0.00
RNSR	102.00	63.00	0.00	36.00	0.00	0.00	3.00
SNWR	83.00	48.00	0.00	0.00	35.00	0.00	0.00
PNR1	113.00	0.00	0.00	13.00	100.00	0.00	0.00
SFIR	5.00	5.00	0.00	0.00	0.00	0.00	0.00
SNIM	22.00	0.00	0.00	22.00	0.00	0.00	0.00
ROTH	21.00	0.00	0.00	21.00	0.00	0.00	0.00
SOTH	10.00	0.00	10.00	0.00	0.00	0.00	0.00
NOTH	10.00	0.00	10.00	0.00	0.00	0.00	0.00
TOTAL	861.00	166.00	45.00	112.00	535.00	0.00	3.00

End of data

Sorted by: Project Number

12/17/93 PROJECT LIST Page: 0001
08:04:24

PRIORITY	PROJECT NUMBER	YEAR	PROJECT TITLE	SUB-TITLE	FUNDED	UNFUNDED
1	ACAD-C-001.000	93	IMPLEMENT STAFFING OUTLINED IN COLLECTION MGT PLAN		0.00	242.00
21	ACAD-C-002.000	93	DEV. CULT. LANDSCAPE DOCUMENTATION/TREATMENT PLANS		0.00	100.00
3	ACAD-C-003.000	93	COLLECTION CONDITION SURVEY		0.00	20.00
22	ACAD-C-004.000	93	HABS DOCUMENTATION OF BEAR ISLAND LIGHT		0.00	15.00
9	ACAD-C-005.000	92	ARREST DETERIORATION OF CARRIAGE ROADS		0.00	100.00
5	ACAD-C-006.000	93	HIST. STRUCTURE REPORTS & PRES. GUIDES		0.00	200.00
2	ACAD-C-007.000	93	IMPLEMENT COLLECTION STORAGE PLAN		400.00	40.00
12	ACAD-C-008.000	93	CYCLIC MAINTENANCE OF HISTORIC STRUCTURES		0.00	25.00
4	ACAD-C-009.000	93	EMERGENCY REPAIR OF GATE LODGES & ISLESFORD MUSEUM		25.00	0.00
8	ACAD-C-010.000	93	EMERG. REPAIR BAKER ISL. LIGHT KEEPER'S QUARTERS		0.00	35.00
23	ACAD-C-011.000	93	ARCHEOLOGICAL IDENTIFICATION AND EVALUATION		0.00	40.00
16	ACAD-C-012.000	93	HABS DOCUMENTATION OF PARK ARCHITECTURE		0.00	50.00
20	ACAD-C-013.000	93	HISTORIC AMER. ENGINEERING RECORD-PARK LOOP ROAD		0.00	42.00
15	ACAD-C-014.000	93	STABILIZE BANK EROSION AT ST. CROIX ISLAND		0.00	35.00
14	ACAD-C-015.000	92	PROTECTION OF PHOTOGRAPHIC AND ARCHIVAL MATERIALS		18.60	60.00
11	ACAD-C-016.000	93	FIRE AND SECURITY SYSTEMS FOR COLLECTIONS		0.00	40.00
19	ACAD-C-017.000	93	HISTORIC RESOURCE STUDY OF HIKING TRAILS		0.00	28.00
10	ACAD-C-018.000	93	PREPARE ADMINISTRATIVE HISTORY OF THE PARK		0.00	50.00
18	ACAD-C-019.000	93	ACCOUNTABILITY BACKLOG-UNCATALOGUED ITEMS		0.00	44.00
17	ACAD-C-020.000	93	FINDING AIDS-ISLEFORD BOOKS AND DOCUMENTS		0.00	10.00
7	ACAD-C-021.000	93	PREPARE CULTURAL LAND USE STUDY		0.00	25.00
24	ACAD-C-022.000	93	BASE PROGRAM, CULTURAL RESOURCES EDUCATION		0.00	0.00
25	ACAD-C-023.000	94	ETHNOGRAPHIC OVERVIEW AND ASSESSMENT		0.00	30.00
3	ACAD-C-024.000	94	CULTURAL AFFILIATION STUDY AND CONSULTATION		0.00	5.00
27	ACAD-C-025.000	94	TRADITIONAL USE STUDY		0.00	75.00
26	ACAD-C-026.000	94	CRANBERRY ISLES ETHNOHISTORY STUDY		0.00	20.00
6	ACAD-C-027.000	94	RAPID ETHNOGRAPHIC ASSESSMENT FOR WRMP		0.00	5.00
Grand Total					443.60	1336.00

27 projects printed

Sorted by: Resource Type + Priority

PRIORITY	PROJECT NUMBER	YEAR	PROJECT TITLE	SUB-TITLE	FUNDED	UNFUNDED
1	ACAD-C-001.000	93	IMPLEMENT STAFFING OUTLINED IN COLLECTION MGT PLAN		0.00	242.00
2	ACAD-C-007.000	93	IMPLEMENT COLLECTION STORAGE PLAN		400.00	40.00
3	ACAD-C-003.000	93	COLLECTION CONDITION SURVEY		0.00	20.00
4	ACAD-C-009.000	93	EMERGENCY REPAIR OF GATE LODGES & ISLESFORD MUSEUM		25.00	0.00
5	ACAD-C-006.000	93	HIST. STRUCTURE REPORTS & PRES. GUIDES		0.00	200.00
6	ACAD-C-027.000	94	RAPID ETHNOGRAPHIC ASSESSMENT FOR WRMP		0.00	5.00
7	ACAD-C-021.000	93	PREPARE CULTURAL LAND USE STUDY		0.00	25.00
8	ACAD-C-010.000	93	EMERG. REPAIR BAKER ISL. LIGHT KEEPER'S QUARTERS		0.00	35.00
9	ACAD-C-005.000	92	ARREST DETERIORATION OF CARRIAGE ROADS		0.00	100.00
10	ACAD-C-018.000	93	PREPARE ADMINISTRATIVE HISTORY OF THE PARK		0.00	50.00
11	ACAD-C-016.000	93	FIRE AND SECURITY SYSTEMS FOR COLLECTIONS		0.00	40.00
12	ACAD-C-008.000	93	CYCLIC MAINTENANCE OF HISTORIC STRUCTURES		0.00	25.00
13	ACAD-C-024.000	94	CULTURAL AFFILIATION STUDY AND CONSULTATION		0.00	5.00
14	ACAD-C-015.000	92	PROTECTION OF PHOTOGRAPHIC AND ARCHIVAL MATERIALS		18.60	60.00
15	ACAD-C-014.000	93	STABILIZE BANK EROSION AT ST. CROIX ISLAND		0.00	35.00
16	ACAD-C-012.000	93	HABS DOCUMENTATION OF PARK ARCHITECTURE		0.00	50.00
17	ACAD-C-020.000	93	FINDING AIDS-ISLEFORD BOOKS AND DOCUMENTS		0.00	10.00
18	ACAD-C-019.000	93	ACCOUNTABILITY BACKLOG-UNCATALOGUED ITEMS		0.00	44.00
19	ACAD-C-017.000	93	HISTORIC RESOURCE STUDY OF HIKING TRAILS		0.00	28.00
20	ACAD-C-013.000	93	HISTORIC AMER. ENGINEERING RECORD-PARK LOOP ROAD		0.00	42.00
21	ACAD-C-002.000	93	DEV. CULT. LANDSCAPE DOCUMENTATION/TREATMENT PLANS		0.00	100.00
22	ACAD-C-004.000	93	HABS DOCUMENTATION OF BEAR ISLAND LIGHT		0.00	15.00
23	ACAD-C-011.000	93	ARCHEOLOGICAL IDENTIFICATION AND EVALUATION		0.00	40.00
24	ACAD-C-022.000	93	BASE PROGRAM, CULTURAL RESOURCES EDUCATION		0.00	0.00
25	ACAD-C-023.000	94	ETHNOGRAPHIC OVERVIEW AND ASSESSMENT		0.00	30.00
26	ACAD-C-026.000	94	CRANBERRY ISLES ETHNOHISTORY STUDY		0.00	20.00
27	ACAD-C-025.000	94	TRADITIONAL USE STUDY		0.00	75.00
Grand Total					443.60	1336.00

27 projects printed

PROJECT NUMBER	PROJECT TITLE	PKG NUM	CULT RES TYPE	SYSTEM-WIDE ISSUE	FUNDING SOURCE	ACT TYP	CURRENT YEAR 1993 $$	CURRENT YEAR 1993 FTE	OUTYEAR 1 1994 $$	OUTYEAR 1 1994 FTE	OUTYEAR 2 1995 $$	OUTYEAR 2 1995 FTE	OUTYEAR 3 1996 $$	OUTYEAR 3 1996 FTE	TOTAL $$	TOTAL FTE
007.000	IMPLEMENT COLLECTION STORAGE PLAN		OBJC	C16	CONSTRUCT	PRO	400.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	400.00	0.0
009.000	EMERGENCY REPAIR OF GATE LODGES & ISLESFORD MUSEUM		STRC	C12	RG-CR-MTN	MIT	25.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	25.00	0.0
2 projects printed					Grand Total		425.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	425.00	0.0

End of data

PRI	PROJECT NUMBER	PROJECT TITL	PKG NUM	CULT RES TYPE	SYSTEM-WIDE ISSUE	FUNDING SOURCE	ACT TYP	STARTING YEAR $$	STARTING YEAR FTE	OUTYEAR 1 $$	OUTYEAR 1 FTE	OUTYEAR 2 $$	OUTYEAR 2 FTE	OUTYEAR 3 $$	OUTYEAR 3 FTE	TOTAL $$	TOTAL FTE
1	001.000	IMPLEMENT STAFFING OUTLINED IN COLLECTION MGT PLAN		COMB	C24	PKBASE-CR	ADM	90.00	2.0	15.00	1.0	65.00	1.6	0.0	0.0	170.00	4.6
						TEMP$-CR	ADM	36.00	1.0	36.00	1.0	0.0	0.0	0.0	0.0	72.00	2.0
						Subtotal		126.00	3.0	51.00	2.0	65.00	1.6	0.00	0.0	242.00	6.6
2	007.000	IMPLEMENT COLLECTION STORAGE PLAN		OBJC	C16	RG-REG-MT	PRO	0.0	0.0	40.00	0.0	0.0	0.0	0.0	0.0	40.00	0.0
3	003.000	COLLECTION CONDITION SURVEY		OBJC	C09	CRPP	MON	20.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20.00	0.0
5	006.000	HIST. STRUCTURE REPORTS & PRES. GUIDES		STRC	C05 C06	CRPP	RES	200.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	200.00	0.0
7	021.000	PREPARE CULTURAL LAND USE STUDY		ETHN	C04	CRPP	RES	25.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	25.00	0.0
8	010.000	EMERG. REPAIR BAKER ISL. LIGHT KEEPER'S QUARTERS		STRC	C12 C17	CRPP	MIT	35.00	1.0	0.0	0.0	0.0	0.0	0.0	0.0	35.00	1.0
9	005.000	ARREST DETERIORATION OF CARRIAGE ROADS		COMB	C12 C13	$-DONATE	PRO	0.0	0.0	0.0	0.0	100.00	8.0	0.0	0.0	100.00	8.0
10	018.000	PREPARE ADMINISTRATIVE HISTORY OF THE PARK		COMB	C08	CRPP	RES	50.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	50.00	0.0
11	016.000	FIRE AND SECURITY SYSTEMS FOR COLLECTIONS		OBJC	C20	CRPP	PRO	25.00	0.2	5.00	0.0	5.00	0.0	5.00	0.0	40.00	0.2

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PK PRI	PROJECT NUMBER	PROJECT TITL	PKG NUM	CULT RES TYPE	SYSTEM-WIDE ISSUE	FUNDING SOURCE	ACT TYP	STARTING YEAR $$	STARTING YEAR FTE	OUTYEAR 1 $$	OUTYEAR 1 FTE	OUTYEAR 2 $$	OUTYEAR 2 FTE	OUTYEAR 3 $$	OUTYEAR 3 FTE	TOTAL $$	TOTAL FTE
12	008.000	CYCLIC MAINTENANCE OF HISTORIC STRUCTURES		STRC	C12	PKBASE-CR	MIT	25.00	1.0	0.0	0.0	0.0	0.0	0.0	0.0	25.00	1.0
13	024.000	CULTURAL AFFILIATION STUDY AND CONSULTATION		ETHN	C04	SVC-OTHER	RES	5.00	0.3	0.0	0.0	0.0	0.0	0.0	0.0	5.00	0.3
14	015.000	PROTECTION OF PHOTOGRAPHIC AND ARCHIVAL MATERIALS		OBJC	C17 C24	RG-CR-MTN	MIT	0.0	0.0	10.00	0.5	10.00	0.5	10.00	0.5	30.00	1.5
						CRPP	MIT	0.0	0.0	10.00	0.0	10.00	0.0	10.00	0.0	30.00	0.0
						Subtotal		0.00	0.0	20.00	0.5	20.00	0.5	20.00	0.5	60.00	1.5
15	014.000	STABILIZE BANK EROSION AT ST. CROIX ISLAND		SITE	C12 C18	RG-CR-MTN	MIT	35.00	0.8	0.0	0.0	0.0	0.0	0.0	0.0	35.00	0.8
	12.000	HABS DOCUMENTATION OF PARK ARCHITECTURE		STRC	C23 C26	CRPP	RES	50.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	50.00	0.0
17	020.000	FINDING AIDS-ISLEFORD BOOKS AND DOCUMENTS		OBJC	C10 C26	CRPP	RES	10.00	0.6	0.0	0.0	0.0	0.0	0.0	0.0	10.00	0.6
18	019.000	ACCOUNTABILITY BACKLOG-UNCATALOGUED ITEMS		OBJC	C03	CRPP	ADM	22.00	1.0	22.00	1.0	0.0	0.0	0.0	0.0	44.00	2.0
19	017.000	HISTORIC RESOURCE STUDY OF HIKING TRAILS		CULL	C08	CRPP	RES	28.00	1.0	0.0	0.0	0.0	0.0	0.0	0.0	28.00	1.0
20	013.000	HISTORIC AMER. ENGINEERING		CULL	C23 C26	CRPP	RES	42.00	0.8	0.0	0.0	0.0	0.0	0.0	0.0	42.00	0.8

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PK PRI	PROJECT NUMBER	PROJECT TITL	PKG NUM	CULT RES TYPE	SYSTEM-WIDE ISSUE	FUNDING SOURCE	ACT TYP	STARTING YEAR $$	STARTING YEAR FTE	OUTYEAR 1 $$	OUTYEAR 1 FTE	OUTYEAR 2 $$	OUTYEAR 2 FTE	OUTYEAR 3 $$	OUTYEAR 3 FTE	TOTAL $$	TOTAL FTE
		RECORD-PARK LOOP ROAD															
21	002.000	DEV. CULT. LANDSCAPE DOCUMENTATIO N/TREATMENT PLANS		CULL	C11	RG-CR-MTN	RES	100.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.00	0.0
22	004.000	HABS DOCUMENTATIO N OF BEAR ISLAND LIGHT		STRC	C26	CRPP	RES	15.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.00	0.0
23	011.000	ARCHEOLOGICA L IDENTIFICATI ON AND EVALUATION		SITE	C02	CRPP	RES	40.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	40.00	0.0
	3.000	ETHNOGRAPHIC OVERVIEW AND ASSESSMENT		ETHN	C04	CRPP	RES	30.00	1.0	0.0	0.0	0.0	0.0	0.0	0.0	30.00	1.0
27	025.000	TRADITIONAL USE STUDY		ETHN	C04	CRPP	RES	30.00	1.0	30.00	1.0	15.00	0.5	0.0	0.0	75.00	2.5
	23 projects printed																
						Grand Total		913.00	11.7	168.00	4.5	205.00	10.6	25.00	0.5	1311.00	27.3

End of data

Sorted by: Priority + Resource Type

12/17/93 PROJECT LIST Page: 0001
08:07:19

Y	PROJECT NUMBER	YEAR	PROJECT TITLE	SUB-TITLE	FUNDED	UNFUNDED
1	ACAD-I-001.000	93	BASELINE PROGRAM, MITIGATION OF PEST SPECIES		0.00	40.00
1	ACAD-N-057.001	94	ESTABLISH NATIVE PLANT REVEGETATION PROGRAM	CONTINUE NURSERY	0.00	17.68
2	ACAD-N-070.000	93	MITIGATE VISITOR IMPACTS WITH RESOURCE SIGNING		0.00	142.30
2	ACAD-N-070.001	94	MITIGATE VISITOR IMPACTS WITH RESOURCE SIGNING	DESIGN SIGNS	0.00	5.00
3	ACAD-N-015.000	93	POPN. STATUS/HABITAT AVAIL. OF BEAVERS IN PARK		0.00	100.00
3	ACAD-N-015.001	94	POPN. STATUS/HABITAT AVAIL. OF BEAVERS IN PARK		0.00	6.50
4	ACAD-N-047.000	93	BIODIVERSITY & CONSERV. OF INVERTEBRATES IN NAR		0.00	180.00
5	ACAD-N-014.000	93	POPULATION SURVEYS OF HARLEQUIN DUCKS		0.00	30.00
6	ACAD-N-001.000	93	BASEFUND/UPGRADE ADMIN. OF NAT. RES. MGT. PROGRAM		0.00	596.00
7	ACAD-N-035.000	93	DEV. COMPREHENSIVE I & M STRATEGY AND PROTOCOLS		0.00	35.00
8	ACAD-N-021.000	93	IMPLEMENT AMPHIBIAN INVENTORY & MONITORING PROGRAM		0.00	81.00
9	ACAD-N-013.000	93	INVENTORY/EVALUATE FISHERY RESOURCES IN PARK WATERS		0.00	80.00
10	ACAD-N-071.000	93	DEVELOP COMPREHENSIVE VEGETATION MANAGEMENT PLAN		0.00	85.00
11	ACAD-N-046.000	93	RARE AND ENDANGERED PLANT MANAGEMENT		0.00	120.00
12	ACAD-N-053.001	91	IDENTIFY AND MITIGATE LAND USE ENCROACHMENTS	BOUNDARY SURVEYS, ETC	6.00	200.00
12	ACAD-N-053.000	93	IDENTIFY & MITIGATE LAND USE ENCROACHMENTS		0.00	367.50
13	ACAD-N-063.000	93	DEVELOP GIS PLAN		0.00	10.00
14	ACAD-N-068.000	93	MITIGATE HEALTH THREAT FROM HUMAN WASTE		0.00	270.00
15	ACAD-N-056.000	93	DIGITIZE & INCORP. ACAD LAND RES. DATA INTO GIS		3.00	0.00
16	ACAD-N-024.000	93	FIRE BEHAVIOR & FIRE EFFECTS ON VEGETATION		8.50	10.00
17	ACAD-N-037.000	93	INVENTORY SPP./ABUND./DISTR. OF BRYOPHYTES		0.00	55.00
18	ACAD-N-012.000	88	IMPLEMENT PURPLE LOOSESTRIFE MANAGEMENT PROGRAM		60.00	5.00
19	ACAD-N-034.000	93	ACQUIRE NEW VEG. MAP AND GIS THEMATIC DATA FOR ANP		0.00	15.00
20	ACAD-N-057.000	93	ESTABLISH NATIVE PLANT REVEGETATION PROGRAM		20.00	120.00
21	ACAD-N-041.000	93	IMPLEMENT COMPREHENSIVE I & M PROGRAM		0.00	450.00
22	ACAD-N-066.000	93	BIODIVERSITY/DISTRIBUTION OF BATS ON PARK LAND		0.00	70.00
23	ACAD-N-069.000	93	MITIGATE EROSION AND DETERIORATION OF HIKING TRAILS		0.00	60.00
24	ACAD-N-072.000	93	MONITORING EPISODIC ACIDIFICATION OF PARK STREAMS		0.00	25.00
25	ACAD-N-062.000	93	STUDY LONG TERM FIRE HISTORY		0.00	75.00
26	ACAD-N-017.000	93	NESTING ECOLOGY AND SUCCESS OF ANP AREA BALD EAGLES		156.00	0.00
27	ACAD-N-026.000	93	DEV. VISTA MGT. PROGRAM FOR CULTURAL LANDSCAPES		0.00	215.00
28	ACAD-N-048.000	93	DETERMINE STATUS OF SONGBIRD POPULATIONS		0.00	80.00
29	ACAD-N-052.000	92	DEVELOP VEGETATION MANAGEMENT PLAN-BAKER ISLAND		6.00	0.00
30	ACAD-N-019.000	93	CONSTRUCT GEOG. THEME MAPS FROM EXISTING DATA		1.00	0.00
31	ACAD-N-020.000	93	EST. PROTOCOLS AND ASSESS IMPACTS AT ANEMONE CAVE		0.00	20.00
32	ACAD-N-044.000	93	ECOLOGICAL INVENTORIES OF CONSERVATION EASEMENTS		0.00	120.00
33	ACAD-N-050.000	93	GLOBAL CLIMATE CHANGE		0.00	60.00
34	ACAD-N-038.000	93	COMPLETE FLORA AND FAUNA BASELINE INVENTORIES		0.00	170.00
35	ACAD-N-039.000	93	INVENTORY RESOURCE IMPACTS ON TRAILS		0.00	40.00
36	ACAD-N-040.000	93	STUDY VISITOR USE OF TRAILS		0.00	60.00
37	ACAD-N-010.000	93	DEVELOP WATER RESOURCE MANAGEMENT PLAN		50.00	0.00
38	ACAD-N-003.000	89	EFFECTS OF OZONE ON VEGETATION		440.00	100.00
39	ACAD-N-043.000	91	ESTABLISH BASELINE WATER QUALITY FOR SOMES SOUND		40.00	0.00
40	ACAD-N-055.000	93	ESTAB. RESOURCE PROTECTION PROGRAM IN BACKCOUNTRY		0.00	120.00
41	ACAD-N-051.000	92	HAZARD FUELS MONITORING		46.00	28.00
42	ACAD-N-030.000	93	HUNTING/TRAPPING IMPACTS ON GAME SPECIES POPULATION		0.00	20.00
43	ACAD-N-025.000	93	FIRE INTERACTIONS: WATER/BIOTA/SOILS		0.00	200.00
44	ACAD-N-054.000	93	PURCHASE GLOBAL POSITIONING SYSTEM		0.00	14.00
45	ACAD-N-064.000	93	MONITORING EFFECTS OF HERBIVORES		0.00	40.00

Continued...

F	TY	PROJECT NUMBER	YEAR	PROJECT TITLE	SUB-TITLE	FUNDED	UNFUNDED
	46	ACAD-N-065.000	93	MONITORING ABUND/DISTR OF CARNIVORES ON MDI		0.00	30.00
	47	ACAD-N-007.000	91	COYOTE-DEER INTERACTIONS		151.00	20.00
	48	ACAD-N-022.000	93	INVENTORY AND STATUS OF LARGE MAMMALS IN THE PARK		0.00	35.00
	49	ACAD-N-023.000	93	INVESTIGATE PARK'S FURBEARER POPULATION		0.00	105.00
	50	ACAD-N-049.000	93	IMPACTS OF SNOWMOBILES ON PARK RESOURCES		0.00	40.00
	51	ACAD-N-033.000	93	MONITORING AND MODELLING OF PHOTO-OXIDANTS		0.00	75.00
	52	ACAD-N-027.000	93	DETERMINE POPULATION STATUS OF WOOD DUCKS		0.00	8.00
	888	ACAD-N-060.000	93	BASE PROGRAM, NATURAL RESOURCES PROTECTION		100.00	0.00
	888	ACAD-N-059.000	93	BASE PROGRAM, NATURAL RESOURCES EDUCATION		0.00	448.00
	888	ACAD-N-058.000	93	BASE PROGRAM, INVENTORY AND MONITORING		0.00	0.00
	888	ACAD-N-061.000	93	BASE PROGRAM, NATURAL RESOURCES MITIGATION		0.00	0.00
	999	ACAD-N-002.000	93	ESTABLISH AIR QUALITY BASE FUNDING FOR MONITORING		20.00	0.00
	999	ACAD-N-004.000	88	ABUNDANCE AND DISTRIBUTION OF CARNIVORES ON MDI		60.00	0.00
	999	ACAD-N-005.000	88	DEER/HARE EFFECTS ON VEGETATION		30.00	0.00
	999	ACAD-N-006.000	90	FISHER REINTRODUCTION		75.00	0.00
	999	ACAD-N-008.000	91	ECOLOGY OF SUB-ALPINE VEGETATION IN THE PARK		30.00	0.00
	999	ACAD-N-009.000	89	FIRE MANAGEMENT PLAN		160.00	0.00
	999	ACAD-N-011.000	89	ECOLOGY OF LYME DISEASE IN ANP AREA		12.00	0.00
	999	ACAD-N-016.000	92	DEVELOP PEREGRINE FALCON AND BALD EAGLE MGT. PLANS		6.00	0.00
	999	ACAD-N-018.000	91	POPN. DYNAMICS & VIABILITY OF SPRUCE GROUSE ON MDI		43.00	0.00
	999	ACAD-N-028.000	92	NORTHERN FLYING SQUIRREL ECOLOGY		9.00	0.00
	999	ACAD-N-029.000	92	WETLAND MAPPING		20.00	0.00
	999	ACAD-N-031.000	91	WATER QUALITY & ECOL. EVAL. OF BASS HARBOR MARSH		143.00	0.00
	999	ACAD-N-032.000	91	NONPOINT SOURCE POLLUTANT LOADING MODEL ANP WTRSHED		30.00	0.00
	99	ACAD-N-036.000	92	ECOLOGICAL INVENTORY OF OFFSHORE ISLANDS		150.00	100.00
	9	ACAD-N-042.000	90	DEVELOP PARK-WIDE BIBLIOGRAPHY		30.00	0.00
	999	ACAD-N-067.000	93	ENHANCE GIS PROGRAM		0.00	85.00
Grand Total						1905.50	5483.98

76 projects printed

PROJECT NUMBER	PROJECT TITLE	PKG NUM	CULT RES TYPE	SYSTEM-WIDE ISSUE	FUNDING SOURCE	ACT TYP	CURRENT YEAR 1993 $$	CURRENT YEAR 1993 FTE	OUTYEAR 1 1994 $$	OUTYEAR 1 1994 FTE	OUTYEAR 2 1995 $$	OUTYEAR 2 1995 FTE	OUTYEAR 3 1996 $$	OUTYEAR 3 1996 FTE	TOTAL $$	TOTAL FTE
002.000	ESTABLISH AIR QUALITY BASE FUNDING FOR MONITORING			N14	AIR-QUAL	MON	20.00	0.5	0.0	0.0	0.0	0.0	0.0	0.0	20.00	0.5
007.000	COYOTE-DEER INTERACTIONS			N20	NRPP	RES	50.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	50.00	0.0
008.000	ECOLOGY OF SUB-ALPINE VEGETATION IN THE PARK			N03 N06	RG-NS-RES	RES	10.00	0.8	0.0	0.0	0.0	0.0	0.0	0.0	10.00	0.8
010.000	DEVELOP WATER RESOURCE MANAGEMENT PLAN			N11 N20	WATER-RES	PRO	35.00	0.0	15.00	0.0	0.0	0.0	0.0	0.0	50.00	0.0
017.000	NESTING ECOLOGY AND SUCCESS OF ANP AREA BALD EAGLES			N02 N20	RG-NS-RES	RES	53.00	0.2	45.00	0.2	58.00	0.4	0.0	0.0	156.00	0.8
0[illegible]0	CONSTRUCT GEOG. THEME MAPS FROM EXISTING DATA			N20	PKBASE-NR	MON	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0
024.000	FIRE BEHAVIOR & FIRE EFFECTS ON VEGETATION			N07 N20	FIRE-$	RES	5.00	0.2	3.50	0.2	0.0	0.0	0.0	0.0	8.50	0.4
031.000	WATER QUALITY & ECOL. EVAL. OF BASS HARBOR MARSH			N20	WATER-RES	RES	48.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	48.00	0.0
036.000	ECOLOGICAL INVENTORY OF OFFSHORE ISLANDS			N02 C01	NR-I&M	MON	22.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	22.00	0.0
					RG-NS-RES	MON	36.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.00	0.0
					PKBASE-NR	MON	12.00	0.3	0.0	0.0	0.0	0.0	0.0	0.0	12.00	0.3
					Subtotal		70.00	0.3	0.00	0.0	0.00	0.0	0.00	0.0	70.00	0.3
051.000	HAZARD FUELS MONITORING			N07 N20	REG-OTHER	MON	21.00	0.3	0.0	0.0	0.0	0.0	0.0	0.0	21.00	0.3
056.000	DIGITIZE & INCORP. ACAD LAND RES. DATA			N20	RG-NS-RES	ADM	3.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.00	0.0

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PROJECT NUMBER	PROJECT TITLE	PKG NUM	CULT RES TYPE	SYSTEM-WIDE ISSUE	FUNDING SOURCE	ACT TYP	CURRENT YEAR 1993 $$	CURRENT YEAR 1993 FTE	OUTYEAR 1 1994 $$	OUTYEAR 1 1994 FTE	OUTYEAR 2 1995 $$	OUTYEAR 2 1995 FTE	OUTYEAR 3 1996 $$	OUTYEAR 3 1996 FTE	TOTAL $$	TOTAL FTE
	INTO GIS															
057.000	ESTABLISH NATIVE			N05 N06	SVC-OTHER	MIT	10.00	0.3	0.0	0.0	0.0	0.0	0.0	0.0	10.00	0.3
	PLANT				NON-NPS-O	MIT	10.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.00	0.0
	REVEGETATION															
	PROGRAM				Subtotal		20.00	0.3	0.00	0.0	0.00	0.0	0.00	0.0	20.00	0.3
060.000	BASE PROGRAM,			N02 N22	PKBASE-NR	PRO	100.00	3.0	0.0	0.0	0.0	0.0	0.0	0.0	100.00	3.0
	NATURAL															
	RESOURCES															
	PROTECTION															
13 projects printed																
					Grand Total		436.00	5.6	63.50	0.4	58.00	0.4	0.00	0.0	557.50	6.4

End of data

PROGRAMMING SHEET 1
NATURAL and CULTURAL
CURRENT YEAR FUNDED ACTIVITIES
($ in thousands)

ECT BER	PROJECT TITLE	PKG NUM	CULT RES TYPE	SYSTEM-WIDE ISSUE	FUNDING SOURCE	ACT TYP	CURRENT YEAR 1993 $$	CURRENT YEAR 1993 FTE	OUTYEAR 1 1994 $$	OUTYEAR 1 1994 FTE	OUTYEAR 2 1995 $$	OUTYEAR 2 1995 FTE	OUTYEAR 3 1996 $$	OUTYEAR 3 1996 FTE	TOTAL $$	TOTAL FTE
No relevant data																

End of data

PRI	PROJECT NUMBER	PROJECT TITL	PKG NUM	CULT RES TYPE	SYSTEM-WIDE ISSUE	FUNDING SOURCE	ACT TYP	STARTING YEAR $$	STARTING YEAR FTE	OUTYEAR 1 $$	OUTYEAR 1 FTE	OUTYEAR 2 $$	OUTYEAR 2 FTE	OUTYEAR 3 $$	OUTYEAR 3 FTE	TOTAL $$	TOTAL FTE
1	057.001	ESTABLISH NATIVE PLANT REVEGETATION PROGRAM CONTINUE NURSERY			N24 N05	RG-RM-NAT	MIT	17.68	0.8	0.0	0.0	0.0	0.0	0.0	0.0	17.68	0.8
2	070.000	MITIGATE VISITOR IMPACTS WITH RESOURCE SIGNING			N18 N22	NRPP	MIT	63.80	0.0	8.50	1.0	70.00	1.0	0.0	0.0	142.30	2.0
2	070.001	MITIGATE VISITOR IMPACTS WITH RESOURCE SIGNING DESIGN SIGNS			N18 N22	RG-RM-NAT	MIT	5.00	0.2	0.0	0.0	0.0	0.0	0.0	0.0	5.00	0.2
3	015.000	POPN. STATUS/HABIT AT AVAIL. OF BEAVERS IN PARK			N20	RG-NS-RES	RES	35.00	0.3	35.00	0.3	30.00	0.3	0.0	0.0	100.00	0.9
3	015.001	POPN. STATUS/HABIT AT AVAIL. OF BEAVERS IN PARK			N20	RG-NS-RES	MON	6.50	0.3	0.0	0.0	0.0	0.0	0.0	0.0	6.50	0.3
4	047.000	BIODIVERSITY & CONSERV. OF INVERTEBRATES IN NAR			N17 N20	NRPP	RES	60.00	0.0	60.00	0.0	60.00	0.0	0.0	0.0	180.00	0.0
5	014.000	POPULATION SURVEYS OF HARLEQUIN DUCKS			N20 N02	NRPP	RES	15.00	0.1	15.00	0.1	0.0	0.0	0.0	0.0	30.00	0.2
6	001.000	BASEFUND/UPGRADE ADMIN. OF NAT. RES. MGT. PROGRAM			N24	PKBASE-NR	ADM	156.00	4.0	0.0	0.0	0.0	0.0	0.0	0.0	156.00	4.0
						TEMP$-NR	ADM	440.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	440.00	0.0
						Subtotal		596.00	4.0	0.00	0.0	0.00	0.0	0.00	0.0	596.00	4.0

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PK PRI	PROJECT NUMBER	PROJECT TITL	PKG NUM	CULT RES TYPE	SYSTEM-WIDE ISSUE	FUNDING SOURCE	ACT TYP	STARTING YEAR $$	STARTING YEAR FTE	OUTYEAR 1 $$	OUTYEAR 1 FTE	OUTYEAR 2 $$	OUTYEAR 2 FTE	OUTYEAR 3 $$	OUTYEAR 3 FTE	TOTAL $$	TOTAL FTE
7	035.000	DEV. COMPREHENSIV E I & M STRATEGY AND PROTOCOLS			N20	PKBASE-NR	MON	35.00	2.0	0.0	0.0	0.0	0.0	0.0	0.0	35.00	2.0
8	021.000	IMPLEMENT AMPHIBIAN INVENTORY & MONITORING PROGRAM			N20 N02	NRPP	RES	20.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20.00	0.0
						NRPP	MON	0.0	0.0	30.00	0.0	31.00	0.0	0.0	0.0	61.00	0.0
						Subtotal		20.00	0.0	30.00	0.0	31.00	0.0	0.00	0.0	81.00	0.0
9	013.000	INVENTORY/EV ALUATE FISHERY RESOURCES IN PARK WATERS			N02 N19	NRPP	RES	40.00	0.5	40.00	0.5	0.0	0.0	0.0	0.0	80.00	1.0
10	071.000	DEVELOP COMPREHENSIV E VEGETATION MANAGEMENT PLAN		COMB	N03 N08	NRPP	MIT	50.00	0.0	35.00	0.0	0.0	0.0	0.0	0.0	85.00	0.0
11	046.000	RARE AND ENDANGERED PLANT MANAGEMENT			N17 N20	NRPP	RES	30.00	1.0	30.00	1.0	30.00	1.0	30.00	1.0	120.00	4.0
12	053.001	IDENTIFY AND MITIGATE LAND USE ENCROACHMENT S BOUNDARY SURVEYS, ETC			N16	PKBASE-NR	MON	0.0	0.0	20.00	1.0	0.0	0.0	0.0	0.0	20.00	1.0
						NON-NPS-O	PRO	0.0	0.0	60.00	0.0	60.00	0.0	60.00	0.0	180.00	0.0
						Subtotal		0.00	0.0	80.00	1.0	60.00	0.0	60.00	0.0	200.00	1.0
12	053.000	IDENTIFY & MITIGATE LAND USE ENCROACHMENT S			N16 N20	NRPP	MIT	132.00	1.0	114.50	1.0	121.00	1.0	0.0	0.0	367.50	3.0

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PR PRI	PROJECT NUMBER	PROJECT TITL	PKG NUM	CULT RES TYPE	SYSTEM-WIDE ISSUE	FUNDING SOURCE	ACT TYP	STARTING YEAR $$	STARTING YEAR FTE	OUTYEAR 1 $$	OUTYEAR 1 FTE	OUTYEAR 2 $$	OUTYEAR 2 FTE	OUTYEAR 3 $$	OUTYEAR 3 FTE	TOTAL $$	TOTAL FTE
13	063.000	DEVELOP GIS PLAN			N20	RG-RM-NAT	ADM	10.00	0.3	0.0	0.0	0.0	0.0	0.0	0.0	10.00	0.3
14	068.000	MITIGATE HEALTH THREAT FROM HUMAN WASTE			N22 N18	NRPP	MIT	270.00	2.0	0.0	0.0	0.0	0.0	0.0	0.0	270.00	2.0
16	024.000	FIRE BEHAVIOR & FIRE EFFECTS ON VEGETATION			N07 N20	FIRE-$	RES	0.0	0.0	0.0	0.0	5.00	0.0	5.00	0.0	10.00	0.0
17	037.000	INVENTORY SPP./ABUND./ DISTR. OF BRYOPHYTES			N20 N17	RG-NS-RES	RES	15.00	0.0	20.00	0.0	20.00	0.0	0.0	0.0	55.00	0.0
18	012.000	IMPLEMENT PURPLE LOOSESTRIFE MANAGEMENT PROGRAM			N05 N17	RG-NS-RES	RES	5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.00	0.0
19	034.000	ACQUIRE NEW VEG. MAP AND GIS THEMATIC DATA FOR ANP			N20	RG-NS-RES	PRO	15.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.00	0.0
20	057.000	ESTABLISH NATIVE PLANT REVEGETATION PROGRAM			N05 N06	RG-RM-NAT	MIT	0.0	0.0	35.00	1.0	40.00	1.0	45.00	1.5	120.00	3.5
21	041.000	IMPLEMENT COMPREHENSIV E I & M PROGRAM			N20	NR-I&M	MON	300.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	300.00	0.0
						PKBASE-NR	MON	150.00	4.0	0.0	0.0	0.0	0.0	0.0	0.0	150.00	4.0
						Subtotal		450.00	4.0	0.00	0.0	0.00	0.0	0.00	0.0	450.00	4.0
22	066.000	BIODIVERSITY /DISTRIBUTIO N OF BATS ON PARK LAND			N02 N17	NRPP	RES	35.00	0.0	35.00	0.0	0.0	0.0	0.0	0.0	70.00	0.0

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PK PRI	PROJECT NUMBER	PROJECT TITL	PKG NUM	CULT RES TYPE	SYSTEM-WIDE ISSUE	FUNDING SOURCE	ACT TYP	STARTING YEAR $$	STARTING YEAR FTE	OUTYEAR 1 $$	OUTYEAR 1 FTE	OUTYEAR 2 $$	OUTYEAR 2 FTE	OUTYEAR 3 $$	OUTYEAR 3 FTE	TOTAL $$	TOTAL FTE
23	069.000	MITIGATE EROSION AND DETERIORATIO N OF HIKING TRAILS			N18	NRPP	MIT	60.00	2.5	0.0	0.0	0.0	0.0	0.0	0.0	60.00	2.5
24	072.000	MONITORING EPISODIC ACIDIFICATIO N OF PARK STREAMS			N11 N20	WATER-RES	MON	25.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	25.00	0.0
25	062.000	STUDY LONG TERM FIRE HISTORY			N07 N20	SVC-OTHER	RES	12.50	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.50	0.0
						UNIV-COLL	RES	12.50	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.50	0.0
						RG-NS-RES	RES	0.0	0.0	25.00	0.0	25.00	0.0	0.0	0.0	50.00	0.0
						Subtotal		25.00	0.0	25.00	0.0	25.00	0.0	0.00	0.0	75.00	0.0
27	026.000	DEV. VISTA MGT. PROGRAM FOR CULTURAL LANDSCAPES			N08	RG-RM-NAT	ADM	25.00	1.0	15.00	0.5	0.0	0.0	0.0	0.0	40.00	1.5
						CRPP	MIT	0.0	0.0	50.00	3.0	50.00	3.0	50.00	3.0	150.00	9.0
						PKBASE-OT	MIT	0.0	0.0	0.0	0.0	0.0	0.0	25.00	1.0	25.00	1.0
						Subtotal		25.00	1.0	65.00	3.5	50.00	3.0	75.00	4.0	215.00	11.5
28	048.000	DETERMINE STATUS OF SONGBIRD POPULATIONS			N02 N16	NRPP	MON	20.00	0.0	20.00	0.0	20.00	0.0	0.0	0.0	60.00	0.0
						PKBASE-NR	MON	0.0	0.0	0.0	0.0	0.0	0.0	20.00	0.0	20.00	0.0
						Subtotal		20.00	0.0	20.00	0.0	20.00	0.0	20.00	0.0	80.00	0.0
31	020.000	EST. PROTOCOLS AND ASSESS IMPACTS AT ANEMONE CAVE			N17 N18	RG-NS-RES	RES	20.00	0.3	0.0	0.0	0.0	0.0	0.0	0.0	20.00	0.3
32	044.000	ECOLOGICAL INVENTORIES OF CONSERVATION EASEMENTS			N20	RG-NS-RES	RES	40.00	0.0	40.00	0.0	40.00	0.0	0.0	0.0	120.00	0.0
33	050.000	GLOBAL CLIMATE CHANGE			N20	CLI-CHGE	RES	20.00	0.0	20.00	0.0	20.00	0.0	0.0	0.0	60.00	0.0

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PK PRI	PROJECT NUMBER	PROJECT TITL	PKG NUM	CULT RES TYPE	SYSTEM-WIDE ISSUE	FUNDING SOURCE	ACT TYP	STARTING YEAR $$	STARTING YEAR FTE	OUTYEAR 1 $$	OUTYEAR 1 FTE	OUTYEAR 2 $$	OUTYEAR 2 FTE	OUTYEAR 3 $$	OUTYEAR 3 FTE	TOTAL $$	TOTAL FTE
34	038.000	COMPLETE FLORA AND FAUNA BASELINE INVENTORIES			N20	RG-NS-RES	RES	60.00	0.0	60.00	0.0	50.00	0.0	0.0	0.0	170.00	0.0
35	039.000	INVENTORY RESOURCE IMPACTS ON TRAILS			N22	RG-NS-RES	RES	40.00	0.3	0.0	0.0	0.0	0.0	0.0	0.0	40.00	0.3
36	040.000	STUDY VISITOR USE OF TRAILS			N24	RG-NS-RES	RES	60.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	60.00	0.0
38	003.000	EFFECTS OF OZONE ON VEGETATION			N14 N17	AIR-QUAL	RES	0.0	0.0	0.0	0.0	0.0	0.0	100.00	0.0	100.00	0.0
40	055.000	ESTAB. RESOURCE PROTECTION PROGRAM IN BACKCOUNTRY			N18	PKBASE-NR	PRO	120.00	4.0	0.0	0.0	0.0	0.0	0.0	0.0	120.00	4.0
41	051.000	HAZARD FUELS MONITORING			N07 N20	REG-OTHER	MON	0.0	0.0	0.0	0.0	28.00	0.3	0.0	0.0	28.00	0.3
42	030.000	HUNTING/TRAPPING IMPACTS ON GAME SPECIES POPULATION			N19 N20	NRPP	RES	20.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20.00	0.0
43	025.000	FIRE INTERACTIONS : WATER/BIOTA/ SOILS			N07 N20	NRPP	RES	50.00	0.0	50.00	0.0	50.00	0.0	50.00	0.0	200.00	0.0
44	054.000	PURCHASE GLOBAL POSITIONING SYSTEM			N24	TEMP$-NR	MON	14.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.00	0.0

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Pk PRI	PROJECT NUMBER	PROJECT TITL	PKG NUM	CULT RES TYPE	SYSTEM-WIDE ISSUE	FUNDING SOURCE	ACT TYP	STARTING YEAR $$	STARTING YEAR FTE	OUTYEAR 1 $$	OUTYEAR 1 FTE	OUTYEAR 2 $$	OUTYEAR 2 FTE	OUTYEAR 3 $$	OUTYEAR 3 FTE	TOTAL $$	TOTAL FTE
45	064.000	MONITORING EFFECTS OF HERBIVORES			N24 N20	RG-RM-NAT	MON	20.00	0.0	20.00	0.0	0.0	0.0	0.0	0.0	40.00	0.0
46	065.000	MONITORING ABUND/DISTR OF CARNIVORES ON MDI			N02 N19	NR-I&M	MON	17.00	0.0	13.00	0.0	0.0	0.0	0.0	0.0	30.00	0.0
47	007.000	COYOTE-DEER INTERACTIONS			N20	RG-NS-RES	RES	0.0	0.0	0.0	0.0	0.0	0.0	20.00	0.0	20.00	0.0
48	022.000	INVENTORY AND STATUS OF LARGE MAMMALS IN THE PARK			N20	RG-NS-RES	RES	20.00	0.0	15.00	0.0	0.0	0.0	0.0	0.0	35.00	0.0
49	023.000	INVESTIGATE PARK'S FURBEARER POPULATION			N02 N19	NRPP	RES	35.00	0.0	35.00	0.0	35.00	0.0	0.0	0.0	105.00	0.0
50	049.000	IMPACTS OF SNOWMOBILES ON PARK RESOURCES			N20	RG-NS-RES	RES	20.00	0.0	20.00	0.0	0.0	0.0	0.0	0.0	40.00	0.0
51	033.000	MONITORING AND MODELLING OF PHOTO-OXIDANTS			N14	AIR-QUAL	RES	75.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	75.00	0.0
52	027.000	DETERMINE POPULATION STATUS OF WOOD DUCKS			N20	RG-NS-RES	RES	8.00	0.1	0.0	0.0	0.0	0.0	0.0	0.0	8.00	0.1
888	059.000	BASE PROGRAM, NATURAL RESOURCES EDUCATION			N02 N03	PKBASE-NR	INT	98.00	2.0	110.00	2.8	120.00	3.6	120.00	3.6	448.00	12.0

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Pk PRI	PROJECT NUMBER	PROJECT TITL	PKG NUM	CULT RES TYPE	SYSTEM-WIDE ISSUE	FUNDING SOURCE	ACT TYP	STARTING YEAR $$	STARTING YEAR FTE	OUTYEAR 1 $$	OUTYEAR 1 FTE	OUTYEAR 2 $$	OUTYEAR 2 FTE	OUTYEAR 3 $$	OUTYEAR 3 FTE	TOTAL $$	TOTAL FTE
999	036.000	ECOLOGICAL INVENTORY OF OFFSHORE ISLANDS			N02 C01	NR-I&M	MON	0.0	0.0	0.0	0.0	50.00	0.0	50.00	0.0	100.00	0.0
999	067.000	ENHANCE GIS PROGRAM			N20 N24	GIS	ADM	5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.00	0.0
						PKBASE-NR	ADM	0.0	0.0	60.00	1.0	10.00	0.0	10.00	0.0	80.00	1.0
						Subtotal		5.00	0.0	60.00	1.0	10.00	0.0	10.00	0.0	85.00	1.0
	52 projects printed					Grand Total		2802.98	26.7	1091.00	13.2	965.00	11.2	585.00	10.1	5443.98	61.2

End of data

Pri	PROJECT NUMBER	PROJECT TITL	PKG NUM	CULT RES TYPE	SYSTEM-WIDE ISSUE	FUNDING SOURCE	ACT TYP	STARTING YEAR $$	STARTING YEAR FTE	OUTYEAR 1 $$	OUTYEAR 1 FTE	OUTYEAR 2 $$	OUTYEAR 2 FTE	OUTYEAR 3 $$	OUTYEAR 3 FTE	TOTAL $$	TOTAL FTE
1	001.000	BASELINE PROGRAM, MITIGATION OF PEST SPECIES		COMB	N02 N04	PKBASE-NR	MIT	10.00	0.2	10.00	0.2	10.00	0.2	10.00	0.2	40.00	0.8
	1 projects printed																
						Grand Total		10.00	0.2	10.00	0.2	10.00	0.2	10.00	0.2	40.00	0.8

End of data

Sorted by: Project Number

12/17/93 PROJECT LIST Page: 0001
08:05:45

Y	PROJECT NUMBER	YEAR	PROJECT TITLE	SUB-TITLE	FUNDED	UNFUNDED
1	ACAD-I-001.000	93	BASELINE PROGRAM, MITIGATION OF PEST SPECIES		0.00	40.00
6	ACAD-N-001.000	93	BASEFUND/UPGRADE ADMIN. OF NAT. RES. MGT. PROGRAM		0.00	596.00
999	ACAD-N-002.000	93	ESTABLISH AIR QUALITY BASE FUNDING FOR MONITORING		20.00	0.00
38	ACAD-N-003.000	89	EFFECTS OF OZONE ON VEGETATION		440.00	100.00
999	ACAD-N-004.000	88	ABUNDANCE AND DISTRIBUTION OF CARNIVORES ON MDI		60.00	0.00
999	ACAD-N-005.000	88	DEER/HARE EFFECTS ON VEGETATION		30.00	0.00
999	ACAD-N-006.000	90	FISHER REINTRODUCTION		75.00	0.00
47	ACAD-N-007.000	91	COYOTE-DEER INTERACTIONS		151.00	20.00
999	ACAD-N-008.000	91	ECOLOGY OF SUB-ALPINE VEGETATION IN THE PARK		30.00	0.00
999	ACAD-N-009.000	89	FIRE MANAGEMENT PLAN		160.00	0.00
37	ACAD-N-010.000	93	DEVELOP WATER RESOURCE MANAGEMENT PLAN		50.00	0.00
999	ACAD-N-011.000	89	ECOLOGY OF LYME DISEASE IN ANP AREA		12.00	0.00
18	ACAD-N-012.000	88	IMPLEMENT PURPLE LOOSESTRIFE MANAGEMENT PROGRAM		60.00	5.00
9	ACAD-N-013.000	93	INVENTORY/EVALUATE FISHERY RESOURCES IN PARK WATERS		0.00	80.00
5	ACAD-N-014.000	93	POPULATION SURVEYS OF HARLEQUIN DUCKS		0.00	30.00
3	ACAD-N-015.000	93	POPN. STATUS/HABITAT AVAIL. OF BEAVERS IN PARK		0.00	100.00
3	ACAD-N-015.001	94	POPN. STATUS/HABITAT AVAIL. OF BEAVERS IN PARK		0.00	6.50
999	ACAD-N-016.000	92	DEVELOP PEREGRINE FALCON AND BALD EAGLE MGT. PLANS		6.00	0.00
26	ACAD-N-017.000	93	NESTING ECOLOGY AND SUCCESS OF ANP AREA BALD EAGLES		156.00	0.00
999	ACAD-N-018.000	91	POPN. DYNAMICS & VIABILITY OF SPRUCE GROUSE ON MDI		43.00	0.00
30	ACAD-N-019.000	93	CONSTRUCT GEOG. THEME MAPS FROM EXISTING DATA		1.00	0.00
31	ACAD-N-020.000	93	EST. PROTOCOLS AND ASSESS IMPACTS AT ANEMONE CAVE		0.00	20.00
8	ACAD-N-021.000	93	IMPLEMENT AMPHIBIAN INVENTORY & MONITORING PROGRAM		0.00	81.00
18	ACAD-N-022.000	93	INVENTORY AND STATUS OF LARGE MAMMALS IN THE PARK		0.00	35.00
9	ACAD-N-023.000	93	INVESTIGATE PARK'S FURBEARER POPULATION		0.00	105.00
16	ACAD-N-024.000	93	FIRE BEHAVIOR & FIRE EFFECTS ON VEGETATION		8.50	10.00
43	ACAD-N-025.000	93	FIRE INTERACTIONS: WATER/BIOTA/SOILS		0.00	200.00
27	ACAD-N-026.000	93	DEV. VISTA MGT. PROGRAM FOR CULTURAL LANDSCAPES		0.00	215.00
52	ACAD-N-027.000	93	DETERMINE POPULATION STATUS OF WOOD DUCKS		0.00	8.00
999	ACAD-N-028.000	92	NORTHERN FLYING SQUIRREL ECOLOGY		9.00	0.00
999	ACAD-N-029.000	92	WETLAND MAPPING		20.00	0.00
42	ACAD-N-030.000	93	HUNTING/TRAPPING IMPACTS ON GAME SPECIES POPULATION		0.00	20.00
999	ACAD-N-031.000	91	WATER QUALITY & ECOL. EVAL. OF BASS HARBOR MARSH		143.00	0.00
999	ACAD-N-032.000	91	NONPOINT SOURCE POLLUTANT LOADING MODEL ANP WTRSHED		30.00	0.00
51	ACAD-N-033.000	93	MONITORING AND MODELLING OF PHOTO-OXIDANTS		0.00	75.00
19	ACAD-N-034.000	93	ACQUIRE NEW VEG. MAP AND GIS THEMATIC DATA FOR ANP		0.00	15.00
7	ACAD-N-035.000	93	DEV. COMPREHENSIVE I & M STRATEGY AND PROTOCOLS		0.00	35.00
999	ACAD-N-036.000	92	ECOLOGICAL INVENTORY OF OFFSHORE ISLANDS		150.00	100.00
17	ACAD-N-037.000	93	INVENTORY SPP./ABUND./DISTR. OF BRYOPHYTES		0.00	55.00
34	ACAD-N-038.000	93	COMPLETE FLORA AND FAUNA BASELINE INVENTORIES		0.00	170.00
35	ACAD-N-039.000	93	INVENTORY RESOURCE IMPACTS ON TRAILS		0.00	40.00
36	ACAD-N-040.000	93	STUDY VISITOR USE OF TRAILS		0.00	60.00
21	ACAD-N-041.000	93	IMPLEMENT COMPREHENSIVE I & M PROGRAM		0.00	450.00
999	ACAD-N-042.000	90	DEVELOP PARK-WIDE BIBLIOGRAPHY		30.00	0.00
39	ACAD-N-043.000	91	ESTABLISH BASELINE WATER QUALITY FOR SOMES SOUND		40.00	0.00
32	ACAD-N-044.000	93	ECOLOGICAL INVENTORIES OF CONSERVATION EASEMENTS		0.00	120.00
11	ACAD-N-046.000	93	RARE AND ENDANGERED PLANT MANAGEMENT		0.00	120.00
4	ACAD-N-047.000	93	BIODIVERSITY & CONSERV. OF INVERTEBRATES IN NAR		0.00	180.00
28	ACAD-N-048.000	93	DETERMINE STATUS OF SONGBIRD POPULATIONS		0.00	80.00

...ued...

P	TY	PROJECT NUMBER	YEAR	PROJECT TITLE	SUB-TITLE	FUNDED	UNFUNDED
	50	ACAD-N-049.000	93	IMPACTS OF SNOWMOBILES ON PARK RESOURCES		0.00	40.00
	33	ACAD-N-050.000	93	GLOBAL CLIMATE CHANGE		0.00	60.00
	41	ACAD-N-051.000	92	HAZARD FUELS MONITORING		46.00	28.00
	29	ACAD-N-052.000	92	DEVELOP VEGETATION MANAGEMENT PLAN-BAKER ISLAND		6.00	0.00
	12	ACAD-N-053.000	93	IDENTIFY & MITIGATE LAND USE ENCROACHMENTS		0.00	367.50
	12	ACAD-N-053.001	91	IDENTIFY AND MITIGATE LAND USE ENCROACHMENTS	BOUNDARY SURVEYS, ETC	6.00	200.00
	44	ACAD-N-054.000	93	PURCHASE GLOBAL POSITIONING SYSTEM		0.00	14.00
	40	ACAD-N-055.000	93	ESTAB. RESOURCE PROTECTION PROGRAM IN BACKCOUNTRY		0.00	120.00
	15	ACAD-N-056.000	93	DIGITIZE & INCORP. ACAD LAND RES. DATA INTO GIS		3.00	0.00
	20	ACAD-N-057.000	93	ESTABLISH NATIVE PLANT REVEGETATION PROGRAM		20.00	120.00
	1	ACAD-N-057.001	94	ESTABLISH NATIVE PLANT REVEGETATION PROGRAM	CONTINUE NURSERY	0.00	17.68
	888	ACAD-N-058.000	93	BASE PROGRAM, INVENTORY AND MONITORING		0.00	0.00
	888	ACAD-N-059.000	93	BASE PROGRAM, NATURAL RESOURCES EDUCATION		0.00	448.00
	888	ACAD-N-060.000	93	BASE PROGRAM, NATURAL RESOURCES PROTECTION		100.00	0.00
	888	ACAD-N-061.000	93	BASE PROGRAM, NATURAL RESOURCES MITIGATION		0.00	0.00
	25	ACAD-N-062.000	93	STUDY LONG TERM FIRE HISTORY		0.00	75.00
	13	ACAD-N-063.000	93	DEVELOP GIS PLAN		0.00	10.00
	45	ACAD-N-064.000	93	MONITORING EFFECTS OF HERBIVORES		0.00	40.00
	46	ACAD-N-065.000	93	MONITORING ABUND/DISTR OF CARNIVORES ON MDI		0.00	30.00
	22	ACAD-N-066.000	93	BIODIVERSITY/DISTRIBUTION OF BATS ON PARK LAND		0.00	70.00
	999	ACAD-N-067.000	93	ENHANCE GIS PROGRAM		0.00	85.00
	14	ACAD-N-068.000	93	MITIGATE HEALTH THREAT FROM HUMAN WASTE		0.00	270.00
	23	ACAD-N-069.000	93	MITIGATE EROSION AND DETERIORATION OF HIKING TRAILS		0.00	60.00
	2	ACAD-N-070.000	93	MITIGATE VISITOR IMPACTS WITH RESOURCE SIGNING		0.00	142.30
	2	ACAD-N-070.001	94	MITIGATE VISITOR IMPACTS WITH RESOURCE SIGNING	DESIGN SIGNS	0.00	5.00
	0	ACAD-N-071.000	93	DEVELOP COMPREHENSIVE VEGETATION MANAGEMENT PLAN		0.00	85.00
	24	ACAD-N-072.000	93	MONITORING EPISODIC ACIDIFICATION OF PARK STREAMS		0.00	25.00
Grand Total						1905.50	5483.98

76 projects printed

PROJECT NUMBER: ACAD-C-001.000

TITLE: IMPLEMENT STAFFING OUTLINED IN COLLECTION MGT PLAN

FUNDING STATUS: FUNDED: 0.00 UNFUNDED: 242.00

SERVICEWIDE ISSUES: C24 INSUFF STAFF

CULTURAL RESOURCE TYPE CODE: COMB

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

ACAD has no cultural resources staff. There is no staff to oversee such cultural resources responsibilities as: archaeological sites (monitoring), historic structures (inspection, cyclic maintenance, responding to requests to modify/use/lease), collections (accountability, receive donations, research and loan requests, conservation, monitoring), and cultural landscapes (act on requests to "restore" landscapes by grazing interests and vista clearing). There is no one to take the lead in CR planning and action.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

Management - As detailed in the CMP, fund one professional manager to oversee cultural resource planning, management, and activities for all resource types (sites, structures, collections, landscapes).

Collections - Fund one professional curator and one permanent full time museum technician to work with Park collections. Fund a temporary museum technician to work at the Islesford Historical Museum during the summer when it is open to researchers. Fund an account for conservation of collection objects, photographs and documents. Fund term registrar and term archivist appointmentss to bring collections to a manageable state.

BUDGET AND FTEs:

----------FUNDED----------

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:				
Year 2:				
Year 3:				
Year 4:				

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Proposal Date: 93

		Total:	0.00	0.0

UNFUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	PKBASE-CR	ADM	90.00	2.0
	TEMP$-CR	ADM	36.00	1.0
		Subtotal:	126.00	3.0
Year 2:	PKBASE-CR	ADM	15.00	1.0
	TEMP$-CR	ADM	36.00	1.0
		Subtotal:	51.00	2.0
Year 3:	PKBASE-CR	ADM	65.00	1.6
Year 4:				
		Total:	242.00	6.6

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS: N/A

COMPLIANCE CODE(s): EXCL

EXPLANATION: 516 DM2 APP. 2, 1.1

Proposal Date: 93

PROJECT NUMBER: ACAD-C-002.000

TITLE: DEV. CULT. LANDSCAPE DOCUMENTATION/TREATMENT PLANS

FUNDING STATUS: FUNDED: 0.00 UNFUNDED: 100.00

SERVICEWIDE ISSUES: C11 CULT LAND REPT

CULTURAL RESOURCE TYPE CODE: CULL

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

No landscape documentation nor guidelines for evaluating landscape modification and restoration activities exist for ACAD. Well thought out landscape planning was done during construction of both the National Register carriage road system and the Park Loop Road by such designers as Beatrix Farrand and Frederick Law Olmstead Jr. However, as the forests have grown and actions have been taken to alleviate congestion and promote safety, features of these cultural landscapes have been lost or obscured in piece-meal fashion. In addition, the grounds around the carriage roads associated gatelodges have grown up and there is no documentation to guide restoration.

State roads bisecting the Park have lost their character as a result of widening and straightening of roadways. Granite coping stones have been replaced with steel guard rails, specimen trees have been eliminated, and dense forests immediately adjacent to the road have been cut back as much as 100 feet for snow removal and utility lines. Guidelines would assist Park personnel in commenting effectively on these projects prior to completion.

Proposals from private livestock owners, a concessionaire, and a non-profit group have addressed their interest in participating in restoration of the "historic scene" at such Park properties as the Carroll Homestead, Baker Island, the Stables/Dane Farm area, and the Compass Harbor/Old Farm area. However, without the well-researched information of an overall or individual site specific cultural landscape report(s), Park managers lack guidance on how best to proceed.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

Document the cultural landscapes of ACAD and prescribe remedial actions in a cultural landscape management plan that can be implemented by Park managers. Initial surveys of the resources for a landscape study of Sieur de Monts and of the Park Loop Road have beeen made by regional staff.

Proposal Date: 93

BUDGET AND FTEs:

FUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:				
Year 2:				
Year 3:				
Year 4:				
		Total:	0.00	0.0

UNFUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	RG-CR-MTN	RES	100.00	0.0
Year 2:				
Year 3:				
Year 4:				
		Total:	100.00	0.0

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS: N/A

COMPLIANCE CODE(s): EXCL

EXPLANATION: 516 DM6 APP. 7.4 B(10)

Proposal Date: 93

PROJECT NUMBER: ACAD-C-003.000

TITLE: COLLECTION CONDITION SURVEY

FUNDING STATUS: FUNDED: 0.00 UNFUNDED: 20.00

SERVICEWIDE ISSUES: C09 NEED COLL MGMT

CULTURAL RESOURCE TYPE CODE: OBJC

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

There is a CMP (1993) in final draft to guide the management of the diverse collections at ACAD. These collections include: architectural drawings of the carriage road system; photographic images ca. 1850 to 1938; Islesford Historical Museum's historic objects, archives and rare books; carriages and wagon parts; the Carroll collection; archaeological objects; and some natural history items on loan to museums.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

Undertake a Collection Condition Survey.

BUDGET AND FTEs:

FUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:				
Year 2:				
Year 3:				
Year 4:				
		Total:	0.00	0.0

UNFUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	CRPP	MON	20.00	0.0
Year 2:				
Year 3:				
Year 4:				

Proposal Date: 93

Total:	20.00	0.0

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS: N/A

COMPLIANCE CODE(s): EXCL

EXPLANATION: 516 DM6 APP 7.4 B (10)

Proposal Date: 93

PROJECT NUMBER: ACAD-C-004.000

TITLE: HABS DOCUMENTATION OF BEAR ISLAND LIGHT

FUNDING STATUS: FUNDED: 0.00 UNFUNDED: 15.00

SERVICEWIDE ISSUES: C26 OTHER

CULTURAL RESOURCE TYPE CODE: STRC

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

The Bear Island Lighthouse, Keeper's Quarters and associated buildings are on the National Register. An historic lease has been granted for the structures to a private citizen. Documentation to HABS standards has been recommended by NAR Cultural Resource Specialists in a January 1989 review of the ACAD RMP. Extensive on-site measurements may be needed.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

Make drawings documenting the buildings.

BUDGET AND FTEs:

FUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:				
Year 2:				
Year 3:				
Year 4:				
		Total:	0.00	0.0

UNFUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	CRPP	RES	15.00	0.0
Year 2:				
Year 3:				
Year 4:				

Proposal Date: 93

Total:	15.00	0.0

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS: N/A

COMPLIANCE CODE(s): EXCL

EXPLANATION: 516 DM6 APP 7.4 B(10)

Proposal Date: 92

PROJECT NUMBER: ACAD-C-005.000

TITLE: ARREST DETERIORATION OF CARRIAGE ROADS

FUNDING STATUS: FUNDED: 0.00 UNFUNDED: 100.00

SERVICEWIDE ISSUES: C12 PRESERVE MGMT C13 REHAB/RESTORAT

CULTURAL RESOURCE TYPE CODE: COMB

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

In 1913, John D. Rockefeller, Jr. conceived the idea of constructing carriage roads in order, as one biographer put it, "to make accessible to the public the lovely vista that would become Acadia National Park". The 57-mile road system (50 miles in the Park and 7 on adjacent lands) testify to his artistry, sense of landscapes, and aesthetic sentiment. Carefully constructed by stone masons, seventeen stone bridges ornament the roads. Each bridge announces itself with its special combination of balustrades, turrets, arches, and piers. The first bridge, built in 1917, spans Jordan Stream; the last, built in 1933, stands astride the Stanley Brook entrance to the Park.

During the years before Mr. Rockefeller's death, a crew of fifty to eighty men maintained the roads and bridges. Much of the work consisted of hand labor--raking the gravel surfaces, removing downed trees and dead branches, and clearing and manicuring drainage ditches and culverts. Since the Park has never employed a comparable work force, in 30 years of neglect the system has begun to show signs of deterioration. The road surface, especially on steep grades, erodes after a hard rain or after continuous horse use. Coping stones that line the edges slump over and roll down the embankment. Drainages periodically fill with forest debris, forcing ditch water to rise and scour road surfaces. Mortar in the stone bridges disintegrates, flakes, and crumbles. Mr. Rockefeller had his workmen plant eight inch diameter posts about eight feet high at road intersections. A horizontal arm was mortised to each post and subtended with two chains designed to hold multiple wooden, routed, directional signs. Over the years, rot has attacked them, frost heaves have tilted them, and some of the signs are missing or broken.

The carriage paths, bridges and gatelodges are on the National Register as cultural resources. Based on criteria in the Cultural Resources Management Guideline, NPS-28, the system has been placed in management category "A" and proposed treatment is preservation. Freeman Tilden once said, "Every effort should be made to maintain Acadia's carriage roads... for they are a great

aesthetic, historic, and recreational amenity that is without equal in the National Park Service."

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

Evaluate the carriage road bridges for weight-bearing ability and structural integrity. Prepare HSR's and HPG's for the bridges. Follow the recommendations of the Rieley and Brouse report (1989) concerning the preservation of the roads. Increase the maintenance pace equal to level of treatment required to preserve the resource at standard. Although subject to the provisions of an approved HSR and an HSPG, the following schedule would probably maintain the resource at standard.

1. Replace 1,000 yards of gravel and 300 yards of stone dust annually.
2. Grade or roll the entire road (46 miles) annually.
3. Replace or repair at least 20 signs annually.
4. Repair dry wells and stone-lined drainage ditches at a rate of 15 miles per year.
5. Repoint masonry bridges and carriage road gates as needed.
6. Maintain vistas.

BUDGET AND FTEs:

FUNDED

Source	Act Type	Budget ($1000s)	FTEs
Year 1:			
Year 2:			
Year 3:			
Year 4:			
	Total:	0.00	0.0

UNFUNDED

Source	Act Type	Budget ($1000s)	FTEs
Year 1:			
Year 2:			

Year 3:	$-DONATE	PRO	100.00	8.0
Year 4:				
		Total:	100.00	8.0

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS: N/A

COMPLIANCE CODE(s): 106 EA

EXPLANATION: NEPA

Proposal Date: 93

PROJECT NUMBER: ACAD-C-006.000

TITLE: HIST. STRUCTURE REPORTS & PRES. GUIDES

FUNDING STATUS: FUNDED: 0.00 UNFUNDED: 200.00

SERVICEWIDE ISSUES: C05 NEED HSRS C06 NEED HSPGS

CULTURAL RESOURCE TYPE CODE: STRC

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

An HSR exists for Carroll House and another is in progress for the Baker Island Lightkeeper's Quarters. These two structures are in need of interior and drainage stabilization work. The Carroll House needs mitigation of the water flowing through the bulkhead into the cellar (B. Cliver, pers. comm.). The Lightkeeper's Quarters needs improved window and door coverings, ventilated chimney caps, roof drainage, measures to utilize chimney effect, a secure and operable door, and mitigation of the effects of problematic site drainage (see trip report, Frank Briscoe, Architectural Conservator, Building Conservation Branch, June 21, 1990).

Other structures (Islesford Historical Museum, Blue Duck Ship's Store, Gilley House, Brown Mountain and Jordan Pond Gatelodges are in need of HSR's, stabilization action, and HSPG's. Immediate concerns for these structures include: mortar failure at the gatelodges and Islesford Historical Museum, and interior stabilization at Gilley House and the Blue Duck Store. If damage is not halted, it will eventually threaten the structural integrity of the buildings. In the meantime, broken bricks, missing roof slates, and pried off boards degrade National Register properties. HSR's for many of these structures will require a professional assessment of environmental conditions. After the HSR's are complete and before the HPG's are done, rehabilitation actions should be considered (per 1989 NARO review comments of ACAD's RMP).

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

Prepare HSR's and HSPG's. Take action as soon as possible on interim stabilization recommendations as they are made. Seek funding for these activities. Materials studies should be included in these reports. Measured Drawings to HABS standards should be made.

Proposal Date: 93

BUDGET AND FTEs:

FUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:				
Year 2:				
Year 3:				
Year 4:				
		Total:	0.00	0.0

UNFUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	CRPP	RES	200.00	0.0
Year 2:				
Year 3:				
Year 4:				
		Total:	200.00	0.0

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS: N/A

COMPLIANCE CODE(s): EXCL

EXPLANATION: 106 FOR ANY ACTIONS

Proposal Date: 93

PROJECT NUMBER: ACAD-C-007.000

TITLE: IMPLEMENT COLLECTION STORAGE PLAN

FUNDING STATUS: FUNDED: 400.00 UNFUNDED: 40.00

SERVICEWIDE ISSUES: C16 MUS STORAGE

CULTURAL RESOURCE TYPE CODE: OBJC

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

ACAD houses over 68,000 objects in three separate collection groupings. One grouping, located on MDI, contains the Carroll House collection of furnishings and tools, carriages and a carriage parts collection, archives and photos relating to the Park's early history, and archaeological artifacts. Another grouping, housed on Little Cranberry Island, contains the Islesford Historical Museum collection of books, maritime and farming implements, furnishings, documents, and photographs. A third grouping, stored at colleges and universities nationwide, contains most of the Park's natural science and archaeological collections. With the exception of the Carroll House collection, the Park does not house its museum objects in controlled storage. Consequently, it does not adequately protect the several collections on hand. Even the temperature-and-humidity controlled location of the Carroll Farm collection is not satisfactory, as it requires tight stacking in the basement of the Visitor Center (subject to flooding) with insufficient room to allow a curator to work on the objects. Collection storage at Islesford Historical Museum is inadequate and is overcrowding the curator's workspace (precluding conservation actions in many cases.) Compacting storage and a Bally Building addition to the museum are needed.

More than 2,000 photographic materials including lantern slides, glass plates, and many nitrate negatives, as well as 300 architectural drawings vital to the National Register Carriage Road system, are part of the Park's collections as well.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

Seek funding to implement the CSP. A facility which can accommodate the Park's MDI based collections and allow for proper storage conditions and collection work is one recommendation of the 1990 CSP.

For the Islesford based collection, both a compact storage system for the present Museum library/storage/workspace and an

unobtrusive addition onto the side of museum are recommended by the CSP.

BUDGET AND FTEs:

FUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	CONSTRUCT	PRO	400.00	0.0
Year 2:				
Year 3:				
Year 4:				
		Total:	400.00	0.0

UNFUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:				
Year 2:	RG-REG-MT	PRO	40.00	0.0
Year 3:				
Year 4:				
		Total:	40.00	0.0

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS: N/A

COMPLIANCE CODE(s): 106 EA

EXPLANATION: NEPA

Proposal Date: 93

PROJECT NUMBER: ACAD-C-008.000

TITLE: CYCLIC MAINTENANCE OF HISTORIC STRUCTURES

FUNDING STATUS: FUNDED: 0.00 UNFUNDED: 25.00

SERVICEWIDE ISSUES: C12 PRESERVE MGMT

CULTURAL RESOURCE TYPE CODE: STRC

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

The Park has neither a formal schedule for maintenance nor a preventive maintenance inspection timetable for, nor the staff expertise to inspect historic structures, although it has the responsibility to inspect, stabilize, and maintain these structures in an orderly and timely way.

Inspections and maintenance schedules are currently done in a spasmodic and piecemeal pattern. Needed work may go unobserved. Priorities are not established and, therefore, not followed.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

Develop an inspection and cyclic maintenance schedule to permit the Park and the Regional Office to coordinate work projects. Identify a staff person to carry out this schedule. A formal schedule would list priorities and a timetable while giving direction and guidance from HSPG's to those who inspect and maintain the buildings.

BUDGET AND FTEs:

FUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:				
Year 2:				
Year 3:				
Year 4:				
Total:			0.00	0.0

UNFUNDED

	Source	Act Type	Budget ($1000s)	FTEs

Year 1:	PKBASE-CR MIT	25.00	1.0
Year 2:			
Year 3:			
Year 4:			
	Total:	25.00	1.0

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS: N/A

COMPLIANCE CODE(s): 106

EXPLANATION: DEPENDS ON TYPE OF ACTIVITY

Proposal Date: 93

PROJECT NUMBER: ACAD-C-009.000

TITLE: EMERGENCY REPAIR OF GATE LODGES & ISLESFORD MUSEUM

FUNDING STATUS: FUNDED: 25.00 UNFUNDED: 0.00

SERVICEWIDE ISSUES: C12 PRESERVE MGMT

CULTURAL RESOURCE TYPE CODE: STRC

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

As noted by regional conservation staff (Judith Jacob, 6/26/90 trip report), immediate problems at the gatelodges include: failure of replacement mortar (Portland cement) in the gate walls and gateposts, rotting of wooden members on the second story half-timbering, granite slabs loosening and falling off the roof, steps shifting, cracking and spalling brick, and a wet area on the walls after rainstorms. Immediate problems at Islesford Historical Museum include: roof slates slipping off, moisture problems associated with the wall near the bulkhead, and continuing efflorescence on the interior.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

Ms. Jacob made the following recommendations jointly for the Brown Mt. and Jordan Pond gatelodges: make a full condition assessment. Rake out the existing Portland replacement mortar in the walls and replace it with a mortar matching the original in color, texture, joint profile, and appropriate ASTM type. Reset those stones and brick that have become displaced. Stabilization would arrest deterioration. Significant improvement in the condition of the structures would be realized. More costly delay of work would be avoided. For Islesford Historical Museum, Ms. Jacob noted that most problems are water related. She recommended further examination, as well as: observation during and after heavy rain, sampling of brick and mortar, investigation of the metal fasteners for the slates and the tar streaking, installation of a custom gutter above the bulkhead, possible improvement of the water tightness of the bulkhead, investigation and rebuilding of the failed brick chimney with mortar matching the existing color, texture, joint profile, and appropriate ASTM type. She requested records of interior efflorescence problem and a one-year period's hygrothermograph charts. Unfortunately, this last recommendation is not possible to meet (see ACAD C-01) at present.

Proposal Date: 93

BUDGET AND FTEs:

	Source	Act Type	Budget ($1000s)	FTEs
FUNDED				
Year 1:	RG-CR-MTN	MIT	25.00	0.0
Year 2:				
Year 3:				
Year 4:				
		Total:	25.00	0.0
UNFUNDED				
	Source	Act Type	Budget ($1000s)	FTEs
Year 1:				
Year 2:				
Year 3:				
Year 4:				
		Total:	0.00	0.0

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS: N/A

COMPLIANCE CODE(s): 106

EXPLANATION: NAT. REGISTER PROPERTY

Proposal Date: 93

PROJECT NUMBER: ACAD-C-010.000

TITLE: EMERG. REPAIR BAKER ISL. LIGHT KEEPER'S QUARTERS

FUNDING STATUS: FUNDED: 0.00 UNFUNDED: 35.00

SERVICEWIDE ISSUES: C12 PRESERVE MGMT C17 CTRL ENV IMPAC

CULTURAL RESOURCE TYPE CODE: STRC

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

The original Baker Island Light was built in 1828. In 1855, the lighthouse and keeper's quarters were replaced and they have survived relatively unchanged to date. The Light and Lightkeeper's Quarters have been nominated to the National Register of Historic Places. The draft master plan () proposed that the Island life theme be interpreted on Baker Island using the keeper's quarters as well as the Light and the Gilley House. Preservation of the interior fabric must be initiated to prevent further deterioration and improve the overall condition and appearance of the structure. Vandalism to the foundation and cellar has occurred due to nailed on and missing doors.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

Initiate immediate stabilization actions recommended by NARO architectural conservator Frank Briscoe in June 1990. Vandalism and deterioration of the exterior would be averted by improving the window and door coverings and making one door opening operable and secure. At present, authorized entry is only via prying off a covering and then renailing it into historic fabric upon leaving. Also on the exterior, action should be taken to mitigate the effects of problematic site drainage and to repair and maintain the gutters. For the interior, ventilated chimney caps, and measures to utilize the chimney effect should be put in place.

BUDGET AND FTEs:

	FUNDED		
	Source	Act Type	Budget ($1000s)	FTEs
Year 1:				
Year 2:				
Year 3:				
Year 4:				

Proposal Date: 93

		Total:	0.00	0.0

UNFUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	CRPP	MIT	35.00	1.0
Year 2:				
Year 3:				
Year 4:				
		Total:	35.00	1.0

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS: N/A

COMPLIANCE CODE(s): 106

EXPLANATION: NAT. REGISTER PROPERTY

Proposal Date: 93

PROJECT NUMBER: ACAD-C-011.000

TITLE: ARCHEOLOGICAL IDENTIFICATION AND EVALUATION

FUNDING STATUS: FUNDED: 0.00 UNFUNDED: 40.00

SERVICEWIDE ISSUES: C02 INADEQUATE INV

CULTURAL RESOURCE TYPE CODE: SITE

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

Archeological sites are being destroyed by erosion and threatened by looters, soil moisture fluctuations, potential Park development and operations. Previous investigations have identified the most visible sites in the Park in piecemeal fashion, however, we lack any idea of the overall archaeological record and whether the known sites are unique or representative without information about the entire archaeological record. Management must regard each site as significant if it has some information potential, which may be inappropriate. Accurate interpretation is difficult without more complete understanding of the entire record. Without general information about the Park, significant resources will continue to be destroyed or unknowingly disturbed. The project will move the Park closer to compliance with Executive Order 11593 ans Section 110 of the NHPA (as amended in 1980).

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

Complete an archeological overview and assessment and conduct studies to identify and evaluate the historic and prehistoric archaeological sites in the Park. Analyze and assess these sites regarding their chronological and functional characteristics and eligibility for the National Register. Summarize and report for dissemination and possible resource management action. This will quantify resources that, at present, may only be suspected but may also be significant as an aid to a more complete understanding of the entire archeological record, as well as contribute to ACAD's purpose and theme, and information valuable to the natural resource program (radiocarbon dates for fire history, information on past flora and fauna etc.).

BUDGET AND FTEs:

FUNDED			
Source	Act Type	Budget ($1000s)	FTEs
Year 1:			

Year 2:

Year 3:

Year 4:

Total:	0.00	0.0

UNFUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	CRPP	RES	40.00	0.0
Year 2:				
Year 3:				
Year 4:				
Total:			40.00	0.0

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS: N/A

COMPLIANCE CODE(s): 106

EXPLANATION:

Proposal Date: 93

PROJECT NUMBER: ACAD-C-012.000

TITLE: HABS DOCUMENTATION OF PARK ARCHITECTURE

FUNDING STATUS: FUNDED: 0.00 UNFUNDED: 50.00

SERVICEWIDE ISSUES: C23 CONFLICT ACTVS C26 OTHER

CULTURAL RESOURCE TYPE CODE: STRC

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

During the course of their review of the 1989 Resource Management Plan, NAR cultural resources specialists recommended that this project be included. Since 1988, Brian Pfeiffer (a regional contractor) has been preparing a group nomination of Park buildings to the National Register. This project would complement that study by ensuring documentation of the Park "style" of rustic construction which was in vogue from 1916 through the 1930's, and which sensitive Park managers have sought to emulate and preserve since that time. This project would also provide drawings of older buildings such as the 1878 Greek Revival cottage, Storm Beach - a significant building in the Park's history.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

Effect the HABS documentation of Park architecture.

BUDGET AND FTEs:

FUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:				
Year 2:				
Year 3:				
Year 4:				
		Total:	0.00	0.0

UNFUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	CRPP	RES	50.00	0.0

Proposal Date: 93

Year 2:

Year 3:

Year 4:

Total:	50.00	0.0

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS: N/A

COMPLIANCE CODE(s): EXCL

EXPLANATION: 516 DM6 APP7.4 B (10)

Proposal Date: 93

PROJECT NUMBER: ACAD-C-013.000

TITLE: HISTORIC AMER. ENGINEERING RECORD-PARK LOOP ROAD

FUNDING STATUS: FUNDED: 0.00 UNFUNDED: 42.00

SERVICEWIDE ISSUES: C23 CONFLICT ACTVS C26 OTHER

CULTURAL RESOURCE TYPE CODE: CULL

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

The 23.5 mile Loop Road system of ACAD is an important feature. The system was built in several phases and was carefully laid out to take advantage of natural features and scenery with the advice of top engineers and landscape professionals such as Frederick Law Olmstead, Jr. Construction required that many engineering challenges be met: bog areas required that bridges float on top of wooden pilings driven into the mud, causeway construction over tidal inlets, steep grades up Cadillac Mountain, etc. Park collections include Bureau of Public Roads reports as well as personal memoirs by a supervisory engineer which may be of assistance in documentation efforts.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

Arrange for proper HABS/HAER documentation. Cultural landscapes and historic vistas along the Loop Road should be incorporated into this documentation effort. North Atlantic Regional Office cultural resource staff strongly recommended this project and action in their 1988 review of the ACAD RMP.

BUDGET AND FTEs:

FUNDED

Source	Act Type	Budget ($1000s)	FTEs
Year 1:			
Year 2:			
Year 3:			
Year 4:			
	Total:	0.00	0.0

UNFUNDED

Source	Act Type	Budget ($1000s)	FTEs

Proposal Date: 93

Year 1:	CRPP	RES	42.00	0.8
Year 2:				
Year 3:				
Year 4:				
		Total:	42.00	0.8

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS: N/A

COMPLIANCE CODE(s): EXCL

EXPLANATION: 516 DM6 APP7.4 B(10)

Proposal Date: 93

PROJECT NUMBER: ACAD-C-014.000

TITLE: STABILIZE BANK EROSION AT ST. CROIX ISLAND

FUNDING STATUS: FUNDED: 0.00 UNFUNDED: 35.00

SERVICEWIDE ISSUES: C12 PRESERVE MGMT C18 CTRL VIS IMPAC

CULTURAL RESOURCE TYPE CODE: SITE

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

Located in the tidal estuary of the St. Croix River, St. Croix Island was the site in 1604 of an attempt by Pierre du Guast, the Sieur de Monts, to establish one of the first European settlements on the North American continent. The island measures 900 by 400 feet, and is 52 feet high, consisting of granite overlaid with a deep layer of glacial drift or till. The island's southeast and east shore rises precipitously forming a 40 foot embankment. Sand mining in the 19th century and natural erosion undermined this part of the island. Frequent visitors to the island use this sand bank for recreation, climbing and sliding down it, ignoring the stairs which have been built up the same slope. As this erosional process continues, it reduces the island's mass and threatens the grave sites and archaeological materials associated with the 1604 site. Jute matting was laid over the slope to deter erosion in 1989. Within a week it had been burned off by visitors.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

Take steps to arrest erosion on a 240 foot long embankment by installing about 120 gabions filled with 240 cubic yards of stone. The Corps of Engineers should be consulted to determine feasibility of this alternative. If it is chosen as a course of action, the logistics of moving equipment ant material from the mainland to the island across one-half mile of the swift St. Croix River will be formidable.

BUDGET AND FTEs:

----------FUNDED----------

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:				
Year 2:				
Year 3:				

Proposal Date: 93

Year 4:

Total:	0.00	0.0

UNFUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	RG-CR-MTN	MIT	35.00	0.8
Year 2:				
Year 3:				
Year 4:				
Total:			35.00	0.8

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS: N/A

COMPLIANCE CODE(s): 106 OTHER

EXPLANATION: SHORE PERMITTING, ME & ARMY COE

Proposal Date: 92

PROJECT NUMBER: ACAD-C-015.000

TITLE: PROTECTION OF PHOTOGRAPHIC AND ARCHIVAL MATERIALS

FUNDING STATUS: FUNDED: 18.60 UNFUNDED: 60.00

SERVICEWIDE ISSUES: C17 CTRL ENV IMPAC C24 INSUFF STAFF

CULTURAL RESOURCE TYPE CODE: OBJC

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

The Park's historic photographic materials, dating from 1890 through 1938, consist of tintypes, daguerreotypes, ambrotypes, stereotypes, lantern slides, glass plates, and nitrate film negatives. The number (approximately 3,000) and types of these materials became apparent in 1987 when the bulk of the collection was discovered in the dusty attic of the Visitor Center. Several of the nitrate materials had liquefied and were very unstable in improper storage conditions. Many of the daguerreotypes are being lost due to air infiltration. The materials are now in clean storage, but are in need of assessment for conservation needs, conservation, stabilization, duplication, and cleaning to arrest what is at present minor fungal growth. An organizational overview with the guidance of an archivist and a conservator is badly needed in order to facilitate handling and to prioritize treatment. Proper storage cabinetry is necessary.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

Fund a Park-based staff person to work in consultation with regional staff (archivist and conservator) via phone and site visits, to organize, stabilize, conserve, and duplicate these materials. Cleaning requiring a professional conservator and duplication efforts would probably necessitate packing some of the materials up and shipping them away (requiring in-Park tracking efforts for accountability).

BUDGET AND FTEs:

FUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	RG-CR-MTN	MIT	10.00	0.5
	CRPP	MIT	8.60	0.0
		Subtotal:	18.60	0.5

Year 2:

Year 3:

Year 4:

		Total:	18.60	0.5

UNFUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:				
Year 2:	RG-CR-MTN	MIT	10.00	0.5
	CRPP	MIT	10.00	0.0
		Subtotal:	20.00	0.5
Year 3:	RG-CR-MTN	MIT	10.00	0.5
	CRPP	MIT	10.00	0.0
		Subtotal:	20.00	0.5
Year 4:	RG-CR-MTN	MIT	10.00	0.5
	CRPP	MIT	10.00	0.0
		Subtotal:	20.00	0.5
		Total:	60.00	1.5

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS: N/A

COMPLIANCE CODE(s): EXCL

EXPLANATION: 516 DM2 APP. 2, 1.6

Proposal Date: 93

PROJECT NUMBER: ACAD-C-016.000

TITLE: FIRE AND SECURITY SYSTEMS FOR COLLECTIONS

FUNDING STATUS: FUNDED: 0.00 UNFUNDED: 40.00

SERVICEWIDE ISSUES: C20 INADEQ SECURIT

CULTURAL RESOURCE TYPE CODE: OBJC

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

With the exception of those objects that are stored at universities and the State Museum, the Park's collections have no fire or security alarms. Most collections on MDI are kept in locked four areas but only one of these areas is keyed exclusively for collections. The keys to the Islesford collection areas are not secure, and in fact the locks are often left open by a non-museum maintenance employee. In the Islesford Historical Museum, there are fourteen antique firearms, including one gun cane kept in a storage case that contains six of the firearms (a wooden 1/4" plywood box with a Best padlock). The remaining eight firearms are on display in a locked, glass display case. There are no active alarms on the building or cases for fire or intrusion. Sometime before 1986, the extant sound alarm was disconnected because it would sound during high wind and storms and ring interminably, bothering the local community. The fastest response time for Park staff is one hour. Park staff are not stationed or living on Islesford (an island). The existing sound intrusion alarm at the Visitor Center on MDI was disconnected at the request of the Chief Ranger in 1988 because it sounded in storms and high winds at the homes of patrol rangers with false alarms. Collections at the Visitor Center include the Carroll Collection and the Dorr furniture collection.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

A silent alarm, connected to a telephone system, is recommended for the Islesford Historical Museum. This system could be set up to notify the main Park when intrusion or fire was detected and NPS personnel could then work with the Islesford constable and/or the Coast Guard and/or the Park boat to respond. Fine tuning of the existing visitor center system is required. The services of a professional alarm consultant company plus in-house efforts to make regular fire/safety inspections and to improve key control are needed.

Proposal Date: 93

BUDGET AND FTEs:

-----FUNDED-----

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:				
Year 2:				
Year 3:				
Year 4:				
		Total:	0.00	0.0

-----UNFUNDED-----

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	CRPP	PRO	25.00	0.2
Year 2:	CRPP	PRO	5.00	0.0
Year 3:	CRPP	PRO	5.00	0.0
Year 4:	CRPP	PRO	5.00	0.0
		Total:	40.00	0.2

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS: N/A

COMPLIANCE CODE(s): 106

EXPLANATION: REQUIRED AT ISLEFORD MUSEUM

Proposal Date: 93

PROJECT NUMBER: ACAD-C-017.000

TITLE: HISTORIC RESOURCE STUDY OF HIKING TRAILS

FUNDING STATUS: FUNDED: 0.00 UNFUNDED: 28.00

SERVICEWIDE ISSUES: C08 NEED ADMN HIST

CULTURAL RESOURCE TYPE CODE: CULL

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

Many of the trails comprising the 200 mile hiking trail system were constructed in the nineteenth century. They are excellent examples of hand hewn stone construction and physical reminders of turn-of-the-century conservation efforts. Trail construction began in 1893 following an ambitious plan for footpaths for the eastern half of MDI. The relationship of the trails to the Village Improvement Societies, their age and their construction type make them a resource worthy of detailed study.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

North Atlantic Regional cultural resources staff strongly recommended this project in their 1988 RMP review. A contractor or NPS staffer with the ability to spend extended periods of time on MDI should be located. This project person should research records in 3 Island libraries, two historical society collections, and the Park collection. Older residents of the Island should be encouraged via advertisements to give information.

BUDGET AND FTEs:

FUNDED

Source	Act Type	Budget ($1000s)	FTEs
Year 1:			
Year 2:			
Year 3:			
Year 4:			
Total:		0.00	0.0

UNFUNDED

Source	Act Type	Budget ($1000s)	FTEs

Proposal Date: 93

Year 1:	CRPP	RES	28.00	1.0
Year 2:				
Year 3:				
Year 4:				
		Total:	28.00	1.0

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS: N/A

COMPLIANCE CODE(s): EXCL

EXPLANATION: 516 DM6 APP 7.4 B(10)

Proposal Date: 93

PROJECT NUMBER: ACAD-C-018.000

TITLE: PREPARE ADMINISTRATIVE HISTORY OF THE PARK

FUNDING STATUS: FUNDED: 0.00 UNFUNDED: 50.00

SERVICEWIDE ISSUES: C08 NEED ADMN HIST

CULTURAL RESOURCE TYPE CODE: COMB

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

In the January 19, 1989 review of Resource Management Plan Cultural Resources Component, senior specialists of the North Atlantic Division of Cultural Resources pointed to the need for an Administrative History of ACAD. "Given the lengthy history of Acadia, this study is long overdue". Created in June 1916 by Woodrow Wilson, Sieur de Monts National Monument was the first NPS area east of the Mississippi, predating the Service itself. Through all the years, and two names changes, no administrative history has been written. More delay is unconscionable.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

If no action is taken, more information will be lost concerning past management decisions. Hire a contractor to thoroughly research and write an administrative history. This research should include assessment of information sources and preparing an outline based on these sources prior to researching and writing the study. Oral history interviews with community members and former Park staff would be relevant.

BUDGET AND FTEs:

FUNDED

Source	Act Type	Budget ($1000s)	FTEs
Year 1:			
Year 2:			
Year 3:			
Year 4:			
	Total:	0.00	0.0

UNFUNDED

Source	Act Type	Budget ($1000s)	FTEs

Year 1:	CRPP	RES	50.00	0.0
Year 2:				
Year 3:				
Year 4:				
		Total:	50.00	0.0

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS: N/A

COMPLIANCE CODE(s): EXCL

EXPLANATION: 516 DM6 APP 7.4 B (10)

Proposal Date: 93

PROJECT NUMBER: ACAD-C-019.000

TITLE: ACCOUNTABILITY BACKLOG-UNCATALOGUED ITEMS

FUNDING STATUS: FUNDED: 0.00 UNFUNDED: 44.00

SERVICEWIDE ISSUES: C03 MUS CATALOGING

CULTURAL RESOURCE TYPE CODE: OBJC

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

There are objects in the Park collection that are unaccessioned and uncatalogued. Good progress was made in addressing this accountability backlog in FY88 and FY89. During these two years, a temporary curator, GS-9, was hired with accountability funding from WASO. During both years, ACAD's productivity in terms of objects catalogued and catalogue cards generated exceeded expected estimates. However, in the third year of this three-year accountability effort, no funds were allocated for cataloguing. An annually reported backlog of objects (primarily archival documents) at Islesford Historical Museum remains. In addition, when staffing permits and a trained archivist can give guidance, it is anticipated that unorganized documents/early Park history-related correspondence now housed improperly (per conversations with professional librarian summer resident and volunteer) on open shelves in the library will add to backlog.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

Fund this accountability project and future curatorial needs at ACAD by supplying a permanent increase to the budget that is solely for CR needs.

BUDGET AND FTEs:

FUNDED			
Source	Act Type	Budget ($1000s)	FTEs
Year 1:			
Year 2:			
Year 3:			
Year 4:			
Total:		0.00	0.0

Proposal Date: 93

UNFUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	CRPP	ADM	22.00	1.0
Year 2:	CRPP	ADM	22.00	1.0
Year 3:				
Year 4:				
		Total:	44.00	2.0

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS: N/A

COMPLIANCE CODE(s): EXCL

EXPLANATION: 516 DM2 APP2, 1.6

Proposal Date: 93

PROJECT NUMBER: ACAD-C-020.000

TITLE: FINDING AIDS-ISLEFORD BOOKS AND DOCUMENTS

FUNDING STATUS: FUNDED: 0.00 UNFUNDED: 10.00

SERVICEWIDE ISSUES: C10 SPECIAL STUDY C26 OTHER

CULTURAL RESOURCE TYPE CODE: OBJC

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

There are 3,000 books, many of which are rare, and thousands of town records and documents dating from 1799 to 1944 in the Islesford Historical Museum collection. The topics of these books and documents pertain to the historic ACAD region (Philadelphia to Newfoundland) which was the particular interest of the Museum's founder, as well as local coastal Maine communities. At present, researchers have no access to information listing what books and documents exist at Islesford, other than by word of mouth. In addition, the organization of the documents in particular is so complex that the museum staff are unable to assist researchers in their requests unless the staff has spent many seasons "poking through" the document drawers. The Collection Storage Plan (1990) recommends the development of finding aids at Islesford for the archival and library materials. These finding aids/listings can then be distributed to state, provincial, regional, and local libraries and museums.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

The Park curator, with guidance from NARO's archivist and a museum intern, will create a finding aid system for Islesford Historical Museum's books and documents. The finding aid(s) will be printed and distributed to libraries and museums in Maine, Massachusetts, New Brunswick, and Nova Scotia, as well as to appropriate NPS repositories.

BUDGET AND FTEs:

FUNDED			
Source	Act Type	Budget ($1000s)	FTEs
Year 1:			
Year 2:			
Year 3:			

Proposal Date: 93

Year 4:

Total:	0.00	0.0

UNFUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	CRPP	RES	10.00	0.6
Year 2:				
Year 3:				
Year 4:				
Total:			10.00	0.6

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS: N/A

COMPLIANCE CODE(s): EXCL

EXPLANATION: 516 DM2 APP. 2, 1.6

Proposal Date: 93

PROJECT NUMBER: ACAD-C-021.000

TITLE: PREPARE CULTURAL LAND USE STUDY

FUNDING STATUS: FUNDED: 0.00 UNFUNDED: 25.00

SERVICEWIDE ISSUES: C04 ETHNOGRAPHY

CULTURAL RESOURCE TYPE CODE: ETHN

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

In NAR a large proportion of the archeological resources are an integral part of the built environment. All lands within NAR parks have been utilized and/or modified by Euro-Americans to some degree, even portions that appear to be pristine. A comprehensive knowledge of the geological, ecological, and cultural history of an area is a pre-requisite for an archeological survey. To understand settlement patterns of various ethnic groups and land modification for specific uses, a historical geography study approach will supply needed background data to supplement data in the Archeological Overview and Assessment to develop a more comprehensive parkwide survey research design. Parks benefitting from this approach are: Cape Cod, Acadia, Morristown, Fire Island, and Gateway/Sandy Hook Unit.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

Without proper background research to place the resources in context, many studies would be seriously flawed. A base level of historical/geographical/anthropological documentation should be established from which all other studies develop. All cultural resources inventories require evaluation of significance of the resources. In order to develop a context for the historic period, data about the history of the selected geographic area must be collected, synthesized, and analyzed. Important patterns, events, persons, architectural types and styles, and cultural values should be identified and, in the process of identification, settlement and development trends, aesthetic and artistic values embodied in tangible cultural resources, research values, and cultural interests of local communities should be considered.

BUDGET AND FTEs:

FUNDED			
Source	Act Type	Budget ($1000s)	FTEs
Year 1:			

Year 2:

Year 3:

Year 4:

Total:	0.00	0.0

UNFUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	CRPP	RES	25.00	0.0
Year 2:				
Year 3:				
Year 4:				
Total:			25.00	0.0

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS: N/A

COMPLIANCE CODE(s): EXCL

EXPLANATION: 516 DM6 APP7.4 B(10)

Proposal Date: 93

PROJECT NUMBER: ACAD-C-022.000

TITLE: BASE PROGRAM, CULTURAL RESOURCES EDUCATION

FUNDING STATUS: FUNDED: 0.00 UNFUNDED: 0.00

SERVICEWIDE ISSUES: C12 PRESERVE MGMT C17 CTRL ENV IMPAC

CULTURAL RESOURCE TYPE CODE: COMB

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

Impacts to park cultural resource values, and threats to park resources from influences outside park boundaries, often involve a lack of understanding of park resource values and systems, resource tolerances, and limits to change due to human influences. Integral with cultural resource management for the park is the need for a fully developed program of public and park employee education.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

Park staff assigned with cultural resource management responsibilities work cooperatively with other divisions to ensure that cultural resource protection, preservation and management concerns are incorporated into employee orientation and training programs, park interpretation programs and public education efforts. The objectives of cultural resource education efforts are to communicate NPS policies and cultural resource management programs, to increase awareness of resource values and issues, and to engender an ethic of resource preservation and protection. Assigned staff serve as a direct liaison between management and regional office cultural resource scientists and the professional community and the general public to facilitate and provide logistical support for cultural resource management and studies identified through the Resource Management Plan. Resource management and interpretive staff must clearly communicate park management issues and needs for information to researchers, visitors and cooperating special interest groups.

BUDGET AND FTEs:

----------FUNDED----------

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:				
Year 2:				
Year 3:				

Year 4:

Total:	0.00	0.0

UNFUNDED

Source	Act Type	Budget ($1000s)	FTEs
Year 1:			
Year 2:			
Year 3:			
Year 4:			
Total:		0.00	0.0

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS: N/A

COMPLIANCE CODE(s): NHPA

EXPLANATION:

Proposal Date: 94

PROJECT NUMBER: ACAD-C-023.000

TITLE: ETHNOGRAPHIC OVERVIEW AND ASSESSMENT

FUNDING STATUS: FUNDED: 0.00 UNFUNDED: 30.00

SERVICEWIDE ISSUES: C04 ETHNOGRAPHY

CULTURAL RESOURCE TYPE CODE: ETHN

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

Acadia's General Management Plan calls for an ethnographic overview and assessment, the first step toward establishing an ethnographic resources management plan. The park has a wide range of natural and cultural resources of importance to contemporary Native Americans in Maine and to other long-time local residents. The quality and quantity of documentation pertaining to the traditional uses and management strategies employed by these groups varies substantially. Relevant materials, which are located in numerous public and private collections, have never been systematically reviewed or evaluated. Park management lacks sufficient data to make fully informed decisions.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

Conduct the ethnographic overview and assessment called for in the General Management Plan to provide baseline data on traditionally associated groups and resource use. This study will be completed by a qualified cultural anthropologist who will review existing information and identify additional data needs. Following NPS guidelines, the researcher will review, summarize, and evaluate existing information derived primarily from archival records (including deeds, correspondance, maps, and historic photographs) and published materials (such as books, articles, and pamphlets by professional and avocational authors), supplemented by ethnographic interviewing of knowledgeable community consultants. Ethnographic resources in and adjacant to the park will be considered.

BUDGET AND FTEs:

FUNDED			
Source	Act Type	Budget ($1000s)	FTEs
Year 1:			
Year 2:			
Year 3:			

Proposal Date: 94

Year 4:

Total:	0.00	0.0

UNFUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	CRPP	RES	30.00	1.0
Year 2:				
Year 3:				
Year 4:				
Total:			30.00	1.0

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS:

Future park studies may duplicate existing data.

COMPLIANCE CODE(s): EXCL

EXPLANATION: 516 DM2 APP. 2, 1.6

Proposal Date: 94

PROJECT NUMBER: ACAD-C-024.000

TITLE: CULTURAL AFFILIATION STUDY AND CONSULTATION

FUNDING STATUS: FUNDED: 0.00 UNFUNDED: 5.00

SERVICEWIDE ISSUES: C04 ETHNOGRAPHY

CULTURAL RESOURCE TYPE CODE: ETHN

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

Park collections stored at the University of Maine, Orono include unaffiliated remains of five individuals and possibly other objects subject to repatriation under the Native American Grave Protection and Repatriation Act (NAGPRA). Relationships between these materials and contemporary Native American groups must be established consistent with the legislation and NPS guidleines prior to acting on any request for repatriation. Consultation with interested tribes must begin prior to the deadlines for submitting summaries and inventories.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

A cultural affiliation study, required to meet the data and consultation requirements of NAGPRA, will determine relationships between human remains in park collections and comptemporary Native American groups. Research will be conducted by a qualified cultural anthropologist who will consult with NPS archeologists, curators, ethnographers, park managers and others concerned with repatriation, such as the Abbe Museum and the Maine State Museum, as well as with interested Native American tribes.

BUDGET AND FTEs:

----------FUNDED----------

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:				
Year 2:				
Year 3:				
Year 4:				
Total:			0.00	0.0

Proposal Date: 94

UNFUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	SVC-OTHER	RES	5.00	0.3
Year 2:				
Year 3:				
Year 4:				
		Total:	5.00	0.3

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS:

Park may not be in compliance with NAGPRA. Lack of proper documentation of cultural affiliation may result in successful challenges to park's actions by outside parties in the event of repatriation.

COMPLIANCE CODE(s): OTHER

EXPLANATION: NAGPRA

Proposal Date: 94

PROJECT NUMBER: ACAD-C-025.000

TITLE: TRADITIONAL USE STUDY

FUNDING STATUS: FUNDED: 0.00 UNFUNDED: 75.00

SERVICEWIDE ISSUES: C04 ETHNOGRAPHY

CULTURAL RESOURCE TYPE CODE: ETHN

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

Acadia contains a large number of ethnographic resources, many of which are affected by other natural and cultural resources management requirements and considerations. Park management currently lacks detailed information about the nature, significance, and use of these resources from the perspective of traditionally associated groups. Management decisions with potentially serious detrimental effects on ethnographic resources and traditional user groups have been made and will likely continue due to lack of information and the general reluctance of traditionally associated groups to participate in park planning through the typical public meeting process.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

A phased study of traditional use of cultural and natural resources within the park and adjacent locations will be conducted by anapplied cultural anthropologist. Using ethnographic methods, such participant observations, life histories and other oral history, analysis of census data, in-depth interviews, cognitive mapping, andtransect walks, the study will document significant historical and contemporary patterns of traditional resources use by Native Americans and other long-term year-round and summer residents. It will also identify trends and offer recommendations to park management regarding treatment of ethnographic resources and consultation with traditionally associated groups. Because traditional use frequently does not coincide with park boundaries and activities outside of the park may have effects on park resources, the study will address resources within Acadia and in adjacent land areas and bodies of water.

BUDGET AND FTEs:

FUNDED			
Source	Act Type	Budget ($1000s)	FTEs
Year 1:			

Year 2:

Year 3:

Year 4:

Total:	0.00	0.0

UNFUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	CRPP	RES	30.00	1.0
Year 2:	CRPP	RES	30.00	1.0
Year 3:	CRPP	RES	15.00	0.5
Year 4:				
Total:			75.00	2.5

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS: N/A

COMPLIANCE CODE(s):

EXPLANATION:

Proposal Date: 94

PROJECT NUMBER: ACAD-C-026.000

TITLE: CRANBERRY ISLES ETHNOHISTORY STUDY

FUNDING STATUS: FUNDED: 0.00 UNFUNDED: 20.00

SERVICEWIDE ISSUES: C04 ETHNOGRAPHY C01 INADEQUATE DOC

CULTURAL RESOURCE TYPE CODE: ETHN

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

Trips to the Cranberry Isles are popular among Acadia's summer visitors. The park is also in the process of expanding on-site and travelling student programs about the islands. Currently, interpretation is almost exclusively based on a small number of secondary sources of questionable reliability. Oral presentations and text tend to reinforce stereotypes about Native Americans and Anglo-American islanders, rather than accurately protray their experiences from the past to the present day. Critical elements of the islands' ethnohistory are misrepresented or missing.

Despite the park's long-term stewardship role in the Cranberry Isles, no previous attempts have been made to study their resources in cultural context.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

Using ethnographic and historical methods, this study will analyze the social, cultural, economic, and political conditions that have influenced land use and community life in the Cranberry Isles past and present. Prinicpal goals of this study are to provide the basis for better contextualization of cultural and natural resources on Little Cranberry and Baker Islands. In addition to collecting data from written and oral sources, this study will identify and document contemporary islanders with traditional knowledge and related to the resources who would be interested in working with the park on interpretive programs. It will also identify and evaluate residents' needs for access to park resources, such as artifacts and documents at the Islesford Historical Museum. NPS curators, rangers, and others familiar with the collection will also be consulted.

BUDGET AND FTEs:

----------FUNDED----------

Source	Act Type	Budget ($1000s)	FTEs
Year 1:			

Year 2:

Year 3:

Year 4:

Total:	0.00	0.0

UNFUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	?		20.00	0.5
Year 2:				
Year 3:				
Year 4:				
Total:			20.00	0.5

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS:

Critical information will be permanently lost as the few elderly residents with detailed knowledge of the cultural significance of resources under park stewardship pass away. Relations between the park and the island community will continue be cooler than desired.

COMPLIANCE CODE(s):

EXPLANATION:

Proposal Date: 94

PROJECT NUMBER: ACAD-C-027.000

TITLE: RAPID ETHNOGRAPHIC ASSESSMENT FOR WRMP

FUNDING STATUS: FUNDED: 0.00 UNFUNDED: 5.00

SERVICEWIDE ISSUES: C01 INADEQUATE DOC C04 ETHNOGRAPHY

CULTURAL RESOURCE TYPE CODE: ETHN

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

The park is currently developing a Water Resources Management Plan and lacks data on traditional use by local fishermen, water fowl hunters, and trappers. University of Maine WRMP team does not have the expertise to collect and analyze relevant information from this constituency.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

A Rapid Ethnographic Assessment (REAP) will be carried out by a qualified cultural anthropologist to determine locations and traditional uses of water resources covered by the WRMP. In cooperation with park staff and the UMO team, the researcher will conduct a census of traditional users, employ mapping and transect walks to identify sites, conduct key consultant interviews and one or more focus groups, as needed, to solicit user views on water resources management alternatives, and recommend culturally-informed resource management strategies for inclusion in the WRMP. The project will be carried out in consultation and coordination with the WRMP planning team.

BUDGET AND FTEs:

----------FUNDED----------

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:				
Year 2:				
Year 3:				
Year 4:				
		Total:	0.00	0.0

----------UNFUNDED----------

	Source	Act Type	Budget ($1000s)	FTEs

Proposal Date: 94

Year 1:	?	5.00	0.2
Year 2:			
Year 3:			
Year 4:			
Total:		5.00	0.2

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS:

The location, format, and/or time of public meetings associated with NPS planning efforts typically discourages participation by traditional resource users. Resource management decisions will be adversely affected. Community relations may suffer disproportionate to the actual number of traditional users due to the strong symbolic value attached to these activities by long-time year-round residents.

COMPLIANCE CODE(s):

EXPLANATION:

Proposal Date: 93

PROJECT NUMBER: ACAD-I-001.000

TITLE: BASELINE PROGRAM, MITIGATION OF PEST SPECIES

FUNDING STATUS: FUNDED: 0.00 UNFUNDED: 40.00

SERVICEWIDE ISSUES: N02 T&E ANIMAL N04 NON-NAT ANIMAL

CULTURAL RESOURCE TYPE CODE: COMB

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

Pest species both directly and indirectly threaten park resources. Wood-infesting pests, including insects and fungal organisms, attack historic structures and trees, resulting in substantial loss of resources to parks. Pests are also implicated in the transmission of disease, such as lyme disease, typhus and encephalitis.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

Continue to develop and implement the park's IPM plan. Base funding is sought for this action.

BUDGET AND FTEs:

FUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:				
Year 2:				
Year 3:				
Year 4:				
	Total:		0.00	0.0

UNFUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	PKBASE-NR	MIT	10.00	0.2
Year 2:	PKBASE-NR	MIT	10.00	0.2
Year 3:	PKBASE-NR	MIT	10.00	0.2
Year 4:	PKBASE-NR	MIT	10.00	0.2

Proposal Date: 93

Total:	40.00	0.8

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS:

Continuation of the present program could result in loss or damage to the parks' resources.

COMPLIANCE CODE(s): OTHER

EXPLANATION: NPS 77

Proposal Date: 93

PROJECT NUMBER: ACAD-N-001.000

TITLE: BASEFUND/UPGRADE ADMIN. OF NAT. RES. MGT. PROGRAM

FUNDING STATUS: FUNDED: 0.00 UNFUNDED: 596.00

SERVICEWIDE ISSUES: N24 OTHER

CULTURAL RESOURCE TYPE CODE: N/A

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

Needs to be updated.
Funded = Wildlife Biologist position filled.

Need to add
Botanist
Technicians
Operational $
Space

The Resource Management Division profe
operations have grown significantly in
to 1990, ACAD did not have base fundin
operations. In the next five years it
further, as well as absorbing Cultural
the Lands Program. In 1991-1992, a ta
developed for the entire park defining
needed to fully meet the needs and miss
resource management, the following key
to reach this target level:

1. GIS Specialist-the park has taken significant steps in acquiring basic digital data and has a shoestring GIS capability in place. What is needed is a full time GIS Specialist to oversee the entire GIS function (data management, support to other staff etc.)
2. Wildlife biologist-the park has no one person on staff to handle the multitude of wildlife issues and problems that arise. These duties are shared between a variety of staff, usually as some form of crisis management.
3. Clerk-one function that has not grown concurrently is administrative and clerical support. It is a continuing struggle to maintain the division's library, files, budget, and recently completed bibliography. This process consumes considerable staff time.
4. Compliance Specialist-duties are currently handled part time by one staff person with an already full work load. The compliance workload at the park continues to grow with Federal Highways projects, the Carriage Road rehabilitation, and external development impacting the park. Additional positions will be needed too, and full staffing will allow the division to begin needed inventory and monitoring, implement shelved projects, develop detailed management plans for specific issues, and handle more effectively the periodic crises that occur.

To support the already increased staff and anticipated absorbing of other functions (lands, cultural resources), the division will

require a major increase in its infrastructure. Perhaps the most pressing need is for work space. At present, there is not enough work space for existing permanent staff. Seasonal staff and visiting researchers are crowded in whereever and whenever there is room. Additional vehicles, upgraded and expanded laboratory facilities, a GIS Work Station computer, and storage for equipment, records, artifacts and library collections are among the many support functions needed.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

Additional staff are needed to implement a variety of projects that are not now being addressed. Although this Park has been in operation for approximately 75 years basic data is inadequate for the protection of resources. An increase in staff and operating expenses would allow the initiation of "in-house" projects heretofore not initiated which include basic collection of data.

BUDGET AND FTEs:

FUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:				
Year 2:				
Year 3:				
Year 4:				
		Total:	0.00	0.0

UNFUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	PKBASE-NR	ADM	156.00	4.0
	TEMP$-NR	ADM	440.00	0.0
		Subtotal:	596.00	4.0
Year 2:				
Year 3:				
Year 4:				
		Total:	596.00	4.0

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS: N/A

COMPLIANCE CODE(s): EXCL

EXPLANATION: 516 DM2 APP. 2, 1.1-1.3 ADMIN.

Proposal Date: 93

PROJECT NUMBER: ACAD-N-002.000

TITLE: ESTABLISH AIR QUALITY BASE FUNDING FOR MONITORING

FUNDING STATUS: FUNDED: 20.00 UNFUNDED: 0.00

SERVICEWIDE ISSUES: N14 AIR POLLUTION

CULTURAL RESOURCE TYPE CODE: N/A

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

As a Class I area ACAD is afforded the highest level of protection under the Clean Air Act, as well as an affirmative responsibility to protect air quality related values of threatened Park resources.

The Park, in cooperation with the NPS Air Quality Division and the State of Maine, supports the operation of a comprehensive and integrated air resource monitoring program including gaseous pollutants, fine particulates, visibility, and acid deposition.

The importance of maintaining this program is justified by a history of numerous air pollution exceedence events that have focused considerable national attention on the Park and the initiation of a six year 500K multi-disciplinary biological effects study initiated in FY89.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

The Park recommends that the current monitoring program continue. In order to insure the continuation of this program, an increase in base funding is needed to fully support the salary and benefits for the person assigned to this program.

BUDGET AND FTEs:

FUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	AIR-QUAL	MON	20.00	0.5
Year 2:				
Year 3:				
Year 4:				
		Total:	20.00	0.5

Proposal Date: 93

----------UNFUNDED----------

Source	Act Type	Budget ($1000s)	FTEs
Year 1:			
Year 2:			
Year 3:			
Year 4:			
Total:		0.00	0.0

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS: N/A

COMPLIANCE CODE(s): EXCL

EXPLANATION: 516 DM2 APP. 2, 1.6

Proposal Date: 89

PROJECT NUMBER: ACAD-N-003.000

TITLE: EFFECTS OF OZONE ON VEGETATION

FUNDING STATUS: FUNDED: 440.00 UNFUNDED: 100.00

SERVICEWIDE ISSUES: N14 AIR POLLUTION N17 BIODIVERSITY

CULTURAL RESOURCE TYPE CODE: N/A

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

Ozone monitoring has been conducted at ACAD since the early 1980's. Ozone concentrations have exceeded both the state and federal limits for adversely impacting human health. At the same time research has been carried out to determine the effects of ozone on local vegetation. Although white pines have exhibited symptoms of what is believed to be ozone exposure (Treshow 1984, Tingey 1987, Sanchini 1988), several questions remain regarding the representation of ozone injury, confusion with other causal agents, and sampling regimes. In addition, information is even more sketchy regarding other plant species. These factors have been fully detailed in Eckert (1989). To fully understand the impact of elevated ozone concentrations on the environment it is essential to determine the effects of ozone on vegetation within ACAD.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

This project will involve a multi-faceted research approach. Research objectives are several and include: 1) determine relative ozone sensitivities and symptoms as well as the spectral signatures of different plant species; 2) establish permanent plots to conduct long-term monitoring of ozone effects on vegetation; 3) determine if within-species genetic diversity and ecological structure trends correlate with ozone levels; 4) determine if there is any genetic difference between symptomatic and asymptomatic white-pines and how this compares to the general population; 5) develop base-line data which includes visible and cellular-level ozone injury symptoms, reflectance values correlating with ozone damage, and species diversity measures.

BUDGET AND FTEs:

FUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	AIR-QUAL	RES	40.00	0.0
Year 2:	AIR-QUAL	RES	125.00	0.0

Proposal Date: 89

	RG-NS-RES	RES	25.00	0.0
		Subtotal:	150.00	0.0
Year 3:	AIR-QUAL	RES	100.00	0.0
	RG-NS-RES	RES	25.00	0.0
		Subtotal:	125.00	0.0
Year 4:	AIR-QUAL	RES	100.00	0.0
	RG-NS-RES	RES	25.00	0.0
		Subtotal:	125.00	0.0
		Total:	440.00	0.0

----------UNFUNDED----------

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:				
Year 2:				
Year 3:				
Year 4:	AIR-QUAL	RES	100.00	0.0
		Total:	100.00	0.0

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS: N/A

COMPLIANCE CODE(s): EXCL

EXPLANATION: 516 DM6, 7.4E(2) DAY TO DAY RM&RES.

Proposal Date: 88

PROJECT NUMBER: ACAD-N-004.000

TITLE: ABUNDANCE AND DISTRIBUTION OF CARNIVORES ON MDI

FUNDING STATUS: FUNDED: 60.00 UNFUNDED: 0.00

SERVICEWIDE ISSUES: N01 NAT ANML OVPOP N20 BASELINE DATA

CULTURAL RESOURCE TYPE CODE: N/A

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

There is a paucity of information on carnivores within ACAD and MDI. Species occurrence and status is essentially unknown for the entire area. In addition, coyotes are thought to have recently arrived on MDI (early 1980's) and their impact on other carnivores as well as other faunal groups is unknown. Thus, understanding the basic ecology of the coyote on MDI is essential to any management actions that may be attempted in the future (e.g., species reintroductions, [see project statement N-06]). Given ACAD'S relatively lengthy existence as a National Park and continuing development along its borders which results in habitat loss, basic population data is necessary for the entire carnivore community.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

Research has been funded by the NAR's Office of Scientific Studies to gather basic information on the island's coyote population. Field research examined home ranges, habitat use, and food habits and predator-prey relationships. Overlap between coyotes and other carnivores should also be assessed and population indices compiled for other carnivores (e.g., fisher, bobcat) as well.

BUDGET AND FTEs:

	FUNDED			
	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	RG-NS-RES	RES	30.00	0.0
Year 2:	RG-NS-RES	RES	30.00	0.0
Year 3:				
Year 4:				
Total:			60.00	0.0

Proposal Date: 88

----------UNFUNDED----------

Source	Act Type	Budget ($1000s)	FTEs
Year 1:			
Year 2:			
Year 3:			
Year 4:			
Total:		0.00	0.0

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS:

Status: COMPLETED

COMPLIANCE CODE(s): EXCL

EXPLANATION: 516 DM6 APP. 7.4E(2) DAILY RM&RES.

Proposal Date: 88

PROJECT NUMBER: ACAD-N-005.000

TITLE: DEER/HARE EFFECTS ON VEGETATION

FUNDING STATUS: FUNDED: 30.00 UNFUNDED: 0.00

SERVICEWIDE ISSUES: N01 NAT ANML OVPOP N20 BASELINE DATA

CULTURAL RESOURCE TYPE CODE: N/A

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

A large fire in 1947 altered successional patterns on the eastern half of MDI. According to park files, dramatic effects of browsing on MDI's vegetation occurred in the late 50's and early 60's. The effect of browsing on vegetation is important to assess any impacts on endangered plant species as well as assessing the condition of the Park's herbivore populations. Although deer on MDI have been the subject of several studies (see references previously listed in Animal Resources - Baseline Information Section), Harrison and Gilbert (1982) provided the only recent data on browsing and effects of deer on vegetation. In addition, no information is available for the MDI's hare population. As the Island's vegetation succeeds back to conifers, herbivore populations may not be able to sustain themselves at current levels. While this scenario does not conflict with National Park Service management policies, it is incumbent for the Service to understand the mechanics of a changing population. Considering the absence of deer hunting on MDI and the island's insular character, the dynamics of this situation offers a chance to examine herbivore ecology in an unusual setting.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

This project has several components: inventory plant species within exclosures and adjacent control plots, determine use-availability for various plant species and habitat types within ACAD, and attempt to quantify both browsing intensity, and relative populations of deer and hare. Similar work will also be done comparing unburned to burned areas on MDI.

BUDGET AND FTEs:

	FUNDED			
	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	RG-NS-RES	RES	15.00	0.0
Year 2:	RG-NS-RES	RES	15.00	0.0

Proposal Date: 88

Year 3:

Year 4:

Total:	30.00	0.0

UNFUNDED

Source	Act Type	Budget ($1000s)	FTEs
Year 1:			
Year 2:			
Year 3:			
Year 4:			
Total:		0.00	0.0

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS:

Status: COMPLETED

COMPLIANCE CODE(s): EXCL

EXPLANATION: 516 DM6 APP. 7.4E(2) DLY RM&RESRCH

Proposal Date: 90

PROJECT NUMBER: ACAD-N-006.000

TITLE: FISHER REINTRODUCTION

FUNDING STATUS: FUNDED: 75.00 UNFUNDED: 0.00

SERVICEWIDE ISSUES: N02 T&E ANIMAL N20 BASELINE DATA

CULTURAL RESOURCE TYPE CODE: N/A

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

Habitat fragmentation is making it increasingly difficult to sustain viable wildlife populations. Even in National Parks, areas that are explicitly set aside for maintaining populations and preserving natural systems, populations are suffering as a result of habitat loss due to continuing development. Many species historically present in our Parks no longer exist. This is true of the fisher in ACAD. Historical records report that this species was once found on MDI. However, viable populations no longer exist on MDI or elsewhere in the Park with the possible exception of Schoodic. The question of whether the fisher can once again survive on MDI has been raised as the NPS attempts to manage for biodiversity (i.e., reclaiming native floral and faunal populations).

MDI is being subjected to continuing development. Large natural areas may no longer be available to support viable fisher populations. Although the Park's boundary was finally authorized in 1986 it is fragmented and has little regard for natural resource values.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

The Park recommends that before a reintroduction is attempted estimates of the risk of extinction for free-ranging or reintroduced populations of fishers and other mammals be evaluated. This study will examine populations across a range of reproductive strategies, home range sizes, and area use patterns.

BUDGET AND FTEs:

FUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	NRPP	RES	25.00	0.0
Year 2:	NRPP	RES	25.00	0.0
Year 3:	NRPP	RES	25.00	0.0

Proposal Date: 90

Year 4:

Total:	75.00	0.0

UNFUNDED

Source	Act Type	Budget ($1000s)	FTEs
Year 1:			
Year 2:			
Year 3:			
Year 4:			
Total:		0.00	0.0

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS:

STATUS: COMPLETED

COMPLIANCE CODE(s): EXCL

EXPLANATION: 516 DM6 APP. 7.4E(2) DLY RM&RESRCH

Proposal Date: 91

PROJECT NUMBER: ACAD-N-007.000

TITLE: COYOTE-DEER INTERACTIONS

FUNDING STATUS: FUNDED: 151.00 UNFUNDED: 20.00

SERVICEWIDE ISSUES: N20 BASELINE DATA

CULTURAL RESOURCE TYPE CODE: N/A

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

The natural range expansion of the coyote into Maine has caused considerable controversy among land management agencies and the general public. This issue has generated much interest from both a regional and national perspective. Baseline data has been collected on coyotes on MDI and an initial research project has recently been completed (see N-04).

Coyotes are known to prey on white-tailed deer. In fact, there is considerable evidence that the diets of coyote pups in Maine consist almost entirely of white-tailed deer fawns during May-July (Harrison and Harrison 1984).

Establishment of a coyote population on MDI has already created conflicts with adjacent landowners and conservation groups. The deer population is a highly visible resource and purported coyote predation on deer had already generated much concern. Management must know the effects of coyote predation on deer densities which in turn greatly affect the Park's vegetation.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

Assess the size, distribution, and spatial organization of coyote home ranges in and around ACAD on MDI with specific attention to the interactions with white tailked deer. Determine family group size and document if limited population exchange with the mainland affects social organization and predatory behavior (i.e., delayed dispersal and pack formation). Evaluate adaptations of coyote populations to an island environment. Estimate coyote populations and develop a survey technique for future assessment of coyote populations by Park staff.

Estimate white-tailed deer populations and densities in and around ACAD. Determine deer home ranges, dispersal, and movement patterns in relation to the current coyote population. Assess deer fawn mortality to fully evaluate predator-prey interactions between these two species.

Examine the health of both the coyote and deer populations with respect to their current status. Based on the above information, prepare computer simulation models to evaluate the effects of an insular coyote population on the herbivore-vegetation complex.

BUDGET AND FTEs:

FUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	NRPP	RES	50.00	0.5
Year 2:	NRPP	RES	51.00	0.5
Year 3:	NRPP	RES	50.00	0.0
Year 4:				
		Total:	151.00	1.0

UNFUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:				
Year 2:				
Year 3:				
Year 4:	RG-NS-RES	RES	20.00	0.0
		Total:	20.00	0.0

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS: N/A

COMPLIANCE CODE(s): EXCL

EXPLANATION: 516 DM6 APP 7.4E(2) DLY RM&RESRC

Proposal Date: 91

PROJECT NUMBER: ACAD-N-008.000

TITLE: ECOLOGY OF SUB-ALPINE VEGETATION IN THE PARK

FUNDING STATUS: FUNDED: 30.00 UNFUNDED: 0.00

SERVICEWIDE ISSUES: N03 T&E PLANTS N06 LAND USE PRAC

CULTURAL RESOURCE TYPE CODE: N/A

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

Cadillac and Sargent Mountains are the two highest peaks in ACAD and the vegetation on the summits of both mountains can best be described as subalpine. The most prominent plant species are: balsam fir (Abies balsamea), and black spruce (Abies mariana). Other sensitive species include: Carex buxbaum, mountain holly (Nemopantus mucronata), and mountain cranberry (Vaccinium vitis-idaea). This vegetation is extremely fragile and these communities represent a unique system along the Atlantic coast. As a result, the preservation of these communities is a top management priority.

A road to the summit of Cadillac Mountain provides easy visitor access with peak traffic volumes exceeding 2600 autos/day during the summer. Numerous and repeated hiker transgressions at the summit may be severely threatening fragile vegetation. Access to Sargent Mountain is by foot only. In contrast to Cadillac, visitor use and subsequent vegetation impacts are believed to be considerably less.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

The Park recommends the following research be initiated:

-Determine the impacts on these plant communities.

-Recommend carrying capacities and management strategies in and around these communities to alleviate impacts (if significant impacts are found to be present).

-Delineate (in priority order) the communities and plant species affected.

BUDGET AND FTEs:

	FUNDED			
	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	RG-NS-RES	RES	10.00	0.7

Proposal Date: 91

Year 2:	RG-NS-RES	RES	10.00	0.7
Year 3:	RG-NS-RES	RES	10.00	0.8
Year 4:				
		Total:	30.00	2.2

UNFUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:				
Year 2:				
Year 3:				
Year 4:				
		Total:	0.00	0.0

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS:

Project sdtatus: Field researcg conducted iun 1992 and completed in 1993. Data has not been analyzed or reported. The park awaits completion of the study before management alternatives are considered or protectiuon measures implemented.

COMPLIANCE CODE(s): EXCL

EXPLANATION: 516 DM6 APP. 7.4E(2) DLY RM&RESRCH

Proposal Date: 89

PROJECT NUMBER: ACAD-N-009.000

TITLE: FIRE MANAGEMENT PLAN

FUNDING STATUS: FUNDED: 160.00 UNFUNDED: 0.00

SERVICEWIDE ISSUES: N07 NAT FIRE REGM N20 BASELINE DATA

CULTURAL RESOURCE TYPE CODE: N/A

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

Fire behavior and prescriptions are unavailable for many of the plant communities found within ACAD. Data on fuel loadings is just beginning to be collected. Current information is available on short-term fire history with additional work now underway on extending the historical documentation.

Previous attempts at preparing a FMP have failed, due to a lack of data, limited funding for natural resource management, and the uncertainty with which the fire program was managed. Nevertheless, funding (150 K) for this project was received in 1989 via the NRPP Program. The Regional Office of Scientific Studies also funded the development of a "Fire and Natural Resource Simulation System" software program to allow Park managers to view various scenarios regarding fire in this environment. This system, however, was developed for a Macintosh computer and there is only one currently available in the Park. As a result, the utility of this program in managing the Park's natural resources is severely limited.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

Gather information related to fire history, investigate alternatives to manage fire according to NPS policies, and develop a Fire Management Plan. Development of a Fire Management Plan will require close coordination with local fire departments, towns, State, Federal, and other agencies, as well a various offices within the National Park Service. Publish and make available the final Fire Management Plan.

BUDGET AND FTEs:

FUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	NRPP	RES	100.00	0.0
Year 2:	NRPP	RES	50.00	0.0

Proposal Date: 89

Year 3:	FIRE-$	PRO	5.00	0.1
Year 4:	FIRE-$	PRO	5.00	0.1
		Total:	160.00	0.2

UNFUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:				
Year 2:				
Year 3:				
Year 4:				
		Total:	0.00	0.0

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS:

STATUS: COMPLETED

COMPLIANCE CODE(s): EA

EXPLANATION: NEPA

Proposal Date: 93

PROJECT NUMBER: ACAD-N-010.000

TITLE: DEVELOP WATER RESOURCE MANAGEMENT PLAN

FUNDING STATUS: FUNDED: 50.00 UNFUNDED: 0.00

SERVICEWIDE ISSUES: N11 WATER QUAL-EXT N20 BASELINE DATA

CULTURAL RESOURCE TYPE CODE: N/A

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

ACAD encompasses more than 40,000 acres, including nearly one-third of MDI, Schoodic peninsula, and about half of Isle Au Haut. Numerous lakes , ponds and freshwater streams, and freshwater and estuarine wetlands are located within ACAD. These water resources occur in numerous watersheds few of which lie entirely within the boundaries of the park. Soils in ACAD are thin and predominately of glacial origin. Surface waters are for the most part poorly bufferred with low alkalinity levels, and influenced by marine aerosols. Water resource concerns include 1) the potential impact of archaic "overboard" discharge systems (sewage effluent) on marsh, estuary and lakes; 2) possible water resource impacts associated with adjacent development and increased visitor use; 3) wildlife management concerns e.g., fisheries, beaver, otter, waterfowl; 4) vegetation issues e.g., rare species, exotic pests (purple loosestrife), bio-diversity; 5) policy issues involved in the management of "Great Ponds" which are considered to be under state jurisdiction and management and include such uses as hunting, trapping, fish stocking, and a variety of recreational uses. Several recent actions complicate management of MDI water resources including a MDI League of Towns pilot lake sampling project, Hancock County Planning Commission proposed study of Long Pond, and a state/private land owner proposal to dredge little Long Pond (Seal Harbor).

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

The park has contracted with the University of Maine to develop a comprehensive Water Resources Management Plan to guide future management, research and monitoring activities. Several preliminary reports and research studies are ongoing or have been completed. These include a WRD Water Resources Management Plan Scoping report (1991), a Water Resource Baseline Data and Assessment of Impacts from Acidic Precipitation (1985), and Application of a Watershed-Wide Nonpoint Source Pollutant Loading Model at ANP (1991). Ongoing studies include an ecological assessment of Bass Harbor Marsh, and an updated and ground

verified National Wetlands Inventory for ANP. The park has identified this project as its highest water resource need.

BUDGET AND FTEs:

FUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	WATER-RES	PRO	35.00	0.0
Year 2:	WATER-RES	PRO	15.00	0.0
Year 3:				
Year 4:				
		Total:	50.00	0.0

UNFUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:				
Year 2:				
Year 3:				
Year 4:				
		Total:	0.00	0.0

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS: N/A

COMPLIANCE CODE(s): EA

EXPLANATION: NEPA

Proposal Date: 89

PROJECT NUMBER: ACAD-N-011.000

TITLE: ECOLOGY OF LYME DISEASE IN ANP AREA

FUNDING STATUS: FUNDED: 12.00 UNFUNDED: 0.00

SERVICEWIDE ISSUES: N20 BASELINE DATA N24 OTHER

CULTURAL RESOURCE TYPE CODE: N/A

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

Northern deer ticks infected with B. burgdorferi, the cause of Lyme disease, were first documented on MDI in 1987 (Ginsberg and Ewing 1988). Since then, several Park employees are believed to have acquired Lyme disease locally. To date, no systematic study has been done to assess the degree of risk of acquiring Lyme disease in ACAD. Given the high level of human use of the Park, more information is needed on the local distribution and infection rate of local ticks. Information gained in this study will be used by Park and State officials to advance public education regarding Lyme disease. Additionally, the study will provide important baseline information on vector prevalence, small mammal distribution, and associations within habitat type. Park biologists are cooperating with researchers from Maine Medical Center as part of a state-wide, and possibly international, study on the ecology of Lyme disease.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

Continue collection of ticks on small mammals on 25 established transects and grid. Expand work to include tick collection from white-tailed deer on MDI and Isle au Haut in cooperation with the Maine Lyme Disease Project and coyote-deer research. Collect vegetation data along transects and grid to evaluate the association of ticks collected to vegetation types.

BUDGET AND FTEs:

FUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	RG-NS-RES	RES	10.00	0.0
	PKBASE-NR	RES	2.00	0.5
		Subtotal:	12.00	0.5

Year 2:

Year 3:

Year 4:

Total:	12.00	0.5

UNFUNDED

Source	Act Type	Budget ($1000s)	FTEs
Year 1:			
Year 2:			
Year 3:			
Year 4:			
Total:		0.00	0.0

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS:

STATUS: COMPLETED

COMPLIANCE CODE(s): EXCL

EXPLANATION: 516 DM6 APP.7.4E(2) DLY RM&RESRCH

Proposal Date: 88

PROJECT NUMBER: ACAD-N-012.000

TITLE: IMPLEMENT PURPLE LOOSESTRIFE MANAGEMENT PROGRAM

FUNDING STATUS: FUNDED: 60.00 UNFUNDED: 5.00

SERVICEWIDE ISSUES: N05 NON-NAT PLANTS N17 BIODIVERSITY

CULTURAL RESOURCE TYPE CODE: N/A

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

Purple loosestrife (Lythrum salicaria) is an aggressive invader of wetland systems, displacing native species of great value to wildlife. After five years of preliminary work, ACAD developed a comprehensive purple loosestrife management plan as part of the Integrated Pest Management Plan. The program currently includes prevention of infestions, monitoring of wetlands for the presence of loosestrife, detailed quantitative monitoring where management actions are occurring, chemical applications, education, and outreach efforts to local nurseries and adjacent property owners to eliminate commercial sales and invasion from adjacent properties. The quantitative monitoring program needs to be evaluated, as does the current schedule for herbicide treatment, and additional work needs to be taken regarding outreach to local nursery owners and adjacent land owners. It is imperative that this program be continued over the long term in order to protect native wetland communities.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

Continue to base fund the purple loosestrife management program. In addition, evaluate the effectiveness of current management actions. Implement changes to management strategies based on review results. Expand education/outreach programs and coordination with other agencies, including the state Plant Advisory Board to fully implement the recommendations in the Purple Loosestrife Management Plan. Continue to obtain State pesticide applicator's certification for personnel involved in purple loosestrife management.

BUDGET AND FTEs:

FUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	PKBASE-NR	MIT	15.00	0.7
Year 2:	PKBASE-NR	MIT	15.00	0.7

Proposal Date: 88

Year 3:	PKBASE-NR	MIT	15.00	0.7
Year 4:	PKBASE-NR	MIT	15.00	0.7
		Total:	60.00	2.8

----------UNFUNDED----------

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	RG-NS-RES	RES	5.00	0.0
Year 2:				
Year 3:				
Year 4:				
		Total:	5.00	0.0

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS: N/A

COMPLIANCE CODE(s): OTHER

EXPLANATION: FEPCA, FIFRA, NEPA, STATE REGS.

Proposal Date: 93

PROJECT NUMBER: ACAD-N-013.000

TITLE: INVENTORY/EVALUATE FISHERY RESOURCES IN PARK WATERS

FUNDING STATUS: FUNDED: 0.00 UNFUNDED: 80.00

SERVICEWIDE ISSUES: N02 T&E ANIMAL N19 CONSUMPT USE

CULTURAL RESOURCE TYPE CODE: N/A

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

Although ACAD contains a myriad of freshwater habitats (including streams, lakes, ponds, and bogs), no inventory of native and non-native fish has ever been completed. Baseline species inventories are critical to management of aquatic resources. Incompatible development on adjacent private land, air quality related impacts (acid rain), and fish stocking by the State may threaten these resources. Lack of information prevents managers from assessing degradation. In addition, the Park currently has no input regarding the management of 17 lakes over 10 acres in size (Great Ponds) within the Park. These areas are managed by the State. Ecological and species studies are needed to restore, maintain, and protect park aquatic communities.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

Following recommendations from the Water Management Plan (Kahl and Hauptman, in press), a freshwater fisheries inventory will be implemented. The project will: analyze tissue samples for bio-contaminants (heavy metals, etc.), compile and analyze historical records of fish stocking in Park waters, analyze historical impacts and develop mitigation strategies, develop strategies for monitoring and recommend management actions.

BUDGET AND FTEs:

FUNDED			
	Source	Act Type	Budget ($1000s)	FTEs
Year 1:				
Year 2:				
Year 3:				
Year 4:				
Total:			0.00	0.0

Proposal Date: 93

----------UNFUNDED----------

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	NRPP	RES	40.00	0.5
Year 2:	NRPP	RES	40.00	0.5
Year 3:				
Year 4:				
		Total:	80.00	1.0

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS: N/A

COMPLIANCE CODE(s): EXCL

EXPLANATION: 516 DM6 APP. 7.4E(2) DLY RM&RERSRCH

Proposal Date: 93

PROJECT NUMBER: ACAD-N-014.000

TITLE: POPULATION SURVEYS OF HARLEQUIN DUCKS

FUNDING STATUS: FUNDED: 0.00 UNFUNDED: 30.00

SERVICEWIDE ISSUES: N20 BASELINE DATA N02 T&E ANIMAL

CULTURAL RESOURCE TYPE CODE: N/A

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

It is believed that harlequin ducks experienced significant population declines at the turn of the century. Most recent reports indicate that at least one quarter of the entire wintering population of harlequin ducks in the western Atlantic is centered along the southern coast of Isle au Haut, ME. In addition, this duck has been given "threatened" status in Canada and is a "species of special concern" in Maine. Because this concentration of birds borders NPS property, it is prudent that the NPS and Acadia NP work cooperatively with other agencies conducting baseline data investigations important in the management of this species.

A three year study conducted both shoreline and boat surveys on and adjacent to Isle au Haut. These surveys have been useful in assessing population numbers, season of use, distribution, sex ratios, and a preliminary critique of field observation techniques around the Isle au Haut area. However, a thorough investigation is needed to address viable long term censusing techniques, migration staging areas, breeding ecology and management techniques, population interaction (genetic exchange), and an assessment of threats on the species and habitat.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

The Canadian Wildlife Service and the US Fish and Wildlife Service are working cooperatively in evaluating the status of this species. Maine Dept. of Inland Fisheries and Wildlife supports this review and has proposed elevating the status of this species in Maine.

A thorough investigation is dependent on funding from the above agencies. The NPS and Acadia NP would assist in the winter censusing aspect of the program. Program products would be a censusing technique(s) that is accurate and feasible while cost effective, suitability to long term monitoring considerations (cost, repeatability, impact to survey areas, concerns about observer ease and errors, etc.) by the designated agency or

agencies, park area management recommendations, and a working database.

Winter survey methods need to be evaluated on design suitability, field accuracy, observer error, cost efficiency, and long term repeatability. The use of helicopters as a survey tool (with a sound statistical design) has been suggested as a possible method of estimating the size of the harlequin duck population along Isle au Haut's shoreline and around adjacent offshore islands (e.g., Spoons). A Canadian wildlife biologist (Ian Goudie) with extensive experience working with harlequin ducks on their breeding (summer) grounds supports using helicopters to survey this species on its wintering grounds along Isle au Haut. A thorough literature review of methods is needed before initiating any field testing. Any methods not found suitable in the first field season would be dropped to focus on the remaining survey methods.

BUDGET AND FTEs:

FUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:				
Year 2:				
Year 3:				
Year 4:				
		Total:	0.00	0.0

UNFUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	NRPP	RES	15.00	0.1
Year 2:	NRPP	RES	15.00	0.1
Year 3:				
Year 4:				
		Total:	30.00	0.2

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS: N/A

COMPLIANCE CODE(s): EXCL

Proposal Date: 93

EXPLANATION: 516 DM6 APP. 7.4E(2)

Proposal Date: 93

PROJECT NUMBER: ACAD-N-015.000

TITLE: POPN. STATUS/HABITAT AVAIL. OF BEAVERS IN PARK

FUNDING STATUS: FUNDED: 0.00 UNFUNDED: 100.00

SERVICEWIDE ISSUES: N20 BASELINE DATA

CULTURAL RESOURCE TYPE CODE: N/A

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

Recent information about beaver (Castor canadensis) populations on MDI is unknown and has apparently declined from the estimated 300 animals as determined in the mid-1970's (Muller-Schwarze). During 1989 Park personnel conducted a preliminary evaluation of habitat utilization and population status of beaver on MDI. Initial indications are that both population and suitable habitat have declined since 1977 when the last survey was conducted. Although trapping data are often unreliable, harvests from non-Park lands on MDI have declined in recent years. This decrease may reflect less trapper effort, lower market values, less trapper access, and a smaller beaver density. A smaller beaver population may be due to a combination of high harvesting pressure in the late 1970's (when harvest on non-park lands were relatively high), decreased habitat availability, introduction of a large predator (coyote), increased human interactions, and a shrinking food base caused by post fire successional changes and a heavily used food base. To manage beavers, the Park in cooperation with MDIFW, needs information on species distribution, ecology, and existing as well as potential threats.

A Beaver Management Plan (BMP, a RM action plan) was prepared on past management and research efforts. The plan identifies inventory and research needs to insure adequate and appropriate management actions. The BMP also recognizes the importance of long term population monitoring to assess future human impacts and management activities. Project products will be entered into the Park's geographical and database information system. Funding will support the development of past beaver research and management information along with the much needed population inventories and island ecology.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

The Park recommends the cooperative inventory and research of beaver populations on MDI with MDIFW. The effort will inventory beaver populations (distribution, habitat use and availability,

etc.), implement beaver ecology research (i.e, sex/age, reproductive ecology, habitat characterizations) and develop spatial and quantitative databases as a base for long term monitoring (past and current information). Products will include annual progress reports to the staff, baseline population information, data for the Park's GIS, a habitat and population monitoring program, a predictive model or system on the effects of land development, vegetational succession in the park, and harvesting rates, and recommendations on the cooperative management actions and programs used by the Park and MDIFW with beaver populations.

The development of a cooperative beaver management program will assist in protecting habitat for non-park lands, use local knowledge in reducing conflicts (i.e., roads, etc.), provide information for educational purposes, manage the trapping effects and impacts, and monitor the population over time.

BUDGET AND FTEs:

FUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:				
Year 2:				
Year 3:				
Year 4:				
		Total:	0.00	0.0

UNFUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	RG-NS-RES	RES	35.00	0.3
Year 2:	RG-NS-RES	RES	35.00	0.3
Year 3:	RG-NS-RES	RES	30.00	0.3
Year 4:				
		Total:	100.00	0.9

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS: N/A

COMPLIANCE CODE(s): EXCL

EXPLANATION: 516 DM6 APP. 7.4E(2) DLY RM&RERSRCH

Proposal Date: 92

PROJECT NUMBER: ACAD-N-015.001

TITLE: POPN. STATUS/HABITAT AVAIL. OF BEAVERS IN PARK
SUBPROJECT TITLE:

FUNDING STATUS: FUNDED: 0.00 UNFUNDED: 6.50

SERVICEWIDE ISSUES: N20 BASELINE DATA

CULTURAL RESOURCE TYPE CODE: N/A

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

Recent information about beaver (Castor canadensis) populations on MDI is unknown and has apparently declined from the estimated 300 animals found in mid-1970's Muller-Schwartze (1977). During 1989 Park personnel conducted a preliminary evaluation of habitat utilization and population status of beaver on MDI. Initial indications are that both population and suitable habitat have declined since 1977 when the last comprehensive survey was conducted. Although trapping data are often unreliable, harvests from non-Park lands on MDI have declined in recent years. This decrease may reflect less trapper effort, lower market values, less trapper access, and a smaller beaver density. A smaller beaver population may be due to a combination of high harvesting pressure in the late 1970's (when harvest on non-park lands were relatively high), decreased habitat availability, introduction of a large predator (coyote), increased human interactions, and a shrinking food base caused by post fire successional changes and a heavily used food base. To manage beavers, the Park and Maine Department of Inland Fisheries and Wildlife (MDIF&W) need information on species distribution, ecology, habitat conditions, and present and future threats.

The Draft Beaver Management Plan (BMP, a RM action plan) identifies inventory and research needs to insure adequate and appropriate management actions and the presentation of interpretative information. The BMP specifically recognizes the importance of long term population monitoring in protecting the species and numerous park, state and private structures and property. Regular monitoring also affords park and MDIF&W biologists an opportunity to assess human development impacts and management activities. Monitoring results need to be entered into the Park's geographical and database information system. Funding would incorporate past beaver population inventories, habitat and management information into the database.

Proposal Date: 94

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

The Park requests cooperative funding from NARO to conduct beaver population distribution and habitat condition monitoring on MDI. The effort will inventory beaver populations (i.e, population size and distribution) (McCall 1992, Bernatowicz et al. 1989), reassess habitat conditions (Mueller-Schwartze 1977), and develop spatial and quantitative databases for long term comparative analysis and monitoring (past and current information). Products will include population information, development of a beaver database for the Park's GIS, recommending a habitat and population monitoring program, an assessment of vegetational succession in beaver habitat in the park, a compilation of beaver harvest records for the local towns and counties into a long-term monitoring database, and recommendations on the cooperative management actions programs used by the Park and MDIFW with beaver populations. The park resource management base will match NARO funding for this program.

The long-term goal of the park is to develop a cooperative beaver management program with MDIF&W that manages and protects beaver populations and habitat for all of MDI, including non-park lands. This program would encourage interpretative presentations and communication with area residents and visitors about habitat needs and management activities pertaining to beaver and other wildlife and address human-beaver conflicts (i.e., roads, flooding, etc.). This project would assist the park in realizing this goal.

FUNDING REQUIREMENTS:

FTE: 0.3	Cost:	6.5	(Unfunded)
	FY1:	6.5	

COMPLIANCE:

This project is categorically excludable under 516 DM6, Appendix 7.4E(2): "Day to day resource management and research activities".

RELATIONSHIPS:

This project is related to N-01, N-04, N-07 N-09, N-10, N-19, N-24, N-25, N-29, N-30, N-35, N-41, N-53, N-56, N-61, and N-64.

ANNUAL PROJECT STATUS AND ACCOMPLISHMENTS:

Information on the size of the beaver population has been collected since the 1960's without any regularity. Over the past few years, the park resource management staff have monitored and managed beaver and road conflict sites (beaver foolers), but have

not had the staff or funding to monitor the park or island population. Projects are identified above and will be completed once the project is funded.

BUDGET AND FTEs:

FUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:				
Year 2:				
Year 3:				
Year 4:				
		Total:	0.00	0.0

UNFUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	RG-NS-RES	MON	6.50	0.3
Year 2:				
Year 3:				
Year 4:				
		Total:	6.50	0.3

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS: N/A

COMPLIANCE CODE(s): EXCL

EXPLANATION: 516 DM6 APP. 7.4 E(2)

Proposal Date: 94

PROJECT NUMBER: ACAD-N-016.000

TITLE: DEVELOP PEREGRINE FALCON AND BALD EAGLE MGT. PLANS

FUNDING STATUS: FUNDED: 6.00 UNFUNDED: 0.00

SERVICEWIDE ISSUES: N02 T&E ANIMAL

CULTURAL RESOURCE TYPE CODE: N/A

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

Both peregrine falcons and bald eagles are listed on the federal endangered species list and occur within ACAD. Several projects have been conducted addressing management and protection, ecology, and threats to these species. The park has cooperated with feasibility studies, peregrine reintroduction efforts, protection of eagle and peregrine nesting sites, toxic effects research, and maintenance of winter feeding stations for bald eagles.

In the late 1980's, peregrines returned to one of the historical eries within the Park and successfully fledged chicks (three both years) in '91 and '92. Monitoring bird activities, especially during breeding and nesting sites, is necessary for protection, management knowledge, identifying research needs, and in evaluating recovery efforts. The park will continue to protect nesting areas (e.g., trail closure), monitor bird behavior for management needs, and conduct outreach programs through educational and interpretative programs.

Maine's population of bald eagles has not responded to recovery efforts similar to populations of this species in many other parts of the country. Monitoring bird activities, especially during breeding and nesting sites, is necessary for protection, management knowledge, identifying research needs, and in evaluating recovery efforts. The park will continue to protect nesting areas (e.g., enforce buffer zones, restrict access, educate commercial boat operators, etc.), support research efforts, and conduct outreach programs through educational and interpretative programs.

As a result, detailed, systematic programs of monitoring, protection and educational outreach for both species should be initiated and described in approved management plans. These plans will recommend additional management, research and protection activities should funding and personnel become available.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

The Park recommends the preparation of plans detailing the role and responsibilities of the park, defining relationships with other land owners and management agencies, and recommend additional management, research, educational and protection activities should funding and personnel become available.

BUDGET AND FTEs:

FUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	RG-RM-NAT	ADM	6.00	0.4
Year 2:				
Year 3:				
Year 4:				
		Total:	6.00	0.4

UNFUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:				
Year 2:				
Year 3:				
Year 4:				
		Total:	0.00	0.0

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS:

STATUS: Bald Eagle plan under regional review. Falcon Plan at first draft.

COMPLIANCE CODE(s): ESA SEC7

EXPLANATION: ENDANGERED SPECIES

Proposal Date: 93

PROJECT NUMBER: ACAD-N-017.000

TITLE: NESTING ECOLOGY AND SUCCESS OF ANP AREA BALD EAGLES

FUNDING STATUS: FUNDED: 156.00 UNFUNDED: 0.00

SERVICEWIDE ISSUES: N02 T&E ANIMAL N20 BASELINE DATA

CULTURAL RESOURCE TYPE CODE: N/A

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

The U.S. Fish and Wildlife Service is considering down listing the bald eagle from endangered to threatened status in the continental United States. However, recovery status for the eagle in Maine lags behind many other areas. Although reproduction has increased in recent years, the success rate is still relatively low compared to many other areas around the country. Lingering effects of pesticide residues (i.e., by products of degrading DDE and DDT) are suspect and warrant additional research (Maine Department Inland Fisheries and Wildlife). According to a recent study (Owen and Hodgman 1989) loss of habitat and continued human disturbance may be contributing factors that adversely affect eagle nesting success and ecology. Thus, additional information is needed on eagle nesting ecology and physiology in and around ACAD to understand the ecology of this bird in this coastal ecosystem.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

The park, in consultation with MIF&W, proposes a research program that would address two management needs. The first would determine pesticide and heavy metals contamination in bald eagles and the effects on reproductive success. The second would address repeated nesting failures at specific nesting sites using an evaluation technique(s) (i.e., a model) that examines the relationships between nesting sites and the quantity and types of activities and local land development to determine the types and timing of adverse impacts to eagles during nesting and at other critical times of the year. The park will solicit recommendations on nest site characteristics, land development standards, and a guide of unsuitable or detrimental activities. The park will work cooperatively with the researcher to develop databases and GI data for future monitoring and management programs.

Proposal Date: 93

BUDGET AND FTEs:

FUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	RG-NS-RES	RES	53.00	0.2
Year 2:	RG-NS-RES	RES	45.00	0.2
Year 3:	RG-NS-RES	RES	58.00	0.4
Year 4:				
		Total:	156.00	0.8

UNFUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:				
Year 2:				
Year 3:				
Year 4:				
		Total:	0.00	0.0

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS: N/A

COMPLIANCE CODE(s): ESA SEC7

EXPLANATION: ENDANGERED SPECIES

Proposal Date: 91

PROJECT NUMBER: ACAD-N-018.000

TITLE: POPN. DYNAMICS & VIABILITY OF SPRUCE GROUSE ON MDI

FUNDING STATUS: FUNDED: 43.00 UNFUNDED: 0.00

SERVICEWIDE ISSUES: N02 T&E ANIMAL N20 BASELINE DATA

CULTURAL RESOURCE TYPE CODE: N/A

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

Spruce grouse inhabit MDI but little is known about the population. Concerns over the status of this species date back 30 years as referenced in Park files. Attempts to introduce additional birds to the Park were initiated but never implemented. Once reported to have been extirpated from the Island, sporadic reports of spruce grouse have occurred MDI and their presence has been documented in a field survey conducted in the spring of 1989. An initial survey of the existing scientific literature and information available in a recent habitat assessment of the Park (Servello 1990) shows that there is suitable habitat on the MDI to support this species.

The viability of a population on MDI remains unknown. Given that the largest areas of habitat are not within the Park boundary, spruce grouse on MDI may be threatened by continuing development on private lands. Continued sightings of spruce grouse on MDI warrants the collection of baseline information on the local population and ecology. Information will assist in the management of park habitats and working with local towns zoning and land protection programs.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

This project will include collection of basic population data for spruce grouse: population size estimates, home range and movement data, and precise habitat data (use and availability) on MDI (on both Park lands and private land). It will attempt, through comparison of habitat availability, population size, and other parameters to make inferences regarding the continued viability of this species within and adjacent to the Park.

BUDGET AND FTEs:

	FUNDED			
	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	RG-NS-RES	RES	20.00	0.2

Proposal Date: 91

Year 2:	RG-NS-RES RES	23.00	0.2
Year 3:			
Year 4:			
	Total:	43.00	0.4

UNFUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:				
Year 2:				
Year 3:				
Year 4:				
	Total:		0.00	0.0

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS:

Status: COMPLETED

COMPLIANCE CODE(s): EXCL

EXPLANATION: 516 DM6 APP. 7.4E(2) DLY RM&RESRCH

Proposal Date: 93

PROJECT NUMBER: ACAD-N-019.000

TITLE: CONSTRUCT GEOG. THEME MAPS FROM EXISTING DATA

FUNDING STATUS: FUNDED: 1.00 UNFUNDED: 0.00

SERVICEWIDE ISSUES: N20 BASELINE DATA

CULTURAL RESOURCE TYPE CODE: N/A

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

In 1990 ACAD acquired ARC-INFO, a vector based GIS software package, and began acquiring basic thematic covers of the Park and surrounding area. Covers acquired to date include: USGS DLG data for the shoreline, roads, trails, lakes and ponds, first and second order streams, which have been edited for coding errors; a NPS/GIS Denver produced vegetation cover; state wetlands; Park boundary; and SCS classified soils. All of these covers are for MDI which includes the main unit of ACAD of approximately 35,000 acres. Covers for two other units, IAH and the Schoodic Peninsula, comprising an additional 5,000 acres, as well as the entire legislated area within which the park can acquire conservation easements, have not been acquired and represent a significant GIS need. In addition to the covers listed above there are also several research projects currently in progress or recently completed that will be providing additional GIS data sets that include IAH and the Schoodic Peninsula. These research projects include the participation of WASO and Regional programs and have included provisions for GIS development (i.e., ACAD wetlands inventory, non-point source pollution modeling, fire fuels modeling). Without these additional basic GIS themes for Schoodic Peninsula and IAH, GIS applications will be limited to only the MDI portion of ACAD.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

The Park has acquired a complete set of USGS DLG data for the entire legislated area including IAH and Schoodic Peninsula, for shoreline, roads, trails, streams, and lakes. Data conversion for these covers requires editing coding and cleaning DLG data to correct errors and assure arc/polygon integrity. Developing covers for the Park boundary and the existing vegetation data set/maps for these units are also recommended. This project is currently underway through a cooperative agreement with COA. Appropriate data base documentation will be provided.

Proposal Date: 93

BUDGET AND FTEs:

FUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	PKBASE-NR	MON	1.00	0.0
Year 2:				
Year 3:				
Year 4:				
		Total:	1.00	0.0

UNFUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:				
Year 2:				
Year 3:				
Year 4:				
		Total:	0.00	0.0

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS: N/A

COMPLIANCE CODE(s): EXCL

EXPLANATION: 516 DM6 APP. 7.4E(2) DLY RM&RESRCH

Proposal Date: 93

PROJECT NUMBER: ACAD-N-020.000

TITLE: EST. PROTOCOLS AND ASSESS IMPACTS AT ANEMONE CAVE

FUNDING STATUS: FUNDED: 0.00 UNFUNDED: 20.00

SERVICEWIDE ISSUES: N17 BIODIVERSITY N18 VIS USE-BCTRY

CULTURAL RESOURCE TYPE CODE: N/A

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

Anemone Cave has long been an attraction for Park visitors. Anemone Cave sits at the edge of the Park's boundary and is a difficult resource to protect. In the late 1980's ACAD stopped promoting Anemone Cave in its literature because of the apparent decline in the numbers of intertidal plants and animals due to trampling and collecting by visitors. However, the lack of a data base hinders monitoring and protection efforts. In addition, many of the intertidal floral and faunal species collected from the area are thought to be uncommon.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

The Park needs a detailed monitoring system to determine if this resource is in fact being impacted by public use. Permanent plots must be established to assess both qualitative and quantitative data bases. The monitoring program should be designed so that the Park will be able to continue periodic monitoring with its own staff.

Given the unusual nature of this resource and its limited access (only at low tide), photography should be incorporated into the sampling scheme to supplement the actual data collection. Protocols for monitoring this type of resource are not well defined. In developing the methodology to collect baseline data, it would be advantageous for future monitoring if the methodology was based on techniques that are repeatable, cost-effective, and technically reliable in tracking this valuable resource.

BUDGET AND FTEs:

FUNDED			
	Source	Act Type	Budget ($1000s)	FTEs
Year 1:				
Year 2:				
Year 3:				

Proposal Date: 93

Year 4:

	Total:	0.00	0.0

UNFUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	RG-NS-RES	RES	20.00	0.3
Year 2:				
Year 3:				
Year 4:				
	Total:		20.00	0.3

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS: N/A

COMPLIANCE CODE(s): EXCL

EXPLANATION: 516 DM6 APP. 7.4E(2) DLY RM&RESRCH

Proposal Date: 93

PROJECT NUMBER: ACAD-N-021.000

TITLE: IMPLEMENT AMPHIBIAN INVENTORY & MONITORING PROGRAM

FUNDING STATUS: FUNDED: 0.00 UNFUNDED: 81.00

SERVICEWIDE ISSUES: N20 BASELINE DATA N02 T&E ANIMAL

CULTURAL RESOURCE TYPE CODE: N/A

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

Since 1989, there has been a growing realization that amphibian populations have been declining at an alarming rate worldwide. Several international conferences have been convened to address this issue, assess the magnitude of the problem, and discuss causative factors. Causative factors proposed include habitat loss, ozone depletion and increased ultraviolet radiation and acid precipitation, although a single, unifying theory has yet to be proven. Further, amphibians have been identified as indicators of ecosystem health and are effective in detecting anthropogenic changes to wetland and terrestrial environments. Several species are sensitive to acidification of wetlands and terrestrial environments.

Herpetologists and governments in all parts of the world are now beginning to work cooperatively to determine which species are in decline and the causative factors responsible. To date, attempts to document declines are confounded by a lack of data to assess population trends for most species and to monitor changes to their environment. The recently formed Declining Amphibian Task Force of the IUCN was formed to organize research an monitoring programs worldwide. The state of Maine, Department of Inland Fisheries and Wildlife (MDIF&W) is participating in the Northeast (states) Nongame Technical Task Force to develop recommendations for the development of a coordinated state management, research and conservation program for the heptile fauna in the 13-state northeast region. An integral part of the strategic plan will be to work with the IUCN's Declining Amphibian Task Force in the implementation of a Northeast regional herpetile monitoring program. The monitoring program would likely be stratified by major wetland and upland ecosystems represented in the region and have a sampling design capable of detecting population trends, changes in the environments, and possibly identify causative agents or potential threats. The state recognizes Acadia National Park (ANP) as an excellent candidate for herpetile monitoring because of it's protected status, ecosystems representative of the region, and an on-going commitment to long-term natural resource monitoring.

Proposal Date: 93

The mission of the National Park Service (NPS) at ANP is to protect and preserve the outstanding natural and scientific values for present and future generations. ANP currently relies on incidental observations for herpetile information since no systematic survey has ever been conducted for either reptiles or amphibians within the park. Amphibians and reptiles are identified in the natural resource bibliography as the least studied groups of species at ANP (Green et. al., 1991). ANP has participated in the National Atmospheric Deposition Program since 1983, and has recorded pH precipitation levels as low as 3.2. ANP acknowledges a critical need to obtain baseline information on the status of the Park's herpetile fauna and further recognizes the opportunity to cooperate with the state and regional task force amphibian monitoring initiatives. Concurrent, long-term monitoring of amphibian populations and their physical environment will provide an assessment of ecosystem health and perhaps provide correlates between environmental health and trends in amphibian populations.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

The objectives of the three year project will be to evaluate inventory and monitoring methodologies, document the amphibian species within the Park, conduct habitat characterizations and quality assessments, make recommendations to the ANP's Long-Term Monitoring Program, and serve as a pilot initiative to guide State and Regional herpetile monitoring initiatives.

The first year of the project will focus on selecting a suitable sampling design to inventory (e.g., Smithsonian and Canadian Wildlife Service amphibian monographs, to be released fall '93) representative ecosystems within the Park, stratify and evaluate park amphibian habitats (i.e., streams, vernal pools, forests, and wetlands) and population distributions, and assess a LTM program for amphibians that complements the Park's LTM Program and model. The second and third years will implement suitable amphibian monitoring methodologies (e.g., Smithsonian and Canadian Wildlife Service amphibian monographs, to be released fall '93) in each of the major habitats to determine, population densisties, quantifiable habitat standards, limits of variation, and appropriateness of using amphibians in predicting threats and assessing ecosystem health. The project will produce a Park and regional baseline of amphibian and related habitat data, establish and recommend a LTM strategy, prepare spatial and relative datasets, recommend the suitability of using amphibians as indicators of ecosystem health, and make recommendations in assessing amphibian populations and monitoring techniques for the State and Regional herpetile initiatives. The project will participate in the park's resource seminars.

Personnel: The project will be accomplished using expertise from

the Region including the University of Maine and from other NPS units and programs. The park and project will work closely with Dr. Mark McCollough, a wildlife biologist for MDIF&W Endangered and Nongame Wildlife Group, who is responsible for monitoring and the management of the state's amphibian and reptile resources. Park staff will assist with project design and the LTM strategy, field coordination and logistics, and database managment.

BUDGET AND FTEs:

FUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:				
Year 2:				
Year 3:				
Year 4:				
		Total:	0.00	0.0

UNFUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	NRPP	RES	20.00	0.0
Year 2:	NRPP	MON	30.00	0.0
Year 3:	NRPP	MON	31.00	0.0
Year 4:				
		Total:	81.00	0.0

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS:

No Action. This alternative will leave unanswered the questions about the status of amphibians in the park, a strategy to monitor populations and habitats, and their ability to predict threats to their environments. The park will continue to use incidental observations regarding amphibian and habitat concerns.

COMPLIANCE CODE(s): EXCL

EXPLANATION: 516 DM6 APP. 7.4E(2) DLY RM&RESRCH

PROJECT NUMBER: ACAD-N-022.000

TITLE: INVENTORY AND STATUS OF LARGE MAMMALS IN THE PARK

FUNDING STATUS: FUNDED: 0.00 UNFUNDED: 35.00

SERVICEWIDE ISSUES: N20 BASELINE DATA

CULTURAL RESOURCE TYPE CODE: N/A

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

Sightings of moose, bear and other large mammals are occasionally reported each year on park lands on MDI. Given the large home range requirements for these species, the relatively small size of MDI and ACAD, and continuing development on private land it is doubtful that these animals can maintain viable populations on MDI. Even if viable populations cannot be maintained, the usefulness of the Park as a refuge for mobile individuals needs to be evaluated. Thus, it is first necessary to gather initial population data on these species.

The park will work cooperatively with MDIFW in the management, research, and protection of all game animals (i.e., furbearers, big game, etc.) and non-game species.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

Mammal surveys will use current vegetation maps and photography (i.e., suitable habitat), historical wildlife observation records (high percentage observation sites), and document population survey methods to design an appropriate methodology and strategy for large mammals. Surveys will be conducted over two years to assess the value in continuing this effort, provide information on species' relative abundance, record habitats being used, note specific information related to each species (i.e., age, sex, activity, etc.), and establish abundance indices if possible.

The findings will be reported in a summary review of the work including recommendations on the design and methodologies to use, frequency and time periods to conduct the surveys, and other what other surveys or studies should be undertaken (i.e, animal occurrence based on harvesting pressure and food availability, sampling on the mainland (Schoodic) or with only one species, etc.)

Permanently marked deer forage utilization transects will be reviewed to assess moose activity. Educational information will be presented in local and park newspapers on all species.

Proposal Date: 93

Information that describes how to avoid bear problems around homes (i.e., garbage dumps, etc.) will be included.

BUDGET AND FTEs:

FUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:				
Year 2:				
Year 3:				
Year 4:				
		Total:	0.00	0.0

UNFUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	RG-NS-RES	RES	20.00	0.0
Year 2:	RG-NS-RES	RES	15.00	0.0
Year 3:				
Year 4:				
		Total:	35.00	0.0

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS: N/A

COMPLIANCE CODE(s): EXCL

EXPLANATION: 516 DM6 APP.7.4E(2) DLY RM&RESRCH

Proposal Date: 93

PROJECT NUMBER: ACAD-N-023.000

TITLE: INVESTIGATE PARK'S FURBEARER POPULATION

FUNDING STATUS: FUNDED: 0.00 UNFUNDED: 105.00

SERVICEWIDE ISSUES: N02 T&E ANIMAL N19 CONSUMPT USE

CULTURAL RESOURCE TYPE CODE: N/A

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

Trapping of furbearers occurs adjacent to ACAD on private lands and within the Park on ponds greater than ten acres in size (Great Ponds) which are regulated by the State. Furbearer populations do not recognize human boundaries, and Park management has no baseline data on populations, distribution, critical habitat, or the effects of trapping, land development, and domestic species on these resources. Species include fisher (Martes pennanti), marten (Martes americana), long and short tail weasels (Mustela erminea, M. frenata), mink (Mustela vison), raccoon (Procyon lotor), and muskrat (Ondatra zibethica). Some furbearer species have been extirpated (i.e., sea mink ( ). Beaver (see N-15), otter, red fox (N-4, N-4a), and coyote (N-4, N-7, N-7a), have been, or are currently under study. Baseline information about species ecology, the significance of park lands and management as it relates to species ecology, and the type and nature of threats to these species is needed to insure both park and Maine DIFW management programs maintain healthy, viable populations.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

Determine distribution, population levels, and habitat use and availability for those furbearers mentioned above on MDI, Schoodic, and IAH. Identify trapping effects (trapping efforts and distribution, harvest on age/sex structure, etc.) on private lands. Construct model to evaluate impacts from harvesting and habitat destruction/alteration to species ecology and long term viability. Develop monitoring protocols that are repeatable and is suitable with the Park's long term monitoring program.

BUDGET AND FTEs:

FUNDED			
	Source	Act Type	Budget ($1000s)	FTEs
Year 1:				
Year 2:				

Proposal Date: 93

Year 3:

Year 4:

Total:	0.00	0.0

UNFUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	NRPP	RES	35.00	0.0
Year 2:	NRPP	RES	35.00	0.0
Year 3:	NRPP	RES	35.00	0.0
Year 4:				
Total:			105.00	0.0

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS: N/A

COMPLIANCE CODE(s): EXCL

EXPLANATION: 516 DM6 APP. 7.4E(2) DLY RM&RESRCH

Proposal Date: 93

PROJECT NUMBER: ACAD-N-024.000

TITLE: FIRE BEHAVIOR & FIRE EFFECTS ON VEGETATION

FUNDING STATUS: FUNDED: 8.50 UNFUNDED: 10.00

SERVICEWIDE ISSUES: N07 NAT FIRE REGM N20 BASELINE DATA

CULTURAL RESOURCE TYPE CODE: N/A

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

Little information exists on fire behavior and the effects of fire on fuel loadings in the plant communities in the northeastern part of the United States. Additionally, information on the use of prescribed fire as a management tool in these communities is lacking. Thus, the ability to accurately predict fire behavior and fire effects on fuel loadings in the Park's plant communities and to determine the suitability of prescribed fire as an appropriate management tool is not present. Though fire is an infrequent visitor to the Park, the possibility of a catastrophic fire does exist due to the high concentrations of fuels present. In order to implement an effective and efficient fire management program, this type of information is needed. Other fuels management options (e.g, mechanical and chemical) must also be evaluated in order to provide for the successful implementation of a fuels reduction program that specifically addresses park resources and issues.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

The park recommends that basic research be conducted in fire behavior and the effects of fire on fuel loadings in various plant communities in the Park. This would be accomplished through the use of management ignited research burns to observe and measure fire behavior and to determine pre- and post-burn fuel loadings. Small scale, management ignited research burns should be carried out under carefully controlled conditions and permanent monitoring plots established to determine the short and long-term effects on vegetation and fuel loadings and to evaluate the usefulness of prescribed fire as a management tool for the Park.

BUDGET AND FTEs:

	FUNDED			
	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	FIRE-$	RES	5.00	0.2

Proposal Date: 93

Year 2:	FIRE-$	RES	3.50	0.2
Year 3:				
Year 4:				
		Total:	8.50	0.4

UNFUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:				
Year 2:				
Year 3:	FIRE-$	RES	5.00	0.0
Year 4:	FIRE-$	RES	5.00	0.0
		Total:	10.00	0.0

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS: N/A

COMPLIANCE CODE(s): EXCL

EXPLANATION: 516 D.M. 6, APP. 7.4(E)(19)

Proposal Date: 93

PROJECT NUMBER: ACAD-N-025.000

TITLE: FIRE INTERACTIONS: WATER/BIOTA/SOILS

FUNDING STATUS: FUNDED: 0.00 UNFUNDED: 200.00

SERVICEWIDE ISSUES: N07 NAT FIRE REGM N20 BASELINE DATA

CULTURAL RESOURCE TYPE CODE: N/A

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

The subject of fire on MDI is a sensitive issue due to the catastrophic fire that occurred in 1947. Since then, fuels have built up in unburned areas and habitats have changed as a result of the 1947 fire. These have had a significant impact on faunal and floral communities. In addition, past and potential catastrophic and other fires may have had a significant impact on soil and waters within the park. Research is needed to quantify the changes in charcoal and cation release (affecting acid deposition) and nutrient release affecting eutrophication. Soils on MDI are generally very shallow and are very susceptible to erosion. Basic data on the rate of vegetative regeneration is needed. In addition, it is also important to understand the effect of fire on organic matter in soil. Severe fires can adversely affect the amount of organic matter in soil because it is a major factor in nutrient cycling. While general information on these interactions exists, there is little information available for the northeast and none specific to ACAD. This information will help guide a the park's fire management program. This becomes especially important if the Park chooses to initiate a prescribed fire program.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

The Park recommends that additional information be acquired through literature review and research on fire effects on biotic, water, and soil resources to guide management decisions regarding fire. This information will serve as a basis for maintaining the integrity of rare or threatened wildlife and soil and water resources in the event of fire, and may provide guidance on mitigating fire effects on these resources. Research results can also be supplied to other parks in the northeast with similar biotic communities.

BUDGET AND FTEs:

----------FUNDED----------

Source	Act Type	Budget ($1000s)	FTEs

Year 1:

Year 2:

Year 3:

Year 4:

Total:	0.00	0.0

UNFUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	NRPP	RES	50.00	0.0
Year 2:	NRPP	RES	50.00	0.0
Year 3:	NRPP	RES	50.00	0.0
Year 4:	NRPP	RES	50.00	0.0
Total:			200.00	0.0

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS: N/A

COMPLIANCE CODE(s): EA

EXPLANATION: NEPA: CONTROVERSIAL PROJECT ON MDI

Proposal Date: 93

PROJECT NUMBER: ACAD-N-026.000

TITLE: DEV. VISTA MGT. PROGRAM FOR CULTURAL LANDSCAPES

FUNDING STATUS: FUNDED: 0.00 UNFUNDED: 215.00

SERVICEWIDE ISSUES: N08 CULT LANDSCAPE

CULTURAL RESOURCE TYPE CODE: N/A

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

Few historical vistas currently exist due to loss from encroaching vegetation. Historically, there were over 200 vistas within the Park which were maintained for the public's enjoyment. These were located on the popular Park Loop Road, the carriage road system and in other popular visiting areas. In 1987, several historic vistas were rehabilitated by park staff and other areas were cut to create new vistas although there was never a cyclic maintenance program implemented to maintain the vistas once cut and stumps quickly resprouted and obscured the view. These vista's need to be rehabilitated through sound vegetation management practices based on NPS policies and provisions made for their maintenance.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

All historic vistas should be identified and documented based on historical records. All areas that are now overgrown need to be assessed before any maintenance activities occur to insure that rare or endangered plants or animals are not affected by proposed cyclic maintenance. Each vista assessment should also consider rehabilitation and maintenance costs, environmental impacts, historical changes in the view, and other factors. Plant species lists need to be compiled for each vista area along with a cyclic maintenance program to insure work is conducted within the proper timeframe for each area. All vistas need to be incorporated into the Park's GIS and maintenance management system. The issue of stump sprouting must be addressed and incorporated into the Integrated Pest Management Plan. Where appropriate, alternative methods of maintenance should be investigated. These might include the use of fire, mowing, or other mechanical methods, or encouraging the establishment of low-growing aggressive native plants. Without the development and implementation of a Vista Management Plan, the historic scene will continue to be lost and rehabilitation costs will continue to rise. Visitors will continue to complain about the loss of scenic values, especially on the east side of Mt. Desert Island where revegetation following the 1947 fire continues to obscure historic views.

Proposal Date: 93

BUDGET AND FTEs:

FUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:				
Year 2:				
Year 3:				
Year 4:				
		Total:	0.00	0.0

UNFUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	RG-RM-NAT	ADM	25.00	1.0
Year 2:	RG-RM-NAT	ADM	15.00	0.5
	CRPP	MIT	50.00	3.0
		Subtotal:	65.00	3.5
Year 3:	CRPP	MIT	50.00	3.0
Year 4:	CRPP	MIT	50.00	3.0
	PKBASE-OT	MIT	25.00	1.0
		Subtotal:	75.00	4.0
		Total:	215.00	11.5

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS: N/A

COMPLIANCE CODE(s): EA ESA

EXPLANATION: NEPA

Proposal Date: 93

PROJECT NUMBER: ACAD-N-027.000

TITLE: DETERMINE POPULATION STATUS OF WOOD DUCKS

FUNDING STATUS: FUNDED: 0.00 UNFUNDED: 8.00

SERVICEWIDE ISSUES: N20 BASELINE DATA

CULTURAL RESOURCE TYPE CODE: N/A

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

The status of the wood duck, similar to the other animals listed (e.g., large mammals, reptiles) remains unknown. While work is now being conducted on the harlequin duck, only 2 years of survey data is available and work must continue to ensure effective management and protection of this species and its habitat. Wood ducks, were both listed in the previous edition of this plan but no work was ever funded to determine their status. It is important to have such baseline information if the Park is to do an effective job of managing its natural resources. Development around the Park, habitat loss, succession, and hunting are thought to be factors possibly affecting these birds. Baseline data on this species should be collected to adequately assess the population status.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

The Park, through cooperative efforts with MDIFW, will engage in systematic surveys using the latest available methods to determine wood duck population size. In addition, an evaluation should be conducted to assess the habitat and food requirements and availability. Information on habitat availability and use, and population size are needed to evaluate the status of this species.

BUDGET AND FTEs:

FUNDED			
	Source	Act Type	Budget ($1000s) FTEs
Year 1:			
Year 2:			
Year 3:			
Year 4:			

Proposal Date: 93

		Total:	0.00	0.0

UNFUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	RG-NS-RES	RES	8.00	0.1
Year 2:				
Year 3:				
Year 4:				
		Total:	8.00	0.1

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS: N/A

COMPLIANCE CODE(s): EXCL

EXPLANATION: 516 DM6 APP.7.4E(2) DLY RM&RESRCH

Proposal Date: 92

PROJECT NUMBER: ACAD-N-028.000

TITLE: NORTHERN FLYING SQUIRREL ECOLOGY

FUNDING STATUS: FUNDED: 9.00 UNFUNDED: 0.00

SERVICEWIDE ISSUES: N20 BASELINE DATA

CULTURAL RESOURCE TYPE CODE: N/A

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

Studies in the northwest and southeast U.S. have shown the northern flying squirrel to be an important component of a forested ecosystem. They are preyed upon by raptors and mustelids such as fisher. The fisher is of special concern within ACAD (see ACAD RMP 1982) and is being considered for reintroduction within the Park. An evaluation of population viability for the fisher is now underway. Population information on this rodent will provide valuable information on a possible food source for the fisher.

The northern flying squirrel is also a mycophagist, distributing viable fungal spores throughout a forest and thus plays a significant role in the establishment and vigor of trees (Maser et al. 1986).

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

Baseline biological and ecological information for the northern flying squirrel are needed now, to add to the knowledge base of Park resources, and to evaluate impacts of natural and anthropogenic habitat disturbance. The Park recommends that the proposed study of northern flying squirrel ecology include determination of:

1) peak breeding period(s)
2) mean litter size
3) sex-age structure
4) the presence of sympatric populations of southern and northern flying squirrels in the Park
5) habitat preferences

Nestboxes will be randomly placed in stand-types predominant in the Park--red spruce, northern hardwoods, and aspen-birch--and include areas near Coleman's (1987) sighting of southern flying squirrels. At least 100 nest boxes will be used. Nestboxes will be set up before March since northern flying squirrels are known to come into estrous at about this time. Nestboxes will be

inspected at least bi-weekly during this study. Trap lines will be established in each stand-type and will be of variable lengths. One Pymatuning live-trap will be placed on the ground and one in a tree every 50-75 m along each trap line. Each trap will be baited with cat-food and provided with polyfiber bedding. Trapping will be conducted in each stand-type once a month, from April to October, for a variable number of consecutive nights.

Flying squirrels located in nestboxes or captured via live-trapping will be sexed, aged, weighed, examined for ectoparasites and ear-tagged for future recognition.
h)0*0*0*Habitat preferences will be determined at two scales. Macrohabitat preferences will be derived from the frequency of captures among stand-types. Microhabitat preferences will be derived from analysis of habitat variables measured around each trap or nestbox site. Habitat variables will consist of mean diameter of trees, tree species, percent understory and overstory, percent ground cover by herbaceous and woody species, density and percent cover of shrubs, and topographic characteristics within a 20 m distance around a trap or nestbox site.

BUDGET AND FTEs:

FUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	NON-PROFI	RES	5.00	0.0
	PKBASE-NR	RES	4.00	0.2
		Subtotal:	9.00	0.2
Year 2:				
Year 3:				
Year 4:				
		Total:	9.00	0.2

UNFUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:				
Year 2:				
Year 3:				
Year 4:				

Total:	0.00	0.0

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS:

Status: COMPLETED

COMPLIANCE CODE(s): EXCL

EXPLANATION: 516 DM6 APP. 7.4E(2) DLY RM&RESRCH

Proposal Date: 92

PROJECT NUMBER: ACAD-N-029.000

TITLE: WETLAND MAPPING

FUNDING STATUS: FUNDED: 20.00 UNFUNDED: 0.00

SERVICEWIDE ISSUES: N20 BASELINE DATA

CULTURAL RESOURCE TYPE CODE: N/A

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

No current wetland inventory currently exists for ACAD other than U.S. Fish and Wildlife Service National Wetland Inventory maps. These maps, however, have been based on high altitude 1975 aerial photographs and only include wetlands greater than 10 acres in size. As a result, sufficient detail is not available for scientific or natural resource management purposes. wetland inventories are currently being prepared for the ACAD region by the U.S. Fish and Wildlife Service and State of Maine on 7.5" U. S. Geological Survey topographic quadrangles using 1985 aerial photography. Without detailed information on wetlands > 1 acre in size, NPS management and local planning officials will continue to make uninformed habitat and other natural resource-related evaluations.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

Map wetlands > 1 acre in size. Extensive ground truthing would provide much needed resource information for Park management as well as local planning officials. Updated maps would then be digitized for use with an ARC-INFO GIS.

BUDGET AND FTEs:

	FUNDED			
	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	WATER-RES	RES	20.00	0.0
Year 2:				
Year 3:				
Year 4:				
Total:			20.00	0.0

Proposal Date: 92

----------UNFUNDED----------

Source	Act Type	Budget ($1000s)	FTEs
Year 1:			
Year 2:			
Year 3:			
Year 4:			
Total:		0.00	0.0

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS:

Status: Final report in prep.

COMPLIANCE CODE(s): EXCL

EXPLANATION: 516 DM6 APP. 7.4E(2) DLY RM&RESRCH

Proposal Date: 93

PROJECT NUMBER: ACAD-N-030.000

TITLE: HUNTING/TRAPPING IMPACTS ON GAME SPECIES POPULATION

FUNDING STATUS: FUNDED: 0.00 UNFUNDED: 20.00

SERVICEWIDE ISSUES: N19 CONSUMPT USE N20 BASELINE DATA

CULTURAL RESOURCE TYPE CODE: N/A

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

Impacts to small game (e.g., snowshoe hare, ruffed grouse [Bonasa umbellus], woodcock [Scolopax minor]) and furbearer (i.e., mink, muskrat, beaver) populations within the Park is unknown from hunting and trapping on adjacent non-Park lands. The amount of small game hunting that takes place on MDI is unknown and base-line data for populations on and adjacent to ACAD are not available. Land management practices such as fire suppression and continuing development on private lands are affecting island vegetative communities and thus the species that rely on them. Impacts from activities like hunting are critical to understanding population dynamics and implementing efficient management by the NPS. Considering the "no-hunting" policies on ACAD lands, this information may also be helpful to MDIFW in implementing capable management of these species.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

Analysis of species harvest data and hunter information will be collected to establish a data base on MDI hunting. Population indices and distribution of affected species will provide supplementary information regarding population status. Historical trends and the current species' status will be reviewed to prepare a model for predicting the future of game species populations on Park lands subjected to different harvest levels and insularity.

BUDGET AND FTEs:

FUNDED			
	Source	Act Type	Budget ($1000s) FTEs
Year 1:			
Year 2:			
Year 3:			
Year 4:			

Proposal Date: 93

		Total:	0.00	0.0

UNFUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	NRPP	RES	20.00	0.0
Year 2:				
Year 3:				
Year 4:				
		Total:	20.00	0.0

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS: N/A

COMPLIANCE CODE(s): EXCL

EXPLANATION: 516 DM6 APP. 7.4E(2) DLY RM&RESRCH

Proposal Date: 91

PROJECT NUMBER: ACAD-N-031.000

TITLE: WATER QUALITY & ECOL. EVAL. OF BASS HARBOR MARSH

FUNDING STATUS: FUNDED: 143.00 UNFUNDED: 0.00

SERVICEWIDE ISSUES: N20 BASELINE DATA

CULTURAL RESOURCE TYPE CODE: N/A

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

Local residents on MDI expressed concern (to the NPS) for the condition of the Bass Harbor Marsh on the western half of MDI. Only a portion of the system, the largest estuarine area on MDI, is located within the Park. Purported sewage dumping (i.e., overboard discharge) in Bass Harbor, extensive algal blooms, a decrease in sport fishing and wildlife in general have been brought to the attention of the NPS. Leachate from a landfill, located at the headwaters of the marsh has increased both inorganic and organic nitrogen. Little information exists on marsh dynamics and current information is purely speculative. One hypothesis is that pollutant-nutrient loading may be significantly altering marsh ecology.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

This project should be a comprehensive survey and analysis of marsh dynamics. Inventories of major animal and plant groups, pollutants, and nutrients will be necessary and should include distribution and biomass data. Input and fate of pollutants should also be collected along with an evaluation of the role of each habitat. Management strategies for mitigation should be addressed.

BUDGET AND FTEs:

FUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	WATER-RES	RES	50.00	0.0
Year 2:	WATER-RES	RES	45.00	0.0
Year 3:	WATER-RES	RES	48.00	0.0
Year 4:				
		Total:	143.00	0.0

Proposal Date: 91

----------UNFUNDED----------

Source	Act Type	Budget ($1000s)	FTEs
Year 1:			
Year 2:			
Year 3:			
Year 4:			
Total:		0.00	0.0

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS:

Status: Data collection completed. Draft report expected spring 1994.

COMPLIANCE CODE(s): EXCL

EXPLANATION: 516 DM6 APP.7.4E(2) DLY RM&RESRCH

Proposal Date: 91

PROJECT NUMBER: ACAD-N-032.000

TITLE: NONPOINT SOURCE POLLUTANT LOADING MODEL ANP WTRSHED

FUNDING STATUS: FUNDED: 30.00 UNFUNDED: 0.00

SERVICEWIDE ISSUES: N16 NEAR-PARK DEV N20 BASELINE DATA

CULTURAL RESOURCE TYPE CODE: N/A

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

ACAD and MDI have an extensive array of water resources which include lakes, ponds, swamps, bogs, and marshes. Because of an extremely fragmented boundary and extensive tracts of private land, at least a portion of each major watershed on MDI is located outside of Park boundaries. Increasing visitation and continuing development on private lands are suspected to impact on water resources. In general, nonpoint pollution sources must be surveyed and evaluated. Park management needs to be able to predict, understand, and mitigate impacts on both surface and ground water resources.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

The main thrust of this project should be to develop a model that will allow Park management to evaluate watershed development and pollution and its impact on surface and ground water quality. This information should be put into a database format compatible for use with a Geographic Information System (ARC-INFO).

BUDGET AND FTEs:

FUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	WATER-RES	RES	30.00	0.0
Year 2:				
Year 3:				
Year 4:				
	Total:		30.00	0.0

UNFUNDED

Source	Act Type	Budget ($1000s)	FTEs

Proposal Date: 91

Year 1:

Year 2:

Year 3:

Year 4:

Total:	0.00	0.0

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS:

Status: COMPLETED

COMPLIANCE CODE(s): EXCL

EXPLANATION: 516 DM6 APP.7.4E(2) DLY RM&RESRCH

Proposal Date: 93

PROJECT NUMBER: ACAD-N-033.000

TITLE: MONITORING AND MODELLING OF PHOTO-OXIDANTS

FUNDING STATUS: FUNDED: 0.00 UNFUNDED: 75.00

SERVICEWIDE ISSUES: N14 AIR POLLUTION

CULTURAL RESOURCE TYPE CODE: N/A

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

Ozone monitoring data in ACAD show that O3 levels during the summer months frequently exceed the National Ambient Air Quality Standard of 120 parts per billion by volume (ppb), one hourly average concentration. These concentrations can be deleterious to public health and local flora. While there is much speculation on whether ?elevated O3 levels are locally generated or transported from distant industrial areas in the northeast or midwest, data are not available on the cause or source of this pollutant. ACAD, under the Clean Air Act is classified a Class I area. As a result, it is necessary to understand the various sources and causes of local air pollutant levels to effectively manage such an area.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

This project will fund research to determine the causes and sources ?of elevated O3 episodes at ACAD. In addition to the current air pollution data collected on McFarland Hill by NPS personnel, ?Xnitrates (NOx) and reactive organic gases levels will be also be ? monitored. Diurnal patterns on O3, NOx, and ROG will be evaluated to determine species origin, local or wind-borne. Based on ROG anlayses, allocation of emissions will be attributed to anthropogenic or bionic sources. Finally, based on all data, photo-oxidant modelling will be performed to "estimate the local ?production potential of O3 in ACAD" (Golomb and Barry 1990).

BUDGET AND FTEs:

----------FUNDED----------

Source	Act Type	Budget ($1000s)	FTEs
Year 1:			
Year 2:			
Year 3:			

Proposal Date: 93

Year 4:

Total:	0.00	0.0

UNFUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	AIR-QUAL	RES	75.00	0.0
Year 2:				
Year 3:				
Year 4:				
Total:			75.00	0.0

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS: N/A

COMPLIANCE CODE(s): EXCL

EXPLANATION: 516 DM6 APP. 7.4E(2) DLY RM&RESRCH

Proposal Date: 93

PROJECT NUMBER: ACAD-N-034.000

TITLE: ACQUIRE NEW VEG. MAP AND GIS THEMATIC DATA FOR ANP

FUNDING STATUS: FUNDED: 0.00 UNFUNDED: 15.00

SERVICEWIDE ISSUES: N20 BASELINE DATA

CULTURAL RESOURCE TYPE CODE: N/A

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

A vegetation data set/map for ACAD acquired from 1979 photography is currently being used by Park, Region, WASO, and contractor researchers/resource managers. This map/data set is included in the Park's GIS. Over the past 12 years map users have observed coding discrepancies and changes to species composition and densities in some locations. In 1991 ACAD provided 5,000 dollars to the Soil Conservation Service to participate in a statewide project to acquire new color infrared photography, which the Park has purchased. An updated vegetation map has become highly desirable as the number of vegetation related research and natural resource management projects increases, (i.e., biological effects of air pollution, fire and fuel modeling, post 1947 fire succession effects on beaver/otter populations, alpine plant community survey, wetlands inventory). Continued use of the 1979 vegetation map will, at times, perpetuate the use of erroneous data.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

The Park recommends contracting for photo interpretation, remote sensing, and data conversion into a new vegetation map and thematic data base for the Park's ARC-INFO. If approved, guidance will be sought from the Regional GIS Coordinator and WASO GIS to assist in the development of an acceptable work plan for remote sensing and project cost.

BUDGET AND FTEs:

----------FUNDED----------

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:				
Year 2:				
Year 3:				
Year 4:				

Proposal Date: 93

	Total:	0.00	0.0

UNFUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	RG-NS-RES	PRO	15.00	0.0
Year 2:				
Year 3:				
Year 4:				
	Total:		15.00	0.0

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS: N/A

COMPLIANCE CODE(s): EXCL

EXPLANATION: 516 DM6 APP.7.4E(2) DLY RM&RESRCH

Proposal Date: 93

PROJECT NUMBER: ACAD-N-035.000

TITLE: DEV. COMPREHENSIVE I & M STRATEGY AND PROTOCOLS

FUNDING STATUS: FUNDED: 0.00 UNFUNDED: 35.00

SERVICEWIDE ISSUES: N20 BASELINE DATA

CULTURAL RESOURCE TYPE CODE: N/A

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

The park has initiated the creation of a base funded program that inventories, records and monitors park resources, ecosystems and operating processes, and evaluates and predicts threats to these park resources. The park is currently working with NAPS specialists in identifying program objectives and the structure, direction, and relationships necessary in developing a successful program.

The Park is currently involved with the long-term monitoring of air resources and monitors several species that have special status (i.e., T&E, Maine Special Concern) as well as native species that conflict with park operations and exotic species that threaten park resources. Aerial photographs have been taken approximately every 10 years since the mid-1940's. Ongoing research will provide valuable information on fire history and ecology, sub-alpine plant communities, and watershed ecology. The park, with support from NARO, has completed a comprehensive annotated bibliography with over 1000 scientific works. The park's location has drawn many investigators and naturalists over the last century and this historical work includes baseline inventories for insects, vascular plants, lichens, birds, and a few mammals. The bibliography has also identified information gaps, reviewed all scientific work for it's suitability in the long term monitoring program, including spatial data which could be incorporated into a Geographic Information System (GIS).

Despite these gains, the Park staff has limited funding, time, and expertise with all resources to develop and implement a comprehensive long-term inventory and monitoring program.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

Assemble a team of scientists and managers to develop a comprehensive program for long-term inventory and monitoring. Develop a strategy for completing baseline inventories, identify ecosystem components to be monitored, identify staffing needs, and prioritize needs. The natural resource inventory and

monitoring program will employ standard professional techniques and procedures to conduct resource inventories, test census methodologies, compile data, develop inventory databases, analyze results and prepare reports and assessments. The program will identify the design and components for long-term monitoring and be developed in cooperation with professional scientists and researchers with the NAPS, NAPSCPSUs, universities and colleges. The monitoring program will employ locally tested professional techniques and procedures to conduct resource and process assessments, constantly assess monitoring methodologies, compile and analyze results, prepare reports and briefing assessment. The program will develop a database management and geographic information program to record all I&M activities, track resources, and facilitate the preparation of resource facts, trends and threats. The program will be implemented following a prioritized schedule based on objectives, management concerns and NAPS initiatives, funding, suitability to other inventory and monitoring programs, and infrastructure support.

Continue existing monitoring programs. The park will prepare fact and briefing statements about program needs, opportunities, and benefits for park management, the NAPS I&M program, and others involved with natural resource conservation.

BUDGET AND FTEs:

FUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:				
Year 2:				
Year 3:				
Year 4:				
		Total:	0.00	0.0

UNFUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	PKBASE-NR	MON	35.00	2.0
Year 2:				
Year 3:				
Year 4:				

Total: 35.00 2.0

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS: N/A

COMPLIANCE CODE(s): EXCL

EXPLANATION: 516 DM6 APP.7.4E(2) DLY RM&RESRCH

Proposal Date: 92

PROJECT NUMBER: ACAD-N-036.000

TITLE: ECOLOGICAL INVENTORY OF OFFSHORE ISLANDS

FUNDING STATUS: FUNDED: 150.00 UNFUNDED: 100.00

SERVICEWIDE ISSUES: N02 T&E ANIMAL C01 INADEQUATE DOC

CULTURAL RESOURCE TYPE CODE: N/A

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

A recently completed annotated bibliography of scientific work conducted at ACAD and vicinity identified completed inventories as well as information gaps by resource and Park area (Greene et al. 1991). While much is known of MDI resources, basic inventories of flora and fauna including species lists are not currently available for smaller offshore islands within ACAD. Due to their physiography and unique habitats, these islands may harbor endangered species, species of special management concern, or sensitive ecological zones deserving of special protection. Without baseline inventories, impacts are impossible to assess. The growing popularity of sea kayaking and small boating make these habitats especially vulnerable. Tthe development of baseline resource inventories is the first step in developing strategies for long term monitoring and protection.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

Review literature to identify any historical inventories which may have been completed and develop methodologies for surveys, including data collection and computerized database structure. Develop methodology for data collection. Faunal and floral inventories of Park owned islands will be conducted. Data will be entered into the Park's GIS.

BUDGET AND FTEs:

FUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	NR-I&M	MON	50.00	0.0
	RG-NS-RES	MON	5.00	0.0
	PKBASE-NR	MON	25.00	1.8
		Subtotal:	80.00	1.8
Year 2:	NR-I&M	MON	22.00	0.0
	RG-NS-RES	MON	36.00	0.0
	PKBASE-NR	MON	12.00	0.3

Proposal Date: 92

		Subtotal:	70.00	0.3
Year 3:				
Year 4:				
		Total:	150.00	2.1

UNFUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:				
Year 2:				
Year 3:	NR-I&M	MON	50.00	0.0
Year 4:	NR-I&M	MON	50.00	0.0
		Total:	100.00	0.0

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS:

Status: Data collection completed. Final report expected spring 1994.

COMPLIANCE CODE(s): EXCL

EXPLANATION: 516 DM6 APP.7.4E(2) DLY RM&RESRCH

Proposal Date: 93

PROJECT NUMBER: ACAD-N-037.000

TITLE: INVENTORY SPP./ABUND./DISTR. OF BRYOPHYTES

FUNDING STATUS: FUNDED: 0.00 UNFUNDED: 55.00

SERVICEWIDE ISSUES: N20 BASELINE DATA N17 BIODIVERSITY

CULTURAL RESOURCE TYPE CODE: N/A

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

While extensive historical inventory work has been completed for vascular plants throughout the Park's history, little is known of liverworts and mosses (Greene et al. 1991). A historical flora of the Mount Desert Island region was completed by Rand and Redfield (1894) which included over 50 species of mosses and 48 species of liverworts. Subsequent investigators added several dozen species to the known bryophyte flora by the 1940's. Senter (1985) conducted an inventory of mosses in 1985 and listed 131 species including some new records. No studies of liverworts have been attempted for the past 65 years. In addition, there is no information available on these plants for IAH, Schoodic, or offshore island sections of the Park. Information on these plants will represent a significant addition to the Park's inventory and monitoring program.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

Compile all historic and existing data into moss and liverwort databases. Conduct field surveys, especially in areas where little or no previous inventory work has been done including park-owned offshore islands. Identify rare or threatened species for special protection within the park. Coordinate work with other surveys in the State or in New England. Research should also provide recommended monitoring strategies for selected species.

BUDGET AND FTEs:

----------FUNDED----------

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:				
Year 2:				
Year 3:				
Year 4:				

Proposal Date: 93

		Total:	0.00	0.0

UNFUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	RG-NS-RES	RES	15.00	0.0
Year 2:	RG-NS-RES	RES	20.00	0.0
Year 3:	RG-NS-RES	RES	20.00	0.0
Year 4:				
		Total:	55.00	0.0

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS: N/A

COMPLIANCE CODE(s): EXCL

EXPLANATION: 516 DM6 APP.7.4E(2) DLY RM&RESRCH

Proposal Date: 93

PROJECT NUMBER: ACAD-N-038.000

TITLE: COMPLETE FLORA AND FAUNA BASELINE INVENTORIES

FUNDING STATUS: FUNDED: 0.00 UNFUNDED: 170.00

SERVICEWIDE ISSUES: N20 BASELINE DATA

CULTURAL RESOURCE TYPE CODE: N/A

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

ACAD and NAR Office staff, with the assistance of cooperating universities have begun to develop components of a long-term inventory and monitoring program. A comprehensive annotated bibliography has identified over 1000 scientific works which have been completed at ACAD. Significant historical work includes baseline inventories for insects, vascular plants, lichens, and some mammals. Information gaps have also been identified and all scientific work has been reviewed for suitability for a long term monitoring program, including spatial data which could be incorporated into a Geographic Information System (GIS).

Considerable data currently exists, and the Park has established the basis for a long-term monitoring program. Aerial photographs have been taken approximately every 10 years since the mid-1940's. An extensive air quality monitoring program has been established at ACAD. Exotic plant, Lyme disease, white-tailed deer and beaver monitoring programs are currently underway. Ongoing research will provide valuable information on fire history and ecology, subalpine plant communities, and watershed ecology.

To facilitate further development of a comprehensive inventory and monitoring program, several basic inventories must be completed to fill information gaps. These include reptiles, amphibians, liverworts, and mosses. The importance of individual species within these groups as indicators of environmental quality has been well documented. Basic data regarding these resources including species presence or absence, distribution, and abundance will provide information on which to establish long-term ecosystem monitoring.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

In order to complete ACAD's baseline inventories, efforts will be initiated on 1) reptiles and amphibians and 2) liverworts and mosses. MDI, IAH, and the Schoodic Peninsula will be surveyed. Species presence, distribution, and relative abundance will be

investigated. Particular attention will focus on Federally or State endangered and threatened species, species of special concern, and species which may be important bioindicators of environmental quality as identified in previous studies. Information will be incorporated into the Park's GIS. Recommendations for management including long-term monitoring protocols will be included in this study.

BUDGET AND FTEs:

FUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:				
Year 2:				
Year 3:				
Year 4:				
		Total:	0.00	0.0

UNFUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	RG-NS-RES	RES	60.00	0.0
Year 2:	RG-NS-RES	RES	60.00	0.0
Year 3:	RG-NS-RES	RES	50.00	0.0
Year 4:				
		Total:	170.00	0.0

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS: N/A

COMPLIANCE CODE(s): EXCL

EXPLANATION: 516 DM6 APP. 7.4E(2) DLY RM&RESRCH

Proposal Date: 93

PROJECT NUMBER: ACAD-N-039.000

TITLE: INVENTORY RESOURCE IMPACTS ON TRAILS

FUNDING STATUS: FUNDED: 0.00 UNFUNDED: 40.00

SERVICEWIDE ISSUES: N22 VIS USE-DEV ZN

CULTURAL RESOURCE TYPE CODE: N/A

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

ACAD's rich natural resources and scenic beauty attract many hikers onto 115 miles of trails. Hiking is one of the most popular visitor activities (Manning 1987). Another 100+ miles of trail have been abandoned due to lack of maintenance. Maintenance of trails is only loosely tied to resource impacts. Perceived natural resource impacts near trailheads and on trails include areas of extensive vegetation and soil loss, human waste, introduction of exotic plant species, development of social trails, soil compaction, litter, and modification of vegetative communities. Fragile sub-alpine plants are being trampled by visitors on social paths away from park-designated trails. Some trails are poorly located through sensitive resource areas such as bogs, highly erodible soils, etc. and are difficult to maintain. Minimum standards for trail maintenance have not been established. Many trails are not maintained to minimum safety levels or visitor expectations.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

Initiate systematic impact surveys including quantitative and qualitative observations of each impact. Quantitative measurements include mapping areas of impact, length, width, depth, aspect, slope and vegetative type. Social paths would be identified and documented on site maps and with photographs. Impact areas and hiker accidents would be documented on the Park GIS. A prioritization method which includes visitor safety and resource impacts would be developed and incorporated into the Maintenance Management System. From information obtained by this project, a trails maintenance/management plan could be developed which would address minimum maintenance standards, identify staffing/funding levels, identify needed informational guides, and develop a cyclic monitoring program to assess impacts.

BUDGET AND FTEs:

----------FUNDED----------

Source	Act Type	Budget ($1000s)	FTEs

Year 1:

Year 2:

Year 3:

Year 4:

Total:	0.00	0.0

UNFUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	RG-NS-RES	RES	40.00	0.3
Year 2:				
Year 3:				
Year 4:				
	Total:		40.00	0.3

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS: N/A

COMPLIANCE CODE(s): OTHER

EXPLANATION: OMB FOR SOC. SURVEYS IF NECESSARY

Proposal Date: 93

PROJECT NUMBER: ACAD-N-040.000

TITLE: STUDY VISITOR USE OF TRAILS

FUNDING STATUS: FUNDED: 0.00 UNFUNDED: 60.00

SERVICEWIDE ISSUES: N24 OTHER

CULTURAL RESOURCE TYPE CODE: N/A

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

Approximately 115 miles of hiking trails and 55 miles of carriage roads are minimally maintained throughout ACAD. In a visitor survey by Manning (1987), walking (81%) and hiking (69%) were listed as activities in which visitors participated while in the Park. Hiking was also the most important of 17 activities which the Park "should be sure to plan for". Hiking opportunities range from handicap accessible trails and carriage roads to trails which utilize rungs and ladders to allow visitors to climb precipitous cliffs. While it is generally felt that visitors prefer a variety of trails offering diverse experiences (difficulty, solitude, scenery, etc.) no hiker profiles, user satisfaction, or comprehensive trail use levels have ever been measured. The effectiveness of the existing trail marking systems are unknown. Users may inadvertently find themselves on trails more difficult than their ability level, jeopardizing their safety. A difficulty rating system may help hikers select trails which are more suited to their abilities. Past decisions to maintain certain trails and abandon others may have been made without regard to the system as a whole, and most likely have been based on popularity, perhaps to the exclusion of trails which offer opportunities for solitude.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

In order to provide for hiker safety, satisfaction, and resource protection, a sociological study of trail users and trail use is needed. Topics to be studied include but are not limited to: user profiles, trail preferences, trail use levels of selected trails, visitor satisfaction including accessibility of information regarding trail difficulty and selection, satisfaction with maps, ease of following trails, intrusion of too many cairns or markers, convenience, satisfaction with current maintenance levels especially regarding safety, and opportunities for solitude.

Proposal Date: 93

BUDGET AND FTEs:

FUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:				
Year 2:				
Year 3:				
Year 4:				
		Total:	0.00	0.0

UNFUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	RG-NS-RES	RES	60.00	0.0
Year 2:				
Year 3:				
Year 4:				
		Total:	60.00	0.0

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS: N/A

COMPLIANCE CODE(s): OTHER

EXPLANATION: OMB FOR SOC. SURVEYS

Proposal Date: 93

PROJECT NUMBER: ACAD-N-041.000

TITLE: IMPLEMENT COMPREHENSIVE I & M PROGRAM

FUNDING STATUS: FUNDED: 0.00 UNFUNDED: 450.00

SERVICEWIDE ISSUES: N20 BASELINE DATA

CULTURAL RESOURCE TYPE CODE: N/A

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

Acadia is attempting to develop a long term I&M Program and recently employed a full time program coordinator. However, the program is at an elementary stage and needs funding to support the development and establishment of the program. Presently the small staff and base budget are inadequate to implement such a program. The modest GIS system is currently inadequate to support such a program and requires a full time operator. Facilities are inadequate to support additional staff and equipment. The laboratory is small and lacks basic equipment and safety features. The Park lacks transportation for field activities.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

Implement long term I&M Program as defined by the completion of project statement ACAD N-35. Hire a full time GIS Coordinator (GS-401-9) to operate the GIS system. Hire field biological assistants to conduct testing of field methodologies, collect data, develop databases, record data and prepare results.

Provide initial program support by upgrading the laboratory to meet minimal safety and operational needs, constructing office space and providing furnishings; develop office space and all necessary materials and equipment for new and homeless park natural resource collections, and build or purchase office space and equipment, support vehicles and field equipment, the hardware and software to develop a compatible and fully operational GI system, and computers and support to fully equip the I&M Program.

BUDGET AND FTEs:

FUNDED			
	Source	Act Type	Budget ($1000s)	FTEs
Year 1:				
Year 2:				
Year 3:				

Proposal Date: 93

Year 4:

	Total:	0.00	0.0

UNFUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	NR-I&M	MON	300.00	0.0
	PKBASE-NR	MON	150.00	4.0
		Subtotal:	450.00	4.0

Year 2:

Year 3:

Year 4:

Total:	450.00	4.0

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS: N/A

COMPLIANCE CODE(s): EXCL

EXPLANATION: 516 DM6 APP. 7.4E(2) DLY RM&RESRCH

Proposal Date: 90

PROJECT NUMBER: ACAD-N-042.000

TITLE: DEVELOP PARK-WIDE BIBLIOGRAPHY

FUNDING STATUS: FUNDED: 30.00 UNFUNDED: 0.00

SERVICEWIDE ISSUES: N20 BASELINE DATA

CULTURAL RESOURCE TYPE CODE: N/A

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

A recent NPS initiative is to properly inventory and monitor all its natural resources. Selected parks were chosen to begin this process and ACAD was the representative from the NAR. Prior to collecting basic information it is necessary to know what is already available in terms of historical information. Given the long scientific interest in ACAD and the region a wealth of data exists for the region. It is critical to review and assemble this information so that time is not wasted is assembling a comprehensive I&M program (see project N-41).

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

This project will evaluate and assemble the historical resource inventory that pertains to ACAD's resources. Develop a bibliography and incorporated into the computerized bibliographic program, PROCITE. Assess each reference for its relevance continued I&M efforts at ACAD.

BUDGET AND FTEs:

FUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	RG-NS-RES	RES	10.00	0.0
Year 2:	RG-NS-RES	RES	10.00	0.0
Year 3:	RG-NS-RES	RES	10.00	0.0
Year 4:				
	Total:		30.00	0.0

UNFUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:				

Proposal Date: 90

Year 2:

Year 3:

Year 4:

Total:	0.00	0.0

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS:

Status: COMPLETED

COMPLIANCE CODE(s): EXCL

EXPLANATION: 516 DM6 APP. 7.4E(2) DLY RM&RESRCH

Proposal Date: 91

PROJECT NUMBER: ACAD-N-043.000

TITLE: ESTABLISH BASELINE WATER QUALITY FOR SOMES SOUND

FUNDING STATUS: FUNDED: 40.00 UNFUNDED: 0.00

SERVICEWIDE ISSUES: N20 BASELINE DATA

CULTURAL RESOURCE TYPE CODE: N/A

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

Somes Sound is the only true fjord on the eastern seaboard. Slightly less than half of its shoreline lies within the boundaries of ACAD. Despite the unique nature of this resource there is very little data available. Because of the potential for development on the portion of the shoreline that does not lie within ACAD the entire system may experience population impacts, it is important for the NPS to understand the dynamics of this system. Baseline data may be used to mitigate any potential impacts.

Fjords are particularly sensitive to sewage discharge and nutrient additions that are common to marine pollution. Increased nutrient inputs increase algal populations that eventually decay and decrease oxygen levels. Because the bottom of fjords are only occasionally replaced eutrophication of surface waters increases the tendency toward low oxygen.

Data collection for this project will allow the NPS to monitor any changes that take place in the future. Implementation of this work represents sound, effective natural resource management prior to a crisis situation.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

This study will focus on three objectives: 1) gather base-line information on the distribution of dissolved oxygen, dissolved inorganic nutrients, salinity, and temperature; 2) gather information on the discharge of freshwater streams into the system and the concentrations of dissolved nutrients in these discharges; 3) evaluate the water quality in the Sound and present level of environmental stress as judged by hypoxic or anoxic bottom water.

As part of the work previously described, fish, benthos, and avifauna populations will be evaluated.

Proposal Date: 91

BUDGET AND FTEs:

FUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	WATER-RES	RES	20.00	0.0
Year 2:	WATER-RES	RES	20.00	0.0
Year 3:				
Year 4:				
		Total:	40.00	0.0

UNFUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:				
Year 2:				
Year 3:				
Year 4:				
		Total:	0.00	0.0

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS: N/A

COMPLIANCE CODE(s): EXCL

EXPLANATION: 516 DM6 APP. 7.4E(2) DLY RM&RESRCH

Proposal Date: 93

PROJECT NUMBER: ACAD-N-044.000

TITLE: ECOLOGICAL INVENTORIES OF CONSERVATION EASEMENTS

FUNDING STATUS: FUNDED: 0.00 UNFUNDED: 120.00

SERVICEWIDE ISSUES: N20 BASELINE DATA

CULTURAL RESOURCE TYPE CODE: N/A

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

This project, although listed separately, is a component of all other I&M projects listed in this RMP. Easements, like many of the other resources under the jurisdiction of ACAD have never been inventoried. As ACAD has over 100 easements and many of them are on offshore islands, the ability of the Park to gather basic information on them has been severely limited. Nevertheless, it is the responsibility of the easement holder to know the major resources of each property and fulfilling the terms of each agreement (i.e., protecting the resources).

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

The protocols for this project can be found in the other I&M projects in this Plan.

BUDGET AND FTEs:

FUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:				
Year 2:				
Year 3:				
Year 4:				
		Total:	0.00	0.0

UNFUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	RG-NS-RES	RES	40.00	0.0
Year 2:	RG-NS-RES	RES	40.00	0.0

Proposal Date: 93

Year 3:	RG-NS-RES RES	40.00	0.0
Year 4:			
	Total:	120.00	0.0

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS: N/A

COMPLIANCE CODE(s): EXCL

EXPLANATION: 516 DM6 APP. 7.4E(2) DLY RM&RESRCH

Proposal Date: 93

PROJECT NUMBER: ACAD-N-046.000

TITLE: RARE AND ENDANGERED PLANT MANAGEMENT

FUNDING STATUS: FUNDED: 0.00 UNFUNDED: 120.00

SERVICEWIDE ISSUES: N17 BIODIVERSITY N20 BASELINE DATA

CULTURAL RESOURCE TYPE CODE: N/A

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

An inventory of rare plants occuring in the park was completed by Greene (1990) which included historic research and two seasons of field surveys. No federally listed species occur in Acadia, however 20 state listed species were extant on park lands and four others have been located on adjacent properties. Thirteen historic occurances of rare species were not relocated. A preliminary list of "locally rare" species, those of limited occurance within park boundaries, has been established.

Continued inventorying and monitoring is critical to conserving rare species and their habitats, and maintaining biodiversity in the park. Greene prescribed monitoring state listed platns, identified in the study every five years; it has now been five years since Greene's field work in 1988 and 1989. Further surveys of rare plants and habitats are necessary since only a limited protion of the park was searched by Greene.

The locally rare list established by Greene was not based on numerical criteria and is not complete. All species occuring in Acadia need to be evaluated against abundance criteria to ensure all species that fall into a locally rare category receive management attention.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

Monitor rare plant occurance on the prescribed schedule. Continue to search for historic and new rare plant occurances within Acadia and adjacent lands. Rate all plant species in the park against an abundance criteria and continue to develop the locally rare list. Create a database to track pertinent data on all rare plant ocurrences in the park, helpful to all divisions, i.e. maintenance and interpretive operations. Map rare plants and incorporate data into the park's GIS. Create a comprehensive plant checklist for park visitors, researchers, and other interested parties.

Proposal Date: 93

BUDGET AND FTEs:

FUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:				
Year 2:				
Year 3:				
Year 4:				
		Total:	0.00	0.0

UNFUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	NRPP	RES	30.00	1.0
Year 2:	NRPP	RES	30.00	1.0
Year 3:	NRPP	RES	30.00	1.0
Year 4:	NRPP	RES	30.00	1.0
		Total:	120.00	4.0

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS: N/A

COMPLIANCE CODE(s): ESA SEC7

EXPLANATION: T & E PLANTS

Proposal Date: 93

PROJECT NUMBER: ACAD-N-047.000

TITLE: BIODIVERSITY & CONSERV. OF INVERTEBRATES IN NAR

FUNDING STATUS: FUNDED: 0.00 UNFUNDED: 180.00

SERVICEWIDE ISSUES: N17 BIODIVERSITY N20 BASELINE DATA

CULTURAL RESOURCE TYPE CODE: N/A

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

Conservation of Park faunas is a major priority of the NPS. a great deal of discussion and debate, and considerable scientific research, has been devoted to the conservation of animal species and to the implications of this mandate (Dottavio, Brussard, and McCrone 1990). However, very little of this effort has focused on invertebrates. To date, there has been no comprehensive, effort to conserve invertebrates in National Parks, or even to identify species at risk (Stohlgren & Quinn. 1991).

Part of the difficulty in dealing with invertebrate observation is the bewildering diversity that must be faced. Studies of the terrestrial arthropod fauna of MDI from the early and mid-1900's identified a total of 6,578 species (Proctor 1946). Therefore the species richness of insects exceeds that of all other plants and vertebrates combined. One implication of this diversity is that the status of the populations of most invertebrate species is unknown. Numerous species could be lost or impacted without our knowledge. In order to manage these resources properly, the least that is required is a baseline data set describing the current status of diversity. This can then be used to compare with earlier data sets as well as be used to establish a long-term monitoring program to recognize changes in these populations (and the ecosystems of which they are an integral part).

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

The park needs a tested monitoring program to evaluate changes in the health of the park's invertebrates fauna (Ginsberg 93) based on current baseline of invertebrate diversity and being aware of any special status species. The project will also be designed to provide information on important species in the region, a list of recognized taxonomic specialists for the region, and a cost/benefit comparison of surveys methods.

Two approaches are proposed to characterize the Park's invertebrate fauna and to collect baseline data: 1)

comprehensive samples will be taken of selected invertebrate taxa (genus to order). The characteristics of these taxa should include taxonomy that is well known with experts available for help with identification. collecting procedures should not present any extraordinary difficulties. 2) the use of taxonomic experts to generate a list of T&E/rare species and then consult in the identification of species found in the field sampling. (including on-site visits).

The surveys will be conducted using standard (i.e., Stratified Random, Search and Collect, and Systematic) sampling techniques appropriate to the taxa selected. Completeness, ease of use and quality control, and the total numbers of taxa, species, and individuals will be evaluated in recommending a long term monitoring and comparing results to Proctor's work.

The primary focus of this effort will include insect fauna for which there is comparative data from the early 1900's (Proctor 1946). Two taxa have been tentatively chosen: Odonata and Hymenoptera representing regional distribution and comparisons to Proctor's (1946) findings from a half century ago.

BUDGET AND FTEs:

FUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:				
Year 2:				
Year 3:				
Year 4:				
		Total:	0.00	0.0

UNFUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	NRPP	RES	60.00	0.0
Year 2:	NRPP	RES	60.00	0.0
Year 3:	NRPP	RES	60.00	0.0
Year 4:				
		Total:	180.00	0.0

Proposal Date: 93

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS: N/A

COMPLIANCE CODE(s): EXCL

EXPLANATION: 516 DM6 APP. 7.4E(2) DLY RM&RESRCH

Proposal Date: 93

PROJECT NUMBER: ACAD-N-048.000

TITLE: DETERMINE STATUS OF SONGBIRD POPULATIONS

FUNDING STATUS: FUNDED: 0.00 UNFUNDED: 80.00

SERVICEWIDE ISSUES: N02 T&E ANIMAL N16 NEAR-PARK DEV

CULTURAL RESOURCE TYPE CODE: N/A

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

A tremendously diverse avifauna, 338 species, have been identified on Mount Desert Island (MDI) and surrounding areas. Acadia National Park (ANP, Park) and MDI are specifically known as one of the premier bird watching areas in the country for observing songbirds. There are the 23 breeding warblers in the park. Simons (1991) reports Maine has 79% of the nesting migratory bird species in the country. The Park and surrounding lands provide a unique mix of habitats, in that northern and southern species of songbirds can be observed in a small geographic area. Although migratory bird habitats within NPS lands are thought to be relatively unaffected by human activities when compared to corresponding habitats on adjacent public and private lands, research has shown that development and land-use practices just outside of the park's boundaries can adversely affect park avifauna. Habitat fragmentation and changing land use practices are occuring around the Park as well as in most of the eastern United States. The effects of these activities on Park avifauna are unknown.

The National Park Service is a member of the interagency Neotropical Migratory Bird Conservation Program (NMBCP) whose mission is the long term conservation of neotropical migratory birds in a coordinated network of national parks and equivalent reserves. As a member of the NMBCP the NPS has prepared a draft plan that identifies the need for "selected units of the NPS [to serve] as baseline areas where research and monitoring will be conducted cooperatively with partners in the NMBCP". The State of Maine Dept. of Inland Fisheries and Wildlife (MDIF&W), a cooperator with NMBCP, recognizes the Park as an excellent long-term monitoring site due to it's commitment to natural resource monitoring and habitat protection. The park's involvement as a baseline monitoring site would enhance Park and NMBCP objectives by providing information to interpretative & education programs, monitoring bird population trends, and assisting with research programs to support regional and international efforts in conserving bird populations.

The Park needs a long-term monitoring program that would establish baselines to monitor this unique resource as a component of the park's Long-term Monitoring Program. The program would also provide information to other monitoring efforts, the park's interpretive division for educational and naturalist programs, and build working relationships with local support groups. The park has historic data for present and future monitoring comparisons, research and professional support (i.e., College of the Atlantic, Bates College, CPSU-University of Maine, MDIF&W, etc.), a highly qualified local volunteer program, and cooperative management relationships to assist in developing and maintaining this program.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

The Park recommends becoming an active NPS representative by establishing a song (i.e, land) bird program as identified in the NMBCP. The program would support park objectives by establishing a current baseline and monitoring program to evaluate songbird populations.

The Park proposes developing a long-term monitoring program to 1) evaluate trends of the common and more vocal species, 2) produce indices of breeding and fall songbirds, 3) evaluate trends in productivity, 4) assess habitat characteristics, and 5) produce quantifible data to exchange and compare with other state, regional, national songbird monitoring efforts. The program would utilize locally talented specialists (e.g., local Audubon and college instructors) to assist with various project components and continue to build a better working relationship between the park and area residents. This cooperative venture will also develop a long term local resident interest and commitment in monitoring this unique resource while it saves the project and long-term program costs of highly qualified seasonal technicians. The project will evaluate historic songbird data in establishing the design and data collection schedule. The point count methodology will be used during spring and during fall migrations.

The park conducted a preliminary investigation of habitats, breeding birds in those habitats, management issues and concerns, and monitoring activities and networks within the Park's geographic region. The park also contacted fourteen experts and conducted a literature search in exploring which methodologies were suitable to the park's objectives and budget (Super et. al. '93). From that review, the following three standardized monitoring methodologies were selected for this project:
1) Breeding Bird Survey (BBS) - established to detect regional population trends using qualified volunteers. Although several Park roads are possible, the Park Loop is ideally suited to this methodology.

2) Random Stratified Point Counts (Point Count) - established to enhance the BBS data and address song/land bird indices in specific environments or habitats with greater confidence. The Park has comparable historic data and numerous habitats that would require the extra detail of this methodology. Highly qualified volunteers (i.e., College professors) can conduct this methodology. Approximately 240 count points would be established making use of the fire roads, trails and carriage roads.
3) Mapping Avian Productivity Stations (MAPS) - established to assess productivity and survivorship and sanctioned by the NMBCP and the U.S. Fish and Wildlife Service. ANP has several species that have been identified by the managing program (i.e., Institute for Bird Populations). This methodology would require a highly qualified technician or specialist for four months every year. Approximately a dozen parks have MAPS programs. Three sites would be chosen from several highly suitable locations.

Our choice of these methodologies is based on their contribution to the objectives (stated above) and the Park's ability to select levels of effort based on available funding, skilled volunteers and other resource priorities.

All information will be developed and entered into the Park's GIS and quantitative databases for long term monitoring and management. Information gained from this program will be presented to the staff annually to help in the development of educational information. The results will be prepared in non-technical summary reports with recommendations on research and management efforts. The GIS databases, monitoring methodologies and use manuals, and information and educational programs will be additional products.

BUDGET AND FTEs:

FUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:				
Year 2:				
Year 3:				
Year 4:				
		Total:	0.00	0.0

UNFUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	NRPP	MON	20.00	0.0

Proposal Date: 93

Year 2:	NRPP	MON	20.00	0.0
Year 3:	NRPP	MON	20.00	0.0
Year 4:	PKBASE-NR	MON	20.00	0.0
		Total:	80.00	0.0

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS: N/A

COMPLIANCE CODE(s): EXCL

EXPLANATION: 516 DM6 APP. 7.4E(2) DLY RM&RESRCH

Proposal Date: 93

PROJECT NUMBER: ACAD-N-049.000

TITLE: IMPACTS OF SNOWMOBILES ON PARK RESOURCES

FUNDING STATUS: FUNDED: 0.00 UNFUNDED: 40.00

SERVICEWIDE ISSUES: N20 BASELINE DATA

CULTURAL RESOURCE TYPE CODE: N/A

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

The use of snowmobiles on park roads has steadily increased since 1966. However, the effects of snowmobiles on Park resources are unknown. No data is available to justify the expansion or curtailment of this activity within Park boundaries. In addition, interest groups pressure Park management for more trail availability while opponents contend that snowmobiling has no place in a National Park.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

This work will involve gathering information on the number and intensity of snowmobile use within the Park. Once established, specific trails must be evaluated to determine effects on biotic resources. This will also involve the effects of this activity on other winter user groups within the Park.

BUDGET AND FTEs:

FUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:				
Year 2:				
Year 3:				
Year 4:				
		Total:	0.00	0.0

UNFUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	RG-NS-RES	RES	20.00	0.0
Year 2:	RG-NS-RES	RES	20.00	0.0

Proposal Date: 93

Year 3:

Year 4:

Total:	40.00	0.0

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS: N/A

COMPLIANCE CODE(s): OTHER

EXPLANATION: OMB FOR SOC. SURVEYS

Proposal Date: 93

PROJECT NUMBER: ACAD-N-050.000

TITLE: GLOBAL CLIMATE CHANGE

FUNDING STATUS: FUNDED: 0.00 UNFUNDED: 60.00

SERVICEWIDE ISSUES: N20 BASELINE DATA

CULTURAL RESOURCE TYPE CODE: N/A

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

In the past century there have been major increases in the atmospheric concentrations of greenhouse trace gases such as carbon dioxide, methane, and chloroflourocarbons. These changes have subjected the earth to an uncertain future of global warming, climatological change, and potentially significant changes in the earths ecosystems. Prediction of these changes and ecosystem responses will be critical to managing National Park resources.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

This study will focus on the analysis of carbon cycling processes in northern forested wetlands and to determine how the major sources and sinks of carbon in these ecosystems may respond to or influence global carbon cycling or climate change. Carbon will be used as a focal point in this analysis because carbon represents a major ecological unit of currency. In short, carbon cycling provides a means of developing an integrated analysis of the potential feedbacks between ecological systems and changing patterns of resource use in ACAD which will be applicable throughout the National Park system.

This project will examine and make a comparative analysis of carbon cycling processes and patterns in a set of coastal forested wetlands at ACAD and a set of inland wetlands located near the University of Maine in Orono. These sites will include contrasting combinations of deciduous and coniferous vegetation and organic versus mineral soils. specific objectives will include:

1) To quantify the distribution of soil carbon and the seasonal patterns of carbon dioxide and methane release from the forested wetland soils at each site;

2) To determine the influence of temperature, hydrology, substrate quality, soil physical-chemical properties, and forest cover type on rates of carbon mineralization at the coastal and

inland sites;

3) to develop a conceptual model of carbon sources, sinks, and cycling as a function of environmental change in northern forested wetlands.

BUDGET AND FTEs:

FUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:				
Year 2:				
Year 3:				
Year 4:				
		Total:	0.00	0.0

UNFUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	CLI-CHGE	RES	20.00	0.0
Year 2:	CLI-CHGE	RES	20.00	0.0
Year 3:	CLI-CHGE	RES	20.00	0.0
Year 4:				
		Total:	60.00	0.0

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS: N/A

COMPLIANCE CODE(s): EXCL

EXPLANATION: 516 DM6 APP. 7.4E(2) DLY RM&RESRCH

Proposal Date: 92

PROJECT NUMBER: ACAD-N-051.000

TITLE: HAZARD FUELS MONITORING

FUNDING STATUS: FUNDED: 46.00 UNFUNDED: 28.00

SERVICEWIDE ISSUES: N07 NAT FIRE REGM N20 BASELINE DATA

CULTURAL RESOURCE TYPE CODE: N/A

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

Acadia National Park consists of over 35,000 acres of land. The vast majority of this acreage is forested. Development of abutting and nearby properties is increasing, leading to a greater wildland/urban interface fire problems and increasing values at risk. The 1947 Bar Harbor Fire, which burned over 17,000 acres of forested lands, including about 10,000 acres within the park, is an indication of the type of catastrophic fire situation that can occur in the fuel models present at Acadia.

Little is currently known about the specific fuels that exist in the park and their respective fuel loadings. Without this information, it is hard to accurately predict the behavior of fires in the park and how the composition and relative loading of these fuels may change over time.

In order to understand the park's fuels and their dynamics, longterm monitoring plots need to be established to provide baseline data on these fuels.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

Establish and inventory permanent hazard fuels monitoring plots to monitor fuel loadings, vegetative changes and regeneration. Where possible, temporary inventory plots used for the "Fire Regimes of the Coastal Maine Forests of Acadia National Park", Patterson, et al, 1983, study will be re-utilized in order to provide immediate comparisons of change over time.

BUDGET AND FTEs:

FUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	REG-OTHER	MON	25.00	0.5
Year 2:	REG-OTHER	MON	21.00	0.3
Year 3:				

Proposal Date: 92

Year 4:

Total:	46.00	0.8

UNFUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:				
Year 2:				
Year 3:	REG-OTHER	MON	28.00	0.3
Year 4:				
Total:			28.00	0.3

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS: N/A

COMPLIANCE CODE(s): EXCL

EXPLANATION: 516 DM6 APP.7.4E(2) DLY RM&RESRCH

Proposal Date: 92

PROJECT NUMBER: ACAD-N-051.000

TITLE: HAZARD FUELS MONITORING

FUNDING STATUS: FUNDED: 46.00 UNFUNDED: 28.00

SERVICEWIDE ISSUES: N07 NAT FIRE REGM N20 BASELINE DATA

CULTURAL RESOURCE TYPE CODE: N/A

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

Acadia National Park consists of three units totalling over 35,000 acres of land. The vast majority of this acreage is forested. Development of abutting properties is increasing, leading to a greater wildland/urban interface problem. The 1947 Bar Harbor Fire, which burned over 17,000 acres of forested lands (10,000 acres within the park), is an indication of the fire situations that can occur in the fuel models present at Acadia.

Little is known about the specific hazard fuels that exist in the park. The park has mechanically treated areas of high risk hazard fuels since 1990 to investigate it's usefulness in reducing hazard fuels. More basic research is needed to understand the fuels present in the park and how treatment affects those fuels. Is treatment actually reducing risk or is it increasing that risk through disturbance and increased reproduction?

In order to understand the park's fuels, long-term monitoring plots need to be established to provide baseline data and to monitor natural and treatment induced changes in fuel loading and composition. A system to prioritize hazard fuels data is needed to aid in the process of deciding where to carry out hazard fuels reduction. Additionally, the park needs to investigate the use of fire as a hazard fuels reduction tool and as a tool for perpetuating fire dependent plant species.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

Establish permanent hazard fuels monitoring plots in both treated and untreated areas to monitor long-term fuel loadings in various fuel models and to track regeneration and vegetative changes related to fuel reduction efforts. Create a GIS based analysis system for prioritizing hazard fuels reduction projects. Conduct research burns to explore the potential use of fire as a hazard fuels reduction tool.

Proposal Date: 92

BUDGET AND FTEs:

FUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	REG-OTHER	MON	25.00	0.5
Year 2:	REG-OTHER	MON	21.00	0.3
Year 3:				
Year 4:				
		Total:	46.00	0.8

UNFUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:				
Year 2:				
Year 3:	REG-OTHER	MON	28.00	0.3
Year 4:				
		Total:	28.00	0.3

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS: N/A

COMPLIANCE CODE(s): EXCL

EXPLANATION: 516 DM6 APP.7.4E(2) DLY RM&RESRCH

Proposal Date: 92

PROJECT NUMBER: ACAD-N-052.000

TITLE: DEVELOP VEGETATION MANAGEMENT PLAN-BAKER ISLAND

FUNDING STATUS: FUNDED: 6.00 UNFUNDED: 0.00

SERVICEWIDE ISSUES: N08 CULT LANDSCAPE

CULTURAL RESOURCE TYPE CODE: N/A

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

Baker Island is a 160 acre island located 4 miles from Mount Desert island and is a part of Acadia National Park. Baker Island has a long history of human occupation dating to 1806 when it was first settled by William Gilley. Between 1806 and 1825, much of the island's forest cover of spruce, fir, birch and beech was cut for lumber and fuel and to accommodate agriculture and grazing. In 1828, a lighthouse and keeper's quarters was built on a high point near the center of the island. The original lighthouse and quarters were replaced in 1856. Although the island once supported some sixty inhabitants and a schoolhouse by the early 1900's permanent occupation of the island had significantly declined. With the demise of active grazing and agriculture much of the cultivated land and pastures began the long process of forest succession. In 1955 the lighthouse was automated. In 1958, the U.S. Coast Guard transferred the lighthouse and keeper's quarters to the National Park Service. The deed which conveyed the property to the NPS retained for the USCG a 20x20 foot plot which surrounds the light tower and also stipulates that no construction or natural growth will be permitted on the land conveyed which would obstruct the view of the light. In 1987, Acadia National Park, in cooperation with the USCG did some selective cutting of trees to allow for continued use of the light as an Aid to Navigation. This cutting was done without the aid of a Cultural Landscape Report or professionally prepared Forest Management Plan. In 1991, the Draft General Management Plan for Acadia was released for public review. Although written comments are still being assembled there appears to be strong support to retain certain culturally significant park landscapes including Baker Island. More importantly, the USCG in November of 1991, announced its intent to deactivate the Baker Island Light due to encroaching vegetation and to replace this vital aid to navigation with a lighted marine buoy. Public response was overwhelmingly in favor of keeping the lighthouse and managing vegetation to ensure clear visibility of the light. In December of 1991, USCG and the staff of Acadia meet to outline a strategy to retain the light as an aid to Navigation. At that meeting it was decided that Acadia

would take the lead role in assessing and managing vegetation on Baker Island as required by the deed of transfer. The University of Maine, College of Forest Resources, conducted a forest inventory and assessment of the island at no cost to the Service during May of 1992 and 1993. The forest inventory and assessment report is currently under review by park management. In addition, the North Atlantic Regional Office funded a Cultural Landscape Assessment of the island through the Olmstead Center for Cultural Landscapes. The Cultural Landscape Report is expected shortly.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

A cultural landscape assessment, prepared by the National Park Service, is urgently needed to provide guidance and direction, delineate the cultural and natural zones of the island and establish parameters for the forest inventory and vegetation management. Additional surveys for rare, threatened and endangered plant species by a professional botanist will be required. Funding will be used to cover salary, travel, and per diem for a Regional Landscape Specialist and Schedule A scientist.

BUDGET AND FTEs:

FUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	PKBASE-NR	MON	6.00	0.3
Year 2:				
Year 3:				
Year 4:				
		Total:	6.00	0.3

UNFUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:				
Year 2:				
Year 3:				
Year 4:				
		Total:	0.00	0.0

Proposal Date: 92

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS: N/A

COMPLIANCE CODE(s): 106 EA

EXPLANATION:

Proposal Date: 93

PROJECT NUMBER: ACAD-N-053.000

TITLE: IDENTIFY & MITIGATE LAND USE ENCROACHMENTS

FUNDING STATUS: FUNDED: 0.00 UNFUNDED: 367.50

SERVICEWIDE ISSUES: N16 NEAR-PARK DEV N20 BASELINE DATA

CULTURAL RESOURCE TYPE CODE: N/A

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

Acadia National Park, the only national park in the northeast, was established by the donation of private lands to preserve outstanding scenic, natural, scientific, and historic values. The park is relatively small (i.e., 35,000 acres) with a very irregular and complex boundary. This acquisition of lands has resulted in 120 miles of complex and irregular fee boundary in both rural and urban settings, much of which has not been surveyed, permanently marked, or monitored for resource protection. The park boundary has approximately 2,000 contiguous privately owned tracts of property of which approximately 1,200 are developed and another seventy proposed for or currently under some form of urban development.

Encroachment on park lands and resources has been occurring for years but has increased significantly over the last two decades as large tracts of land (over 100 acres) have been developed for urban and commercial uses. Recently discovered impacts include over 8,000 cubic feet of fill being deposited on park lands in two locations. The illegal deposit of fill has since eroded and spread over wetland resources and into one of Acadia's most scenic and entire water courses found within the Park's boundary. This encroachment incident is not unique to the park. Other resource impacts along park boundaries include placing fill material over park wetlands, stream sedimentation, mineral extraction, old growth forest harvesting, and inappropriate personal uses of park lands and resources including the construction of permanent structures on park property.

As land use adjacent to Acadia's boundaries changes from rural to urban, threats and impacts to adjacent park resources and environments will not only continue, but increase from land owner encroachments. The extent of current and potential damage to natural resources is largely unknown.

The park staff can not adequately respond and maintain surveillance along this complex boundary. Hiring additional park staff would help but would still be reactive. Instead, the Park

proposes the development and establishment of a boundary resource database, and a resource program and strategy to address the constantly changing land status. The database would add significantly to the Park's knowledge of boundary resources and be a permanent, working reference enabling the Park's staff to effectively implement a proactive resource protection program. Upon completion, the program would enable park managers to identify resources of high value to the park, prioritize potential threats, plan and conduct boundary reconnaissance, prevent resource impacts by anticipating problems, and proactively work with community zoning boards and developers to maximize protection of park resources. Until the program is implemented, the park will continue to discover boundary impacts to late to protect natural resources. This project is the number 1 resource mitigation project within the park's RMP and a high priority of the GMP. Despite this being one of the highest priority resource issues identified in the park's RMP, the park has been unsuccessful in securing funding after several requests and resource impacts continue.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

The Park proposes to develop a boundary and resource monitoring program based on a resource database and surveyed and marked boundaries. This proposal would develop the program's fundamental working components over the next three years to assist the lands and natural resource management staff in mitigating impending and future impacts from boundary encroachments. The program's fundamental components are 1) establish park boundaries, 2) develop a database of permanent land markers and resources values, and 3) develop the monitoring strategy and basic tools needed to mitigate adjacent land use impacts. These three products would provide the Park with the foundation to proactively protect park lands and resources.

The project would identify, stratify, and prioritize Park boundaries known or suspected to be impacted by illegal activities and encroachment by comparing available GIS and aerial photography with land use records from the neighboring towns. The prioritized list of high, moderately high, and moderately threatened lands would then be structured into the three project phases to insure completion and maximize cost effectiveness. The first phase would begin with the highly threatened areas. Boundaries with moderately low impact assessments would be completed following the project's completion by additional funding requests, Park staff and available base funds, and other cooperative arrangements between the Park and cooperators.

The project would then contract with a state certified surveyor to permanently locate and mark the boundary and create GIS data sets compatible with the Park ArcInfo format. Concurrently, the

Park would hire a long-term resource specialist to work with the present Park staff and consulting resource specialists to (1) identify resources of high value, (2) assess resource damage that has already taken place, (3) conduct an assessment and permanent location of boundary resources, (4) develop databases, both spatial (GI) and relative (lands and resource) pursuant to a long-term monitoring and mitigation program (4) and where appropriate, develop mitigation strategies for current or potential encroachments. The project would attempt to survey approximately one third of the high, moderately high, and moderately threatened lands per year. The resource specialist would accompany or closely follow the survey activities each year and assess boundary resource values. The resource specialist would identify when park and consulting specialists would be needed to quantify resources. These special services would include, but not be limited to, such activities as wetlands identification, hydrologic values, Federal and State species of concern (i.e., T&E, locally rare, and sensitive etc.), special wildlife habitat, scenic vistas and visitor use areas, and cultural and archaeological resources. Resource information would be placed into both a permanent GIS and resource database for future use. The spatial information would be digitized through a contract with a local college which has a Cooperative Agreement with the Park; quality control would be provided by the regional GIS Coordinator in consultation with park staff.

The park would use base funded staff to interact with town land offices and zoning committees, conduct all other land and easement reviews, and mitigate currently known and expected encroachments to allow the project a full complement of time and resources to complete it's annual assignment. The Park would also continue to acquire deeds for all adjacent land tracts to complete the Park's reference files and continue to develop it's geographic information database and system.

BUDGET AND FTEs:

	FUNDED		
	Source	Act Type	Budget ($1000s)	FTEs
Year 1:				
Year 2:				
Year 3:				
Year 4:				
Total:			0.00	0.0

Proposal Date: 93

----------UNFUNDED----------

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	NRPP	MIT	132.00	1.0
Year 2:	NRPP	MIT	114.50	1.0
Year 3:	NRPP	MIT	121.00	1.0
Year 4:				
		Total:	367.50	3.0

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS:

A. No Action. The Park would continue to respond to lands and boundary issues on a case by case basis while completing other activities or by notification by concerned residents. Continued encroachment and other illegal activities along the Park boundary lands would be expected to increase.

COMPLIANCE CODE(s): EXCL

EXPLANATION: 516 DM2 APP. 2, 1.6

Proposal Date: 91

PROJECT NUMBER: ACAD-N-053.001

TITLE: IDENTIFY AND MITIGATE LAND USE ENCROACHMENTS
SUBPROJECT TITLE: BOUNDARY SURVEYS, ETC

FUNDING STATUS: FUNDED: 6.00 UNFUNDED: 200.00

SERVICEWIDE ISSUES: N16 NEAR-PARK DEV

CULTURAL RESOURCE TYPE CODE: N/A

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

Acadia National Park has over 140 miles of external fee interest boundary. Some of these boundary lines have never been professionally surveyed and those which were surveyed have not been marked or maintained for several decades due to inadequate staff and funding and, until recently, the lack of a congressionally authorized boundary. Until 1986 the park was authorized to accept, in fee interest, lands donated anywhere within Hancock County. This authority resulted in a constantly changing patchwork of park/private ownership. In 1986, Public Law 99-420 established a permanent fixed boundary and authorized the park to acquire additional private property and delete certain federal holdings in an effort to consolidate park ownership into manageable units. Although land acquisition continues, most of the external boundaries are now delineated on maps and unlikely to change significantly in the future. Nevertheless, Acadia will continue to have a highly irregular external boundary and an increasingly complex park/urban interface. Encroachment of park land is a constant and ever increasing problem. Recent problems associated with the parks unclear and unmarked boundaries include: loss of park vegetation, trash dumping, poaching, and even the construction of structures on park lands. Some of these violation have been intentional but most have been inadvertent and the result of unclear ownership lines.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

The overall strategy to resolve this issue includes:

(1) Securing copies of property deeds for all tracts of land within the park. The park now has within its archives approximately 60% of the property deeds and records. The remaining deeds are in archives in Washington. A list of all tracts for which the park lacks deeds and records has been forwarded to the Land Resources Office in Philadelphia.

(2) Identifying those external boundaries which require a professional survey and developing a cyclic program to survey a reasonable number of miles of boundary a year. Priority will be given to those sections of the boundary which are most threatened by adjacent land use, poaching, etc. Park operating funds or some type of regional cyclic program would be required to achieve this task.

(3) Identifying those external boundaries for which there has been an professional survey, and physically relocating property lines and corners, clearing vegetation from boundary lines and marking with NPS boundary signs to ensure boundaries are apparent.

(4) Patrolling, monitoring, and periodically maintaining boundaries to ensure encroachment is minimized.

Task #1 above is in progress and should provide the missing data to proceed in the future with Task #2. Completion of these phases of the strategy will require several years. Task #3 can be accomplished by the park through an annual program of boundary maintenance. In 1991, the park in cooperation with University of Maine, College of Forest Resources, began a pilot project to relocated, mark, and clear park boundaries. The project required ten weeks of seasonal staff time to research property records, contact adjacent landowners, develop an action plan and provide supervision and quality control. In addition, $1000.00 was required to cover the cost of a Schedule A scientist to inventory property lines for rare, threatened and endangered plant species. The NPS cost of this project was $6,000.00 an was made possible by lapse positions and the assistance of the Regional Office of Scientific Studies. The University of Maine students surveyed over ten miles of boundary lines, cleared them of vegetation and installed NPS boundary markers. The University's contribution to the project is estimated at $3,000.00. The University is interested in establishing a long term relationship with the park and would like to undertake additional boundary work in 1992. Once park boundaries are clearly identified and marked, monitoring will be incorporated into regular ranger patrols and periodic maintenance performed by park staff or University students.

BUDGET AND FTEs:

FUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	PKBASE-NR	MON	5.00	0.2
	PKBASE-NR	MON	1.00	0.0
		Subtotal:	6.00	0.2

Proposal Date: 91

Year 2:

Year 3:

Year 4:

	Total:	6.00	0.2

UNFUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:				
Year 2:	PKBASE-NR	MON	20.00	1.0
	NON-NPS-O	PRO	60.00	0.0
		Subtotal:	80.00	1.0
Year 3:	NON-NPS-O	PRO	60.00	0.0
Year 4:	NON-NPS-O	PRO	60.00	0.0
		Total:	200.00	1.0

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS: N/A

COMPLIANCE CODE(s): EXCL

EXPLANATION: 516 DM6 APP. 7.4E(2)

Proposal Date: 93

PROJECT NUMBER: ACAD-N-054.000

TITLE: PURCHASE GLOBAL POSITIONING SYSTEM

FUNDING STATUS: FUNDED: 0.00 UNFUNDED: 14.00

SERVICEWIDE ISSUES: N24 OTHER

CULTURAL RESOURCE TYPE CODE: N/A

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

Acadia National Park has one of the most complex resource management programs in the North Atlantic Region. The park's combination of unique natural, cultural, and scenic resources combined with a complex land acquisition and conservation easement program generates numerous research, monitoring, and resource protection programs annually. Documentation of data obtained through inventorying, monitoring, and mitigation programs is becoming more complex each year. The Park's Geographic Information System is used extensively and provides an excellent system for archiving, analyzing and retrieving data. However, the accuracy and effectiveness of GIS is only as good as the field data entered into the system. Accurately plotting information such as research and monitoring field plots is often difficult, costly and time consuming to do using conventional methods. The Global Positioning System is state of the art technology which can plot locations with amazing speed and accuracy, even in remote areas where good control points are lacking. In addition the GPS also allows managers and technicians to quickly and accurately relocate plots for repetitive sampling. Acadia would employ such a system for a multitude of purposes including but not limited to: establishing permanent sampling plots, locating and plotting previously established permanent plots, verifying vegetation maps, identifying wildlife travel corridors and sensitive habitats, mapping wildland fires, and locating visitor impacts associated with overuse, illegal camping, off-road use, etc. This system would be an important tool in establishing a comprehensive inventory and monitoring program which is basic to the mission of Acadia National Park.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

The purchase of a Global Positioning System either in-house or in cooperation with the CPSU proposed for the University of Maine is recommended. Cost would range from approximately 14,000.00 if purchased exclusively for the park to $8,000.00 if acquired in conjunction with the CPSU or other institution such as the

College of the Atlantic.

BUDGET AND FTEs:

	Source	Act Type	Budget ($1000s)	FTEs
FUNDED				
Year 1:				
Year 2:				
Year 3:				
Year 4:				
		Total:	0.00	0.0
UNFUNDED				
Year 1:	TEMP$-NR	MON	14.00	0.0
Year 2:				
Year 3:				
Year 4:				
		Total:	14.00	0.0

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS: N/A

COMPLIANCE CODE(s): EXCL

EXPLANATION: PURCHASE OF EQUIPMENT ONLY

Proposal Date: 93

PROJECT NUMBER: ACAD-N-055.000

TITLE: ESTAB. RESOURCE PROTECTION PROGRAM IN BACKCOUNTRY

FUNDING STATUS: FUNDED: 0.00 UNFUNDED: 120.00

SERVICEWIDE ISSUES: N18 VIS USE-BCTRY

CULTURAL RESOURCE TYPE CODE: N/A

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

Acadia National Park consists of 40,000 acres divided into three geographic units: Mount Desert Island, Isle au Haut, and Schoodic Peninsula. In addition, the park owns 18 off-shore islands and holds over 130 conservation easements totalling 5,000 acres. Most of the Park's easements are on off-shore islands designated as "forever wild". Park visitation has been increasing at the rate of about 10% for the past decade. Recreational visits estimated by the Denver Service Center for 1990 were over 3 million. As a result of increasing visitation and generally static staffing levels, the park has had to devote more and more resources to front country operations. In the last five years the park has not been able to fund even a minimal backcountry operation. Consequently problems such as illegal camping and fires, poaching, impacts to vegetation, off-road visitor use and recreational conflicts on hiking trails and carriage roads has increased substantially. The most serious problems, however, appear to lie on the remote off shore islands. Increased recreational activities such as sea kayaking is placing increased use and pressure on the fragile island ecosystems. Disruption of endangered species nesting sites, damage to archeological resources and sensitive plant communities, along with human waste and trash are accelerating annually.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

The preferred solution to this problem is to re-establish backcountry resource protection operations. This need is well understood by park management, however base funding to support such a program will be impossible until at least FY93. In the interim, resource management project funding in the amount of $15,000.00 should be requested to fund two seasonal resource protection rangers or biological technicians for six months. This position would assess and document the extent of visitor problems, monitor resource damage, and mitigate the most severe problems.

Proposal Date: 93

BUDGET AND FTEs:

FUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:				
Year 2:				
Year 3:				
Year 4:				
		Total:	0.00	0.0

UNFUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	PKBASE-NR	PRO	120.00	4.0
Year 2:				
Year 3:				
Year 4:				
		Total:	120.00	4.0

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS: N/A

COMPLIANCE CODE(s): EXCL

EXPLANATION: 516 DM6 APP. 7.4E(2) DLY RM&RESRCH

Proposal Date: 93

PROJECT NUMBER: ACAD-N-056.000

TITLE: DIGITIZE & INCORP. ACAD LAND RES. DATA INTO GIS

FUNDING STATUS: FUNDED: 3.00 UNFUNDED: 0.00

SERVICEWIDE ISSUES: N20 BASELINE DATA

CULTURAL RESOURCE TYPE CODE: N/A

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

Acadia National Park consists of approximately 35,000 acres of fee simple ownership and 6,000 acres in conservation easements (less than fee interest). Park lands have been acquired parcel by parcel over the years beginning in 1916. In 1986, Public Law 99-420 established a permanent boundary for the park and authorized the acquisition of 176 aditional fee interest parcels and the deletion of 23 parcels of park land outside of the boundary. Currently, lands comprising the park include 742 individual parcels. Each parcel is unique with respect top retained rights, deeded restrictions, and other encumbrances upon the land. In addition, the park has a very irregular and heavily developed boundary. Consequently, any proposed management action in or adjacent to the park first requires a vcareful review to determine ownership and a study od each individual parcel to ascertain encumbrances. This process is extremely labor intensive and involves using maps, land acquisition records, and property deeds. A GIS computer data base of park land resources would greatly facilitate management of the park. This data base would greatly assist regional and WASO Lands Division involvement in park lands activities.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

Begin to develop a GIS digital and attribute data base for and resources. This data base should include both lands in the park (fee simple ownership and easements) and lands immediately adjacent to the park boundary. Several layers of data will be required. For fee ownership lands in the park the folllowing will be needed: Park boundary, individual park parcel number,acres, date acquired, deed number, former owner, and encumbrances. The park boundary, individual parcel number, acres, date acquired, owner, date inspected, easement restrictions, and retained owner rights will be needed for park easement properties. For land adjacent to the park boundary, the name of the owner and town tax map reference would be useful. The park anticipates acquiring a digital tax map database this fall that will greatly facilitate this project.

Proposal Date: 93

BUDGET AND FTEs:

FUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	RG-NS-RES	ADM	3.00	0.0
Year 2:				
Year 3:				
Year 4:				
		Total:	3.00	0.0

UNFUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:				
Year 2:				
Year 3:				
Year 4:				
		Total:	0.00	0.0

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS: N/A

COMPLIANCE CODE(s): EXCL

EXPLANATION: DATA MANAGEMENT ONLY

Proposal Date: 93

PROJECT NUMBER: ACAD-N-057.000

TITLE: ESTABLISH NATIVE PLANT REVEGETATION PROGRAM

FUNDING STATUS: FUNDED: 20.00 UNFUNDED: 120.00

SERVICEWIDE ISSUES: N05 NON-NAT PLANTS N06 LAND USE PRAC

CULTURAL RESOURCE TYPE CODE: N/A

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

Construction, repair, trail relocation, and routine maintenance of park facilities remove vegetation and make these sites subject to erosion and invasion by exotic plant species. Vegetation in areas receiving high visitor use in developed zones, including trails, is trampled causing non-native plant invasion and resource degradation. Cultural landscapes and developed zones occasionally require replacement of vegetation which is lost due to disease, insects, or old age. Native plant materials of local genetic stock are not commercially available for these revegetation projects. Contrary to National Park Service policies and guidelines, nonnative plants are used when revegetation is required.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

The preferred solution to this problem is to establish a native plant revegetation program. Project funding has been secured through the Challenge Cost Share program for FY 93, yet this is a basic, ongoing need for the park and should eventually be base funded. A nursery manager should be hired to track plant materials and costs, supervise plant salvage operations, and propogate and care for plants. Infrastructure needs include administrative assistance, office space, potting shed, a vehicle to be used in association with the revegetation project and funds for supplies, materials, and staff training.

BUDGET AND FTEs:

FUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	SVC-OTHER	MIT	10.00	0.3
	NON-NPS-O	MIT	10.00	0.0
		Subtotal:	20.00	0.3

Year 2:

Proposal Date: 93

Year 3:

Year 4:

			==========	
		Total:	20.00	0.3

----------UNFUNDED----------

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:				
Year 2:	RG-RM-NAT	MIT	35.00	1.0
Year 3:	RG-RM-NAT	MIT	40.00	1.0
Year 4:	RG-RM-NAT	MIT	45.00	1.5
			==========	
		Total:	120.00	3.5

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS: N/A

COMPLIANCE CODE(s): EXCL

EXPLANATION: 516 DM APP. 7.4 E (2)

Proposal Date: 94

PROJECT NUMBER: ACAD-N-057.001

TITLE: ESTABLISH NATIVE PLANT REVEGETATION PROGRAM
SUBPROJECT TITLE: CONTINUE NURSERY

FUNDING STATUS: FUNDED: 0.00 UNFUNDED: 17.68

SERVICEWIDE ISSUES: N24 OTHER N05 NON-NAT PLANTS

CULTURAL RESOURCE TYPE CODE: N/A

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

Active construction sites, trail relocations, and areas of high visitor impacts are in critical need of revegetation to prevent erosion and invasion by exotic plants, protect stream quality, reduce visitor traffic and continued degradation, screen park development, and improve scenic quality. Despite park intentions to comply with park service policies and legal mandates, native plants are not commercially available from any source. The park lacks funding to support site rehabilitation efforts and mitigate ongoing resource damage. The establishment of a native plant revegetation program within the park is essential to provide native plant materials.

A cooperative agreement was developed with the Soil Conservation Service in 1992 to propagate 27 species of native plants for use in revegetation of Federal Highways projects. Work is proceeding well, however plant materials will not be available until 1995, and then will only be sufficient to revegetate Federal Highways construction sites.

A native plant nursery was established with Challenge Cost Share and Carriage Road Funding in 1993 to hold plant materials salvaged from carriage roads until rehabilitation proceeds to the point where revegetation can be completed. Despite vigorous attempts by park personnel this year, no Challenge Cost Share partner could be located to continue to develop and maintain the nursery and associated salvage efforts in 1994. Without support to maintain the nursery, it will soon be overtaken with weeds, approximately 500 salvaged plants will be lost, the nursery site will need rehabilitation to restore the original lawn, and our efforts from 1992 will have been wasted.

In addition, this fall the park acquired approximately 1500 native plants, valued at over $15,000, from the Ozone Effects Study. These plants, and those salvaged in 1993 which were overwintered in the nursery, must either be planted or repotted in spring of 1994 or they will be lost, yet the park lacks the funding to support this effort.

Proposal Date: 94

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

The park seeks emergency one-year funding to:
1. Maintain the native plant nursery at Hulls Cove
2. Plant or repot containerized native plants acquired from the ozone fumigation study.

Proposed nursery maintenance consists primarily of weeding, watering, and pest management. Cover crops sown last fall in unused beds will be tilled to prevent reseeding and increase soil organic matter. These beds will be maintained in a weed free state, ready to accept any plants salvaged next spring. Plants salvaged in 1992 will be maintained. Woody species will require potting in containers if they are not used in site rehabilitation. Plants must be closely monitored throughout the summer to prevent desiccation and loss. Irrigation and shade systems will be maintained. An integrated pest management action plan will be developed to manage non-native red ants which are infesting the nursery site, and prevent their spread throughout the park as plants are used for revegetation.

Plants obtained from the ozone fumigation research project must be removed from winter storage, watered frequently, and either installed at rehabilitation sites or repotted and maintained. In addition to their value for revegetation, these plants have been carefully studied and may be used to monitor ozone effects in the future. For this reason, detailed records must be maintained regarding their planting location and treatment as they are permanently installed at revegetation sites, and care should be taken to maintain the current tagging system.

The park is attempting to leverage several funding sources to support the revegetation program in 1994. Approximately $7,500 will likely be allocated from the Denver Service Center to support 14 days of plant salvage from Park Loop Road shoulders prior to construction in 1993. This work will be conducted by a team of maintenance staff under the direct supervision of natural resource personnel. This effort will serve as a training exercise for park laborers, and help build a foundation for integrating native plant revegetation in all park construction activities. In addition, funding from the Carriage Road Rehabilitation account has been committed to support limited revegetation work (GS-7 Botany Technician, part time) and endangered plant inventories on proposed vista rehabilitation sites. A $500 donation was received from the Mt. Desert Garden Club to support this program in 1994.

Proposed Budget

Personnel:
Reveg. Leader (GS-7) - 3 day/week, April-Oct. $7,025

(Remainder of salary to be provided by Carriage Road, DSC, and other accounts)
GS-5 Seasonal (or 2 SCAs) - 6 months $6,500

Supplies/Materials: $2,500

GSA Vehicle:
May - September (6) x $275/month $1,650
Travel

Total: $17,675

As in 1993, we will continue to recruit volunteers from the Mt. Desert and Bar Harbor Garden Clubs to assist with nursery maintenance and plant salvage efforts.
The park will continue to seek base funding to support a comprehensive native plant revegetation/site rehabilitation program (see ACAD N-57.000).

BUDGET AND FTEs:

FUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:				
Year 2:				
Year 3:				
Year 4:				
		Total:	0.00	0.0

UNFUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	RG-RM-NAT	MIT	17.68	0.8
Year 2:				
Year 3:				
Year 4:				
		Total:	17.68	0.8

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS: N/A

Proposal Date: 94

COMPLIANCE CODE(s): EXCL

EXPLANATION: 516 DM6 APP. 7.4 E(3)

Proposal Date: 94

PROJECT NUMBER: ACAD-N-058.000

TITLE: BASE PROGRAM, INVENTORY AND MONITORING

FUNDING STATUS: FUNDED: 0.00 UNFUNDED: 0.00

SERVICEWIDE ISSUES: N17 BIODIVERSITY N20 BASELINE DATA

CULTURAL RESOURCE TYPE CODE: N/A

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

Baseline inventory information is needed for all park natural resource values. Base maps need to delineate land ownership, and to incorporate geomorphology, soils vegetation, and appropriate wildlife information, as well as park infrastructure in order to facilitate informed management decisions. The tracking of park activities, monitoring of resource effects, and the documentation of changes in resource values is a critically important feedback function to assure wise stewardship and sound decision making.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

This project statement provides for natural resource inventory and monitoring activities with in the park. With training from scientific studies staff, and employing standard professional techniques and procedures, assigned park natural resources management staff conduct resource inventories, compile data, and develop inventory maps, reports, and assessments. Staff conducts appropriate long term monitoring programs of park rersources that have been identified and developed in cooperation with professional scientific research staff. With the assistance of the NPS research scientist, park staff provide periodic analyses and reports on monitoring data and resource trends that are of importance to park management. Assigned staff operate and maintain the park's resource data base and Geographical Information System, and archive resource samples and specimens in accordance with established procedures. As assigned through park management, staff also assist in collection of data to support research projects.

BUDGET AND FTEs:

FUNDED			
Source	Act Type	Budget ($1000s)	FTEs
Year 1:			
Year 2:			

Proposal Date: 93

Year 3:

Year 4:

Total:	0.00	0.0

UNFUNDED

Source	Act Type	Budget ($1000s)	FTEs
Year 1:			
Year 2:			
Year 3:			
Year 4:			
Total:		0.00	0.0

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS: N/A

COMPLIANCE CODE(s): EXCL

EXPLANATION: 516 DM2 APP. 2, 1.6

Proposal Date: 93

PROJECT NUMBER: ACAD-N-059.000

TITLE: BASE PROGRAM, NATURAL RESOURCES EDUCATION

FUNDING STATUS: FUNDED: 0.00 UNFUNDED: 448.00

SERVICEWIDE ISSUES: N02 T&E ANIMAL N03 T&E PLANTS

CULTURAL RESOURCE TYPE CODE: N/A

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

Impacts to park resource values, and threats to park resources from influences outside park boundaries, often involve a lack of understanding of park resource values and systems, resource tolerances, and limits to change due to human influences. Integral with natural resource management for the park is the need for a fully developed program of public and park employee education.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

Park staff assigned with resource management responsibilities work cooperatively with other divisions to ensure that resource concerns are incorporated into employee orientation and training programs, and park interpretation programs and public education efforts. The objectives of resource education efforts are to communicate NPS policies and resource management programs, to increase awareness of resource values and issues, and to engender an ethic of resource preservation and protection. Assigned staff serve as a direct liaison between management and the park, CPSU, or outside scientists and interpreters for the general public. Resource management and interpretive staff must clearly communicate park management issues and needs for information to researchers and interpreters to insure that up-to-date resource information is provided to support effective public education efforts.

BUDGET AND FTEs:

FUNDED			
	Source	Act Type	Budget ($1000s)	FTEs
Year 1:				
Year 2:				
Year 3:				
Year 4:				

Proposal Date: 93

		Total:	0.00	0.0

UNFUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	PKBASE-NR	INT	98.00	2.0
Year 2:	PKBASE-NR	INT	110.00	2.8
Year 3:	PKBASE-NR	INT	120.00	3.6
Year 4:	PKBASE-NR	INT	120.00	3.6
		Total:	448.00	12.0

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS: N/A

COMPLIANCE CODE(s): EXCL

EXPLANATION: 516 DM CH.2 APP.1&7

Proposal Date: 93

PROJECT NUMBER: ACAD-N-060.000

TITLE: BASE PROGRAM, NATURAL RESOURCES PROTECTION

FUNDING STATUS: FUNDED: 100.00 UNFUNDED: 0.00

SERVICEWIDE ISSUES: N02 T&E ANIMAL N22 VIS USE-DEV ZN

CULTURAL RESOURCE TYPE CODE: N/A

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

Acadia National Park has an extremely disjointed and non-contiguous boundary which results in a highly fragmented ecosystem. This creates difficulties in the biological protection of resources (e.g. purple loosestrife control) as well as the physical protection through law enforcement patrols (e.g. illegal hunting and plant poaching). Common law enforcement resource protection problems include deer hunting, trapping of furbearers, fir tipping for wreaths, beach heather collection, endangered species protection, illegal camping and fires, and removal of beach cobbles. High visitation in the park creates additional protection problems and a heavy workload during the summer. The park boundary is often difficult to determine from existing maps and deeds, and is changing regularly due to the 1986 boundary legislation authorizing acquisitions and trades etc. For field personnel handling incidents or on some project, these boundaries are often difficult to determine and not well marked. Development outside the park boundary is a potentially a major threat to park resources and the visitor experience within the park. The planning and lands program at Acadia has only within the last few years begun to actively interact with the local communities to represent park values and interests in external development issues. It is increasingly clear that the park must work closely with the state and local communities to provide effective protection of park resources. For example, the state provides most of the expertise and guidance for the park's two endangered species, the bald eagle and the peregrine falcon, and most lakes within the park are state owned public water supplies surrounded by park lands, also necessitating cooperation to protect water quality. The maintenance and interpretation divisions each provide major supporth)0*0*0* for resource protection through daily activities and programs.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

The park has an active and effective base program in natural resource protection which the problem statement above does not adequately describe. The protection program however is far from

complete. Other project statements this RMP address some of these deficiencies--e.g. peregrine falcon and bald eagle management plans, hazard fuels monitoring,, surveying, marking, clearing, and maintaining the park boundary, and establish backcountry protection program.

BUDGET AND FTEs:

FUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	PKBASE-NR	PRO	100.00	3.0
Year 2:				
Year 3:				
Year 4:				
		Total:	100.00	3.0

UNFUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:				
Year 2:				
Year 3:				
Year 4:				
		Total:	0.00	0.0

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS: N/A

COMPLIANCE CODE(s): EXCL

EXPLANATION: 516DM, CH.2 APP. 1&7.

Proposal Date: 93

PROJECT NUMBER: ACAD-N-061.000

TITLE: BASE PROGRAM, NATURAL RESOURCES MITIGATION

FUNDING STATUS: FUNDED: 0.00 UNFUNDED: 0.00

SERVICEWIDE ISSUES: N06 LAND USE PRAC N08 CULT LANDSCAPE

CULTURAL RESOURCE TYPE CODE: N/A

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

Past and current human influences have resulted in impacts to park resource values. Major concerns include the ongoing development of adjacent park lands that threaten biological resources, water resources, air quality and scenic values. Mitigation of resource impacts and protection of park resources will require coordination and interaction with local communities and a variety of local, state, and federal agencies. Ongoing park operations need to incorporate best management practices for mitigating impacts to resource values. Quality control of park projects and activities needs to include project inspection by specialists with resource management expertise.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

This project statement provides for planning and compliance functions pursuant to the National Environmental Policy Act (NEPA) and other federal and applicable state environmental protection laws and regulations. Park staff assigned with resource management responsibilities work cooperatively with other divisions to ensure that resource concerns are incorporated into park planning, compliance, development and other park project level activities. Quality -assurance functions include the incorporation of best management practices for environmental protection and mitigation into NPS and concessioner operations within the park. Quality control activities include on-site project inspections to assure compliance with resource mitigation commitments. Staff also responds to outside agency plans, identifies potential external threats, and provides environmental compliance reviews on proposals which may affect park resources. Regional solutions are sought cooperatively to address regional issues and needs.

BUDGET AND FTEs:

----------FUNDED----------

Source	Act Type	Budget ($1000s)	FTEs
Year 1:			

Year 2:

Year 3:

Year 4:

Total:	0.00	0.0

UNFUNDED

Source	Act Type	Budget ($1000s)	FTEs
Year 1:			
Year 2:			
Year 3:			
Year 4:			
Total:		0.00	0.0

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS: N/A

COMPLIANCE CODE(s): EA

EXPLANATION: AS NEEDED

Proposal Date: 93

PROJECT NUMBER: ACAD-N-062.000

TITLE: STUDY LONG TERM FIRE HISTORY

FUNDING STATUS: FUNDED: 0.00 UNFUNDED: 75.00

SERVICEWIDE ISSUES: N07 NAT FIRE REGM N20 BASELINE DATA

CULTURAL RESOURCE TYPE CODE: N/A

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

Critical to making informed decisions concerning the future direction of the park's fire management program is the need for an accurate fire history of the park. Recent studies have investigated both the pre- and post-settlement fire history of the Park. Pre-settlement fire history for a few, isolated watersheds within the park have been determined through analysis of pond bottom sediment core samples. While very informative, the fire history derived from these samples applies to only a very small portion of the park's land area. The park's post-settlement fire history has been determined through a records and literature review. Though a significant amount of the park's fire history has been determined through prior studies, there is a need to complete this process for those areas of the park and time periods not adequately addressed in previous studies.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

This project would continue basic research into the pre-settlement fire history of the park through collection and analysis of pond bottom sediment cores from selected watersheds within or adjacent to the park. Analysis of historic photographs and additional literature and record reviews would be conducted to enhance knowledge of the park's post-settlement fire history.

BUDGET AND FTEs:

----------FUNDED----------

Source	Act Type	Budget ($1000s)	FTEs
Year 1:			
Year 2:			
Year 3:			
Year 4:			

Proposal Date: 93

		Total:	0.00	0.0

UNFUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	SVC-OTHER	RES	12.50	0.0
	UNIV-COLL	RES	12.50	0.0
		Subtotal:	25.00	0.0
Year 2:	RG-NS-RES	RES	25.00	0.0
Year 3:	RG-NS-RES	RES	25.00	0.0
Year 4:				
		Total:	75.00	0.0

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS: N/A

COMPLIANCE CODE(s): EXCL

EXPLANATION: 516 DM 6 APP 7.4 E (19)

Proposal Date: 93

PROJECT NUMBER: ACAD-N-063.000

TITLE: DEVELOP GIS PLAN

FUNDING STATUS: FUNDED: 0.00 UNFUNDED: 10.00

SERVICEWIDE ISSUES: N20 BASELINE DATA

CULTURAL RESOURCE TYPE CODE: N/A

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

Over the past few years the park has taken a number of steps toward developing a professional GIS capability. Most nominal data sets have been acquired although covers are not yet available for the whole park or its entire legislated area. PC ARCINFO software, a digitizer, plotter, and Bernoulli box have all been purchased. A portion of an FTE currently supports a part time GIS technician. A full time GIS specialist and a dedicated GIS computer are still needed. These are covered in other project statements.

There have been preliminary scoping sessions involving all divisions for identifying park needs and goals for GIS but there is no written GIS Plan. A GIS Plan would assess the current status of the park's GIS capability - data needs/data management, hardware, software, and institutional procedures (organization, staffing, training and user levels). It would then identify a target GIS operation level based on park needs to be reached within a set time frame. This Plan would include all aspects of data management from data boundary, capture, and accuracy to data sharing and control; the system configuration of hardware and software and maintenance contracts; staffing and administration, including skills required of a GIS specialist; education and training for users and management, and project dependent training. The plan would outline acquisition costs and the operating budget requirements for a GIS program. The plan would also describe the network of relationships with other programs and organizations. With input from management, the plan would describe how priorities will be set for GIS projects. The GIS plan is an important step which will help the park compete for limited servicewide funding for GIS development.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

Develop a park GIS Plan through the use of a GS-7 technician dedicated to the project for four months. In addition to these personnel costs, there would be consultation with the University of Maine or other facilities as needed, to provide some objective

guidance and technical expertise.

BUDGET AND FTEs:

FUNDED	Source	Act Type	Budget ($1000s)	FTEs
Year 1:				
Year 2:				
Year 3:				
Year 4:				
		Total:	0.00	0.0

UNFUNDED	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	RG-RM-NAT	ADM	10.00	0.3
Year 2:				
Year 3:				
Year 4:				
		Total:	10.00	0.3

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS: N/A

COMPLIANCE CODE(s): EXCL

EXPLANATION: 516 DM6 APP. 7.4 B(10)

Proposal Date: 93

PROJECT NUMBER: ACAD-N-064.000

TITLE: MONITORING EFFECTS OF HERBIVORES

FUNDING STATUS: FUNDED: 0.00 UNFUNDED: 40.00

SERVICEWIDE ISSUES: N24 OTHER N20 BASELINE DATA

CULTURAL RESOURCE TYPE CODE: N/A

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

The 1947 fire set the scene for successional changes on vegetative communities on the eastern half of MDI for an unknown time period. Early successional vegetation provided abundant forage for park herbivores and populations increased to record high numbers (park files). Park records document the dramatic effects of browsing by deer on MDI's vegetation in the late 50's and early 60's that is still visible today. The effect of these successional changes on park herbivores is unknown and warrants continued monitoring of the permanent vegetation sites. In addition, these vegetative changes (e.g., species, community structure and composition, etc.) also provide an excellent post-fire research opportunity as well as an important information source on other management and scientific interests (e.g., status of endangered plant species, forage availability, browsing trend data, etc.). Monitoring benefits a long term understanding of post-fire successional processes, vegetative communities, and browsing-herbivore ecology.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

A review of the past study design and techniques (Saeki 91, Harrison 82) is needed to determine if this study adequately addresses the long-term monitoring of the browsing-herbivore ecology and it's the suitability to other long term vegetation monitoring. At a minimum, continued monitoring (Saeki 91) on a ten year basis is warranted to assess herbivore browsing effects. The monitoring will include an inventory of plant species within the exclosures and adjacent control plots, determine condition, availability and use for various plant species within and adjacent to the exclosures and at identified sites (Saeki 91), estimate deer and hare populations at these study sites, and document any other relevant vegetative information.

BUDGET AND FTEs:

----------FUNDED----------

Source	Act Type	Budget ($1000s)	FTEs

Year 1:

Year 2:

Year 3:

Year 4:

Total:	0.00	0.0

UNFUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	RG-RM-NAT	MON	20.00	0.0
Year 2:	RG-RM-NAT	MON	20.00	0.0
Year 3:				
Year 4:				
Total:			40.00	0.0

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS: N/A

COMPLIANCE CODE(s): EXCL

EXPLANATION: 516 DM6 APP 7.4E(2) DLY RM&RESEARCH

Proposal Date: 93

PROJECT NUMBER: ACAD-N-065.000

TITLE: MONITORING ABUND/DISTR OF CARNIVORES ON MDI

FUNDING STATUS: FUNDED: 0.00 UNFUNDED: 30.00

SERVICEWIDE ISSUES: N02 T&E ANIMAL N19 CONSUMPT USE

CULTURAL RESOURCE TYPE CODE: N/A

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

Carnivore information (Winter 1989, Harrison 94) provided an initial investigation of coyote and fox occurrence and distribution with some interpretation as to spacial interactions with the recent arrival (early 1980's) of coyotes to the MDI area. Food habits information (O'Connell, et.al.) presented general information on coyote diets for MDI for the late 1980's, but left many questions about the long term interactions with prey and other predators. The impact of these two canines on other carnivores (N-06, N-23,) as well as other fauna (N-05, N-07) is largely unknown. Monitoring canine ecology, coyote and fox interactions and with other carnivores on MDI supports an understanding of species ecology and has long term benefits in monitoring (N-41) the health of park species and ecosystems (i.e., ecology of other mammals, ecosystem structure and relationships, assessing harvesting pressures on adjacent lands, and in assessing stress related effects from continuing habitat fragmentation). Continuing development along the park's borders and conservation easements, increasing traffic and visitation, and other activities warrant a scientific monitoring of carnivore ecology.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

The design and implementation of applicable monitoring techniques in a monitoring program compatible with the goals and objectives of the park's Long Term Monitoring Program (LTMP) is necessary. The selected techniques and design should provide information on populations and their distribution, predator-prey relationships, relationships between canines, and any threats (harvesting on adjacent lands, disease outbreaks, visitor conflicts, etc.) to these species. Incidental knowledge gained through these studies on the relationship with other carnivores (e.g., furbearers, bobcat) would contribute to the general knowledge of park ecosystems and the LTMP.

Proposal Date: 93

BUDGET AND FTEs:

FUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:				
Year 2:				
Year 3:				
Year 4:				
		Total:	0.00	0.0

UNFUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	NR-I&M	MON	17.00	0.0
Year 2:	NR-I&M	MON	13.00	0.0
Year 3:				
Year 4:				
		Total:	30.00	0.0

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS: N/A

COMPLIANCE CODE(s): EXCL

EXPLANATION: 516 DM6 APP 7.4E(2) DLY RM&RESEARCH

Proposal Date: 93

PROJECT NUMBER: ACAD-N-066.000

TITLE: BIODIVERSITY/DISTRIBUTION OF BATS ON PARK LAND

FUNDING STATUS: FUNDED: 0.00 UNFUNDED: 70.00

SERVICEWIDE ISSUES: N02 T&E ANIMAL N17 BIODIVERSITY

CULTURAL RESOURCE TYPE CODE: N/A

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

Species conservation is a major priority of the NPS. Knowledge of all or most of the species found in a park is vital to their management and protection as well as contributing to the understanding of species ecology, ecosystem relationships, and processes. Considerable discussion and scientific investigation have been devoted to conservation of species in parks and natural reserves, yet knowledge about many species, their ecology, and their place in communities, on local to global scales, remain relatively unknown. Bats are an example where information on park species, their distribution and general ecology are either unknown or have been unrepresented in management planning, funding requests, or attracting outside investigations. Bats are important components of their environments and thus are an important resource for the park. Bat information for park lands will assist regional management understanding and conservation efforts. The state presently lists seven species in the "Indeterminate Status" category needing more than causal information in assessing their population status, management, and threats.

Establishing a baseline of data on all species in the park is a primary objective of the park's I&M program. In order to assess the impacts and threats of direct and indirect activities on park resources, the park needs baseline data on species diversity and distribution, habitat utilization, ecology and relationships to their environment, and descriptions of the real and possible threats. Without this knowledge, management decisions and activities in and around the park will be hindered and the monitoring of park species and ecosystems will be incomplete.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

The park purposes that two approaches be implemented in describing and managing bats. The first would conduct comprehensive sampling of park communities to determine species, their status, distribution, and habitat associations. Species would be trapped for identification, taxonomic measurements and

released. Several trapping and censusing techniques will be tested to evaluate their effectiveness and application for long term monitoring. The second approach will evaluate the design and implementation of applicable monitoring techniques to be used in the park's monitoring program.
This work will recommend the monitoring design and selected techniques be used in long term monitoring, develop databases for the park GIS and I&M program, develop recommendations in the management of the species, and list bat specialists and other relationships (MDIFW) to assist with the management and conservation of bats.

BUDGET AND FTEs:

FUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:				
Year 2:				
Year 3:				
Year 4:				
		Total:	0.00	0.0

UNFUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	NRPP	RES	35.00	0.0
Year 2:	NRPP	RES	35.00	0.0
Year 3:				
Year 4:				
		Total:	70.00	0.0

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS: N/A

COMPLIANCE CODE(s): EXCL

EXPLANATION: 516 DM6 APP 7.4E(2) DLY RM&RESEARCH

Proposal Date: 93

PROJECT NUMBER: ACAD-N-067.000

TITLE: ENHANCE GIS PROGRAM

FUNDING STATUS: FUNDED: 0.00 UNFUNDED: 85.00

SERVICEWIDE ISSUES: N20 BASELINE DATA N24 OTHER

CULTURAL RESOURCE TYPE CODE: N/A

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

Current park operations and resource management activities at ACAD often generate spatially related data. Also, there are large amounts of existing data in reports, files, and on maps of differing scales which have not been incorporated into the system and are currently difficult to access. ACAD is in the process of developing an Inventory & Monitoring program which will generate enormous quantities of data. Many park divisions could benefit from better access to all of this data. The logical way for organizing and accessing much of this data is with a GIS.

ACAD has an operational, PC based GIS. It currently lacks personnel to implement all requests and adequately manage the growing data library. Current personnel lack sufficient training in GIS, cartographic, and data management concepts and issues.

ACAD has minimal standards to guide researchers and resource managers who are collecting data. The park has identified projects that require data or data manipulation that cannot be done on the PC version of it's GIS software (e.g. inability to process and manipulate elevational (DEM) data).

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

Develop and enhance ACAD's existing GIS to better meet the needs of current and future projects. Activities to accomplish this include development and acquisition of additional data layers, data input to existing layers, developing and maintaining data exchange capabilities both locally and service-wide, funding a dedicated, full-time staff position to coordinate GIS activities, providing training for personnel, providing a user-friendly interface for non-GIS staff to access data, upgrading to a workstation version GIS (hardware and software purchases), developing a local-area network capability, experimenting with GIS capabilities/programs,

BUDGET AND FTEs:

FUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:				
Year 2:				
Year 3:				
Year 4:				
		Total:	0.00	0.0

UNFUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	GIS	ADM	5.00	0.0
Year 2:	PKBASE-NR	ADM	60.00	1.0
Year 3:	PKBASE-NR	ADM	10.00	0.0
Year 4:	PKBASE-NR	ADM	10.00	0.0
		Total:	85.00	1.0

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS: N/A

COMPLIANCE CODE(s): EXCL

EXPLANATION: 516 DM 2 APP. 2, 1.2

Proposal Date: 93

PROJECT NUMBER: ACAD-N-068.000

TITLE: MITIGATE HEALTH THREAT FROM HUMAN WASTE

FUNDING STATUS: FUNDED: 0.00 UNFUNDED: 270.00

SERVICEWIDE ISSUES: N22 VIS USE-DEV ZN N18 VIS USE-BCTRY

CULTURAL RESOURCE TYPE CODE: N/A

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

During the summer season, the parking lots for popular park attractions and trailheads in Acadia National Park are overflowing with vehicles and visitors. Some of them, such as Eagle Lake and Thunder Hole, experience the same condition at other times of the year. A survey of many of these sites in 1988 revealed that nearby forests served as toilets, and that human waste was not disposed of properly. Piles of toilet paper and human feces were common, with some sites having much more than others. Improper waste disposal is a threat to human health and water quality and an aesthetic concern. Construction of toilets at these sites was specifically identified as an action item in the park's recently approved General Management Plan.

The park also operates a primitive campground on Isle au Haut, a remote island. Five lean-to shelters accomodate up to 30 people per night. Human waste is managed through two primitive composting pit toilets having a capacity of about 18 people per night. Up to 50 day use visitors may also use these toilets. Management of the toilets requires direct handling of human waste by rangers and is potentially hazardous due to diseases such as hepatitis.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

Where levels of human waste are low, educate visitors through signs describing proper human waste disposal and indicating the nearest facility. This is covered under a separate project statement (N70) about resource protection signs.

At the major trailheads and attractions, install vault toilets. Eleven vault toilets are needed at Eagle Lake (4), Thunder Hole (2), Acadia Mountain, Pretty Marsh, Brown Mountain, Parkman Mountain, and Lake Wood. Costs are estimated at $20,000 each for a total of $220,000. The park could implement this proposal incrementally by installing three to four toilets per year.

At Isle au Haut, install 2 Clivus Multrum composting toilets.

Estimated cost including transport and set up on the island is $50,000.

Once these toilets are installed, the park will cover their maintenance. A simple monitoring program will be used to document conditions before and after the installation of the vault toilets to determine their effectiveness in mitigating the problem.

BUDGET AND FTEs:

FUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:				
Year 2:				
Year 3:				
Year 4:				
		Total:	0.00	0.0

UNFUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	NRPP	MIT	270.00	2.0
Year 2:				
Year 3:				
Year 4:				
		Total:	270.00	2.0

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS: N/A

COMPLIANCE CODE(s): EA ARPA

EXPLANATION:

Proposal Date: 93

PROJECT NUMBER: ACAD-N-069.000

TITLE: MITIGATE EROSION AND DETERIORATION OF HIKING TRAILS

FUNDING STATUS: FUNDED: 0.00 UNFUNDED: 60.00

SERVICEWIDE ISSUES: N18 VIS USE-BCTRY

CULTURAL RESOURCE TYPE CODE: N/A

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

Acadia National Park has over 130 miles of hiking trails traversing a variety of habitats. Some mountain top and coastal headland trails contain locally rare populations of plants. Other trails pass through wetlands or rise up steeply in areas with thin soils suceptible to erosion. Trailhead parking lots are overflowing with cars during the summer season attesting to the popularity of hiking. Though many trails to Acadia's mountain summits are steep and rocky, they are inviting and accessible because they are not high and fine views can be obtained in less than an hour of walking.

For many years, trails have been deteriorating from increased use and decreased maintenance, just like the park's Carriage Roads. Staffing for trails maintenance has been inadequate for a long time. Trails staff completed a comprehensive assessment of trail conditions park-wide in June, 1993. A detailed trail work log was outlined for every trail, describing all needed work from blazing to installing rock steps. This work log estimated 8,873 persondays of work to stabilize trails at a standard providing for resource protection from erosion and trampling as well as hiker safety. This is the equivalent of over 88 person-years at 100 work days per season.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

Completing all the work described in the Trail Work Log is going to take a long time. The park must get started on it, and the first step is to break this work into smaller more manageable units. Every individual work unit recommended has been given a priority rating of 1, 2, or 3.
Priority one work is being addressed now based on available professional staff. Priority two and three work is being addressed through volunteers and YCC crews.

With the additional $60,000 funding, the park would hire a second professional trail crew of five persons for one season, including a work leader, to work on Priority one projects.

Proposal Date: 93

BUDGET AND FTEs:

FUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:				
Year 2:				
Year 3:				
Year 4:				
		Total:	0.00	0.0

UNFUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	NRPP	MIT	60.00	2.5
Year 2:				
Year 3:				
Year 4:				
		Total:	60.00	2.5

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS: N/A

COMPLIANCE CODE(s): OTHER NHPA

EXPLANATION: LOCAL PROJECT REVIEW

Proposal Date: 93

PROJECT NUMBER: ACAD-N-070.000

TITLE: MITIGATE VISITOR IMPACTS WITH RESOURCE SIGNING

FUNDING STATUS: FUNDED: 0.00 UNFUNDED: 142.30

SERVICEWIDE ISSUES: N18 VIS USE-BCTRY N22 VIS USE-DEV ZN

CULTURAL RESOURCE TYPE CODE: N/A

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

Acadia National Park receives 2.7 million visitors annually on its 38,000 acres. Most of this use however, is concentrated on a much smaller area. In the summer, trailhead parking lots are overflowing with vehicles, as thousands of visitors take to the hills on trails and Carriage Roads. The park's easily accessible summits are popular with hikers.

Many parks have trailhead signs to educate hikers about visitor use impacts and conflicts, provide safety messages, and orient hikers to the terrain and various hiking options. Acadia National Park has not made such an effort in the recent past to inform hikers at trailheads of the resource problems to which they are contributing.
In addition to trailheads/hiker impacts issue, the park has several other locations where high visitor use and/or a sensitive resource exists with little or no on-site guidance for the recreationist.
Resource issues of concern related to the above are listed below.

1. Fires: Fires are permitted only in the developed campgrounds and picnic areas in the park. The fear of fire in the local communities is still great due to a major fire in 1947. Virtually all fires in the park are human caused. A fire on any of Acadia's small islands would involve a long response time, with danger of serious impacts to island flora and fauna.

2. Camping: Camping is permitted only in the developed campgrounds. Illegal camping does occur throughout the park, with perhaps the greatest potential for damage on Acadia's small offshore islands. Escaped campfires pose the greatest danger from camping, followed by the usual impacts of vegetation damage, soil compaction, and human waste disposal.

3. Human Waste: Improper human waste disposal is prevalent throughout the park anywhere people concentrate without toilet facilities. These areas are numerous and include most park trailheads. No information is provided about proper backcountry

disposal of human waste at these locations. Some may require toilet facilities, but the message is still pertinent to all hikers.

4. Trail erosion and braiding: Park staff have recently documented park-wide trail conditions and the enormous work load required to upgrade them. There is no education of hikers regarding proper trail use such as staying on the trail and avoiding fragile subalpine plants.

5. Bicycles: Acadia's Carriage Roads have long been a magnet for bicyclists and their current rehabilitation is attracting even more bikers. Fifty seven miles of Carriage Roads however are not enough for an increasing number of them. Park staff have noted more and more illegal use of bikes on maintained park trails and unmaintained trails. This use conflicts with the enjoyment of other recreationists and may cause more wear to the trail tread.h)0*0*0*6. Dogs: Dogs have historically been permitted on park trails if they are leashed. A majority of dogs on trails are off a leash posing dangers to ground nesting birds, small mammals, and other wildlife. Their waste is a problem and their presence may interfere with other recreationists.

7. Islands: Acadia includes several small islands all of which may be sensitive to human disturbance. Some have very significant resource values (e.g. shorebird nesting, bald eagle nesting, locally rare plant populations). Small boating recreation is increasing dramatically along the Maine coast, and sea kayaking in particular has become very popular. The park is rarely able to patrol these islands to monitor use or protect resources.

8. Cadillac Mountain: Cadillac Mountain is accessible by automobile and receives about two thirds of all park visitors, all of which is concentrated on 5 acres. A study of subalpine vegetation which also included measures of visitor use and impacts is almost completed, and it is clear that visitors are having a detrimental effect on the vegetation. There is no educational effort being made to keep visitors on summit trails.

9. Rock Climbing: Rock climbing is another activity that has increased significantly at Acadia in the 1980's, as it has nationwide. Acadia's main climbing areas are few in number and heavy in use. Especially popular is sea cliff climbing at Otter Cliffs, a unique experience for climbers. A Climbing Management Plan is being developed for the park as part of a servicewide effort. There are currently no guidelines or regulations posted for climbers at any cliffs.

The common thread through all of the above resource issues is a lack of mitigation through appropriate interpretive signing as is

common at other parks. Signing is only part of any mitigation solution, and these new signs would become part of a greater program of routine patrol, roving interpretation, and outreach to local user groups, including rental outfitters.

Two of the Resource Management Goals stated in the park's General Management Plan (GMP) are to protect and manage the park's natural resources, giving priority to those that are exceptionally fragile or significant, and to improve visitors'understanding of their impact on park resources. This project directly addresses these goals. Evaluation, management, and mitigation of visitor impacts are important components of the GMP.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

The park proposes the design and installation of thirty-seven embedded fiberglass wayside exhibit style signs at trailheads and selected other locations within the park. This program would be spread over 3 years. The signs would emphasize resource protection and the actions users can take to reduce their impact. There are currently few signs in the park directed at resource protection.

Based on information provided by Harpers Ferry Design Center, costs of the project and its phasing in over three years is decribed below.

Year 1

	Design/Production Costs	Extra Prints
Cadillac Mountain	$7,000	200(1)
Baker Island	7,000	
Rock Climbing Areas	7,000	600(3)
Little Moose Island	7,000	
Trailheads (10)	30,000	
Travel to Park (twice)	5,000	
Total		$63,800

Year 2

Installation of above 17 signs by park staff. Costs of Material, Labor, Transportation	$8,500

Year 3

Design/Production of 20 Trailhead Signs	$60,000
Installation of above 20 signs by park staff. Costs of Materials, Labor, Transportation.	$10,000

Proposal Date: 93

Total Cost $142,300

BUDGET AND FTEs:

FUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:				
Year 2:				
Year 3:				
Year 4:				
		Total:	0.00	0.0

UNFUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	NRPP	MIT	63.80	0.0
Year 2:	NRPP	MIT	8.50	1.0
Year 3:	NRPP	MIT	70.00	1.0
Year 4:				
		Total:	142.30	2.0

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS: N/A

COMPLIANCE CODE(s): EXCL

EXPLANATION: 516 DM6 APP. 7.4 C(5) SIGNS

Proposal Date: 94

PROJECT NUMBER: ACAD-N-070.001

TITLE: MITIGATE VISITOR IMPACTS WITH RESOURCE SIGNING
SUBPROJECT TITLE: DESIGN SIGNS

FUNDING STATUS: FUNDED: 0.00 UNFUNDED: 5.00

SERVICEWIDE ISSUES: N18 VIS USE-BCTRY N22 VIS USE-DEV ZN

CULTURAL RESOURCE TYPE CODE: N/A

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

Acadia National Park has virtually no signs educating visitors how to tread lightly to protect park resources. The park's 2.7 million visitors per year concentrate their use on trails and at popular attractions. Information on camping, fires, pets, bicycle use, sensitive areas, trail etiquette, etc. is not available at the trailhead. Other parks (e.g. Rocky Mountain) have educational trailhead signs that serve multiple purposes of resource protection, orientation, and safety.

The park's GMP has several resource management goals, including protection and management of natural resources, giving priority to those that are exceptionally fragile or significant, and to improve visitors' understanding of their impact on park resources. This project directly addresses these goals from the GMP and will help build an understanding of and constituency for park values.

For more detail, see Project Statement N070.000 which is more comprehensive in scope.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

This sub-project proposes to fund only the design and photo preparation of resource education signs recommended in Project N070.000. A GS 5 seasonal employee with graphics and design skills will be hired to complete the project. The park sign committee will provide detailed input to this person through representation of all divisions. Products will be ready art for embedded fiberglass signs for the following:

1. Trailheads: this design will serve as a model for the twenty eight trailhead signs.

2. Little Moose Island: rare plant location with high visitor use.

Proposal Date: 94

3. Cadillac Mountain: sub-alpine sensitive plant area and high visitor use area.

4. Baker Island: remote island rarely patrolled by park staff; potential of catastrophic fire. Uninformed visitor use is increasing.

5. Otter Cliffs Climbing Area: increased climbing at coastal rock climbing area receiving impacts from human waste, erosion, with concerns for aesthetics and bolting as well.

We estimate the cost of this to be $5,000. With the design completed and ready art available, sources of funding will continue to be sought to manufacture, mount, and install the signs as soon as possible. Friends of Acadia has offered to contribute $6,000 and volunteer labor to assist in the manufacture, mounting, and installation of the first signs.

For more detail see Project N070.000.

BUDGET AND FTEs:

FUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:				
Year 2:				
Year 3:				
Year 4:				
		Total:	0.00	0.0

UNFUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	RG-RM-NAT	MIT	5.00	0.2
Year 2:				
Year 3:				
Year 4:				
		Total:	5.00	0.2

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS: N/A

Proposal Date: 94

COMPLIANCE CODE(s): EXCL

EXPLANATION: 516 DM6 APP. 7.4 C(5)

Proposal Date: 93

PROJECT NUMBER: ACAD-N-071.000

TITLE: DEVELOP COMPREHENSIVE VEGETATION MANAGEMENT PLAN

FUNDING STATUS: FUNDED: 0.00 UNFUNDED: 85.00

SERVICEWIDE ISSUES: N03 T&E PLANTS N08 CULT LANDSCAPE

CULTURAL RESOURCE TYPE CODE: COMB

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

Acadia National Park's enabling legislation (1916) directs the preservation of it's ecologic, historic, scenic, and scientific values. The park now supports a complex mosaic of diverse natural and cultural resources surrounded by an increasingly urbanized landscape. It includes a number of nationally significant cultural landscapes interspersed with a wide range of natural communities. These extend from the intertidal zone to old-growth forests to sub-alpine habitats, and include 14 State critical areas, of which 11 were designated to protect rare plants or special plant habitats (see appendix I). The vegetation of the park is now threatened by visitor use, incompatible adjacent land use, and inappropriate management techniques. For example, of the 1,289 plant species found in the park, more than 150 are locally rare and of potential importance as indicators of rare habitats worthy of protection (NPS 1991); nearly one quarter (289) are non-native species which may threaten native habitats. The lack of a comprehensive and systematic hazard tree management program poses a threat to public health and safety.

Overlaid on this complex landscape are an equally diverse, and sometimes conflicting, mixture of vegetation-related management goals and issues as specifically identified in the park's General Management Plan (1991). These include:

Cooperatively Protect Species and Habitats of Value to the Park
The General Management Plan directs us to protect and enhance species whose presence in the park is jeopardized by their limited distribution or limited numbers. Using a list provided by a local plant taxonomist, surveys for rare species occur prior to most development or maintenance projects. However, the park needs to develop defensible criteria for identifying species of concern and a strategy for systematic surveys and documentation of results. In addition, none of the park boundaries have been surveyed for the presence of species of concern to management, yet they are increasingly threatened by incompatible private

development on park lands. Floral surveys will help us prioritize areas for resource protection. Nearly one quarter of the plant species in the park are nonnative. Invasive exotic plants such as purple loosestrife (Lythrum salicaria) threaten native habitats. Other nonnative plants species must be evaluated and prioritized for management based on the most recent scientific information. Management strategies must be developed for non-native plants which are the most threatening to native habitats or species of concern.

Mitigate Resource Impacts from Visitor Use

Many sensitive habitats, including several state critical areas, have been impacted by overuse and are in need of rehabilitation. The park needs a plan, staffing, and funding to develop and implement a rehabilitation program to mitigate these impacts and prevent them from reoccurring.

Survey and Mark the Park Boundary

The boundary of the park is complex, and commercial and residential development lie directly adjacent to the park. An increasing number of impacts to park resources are occurring because the vegetation along the boundary is not managed and boundary lines are obscured soon after they are surveyed. These intrusions include the building of private structures and dumping of thousands of cubic yards of contaminated fill on park land. Methods must be developed which allow limited staff and funding to manage vegetation once the boundary is surveyed.

Manage Fire

The park's Fire Management Plan is in the final stages of development. It raises issues related to the protection of developed areas within the park and on urbanized adjacent lands in an area of extreme fuel loadings. Cultural landscape preservation and natural resource needs must be juggled with structural fire protection and hazard fuels management.

Evaluate, Treat, and Maintain Cultural Landscapes

Culturally significant landscapes must be protected. The park is currently developing cultural landscape reports on the Carriage Road System and the historic Park Loop Road. In addition, historic lighthouses, structures, and landscapes need to be evaluated from a cultural landscape perspective and recommendations made to guide their preservation and maintenance, while balancing structural fire protection and other needs.

Rehabilitate the Carriage Roads, and Protect and Enhance the Original Design Intent of the Historic Park Loop Road -

The Carriage Road system is currently being rehabilitated, which will require extensive revegetation along road shoulders, ditches, and in staging areas. Vistas designed by Beatrix Farrand and other nationally prominent landscape architects were an integral part of the Carriage Road system and the Park Loop Road, but have grown over and need to be rehabilitated. Methods for vista rehabilitation must be developed which protect sensitive species of concern to management yet provide for ecologically sound conversion of plant communities dominated by trees to those dominated by shrubs and ground covers. The most feasible method of maintenance must be determined or the vistas will be obscured by stump sprouts within just a few years.

Native plants for revegetation of the Carriage Roads and the Park Loop Road (Federal Highways projects) are not currently available commercially, and the park has entered into a cooperative agreement with the Soil Conservation Service for plant propagation to support native plant revegetation. In addition, the park has been successful in obtaining Challenge Cost Share funds to support native plant salvage, and the development of a small nursery. However, the funding for these efforts is insecure. The park needs to develop vegetation maintenance guidelines which use integrated management strategies for maintaining 52 miles of carriage roadsides, cultural landscapes around 17 bridges, 2 gatehouses, and rehabilitated vistas.

Minimize Impacts of Nonpark Roads within the Park -
The General Management Plan directs park staff to consult and coordinate with the state of Maine, local communities, and interested citizens to analyze the environmental impacts on park resources along state highways, utilities, and other nonpark roads which traverse the park. There are currently no memorandums of agreement nor action plans to guide management of vegetation along roadsides or utilities. This results in haphazard management of vegetation, possible impacts on rare species, potential indiscriminate use of herbicides, and other resource impacts. + road salts. *

Conduct a Park Ethnographic Study -
An ethnographic assessment is needed to obtain information on park-related ethnic groups regarding their use of and value assigned to park vegetative resources. Examples may include tradition Native American use of sweet grass and ash for basketry and traditional collection of beach heather, berries, and macroalgae by local families. Other important ethnographic resources need to be identified.

Catalog and Treat the Park Collections -
The GMP directs the staff to conduct preservation,

collection, and maintenance work and document the locations, scope, and sizes of Acadia's natural history collections currently distributed among repositories nationwide. The park lacks a curator to maintain the herbarium, and has developed an informal agreement with a local college to be the repository of herbarium specimens until a plan can be developed to address the curatorial needs for the park. The current informal agreement is not sufficient to meet National Park Service policies, and places undue burden on the College to maintain park collections without compensation.

Communicate Research Data to the Public -
Acadia's heavy visitation and high public profile make the park an ideal place to educate the public about resource issues such as rare plant and habitat protection, the use of native plants in landscapes, least toxic methods of pest control, and cultural landscape protection. Yet the park lacks a strategic plan to ensure that resource information is transferred to interpreters.

In addition to these specific directives from the General Management Plan, the park is faced with other vegetation related issues such as hazard tree management. Currently, different organizational units within the park are attempting to address many of these directives in various degrees, but in an scattered approach which lacks direction or cohesion. Current actions may or may not be based on the most recent scientific information. There has been no attempt to prioritize issues. Little progress has been made to integrate long-term maintenance and resource concerns into the design of landscapes in developed areas. These issues will not be addressed by the Servicewide Inventory and Monitoring Program in the next three years.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

To address these issues in a comprehensive and systematic manner, a vegetation management plan must be developed (and subsequently implemented - see project statement ACAD-N-0073) based on management experience and existing research information. It will coordinate management actions related to the issues previously outlined, and will set forth functional roles and responsibilities within the park.

Objectives of the Vegetation Management Plan will be to:

1. promote the health and safety of park visitors and employees (for example, through the development of a documented hazard tree program);

2. perpetuate native species through rare plant surveys, the

identification and maintenance of habitat, enhancement efforts for specific species, and management of habitats prone to degradation from over-use, non-native species invasion, and other threats;

3. rehabilitate and maintain historically significant scenic vistas, and other important cultural landscapes while balancing natural resource needs;

4. address information management needs, including specific recommendations for spatial data management (GIS) related to research, mitigation, protection, and education concerning the park's flora;

5. promote the education of park visitors, neighbors, and employees about issues related to vegetation;

6. guide maintenance of road and utility corridors and park boundaries to manage vegetation in an ecologically sensitive and economically efficient manner.

7. serve as a source of information to other natural area managers, including those at other National Park Service units, regarding vegetation management.

The plan will be developed by a multi-disciplinary team of professional or university specialists in vegetation management. It will be advised by a committee of park managers representing all divisions and park neighbors and State and local agencies with interest or expertise in vegetation management issues. The advisory team will draw on the experience of other agencies such as The Nature Conservancy and the U.S. Forest Service with experience in specific topics such as rare plant protection or hazard tree management. The plan will be based on the most recent scientific information available.

This project will be completed either through contract or cooperative agreement. Every effort will be made to tap Challenge Cost Share, Forest Service, and other funding to maximize cost effectiveness. Costs are estimated based on the development of the park's Water Resource Management Plan, which is currently being developed using a similar strategy. The products will include:

1. Vegetation Management Plan
2. Any required National Environmental Policy Act documents
3. Slide set for interpretive/educational purposes

Without this plan, the issues identified in the Statement of the Problem (above) will continue to be addressed in a disjointed way by the resource preservation, maintenance, visitor protection, and interpretation divisions. The occurrence of plants of

concern to management may be unknown or undocumented and State listed and locally rare species may be lost. Nationally significant cultural landscapes will not be maintained, or will be maintained in an manner which is ecologically or economically flawed. Herbicides may be applied to State or town road and utility corridors within the park without park approval. Visitor safety will be compromised without an approved and implemented hazard tree plan.

BUDGET AND FTEs:

FUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:				
Year 2:				
Year 3:				
Year 4:				
		Total:	0.00	0.0

UNFUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	NRPP	MIT	50.00	0.0
Year 2:	NRPP	MIT	35.00	0.0
Year 3:				
Year 4:				
		Total:	85.00	0.0

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS: N/A

COMPLIANCE CODE(s): 106 EA

EXPLANATION:

Proposal Date: 93

PROJECT NUMBER: ACAD-N-072.000

TITLE: MONITORING EPISODIC ACIDIFICATION OF PARK STREAMS

FUNDING STATUS: FUNDED: 0.00 UNFUNDED: 25.00

SERVICEWIDE ISSUES: N11 WATER QUAL-EXT N20 BASELINE DATA

CULTURAL RESOURCE TYPE CODE: N/A

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

acidic deposition resulting from air pollution has been documented as affecting acquatic ecosystems in the eastern United States. One suspected avenue for this effect is the sudden acidification associated with large runoff events such as those following rapid snowmelt or heavy rainfall. Qantification of the duration, extent and significance of this effect is difficult. Further the proper protocol and technique for measuring these events remains to be defined. Researchers at the University of Maine have conducted several investigations at Acadia National Park over the past 10+ years which have established baseline conditions for surface water chemistry of ponds and streams, and which have also documented episodic acidification, Kahl (1986), Heath (1992). Most of the streams in ACAD have not been sampled for 10 years. During this time acid deposition as measured by the park NADP site has continued to remain relatively constant at approximately pH 4.5. In addition, the potential for acidification, changes in nutrient cycling, and fundemental changes in forest health have been suggested as a result of "nitrogen saturation", a possible consequence of atmospheric deposition.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

The park recommends contracting with the university of Maine to resample water quality sites in Acadia National Park and to evaluate methods for interpreting episodic acidification data.

In order to develop a protocol for evaluating episodic acidification, the project will resample the original stream sites studied by Kahl, (1985) to evaluate any recent changes in the mechanisms of acid-base status. Specifically, automated water samples will be taken late March through May (exact dates depending on snowpack and spring rains). Samples will be analyzed for complete chemistry including: closed cell pH, air-equilibrated pH, ANC, conductance, color, dissolved organic carbon (DOC), calcium, magnesium, potassium, total aluminum, nitrate, sulfate, and silica. In order to duplicate the sampling

done in 1982, additional sampling will be done in early summer and at least once in the fall. Results will be tabulated in a final report and electronically on diskette. The final report will contain statistical and graphical interpretation of the data from all sites and a comparison with the previous sampling period. Recommendations with be made for future monitoring protocols at Acadia National Park.

BUDGET AND FTEs:

FUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:				
Year 2:				
Year 3:				
Year 4:				
		Total:	0.00	0.0

UNFUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	WATER-RES	MON	25.00	0.0
Year 2:				
Year 3:				
Year 4:				
		Total:	25.00	0.0

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS: N/A

COMPLIANCE CODE(s): EXCL

EXPLANATION: 516 DM6 APP. 7.4 E(2)

Proposal Date: 93

PROJECT NUMBER: ACAD-N-075.000

TITLE: SURVEY OF FRESH WATER AQUATIC VEGETATION

FUNDING STATUS: FUNDED: 0.00 UNFUNDED: 39.91

SERVICEWIDE ISSUES: N03 T&E PLANTS N17 BIODIVERSITY

CULTURAL RESOURCE TYPE CODE: N/A

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

Greene (1990) and Calhoun et al. (1994) provide the best surveys of freshwater aquatic vegetation undertaken in ACAD within the last century, yet both were very limited in scope and focused primarily on upland habitats and species other than submerged aquatics. Greene (1990) discovered the first and only known occurrence of the globally rare prototype quillwort, Isoetes prototypus, in the United States. I. prototypus meets criteria developed by The Nature Conservancy for listing as a G1 (critically imperiled) species. It also meets Maine Natural Areas criteria for listing as S1 (state endangered) species. The extreme rarity of I. prototypus may warrant its inclusion on the federal list of endangered species. A second rare aquatic, alga pondweed, Potamogeton confervoides, a candidate species for federal listing, was found by accident in 1994 in an ACAD lake (A. Haines, pers. comm.). The extreme rarity of these two species, as well as historic, yet unrelocated occurrences of Isoetes acadiensis (Rand and Redfield 1894), (Maine historic occurrence, endangered in Massachusetts and rare in New Brunswick) and Cardamine longii (threatened in Maine) from ACAD (Rand and Redfield 1894), warrants further systematic surveys of aquatic vegetation. Searching other ACAD ponds for these plants of national significance is of specific concern.

Because many aquatics have narrow habitat requirements (Hellquist and Crow 1980; Kott and Britton 1983) changes in water quality can greatly affect their continued existence. Atmospheric deposition, high mercury levels such as those recently documented in fish from Bubble Pond (T. Haines, pers. comm.), and changes in nitrogen levels may all pose threats to aquatic species. An aquatic inventory coupled with current water quality data will provide valuable baseline information with which changes over time in each waterbody can be tracked.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

Project objectives are to systematically survey aquatic vegetation in ACAD's freshwater ponds and streams, with special emphasis on locating and censusing populations of rare species.

Proposal Date: 94

Field efforts will be concentrated in late July and early August when most species are identifiable. Whenever practical, a canoe or raft will be used to expedite surveys.

Species identification, whenever it cannot be completed in the field, will be undertaken at the herbaria of College of the Atlantic, University of Maine, University of New Hampshire, or Harvard University. Specialists will be consulted to confirm identifications when necessary.

The park recommends amending an existing cooperative agreement with the College of the Atlantic to employ Dr. Craig Greene and Dr. Barre Hellquist to survey ponds and streams for submerged aquatics in ACAD. Dr. Greene has conducted research on the flora of the Mount Desert Island region for the past fifteen years and Dr. Hellquist is a recognized authority on aquatic plants of New England. The occurrence and present status of threatened and endangered vascular plants of federal, state, and regional significance will be assessed throughout the park, including the Schoodic peninsula and Isle au Haut, in this two year effort. Products of the study will include: 1) a final report to the Park Service summarizing findings, with emphasis on the status of rare species and habitats and suggestions for their management; 2) herbarium voucher specimens of representative species; 3) a checklist of the vascular plants encountered during fieldwork; 4) photographic slides of rare species and habitats for interpretive presentations; and 5) a presentation to park personnel of study results.

TIMETABLE

May-June 1995--Herbarium and library research in Bar Harbor, Orono

June-September 1995--Fieldwork in Acadia National Park; additional herbarium research as necessary

September 1995-May 1996--Species verification by specialists as necessary

December 1995--Progress Report to ACAD

June-September 1996--Fieldwork in Acadia National Park; additional herbarium research as necessary; informational presentation to park personnel

December 1996--Final Products to ACAD, NPS North Atlantic Region

BUDGET AND FTEs:

FUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:				
Year 2:				
Year 3:				
Year 4:				
		Total:	0.00	0.0

UNFUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	RG-RM-NAT	RES	21.61	0.0
	UNIV-COLL	RES	18.30	0.0
		Subtotal:	39.91	0.0
Year 2:				
Year 3:				
Year 4:				
		Total:	39.91	0.0

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS: N/A

COMPLIANCE CODE(s): ESA OTHER

EXPLANATION: 516 DM2 APP. 2, 1.6

Proposal Date: 94