

COMPREHENSIVE NATURAL RESOURCES MANAGEMENT PLAN

FOR

NAVAL AIR FACILITY, MIDWAY ISLAND

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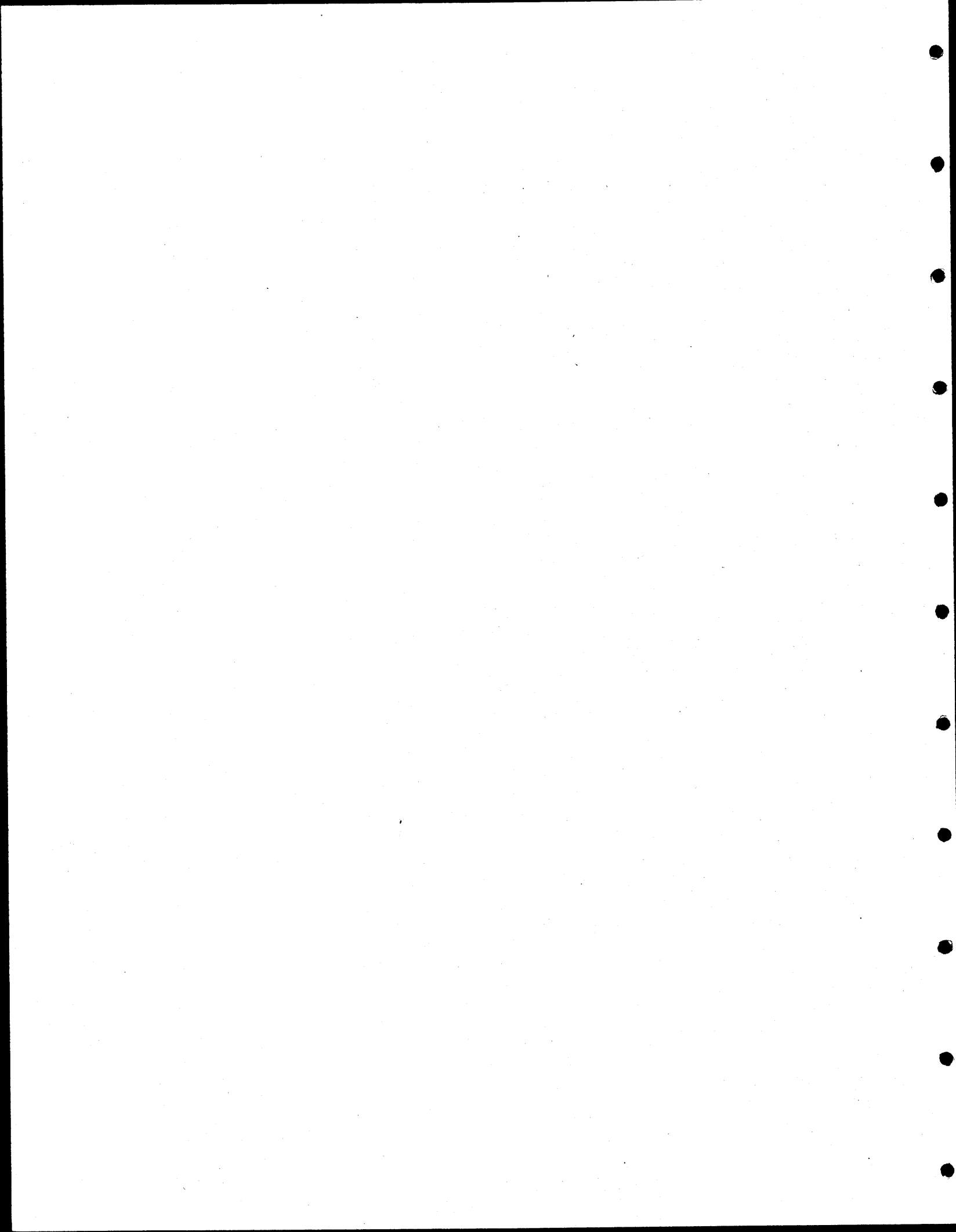


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ACRONYMS

Definitions of abbreviations and acronyms used in this document:

ASL - above sea level
ASO - Aviation Safety Officer
BASH - Bird-Aircraft Strike Hazard
BOS - Base Operations Services
CIP - Capital Improvements Plan
COMNAVBASE - Commander Naval Base
DERP - Defense Environmental Resoration Program
DOA - Department of Agriculture
DOD - Department of Defense
DODINST - Department of Defense Instruction
DOI - Department of Interior
EFD - Engineering Field Division
ESA - Endangered Species Act
FWS - U.S. Fish and Wildlife Service
MAC - Military Air Command
MILCON - Military Construction
MWR - Morale, Welfare, and Recreation
NAF Midway - Naval Air Facility, Midway Island
NAS Barbers Point - Naval Air Station, Barbers Point
NAVFAC - Naval Facility
NMFS - National Marine Fisheries Service
NOPF - Naval Ocean Processing Facility
NWR - National Wildlife Refuge
OIC - Officer-in-Charge
OPNAVINST - Naval Operations Instruction
PACDIVNAVFACENGCOCOM - Pacific Division, Naval Facilities Engineering
Command
SECNAV - Secretary of the Navy
UST - underground storage tanks

Executive Summary



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I. EXECUTIVE SUMMARY

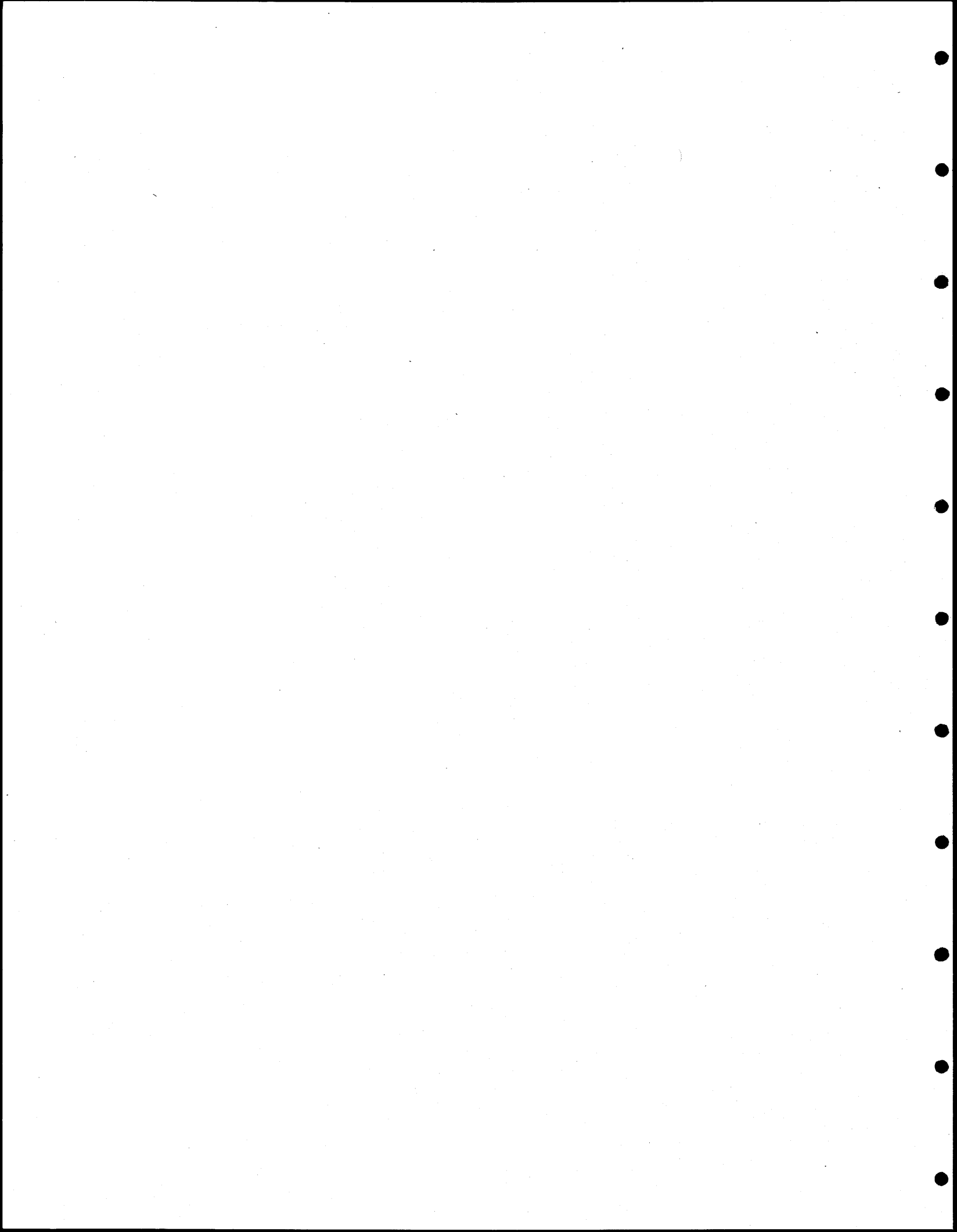
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I. EXECUTIVE SUMMARY

A. Summary of Findings and Recommendations

The Natural Resources Management Plan for the Naval Air Facility, Midway Island (NAF Midway) provides a multiple-use program for the management, conservation, and protection of renewable natural resources including vegetation, shorelines, fish, wildlife, water, and natural areas. The plan includes a bird-aircraft strike hazard (BASH) section with recommendations for reducing bird-aircraft collisions. It also identifies opportunities for outdoor recreation compatible with the military mission of the facility and in conformance with natural resources laws, regulations, and policies.

Midway Atoll is a unique ecosystem of special interest. Eastern Island is a Navy Wildlife Refuge and the entire atoll is part of the National Wildlife Refuge System. There are many natural resources of special interest at NAF Midway including the endangered Hawaiian monk seal (*Monachus schauinslandi*; Plate I-1a), threatened Hawaiian green sea turtle (*Chelonia mydas*), 15 breeding species of migratory seabirds, a variety of native plants, reef fishes and invertebrates, and many significant habitats including coral reefs, beaches, sand dunes, stands of native shrubs, fields, and ironwood forests. More than one million seabirds nest on Midway Atoll. At certain times of the year, the islands are virtually covered with seabirds (Plate I-1b). Because of the atoll's limited land area, native animals and plants are especially vulnerable to disturbance. Impacts to wildlife are potentially more drastic at Midway than on larger land masses.

Many opportunities exist at NAF Midway to increase the protection for its unique wildlife and habitats. Most of these opportunities relate to mitigation of conflicts between humans and their activities and wildlife for the limited space available. Identified within this plan are several areas of existing or potential conflict. These include the following:

- hazards to wildlife due to construction, renovation, or repair of buildings, roads, and other facilities
- new development in existing or potential wildlife habitat
- disturbance of wildlife during daily operations and recreation activities
- presence of hazards to wildlife including abandoned structures and debris, uncovered pits, fenced enclosures, antennas, overhead utility wires, lighting, deteriorating seawalls, and nets entangled in piers
- conflicts between wildlife and vehicular traffic
- potential hazards to wildlife related to storage or spillage of petroleum products, contaminants, or hazardous wastes
- bird aircraft strike hazards.

Besides conflicts, opportunities abound to maximize natural resource potential and provide opportunities for wildlife oriented outdoor recreation. These include the following:

- orientation of all personnel arriving at Midway with respect to wildlife regulations
- enforcement of wildlife and fisheries regulations

- regulation of wildlife researchers, writers, photographers, and cinematographers
- promotion of wildlife interpretation for base personnel
- control of predation by introduced rats on indigenous seabirds and native vegetation
- preservation and enhancement of coastal strand and beach habitat
- prevention of future introduction of alien and pest species
- restoration and enhancement of Eastern Island
- preservation of populations of lobster and other species harvested recreationally
- preservation of dwindling populations of Hawaiian monk seals and green sea turtles.

Included within this plan are recommendations to minimize conflicts and take advantage of opportunities to provide a balance between natural resources and man at NAF Midway. Implementation of this plan will take advantage of the cooperative efforts of the U.S. Navy, U.S. Fish and Wildlife Service, base contractor, volunteers, and researchers. Although this plan is divided into several management areas, because of NAF Midway's small size and density of wildlife resources, most of the specific management recommendations are interrelated and are thus difficult to lump into one area. For example, in order to reduce bird aircraft strike hazards, cleared areas near the airfield should be replanted with native shrubs to provide less desirable habitat for albatross nesting. In order to encourage these plants, herbivorous rodents and competing introduced plants must be controlled.

It is recognized that, in the future, the proposed natural resources management program may conflict with new or changing military mission and security requirements at the installation and modifications to this plan may be necessary if and when conflicts occur.

B. Potential Management Options

1. Criteria for evaluation

There are several criteria for evaluating and ranking options that apply to NAF Midway. These include:

Legal requirements. Examples are the protection of endangered and threatened species and migratory birds, and compliance with historic preservation requirements.

Interference with military mission. For any proposed action, not required by law, the most important criterion is the degree to which the proposed recommendation would interfere with the military mission of the station. If a non-mandated option would seriously constrain military operations it will not be considered. However, if the proposed action would only result in an inconvenience, it will be considered.

Promotion of Refuge objectives. As NAF Midway has been designated as an overlay National Wildlife Refuge managed by the U.S. Fish and Wildlife Service (FWS), actions that promote Refuge objectives but do not interfere with the military mission will be considered.

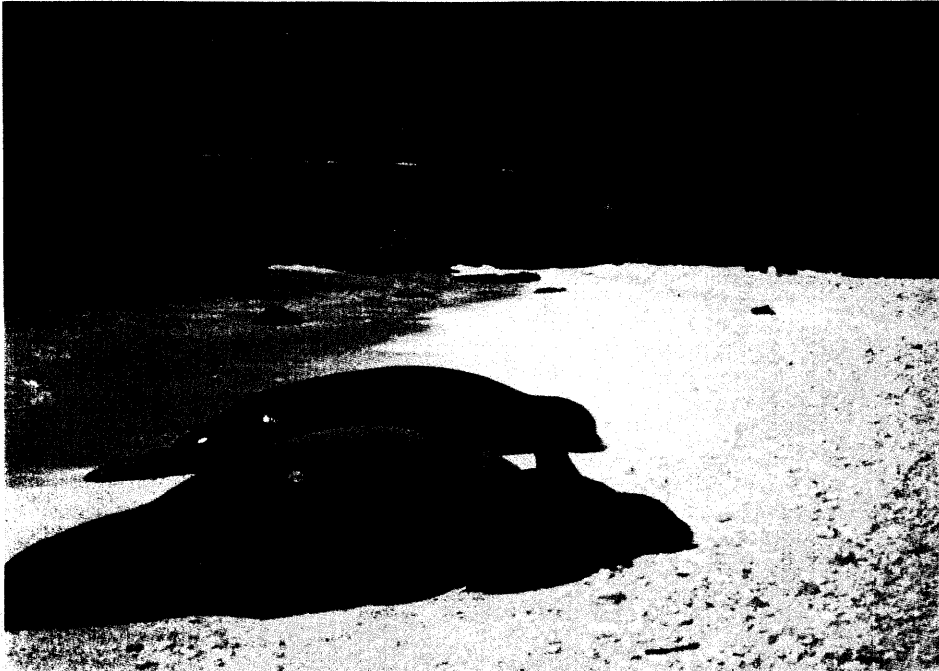


Plate I-1a. Endangered Hawaiian monk seals, Eastern Island

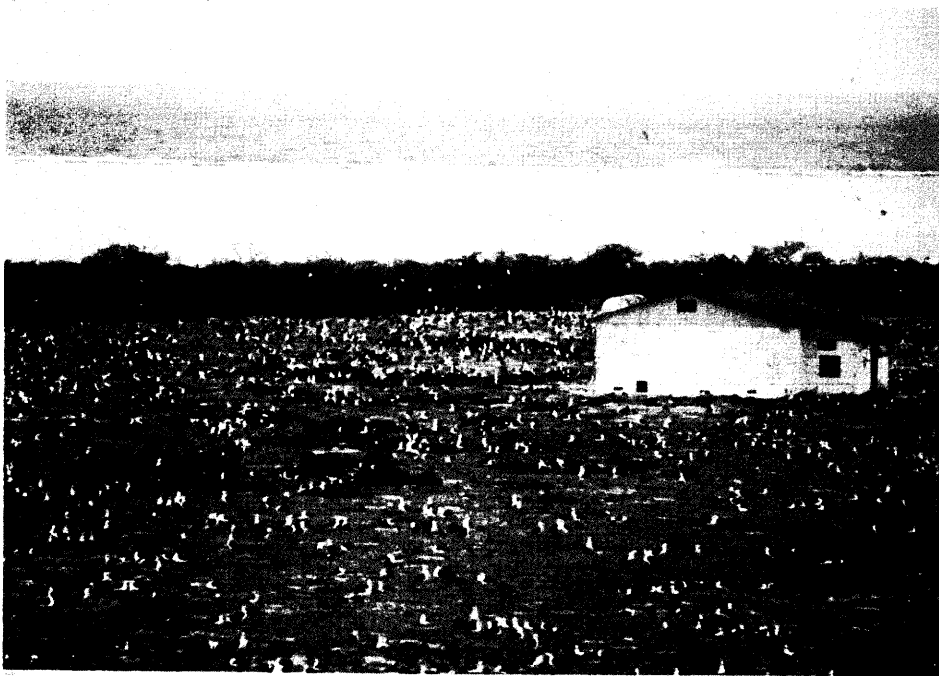


Plate I-1b. Albatross nesting colony, Eastern Island



Actions which promote the military mission and promote wildlife objectives would be given priority consideration.

Costs of proposed action. Costs must be reasonable so that the option has a strong probability of being funded and implemented. As Midway is a Naval Facility and a National Wildlife Refuge, programs to be conducted on Midway may be funded by either agency. Programs that are considered to be Navy responsibility are considered as Navy costs and programs considered to meet Refuge objectives but not necessarily military objectives are considered as Fish and Wildlife Service costs.

Benefits. For people-oriented proposals, such as improved recreational facilities, first priority will be given to those projects that provide base personnel with a better understanding of the wildlife of Midway. By informing people about the wildlife resources at Midway, regulations concerning wildlife protection will be better understood and people would have an appreciation for the unique environment of Midway. This could result in higher morale and reduced wildlife enforcement problems.

2. Ranking of recommended options

a. Protection and conservation of natural resources

1. **Threatened and endangered species preservation.** Recommendations designed to preserve and enhance populations of endangered monk seals, threatened sea turtles, and other endangered species should be implemented. These include reducing human visitation to Eastern and Spit islands, enhancing beach habitat, reducing human disturbance, elimination of hazards, and introduction of seals from other colonies.
2. **Pest control.** In order to eliminate predation on seabirds and herbivory on native plants, by introduced rats, a comprehensive program of rat control should be initiated following the guidance of reports by Murphy and Tyler (1988) and Reidinger (1982). Initial control efforts should focus on native vegetation communities and burrow colonies on Sand Island, and the whole of Eastern and Spit islands.
3. **Native plants.** In order to maintain or enhance the existing diversity of wildlife habitat, control erosion, and reduce the bird-aircraft strike hazard, the recovery and reestablishment of native plants should be promoted as part of an integrated program of vegetation management. Growth of beach naupaka and other dune-building species should be encouraged, especially along shorelines and in open areas not constrained by airfield clearances. Existing stands of native strand vegetation should be cleared of introduced plants, especially ironwood and golden crown-beard.
4. **Hazards.** Mortality and injury to wildlife resulting from human activities, structures, or debris should be minimized. Abandoned structures and debris, such as uncovered pits, utility lines, and fences, that represent potential hazards to wildlife, should be eliminated. Entanglement hazards, such as fishing nets and monofilament line, should be cleared from shorelines and pier pilings. Toxic substances, such as waste oil and lead paint from demolished buildings, should be collected, stored, and removed from the atoll. Construction of new hazards, such as fences and above-ground wires, should be minimized. A program to reduce conflicts between wildlife and vehicular traffic should be developed and implemented.
5. **Orientation.** All incoming personnel (except returning residents), military and civilian, arriving by aircraft or vessel, should receive an orientation briefing, in which wildlife regulations and the importance of preventing the introduction of alien or domestic species are explained.

6. **Consultation.** A protocol should be established for coordination and consultation between the FWS, the Navy, and any civilian contractor, in order to mitigate conflicts between wildlife and military and civilian activities, including construction, renovation, operations, and recreation.
7. **Restoration of Eastern Island.** In order to provide wildlife habitat and, potentially, to reduce BASH, Eastern Island should be restored to a natural condition. Restoration should include the cleanup of abandoned runways, structures, and debris and the control of rats and introduced plants (especially ironwoods). The availability of Defense Environmental Restoration Program (DERP) and other funds should be investigated.
8. **Sanctuaries.** On Sand Island, sanctuaries for especially rare or sensitive species or habitats should be established and clearly posted.
9. **Monitoring.** In order to evaluate ongoing management programs and assess additional management needs, it is recommended that the health and status of selected wildlife be monitored.

b. Reduction of bird-aircraft strike hazard (BASH)

1. **BASH plan.** In order to reduce the bird-aircraft strike hazard (BASH), a comprehensive BASH plan should be prepared and implemented. This plan should include the collection of detailed information on bird-aircraft collisions.

c. Land management

1. **Vegetation management.** In order to protect structures, reduce erosion, decrease the bird-aircraft strike hazard, and maximize the diversity of wildlife habitat, the proposed integrated vegetation management program should be developed and implemented. The general, overriding objectives of this program are to control the spread of ironwood trees, especially along shorelines, near structures, and in stands of native vegetation and to promote the recovery and reestablishment of native plants, primarily beach naupaka and other dune-building species, especially along shorelines and in open areas not constrained by airfield clearances. Existing stands of native strand vegetation should be cleared of introduced plants, especially ironwood and golden crown-beard.
2. **Coastal zone management.** In order to control coastal erosion while maintaining beach accessibility for endangered monk seal habitat and recreational use, nonrestrictive erosion control methods (e.g., vegetation management, revetment) should be used whenever possible instead of bulkhead or riprap.
3. **Water supply.** In order to prevent contamination of groundwater aquifers and, secondarily, of humans and wildlife, MILCON Project P-288 should be implemented to contain spills, and abandoned fuel storage tanks should be located, drained, and demolished. The availability of clean-up funds through the Navy Installation Restoration Program or the Defense Environmental Restoration Program should be investigated.
4. **Noxious weed and pest control.** In order to control rodents in inhabited areas, the current level of effort must be maintained or possibly increased. It is recommended that control efforts be extended to outlying and abandoned areas, with the ultimate goal of eliminating rats from the atoll. Efforts to control golden crown-beard and other noxious weeds should be extended to abandoned and unimproved areas, in order to control populations of flies and mosquitos and to encourage growth of native plants.

5. Soil stabilization and erosion control. In order to prevent soil erosion and accumulation of windblown sand on runways, existing dunes and dune vegetation should be protected and areas cleared for airfield or other operations should be replanted with native shrubs.

d. Natural resource use and outdoor recreation

1. Wildlife interpretation. In order to provide opportunities for public use of fish and wildlife resources, a program of environmental education and wildlife interpretation program should be initiated. This program should include interpretive displays of photographs and information on the atoll's wildlife, an informational brochure, nature walks, and slide presentations.
2. Research and journalism. The use of fish and wildlife resources by scientific researchers, writers, photographers, and film-makers should be encouraged. These activities should be regulated by the FWS in cooperation with COMNAVBASE and the OIC-NAF Midway.
3. Recreational fishing. The proposed set of regulations should be implemented to ensure the continued viability of the recreational harvest of fishes, lobsters, coral, and other invertebrates. These regulations should be clearly posted and re-evaluated periodically by the FWS and the OIC-NAFMIDWAY.
4. Scuba diving. In order to enhance opportunities for this unique recreational activity, rental dive equipment should be made available through NAF Midway Morale, Welfare, and Recreation (MWR).

C. Implementation

1. Development costs

Development costs are summarized in Tables I-1 through I-3. The total projected cost for natural resources and outdoor recreation projects is \$1,311,000: \$263,500 is allocated for land management, \$908,500 is allocated for fish and wildlife management and \$139,000 is allocated for outdoor recreation projects. Funding for these projects will be shared by the Navy and the FWS, as follows: \$596,000 (Navy) and \$715,000 (FWS).

2. Revenue changes

No revenue sources (e.g., fishing licenses, commercial outleases), *per se*, exist at NAF Midway. The annual Navy and FWS budgets for Midway will vary depending on approved projects.

3. Ten year schedule of natural resource projects

A year by year schedule of natural resource projects and associated costs is presented in Table I-4. Year 1 of this schedule is considered to be the first funding year following acceptance of this plan. The schedule includes anticipated annual cost increases for projects continuing over several years.

TABLE I-1

Project Costs - Land Management

PROJECT	FUNDING	
	Navy	FWS
<u>Watershed</u>		
• Investigate UST cleanup through various funding sources	3,000	
<u>Vegetation Management</u>		
Sand Island		
<i>Improved Lands</i>		
• Remove, top, or trim ironwoods as required to protect structures	20,000	
<i>Shorelines</i>		
• Eliminate ironwoods from Area 7 native plant revegetation plot (40,000 sq. ft.)	36,000	
• Evaluate revegetation of native plants in the above plot and remove newly sprouted ironwood saplings	21,000	8,000
• Remove ironwoods and replant native vegetation in high erosion area test plot (1000 sq. ft.)	5,000	
• Evaluate revegetation in high erosion area test plot, remove new ironwood sprouts; expand efforts to other areas if successful	9,000	
• Clear exotic plants (e.g., ironwood, golden crown-beard) from stands of native vegetation:		
- Frigate Point	8,000	
- Southwest shoreline (near NOPF)	8,000	
<i>Airfield clearances</i>		
• Scarify or pave required clearance areas as designated	36,000	
• Revegetate designated areas with low-growing native shrubs	4,000	
<i>Open fields and lawns</i>		
• Establish native plant revegetation test plot (1000 sq. ft.)	3,000	
• Evaluate success of native plant revegetation test plot		1,000