

D-2197

Vol. 1

draft general management plan supplement
environmental assessment
april 1984

CHANNEL ISLANDS



NATIONAL PARK / CALIFORNIA

PLEASE RETURN TO:
TECHNICAL SERVICES CENTER
DENVER
NATIONAL PARK SERVICE

Comments on this *Environmental Assessment* should be received by the superintendent of Channel Islands National Park by July 6, 1984. Public hearings will be held

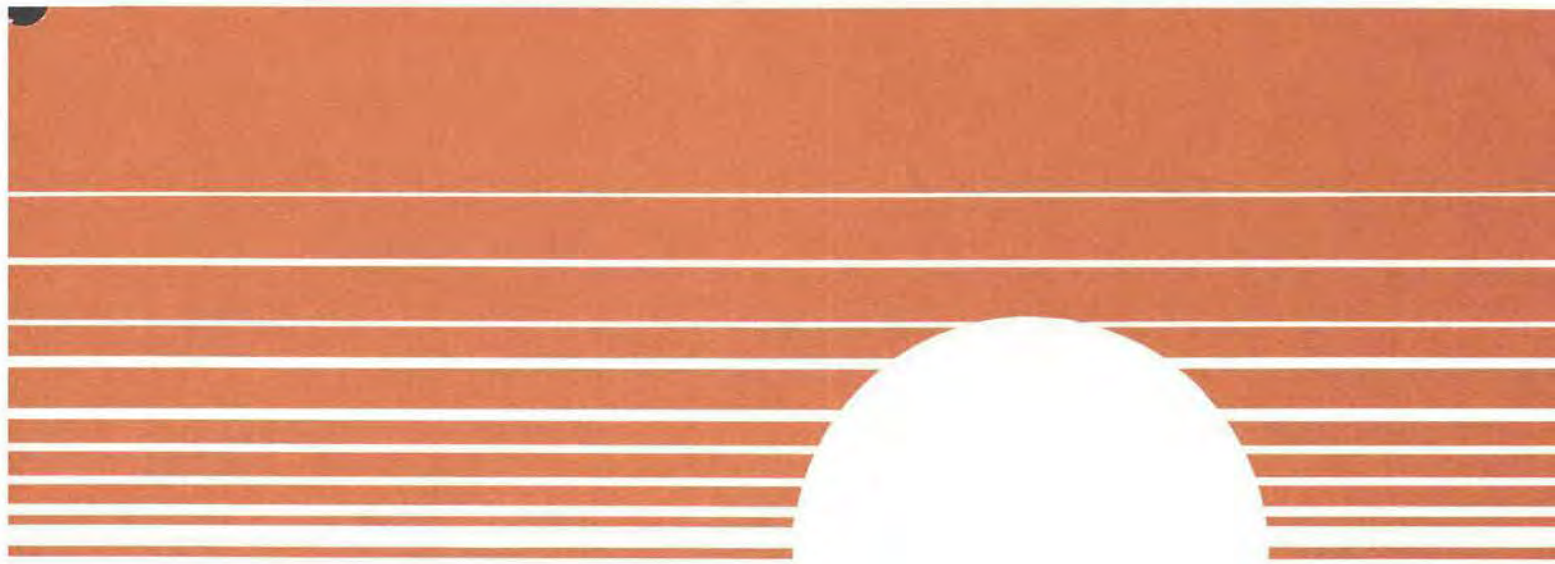
June 6, 1984
Ventura, California
Park Headquarters
1901 Spinnaker Drive
7:00 p.m.

June 7, 1984
Santa Barbara, California
Santa Barbara Museum of Natural History
2559 Puesta Del Sol Road
7:00 p.m.

For further information contact:

William H. Ehorn
Superintendent
Channel Islands National Park
1901 Spinnaker Drive
Ventura, California 93001
(805) 644-8157

Douglas B. Cornell, Jr.
Planning Team Captain
Denver Service Center
P.O. Box 25287
Lakewood, Colorado 80225
(303) 234-4509



channel islands

NATIONAL PARK / CALIFORNIA

DRAFT GENERAL MANAGEMENT PLAN SUPPLEMENT
ENVIRONMENTAL ASSESSMENT

U.S. Department of the Interior / National Park Service

SUMMARY

This General Management Plan Supplement/Environmental Assessment for Channel Islands National Park presents a proposed plan for the future management of Santa Rosa Island and the eastern portion of Santa Cruz Island. It also proposes management actions for the waters within 1 nautical mile of all five park islands, and it recommends changes in use for Anacapa and San Miguel islands. When a plan has been approved, it and the 1980 General Management Plan will provide direction for the management of the national park for the next five to 10 years. A comprehensive management plan for natural and cultural resources will be prepared when thorough resource inventories have been completed.

PROPOSED PLAN

All of east Santa Cruz and Santa Rosa islands (following acquisition of private property or of sufficient rights to permit public use) will be managed on a limited-entry, low-intensity use basis. Three existing developed areas (less than 2 percent of the land) will serve as entry points. The restoration and preservation of natural biotic associations will be emphasized, although a return to near-natural conditions may take many years. Consequently, formal wilderness studies will be deferred until active restoration efforts have been completed for all park lands, even though some areas now meet the basic wilderness criteria.

Visitor facilities, other than backcountry campsites, will be provided only in existing developed or impacted areas, and existing structures will be used to the extent feasible. Scorpion Valley will be the primary visitor access point on east Santa Cruz, and the main ranch area at Bechers Bay and the Johnsons Lee area will be the primary access points on Santa Rosa. If further studies indicate it is feasible, an environmental education/research field station will be established in existing structures at Johnsons Lee. Improved water and sewage treatment systems will be required on both islands to meet public use standards.

Visitors will for the most part experience a wilderness-like park where they may explore on their own the diverse resources of the islands and surrounding waters. Campgrounds and backcountry campsites will be available, but capacities will be limited. Overnight visitors on the islands (and any visitors on San Miguel Island) will be required to first obtain permits through park headquarters. Exploration of park waters and shorelines will remain a major visitor activity; landings will be limited to selected beaches to minimize impacts on fragile or sensitive resources.

The proposed plan recognizes that it may take several years to open east Santa Cruz and Santa Rosa for visitor use. National Park Service (NPS) personnel will first have to become thoroughly familiar with the islands, and critical resource management actions will have to be implemented. Visitor facilities will have to be designed, and funding for improvements will undoubtedly occur over several years. This approach will allow each proposed action to be reevaluated before it is implemented.

The proposed actions for Anacapa, San Miguel, and Santa Barbara islands, which are currently managed by the National Park Service, all relate primarily to visitor use. On East Anacapa the campground will be eliminated when facilities on eastern Santa Cruz are available for public use, although limited group camping will still be permitted on East Anacapa. On West Anacapa an increase in supervised group day use (from 30 to 75) will be allowed at Frenchy's Cove. On San Miguel Island boaters may be able to make seasonal landings at Tyler Bight when a ranger is present. Visitors will also be allowed to explore some areas without having to be accompanied by a ranger or authorized guide; limited camping will be provided in two areas.

Marine resource management will emphasize nonconsumptive use. The designation of ecological reserves around all of the park islands will be sought, along with regulations to ensure long-term resource protection. Marine interpretive and educational programs will be expanded.

For the most part, the proposed plan constitutes a minimum requirements alternative. Alternatives considered during the preparation of the park's recently completed Land Protection Plan and this document include continued cattle ranching on Santa Rosa Island, strategies for the management of exotic plants and animals, flood hazard mitigation measures, and expanded visitor services and facilities.

The National Park Service does not now own any of the private lands or structures on east Santa Cruz and Santa Rosa islands, and acquisition may be a lengthy process. Although many existing structures appear in good condition and could be adapted for use at relatively modest cost, others are deteriorating. The conditions existing at the time of acquisition will determine which structures can be adaptively used or if new facilities will be required.

ENVIRONMENTAL CONSEQUENCES

Adverse environmental consequences of the proposed plan would be minimal, primarily because of the limited-entry, low-intensity use concepts. The major changes would occur with the conversion from ranching to public use. Human impacts would be concentrated in specific areas as compared to the present widespread impacts of domestic and feral animals. Human impacts would be mitigated by using existing facilities and developed areas to the extent possible, by providing well-designed trail systems in sensitive resource areas, by closing some areas to visitor use, and by continually monitoring impacts so that changes could be implemented as soon as potentially adverse impacts were evident. Overall, the change in use from ranching to public visitation would be environmentally advantageous.

The impacts of docks at Scorpion Anchorage and Johnsons Lee, the two campgrounds, and utility systems would be further analyzed as specific proposals were developed. Because the proposed plan is intended to be implemented in phases, time would be allowed for site-specific resource studies to be done and for visitor use patterns and impacts to be monitored before these projects were undertaken.

CONTENTS

INTRODUCTION

PURPOSE OF AND NEED FOR THE PLAN	4
PLANNING AND MANAGEMENT CONSIDERATIONS	7
Significance of the Park	7
Planning Background	9
Wilderness Suitability	14
Management Objectives	15

PROPOSED PLAN

MANAGEMENT ZONING	20
Natural Zone	20
Historic Zone	22
Development Zone	23
Special Use Zone	23
RESOURCE MANAGEMENT AND RESEARCH	25
Natural Resources	25
Ranching	25
Exotic Animals	25
Exotic Vegetation	25
Flood Management--East Santa Cruz	25
Air Quality	26
Marine Resources	26
Cultural Resources	27
VISITOR FACILITIES AND SERVICES	30
General Concepts	30
Orientation and Interpretation	30
Visitor Use	32
Access for Disabled and Special Populations	33
Transportation	33
East Santa Cruz	33
Scorpion Anchorage	33
Scorpion Valley	35
Smugglers Cove	36
Backcountry	36
Interim Visitor Use during Phased Acquisition	37
Santa Rosa Island	38
Bechers Bay	38
Johnsons Lee	41
China Camp	42
Backcountry	42
Interim Visitor Use during Phased Land Acquisition	43
Anacapa Island	43
San Miguel Island	43
Santa Barbara Island	45
IMPLEMENTATION	52

THE ENVIRONMENT

NATURAL RESOURCES 56
Terrestrial Resources 56
 Santa Cruz 56
 Santa Rosa 59
Marine Resources 63
 Pinnipeds 64
 Seabirds 66

CULTURAL RESOURCES 67
Prehistory 67
History 69
Submerged Cultural Resources 70

PARK VISITOR ACCESS AND USE 72

ALTERNATIVES CONSIDERED

NO-ACTION ALTERNATIVE 80
Resource Management 80
Visitor Facilities and Services 80

ALTERNATIVES FOR RESOURCE MANAGEMENT 82
Continued Ranching 82
Exotic Animal Management 82
Exotic Vegetation Management 83
Flood Management--East Santa Cruz 83

ALTERNATIVES FOR VISITOR FACILITIES AND SERVICES 84
Day Use Only Alternative 84
Expanded Visitor Facilities and Services 84
 East Santa Cruz 84
 Santa Rosa 86
Site-Specific Development and Management Alternatives 89
 East Santa Cruz Island 89
 Santa Rosa Island 90
 Anacapa Island 91

ENVIRONMENTAL CONSEQUENCES

OVERVIEW OF IMPACTS 95

IMPACTS ON NATURAL RESOURCES 99
Proposed Plan 99
 Resource Management Impacts 99
 Visitor Facilities and Services Impacts 100
Alternatives 107
 Resource Management Impacts 107
 Visitor Facilities and Services Impacts 110

IMPACTS ON CULTURAL RESOURCES	114
Impacts on Archeological Sites	114
Impacts on Historic Sites	114
Impacts on Marine Resources	115
IMPACTS ON THE SOCIOECONOMIC ENVIRONMENT	116
Regional Impacts	116
Proposed Plan	116
Alternatives	116
Impacts on the Park Visitor Experience	117
Proposed Plan	117
Alternatives	119
IMPACTS ON PARK MANAGEMENT	120
Proposed Plan	120
Alternatives	121

CONSULTATION AND COORDINATION

The Scientific Community	126
Landowners	126
The Public	126
Consultations about Endangered Species	126
Governmental Agencies	127

APPENDIXES/BIBLIOGRAPHY/PLANNING TEAM

A: Legislation	131
B: Existing Landownerships and Cooperative Agreements	135
C: Land Protection Plan Recommendations	141
D: Management Objectives	152
E: Threatened or Endangered Species	155
F: Federal Consistency with California Coastal Zone Management Policies	157
SELECTED BIBLIOGRAPHY	165
PLANNING TEAM AND CONSULTANTS	169

MAPS

Vicinity 8

Management Zoning/General Development

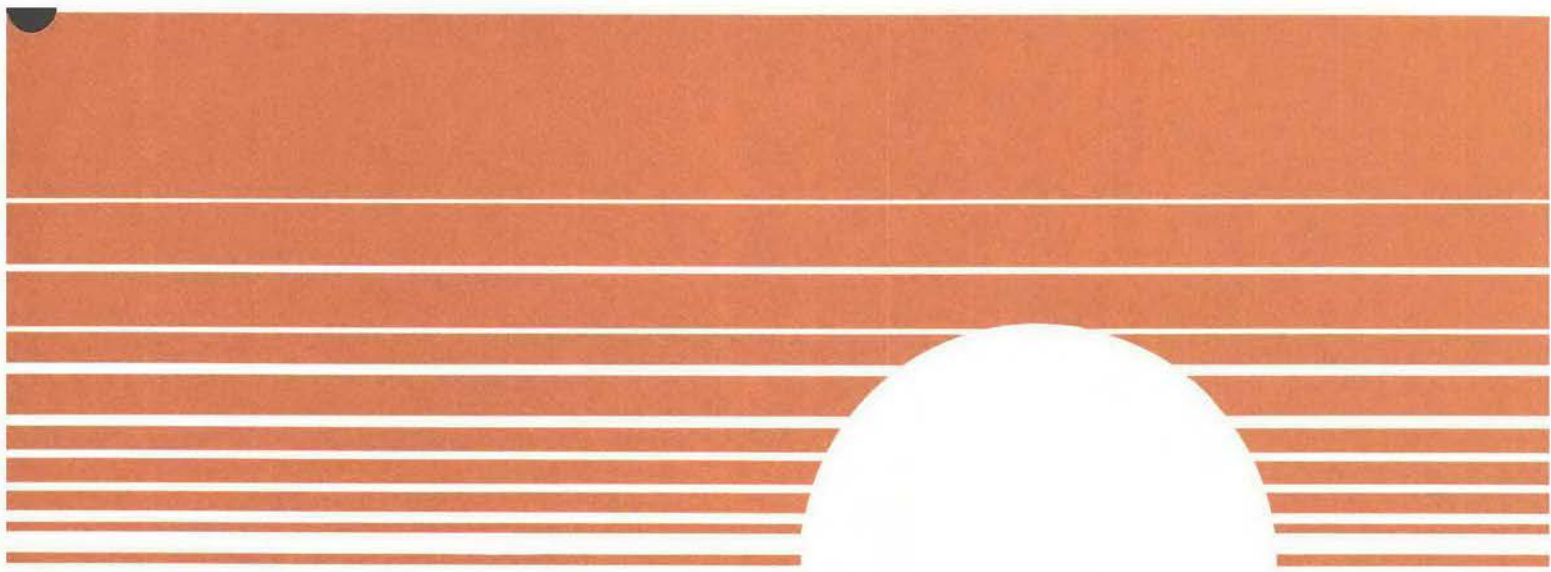
East Santa Cruz 34
Santa Rosa 39
Anacapa 47
San Miguel 49
Santa Barbara 51

Resource Sensitivity

East Santa Cruz 57
Santa Rosa 61

Management Zoning/General Development--Alternative

East Santa Cruz 85
Santa Rosa 87



introduction



The Channel Islands are recognized as areas of exceptional scientific value with diverse marine resources, irreplaceable cultural resources, notable geological and paleontological features, rare fauna, and plant and animal communities that have evolved in a unique manner because of their isolation from the mainland. The waters surrounding the islands contain one of the most diverse and productive marine ecosystems in the world. In 1980 Channel Islands National Park was established to protect these nationally significant values (Public Law 96-199, 16 USC 410ff; see appendix A). The park includes San Miguel (and a small nearby island called Prince), Santa Rosa, Santa Cruz, Anacapa, and Santa Barbara islands, as well as the rocks, islets, submerged lands, and waters within 1 nautical mile of each island.



PURPOSE OF AND NEED FOR THE PLAN

This General Management Plan Supplement outlines long-range management strategies for Santa Rosa and east Santa Cruz islands, and for the marine areas surrounding the park islands. It focuses on visitor use, interpretation, and general development of Santa Rosa and east Santa Cruz islands, but it also proposes modifications in management strategies for Anacapa and San Miguel islands. Once a plan is approved, it and the 1980 General Management Plan will constitute a comprehensive visitor use and general development plan for Channel Islands National Park for the next five to 10 years.

Extensive work will be required before either Santa Rosa or east Santa Cruz can be opened to public use. Foremost is the need to complete acquisition of the private lands, or at least to negotiate minimum rights for research and public use. To achieve this, a Land Protection Plan that is sensitive to the rights of the present owners has been prepared. The recommendations of that plan, however, may require considerable time to implement because of limited funding for acquisition and the negotiation of acquisition terms. Once acquisition has been completed, extensive cleanup and safety improvements will be needed in some areas. Long-term proposals for visitor use and services will be carefully reevaluated as more is learned about the islands' resources and microclimates.

A comprehensive management plan for natural and cultural resources on Santa Rosa and Santa Cruz must await extensive research and monitoring. An initial (although limited) inventory of terrestrial and marine resources has been prepared, and basic research objectives have been established. A study of a public transportation system connecting the mainland with the park will be undertaken as soon as long-term carrying capacities for the islands, based on thorough research, have been established. Existing transportation services appear adequate to serve the initial levels of visitation. In accordance with the 1980 legislation, a wilderness suitability review of the islands has been conducted; however, it is recommended that any further action be deferred until the islands have had a chance to return to predominantly natural conditions.

The proposed actions are based on the recommendations of a multidisciplinary team of NPS scientists, planners, and managers. Comments received from the general public during and following preplanning workshops held in June and July 1982, along with comments on the Draft Land Protection Plan, have also been considered. Proposals for Anacapa and San Miguel are presented as an amendment to the 1980 General Management Plan.

Although the assumption of management responsibility by the National Park Service for much of the park has been and will continue to be a slow process, park managers need the guidance of an overall management strategy to resolve the numerous issues affecting the future of the park. The issues addressed in this plan fall into three broad categories: land protection, resource management, and visitor use/transportation. Within each category are several interrelated issues. The issues are identified

below and discussed in more detail later in the "Planning Background" section. The land protection issues have all been addressed in the park's Land Protection Plan, but they are listed below because they directly affect the proposed actions. (The recommendations of the Land Protection Plan are included in appendix C of this document.)

Land Protection

Acquisition of state-owned lands is prohibited under PL 96-199; management authority is limited to law enforcement under cooperative agreements.

Funding for acquisition of privately owned lands has been limited, and there is little probability of additional funding in the near future. The National Park Service has no authority to manage these lands unless the owners seek cooperative management agreements.

Under current conditions, essential research and visitor use under the sponsorship of the National Park Service are virtually impossible on Santa Rosa and Santa Cruz islands.

Mixed ownership and jurisdiction can lead to conflicting land protection and resource management strategies.

Resource Management

The management of marine resources is complicated by mixed jurisdictions. The state of California has primary authority for submerged lands and waters within and adjacent to the park. The National Oceanic and Atmospheric Administration has responsibility for the management of marine mammals (although this authority may be transferred to the state) and for the management of Channel Islands National Marine Sanctuary, which surrounds the park islands. The National Park Service has no marine resource management jurisdiction other than through cooperative agreements.

The Nature Conservancy will continue to have management authority for the resources of 90 percent of Santa Cruz Island; the National Park Service has the authority to assist in resource management under cooperative agreements.

Scientists report that grazing by cattle and sheep (domestic and feral) and rooting by feral swine is having a significant impact on native plant and animal species on east Santa Cruz and Santa Rosa islands. As previously stated, the National Park Service has no jurisdiction over the management of private lands unless such rights are granted by the owners.

Structures and sites of potentially significant historic value are being damaged through ranching activities and neglect; archeological resources have received little protection under private ownership.

Access for research on privately owned lands has been severely limited, preventing a thorough inventory of natural and cultural resources. Consequently, a comprehensive resource management plan cannot yet be prepared.

PL 96-199 requires a wilderness suitability study; however, only those lands under federal ownership may be included in the national wilderness system.

Visitor Use/Transportation

PL 96-199 requires that the park be managed on a limited-entry, low-intensity use basis. Interpretation of this mandate has been the major public issue facing the park.

The law also requires a transportation study to determine ways to make access to the park economical for the extensive, nearby urban populations. This provision has the potential to conflict with the limited-entry, low-intensity use policy.

The visitor use plan, particularly the location and design of visitor facilities, must be sensitive to the special fragility and sensitivity of park resources. Carrying capacities must be established to ensure that impacts are of acceptable levels.

Visitor use policies on the three islands currently managed by the National Park Service may be affected by proposals for visitor use and resource management on east Santa Cruz and Santa Rosa once these islands have been acquired by the National Park Service.

PLANNING AND MANAGEMENT CONSIDERATIONS

Several factors have affected the development of management strategies for Channel Islands National Park, not the least of which is the national, and even international, significance of park resources. Planning has been complicated by the various landownerships and jurisdictions, and by a lack of information about onsite resources, as discussed under the "Planning Background" section. Another factor is the need to determine the suitability or unsuitability of park islands for wilderness designation, and although some of the islands are eligible now, others must be returned to near-natural conditions before they will be suitable. Finally, management objectives developed by the park staff define what the long-term goals for the park are and what must be done to achieve them. The function of the proposed plan is to describe how these objectives should be realized.

SIGNIFICANCE OF THE PARK


Anacapa and Santa Barbara Islands were set apart as Channel Islands National Monument on April 26, 1938, by President Franklin D. Roosevelt. The monument's purpose was to reserve in the public interest islands containing "fossils of Pleistocene elephants and ancient trees, and furnishing noteworthy examples of ancient volcanism, deposition, and active sea erosion, and have situated thereon various other objects of geological and scientific interest." On February 9, 1949, President Harry S. Truman extended the boundaries to include the area within 1 nautical mile of these two islands to provide for the proper care, management, and protection of the objects of geological and scientific interest.

Oddly, neither the elephants nor tree fossils mentioned in the original proclamation are located on Anacapa or Santa Barbara. These noted resources did not come under NPS jurisdiction until a cooperative management agreement for San Miguel Island was reached with the Department of the Navy in May 1963 (the agreement was amended in October 1976).

On March 5, 1980, President James E. Carter signed legislation authorizing the national monument to be designated a national park and adding the islands of Santa Rosa, Santa Cruz, Prince, and San Miguel. This move had been the goal of nature lovers, scientists, conservationists, and the National Park Service since before the establishment of the national monument, and various bills to authorize national park status had been introduced in Congress between 1958 and 1979. The cooperative attitude of the landowners, along with the heightened public awareness of the need to protect sensitive resources on and around these islands, helped ensure passage by the 96th Congress.

In recognition of the significant marine resources around the Channel Islands, the waters within 6 nautical miles of the four northern islands (San Miguel, Santa Rosa, Santa Cruz, and Anacapa) and Santa Barbara were formally designated as a national marine sanctuary in 1980. The sanctuary encompasses approximately 1,252 square nautical miles and




 0 30 MILES
 0 30 KILOMETERS

159 | 20033C
 DSC | FEB 84

VICINITY MAP **ON MICROFILM**

CHANNEL ISLANDS NATIONAL PARK
 UNITED STATES DEPARTMENT OF THE INTERIOR
 NATIONAL PARK SERVICE

includes a variety of nearshore habitats and unique marine resources characteristic of the southern California bight. The nearshore waters continue to support several important commercial and sport fisheries, and they are also used for recreational diving, sailing, and nature viewing. Besides ensuring the protection of the marine ecosystems, sanctuary designation ensures that visitors will be able to continue to appreciate and enjoy the unique resources of this area.

The state of California has designated the waters out to the 300-foot isobath or 1 mile, whichever is greater, as an area of special biological significance because of "biological communities of such extraordinary even though unquantifiable value that no acceptable risk of change in their environment as a result of man's activities can be entertained." As further recognition of sensitive and valuable marine resources surrounding the islands, the state legislature designated the state-owned waters surrounding the islands as an oil and gas sanctuary, administered by the California State Lands Commission. This sanctuary prohibits oil and gas development in these critical offshore areas. In addition, the waters within 1 nautical mile of Anacapa, Santa Barbara, and San Miguel islands are designated as state ecological reserves, managed by the California Department of Fish and Game.

Anacapa and Santa Barbara islands have also been designated as international biosphere reserves by the United Nations Educational, Scientific, and Cultural Organization.

PLANNING BACKGROUND

When the park was established in 1980, Congress directed that a comprehensive general management plan be prepared by October 1, 1983. However, in 1980 the General Management Plan for Channel Islands National Monument was already nearing completion. That plan and its preceding Environmental Assessment established long-range management strategies for Anacapa, Santa Barbara, and San Miguel islands. (San Miguel was not included in the national monument, but it was managed by the National Park Service under a cooperative agreement with the U.S. Navy. It, along with Prince Island, was added to the national park in 1980.)

The 1980 plan and the assessment remain valid, although minor modifications may be required as the management strategies for Santa Rosa and Santa Cruz evolve. Extensive environmental and cultural resource consultations conducted for those documents form the basis for much of the current planning effort.

Data Collection

Following the establishment of Channel Islands National Park in March 1980, the National Park Service, with the cooperation of the Santa Barbara Museum of Natural History, sponsored a symposium to assess the status of knowledge about the terrestrial resources of Santa Rosa and Santa Cruz islands and about marine resources in general. It was

determined that inventories were incomplete, and some existing information was outdated. NPS scientists identified areas where additional field inventories were essential and developed requests for research proposals. At the same time the Park Service attempted to obtain permission from the private landowners to conduct natural and cultural resource inventories of the privately owned lands. For various reasons the landowners were reluctant to permit such studies and inventories. Contracts were awarded for archeological overviews and vegetation mapping from aerial photography. Other contracts were not awarded because of the lack of access.

Hindered by a minimum of information but facing a congressional deadline for a plan, the National Park Service started to prepare a "conceptual" plan for visitor use and resource management, with only general locations being identified for functions and facilities. Additional site-specific studies would then have been required to determine carrying capacities and to evaluate environmental impacts before any actions could be implemented.

Public Involvement

To solicit public comments on the planning concepts for Santa Rosa and Santa Cruz islands, a brochure was prepared and distributed. A range of use and management concepts was presented to determine the extent of public concerns about resource management, access, and wilderness potential. The results were to be used to narrow the range of viable alternatives for these islands and to set research priorities. Three public workshops in southern California were held in June and July 1982 to permit further public discussion.

The conceptual approaches presented in the brochure, however, were perceived by a large segment of the public as proposals for extensive development when they were actually a range of alternatives for discussion. The public clearly expected planning to be based on accurate knowledge of the islands' resources; a conceptual approach was not acceptable. To address this concern, it was decided to continue to seek access to the private lands so that detailed resource data could be collected, although this has caused a delay in meeting the congressional deadline.

Land Protection Planning

During the time that alternatives for a conceptual plan were being prepared, the Department of the Interior initiated a critical review of NPS land acquisition/protection practices and selected Channel Islands as one of eight case study areas. Each case study examined alternatives to fee acquisition that would still provide the needed level of resource protection. Protection could conceivably be obtained through a variety of means, such as conservation easements, transfer of development rights, or other means in combination with fee acquisition.

In February 1982, the Channel Islands case study team (which included members of the general planning team) obtained permission for a brief visit to Santa Rosa and east Santa Cruz islands. Based on this visit, and using existing aerial photography, topographic maps, and available (but incomplete and sometimes outdated) resource data, the planning team refined concepts for future use and management. These concepts were used by the case study team to explore protection alternatives.

Following review of the eight land protection case studies, the Department of the Interior issued guidelines for preparation of land protection plans for parks containing private lands. To prepare such a plan for Channel Islands, access to the private lands was essential. An NPS team of scientists, managers, and planners was permitted to visit Santa Rosa Island in December 1982 and April 1983, and east Santa Cruz in April 1983. The team concentrated their efforts on areas of sensitive resources and probable visitor use to provide direction for both the land protection plan and the comprehensive management plan.

The Draft Land Protection Plan received extensive review in the Department of the Interior, and it was made available for public review in September 1983. The recommendations were subsequently approved by the regional director of the NPS Western Region on December 22, 1983 (see appendix C).

General Management Planning

This General Management Plan Supplement/Environmental Assessment is the latest step in the planning process for Channel Islands. The proposed plan and the alternatives are based on team findings from recent trips to the islands; however, the actions are still fairly conceptual for Santa Rosa and east Santa Cruz islands because they are privately owned and site-specific resource information is limited. The following factors influenced the range of alternatives and the level of detail contained in this document.

No provisions for public use and facilities can be made on Santa Rosa and east Santa Cruz until the National Park Service has acquired the private lands or has reached visitor use and resource management agreements with the owners. The 1980 legislation authorizes the acquisition of privately owned lands on Santa Rosa and east Santa Cruz islands, with priority to be given to lands on Santa Rosa. This provision has been interpreted to mean that all of Santa Rosa must be acquired before any acquisition of east Santa Cruz. This complicates the planning process because resource management and visitor use priorities may not coincide with acquisition priorities.

The owner of any private property acquired by the National Park Service may retain certain rights of use and occupancy if they are compatible with the administration of the park and with the preservation of its resources. Any retained uses could affect the provision of visitor services and facilities. To date, the owners have not indicated what, if any, rights they might wish to retain.

Extensive information about natural and cultural resources is lacking for Santa Rosa and east Santa Cruz islands, and detailed site planning and establishment of long-term capacities cannot proceed until in-depth research programs have been conducted. However, preliminary research done on the islands in December 1982 and April 1983 has permitted NPS planners to identify general locations for visitor and management facilities and to develop initial carrying capacities.

The Channel Islands are perceived by many as remote wilderness; in fact, they have been substantially affected by man's activities. The natural vegetation on Santa Rosa and east Santa Cruz has been extensively altered by cattle and sheep grazing and feral swine rooting. The success of any resource management programs to restore natural conditions on the islands will require the removal of these exotic species.

According to PL 96-199, Congress intended that the park be administered on a limited-entry, low-intensity use basis. In testimony submitted to Congress while the legislation was being considered, NPS Acting Director Daniel J. Tobin, Jr., defined these concepts as follows:

While limited entry and low-intensity use represent different specific concepts, they are both part of a larger process of resource protection that relies heavily upon the restriction of visitor activities or access to mitigate environmental damage. Limited entry represents the optimum number of visitors that would be permitted to enter or remain within a specific park area for a designated period of time without significantly or permanently disrupting the park ecosystem. This "carrying capacity" would be developed as a result of scientific evidence and implemented by experienced resource managers familiar with the ecology of the Channel Islands.

Low-intensity use, as distinguished from limited entry, provides for restrictions on the locations or types of use as opposed to an overall entry quota. Low-intensity use alternatives would be developed by resources managers, using research data. The results of this integration of field experience and scientific research would be a visitor management plan that would limit the types of activities permitted to nonconsumptive, minimal impact activities that are dispersed throughout an area as opposed to being concentrated. Examples of this philosophy include prohibiting camping, use of fires, providing access at various points of the islands instead of one, and limiting the number of people that can embark from any one point.

The concepts of limited entry or low-intensity use are not new, but are implicit in section 1 of title 16 of the United States Code, which provides in pertinent part ". . . for

the enjoyment of the same in such manner and by such means as will leave them unimpaired." In addition, the [Park] Service currently exercises a similar authority found at 36 CFR 2.6. This section provides the means by which the superintendent may implement appropriate public use restrictions necessary for resource protection or visitor safety.

It should be noted that the Service intends to implement the limited-entry/low-intensity use concepts very judiciously. While these concepts are intended to be used to protect fragile and environmentally sensitive portions of the islands, other major portions of the islands can withstand substantial visitor use.

Key points in this testimony are that decisions must be based on scientific evidence and implemented by experienced personnel, and that some portions of the islands can withstand substantial visitor use. Areas suitable for intensive use can be identified through resource sensitivity mapping, which provides the basis for management zoning and prescribed uses.

In accordance with NPS policy, visitor activities and services on the islands should meet the needs of a range of visitors--for example, backpackers who want a wilderness-type experience, less hardy or disabled persons who need special services, and descendants of the Chumash Indians who want permission to hold traditional ceremonies on the islands.

Interpretive programs should be offered to help visitors appreciate the complex interrelationships of the various ecosystems, including significant marine resources.

The cost of transportation to the islands is expensive, and many people cannot currently afford to visit the islands.

Any plans for the use and management of Channel Islands National Park must consider the fact that the park's lands and waters are under various state and federal jurisdictions and that the management of park resources must continue to be a cooperative effort. All of East Anacapa Island, portions of Middle and West Anacapa, and parts of Santa Barbara Island are owned by the U.S. Coast Guard. These lands, with the exception of small reservations for navigational aids, are in the process of being transferred to the Department of the Interior. San Miguel and Prince islands are owned by the U.S. Navy. All submerged lands are owned by California and, according to the legislation, are not to be acquired; however, an administrative boundary of 1 nautical mile was set around the five park islands to allow for the cooperative management of marine resources. The national marine sanctuary is under the management of the National Oceanic and Atmospheric Administration (NOAA). The major portion of Santa Cruz Island is under management by The Nature Conservancy, with cooperation (if requested) from the Park Service for research, resource

management, and visitor protection and use. Other agencies, while not owners of land, have been designated "lead agencies" in certain resource areas. Although federal landownership may change as a result of the park expansion act, cooperative management with these agencies will continue for the foreseeable future. (The primary management agencies and their current roles with respect to park resources are described in volume 1 of the 1980 General Management Plan and in the "Statement for Management." Existing landownership and jurisdictions, as well as cooperative agreements, are discussed in appendix B.)

Since the 1980 plan was written, the cooperative relationship between the National Park Service and the National Oceanic and Atmospheric Administration has undergone significant change. NOAA's Sanctuary Programs Office is charged with managing national marine sanctuaries within U.S. waters. Because the sanctuary boundary overlies the national park boundary, coordination has increased between the California Department of Fish and Game, the Park Service, and the National Oceanic and Atmospheric Administration. A cooperative agreement between the latter two agencies provides for onsite management of the sanctuary by the Park Service.

WILDERNESS SUITABILITY

Anacapa, Santa Barbara, and San Miguel islands are gradually recovering from past uses. East Anacapa Island contains a relatively extensive developed area, but Middle and West Anacapa are essentially undeveloped. Santa Barbara Island has a small developed area near the landing cove that requires extensive rehabilitation, and there is a fairly extensive trail system. San Miguel has two small developed areas (with temporary facilities) and two grass airstrips, and motorized vehicles are occasionally used to move supplies and equipment. All three islands contain navigational aids and weather stations.

Some manipulative resource management techniques are still required to restore these islands to more natural conditions. Such efforts typically require the use of helicopters, the installation of monitoring devices, and the establishment of transects and, in some instances, erosion control structures. On the larger islands, four-wheel-drive vehicles are commonly used. Because the islands are primarily open grasslands, these minor intrusions are visible over long distances and may be perceived as adversely affecting wilderness quality, particularly on Santa Barbara and San Miguel islands.

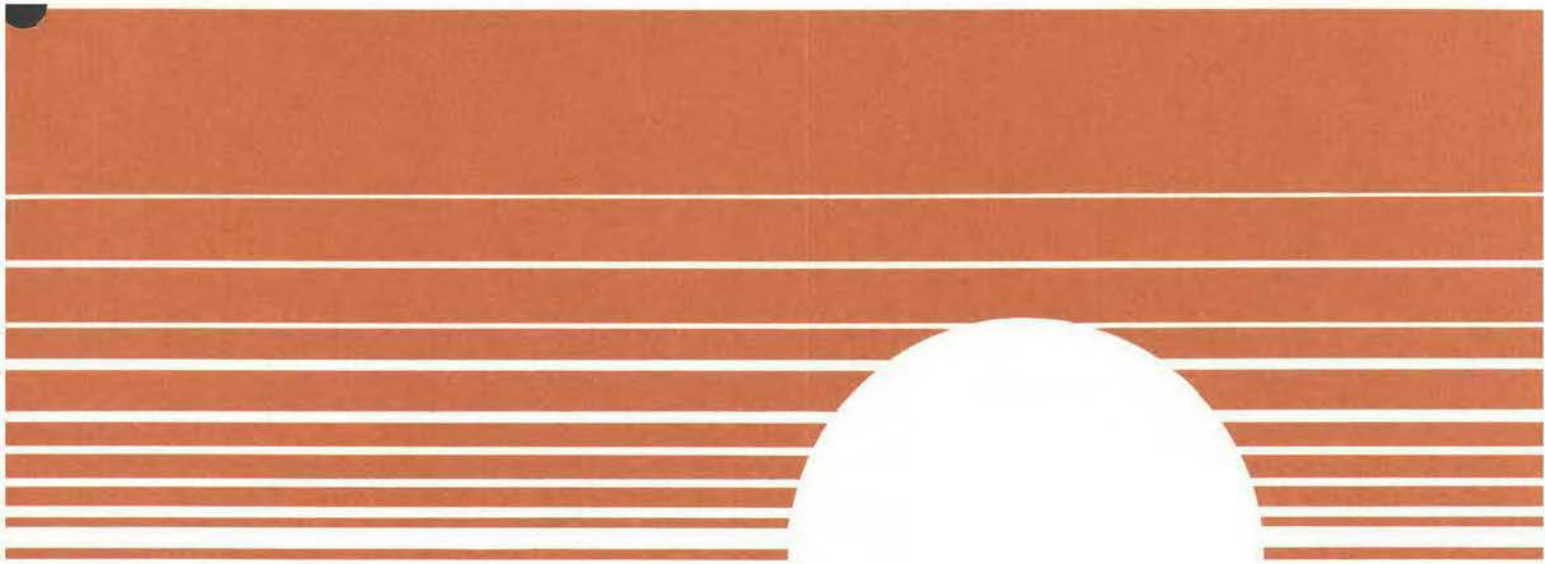
With provisions for access for research and resource management activities and for essential navigational aids, San Miguel, Santa Barbara, and Middle and West Anacapa islands do meet wilderness criteria, if the small developed areas are excluded. (The two grass airstrips on San Miguel could be excluded or provisions could be made for their retention and controlled use if the island was designated as wilderness.) However, the greatest deterrent to wilderness designation at this time is the visual intrusion of the various resource management and monitoring apparatus and the continuing need for active resource management projects.

Santa Rosa and Santa Cruz islands are currently privately owned working ranches, with extensive four-wheel-drive road systems, several airstrips, and numerous structures. All of Santa Rosa and the eastern 10 percent of Santa Cruz are to be acquired by the National Park Service, with the rest of Santa Cruz remaining in private ownership. Currently, these lands do not meet wilderness criteria for a variety of reasons, including the presence of domestic livestock and exotic grazing animals. The extent of resource disturbance is so great, and the results of removal of ranching and exotic species are so unpredictable, that it will be necessary to actively conduct extensive research and management programs during the first phases of recovery. This will require the interim retention of access roads and airstrips, thus precluding immediate wilderness designation.

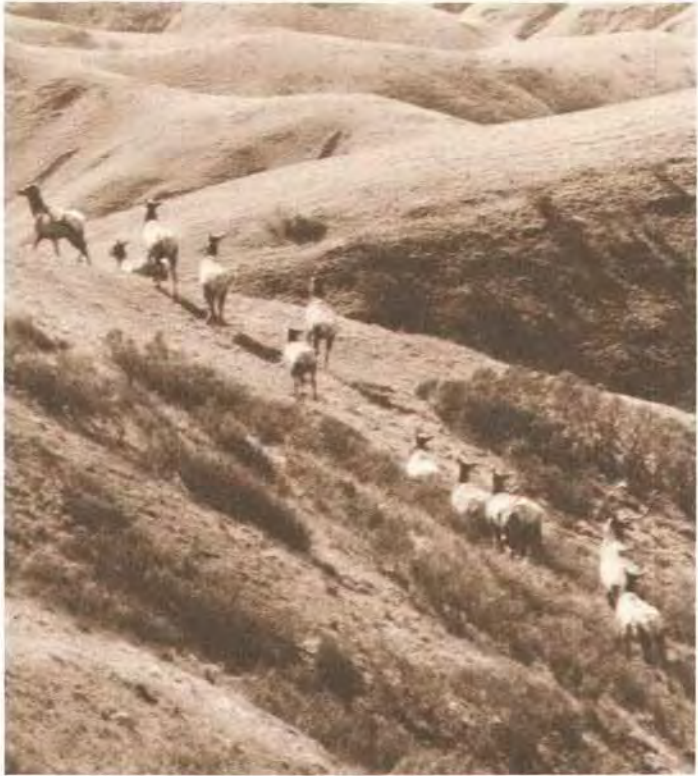
Consequently, formal wilderness studies and recommendations for all of the islands will be deferred until predominantly natural conditions have been restored and no further intensive resource management efforts are needed. In the meantime, natural areas will be managed to the extent feasible as wilderness so as not to preclude later qualification for such designation.

MANAGEMENT OBJECTIVES

Management objectives describe the conditions that are to be realized in Channel Islands National Park. Objectives for the former national monument were included as part of the "Statement for Management" for Anacapa and Santa Barbara islands, and a separate statement was prepared for San Miguel and Prince islands. These documents outlined the broad framework for directing operations and communicating park objectives to the public. A new parkwide statement for management is being prepared concurrently with this planning effort, and the proposed management objectives are included in appendix D.



proposed plan



The actions for the proposed plan are presented in three major sections: management zoning, resource management and research, and visitor facilities and services. Besides the proposed plan, a no-action alternative was considered that would postpone any visitor use of east Santa Cruz and Santa Rosa islands until they had been acquired and further site-specific studies and general research had been undertaken. An alternative that would have expanded transportation services to the islands, provided limited on-island transportation, and made additional overnight facilities available was also considered. These alternatives are discussed in the "Alternatives Considered" section.



MANAGEMENT ZONING

Management zoning is used to prescribe areas where certain desired conditions are to be achieved and where certain uses may be provided. The basic zones--natural, historic, development, and special use--may be subdivided to further refine the types of uses and resource management techniques. The management emphasis is stated for each zone or subzone, and it is based on the NPS "Planning Process Guideline" (NPS-2). Prescribed uses, however, may be modified as appropriate for a particular park. Uses that are not prescribed are generally not permissible.

The management zoning for Anacapa, San Miguel, and Santa Barbara islands is contained in the 1980 General Management Plan. The Park Service currently manages these three islands in accordance with low-intensity use, limited-entry principles, and the management zoning plan indicates areas of fairly intensive use (as on East Anacapa) and areas totally closed to visitation (most of West Anacapa). Visitors may tour many sensitive resource areas only when accompanied by a ranger or on designated trails, or they may be prohibited from visiting these areas during certain seasons or on a permanent basis. Although NPS personnel on the islands have much discretion in day-to-day management, policies are established by the park superintendent within the constraints of the General Management Plan and other management documents.

Santa Rosa and Santa Cruz islands will also be managed according to low-intensity use, limited-entry concepts, as reflected in the proposed management zoning plan described below. The zoning is based on preliminary research that has been conducted on the two islands by NPS scientists and planners. Further research may lead to changes, particularly in areas where sensitive resources may not have been adequately inventoried.

Zoning may be made more restrictive by the superintendent at any time; less restrictive zoning, however, would require an amendment of the approved General Management Plan. The management zoning proposed in this document may be modified following public review. The proposed management zones are shown on the Management Zoning/General Development maps.

NATURAL ZONE

The management emphasis in the natural zone will be on the conservation of natural resources and processes, and uses that do not adversely affect these resources and processes may be accommodated. The majority of park lands and waters are classified in this zone. The natural zone is subdivided into five subzones, as appropriate for each island: outstanding natural feature, natural environment, protected natural area, experimental research area, and ecological reserve.

Outstanding Natural Feature Subzone

The management emphasis in this subzone, which includes scenic vistas as well as outstanding natural and cultural resources, will be public appreciation and interpretation of geological, paleontological, or ecological features possessing unusual intrinsic value within the context of the park. Development will be limited to trails, interpretive trails and wayside exhibits, and where appropriate, picnic sites. Primitive backcountry campsites may be permitted if other suitable locations are not available. Existing four-wheel-drive roads and grass airstrips may remain within this subzone if needed for management purposes or other appropriate uses.

Natural Environment Subzone

The management emphasis in this subzone will be to provide environmentally compatible recreational activities. The lands will be managed to conserve natural resources and processes. Uses that do not adversely affect these resources and processes will be allowed. Minor and unobtrusive management and visitor facilities (such as trails, backcountry ranger stations, wayside exhibits, walk-in and primitive campsites, primitive shelters or tent-cabins, undeveloped administrative airstrips, informational signs, navigational aids, and weather stations) will be permitted. The manipulation of vegetation and animal habitat for research or restoration of ecological communities will be allowed. Temporary research camps may be established, and existing airstrips and four-wheel-drive roads may remain as long as needed for appropriate uses.

Protected Natural Area Subzone

The management emphasis will be to perpetuate ecological values with or without human intrusion; these lands will be set aside for strict protection because of unusual resource fragility or ecological significance. Research will generally emphasize what is required to manage rare, threatened, or endangered species and to preserve natural, geological, and cultural resources. When necessary, ecological communities may be restored. Although this subzone may contain major areas of sensitive habitat, it is not the only zone with sensitive areas. Visitor use may be restricted or prohibited on a year-round or seasonal basis. Generally, visitors will be confined to a trail system, and in some areas they may have to be accompanied by a ranger or guide. Wayside exhibits or self-guiding trails may be provided, and existing roads may remain if needed for appropriate uses.

Experimental Research Area Subzone

Areas that were previously disturbed by human or natural causes and that require extensive experimental, manipulative research will be included in this subzone. The management emphasis will be to restore natural conditions and processes. If and when such efforts are

successful, these areas may be reclassified as another subzone. Interpretive waysides, trails, and existing roads will be permitted. In some instances, structures associated with resource management programs may be required.

Ecological Reserve Subzone

The waters and submerged lands within 1 nautical mile of the three islands managed by the National Park Service have been designated by California as ecological reserves. Although they are within the park boundary, the submerged lands are owned by the state and are under the jurisdiction of the California Department of Fish and Game. Normally these lands and waters would be designated special use zones, but they have been placed in the ecological reserve subzone to recognize their importance and the desired level of protection. The Park Service will seek formal designation of the waters and submerged lands around Santa Rosa and Santa Cruz islands as state ecological reserves.

HISTORIC ZONE

The management emphasis in the historic zone will be to preserve, protect, and interpret cultural resources and their settings. Because of the widespread cultural resources, most of the lands (except for historic landscape preservation areas and special use zones) will be subject to dual zoning--historic and natural. The historic zone will be divided into two subzones: preservation and preservation/adaptive use. At this time, however, only those lands in the preservation/adaptive use subzone have been identified. The status of many cultural resources is indicated as undetermined on the Management Zoning/General Development maps. Further evaluation is required to decide which sites or structures should be considered historic. When these evaluations have been completed, the maps will be revised, and additional lands may be included in either the preservation or preservation/adaptive use subzone. (See the "Resource Management and Research" section for additional information.)

Archeological sites are not mapped but are considered to be in the preservation subzone. Areas identified for historic landscape preservation will be part of the preservation/adaptive use subzone. Submerged cultural resources are not under the jurisdiction of the National Park Service; rather they are protected under marine sanctuary regulations.

Historically significant structures in the preservation/adaptive use subzone may be used, with necessary modifications, for public or administrative activities or functions as long as the qualities that make these resources and their settings historically significant are maintained. Structures may also be leased by the private sector to provide compatible visitor services. Additional development will be permissible, but it will have to be sensitively designed to maintain the historic character of the area. Preliminary evaluations indicate that existing structures may provide locations for most of the administrative and visitor use functions. Campgrounds will be permitted in historic landscape preservation areas if

further evaluation shows that they will be compatible with the historic scene.

DEVELOPMENT ZONE

Structures and facilities considered essential for management needs and visitor use will be placed in the development zone. Minor facilities such as hiking trails, infrequently used four-wheel-drive roads, and primitive campgrounds, shelters, or tent-cabins may occur in other zones. At Channel Islands National Park the low-intensity use policy generally precludes the need for extensive development. Major management facilities are located on the mainland, and most management and visitor facilities required on east Santa Cruz and Santa Rosa will be provided through the adaptive use of existing structures. Other facilities will be primitive and can be provided in some of the natural subzones. Temporary management and visitor use facilities may be required until existing facilities become available for NPS use. Two development subzones will be used: education/interpretation and transportation.

Education/Interpretation Subzone

Pending further studies, the abandoned Johnsons Lee air force base on Santa Rosa Island will initially be placed in this subzone. Although the base is in a deteriorated condition, it may be possible to renovate some structures to provide a ranger station plus a research field station and an environmental education/interpretive center to be operated in cooperation with public or private institutions. This area has been given high priority for acquisition, and until sufficient land or facilities are acquired elsewhere, this may be the only location where minimal visitor facilities can be provided.

Transportation Subzone

Existing airstrips and four-wheel-drive roads to be retained for management and visitor use will be part of this subzone. Roads and airstrips that will be phased out are considered as parts of other zones.

SPECIAL USE ZONE

Facilities not owned by the National Park Service but operated under a permit or through prior rights will normally be part of the special use zone. No subdivisions of the special use zone are considered necessary.

All of the lands belonging to the Santa Cruz Island Preserve will be part of the special use zone because NPS administrative control is either lacking or secondary to that of another party. If The Nature Conservancy adopts a long-range management plan with zoning that is compatible with NPS zoning, that zoning may be included by reference in the park's management zoning plan.

Navigational aids and weather stations may be permitted in any management zone under a special use permit. Each request will be evaluated to ensure no adverse effects on natural or cultural resources. Separate zone designation for these minimal facilities will not be required.

RESOURCE MANAGEMENT AND RESEARCH

NATURAL RESOURCES

The Channel Islands legislation required that a natural resources study report be prepared and that it include an inventory of all terrestrial and marine species, indicating population dynamics and probable trends as to future numbers and welfare. The report was submitted to Congress early in 1983, but it contained little information on Santa Rosa and Santa Cruz islands because of the lack of access to private lands for research. (Updates of the report are to be prepared biennially for the next 10 years.) Although a detailed resource management plan for east Santa Cruz and Santa Rosa will have to await extensive studies, preliminary research allows general management directions to be established for ranching, exotic animals and vegetation, marine resources, and flood controls.

Ranching

When private lands have been acquired, ranching and other commercial operations will be discontinued, with an appropriate phaseout period.

Exotic Animals

Exotic animals such as cattle, sheep, elk, deer, swine, and horses will be removed from both Santa Rosa and east Santa Cruz. A small, select number of animals may be retained as part of the historic scene in the 800-acre main ranch area on Santa Rosa, along with a limited number of horses for ranger patrols on both islands. Existing fences around this area will be maintained. To mitigate the impacts of grazing, initially 15 acres of prime grazing land per animal will be allowed. The impacts will be carefully monitored, and reductions in stock will be made if needed in accordance with the carrying capacity of the land.

Exotic Vegetation

Attempts will be made to remove all exotic vegetation where there is a direct threat to native species, with the exception of historic landscape preservation subzones where some exotic species contribute to the historic scene. It is recognized that with current practices and technology total removal of exotic plant species will be virtually impossible and prohibitively expensive.

Flood Management--East Santa Cruz

Both the Smugglers and Scorpion drainages are subject to heavy runoff during the winter rainy season. Runoff channels have been developed in both valleys, but high tides or storm-developed berms can block the outlet to the ocean.

The old ranch structure at Smugglers Cove appears reasonably well protected by a stone retaining wall and a broad channel. Further protection measures do not appear necessary. Additional permanent structures will not be proposed in the valley except possibly toilet facilities. If temporary facilities are required under the phased acquisition approach, they will be sited on high ground. Further flood hazard mitigation is not anticipated, but a flood hazard study will be conducted prior to any development.

The Scorpion drainage contains a natural channel that has been widened in some areas, but the outlet is frequently blocked at the beach. In contrast to Smugglers, Scorpion Valley narrows as it approaches the ocean, and flood waters have been reported up to 2 feet deep in some ranch structures. As recommended by a flood hazard study, the channel will be maintained and improved (both for aesthetics and for water flow control), but the lower end of the valley will remain subject to flooding under certain conditions. The broader upper ends of the valley do not appear to present any flood hazards. Existing structures in the floodplain may be adaptively used, but new permanent structures will not be constructed in that area. Any actions taken will be in compliance with Executive Order 11988 (Floodplain Management).

Air Quality

The air quality of the Channel Islands is generally excellent except when the offshore Santa Ana winds blow. Although little monitoring information is available to substantiate air quality, remoteness from pollution sources and the prevailing onshore winds for most of the year keep man-caused air pollutants low. Visibility and clarity are often naturally reduced by fog and haze. There are few emission sources on or near the islands, except for passing tankers, recreation and commercial boats, and a few vehicles and generators at developed areas. Anticipated offshore oil and gas development will ultimately contribute to air pollution, but currently pollution from such sources is at a low level. The occasional Santa Ana winds probably have the greatest influence on air quality, and they can temporarily degrade air quality in October and November as they bring pollutants from the urbanized Los Angeles basin and coastal California to the islands.

Under the Clean Air Act, as amended in 1977, Channel Islands National Monument was designated as a class II area. However, once private lands are acquired, an upgrading of the park to class I status will be sought. Under class I status no deterioration of air quality is allowable because air quality related values are deemed important to the area. Air quality monitoring equipment has recently been installed on East Anacapa Island by Ventura County, and additional stations will be encouraged for all of the park islands in the future.

Marine Resources

The islands' shorelines and surrounding waters offer outstanding natural resources and recreational opportunities, as well as significant sources of

income to sporting and commercial enterprises in southern California. Both recreational and commercial activities require management to ensure a healthy ecosystem. Few current regulations are based on scientific knowledge, and many years of monitoring and evaluation will be required to establish sound recreational and commercial use limits. Current restrictions such as closure zones and harvesting limits are essentially compromises designed to protect some areas for monitoring purposes while continuing to provide for viable sport and commercial opportunities. Under California Department of Fish and Game regulations, these policies will probably be continued; however, the National Park Service, with its differing mandate, will continually seek more conservative regulations.

Because man is the primary threat to the distinctive marine ecosystem, the various regulations for the park and sanctuary seek to minimize destructive practices and harmful threats to these resources. Even though there are undoubtedly evolutionary processes that cannot be reversed, the maintenance of a healthy environment will be encouraged.

Ecological reserves have been designated by the state around three of the park islands, and such designation will be sought around Santa Rosa and Santa Cruz islands. Regulations will be sought to ensure the maintenance of a balanced ecosystem. The possibility of designating state marine preserves (as recommended in the local coastal plan) or a state marine park may also be explored.

To discourage the harvest of marine resources, landings will be prohibited in selected areas, and access to some areas from the islands will be prohibited or controlled.

CULTURAL RESOURCES

Because the lands on east Santa Cruz and Santa Rosa islands are now privately owned, the National Park Service has no direct jurisdiction over the management or care of cultural resources on these lands. However, as the lands are acquired, the Park Service will provide for the preservation, restoration, protection, interpretation, use, study, and management of significant cultural resources. This will be done through adequate research programs, in compliance with the requirements of the National Historic Preservation Act of 1966 as amended, the "Regulations for the Protection of Historic and Cultural Properties" (36 CFR 800), the NPS "Management Policies" (chapter 5), and the NPS "Cultural Resources Management Guidelines" (NPS-28). A cultural sites inventory and cultural resources base map will be prepared and maintained by the park. Based upon professional evaluation, all qualifying cultural resources will be nominated to the National Register of Historic Places. All aboveground historic or archeological structures will be evaluated and added to the List of Classified Structures, an internal NPS listing that assists park managers in planning and programming appropriate treatment and in recording decisions affecting listed structures.

The significant cultural resources on the islands consist mainly of sites associated with 19th century marine mammal hunting, structures associated with ranching operations, archeological sites related to prehistoric and

historic occupation of the islands, abandoned military sites, and submerged cultural resources.

The principal resource management strategy for the historic structures on east Santa Cruz and Santa Rosa islands will probably be preservation of the existing exterior features and renovation of the interiors for adaptive use. When all of the structures have actually been evaluated, however, it may be found that some structures are in an advanced state of disrepair so that rehabilitation will not be feasible. These structures will be recorded and allowed to deteriorate naturally, or if they pose a threat to life or safety, they will be removed.

The National Park Service will prepare a historic structure report for each property or complex of related historic properties. Each report will include a collection, presentation, and evaluation of anthropological/archeological, historical, and architectural/engineering research findings on the individual structure or group of structures and their setting. Recommendations for their treatment and use will also be made. Pending completion of the reports, only emergency preservation maintenance activities will be undertaken on the structures. For each property or complex of related historic properties, a historic structures preservation guide will be prepared to serve as a reference for park maintenance personnel in programming housekeeping and routine and cyclic maintenance activities. All work will be done according to the historic structure report and the preservation guide, and it will be carried out under the direct supervision of a historical architect.

Archeological surveys will be carried out to determine the nature and extent of archeological resources on the islands. The surveys will be conducted using such modern archeological techniques as remote sensing to identify areas likely to contain archeological remains. These methods will always involve traditional ground surveys. Such procedures can be phased according to the availability of funding and personnel. All ground-disturbing activities resulting from implementation of the general management plan will be preceded by site-specific archeological surveys and, where appropriate, subsurface testing. Many significant archeological sites are currently exposed because of the secondary effects of past overgrazing. With the elimination of grazing and a subsequent increase in vegetation, sites will be less obvious, although some areas will need additional protection. Archeological sites adjacent to areas of visitor use will be monitored by park staff to determine what impact, if any, is being received by these resources. If a negative impact is detected, appropriate administrative actions will be undertaken, such as closing the area to visitors or rerouting or redirecting visitors away from the area.

Sanctions against the unauthorized appropriation or destruction of cultural resources will be carried out by rangers, who will inspect identified sites and post and enforce applicable regulations to protect resources.

Generally, the National Park Service has no jurisdiction over submerged cultural resources lying off the islands. However, the Park Service will monitor activities that may affect prehistoric or historic submerged cultural resources, and it will notify the appropriate state authorities if state laws are violated.

Depending upon the availability of funds and the willingness of property owners to sell, certain lands containing cultural resources may not be conveyed to the National Park Service in fee or may be conveyed subject to tenancies. In such cases appropriate less-than-fee arrangements or lease stipulations will be sought to ensure the adequate protection of cultural resources. These arrangements may include facade easements or other such protections.

In carrying out its responsibilities under the American Indian Religious Freedom Act and related NPS policies, the National Park Service will continue to seek participation by and consultation with appropriate native American groups in the research and management of cultural resources on east Santa Cruz and Santa Rosa islands.

Pursuant to the "Management Policies" and NPS-28, all management actions on the park islands that might affect cultural resources will be reviewed in advance by NPS cultural resource specialists to ensure that any possible impairment is avoided or minimized. If unavoidable adverse effects are identified, they will be mitigated in accordance with the referenced policies and guidelines.

VISITOR FACILITIES AND SERVICES

Visitor facilities and services on east Santa Cruz and Santa Rosa islands will only be provided after NPS personnel have had sufficient time to inventory resources and to reevaluate plan proposals in light of this information. As private lands are acquired, park managers and research personnel will live on the islands to become familiar with the varied resources, hazards, and special conditions. Carrying capacities will be determined where needed (such as for backcountry campsites), or modified as appropriate. It may take several years to remove safety hazards, upgrade water and wastewater treatment systems, and provide minimal facilities. Limited public use may be possible during this transition period, and such use will be analyzed to help refine the visitor use concepts. Full public use of the now private islands will be a long-term proposal.

Overall use levels for east Santa Cruz and Santa Rosa will remain low, and facilities will be provided primarily at existing developed areas. The proposed capacities are based on projected resource carrying capacities and the desired visitor experience. Use impacts will be monitored to determine if more visitors may be accommodated or if use patterns must be changed. Preliminary resource studies indicate that both islands have extensive areas that could support significant levels of visitor use, with minimal effects on sensitive resources. Nevertheless, the number of visitors will be limited to ensure a quality visitor experience, and the areas receiving the most use will generally be limited to already developed entry points and adjacent areas. Overall, parkwide use (on all five islands) will continue to be managed on a low-intensity use, limited-entry basis.

Because proposed visitor facilities and services cannot be provided until the National Park Service has acquired all the private lands, options for interim visitor use on both islands are presented. These options take into account the possibility that acquisition may be phased and the fact that the current owners may retain certain rights. Although the long-range plan will keep visitor facilities in already developed locations, temporary facilities may have to be built if the use of existing facilities cannot be negotiated with current owners.

Proposed changes in use for Anacapa and San Miguel islands are also described. These changes constitute an amendment to the 1980 General Management Plan.

GENERAL CONCEPTS

Orientation and Interpretation

The mainland visitor center in Ventura Harbor will continue to be the primary orientation point for park visitors. Information will be made available to charter boat operators working out of other marinas and harbors.

Once east Santa Cruz and Santa Rosa are available for public use, they will provide ideal locations to expand and develop several park interpretive themes and programs. A separate interpretive plan will be prepared to further define specific interpretive themes and techniques. Some themes are common to all of the islands and surrounding waters, others may receive special emphasis on a particular island, and still others may best be presented at cultural sites, parks, museums, and natural areas on the mainland.

Santa Rosa offers excellent opportunities to interpret the geologic processes shaping the islands and the relationships of the islands to the mainland. Santa Cruz provides similar opportunities, but the limited public access to the major portion of the island limits the onsite interpretive possibilities.

The change in land uses on the islands from ranching to a more natural environment is of both scientific and general interest. Research and monitoring programs can provide the basis for these interpretive programs.

The Chumash and other native American cultures are the focus of a major interpretive theme for the entire park. Participation by native Americans will continue to be encouraged in the development of this theme for both Santa Rosa and Santa Cruz islands. The opportunity to conduct religious ceremonies on the islands has been requested. Permanent facilities are not required, but any site should offer a certain amount of privacy. Specific requests will be evaluated on a case-by-case, site-by-site basis.

Of the lands to be managed by the National Park Service, Santa Rosa presents the best opportunity to interpret the culture of native American inhabitants prior to European influence. It is known that the climate and vegetation on the islands changed significantly while the Chumash lived there, and these changes conceivably affected the native lifestyle, which possibly evolved from terrestrial to marine-based subsistence as the island vegetation changed. European influence completely changed the lifestyle of the Chumash, but this theme may best be interpreted at various sites on the mainland.

The use of the islands during the marine mammal hunting era, the transition to sheep ranching and later to cattle ranching, oil exploration, and national defense are important historic themes that can be interpreted at several locations.

The interrelationship of the islands and marine ecosystems is another major interpretive theme for the park. Rich intertidal and subtidal areas, extensive kelp forests, marine mammal populations, major rookeries, and endemic terrestrial and marine plant and animal species present significant educational opportunities. Although land-based displays can foster an understanding of these resources, the resources must be explored firsthand to fully appreciate them. A variety of interpretive methods, including interpretive boat trips, will be used.

Visitor Use

Visitor use will probably be higher on east Santa Cruz than on Santa Rosa because it is closer to the mainland, so access is easier and less costly. Santa Rosa, like San Miguel, will probably attract more private boaters than visitors using public transportation, but even so the number will be low.

East Santa Cruz can provide a varied experience for day visitors who arrive on public transportation and want to hike, relax on a beach, or study the human use of the islands. Depending on boat schedules, a six- to seven-hour visit may be feasible. Overnight visitors will have a more leisurely experience, and backpackers will have the opportunity to explore the more remote areas. Some visitors will be restricted by the rugged terrain to the more accessible areas. Day visitors, because of their short time on the island, will probably tend to stay in areas adjacent to landing sites.

Santa Rosa offers diverse resources--magnificent beaches, woodlands, fascinating sculptured canyons, extensive grasslands, outstanding intertidal areas, and unique plant communities. Some areas are fragile in the sense of being sensitive to human use, and some may require seasonal closure to protect wildlife during the breeding season, but large areas can readily accommodate visitor use.

Santa Rosa is more suited to extended visits by people who are dropped off and picked up by public transportation, although day use will be feasible for private and charter boat visitors. (The rugged shoreline and the scarcity of safe anchorages, meaning that boats should never be left unattended, will contribute to relatively low usage.) For those who are in good physical condition, Santa Rosa is an ideal island for backpacking; routes can be planned for a trip of a few days, a week, or longer, although the availability of drinking water may be a problem. A fairly extensive four-wheel-drive road system exists and follows logical routes to most areas of the island, and it will be used as the basis for an initial hiking trail system. The development of a complete trail system on the island will take several years. Trails in the more fragile areas will receive highest priority, and some areas may be closed to visitor use to protect sensitive natural and cultural resources.

Existing structures on Santa Rosa may provide the opportunity to develop an environmental education center and research field station, a hostel, and other types of overnight facilities for organized groups and individuals. Several locations are suitable for more traditional campgrounds.

When east Santa Cruz and Santa Rosa become available for public use, some changes in the uses of the other park islands can be anticipated. These are discussed in more detail below.

The waters surrounding the park islands are a major recreational and educational resource. A few extended cruises, including education-oriented programs, are now available for visitors. Pleasure boats, fishing and diving boats, and some charters currently make cruises or day trips,

and some land visitors on the islands. Nonconsumptive use of these marine resources is encouraged, and there is generally little impact associated with these uses; however, fragile intertidal areas can be damaged through careless use, and subtidal areas can be damaged by anchors. Closing areas to use, establishing minimum anchoring distances from shore, and other management techniques have been established in the state ecological reserves around Santa Barbara, Anacapa, and San Miguel; the establishment of such reserves around Santa Rosa and Santa Cruz will be sought.

Access for Disabled and Special Populations

In accordance with NPS policy, access for disabled and special populations will be provided to the extent feasible. Scorpion Valley on east Santa Cruz can be made reasonably accessible, although some personal assistance may have to be provided. Most of the lands will remain in a natural state and will be inaccessible to some populations. Boat access to marine areas and the peripheries of the islands will allow many visitors who might not otherwise be able to do so to enjoy the park.

Transportation

A formal transportation study will not be initiated until long-range capacity determinations have been made. With the limited-entry concept proposed by this plan, the private sector and current concessioner should be able to meet projected transportation demands.

The cost of transportation is a major concern. Because the congressionally mandated limited-entry policy restricts the number of visitors that can be on the islands, only a certain number of passengers can be taken to the islands on concessioner boats. This results in fares that are generally too expensive for many in the nearby urban areas. Larger capacity boats can generally operate at a lower cost per passenger mile, but the limited-entry policy and a small demand for cruises around the islands limit their usefulness. When Santa Cruz becomes available for public use, transportation services will be further evaluated. Preliminary evaluations indicate that a larger capacity, faster boat that can serve both east Santa Cruz and Anacapa Island at a lower cost per passenger mile may be feasible.

EAST SANTA CRUZ ISLAND

Scorpion Anchorage

Scorpion Anchorage provides the only reasonably safe access to east Santa Cruz. The existing pier was extensively damaged in the 1982-83 winter storms, and it will be repaired or replaced to provide a safe landing point and a departure point for marine interpretive boat trips. If feasible, a floating dock will be provided to permit easier landings. An existing grass airstrip near Smugglers Cove will be retained for administrative use to permit access when sea conditions preclude boat landings at Scorpion Anchorage.



- NATURAL ZONE**
- OUTSTANDING NATURAL FEATURE
 - NATURAL ENVIRONMENT
 - PROTECTED NATURAL AREA
 - ECOLOGICAL RESERVE (TO 1 NAUTICAL MILE OFFSHORE)

- HISTORIC ZONE (ENTIRE PROPERTY)**
- PRESERVATION/ADAPTIVE USE
 - ⊛ HISTORIC SITE - STATUS UNDETERMINED

- DEVELOPMENT ZONE***
- ▲ POTENTIAL CAMPGROUND - SUBJECT TO FURTHER SITE-SPECIFIC STUDIES
 - ⚙ TRANSPORTATION - FOUR WHEEL-DRIVE TRAILS (ADMINISTRATIVE USE)
 - ⊙ MANAGEMENT/VISITOR USE FACILITIES
 - ✈ AIRSTRIP (ADMINISTRATIVE USE)

- SPECIAL USE ZONE**
- ⚓ U.S. COAST GUARD
 - ⊞ PRIVATE LANDS

*EXISTING STRUCTURES TO BE USED WHERE FEASIBLE FOR MANAGEMENT AND VISITOR FACILITIES; ONE AIRSTRIP TO BE MAINTAINED.

SCORPION ANCHORAGE

- DOCK (FLOATING LANDING IF FEASIBLE)
- PICNIC AREA/RESTROOMS
- RANGER STATION/INTERPRETIVE CENTER
- EMPLOYEE QUARTERS
- MAINTENANCE FACILITIES
- CORRAL
- MARINE INTERPRETIVE BOAT TRIPS
- SCHEDULED BOAT SERVICE

SCORPION VALLEY

- CAMPGROUND/RESTROOMS/EVENING PROGRAM AREA
- SELF GUIDING INTERPRETIVE TRAIL

SMUGGLERS COVE

- RANGER STATION/RANCHING INTERPRETIVE CENTER IN HISTORIC STRUCTURE
- PICNIC AREA/RESTROOMS (MAY BE USED AS A SMALL CAMPGROUND UNDER PHASED ACQUISITION)

BACKCOUNTRY

- ESTABLISHED TRAIL SYSTEM - STAY-ON-TRAIL POLICY
- ESTABLISHED CAMPSITES - LOCATIONS SUBJECT TO FURTHER STUDY - ADIRONDACK-TYPE SHELTERS MAY BE PROVIDED IF TENT CAMPING IMPACTS TEND TO SPREAD
- SENSITIVE AREAS - MAY BE CLOSED TO USE ON SEASONAL BASIS
- AIRSTRIP AND JEP TRAIL FOR ADMINISTRATIVE AND EMERGENCY USE ONLY



159 | 20041A
DSC | MAR 9

MANAGEMENT ZONING / GENERAL DEVELOPMENT

EAST SANTA CRUZ ISLAND
CHANNEL ISLANDS NATIONAL PARK
UNITED STATES DEPARTMENT OF THE INTERIOR / NATIONAL PARK SERVICE

ON MICROFILM[®]

Scorpion Valley

The lower, narrow end of Scorpion Valley contains a number of old ranch structures that will require extensive rehabilitation to be usable. The ranch facilities will be studied individually and collectively to determine their historic merit and their eligibility for the National Register. The historic scene will be retained, and structures will be adapted to provide visitor and management facilities, including a ranger station/visitor center, public restrooms, employee quarters, and maintenance facilities. Corrals and pastures will be retained for NPS patrol horses. Specific proposals for using the structures cannot be made until a full evaluation has been completed, and new structures designed to harmonize with existing structures may be required.

Visitors will be able to obtain information, study exhibits in the visitor center, and explore the old ranch area. Picnic tables will be provided, and day visitors will be encouraged to explore the rest of the valley and the adjacent plateaus. A self-guiding nature trail will lead visitors on a loop route through the valley up to the plateaus and back down the old ranch road.

A campground will be developed in the upper valley about 0.8 mile from the dock. Although the general area has been looked at, additional climatic studies, flood hazard analyses, and resource inventories will be needed before specific campsites can be developed. Preliminary studies indicate that a total of 30-45 campsites can be developed in small clusters so that sites can be separated and use rotated. A central comfort station and a campfire program area will be provided.

Existing water and sewage treatment systems in the valley do not meet current public use standards and cannot support the number of anticipated visitors. Water sources appear sufficient but will require upgrading. Studies will be needed to determine the appropriate sewage treatment methods. (The area's proximity to the ocean and infrequent flooding in the valley may require that sewage be pumped to a higher elevation for treatment. Effluent discharge into marine sanctuary waters is prohibited.) Power and communications systems will need to be developed. All facilities will be designed to minimize energy consumption, and alternative energy sources such as wind and solar will be used to the extent feasible.

Daytime capacities will depend on several factors. If most day visitors remain in the valley, use levels will be comparatively low because of the open character of the valley floor and the small beach area. However, if day visitors explore beyond the valley, overall capacity will increase significantly. The initial day capacity will be limited to 100 persons arriving by concessioner-operated tours. No initial limit will be set on pleasure boaters wanting to come ashore. Visitor use impacts will be monitored, and visitor activities will be evaluated to determine future capacity levels.

Smugglers Cove

In contrast to Scorpion Valley, the smaller Smugglers Cove area will receive low-intensity use. Landings here can be hazardous, but private boaters will be permitted to come ashore at their own risk. The old ranch structure and immediate setting will be restored, and the structure will be adapted for use as a seasonal ranger station and interpretive center. Toilet facilities and picnic tables will be provided in a sheltered area near the beach. A corral will be retained for a ranger patrol horse. Camping either on the beach or in Smugglers Valley will not be permitted.

Day visitors will be able to explore the ranch structures and olive groves, and to enjoy the expansive beach. Others may wish to hike into the eroded canyons or onto the adjacent plateaus. Some visitors may hike over from Scorpion (3.4 miles one way), and some may come ashore from private boats; nevertheless, overall use in this area will be relatively low. The provision of water and sewage treatment should not pose a major problem; however, additional flood hazard studies will be needed before design determinations can be made.

Backcountry

Most of the east Santa Cruz backcountry (6,000 acres plus) will be managed as a natural area, and a backcountry management plan will be developed by the park staff after additional onsite resource inventories and microclimatic factors have been evaluated. A protected natural area will be designated around Scorpion Rocks to encourage the return of the California brown pelican. (Other protected natural areas may be designated if further research indicates a need.) Intensive efforts will be made to remove feral sheep and swine from the property, although this might not be entirely successful because these animals also occur on adjacent private lands. Cooperative efforts with adjacent landowners may resolve this problem. Management efforts will emphasize the natural restoration of native biotic associations, although some intensive restoration programs may be necessary.

A trail system will be developed throughout the property, using existing roads and animal trails where feasible. Because it could take several years to study routes and develop the complete system, initially trails will be constructed in areas that will receive the most visitor use and where needed to protect sensitive resources.

Limited backcountry camping will be permitted on a reservation basis at designated campsites. These sites will be selected by park resource managers by evaluating individual site resources, their ability to withstand use, and weather exposure. Primitive toilet facilities will be provided, and fires will not be allowed. An overnight backcountry capacity will be established in the park's backcountry management plan and may vary seasonally or annually.

If impacts from camping at designated sites tend to spread over a greater area, providing shelters will be considered for designated backcountry campsites (for example, Adirondack-type shelters with three sides and six

to eight bunks). These would eliminate the need for backpackers to carry tents, and more importantly, they would eliminate the random pitching of tents.

The National Park Service will seek the cooperation of the adjacent landowners to permit limited hiking beyond the east Santa Cruz property.

Landings will generally be prohibited along the shoreline except at Scorpion Anchorage and Smugglers Cove to protect sensitive native plant, seabird, and marine mammal communities. Landings at some beach areas may be permitted with the approval of the superintendent.

Interim Visitor Use during Phased Land Acquisition

If east Santa Cruz Island was acquired in phases, only a small portion of the property would initially be available for public use. The first purchase would include a small management site (1/2 acre) in Smugglers Cove, approximately 700 acres of high mountain terrain, and an access easement to reach these lands (see map, appendix C). The present owner would also permit public use in the Smugglers Cove area for two years.

Landings would be permitted only at Smugglers Cove, and the hazardous surf would make access for the general public difficult. Temporary quarters for park personnel would be provided at the NPS site at Smugglers. Stabilization, cleanup, and some restoration of the Smugglers ranch house would be undertaken so the public could visit the ranch site. However, during the first phase the old ranch structure would remain the property of the owners, and visitor tours after the initial two-year use period would be subject to further land acquisition or renewal of the lease agreement with the owners.

One or two campsites (four to six campers each) could be designated in the high mountain area. The criteria stated in the "Backcountry" section above would be used in establishing campsites.

Later purchases would add to the backcountry, and if terms with the owners could be agreed upon, exotic feral animals would be removed. The final purchase would include the Scorpion Valley area, and sheep ranching would be terminated. Only at that time could the extensive cleanup and rehabilitation work begin so that the entire property could eventually be opened to public use.

The time frame for full acquisition of east Santa Cruz, if it is acquired in phases, cannot be estimated because it would be subject to congressional appropriation of funds and current administration policies. Until the entire property was acquired, public use would be extremely limited, and resource management programs would be hampered by the continued grazing of sheep and rooting of feral swine. To permit preparation of a comprehensive resources management plan and a backcountry use plan, the initial purchase should include easements to conduct needed research on unowned parcels.

SANTA ROSA ISLAND

Planning for long-term visitor use on Santa Rosa Island is complicated by the unknown intentions of the current owners. The owners may reserve rights to continue ranching and associated business enterprises. The National Park Service has the authority to deny these rights, but to do so could significantly increase the cost of land acquisition and might violate the intent of Congress that the owners may continue ranching activities.

The proposed plan is predicated on the full ownership of the island by the National Park Service without continued ranching. With minor variations, most of the proposals could be implemented even if the owners wanted to continue ranching. Under this condition, however, visitor use capacities might be lower, backcountry use would be more restricted, and most if not all of the main ranch structures would probably not be available for use by either visitors or the Park Service.

Visitation to Santa Rosa Island will probably remain low, primarily because of the distance from the mainland and related transportation costs. If full loads on planes (10 passengers) and small boats (25-50 passengers) could be achieved, then costs could be reduced somewhat. Nevertheless, visits to the island will not be inexpensive, and day use except by pleasure boaters will be minimal. The predominant use will be by backpackers seeking a wilderness experience.

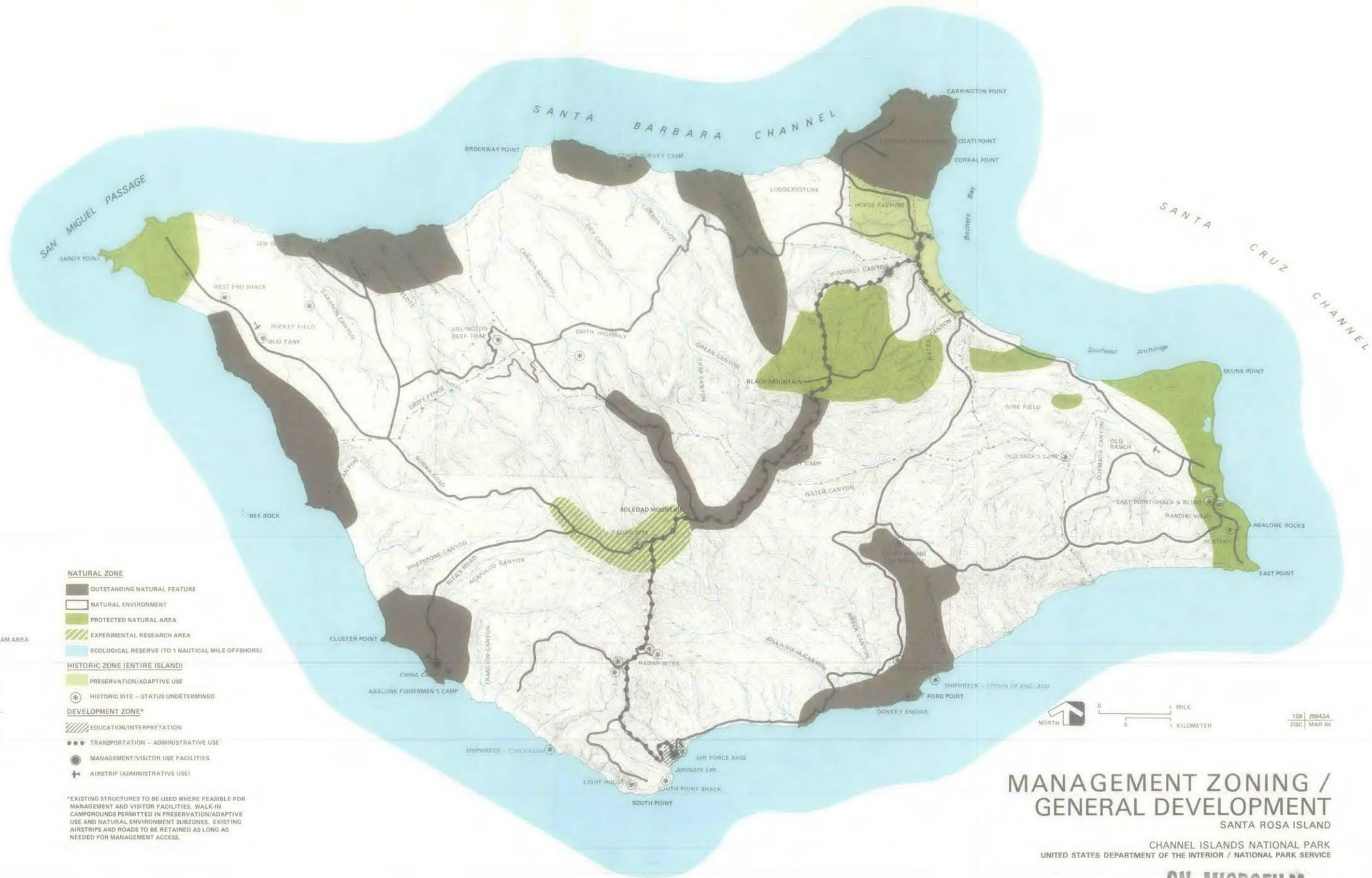
Bechers Bay

At the main ranch complex, the airstrip, cultivated fields, and pastureland will be preserved as a historic ranching scene. Cattle and horses will continue to graze, and some of the ranch functions will continue as part of the interpretive program. The facilities are generally on a long, narrow bench, and they have generally been well maintained except for a couple of old army barracks used for storage.

Access will be by scheduled and chartered boat and aircraft. General aviation traffic will not be permitted. Pleasure boaters will be able to land at the pier, but long-term tieups will not be permitted; moorings will not be provided.

The old ranch house has had several additions over the years, but it retains considerable integrity. It is currently used by the owners and their guests and by the commercial hunting operation. Other structures vary in age, and some are fairly new, such as the foreman's house and the bunkhouse. If the owners do not continue to operate the ranch, the various structures will be used for interpretive programs and NPS management needs, including employee housing, maintenance, and a small visitor center. The structures need to be evaluated individually and collectively for their historic merit and National Register eligibility.

One potential historic site, the Nidever Cave, is threatened by a ranch road passing directly above it. Further studies are needed to determine



- BECHERS BAY**
- MAIN RANCH - Historic Ranching Scene
 - DOCK AND AIRSTRIP
 - VISITOR CONTACT STATION
 - EMPLOYEE QUARTERS
 - MAINTENANCE FACILITIES
 - CORRAL/PASTURE
- WINDMILL CANYON**
- CAMPGROUND/RESTROOMS/EVENING PROGRAM AREA
 - SELF-GUIDING INTERPRETIVE TRAIL
- JOHNSONS LEE**
- RANGER STATION
- FOLLOWING PROPOSALS SUBJECT TO FURTHER EVALUATION AFTER ACQUISITION OF PRIVATE PROPERTY
- RESEARCH FIELD STATION/ENVIRONMENTAL EDUCATION CENTER
 - DOCK RENOVATION OR REPLACEMENT
 - CAMPGROUND OR HOSTEL (IN CONJUNCTION WITH EDUCATION CENTER)
- CHINA CAMP**
- HISTORIC STRUCTURES AND SETTING
 - RANGER PATROL CABIN, WITH POSSIBLE PUBLIC USE
- BACKCOUNTRY**
- TRAIL SYSTEM
 - PRIMITIVE CAMPSITES
 - DEFINED SENSITIVE AREA CLOSURE ZONES (MAY BE SEASONAL)
 - EXCESS ROADS OBLITERATED

- NATURAL ZONE**
- OUTSTANDING NATURAL FEATURE
 - NATURAL ENVIRONMENT
 - PROTECTED NATURAL AREA
 - EXPERIMENTAL RESEARCH AREA
 - ECOLOGICAL RESERVE (TO 1 NAUTICAL MILE OFFSHORE)
- HISTORIC ZONE (ENTIRE ISLAND)**
- PRESERVATION/ADAPTIVE USE
 - HISTORIC SITE - STATUS UNDETERMINED
- DEVELOPMENT ZONE***
- EDUCATION/INTERPRETATION
 - TRANSPORTATION - ADMINISTRATIVE USE
 - MANAGEMENT/VISITOR USE FACILITIES
 - ✈ AIRSTRIP (ADMINISTRATIVE USE)
- *EXISTING STRUCTURES TO BE USED WHERE FEASIBLE FOR MANAGEMENT AND VISITOR FACILITIES. WALK-IN CAMPGROUNDS PERMITTED IN PRESERVATION/ADAPTIVE USE AND NATURAL ENVIRONMENT SUBZONES. EXISTING AIRSTRIPS AND ROADS TO BE RETAINED AS LONG AS NEEDED FOR MANAGEMENT ACCESS.

NORTH

0 1 MILE
0 1 KILOMETER

150 20043A
DSC MAR 84

MANAGEMENT ZONING / GENERAL DEVELOPMENT

SANTA ROSA ISLAND

CHANNEL ISLANDS NATIONAL PARK
UNITED STATES DEPARTMENT OF THE INTERIOR / NATIONAL PARK SERVICE

ON MICROFILM

the best means of preserving this site. If feasible, the road will be relocated or its use discontinued.

A 15-site campground will be located in Windmill Canyon, approximately 1 mile from both the pier and the airstrip and away from the ranching scene. A central comfort station and an evening program area will be provided. Further studies will be needed to identify specific locations, taking into account seasonal wind conditions. Existing utility systems (water, power, sewage, communications) have not been examined, but they will probably need upgrading for public use. Within 2 miles of the campground are numerous natural and cultural features of interest to visitors (the actual hiking distance could be considerably more than 2 miles due to the rugged terrain). Among the features are the Torrey pine groves, Lobos Canyon, Carrington pasture, Nidever Cave, and the attractive upper Windmill Canyon areas. A self-guiding interpretive trail will be provided in Windmill Canyon and adjacent areas.

If the owners elect and are granted the right to continue ranching, a variety of options for use of the main ranch will be explored. The National Park Service will as a minimum need a ranger station, which may have to be provided in a temporary facility if ranch structures are not available. The campground in Windmill Canyon and the ranger station could be sited so as not to interfere with ranching operations.

Johnsons Lee

If further studies indicate it is feasible, the extensively developed military base at Johnsons Lee may be adapted to serve as an environmental education center and a research field station. Many of the structures and the pier have been heavily vandalized and may be beyond economical repair; other structures may be renovated for further use, although the cost may be high. The structures will have to be evaluated for historical significance and examined by engineers and architects before any adaptive use can be allowed. This will have to await purchase or acquisition of rights to use the structures. Some structures are rapidly deteriorating and may be lost before the purchase has been completed.

Initially, the National Park Service will renovate one of the structures to provide quarters for park personnel. After studies to determine which other structures can be renovated, a comprehensive design plan for the area will be prepared. If it is decided to proceed with the plan, a major demolition/cleanup program will be initiated. When safe, public use will be permitted. To allow for overnight stays, either a small campground will be developed, or one of the dormitories may be operated as a hostel-type facility. Safe docking facilities will be required because the principal visitor access will be by boat. Helicopter access will be possible.

If the development of a research field station is feasible, it will be operated in cooperation with private educational institutions or foundations, and as a complement to existing facilities on Santa Cruz and Santa Catalina islands. It will provide an operating base for terrestrial

studies on Santa Rosa and San Miguel and for marine research around the northern Channel Islands and the important Cortez Ridge area. An interpretive center may be incorporated into the research station. The field station will also serve as an environmental education center for groups coming to the island to study for a week or longer.

The condition of any existing utilities is not known, but presumably all systems will have to be replaced. Onsite water sources were inadequate for the large military installation, but a well will probably meet proposed NPS needs.

If existing structures cannot be adaptively used as an environmental education center and research field station, then only one structure will be retained for use as a ranger station, and all other structures will be removed. The area will be restored to natural conditions to the extent feasible, and a campground will be developed. In that case a pier will not be provided, and landings will have to be made by skiff.

China Camp

The cabins at China Camp will be retained for ranger use. A corral and pasture will be maintained.

Backcountry

The island's backcountry, over 95 percent of the land area, will be managed as a natural area. Exotic animal species will be removed, and vegetation will be permitted to return to presumably natural conditions (that is, before the influences of European man). In some instances, active resource management techniques may be required to control exotic vegetation and to allow for revegetation by native species.

Low-impact camping will be permitted at designated sites throughout most of the backcountry. However, protected natural areas and other sensitive natural and cultural resource areas will be closed to camping. Open fires will not be permitted. A backcountry management plan, to be prepared by the park staff, will contain camping regulations and capacities for various zones. Camping impacts will be monitored. Primitive toilet facilities will be developed at designated campsites. If feasible, water supplies will be developed at several backcountry locations.

The existing road system will form the basis for an islandwide trail system. Additional trails will be developed in some areas to protect sensitive resources. In the more fragile areas, a stay-on-the-trail policy will be enforced; some areas may be closed to visitation to protect sensitive resources.

Depending on use patterns and management problems, a seasonal ranger station may be needed on the west end of the island. A specific location has not been selected.

Backcountry use may be limited if ranching continues or if NPS acquisition is phased. The implementation of any proposals will be preceded by extensive research, and park personnel will need to become thoroughly familiar with the island.

Interim Visitor Use during Phased Land Acquisition

If Santa Rosa Island was acquired in phases, Johnsons Lee and some high mountain lands containing endangered island oaks would be the first parcels purchased (see appendix C). Visitor use in the Johnsons Lee area would be restricted to some shoreline areas and along the road to the high point of the island. As more land was acquired, visitor use opportunities would expand, and eventually the focal point for visitor access and use would shift to the northeastern side of the island. However, this change in use could take years to implement.

ANACAPA ISLAND

When a campground comparable in capacity to the one now on East Anacapa has been developed on eastern Santa Cruz, the Anacapa campground will be closed and the area restored to natural conditions. When not required for other management needs, an existing bunkhouse in the visitor center building will be made available for research personnel. If this facility is occasionally inadequate, temporary camping will be permitted near the visitor center. Organized groups may be permitted to use the bunkhouse or camp on a limited basis.

The day use capacity of Frenchy's Cove on West Anacapa will remain at 30 persons at one time except for organized groups under the supervision of trained personnel. Up to 75 persons (including supervisors) will be permitted. This change is based on evidence that supervised groups respect the sensitive resources of the terrestrial and intertidal areas. The change will permit larger school groups to be accommodated and may reduce the cost of educational trips.

Although capacities on Anacapa will remain essentially unchanged, the opening of east Santa Cruz to visitor use may permit a reduction in transportation costs. For example, a larger capacity, higher speed boat might be able to provide transportation to eastern Santa Cruz where most passengers would likely go ashore, then make the run to East Anacapa where up to 75 persons could go ashore. Passengers remaining on the boat could be given a tour around Anacapa Island. Another option would be to provide a shuttle service between Scorpion Anchorage and Anacapa, using a smaller boat. As with any concession proposals, an economic feasibility analysis would be needed once land acquisition had been completed for east Santa Cruz.

SAN MIGUEL ISLAND

Very limited public visitation to San Miguel Island has been permitted for the past five years. Currently visitors must land at Cuyler Harbor and

be accompanied by rangers or other authorized personnel; visitors are not permitted to remain on the island overnight. Because of these limitations, few people ever make the 14-mile round-trip to Point Bennett to view the marine mammal rookery, and few have the opportunity to explore the varied resources of the island. The visitor impacts to date have been minimal, and the island is continuing to recover from the devastating effects of past grazing.

It is proposed that day use be permitted to fluctuate within certain limits so that charter boats with higher passenger capacities can make trips to San Miguel. Daily visitation in the Cuyler Harbor area should generally not exceed 35 to 50 persons, but permission to land up to 100 will be allowed periodically. Landings will be on a scheduled basis under permit from the National Park Service and will only be permitted when NPS personnel are on the island (or can accompany the boat). Visitors will be required to stay on trails. Whether or not visitors will have to be accompanied by NPS personnel, except in the Point Bennett area, will be at the discretion of the island ranger, operating under guidelines established by the superintendent.

Subject to concurrence by the U.S. Navy, limited overnight visitor use may be permitted. Camping may be permitted initially on the beach at Cuyler Harbor on an experimental basis. A decision to develop inland campsites will be based on visitor compliance with low-impact camping regulations and an assessment of impacts. Two camping areas are under consideration, one at Cuyler Harbor/Lester Ranch and one near the Dry Lake airstrip. The capacity at both areas will be limited to 15 persons, with increases possible if impacts are minimal. No fires will be permitted. A site for a permanent campsite in the Lester Ranch area may be considered when site studies are conducted for a permanent ranger station. Camping at either area will be permitted only when NPS personnel are on duty.

Limited boat landings may be allowed on a seasonal basis at Tyler Bight, subject to concurrence by the National Marine Fisheries Service, the U.S. Navy, and the California State Fish and Game Commission. Landings will be permitted only when NPS personnel are present, and all visitors will have to be accompanied by a ranger.

All of the proposals for San Miguel Island will require concurrence by the U.S. Navy and an amendment to the memorandum of understanding between that agency and the Department of the Interior. All public use will require a permit from the National Park Service; use will continue to be prohibited or restricted during military operations.

SANTA BARBARA ISLAND

The facilities on Santa Barbara need extensive renovation or replacement (the dock structure was destroyed in the 1982-83 winter storms), and as proposed in the approved 1980 General Management Plan, a comprehensive design is needed for the small developed area. During the preparation of this design, the camping capacity and visitor experience will be carefully evaluated. Generally, established capacities seem to be appropriate, trails are in good condition (although winter damage does occur), and vegetation recovery appears to be progressing satisfactorily since the elimination of rabbits. The helipad will be retained in the developed area.

WEST ISLAND

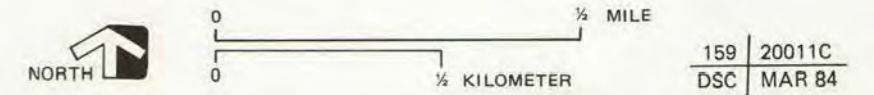
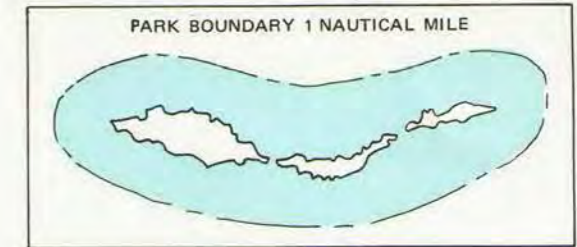
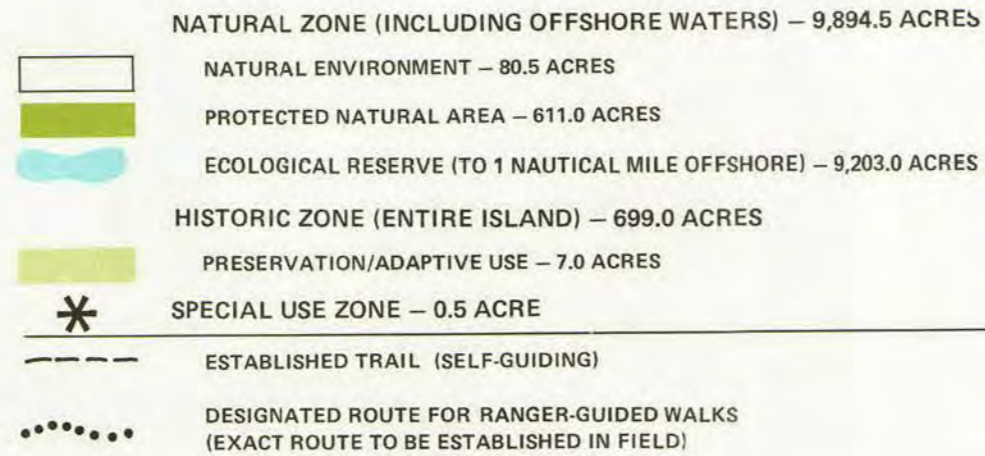
- RESEARCH NATURAL AREA (CLOSED TO VISITOR USE)
- FRENCHY'S COVE – DAY USE AREA

MIDDLE ISLAND

- VISITOR USE ONLY ON RANGER-GUIDED WALKS

EAST ISLAND

- VISITOR CENTER
- WATER SUPPLIES/TOILETS
- RANGER RESIDENCE/MAINTENANCE FACILITIES/BUNKHOUSE/TENT PADS
- HELIPAD/FUEL AND WATER STORAGE
- TOURS TO LIGHTHOUSE AREA
- LIMITED CAMPING FOR RESEARCH AND ORGANIZED GROUPS
- CAMPGROUND – TO BE REMOVED WHEN CAMPING FACILITIES DEVELOPED ON EAST SANTA CRUZ
- CATHEDRAL COVE – UNDERWATER INTERPRETIVE TRAIL
- LANDING COVE – MOORING BUOYS, DOCK/CRANE, STAIRS



NOTE: SCHEDULED BOAT SERVICE IS AVAILABLE TO EAST ANACAPA ISLAND AND FRENCHY'S COVE (SEASONAL), AND FOR TOURS AROUND THE ISLAND; NO PETS ARE ALLOWED AND ALL VISITORS MUST STAY ON ESTABLISHED TRAILS UNLESS ACCOMPANIED BY A RANGER.

MANAGEMENT ZONING / GENERAL DEVELOPMENT ANACAPA ISLAND

CHANNEL ISLANDS NATIONAL PARK
UNITED STATES DEPARTMENT OF THE INTERIOR / NATIONAL PARK SERVICE

ON MICROFILM

POINT BENNETT AREA

- RESEARCH/RANGER STATION
- TRAIL TO OVERLOOK
- OVERLOOK WITH SPOTTING SCOPES
- RESEARCH BOAT LAUNCH/HAULOUT FACILITY
- RESEARCH BLINDS, STORAGE SHEDS, MISC. FACILITIES
- HELICOPTER LANDING

DRY LAKE

- AIRSTRIP
- PRIMITIVE CAMPGROUND

TYLER BIGHT

- SEASONAL LANDINGS BY PERMIT, NO FACILITIES

CUYLER HARBOR

- ANCHORAGE
- LANDING (NO FACILITIES)
- TRAIL TO RANGER STATION
- NPS BOAT STORAGE

LESTER RANCH AREA

- RANGER STATION
- AIRSTRIP
- CROSS-ISLAND TRAILHEAD
- HELICOPTER LANDING
- PRIMITIVE CAMPGROUND OR SLEEPING SHELTERS

**MANAGEMENT ZONING/
GENERAL DEVELOPMENT
SAN MIGUEL ISLAND**

CHANNEL ISLANDS NATIONAL PARK
UNITED STATES DEPARTMENT OF THE INTERIOR /
NATIONAL PARK SERVICE

0 1 MILE
0 1 KILOMETER

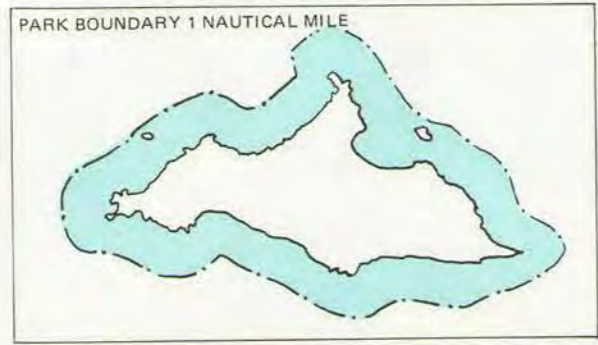
159 | 20019C
DSC | MAR 84

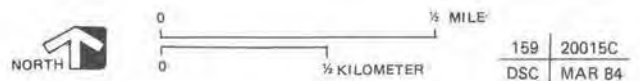
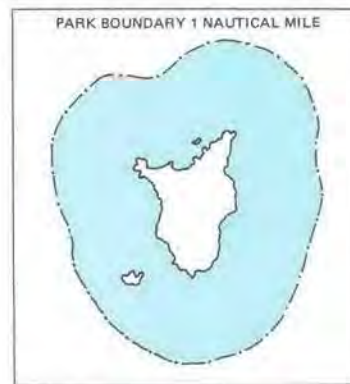
ON MICROFILM

- NATURAL ZONE (INCLUDING OFFSHORE WATERS) – 26,347.0 ACRES
- NATURAL ENVIRONMENT – 6,523.29 ACRES
- PROTECTED NATURAL AREA – 2,800.21 ACRES
- ECOLOGICAL RESERVE (TO 1 NAUTICAL MILE OFFSHORE) – 17,023 ACRES
- HISTORIC ZONE (ENTIRE ISLAND) – 9,325 ACRES
- * DEVELOPMENT ZONE – 1.5 ACRES

- ESTABLISHED TRAIL
- HIKING ROUTE (SUBJECT TO ISLAND RANGER PERMISSION; SEE NOTE). EXISTING TRAILS TO BE USED WHERE FEASIBLE; ADDITIONAL TRAILS TO BE ESTABLISHED AS NEEDED
- ▲ OVERLOOK
- ✈ AIRSTRIP

NOTE: ALL LANDINGS WILL REQUIRE PERMIT FROM PARK HEADQUARTERS. LANDINGS MAY BE PERMITTED AT AIRSTRIPS AND TYLER BIGHT ON SEASONAL BASIS. VISITORS MUST BE ACCOMPANIED BY A RANGER OR APPROVED GUIDE IN CERTAIN SENSITIVE RESOURCE AREAS; PERMISSION TO HIKE UNACCOMPANIED IN OTHER AREAS WILL BE AT THE DISCRETION OF PERSON-IN-CHARGE. OPEN FIRES AND PETS PROHIBITED. ALL OFFSHORE ISLETS AND ROCKS CLOSED TO VISITORS. BOAT LANDINGS PERMITTED ONLY AT CUYLER HARBOR AND OCCASIONALLY TYLER BIGHT. ALL PROVISIONS SUBJECT TO U.S. NAVY APPROVAL.





159 | 20015C
DSC | MAR 84

**MANAGEMENT ZONING /
GENERAL DEVELOPMENT**
SANTA BARBARA ISLAND
CHANNEL ISLANDS NATIONAL PARK
UNITED STATES DEPARTMENT OF THE INTERIOR /
NATIONAL PARK SERVICE

NOTE: LANDINGS PERMITTED ONLY AT LANDING COVE; NO PETS ALLOWED. ALL VISITORS MUST STAY ON ESTABLISHED TRAILS UNLESS ACCOMPANIED BY A RANGER. ALL OFFSHORE ISLANDS CLOSED TO VISITATION.

ON MICROFILM

IMPLEMENTATION

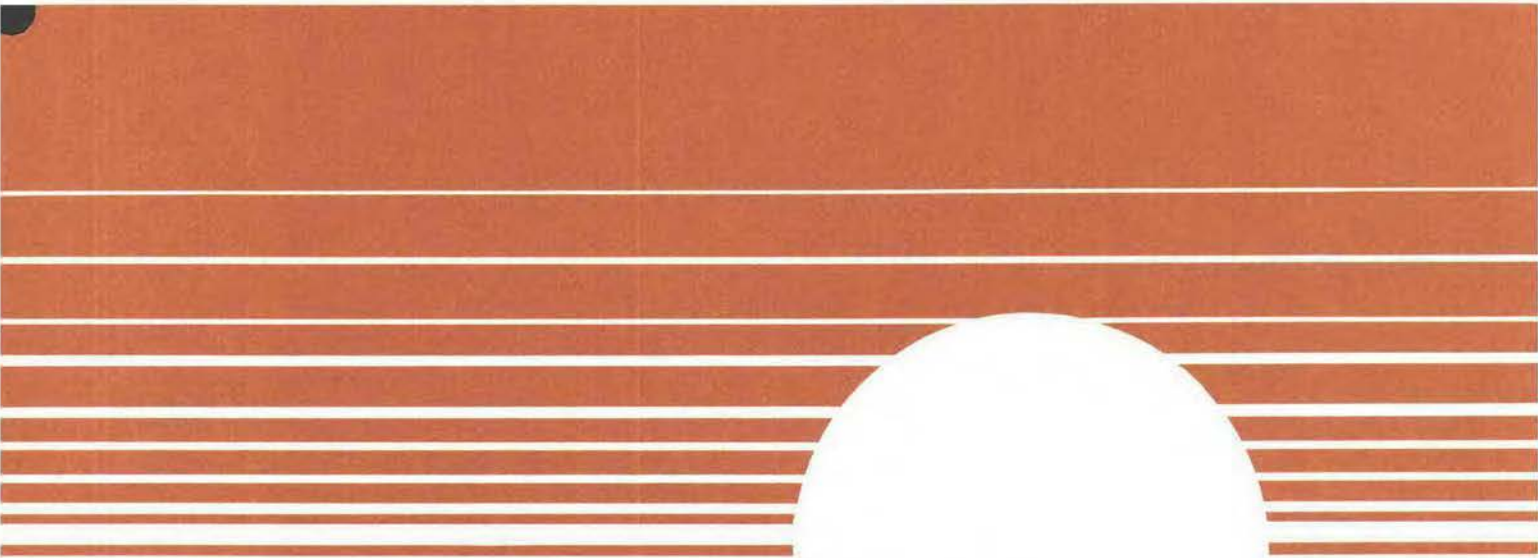
Many elements of the proposed plan are directly related to the land acquisition process and cannot be implemented until sufficient rights are obtained to permit management actions. Extensive work must be accomplished before the private lands can be opened to the general public. Once the private lands or rights of use are acquired, the process of opening the lands to public use will be undertaken in three phases.

Phase I--NPS personnel will move to the islands to start becoming thoroughly familiar with the diverse resources. More definitive cultural and natural resource inventories will be conducted, and cultural resources will be evaluated for National Register eligibility. Resource management personnel will evaluate potential campsite locations, trail routes, sensitive areas where access may have to be restricted, and carrying capacities. A resource management plan will be prepared. Limited public day use may be permitted so that use patterns and public desires for facilities and programs can be evaluated.

Phase II--Based on data obtained in phase I, general management plan actions will be reevaluated and modified if necessary. Priorities will be established, and development concept plans and environmental assessments will be initiated for those areas where facilities will be provided. These plans will guide the cleanup, restoration, and improvements required for public safety and visitor use, including support facilities. Resource management programs will be initiated. Public use may be very limited or prohibited during this phase because of safety hazards.

Phase III--As necessary improvements are completed, portions of the islands will be opened to the public. Because funding for these improvements may be spread over many years, public use may remain limited. Preservation or restoration of natural and cultural resources will take priority over the provision of visitor facilities and services. Visitor use will be monitored by resource management personnel, and if unanticipated impacts occur, use patterns or capacities may be modified.

At this time, priorities for actions cannot be established. Land acquisition will probably be phased and may not necessarily follow priorities recommended in the Land Protection Plan. Proposals to use existing facilities may have to be revised because by the time they have been acquired, the structures may have deteriorated beyond the point where they can be rehabilitated. Thus, the implementation of the proposed plan will necessarily be based on learning, experimenting, evaluating, and revising proposed actions as necessary.



the environment

The eight Channel Islands are ridges on the continental shelf off the coast of southern California between Point Conception and the U.S.-Mexico border. The northern islands--Anacapa, Santa Cruz, Santa Rosa, and San Miguel--roughly parallel the coast of Santa Barbara and Ventura counties. The southern islands--Santa Barbara, San Nicolas, Santa Catalina, and San Clemente--are scattered between Los Angeles and San Diego. The distance from the coast varies from 11 miles to Anacapa to 60 miles to San Nicolas.



Channel Islands National Park includes the federally owned islands of Anacapa, Santa Barbara, and San Miguel (along with Prince Island), the privately owned islands of Santa Rosa and Santa Cruz, and the state-owned waters and submerged lands for 1 nautical mile around the islands. The Park Service also has a mainland operations base and visitor center in Ventura.



NATURAL RESOURCES

The natural features of Channel Islands National Park include islands, seashore and marine environments, grasslands, chaparral and forest habitat, geological features such as wind- and water-sculptured landforms, paleontological resources (for example, significant Pleistocene mammal deposits), unique plant and animal forms, and rare plant assemblages. The geographical isolation of this system has accelerated the processes of species evolution to the point where some island forms related to mainland types are now distinctly different. This provides the potential for scientific studies of species evolution and an opportunity to piece together and even perhaps reconstruct an example of California's earlier coastal biological richness.

The accompanying resource sensitivity maps show significant natural and cultural resource areas on Santa Rosa and east Santa Cruz islands. The criteria used to determine the significance of natural features include the sensitivity or rareness of known plant and wildlife species, the scarcity of a particular habitat type, and the uniqueness of a geologic or paleontologic feature. A high significance for a cultural feature may be due to a particularly dense association of prehistoric sites, a singularly important site, or an entire area related to a particular historic scene, such as traditional ranching.

Considerable research is required to further refine these maps, particularly where different sources present conflicting information. In particular, a number of rare plant and animal species remain to be actually located in the field. These maps are not intended to be precise scientific presentations, rather they are generalizations based on the best available knowledge.

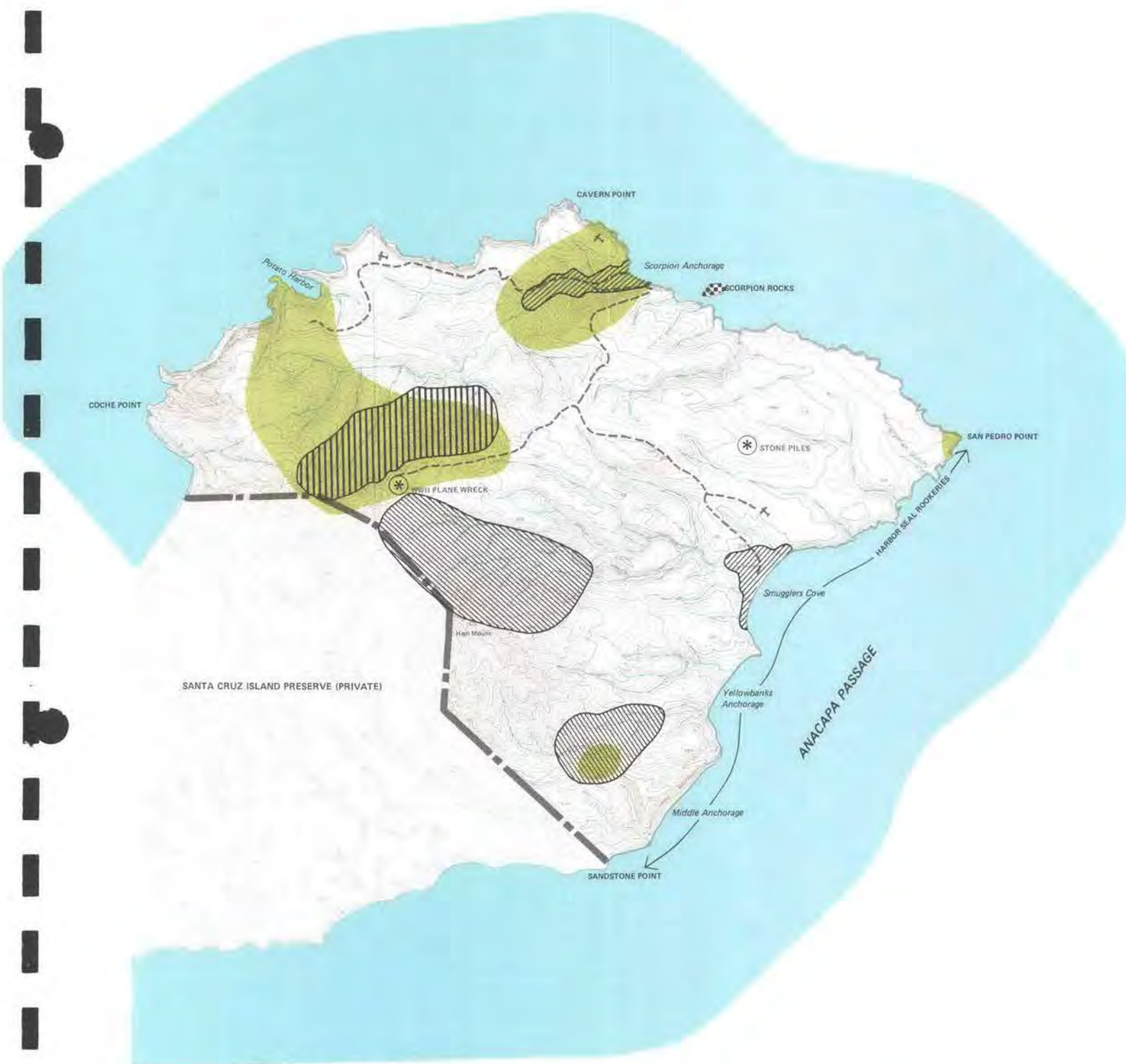
The privately owned islands of Santa Rosa and Santa Cruz, which were not described in the 1980 General Management Plan and the preceding Environmental Assessment, are described below. Although all of Santa Cruz Island is discussed, emphasis is on the eastern portion that is proposed for acquisition by the National Park Service.

TERRESTRIAL RESOURCES







The northern Channel Islands represent a seaward extension of the Santa Monica Mountains of southern California, and they have a similar varied geology. The climate is a typical Mediterranean one, with cool rainy winters (12 in/yr) and warm dry summers; recently rainfall has been significantly higher than average. Summer temperatures are moderated by morning fog and afternoon westerly winds.

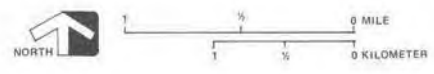
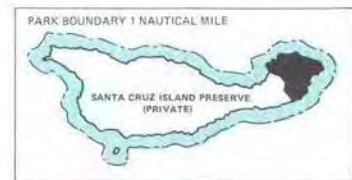
Santa Cruz

Santa Cruz is the largest of the Channel Islands. Its terrain is diverse, with an elongated east-west axis dominating its topography. A central fault line is paralleled by an inland valley on the western two-thirds of



AREAS INDICATED MAY CONTAIN MORE THAN ONE SIGNIFICANT RESOURCE. NATIVE PLANT AND ANIMAL SPECIES ARE GENERALLY CONFINED TO SMALL REFUGE HABITATS INACCESSIBLE TO SHEEP. ALL ROCKY INTERTIDAL AREAS ARE CONSIDERED SENSITIVE HABITAT. (CLASSIFICATIONS BELOW BASED ON NON-NPS SOURCES, AERIAL PHOTOS, AND LIMITED NPS FIELD SURVEYS IN APRIL 1983.)

-  PRIMARILY GRASSLAND - SEVERE IMPACT FROM GRAZING
-  MAJOR IRONWOOD GROVES - LITTLE OR NO REPRODUCTION; LIMITED UNDERSTORY
-  SIGNIFICANT ASSEMBLAGES OF PLANTS - SEVERE IMPACT FROM GRAZING; LIMITED UNDERSTORY AND LITTLE OR NO REPRODUCTION
-  SENSITIVE HABITAT IDENTIFIED IN LOCAL COASTAL PLAN - LISTED SPECIES APPEAR TO HAVE LIMITED DISTRIBUTION; ADDITIONAL FIELD STUDIES REQUIRED
-  SIGNIFICANT HISTORIC RESOURCE OR SETTING
-  HISTORIC SITE
-  SEABIRD ROOKERY
-  MAIN FOUR-WHEEL-DRIVE ROAD
-  AIRSTRIP



159 - 200388
DSC | FEB 84

RESOURCE SENSITIVITY

EAST SANTA CRUZ ISLAND

CHANNEL ISLANDS NATIONAL PARK
UNITED STATES DEPARTMENT OF THE INTERIOR / NATIONAL PARK SERVICE



the island. The eastern peninsula lies completely to the north of the fault and is in a sense geologically distinct from the remainder of the island. Watershed boundaries evidently were considered in earlier land divisions because the eastern parcel is essentially a separate watershed.

On east Santa Cruz the terrain is rugged, with a series of southeast- or east-trending drainages coming from the high north-south ridges that form the property's west boundary. Extensive areas have slopes of 40 percent or more, so runoff is rapid, and natural, water-caused erosional features predominate. Grazing has apparently accelerated natural erosion because over wide areas there is no tree or brush cover to protect the soils or bind them with root networks; large areas are totally barren.

Large portions of east Santa Cruz are grasslands, with smaller areas of chaparral and coastal sage scrub. The extent of grassland is directly related to the 130-year history of extensive grazing by sheep. Man-caused fire has probably also played an important role in the conversion of tree and brush types to grassland. The actual extent of this conversion on Santa Cruz in aboriginal times is not known.

Cattle have largely replaced sheep on the western portion of the island, although there are still thousands of feral sheep. Sheep are run exclusively on the eastern end, and it is estimated there are 7,000-10,000 domestic and feral sheep on the property. The results of sheep grazing are very evident today, especially on the eastern lowlands, which are virtually treeless grassland. It is this grassland that is most frequently used for sheep grazing because in steeper sections it is difficult to control and capture the animals. The sheep pastures are dominated by exotic grass species, and in some cases they are being invaded by nonpalatable species like thistles. The steeper upper drainages still harbor significant and extremely attractive groves of ironwood, oak woodlands, and other tree species in high density. Even though these woodlands appear to present a healthy continuous canopy, there is an almost complete absence of understory and very little evidence of reproduction in the native tree species. This is a direct result of domestic and feral sheep grazing and, to a lesser extent, rooting by approximately 500 feral swine. Various stream bottoms contain characteristic riparian vegetation. As on Santa Rosa, these forested patches provide significant habitat for associated bird or mammal species, which otherwise might be eliminated from the island altogether.

Specific mammal and reptile lists for east Santa Cruz are not yet available, but the island as a whole has some three amphibian, six reptile, and 10 mammal species. The island fox is a subspecies unique to Santa Cruz, as is the deer mouse. On the whole the topography and climate of Santa Cruz probably contribute to more diverse habitats for animal and plant species than they do on Santa Rosa. However, the eastern portion of Santa Cruz itself does not contain all categories of habitat. Notably it lacks freshwater marshes and permanently flowing streams; only one spring-fed stream exists on this portion.

Ten species of birds breeding on Santa Cruz are reported to be subspecies distinct from their related forms on the mainland. The most distinctive bird subspecies in all the Channel Islands is the Santa Cruz

scrub jay, whose brilliant blue color pattern and some behavioral traits clearly distinguish it from mainland scrub jays.

The abundance and distribution of both resident and transient birds on Santa Cruz are largely functions of present vegetation/habitat patterns. With regard to endangered species, the bald eagle and peregrine falcon have been previous residents but do not now breed on the island. The California brown pelican has been a sporadic resident, breeding occasionally on Scorpion Rocks. (See appendix E for a listing of threatened or endangered species.)

Apparently much of the original wildlife still occurs on the island, probably because of the rugged terrain and the remnants of original tree and brushy habitats, which have managed to escape the effects of grazing and soil loss. East Santa Cruz, with its long and continuing history of sheep grazing, has a relatively higher proportion of grassland than the remainder of the island. Yet there are still small representative areas with most of the island's vegetation types and many of the bird and animal species normally associated with them. Lack of a healthy understory and poor reproduction of trees in forested sections is, however, a serious matter because the diversity of habitat within the forest has become severely restricted.

Santa Rosa

Santa Rosa, at 52,794 acres, is the second largest park island and represents some 44 percent of the park's total land area and 78 percent of the lands to be managed by the National Park Service.

Santa Rosa has a varied geology, but it is generally less rugged than Santa Cruz. Volcanic material is interspersed with sedimentary formations. A major fault trends east-west across the center of the island, forming a predominant single ridge reaching 1,589 feet at its highest. Pleistocene terrace deposits are evident near the coast, and numerous canyons cut through extensive fossil beds. Wind-formed dune systems and weathered cliffs, as well as water-eroded canyons and hillsides, are common.

The varied geologic history provides numerous examples that illustrate particular formations, fault systems, or specific processes. Individually none of these examples is especially significant, but collectively they provide a varied and highly condensed picture of the geologic history of an island that has been subjected to changing sea levels and tectonic forces.

Some of Santa Rosa's paleontological resources are extremely significant, especially Pleistocene terrace deposits along the northwest coast that contain dwarf mammoth remains, and the mollusk fossil beds exposed along San Augustin Canyon.

The shallow, low-organic character of Santa Rosa's soils is consistent with the dry climate and current vegetation pattern. The predominance of canyons and gullies attests to the highly erosive nature of the soils, and

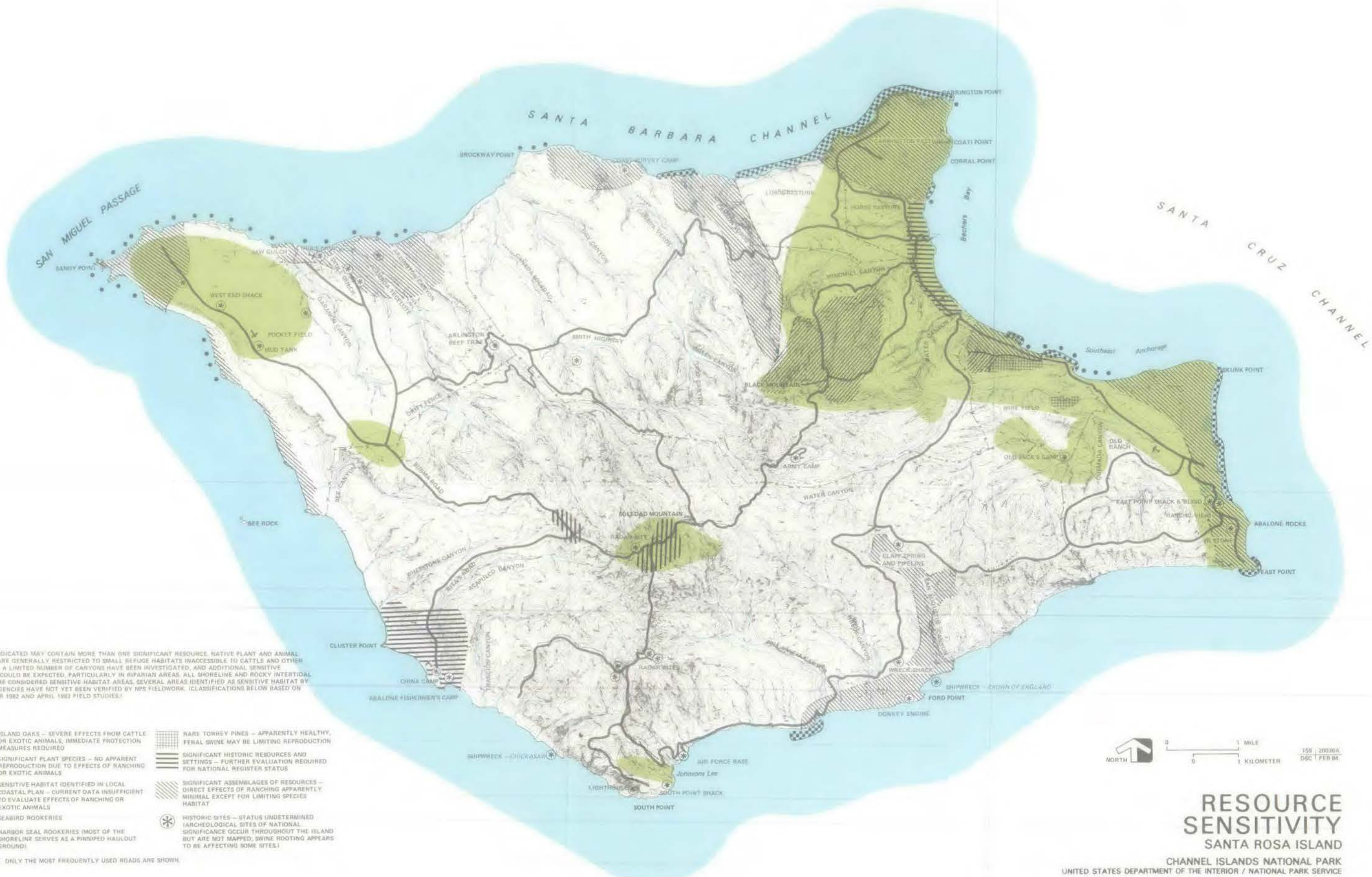
it suggests the direction of landform development to deeper canyons and greater soil losses if accelerated erosion continues.

The story of Santa Rosa's plant and animal resources is a complex picture of unique island forms interacting with various exotic species introduced over the last 150 years. The original plant and animal species are not completely known, and perhaps some elements have already disappeared because of competition and changed land use. Today's plant list contains some 340 species, 23 of which are found only on the Channel Islands and three only on Santa Rosa. The current plant distribution must surely be different than it was before human habitation. As many as 75,000 to 125,000 sheep once grazed Santa Rosa in the 1800s and early 1900s. It appears that the loss of vegetation due to sheep grazing was at least partially responsible for the development of major dune systems. Based on photographs taken in 1901, some areas have regained a vegetative cover since the conversion to cattle ranching, but the process is slow, and some areas may never fully recover. Conversion from sheep to cattle was itself a slow process, and it took over 40 years for the last sheep to be captured. Cattle now graze extensively all over the island.










Large portions of the island are now in grassland, and many tree and shrub species are restricted to small refuges where local topography prevents access by cattle. In addition to 5,000-8,000 cattle, other introduced species include nearly 1,000 Roosevelt elk, approximately 3,000 mule deer (established in the early 1900s), and 5,000-10,000 feral swine (introduced in the late 1800s). Although the owners of the islands try to keep the population of these animals in check through sport or management hunting, the browsing and rooting habits of the animals, combined with cattle grazing, are clearly the predominant factors in vegetation distribution today. However, it should be noted that uncontrolled fires, which might have been lightning-caused or which were possibly used by the original Indian inhabitants to make travel easier in the island's interior, could have had similar effects on restricting trees and shrubs to protected habitats.

Common vegetation types today include coastal grasslands and sage scrub, chaparral, oak and riparian woodlands, and coniferous forest. Along the shore there are distinctive coastal bluff assemblages, marshes, and beach/dune vegetation types.

The limited Torrey pine stands near Bechers Bay are of special concern. The stands are apparently in fairly good condition, and even expanding, but the total area is still very small (about 40 acres) considering that the only other place this species occurs naturally is on the mainland north of San Diego. Other species of special concern are the endemic island oak and ironwood tree. The island oak occurs occasionally as individual trees and in five or six small groves on Soledad Mountain. No apparent reproduction is taking place in these groves, partially because of rooting for acorns by feral swine. Soil loss is extensive, possibly due to overgrazing during the sheep era, leaving tree roots exposed and little opportunity for new growth to become established. Ironwood trees, found only rarely on Santa Rosa and more commonly on Santa Cruz and Catalina, occur in small single-species groves where reproduction seems to be minimal. The exotic eucalyptus occurs in very old stands near ranch



AREAS INDICATED MAY CONTAIN MORE THAN ONE SIGNIFICANT RESOURCE. NATIVE PLANT AND ANIMAL SPECIES ARE GENERALLY RESTRICTED TO SMALL REFUGE HABITATS INACCESSIBLE TO CATTLE AND OTHER ANIMALS. A LIMITED NUMBER OF CANYONS HAVE BEEN INVESTIGATED, AND ADDITIONAL SENSITIVE HABITAT COULD BE EXPECTED, PARTICULARLY IN RIPARIAN AREAS. ALL SHORELINE AND ROCKY INTERTIDAL AREAS ARE CONSIDERED SENSITIVE HABITAT AREAS. SEVERAL AREAS IDENTIFIED AS SENSITIVE HABITAT BY OTHER AGENCIES HAVE NOT YET BEEN VERIFIED BY NPS FIELDWORK. (CLASSIFICATIONS BELOW BASED ON DECEMBER 1982 AND APRIL 1983 FIELD STUDIES.)

-  ISLAND OAKS - SEVERE EFFECTS FROM CATTLE OR EXOTIC ANIMALS. IMMEDIATE PROTECTION MEASURES REQUIRED
-  SIGNIFICANT PLANT SPECIES - NO APPARENT REPRODUCTION DUE TO EFFECTS OF RANCHING OR EXOTIC ANIMALS
-  SENSITIVE HABITAT IDENTIFIED IN LOCAL COASTAL PLAN - CURRENT DATA INSUFFICIENT TO EVALUATE EFFECTS OF RANCHING OR EXOTIC ANIMALS
-  SEABIRD ROOKERIES
-  HARBOR SEAL ROOKERIES (MOST OF THE SHORELINE SERVES AS A PINNIPED HAULOUT GROUND)
-  RARE TORREY PINES - APPARENTLY HEALTHY. FERAL SWINE MAY BE LIMITING REPRODUCTION
-  SIGNIFICANT HISTORIC RESOURCES AND SETTINGS - FURTHER EVALUATION REQUIRED FOR NATIONAL REGISTER STATUS
-  SIGNIFICANT ASSEMBLAGES OF RESOURCES - DIRECT EFFECTS OF RANCHING APPARENTLY MINIMAL EXCEPT FOR LIMITING SPECIES HABITAT
-  HISTORIC SITES - STATUS UNDETERMINED (ARCHAEOLOGICAL SITES OF NATIONAL SIGNIFICANCE OCCUR THROUGHOUT THE ISLAND BUT ARE NOT MAPPED; SWINE ROOTING APPEARS TO BE AFFECTING SOME SITES)

NOTE: ONLY THE MOST FREQUENTLY USED ROADS ARE SHOWN.



RESOURCE SENSITIVITY
SANTA ROSA ISLAND
 CHANNEL ISLANDS NATIONAL PARK
 UNITED STATES DEPARTMENT OF THE INTERIOR / NATIONAL PARK SERVICE

ON MICROFILM

developments. Some streambeds and areas of deeper alluvial soils support large trees, including species of oak and the closed cone (fire-resistant) Bishop pine. Not surprisingly, many species of birds and animals on Santa Rosa depend partially or even totally on these forest habitat "relicts," making the continued existence of these habitats even more critical.

Native reptiles on the island include one frog, one salamander, two lizard, and one snake species; native mammal species include a spotted skunk, an island fox, a deer mouse, and a bat. The salamander, skunk, fox, and deer mouse all exhibit characteristics sufficiently different from mainland forms to be granted subspecies status. (The fox and deer mouse are different subspecies than those found on Santa Cruz, only a few miles away.)

Some 50 to 60 land bird species have been recently seen on Santa Rosa, and 145 species total have been recorded. As a result of recent NPS studies on the island, 24 species of birds are believed to breed on the island, and nine species show evolution to subspecies status. Further studies may reveal subtle differences between mainland and Santa Rosa bird populations, leading to a better understanding of how island birds are evolving. Bird distribution and abundance are now rather artificially maintained because the habitat has been modified by grazing; therefore, it would be valuable to document the changes in species abundance and distribution if cattle and exotic ungulates were eventually removed.

No endemic bird species are known on Santa Rosa, and currently no federally listed rare or endangered land bird species are resident (see appendix E). Historically, bald eagles and peregrine falcons nested here, and both species are still occasionally recorded as birds of passage. Brown pelicans--another endangered bird--are occasionally seen but do not currently breed on the island. If the appropriate habitats on Santa Rosa, or even the other Channel Islands, remain protected or are restored to earlier conditions, breeding populations of these species may become naturally reestablished or successfully reintroduced.

MARINE RESOURCES

Marine areas around the Channel Islands have been described as one of the most diverse and productive marine ecosystems in the world. This richness relates to the islands' location in a transitional area between California's northern and southern marine flora and fauna (Point Conception, 23 miles north of San Miguel, is considered to be the dividing line). San Miguel and San Nicolas islands are influenced by the cold water of the southward flowing California current, which supports more northern species, while San Clemente, Santa Catalina, and Santa Barbara have predominantly southern species influenced by the warm water of the California countercurrent. Anacapa, Santa Cruz, and Santa Rosa islands have mixtures of both northern and southern life forms. The blending of these two currents creates conditions to support a great diversity of life. Upwelling of the cold northern waters brings nutrients into the more temperate waters to help support some 200 species of finfish, over 150 species of shellfish, and more than 30 species of marine mammals.

The tidal and offshore areas of the Channel Islands contain most of the remaining relatively undisturbed marine assemblages in the southern California region. The coastlines of the islands are composed mainly of rocky shorelines and precipitous headlands that define isolated stretches of broad sandy or cobble beaches. Compared to mainland coastal communities, which have been disturbed by man's influence and intensive development, island coastal communities are virtually untouched. Rich, undisturbed tide pools surround many of the islands, their species diversity and abundance unparalleled on the mainland coast.

Just outside the intertidal zone of the islands, typical southern California kelp forests lie in water 20 to 50 feet deep. Seasonally variable in extent, these forests are an incredible ecosystem in which over 800 species of plants and animals are known to occur. The kelp as primary producers are intricately connected not only to the forest ecosystem itself but also to surrounding rocky bottom communities and to more visible life forms such as seabirds, seals, and sea lions; formerly sea otters were also part of this community. Kelp off both islands is periodically harvested by commercial interests under management regulations designed to provide sustainable yields. Although there is no direct evidence that the kelp forest ecosystem is threatened by such harvest, the areas that are harvested are seldom allowed to reach a truly undisturbed natural condition and cycle.

Biological diversity is further enhanced by the varied relief and bottom conditions. The islands are surrounded by relatively shallow shelves that may extend several miles offshore; the bottom then begins to slope steeply to depths of over 2,500 feet. The island shelves vary from shallow, sandy flats to soft, muddy trenches and canyons. The Santa Rosa-Cortez Ridge, which extends southward from the island, has been identified as a major feeding ground for pinnipeds, seabirds, and cetaceans (including a significant variety of endangered or threatened whales, such as the blue, humpback, and fin). In addition, this ridge supports an extraordinary number of marine invertebrates and vertebrates.

Pinnipeds

Although pinnipeds (seals and sea lions) historically bred in great numbers along the southern California mainland coast, today they breed and pup almost exclusively on the Channel Islands. The California sea lion has established breeding colonies on most of the islands, but only occasional births are reported in some locations. Based on current rates of population growth and continued protection from disturbance, breeding success is expected to increase. South of Point Conception, Steller's sea lions are found only on San Miguel. Their numbers continue to decline; however, should this trend reverse, it is expected that historic rookeries and haulouts on San Miguel, Santa Rosa, and Santa Cruz would be among the first areas to be recolonized.

The northern elephant seal, once almost extinct, is now found on San Miguel, San Nicolas, Santa Barbara, and San Clemente islands and occasionally on Santa Rosa Island. The population growth of this species

remains rapid, and the potential for occupation of the many deserted beaches on Santa Rosa is good. Harbor seals are found on all the islands. The only breeding colony of northern fur seals in the eastern Pacific south of Alaska's Pribilof Islands was discovered on San Miguel Island a little over a decade ago. Since then, the population has become fairly well established. The Guadalupe fur seal, on the California list of rare and endangered species, visits San Miguel and San Nicolas islands. At present the population is nonbreeding; however, numerous remains of this species in prehistoric Chumash kitchen middens suggest that Guadalupe fur seals formerly used the islands as breeding sites. These two islands are the only areas outside Mexican waters where this seal is currently known to haul out.

San Miguel is the only island where six pinniped species are found together--more species than at any other single location in the world. The island's isolation, climate, low sandy beaches, and proximity to deep feeding grounds on the edge of the continental shelf make it an ideal environment for pinnipeds, encouraging both northern and southern species. The Point Bennett area in particular has a very large population and is one of the world's outstanding wildlife displays. San Nicolas has the second largest haulout grounds for pinnipeds and hosts five species. Santa Barbara Island has the third largest haulout area.

Sea otters inhabited kelp beds surrounding the Channel Islands until their local extermination by commercial hunters in the early 1800s. Since their rediscovery off central California in 1938, the population has been increasing and their range extending. If their range continues to expand, natural repopulation of the kelp beds off the Channel Islands is a distinct possibility.

Even though current California regulations allow controlled commercial and sport harvest around Santa Rosa and Santa Cruz islands, the intertidal and shallow subtidal zones show remarkably little exploitation. This is because under present ownership very few people are allowed access to the intertidal areas from the islands themselves, and the extremely rough sea and landing conditions at most times and locations severely restrict boat access. Few safe anchorages and relatively long distances from mainland harbors are additional factors that restrict access to Santa Rosa.

These restrictions on access benefit marine communities by protecting them from recreational or sport collectors and commercial harvesters. Two examples from Santa Rosa illustrate this point. Black abalone, a shellfish species heavily harvested elsewhere, occur on many rocky Santa Rosa shores at densities of over 100 per square meter and average sizes far larger than on the mainland. In heavily collected areas on the mainland coast, only a few abalone per square meter are found, even in the best habitat. A second example involves a species of colonial dwelling tube worm called Phragmatopoma, which builds sandy tubes that collectively form ledges or reefs in intertidal areas. The worm itself is not harvested, but these fragile tube worm reefs off mainland coasts are typically much battered and broken through human efforts to collect other species that are edible or of display value. At Santa Rosa, Phragmatopoma reefs seem nearly untouched. Opening these islands to

increased public use could adversely affect such intertidal areas, although monitoring and regulation of use would likely mitigate the impacts.

Seabirds

The Channel Islands are important breeding and resting areas for a variety of seabirds, and collectively they constitute a major breeding ground of the eastern Pacific south of Alaska. Species include western gull; double-crested, Brandt's, and pelagic cormorants; black oyster-catcher; snowy plover; pigeon guillemot; ashy, black, and Leach's storm petrels; Cassin's auklet; Xantus's murrelet; and California brown pelican. While the mainland may provide roosting areas, in many cases these seabirds depend on the islands for breeding and nesting sites.

The nesting birds now found on the islands are remnants of much larger populations. Each of the eight Channel Islands contains major seabird rookeries, with various species using different islands. Especially important are rookeries on Santa Barbara Island and Prince Island. The endangered California brown pelican breeds primarily on Anacapa Island and feeds in the surrounding waters. (A small colony is attempting to reestablish on Santa Barbara Island, and individuals occasionally breed on Scorpion Rock off eastern Santa Cruz.) Protection of the Channel Islands breeding areas and surrounding waters that provide for foraging is essential to the survival of these species.

CULTURAL RESOURCES

The cultural features of Channel Islands National Park include evidence of pre-European inhabitants, Spanish exploration, maritime history and exploration, national defense facilities, and a long and continuing tradition of cattle and sheep ranching. The isolation of the islands gave the original human inhabitants a relatively long period of freedom from disturbance, and as a result the archeological record is almost intact. Investigation of the archeological sequences may be one of the last opportunities in California to understand the nature of the state's earliest inhabitants and their relationship to available resources. No properties on east Santa Cruz or Santa Rosa are currently listed on the National Register of Historic Places; however, surveys of cultural resources may reveal sites that should be nominated.

PREHISTORY

The northern Channel Islands were a very important area in the development of coastal California Indian cultures. Limited and still controversial evidence suggests that Santa Rosa Island may have been occupied 30,000 to 40,000 years ago (Orr and Berger 1966), and several researchers have confirmed that the islands have been occupied for at least 6,000 to 8,000 years. Both Santa Rosa and Santa Cruz islands were continuously occupied by Chumash Indians from the time of European contact in the 16th century to the early part of the 19th century. The Chumash Indians and their predecessors apparently developed a close relationship with the sea, finding efficient ways of using their marine surroundings, which involved collection of shellfish (especially abalone), fishing, and seasonal exploitation of nesting pinnipeds and seabirds. They also were seemingly able to develop a peaceful society because of the isolation of the islands; this is evidenced by the fact that weapons found on the mainland are generally absent on the islands.

In general, the archeological resources of both Santa Rosa and Santa Cruz are remarkably undisturbed. The fact that resources are sequentially complete greatly increases the islands' research value and makes them potentially nationally significant.

Santa Cruz

The size and diversity of Santa Cruz provided prehistoric inhabitants with a greater variety and abundance of terrestrial resources than any of the other northern Channel Islands. Consequently, this island was probably a major prehistoric population center.

About 20 field studies have been conducted on Santa Cruz over the last 100 years. These studies have varied from unscientific collecting of primitive artifacts to comprehensive surveys using modern techniques. The most intensive survey was in 1973 by the University of California at Santa Barbara; 10 percent of the island was surveyed and 380 sites were identified, indicating there may be over 3,000 sites altogether.

Twelve village sites are known on Santa Cruz, mostly along the coastline, and some were occupied as late as A.D. 1800. Laboratory and other work indicates that the prehistory of the island dates to at least 4500 B.C. The larger settlements show a high degree of permanence, suggesting reasonably constant and readily available marine resources over long periods. There is some evidence that the Chumash on Santa Cruz may have been producers and traders of chipped implements of chert, deposits of which are found on the island. Many small shelter sites inland on east Santa Cruz have an abundance of waste chips.

About 100 sites on the island have been disturbed to some extent by construction activities, and an unknown number have been damaged by grazing and subsequent sheet-wash erosion and arroyo cutting. A primary source of disturbance to some sites has been unscientific excavation conducted many years ago, which destroyed substantial portions of the large sites. Nearly half of the large cemeteries have been totally excavated, but many of the remaining major sites still have extensive material intact.

Specific information about east Santa Cruz is limited. Three village sites (Chinese Harbor, Scorpion Anchorage, and Smugglers Cove) have been identified, although there is some question about the relationship of the Chinese Harbor site to the property line. The largest village, Swaxil, with a population estimated between 150 and 200 people, was located in the Scorpion Anchorage area. The village at Smugglers Cove was occupied in historic times, possibly up to 1815 when most native Chumash left the island, having been ravaged by European diseases and later attacked by Russian whalers. Numerous lesser sites have been identified, particularly along the southern shoreline of San Pedro Point and in the area of Cavern Point.

Santa Rosa

Total aboriginal populations on Santa Rosa were apparently lower (600-1,000) than the estimated 900 to 1,450 on Santa Cruz. Like the Chumash on Santa Cruz, Santa Rosa's earliest inhabitants focused their subsistence lifestyles on readily available marine resources. Smaller sites may represent temporary locations that were best suited to harvesting a seasonal resource, or locations of a freshwater source no longer available. If the coexistence of prehistoric man and dwarf mammoths as long as 30,000 years ago can be confirmed, a far earlier date for human presence could be established on Santa Rosa than for the mainland.

The prehistory of Santa Rosa has been investigated during about 10 different projects. Some 182 sites are listed, but NPS surveys in December 1982 and April 1983 indicate that less than half of the sites have been identified.

The 150 years of ranching and grazing apparently have had relatively few direct impacts on known archeological sites on either island. Stewardship of the land on Santa Rosa during the more recent cattle-ranching phase has been particularly careful, and a minimum of disruption has taken place. However, the vegetation pattern, soils, and probably the basic

hydrological regime are no longer naturally controlled, obscuring relationships that might have existed between early Indians and the forest and water resources.

Although current cattle ranching activities appear to be having little direct impact on archeological resources on Santa Rosa, sheep ranching operations (before conversion to cattle) did apparently cause extensive damage. Earlier investigators (e.g., Jones in 1901) commented frequently about severe wind erosion (due to poor vegetative cover in overgrazed areas) affecting archeological sites on the extreme west, northeast, and southeast portions of Santa Rosa. Jones also noted some disturbance of resources by cattle, primarily from bulls pawing the ground and destroying the outline of house sites.

HISTORY

Santa Cruz

Ranching activities on Santa Cruz date back to the 19th century, and many aspects of today's operations reflect that history. In 1839 the island was granted to Spaniard Andres Castillero, who then sold it to a British trading company, Barron and Forbes. Ranching activities centered in the long central valley, and sheep, horses, mules, and cattle were introduced. In 1869 the island was sold to Justinian Caire and a group of San Francisco investors. Eventually Caire acquired all the stock in the Santa Cruz Island Company. A French-style house, barns, a winery, and workers quarters were constructed in the central valley and Prisoners Harbor. Stone walls, fences, and roads extended through the central valley over the hills to secondary headquarters at Smugglers Cove and Scorpion Anchorage. In 1937 most of the island was sold to Edwin L. Stanton, a Los Angeles businessman. About 6,200 acres on the eastern end of the island, however, were retained by the Gherini branch of the Caire family (Mrs. Ambrose Gherini was a granddaughter of Justinian Caire); this property still remains in the Gherini family.

The central valley ranch complex, although now extensively modernized, is well maintained and preserved and has great historical value in documenting California's early ranching techniques and lifestyles. Some of the ranch structures on the eastern end of the island have deteriorated, partially because of vandalism but primarily through neglect as sheep ranching has become less profitable. Besides ranch structures, fishermen's and workers' camps dotted the island's coastline in the early 1900s. One of these camps was located on a bluff overlooking Scorpion Anchorage; others were at Chinese Harbor, Potato Harbor, Blue Banks, Hungryman Gulch, and Smugglers Cove. Most of the structures associated with the camps have disappeared, but the sites probably contain archeological deposits that would tell about the various ethnic groups who lived and worked on the island, including Chinese, Japanese, Portuguese, and Anglos. Additional research will be required to further document the history of the island.

Santa Rosa

Santa Rosa's European era history began with Cabrillo's voyage of discovery in 1542-43. Cabrillo and his three ships may have wintered that year at Santa Rosa, and Cabrillo may well have died and been buried on Santa Rosa rather than on San Miguel. During the next 250 years little other European contact is recorded. By the early 1800s, the Spanish mission system was established on the mainland, and the Indians were beginning to be integrated into that system. The Indian population was gradually reduced by disease, and the remaining Indians were moved to missions on the mainland by 1835.

The fur trade in California's waters, especially for seals and sea otters, lasted from the late 1700s through the 1840s, and the Channel Islands were a primary area. Santa Rosa was the base for a sea otter operation about 1835. Otter hunter George Nidever and his men used a cave as a refuge from attack by "northwest" Indians.

Ranching began on Santa Rosa in the 1840s, and there have been numerous owners since then. The rise and fall of the cattle industry, and a series of boom and bust sheep operations, parallel the general history of Spanish California and the early American period.

Oil exploration was sporadically conducted on Santa Rosa from the 1920s through 1949; there were no successful wells, but several drilling sites remain. Several of the major but primitive roads that link the central and western portions of the island with the main ranch area date from that time. Otherwise little road building has occurred on the island. Ruins of World War II and 1950s military defense warning bases dot the island; when they were operating, they played an important role in the western air defense system. The abandoned military facilities are now a major visual intrusion. The owners were reportedly so relieved to be rid of the military presence that they did not enforce contract provisions for the removal of the facilities upon completion of military operations.

Santa Rosa's ranching operations have been well documented since the 19th century. The main ranch complex at Bechers Bay has been modernized, but it retains its historic integrity and a sense of continuity in the charm of the ranch house complex and the pastoral cattle grazing scene. Present ranch operations reflect historical practices, with Spanish-American vaqueros on horseback serving as the work force, and cattle roundups and shipments off the island still retaining their traditional flavor. Hunting operations for introduced Roosevelt elk, deer, and wild swine are also elements of the historic scene.

SUBMERGED CULTURAL RESOURCES

Numerous prehistoric and historic cultural resources are known to exist in the shallow waters around Santa Rosa and Santa Cruz islands. Recent shipwrecks, including the Winfield Scott and Crown of England, are obvious. Other wrecks, remains of former piers and navigational aids, and aboriginal artifacts such as massive stone bowls have been reported. These resources are currently under state jurisdiction and may be subject

to private salvage under existing state regulations. Regulations relating to national marine sanctuaries, however, prohibit removal of or damage to any historic or archeological resource within the sanctuary boundary.

PARK VISITOR ACCESS AND USE

Channel Islands National Park is used for a variety of activities. Sportsmen on private and commercial boats fish and take invertebrate species within park waters, and commercial fishermen and kelp harvesters also use the park waters. Because no commercial activities are allowed on NPS-managed islands, almost all visitors come for recreational opportunities. Island visitors generally hike and picnic, and they are interested in photography and nature study.

There are three major groups of park visitors: those who visit only the mainland visitor center; those who reach one or more islands or the surrounding waters by private or charter boats; and those who visit the islands on scheduled public transportation. Charter boats from Ventura and other ports can be used to reach any of the park-managed islands, but service can be costly because of the distances involved. Sailing vessels, powerboats, and tour boats are also used for access. In summer regularly scheduled tours to Anacapa and Santa Barbara islands are offered by the park concessioner, the Island Packers Company. Anacapa visitors arrive mostly by tour boat, and Santa Barbara and San Miguel visitors mostly by private boat. Educational cruises (including overnight trips) around the islands are limited but are increasing in number. Many visitors sail the island waters, fish and dive, and may make brief visits ashore.

It is not known how many visitors use the anchorages around Santa Cruz and Santa Rosa islands. Both islands' owners issue landing permits to the public, but numbers are not available. The Santa Cruz Island Club operates two camps in cooperation with the Santa Cruz Island Company. The club has been in operation since 1966, but it has only recently opened the private hunting camps to general visitation. In winter 1982, 1,000 people visited the island to hunt feral sheep and swine during their four-day stays. In summer 1982 the club hosted 160 general guests at the Christy ranch (no hunting is allowed during the summer). In 1983 the camp at Prisoners Harbor was scheduled to be open to general visitation. A limited four-wheel-drive tour of the interior of Santa Cruz is available to overnight users, and hunters are transported by four-wheel-drive vehicles on both islands. Visitors get to the hunting camps on the west end of Santa Cruz and to Santa Rosa by aircraft and to the camp at Prisoners Harbor by boat. In 1982 approximately 1,300 persons took day-long boat trips sponsored by The Nature Conservancy to Pelican Bay.

The Island Packers Company is the major transportation source to park islands. The company carries many of the Santa Cruz Island Club guests and most of The Nature Conservancy guests. The most frequently offered trip, however, is to Anacapa, which is scheduled almost every summer day, and at least on weekends throughout the rest of the year. The trips last all day and give visitors two to three hours to explore the island. East Anacapa is the destination on days of high tides, but trips on days of low tides are to Frenchy's Cove, where tide pools can be explored. In the summer the company offers weekly trips to Santa Barbara and occasional trips to San Miguel.

Park staff are generally transported to Anacapa and Santa Barbara by NPS boat, but a helicopter is sometimes used for large loads or when sea conditions prohibit boat use. Fixed-wing aircraft carry personnel and heavy loads to San Miguel, where two primitive grass airstrips are used, although an NPS boat is used when possible. Periodic transportation assistance from the U.S. Navy is extremely helpful. Access by air is currently not available to the general public. Organized groups of disabled persons may request permission to visit the islands by helicopter, but once on the islands access to most areas is still limited.

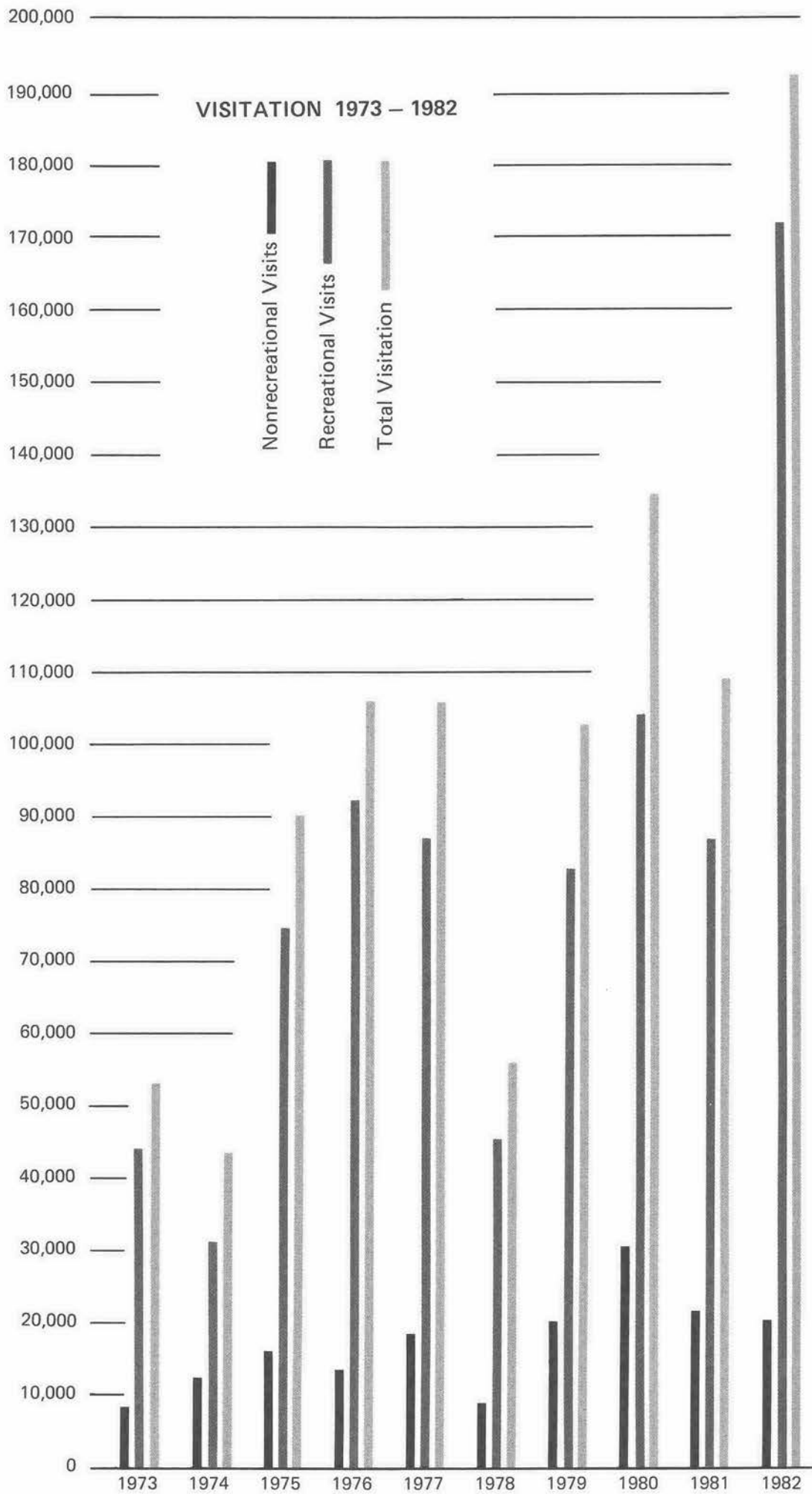
Over 175,000 people annually are estimated to visit Anacapa, Santa Barbara, and San Miguel, but accurate counts are difficult to obtain because the majority come in private boats. If NPS capacity levels were increased, transportation services expanded, and docking facilities improved, a significant increase in visitor use on Anacapa would probably result. Most recorded visitation is to Anacapa and Santa Barbara; San Miguel has been open to visitors only since summer 1978, and visitation is limited by its distance from the mainland, unpredictable weather, and restrictions set by the U.S. Navy and the National Park Service. Before 1978, visitation to San Miguel was permitted only for research purposes and was limited by a U.S. Navy permit system. Currently, visitors cannot remain on San Miguel overnight, and they must obtain an NPS permit and be accompanied by a ranger when on the island. Landing is permitted only at Cuyler Harbor.

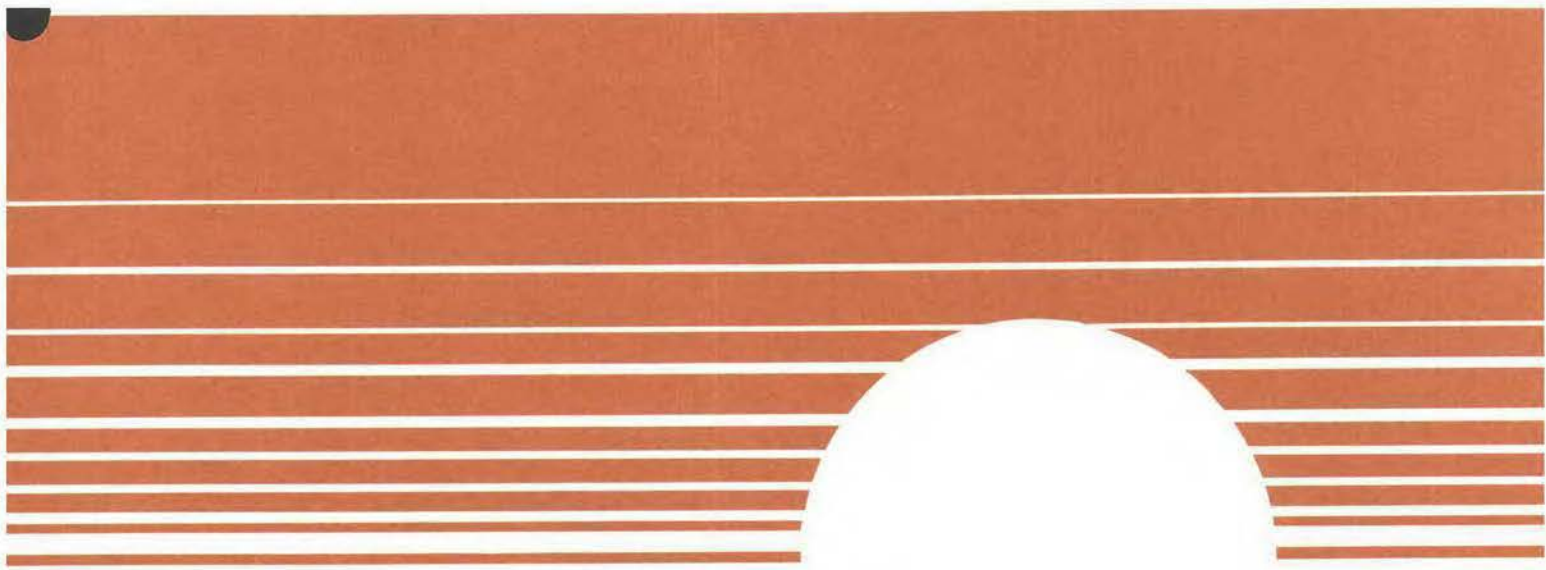
Most visitors to the NPS-managed islands stay less than 12 hours, although some of the pleasure boaters who anchor overnight in coves and harbors around the islands do come ashore. Camping is permitted on Anacapa and Santa Barbara, and campers tend to remain two to three days. In 1982 there were 1,431 campers on Anacapa and 486 on Santa Barbara. Visitors on Nature Conservancy trips to Pelican Bay spend about four hours ashore.

Approximately 75 percent of all visitors to the islands are adults, 20 percent are young adults, and 5 percent are children. Ninety-five percent of the visitors to Santa Barbara Island and 81 percent of those to Anacapa Island are California residents. As might be expected, most boats come from marinas in the Channel Islands area, with one-third from Oxnard, one-third from Ventura, one-eighth from Los Angeles, one-eighth from Santa Barbara, and the remainder from other West Coast areas. Visits are predominantly for recreation.

A study of visitors to the mainland headquarters indicates that approximately 75 percent of the visitors are from California, 31 percent from other states, and 4 percent from other countries. Ninety-five percent of the visits are for recreation in the Ventura area and do not necessarily include the Channel Islands as a destination. Visitation to the new national park headquarters, which includes a theater and exhibits, has increased significantly since it was opened in early 1982, but it is too soon to know if this trend will continue. The percentage of young adults and children visiting the new headquarters will probably increase as the programs, particularly those for school groups, become better known. However, it is estimated that less than 20 percent of those visiting the headquarters will actually get to the islands now under NPS management.

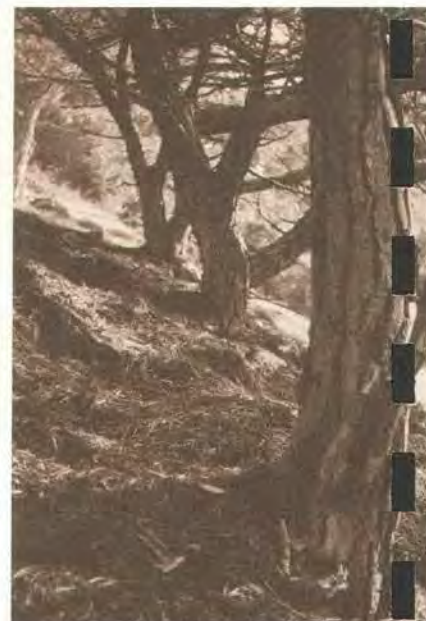
Visitation trends are difficult to predict. Although visitors have been recorded from every state and many foreign countries, the majority of visitors are from the greater Los Angeles area. As the "new" park becomes better known nationally and public use is permitted on Santa Rosa and east Santa Cruz, national and international visitation may increase significantly. Visits by people traveling from distant areas are probably limited by the low capacity of the islands now open to public use, the fairly high transportation costs, and the unpredictable weather (which causes cancellation of scheduled and charter trips). Generally, more people want to visit the islands than can be accommodated, and many are turned away because they cannot wait until space is available. Improved transportation services and increased capacities would permit more individuals to reach the islands. If transportation costs could be reduced, there would probably be a significant increase in demand for trips to the islands. The visitation graph shows use trends over the past 10 years.





alternatives considered

Several alternatives for the management of resources and the provision of visitor services and facilities were evaluated while the Land Protection Plan and the proposed plan set forth in this document were being prepared. The major alternatives were a no-action alternative, a day use only alternative, and an alternative to provide for expanded visitor



services and facilities. Several site-specific alternatives for developments on east Santa Cruz and Santa Rosa were also considered. These alternatives, and the reasons they were dropped from further consideration, are described below so that the reader will have a better understanding of how the proposed plan was finally selected.



NO-ACTION ALTERNATIVE

A general no-action alternative was considered that would essentially postpone the development of a comprehensive plan for the management of Santa Cruz and Santa Rosa islands until the lands had been acquired by the National Park Service. If the current landowners so requested, the Park Service would enter into cooperative agreements to help them resolve management and law enforcement problems. When sufficient interests in the islands had been acquired to permit further site-specific studies and general research, a new planning effort would be initiated. Anacapa, Santa Barbara, and San Miguel islands would continue to be managed as described in the 1980 General Management Plan.

RESOURCE MANAGEMENT

Under the no-action alternative, ranching would be allowed to continue on east Santa Cruz and Santa Rosa islands. This is not considered a viable alternative because of the threatened status of many plant species. If the islands' resources are to be protected for future generations, as required by law, then the adverse impacts of current ranching activities must be eliminated.

Exotic animals would be allowed to remain on both islands. Those animals considered to be the private property of the owners could be removed when ranching was discontinued. This alternative would not allow natural conditions to be restored in the near future.

No active program would be undertaken to eliminate exotic vegetation, but changes in vegetation would be monitored. This would not meet management objectives for the restoration of natural biotic associations.

Other than routine maintenance of existing flood channels on east Santa Cruz, no effort would be made to reduce hazards or to improve the visual quality. Property would not be adequately protected, and the Scorpion Valley area would continue to be aesthetically unattractive.

With regard to marine resources, NPS monitoring efforts would be continued, but no cooperative management and law enforcement efforts would be undertaken around Santa Cruz and Santa Rosa islands. Marine resource management would continue to be primarily the responsibilities of the state and the National Oceanic and Atmospheric Administration through its Sanctuaries Program Office. This would permit the Park Service to concentrate management efforts in areas where they have full jurisdiction, but it would violate the intent of PL 96-199, which stipulates that the Park Service shall participate in the cooperative management of all park resources.

VISITOR FACILITIES AND SERVICES

No facilities or services for visitors would be planned or developed until all private lands had been acquired and comprehensive inventories of

natural and cultural resources had been completed. This alternative would not fulfill the requirements of the park's establishing legislation, which do allow for limited entries and low-intensity use. Also a decision to postpone planning would be counter to the legislative direction that a parkwide general management plan be prepared.

ALTERNATIVES FOR RESOURCE MANAGEMENT

Alternatives for the overall management of natural and cultural resources will be further considered when a full resource management program is developed, based on the results of extensive research. The alternatives described below relate only to ranching, exotic vegetation and animals, flood management (on east Santa Cruz), and marine resources.

CONTINUED RANCHING

Besides an alternative to allow existing ranching operations to continue (no action), three alternatives to retain some aspects of ranching were explored in the Land Protection Plan, along with several possible variations to protect park resources. They were rejected because they either would not meet the intent of PL 96-199 or they would not accomplish long-term management objectives. The alternatives that were considered are listed below:

Ranching with some restrictions would be continued on Santa Rosa; all ranching on east Santa Cruz would be phased out, and the land would be acquired for public use. Conservation easements would be acquired on Santa Rosa to permit resource management programs to be implemented in selected areas. Visitor use would be at the discretion of the owners.

Ranching would be reduced on Santa Rosa to the minimum economically feasible level. Under this alternative a portion of Santa Rosa would be acquired by the National Park Service in fee, and conservation easements would be acquired on the remainder of the island so that resource management programs could be implemented. Visitor use would be permitted on NPS-owned lands.

Ranching on Santa Rosa would be reduced to a demonstration level for interpretive purposes. All of Santa Rosa would be acquired by the National Park Service. Ranching would be continued on a portion of the island to demonstrate early California ranching techniques and to serve as a living history program. Private or institutional funding would be sought to operate the ranch and educational program.

EXOTIC ANIMAL MANAGEMENT

Three alternatives besides a no-action alternative were considered for the management of exotic animals on Santa Rosa and east Santa Cruz. They were rejected because they would not accomplish resource management objectives. Although some would provide an expanded interpretive opportunity, that action would be at the expense of restoring natural biotic associations. The alternatives are listed below:

A large number of cattle would be retained so that a portion of Santa Rosa Island remained an operating cattle ranch. The operation would be used to interpret the island's ranching history.

A reduced herd of elk and deer would be kept on Santa Rosa, and if feasible, they would be isolated in certain areas. Although they are not native to the island, the elk and deer would be managed and interpreted as a part of the historical scene.

All exotic animals would be removed from both islands. This alternative differs from the proposed plan in that no domestic livestock would be retained for interpretive purposes.

EXOTIC VEGETATION MANAGEMENT

One alternative, besides the no-action alternative, was considered for the management of exotic vegetation--remove all exotic species to the extent feasible. Exotic vegetation immediately adjacent to historic structures would be retained if it was important to the setting. This alternative would preclude the preservation of historic landscapes related to ranching activities. Although this alternative would be viable, the retention of small areas for the preservation of the islands' unique lifestyle is considered essential for an effective interpretive program.

FLOOD MANAGEMENT--EAST SANTA CRUZ

One alternative to control flooding on east Santa Cruz would be to construct a permanent flood channel in Scorpion Valley at the ocean outlet. A tidal gate would be built to prevent ocean waters from entering the valley during excessively high tides and to allow flood waters to drain from the valley during low tides, possibly eliminating the need to periodically open a channel through the beach berm. Analysis has indicated, however, that the tidal gate would most likely become plugged with debris and would not be a permanent solution to the problem.

ALTERNATIVES FOR VISITOR FACILITIES AND SERVICES

DAY USE ONLY ALTERNATIVE

An alternative to allow only day use on the park islands was considered. This would be feasible for east Santa Cruz and Anacapa, which are comparatively near the mainland. In fact, under the proposal, Anacapa Island will essentially be managed for day use. However, allowing only day use on Santa Barbara, Santa Rosa, and San Miguel islands would make it extremely difficult for visitors to get to these remote islands and to be able to thoroughly explore and appreciate them. San Miguel is now managed only for day use, but visitors have little opportunity to leisurely explore its diverse resources.

EXPANDED VISITOR FACILITIES AND SERVICES

Under this alternative the proposals in the plan would be implemented, and the visitor use patterns and associated impacts would be monitored. After essential resource studies and a resource management plan had been completed, visitor services and facilities would be expanded if there was a demand and if such a program could be accomplished without significant environmental consequences. These would be long-range actions implemented three to 10 years after east Santa Cruz and Santa Rosa were opened for visitor use.

This alternative would make the two islands accessible to a wider range of visitors, including the elderly, disabled, and very young. Transportation service to the islands would be expanded, limited on-island transportation would be provided, and primitive but comfortable overnight lodging facilities would be made available. Interpretive programs would be enhanced, with more emphasis on guided tours, hikes, and marine resource interpretation.

This alternative was basically rejected because it appears to violate the congressional intent that the park be managed on a low-intensity use, limited-entry basis.

East Santa Cruz

To help less hardy and disabled persons to experience the qualities of east Santa Cruz, this alternative would retain the existing ranch road between Scorpion Valley and Smugglers Cove, and the National Park Service or a concessioner would provide a four-wheel-drive interpretive tour. As part of this service, a trip to Smugglers Cove or transportation to a starting point for a ranger-guided or self-guided walk back to Scorpion Valley could be provided. An initial limit of 30 passengers would be imposed until impacts could be monitored. Another option would be for visitors to rent horses for a guided trail ride on separate horse trails on the northern part of the property. Interpretive boat trips from Scorpion Anchorage, with opportunities for underwater viewing, snorkeling, and exploration of tide pools and sea caves could also be provided.



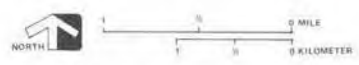
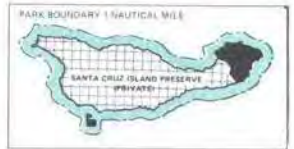
- NATURAL ZONE**
- OUTSTANDING NATURAL FEATURE
 - NATURAL ENVIRONMENT
 - PROTECTED NATURAL AREA
 - ECOLOGICAL RESERVE (TO 1 NAUTICAL MILE OFFSHORE)
- HISTORIC ZONE (ENTIRE ISLAND)**
- PRESERVATION/ADAPTIVE USE
 - ⊛ HISTORIC SITE - STATUS UNDETERMINED
- DEVELOPMENT ZONE***
- ▲ POTENTIAL CAMPGROUND - SUBJECT TO FURTHER SITE-SPECIFIC STUDIES
 - ⚙️ TRANSPORTATION - FOUR WHEEL DRIVE TRAILS (ADMINISTRATIVE USE)
 - ⊙ MANAGEMENT/VISITOR USE FACILITIES
 - ✈️ AIRSTRIP (ADMINISTRATIVE USE)
- SPECIAL USE ZONE**
- ⚓ U.S. COAST GUARD
 - ▤ PRIVATE LANDS

*EXISTING STRUCTURES TO BE USED WHERE FEASIBLE FOR MANAGEMENT AND VISITOR FACILITIES. EXISTING AIRSTRIPS TO BE MAINTAINED.

- SCORPION ANCHORAGE**
- DOCK (FLOATING LANDING IF FEASIBLE)
 - PICNIC AREA/RESTROOMS
 - RANGER STATION/INTERPRETIVE CENTER
 - EMPLOYEE QUARTERS
 - MAINTENANCE FACILITIES
 - CORRAL
 - MARINE INTERPRETIVE BOAT TRIPS
- SCORPION VALLEY**
- CAMPGROUND/RESTROOMS/EVENING PROGRAM AREA
 - SELF-GUIDING INTERPRETIVE TRAIL
- SMUGGLERS COVE**
- RANGER STATION/RANCHING INTERPRETIVE CENTER IN HISTORIC STRUCTURE
 - PICNIC AREA/RESTROOMS (MAY BE USED AS A SMALL CAMPGROUND UNDER PHASED ACQUISITION)

- BACKCOUNTRY**
- ESTABLISHED TRAIL SYSTEM - STAY-ON-TRAIL POLICY IN SENSITIVE AREAS
 - ESTABLISHED CAMPSITES - LOCATIONS SUBJECT TO FURTHER STUDY, POSSIBLE ADIRONDACK-TYPE SHELTERS IF TENT CAMPING IMPACTS TEND TO SPREAD
 - AIRSTRIP - ADMINISTRATIVE AND EMERGENCY USE ONLY
 - SENSITIVE AREA CLOSURE ZONES (MAY BE SEASONAL)
- FUTURE USE - SUBJECT TO FURTHER MONITORING AND IMPACT EVALUATION**

- CAMPGROUND EXPANSION AND/OR BED-BOARD TENT-CAMP AT SCORPION VALLEY
- FOUR WHEEL-DRIVE TRANSPORTATION BETWEEN SCORPION VALLEY AND SMUGGLERS
- HORSE RENTAL (GUIDED RIDES)
- SEPARATE HORSE TRAILS (POTATO HARBOR TO CAVERN POINT AREA) IF HORSE USE PERMITTED



TSR 20040A
DSC MAR 04

MANAGEMENT ZONING / GENERAL DEVELOPMENT ALTERNATIVE

EAST SANTA CRUZ ISLAND

CHANNEL ISLANDS NATIONAL PARK
UNITED STATES DEPARTMENT OF THE INTERIOR / NATIONAL PARK SERVICE

ON MICROFILM

The possibility of providing lodging facilities in response to comments made during public workshops and in letters would be studied under this alternative. The actual demand is unknown, but it would be further evaluated during the initial visitor use phase. A concession-operated tent-cabin facility providing simple bed-and-board accommodations could be developed in the upper valley. Ten to 15 cabins with a capacity of four to six persons each could be provided, along with a central dining tent, restroom facilities, and employee quarters. Two options would be considered: one, to permit the development of tent-cabins in addition to the campgrounds; two, to provide tent-cabins in lieu of an equal number of campsites and to allow visitors to rent the tents without taking the meal services. The possibility of a concessioner providing basic camper supplies and equipment rental would also be considered. An economic feasibility study would be required to determine if these services constituted a viable concessions operation that would be affordable to the public. Because of the potentially lengthy land acquisition process and the need to complete resource inventories, a thorough analysis of concession services would be deferred until the initial impacts of visitor use had been assessed.

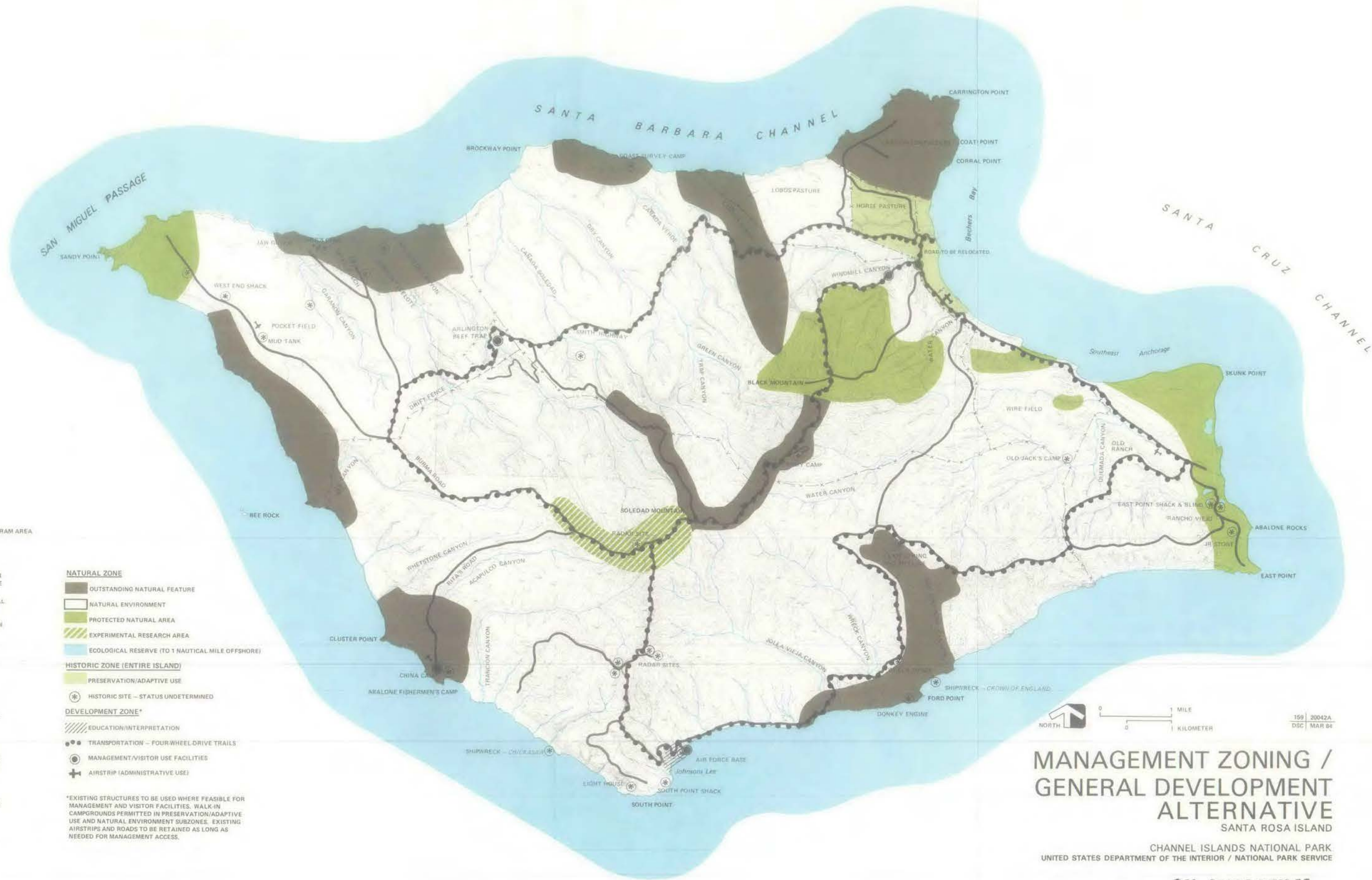
Santa Rosa

Although Santa Rosa is perhaps the most ideal of all the Channel Islands for backpacking because of its size and topography, these factors also make it very difficult for less hardy visitors to enjoy the island. Existing ranch roads make almost any part of the island accessible by four-wheel-drive vehicle (although many areas are impassable in wet weather). The main loop roads (about 50 miles total) are periodically graded, and some of the wet weather problems could be eliminated through properly engineered improvements. An additional 100 miles of jeep trails may exist on the island, but many are difficult to locate in the grasslands.

The National Park Service or possibly a concessioner would operate four-wheel-drive interpretive tours along the major loop road system under this alternative. Some road improvements would be required for safety and to reduce long-term maintenance costs, but the road system would remain very primitive. All other roads would be obliterated or permitted to return to natural conditions when no longer needed for active resource management access.

The on-island transportation service would permit a variety of experiences that would not otherwise be available to many visitors. In addition to interpretive tours, a drop-off and pickup service could be offered for backpackers and day hikers; the latter could be left off at trailheads and could hike back to camp. Trips could also be made to special areas for ranger-guided walks.

Rental of horses for public use would be further evaluated under this alternative, from both economic and safety viewpoints. Guided trail rides might be more feasible than allowing individuals to ride on their own.



- BECHERS BAY**
- MAIN RANCH – Historic Ranching Scene
 - DOCK AND AIRSTRIP
 - VISITOR CONTACT STATION
 - EMPLOYEE QUARTERS
 - MAINTENANCE FACILITIES
 - CORRAL/PASTURE
- WINDMILL CANYON**
- CAMPGROUND/RESTROOMS/EVENING PROGRAM AREA
 - SELF-GUIDING INTERPRETIVE TRAIL
- JOHNSONS LEE**
- RANGER STATION
- FOLLOWING PROPOSALS SUBJECT TO FURTHER EVALUATION AFTER ACQUISITION OF PRIVATE PROPERTY
- RESEARCH FIELD STATION/ENVIRONMENTAL EDUCATION CENTER
 - DOCK RENOVATION OR REPLACEMENT
 - CAMPGROUND OR HOSTEL (IN CONJUNCTION WITH EDUCATION CENTER)
- CHINA CAMP**
- HISTORIC STRUCTURES AND SETTING
 - RANGER PATROL CABIN, WITH POSSIBLE PUBLIC USE
- BACKCOUNTRY**
- TRAIL SYSTEM
 - PRIMITIVE CAMPSITES
 - DEFINED SENSITIVE AREA CLOSURE ZONES (MAY BE SEASONAL)
 - EXCESS ROADS OBLITERATED
- FUTURE USE – SUBJECT TO FURTHER MONITORING AND IMPACT EVALUATION**
- FOUR-WHEEL DRIVE TRANSPORTATION ON TWO LOOP ROADS, HIKER DROP-OFF AND PICKUP, INTERPRETIVE TOURS
 - HORSE RENTAL
 - BED AND BOARD TENT-CAMP IN ARLINGTON CANYON
 - DESIGNATED CAMPSITES AND TRAIL SYSTEM IF NEEDED FOR RESOURCE PRESERVATION
 - SEASONAL RANGER STATION ON WEST END

- NATURAL ZONE**
- OUTSTANDING NATURAL FEATURE
 - NATURAL ENVIRONMENT
 - PROTECTED NATURAL AREA
 - EXPERIMENTAL RESEARCH AREA
 - ECOLOGICAL RESERVE (TO 1 NAUTICAL MILE OFFSHORE)
- HISTORIC ZONE (ENTIRE ISLAND)**
- PRESERVATION/ADAPTIVE USE
 - HISTORIC SITE – STATUS UNDETERMINED
- DEVELOPMENT ZONE***
- EDUCATION/INTERPRETATION
 - TRANSPORTATION – FOUR-WHEEL-DRIVE TRAILS
 - MANAGEMENT/VISITOR USE FACILITIES
 - AIRSTRIP (ADMINISTRATIVE USE)

*EXISTING STRUCTURES TO BE USED WHERE FEASIBLE FOR MANAGEMENT AND VISITOR FACILITIES. WALK-IN CAMPGROUNDS PERMITTED IN PRESERVATION/ADAPTIVE USE AND NATURAL ENVIRONMENT SUBZONES. EXISTING AIRSTRIPS AND ROADS TO BE RETAINED AS LONG AS NEEDED FOR MANAGEMENT ACCESS.

NORTH

0 1 MILE
0 1 KILOMETER

159 | 20042A
DSC | MAR 84

MANAGEMENT ZONING / GENERAL DEVELOPMENT ALTERNATIVE

SANTA ROSA ISLAND

CHANNEL ISLANDS NATIONAL PARK
UNITED STATES DEPARTMENT OF THE INTERIOR / NATIONAL PARK SERVICE

ON MICROFILM

If there was sufficient demand, the Windmill Canyon campground could be expanded to a maximum of 35 sites. The additional campsites would be developed in 10-15 site clusters to permit some privacy and rotation of use. All sites would be served by a single comfort station.

In addition to an overnight lodging alternative for the main ranch area (using the ranch house or another structure), a backcountry tent-cabin camp could be built in the Arlington Canyon area. This camp would be accessible from the loop road, and it would provide basic bed-and-board similar to the high Sierra camps in Yosemite. (A similar lodging service would be provided at Johnsons Lee.) This part of the island is quite different from the other visitor activity centers. The canyons and plateaus are gentler, and visitors could hike to the shoreline, areas of geological interest, and perhaps areas of attractive native vegetation. Facilities could include up to 10 tent-cabins, a central dining tent, restrooms, and employee quarters. Accommodations for up to 40 additional visitors could be provided.

Under this alternative visitors could perhaps spend a minimum of six nights on the island, staying two nights each at the main ranch, Arlington Canyon, and Johnsons Lee, thus being able to experience the unique resources of each area. Unencumbered by heavy packs, visitors could hike between these lodging camps; transportation would be available for the less hardy.

Visitor services to be provided by a concessioner would need further evaluation to determine if they constituted an economically viable package for concessioners and would be affordable for visitors. This study would have to wait until the private lands were acquired.

SITE-SPECIFIC DEVELOPMENT AND MANAGEMENT ALTERNATIVES

Besides the general alternatives described above, site-specific alternatives were also considered. Most of these alternatives were evaluated during the preparation of the Land Protection Plan. Some were rejected because they could be perceived as violating the intent to manage the islands on a limited-entry, low-intensity use basis. Implementing some of these alternatives would make it difficult to try to restore the islands to near natural conditions.

East Santa Cruz Island

Scorpion Anchorage and Valley. Three development and management alternatives were considered:

Remove the pier at Scorpion Anchorage completely (all landings would be by skiff); maintain the same capacities as the proposal.

Permit regular flights to the Smugglers airstrip, and provide transportation to Scorpion Valley (2.9 miles) and the proposed campground (3.7 miles).

Develop a rustic lodge, with dining facilities, lounge, gift shop, and 40-50 rooms, in Scorpion Valley between the ranch complex and the proposed campground site.

Smugglers Cove. The following alternatives were evaluated for Smugglers Cove:

Construct a pier beyond the surf line to permit safer access.

Permit beach camping.

Develop a small, temporary campground (5 sites) in the Smugglers Valley area, which would be removed upon development of the campground in Scorpion Valley.

Backcountry. One alternative was considered: to permit low-impact camping at random sites on east Santa Cruz rather than at specific developed sites. Initially use would be limited to 15-20 backcountry permits; later the backcountry would be zoned, with a specific number of permits for each zone.

Santa Rosa Island

One alternative would be to acquire only part of Santa Rosa, leaving the major portion in private ownership under a conservation easement for continued ranching. (This alternative was given careful consideration and is discussed in detail in the Land Protection Plan.)

A second alternative would maintain a significant portion of Santa Rosa as an active cattle ranch. The current owners or a future lessee would continue to operate the ranch as a commercial enterprise and as a demonstration of a style of ranching that may no longer exist on the mainland. The National Park Service would interpret ranching activities. School groups or other organized groups might be permitted to live on the ranch and possibly participate in ranch operations.

Under a third alternative no visitor facilities or services would be provided on Santa Rosa. All but the main ranch area would be permitted to return to as near natural conditions as possible. Structures at Johnsons Lee would be obliterated, and other structures, unless of significant historic value, would be removed. To the extent feasible, roads would be obliterated. Access would be by charter or private boat, with landings permitted only at the main ranch pier. The airstrip near the ranch would be retained for emergency use. The main ranch area would be preserved as a historic scene, and the facilities would be used by NPS personnel, as described in the proposal. The remainder of the island would be managed as backcountry, essentially as in the proposal except that no designated campsites, toilet facilities, or water supplies would be developed. Backcountry camping would be prohibited within view of the main ranch preservation area.

A fourth alternative would be to develop an educational complex at the main ranch to serve both as a research field station and a living-history

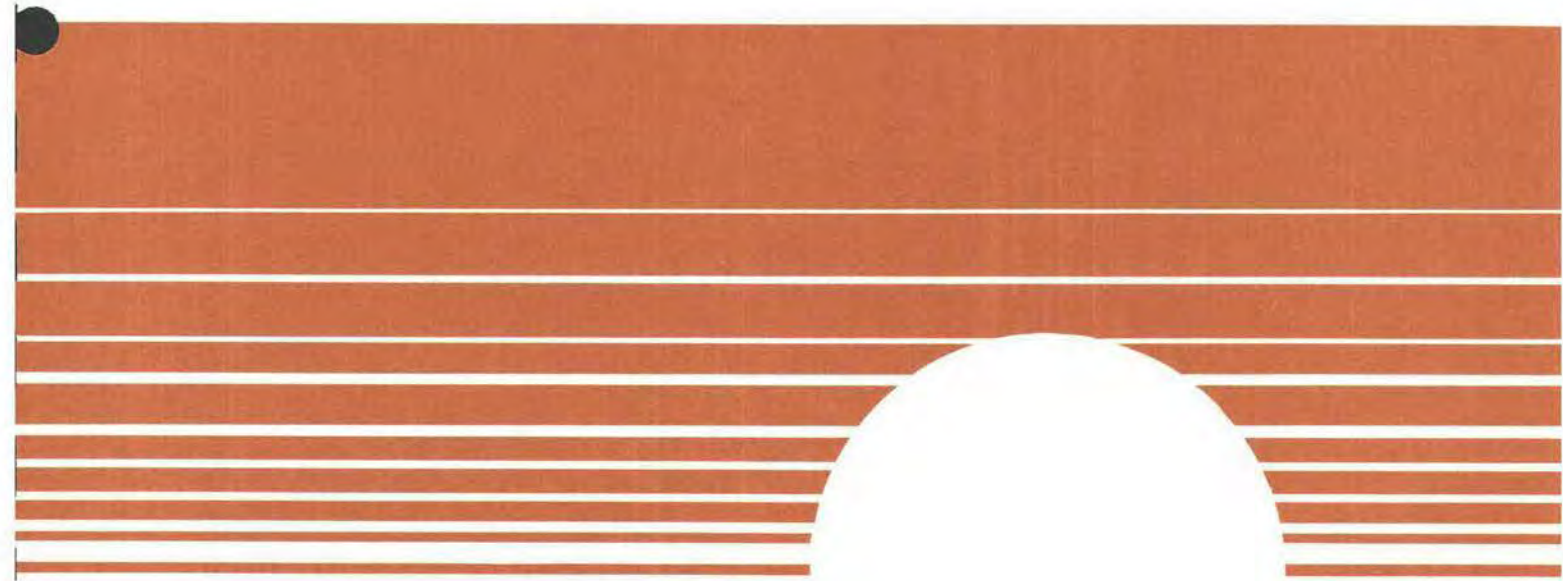
classroom. This would be in lieu of the proposals for similar facilities at Johnsons Lee and could also be tied to the alternative to maintain a significant portion of Santa Rosa as an active cattle ranch.

Finally, the development of an airstrip at Johnsons Lee to provide public and management access was considered. There are no existing airstrips in the Johnsons Lee area, although reportedly aircraft used to land on a very short strip near the base. Providing an airstrip would improve public and management access, particularly if Johnsons Lee was the only public access point during a period of phased acquisition.

Anacapa Island

One alternative considered for Anacapa was to permit camping (other than by authorized research personnel) on East Anacapa only during April and May and only by organized groups for educational purposes. A small campground would be developed in the general area of the visitor center.

A second alternative was to reduce tour boat landings on East Anacapa from 75 to 50 persons at one time. This was rejected because current capacities are thought to be in the acceptable range.



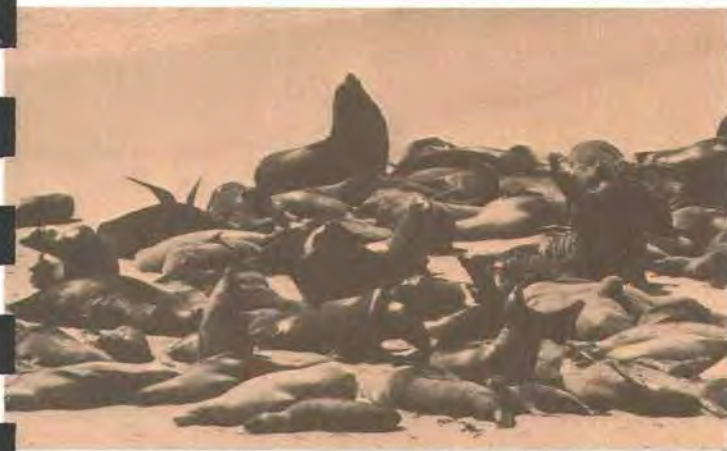
environmental consequences

OVERVIEW OF IMPACTS

The proposed plan for the future management of Channel Islands National Park consists of numerous independent actions that would be implemented over a period of several years. Neither the individual actions nor the cumulative effects of these actions appear to have the potential for significant impacts on the human environment. The primary effects would be on Santa Cruz and Santa Rosa islands and would come from a change in use: Low-intensity human use would replace high-intensity grazing. Specific improvement proposals would be subject to further environmental assessment before being implemented.



The proposed actions have been carefully structured so that areas already subjected to fairly intensive use, in some cases for nearly 100 years, would be the focal points of activities. On the 59,058 acres of private lands that are proposed for acquisition by the National Park Service, approximately 13.5 acres in currently developed areas would continue to be used for various management and visitor facilities, and approximately 35 acres would continue to be used for roads and airstrips, compared to over 300 acres now used for these purposes. Approximately 900 acres would be designated for preservation of the landscape so that historic ranching activities could be interpreted for visitors; most development would use existing facilities in these areas.



Slightly over 58,000 acres on Santa Cruz and Santa Rosa would be removed from active ranching, permitting a gradual return to natural biotic associations. Although this land would be affected by the development of a yet undetermined number of backcountry campsites and trails, the effect of limited backcountry use would be significantly less than the impact of over 30,000 feral and domestic animals and the ranching activities associated with their management. Although visitor activities would be more concentrated than the wide-ranging activities of cattle, sheep, swine, elk, and deer, their impacts would be mitigated through the use of trails and the setting of low carrying capacities.

The proposed changes for use on San Miguel would be minimal; up to 30 persons would be permitted to camp on the approximately 9,000-acre island, and access restrictions would be eased. These changes were carefully considered following nearly a decade of management in which access and visitor use was severely limited. The island has recovered significantly from the earlier impacts of grazing and military operations. Although increased use would be permitted under the proposal, the levels of use, according to natural scientists, would be far below the recreational carrying capacity of the island.

Visitation to the entire park would probably increase gradually; the distances to the islands and the high cost of transportation would continue to be limiting factors. This gradual increase would allow the effects of visitor use to be monitored and the capacities to be adjusted to acceptable levels if required. Most visitor use could be regulated but not constantly monitored. Private boaters would present the greatest management challenge because the islands can be approached from all directions, and more boaters would undoubtedly be attracted to the islands once they were publicly owned. It is difficult to contact boaters before they arrive or to monitor their activities within the park, and there could be adverse effects on marine and shore area resources. Park personnel on the islands would enforce the regulations; however, the National Park Service would have to rely on an educated boating public to respect necessary restrictions and regulations.

Even though some areas of the park would receive fairly concentrated use, the overall effect of the proposed plan would be to reduce development below existing levels and to provide for low-intensity use, well below the potential recreational carrying capacity of the park.

The major impacts of the proposed plan in comparison to those of the alternatives are summarized in table 1.

Table 1: Summary of Major Impacts

	<u>Natural Resources</u>	<u>Cultural Resources</u>	<u>Socioeconomic Environment</u>	<u>Park Management</u>
Proposed Plan	<p>Conversion from ranching to public use would permit a gradual return of natural biotic associations. Removal of most exotic animals would allow programs to be implemented to correct soil erosion problems and to reduce competition from introduced plant species. Many native plant and animal species are now confined to refuge habitats because of grazing pressure.</p> <p>Impacts on vegetation and soils from visitor use would be concentrated in certain areas, compared to the widespread impacts of grazing. These impacts would be mitigated by a low-intensity use policy, careful design of trail systems and facilities, and management policies such as closures to protect sensitive habitats.</p> <p>On-island water quality would be improved with the elimination of grazing animals, which are the major source of surface water contamination.</p> <p>Cooperative management programs (particularly in areas where the National Park Service lacks jurisdiction) would help maintain species diversity and healthy populations. Educational programs would foster public understanding of management efforts.</p> <p>Minimal visitor use and management facilities would have limited, localized impacts. For the most part, existing facilities and disturbed areas would be used.</p>	<p>Historic structures and sites would receive a higher level of preservation than under current private ownership. Adaptive use of existing facilities would ensure the preservation of significant elements in a cost-effective manner.</p> <p>Elimination of grazing would indirectly aid in the preservation of prehistoric sites because many that are now exposed would be concealed by new vegetation. NPS rangers on the islands would help prevent vandalism and unauthorized collecting of cultural artifacts, either on the islands or from surrounding waters.</p>	<p>Loss of ranching income to local communities would be relatively insignificant and would to some extent be offset by park visitor expenditures.</p> <p>Nearly 59,000 acres of private lands would become available for public recreation and enjoyment of diverse natural and cultural resources. Visitors would also have expanded opportunities to visit and explore San Miguel Island.</p> <p>Expanded interpretive programs, particularly for marine resources, would enhance the visitor experience.</p> <p>Transportation costs would remain relatively high, primarily because of limited-entry, low-intensity use policies.</p> <p>The loss of camping opportunities on East Anacapa would partially be offset by new opportunities on three islands not now open to public camping (San Miguel, Santa Cruz, Santa Rosa).</p>	<p>Operational costs would increase a minimum of 40 percent once the proposal was implemented.</p> <p>Development costs, primarily for the health and safety of visitors, would be significant.</p>
No-Action Alternative	<p>Current ranching practices would continue to restrict native plant and animal species to limited ranges, with the possibility that some endemic species could eventually be extirpated. The major continuing effects of browsing and rooting animals would be the elimination of understory providing wildlife habitat, near total elimination of new growth of some major plant species, root exposure and soil loss, and reduction of habitat abundance that would otherwise encourage diversity of bird species.</p> <p>The potential for development of private lands for commercial, residential, or other uses would remain. Without specific proposals, impacts cannot be evaluated, but such development would be contrary to the intent of Congress to preserve the islands in a natural condition.</p>	<p>Deterioration of some historic sites and structures would continue. Those structures essential to ranching operations would be maintained and modified to meet current needs.</p> <p>Vandalism of historic and prehistoric sites, and the unauthorized collection of artifacts, would continue because of trespassing and other current actions.</p>	<p>Public use of the islands would continue to be limited. The economic sector benefiting from ranching would not be affected.</p> <p>Opportunities to visit San Miguel Island and to camp on Anacapa Island would remain unchanged.</p>	<p>Once land acquisition was completed, park management costs would necessarily increase, even if no plan was implemented. The National Park Service would have to patrol the islands and implement resource management programs to halt adverse impacts due to continued rooting, browsing, and grazing by feral animals.</p>
Site-Specific Alternatives	<p>Alternatives to continue various levels of ranching would have impacts similar to those of the no-action alternative, but they would not be as widespread. Efforts to restore natural biotic associations would be hampered to some degree by continued ranching. Full implementation of resource management programs would not be feasible.</p> <p>Alternatives for expanded visitor services and facilities would have minimal impacts on natural resources because existing roads and previously disturbed sites would be used.</p>	<p>Removal of most exotic vegetation would tend to isolate ranching structures and sites from their historic setting, although immediately adjacent species would be maintained.</p>	<p>Under some alternatives there would be increased opportunities for a wider range of visitors to experience the island resources. On-island lodging and transportation would particularly benefit very young, elderly, or disabled visitors.</p> <p>Increased visitor capacities would allow for a more economical transportation system to be developed.</p>	<p>A concession operation would require additional personnel and expenditures for supervision and support services.</p> <p>Programs to remove all or most exotic vegetation would require significant numbers of personnel and equipment.</p> <p>Continued ranching at some levels could require large expenditures to construct and maintain fences. Personnel would also be needed to supervise the terms of conservation easements.</p>

IMPACTS ON NATURAL RESOURCES

PROPOSED PLAN

The most significant impacts on Santa Rosa and east Santa Cruz islands would be related to the removal of approximately 30,000 exotic animals. This would result in beneficial impacts on soils, vegetation, and water quality. Visitor use impacts on natural resources would be minimal because of the proposed low use levels. If the islands were acquired in phases, the proposed plan would also be implemented in phases to coincide with acquisition. In that case, existing impacts as described for the no-action alternative would continue until the National Park Service assumed management responsibilities.

Resource Management Impacts

Restoration of Natural Conditions. Stopping ranching operations and removing 7,000 to 10,000 sheep on east Santa Cruz and 5,000 to 7,500 cattle on Santa Rosa would be a major step toward allowing soils and vegetation on these islands to return to more natural conditions. Past overgrazing has probably expanded the grassland areas, which are now vegetated primarily with exotic grass species that are capable of withstanding heavy grazing pressures. Overgrazing has also resulted in soil deterioration, which has contributed to wind and gully erosion. Once grazing animals were removed, vegetation would stabilize, thus reducing erosion and nutrient runoff in surface waters.

Natural succession would proceed initially at a slow pace. Annual grasslands are at an early successional habitat stage because of continual disturbance. The vegetative composition that existed before grazing animals were introduced would not be reestablished because many species have undoubtedly become extinct. Some isolated areas with presumably original vegetative types would be protected. As natural succession proceeded, it could be determined if more innovative restoration methods would aid the natural processes.

The removal of exotic animals, including 5,000 to 10,000 feral swine, some 3,000 deer, and approximately 1,000 elk, would also benefit revegetation attempts. Rooting activity by feral swine has killed plants and reduced overall plant vigor and reproduction capacity.

Retaining a small number of grazing animals as part of the historic ranching scene would continue to impact a specific site, but allowing at least 15 acres of prime grassland per animal would help prevent overgrazing (Odum 1971). Currently, on Santa Rosa between 4.5 and 6 acres are allowed per animal (including elk and deer). If 15 acres per animal proved to be insufficient, the number of animals would be adjusted to reflect the resource's carrying capacity. Permitting continued grazing for park patrol horses would preclude the need to import feed, which could introduce additional exotic plant species.

The total removal of exotic vegetation would not be feasible because of the widespread predominance of such species, but active removal in some areas would be attempted. The selective harvesting of seed heads would be less disruptive than complete plant removal. Under certain circumstances and environmental conditions, fire as a management tool would be considered for use in small designated areas. With the elimination of ranching and the removal of exotic animals, the competitive advantage of exotic plants over native plants should be reduced.

Marine Resource Management. The regulation of harvesting and the monitoring of species population levels would allow limits to be adjusted to reflect current conditions. Restricting the use of specific sensitive areas would ensure the protection of certain bird and mammal reproduction and haulout locations. This objective would be consistent with state and local coastal zone management plans.

Floodplain Developments. Locating facilities at Smugglers Cove out of the floodplain would have no environmental effects. In Scorpion Valley retaining and improving the channel and the outlet to the ocean would maintain drainage flows, which might otherwise be blocked by sand berms. Several structures located within the floodplain might be adaptively used, but no materials or equipment subject to water damage would be stored in them, thus minimizing losses in the event of flooding. No new structures would be located in the floodplain. Maintaining and improving the drainage system should reduce flood hazards to any existing structures in the floodplain.

Research. Conducting research on the islands would provide invaluable information about native plant and animal species, the location of sensitive habitats, ecological interrelationships, the long-term effects of exotic plant and animal species, and the most appropriate locations for visitor use and necessary facilities. Future resource management programs would be based on research results. The impacts of research activities themselves would be minimal and would be related to the establishment of research camps and the continued use of roads and airstrips.

Visitor Facilities and Services Impacts

The change in ownership of the islands from private to National Park Service would encourage increased public use on the islands and in the adjacent waters. In fact, trespassing is already occurring on Santa Cruz and Santa Rosa because some people are not aware that these islands are still privately owned. Although use on the islands can be fairly well regulated to minimize adverse effects, it is more difficult to supervise the activities of private boaters. Prohibiting landings and anchorings in selected areas, as determined in the resource management plan, would help protect sensitive resources, but violations could occur. The primary effects would be destruction of marine organisms in fragile intertidal areas, damage from anchors, trampling of shoreline vegetation, and disturbance of wildlife. Patrolling the shorelines of all the islands would undoubtedly remain beyond the combined capabilities of the National Park Service and the California Department of Fish and Game, so some present violations would likely continue. These impacts would be an indirect

effect of the proposals in that public awareness of the national park, and subsequent use would increase once east Santa Cruz and Santa Rosa were acquired and gradually opened to public use.

The general environmental impacts of facility development and use on east Santa Cruz Island would primarily result from day use, while impacts on Santa Rosa would result from longer overnight trips. The limited-access, low-intensity use concepts mandated by Congress would ensure that impacts would be minimal. Impacts will be further quantified once basic research information has been collected for the islands and specific development and use sites have been determined.

General Impacts. Access would be primarily by boat, with limited aircraft access permitted on Santa Rosa. Rehabilitation or reconstruction of piers would have minor impacts associated primarily with the installation of support pilings. Each piling would either be driven or drilled into the seabed, disturbing a very small surface area and eliminating sessile plants and animals. The loss of organisms would have an insignificant effect on the total populations in the affected area. Sanctuary regulations generally prohibit construction on the seabed; however, construction is permitted under special circumstances if such activity promotes the educational value or public understanding of the sanctuary, is research-related to the sanctuary, or is needed for salvage and recovery operations. Permits would be required from several agencies, and further impact analysis would be conducted when specific plans had been prepared and permit applications had been submitted.

Periodic use of existing grass airstrips by airplanes would affect vegetation and soils along landing and takeoff paths (0.18 acre at each airstrip). The precise effects would depend on the frequency of use, the resilience of vegetation, and the tolerance of soils. Overall effects would be monitored closely so that adverse impacts could be mitigated (for example, no landings during wet periods). Access by helicopter would temporarily increase noise levels during landings and takeoffs, with the extent of increase depending on the frequency of flights. All flight paths would be restricted, if possible, to avoid marine mammal and bird habitat areas.

With regards to adaptive use of existing structures, rehabilitation activities would not result in significant environmental impacts. Use of existing structures would obviate the need to disturb new areas to provide similar facilities. Any areas disturbed during rehabilitation work would be restored afterwards. Existing water and sewage systems would need additional analyses to determine if they could be used or would have to be replaced; environmental impacts of such work would be assessed at later planning stages.

Maintaining corrals and pastures for ranger patrol horses (three to five horses on east Santa Cruz and 10 on Santa Rosa) and retaining a limited ranching operation for interpretive purposes would result in continued impacts on vegetation and soils. Allowing a 15-acre grazing area for each animal would prevent the severe impacts associated with overgrazing. Currently, approximately 100 horses are pastured on Santa Rosa and perhaps 10 are kept on east Santa Cruz. Impacts would be monitored,

and adjustments would be made in the number of grazing animals, depending on the tolerance of plants to grazing. The general impacts of grazing that would continue include loss of vegetation, restriction of root growth, surface disturbance, and compaction of underlying soils. (Effects of grazing are further discussed under the impacts of the alternatives.)

Facility development for visitor use, interpretation, research, or management would result in the disturbance of surface soil and the removal of vegetation during construction. For each facility, a small area beneath the structure would be removed from biological productivity. Air quality would be decreased slightly during construction because of dust and particulate matter; vehicular emissions and noise associated with construction would also be temporary. Effects on air quality would be of short duration and would not violate current class II air quality standards. These impacts would result from the development of backcountry ranger stations, camping shelters, weather stations, and research camps. Structures associated with resource management programs would be removed at the conclusion of the work, and the covered areas would be restored to natural conditions. Constructing Adirondack-type camping shelters would cover 150 to 300 square feet at each location (compared to 650-700 square feet for a comparable capacity tent campsite), and ranger stations would disturb 1,000 to 2,000 square feet. Each toilet facility would cover approximately 100 square feet. The installation of interpretive wayside exhibits at carefully selected locations would require postholes to be dug for structural supports, resulting in minimal impacts.

The most widespread impacts on natural resources would be caused by visitor use; however, these would be significantly less than the present impacts associated with the grazing of approximately 30,000 animals. The impacts of camping at designated campgrounds would include loss of vegetation at and around individual sites, soil compaction, reduced water infiltration, and increased runoff. Some 55 to 90 percent of the vegetation at designated campsites would be lost, depending on the tolerance level of plant species to trampling. The remaining sparse vegetation would likely have a species composition different from that of the surrounding area.

Camping near trees would cause some damage because of recreational use, but the effects on individual trees would generally be minor, with little reduction in tree vigor. Foot traffic would lead to soil surface disturbances, with broken-up soil and nutrients being washed away by runoff and root systems being exposed. Trampling would compact underlying soils, which would reduce water infiltration rates and increase runoff, thus intensifying erosion hazards. Although impacts on individual trees would be minor, cumulatively the impacts of trampling, seedling elimination, tree damage, erosion, and soil compaction would affect the reproduction of tree species. A modified soil chemistry would also result if visitors left behind items such as excess food and soap, and leaching would be reduced by soil compaction and subsequent slower infiltration rates. (This impact analysis is primarily based on investigations by Cole and Fichtler 1983).

Camping impacts could be mitigated by several management techniques, such as rotating site use, implementing minimal impact camping regulations, and establishing carrying capacities. Adirondack-type shelters would be used only if needed to mitigate tent-camping impacts. One eight-person shelter occupies about 150 square feet plus an equal area for related facilities (such as a table and grill). A campsite for the same number of individuals occupies from 650 to 700 square feet, with a high probability of use gradually expanding onto adjacent areas. In areas of relatively high use and where there is relatively little opportunity to relocate campsites, shelters can be used to confine impacts to a minimal area.

Specific campsites have not been selected and capacities have not been determined, but sensitive resource areas would be avoided. The total acreage affected by camping cannot be determined until resource inventories have been completed and backcountry use capacities established. Providing designated camping sites would minimize the likelihood of campgrounds gradually expanding as campers moved away from previously used sites. Adirondack-type camping shelters would help preserve a wilderness experience in that hikers would not be pitching multicolored tents in various locations. At developed campgrounds, clustering a few campsites at several locations would allow use to be rotated and dispersed over a wide area, thus helping to minimize cumulative effects. The low-intensity use concept provided for under the proposal would further ensure minimal impacts.

Prohibiting open campfires would help prevent accidental wildfires in this fairly dry environment.

Hiking and interpretive trails would follow existing roadways and animal trails where feasible. The impact of the trail systems would be minimal because the paths were previously affected by heavy grazing pressure. The adjacent areas would be left to natural vegetative succession, but the trails would be kept clear of vegetation through use, and the soils would become increasingly compacted. Trails would be susceptible to erosion and would require yearly maintenance. Requiring visitors to stay on trails in sensitive areas would limit impacts of trampled vegetation and soil compaction, although this requirement would be difficult to enforce on the larger islands. Interpretive wayside exhibits along trails would result in some trampled vegetation around the signs if they were located slightly off the trail.

Some of the existing four-wheel-drive roads would be used for management purposes (see Management Zoning maps). This would not result in additional environmental impacts beyond those already present, but periodic maintenance would be needed to repair erosion damage or any failures. Vehicular use would result in slight increases of dust, particulate matter, and vehicular emissions. Revegetation would be precluded along these roadbeds.

Use of picnic areas would result in some trampling of vegetation in and adjacent to the designated sites. Soil compaction would also result in adjacent areas, severely limiting vegetation and increasing susceptibility to soil erosion. Locating picnic tables in previously disturbed areas

would lessen the extent of additional impacts. Less than 1 acre would be affected by developed picnic areas, and most use would occur at Scorpion Anchorage.

If the private lands on east Santa Cruz and Santa Rosa were acquired in phases, impacts of existing uses would probably continue on those parcels remaining in private ownership. The major impacts of phased acquisition would be related to the possible need to develop temporary facilities for visitor use and resource management. Such facilities might be in locations other than those that would be used if all private lands were acquired at once.

Impacts on East Santa Cruz Island. The feasibility of repairing or replacing the pier at Scorpion Anchorage to reestablish a safe access point would have to be determined. Either action would be covered under a U.S. Army Corps of Engineers nationwide permit (Federal Register 47, no. 141, sec. 330.5(3), July 22, 1982); it would also be consistent with the objectives of Santa Barbara County and the California Coastal Commission.

Boat traffic to Scorpion Anchorage could be a limiting factor on successful nesting by brown pelicans on Scorpion Rocks. Although a protective closure zone would be recommended around the rocks, this might not be sufficient to encourage the reestablishment of breeding colonies. Although closure zones have been effective on Anacapa, the breeding site on Scorpion Rocks is not comparable to those on West Anacapa.

Allowing private boats to land at selected beaches would result in minor impacts, primarily vegetation trampling if visitors did not remain on the beach. Soil and plant loss could occur if visitors tried to climb steep bluffs to reach the interior of the islands. Formal trails could be required if these impacts became significant. Prohibiting landings along the shoreline between Scorpion Anchorage and Smugglers Cove would help protect native plant and wildlife communities. Restricting access to other sensitive areas identified during resource inventories would help ensure their protection.

The impacts of using the existing grass airstrip near Smugglers Cove would affect vegetation and soils as previously described. Use would be limited to essential management needs and emergencies.

Providing only one public access point on east Santa Cruz at Scorpion Anchorage would concentrate visitor use in a relatively small area. The steep valley walls would tend to confine visitors to the flat valley floor (approximately 120 acres). Intensive use in this already severely disturbed area would preclude the possibility of restoring natural biotic associations; this would affect less than 0.02 percent of east Santa Cruz. If visitors remained in the valley rather than climbing to the adjacent higher lands, adverse impacts could extend over a major portion of the valley floor. If such use patterns did occur, capacities might have to be lowered to reduce the level of impacts.

The restoration and adaptive use of existing ranch structures at Scorpion Anchorage and Smugglers Cove, once their historic significance had been

determined, would have no significant impacts on the natural environment. Impacts related to water and sewage systems would be addressed during the development concept phase; however, no ocean discharges would be permitted.

If the private property was acquired in phases, the ranch structure at Smugglers Cove would be partially rehabilitated in anticipation of additional purchases, and the area would be restored as feasible. A temporary ranger's quarters at Smugglers Cove would require surface disturbance on approximately 150 square feet.

Retaining small corrals and pastures for ranger patrol horses at both Scorpion Valley (three to four horses) and Smugglers Cove (one horse) would continue grazing impacts. The two corral areas would be approximately 1,000 square feet each; pasture areas, 15 acres per animal or a maximum of 75 acres.

Developing a 30- to 45-site campground in the upper end of Scorpion Valley would affect from 0.5 to 1.0 acre. A few campsites would be clustered at several locations so that use could be rotated, thus dispersing impacts. A general area has been selected, but site-specific analyses would be done during the development concept phase. At that time impacts of toilet facilities and a water system would be assessed.

The number of designated backcountry campsites would be determined later by park resource management personnel. A carrying capacity limit would be established for each campsite to reduce adverse environmental effects. If visitor use was allowed in phases as a result of land acquisition, then initially 500 to 1,000 square feet of land area would be affected by each of the two backcountry campsites.

Impacts on Santa Rosa Island. Maintaining the ranch complex, airstrip, cultivated fields, and pastures at Bechers Bay as a historic ranching scene would preclude active restoration of native vegetation at this site. Approximately 800 acres would be zoned for historic landscape preservation. Use of the existing grass airstrip would be monitored, and mitigating measures such as limiting use to dry seasons or alternating use of parallel strips would be undertaken as necessary. Rehabilitating several ranch structures for administrative and interpretive functions would result in minimal environmental impacts. The impacts of water and sewage systems would be evaluated later, when the condition of existing systems could be determined.

Providing 15 campsites plus a comfort station in Windmill Canyon would directly affect at least 0.25 acre, and a larger area would be affected by associated uses. The specific location has not been selected, and suitable microclimates would have to be found; sensitive resource areas would be avoided. The extent of self-guiding trails that would be designated in the area would be determined at a later planning stage. The trails would be susceptible to erosion, so seasonal maintenance would be required.

The existing pier at Johnsons Lee would be replaced or rehabilitated, depending on its condition at the time of acquisition. Impacts would be minimal, as described for the Scorpion Anchorage pier. The renovation

or rehabilitation of some of the buildings, pending structural evaluations, would result in minimal impacts on soils and vegetation. Impacts of any new utility systems would be assessed during subsequent planning. The size of a campground (if any) in this area has not been determined.

The adaptive use of cabins at China Camp would have minimal impacts. Maintaining a corral for a ranger patrol horse would disturb the soil surface and eliminate vegetation on approximately 1,000 square feet. Grazing impacts would continue on a related pasture area (15 acres). Use would be on an intermittent basis for one- or two-night stays. Cumulative impacts would be minimal and less than current impacts from ranching.

If a seasonal ranger station was needed on the west end of the island, a 1,000- to 2,000-square-foot use area would be affected.

The impacts of providing primitive toilet facilities at designated backcountry campsites would be assessed once the type and locations had been determined. If feasible, water supplies would be developed at selected locations; impacts would be evaluated during development concept planning.

If the owners elected to continue a ranching operation on part of the island, grazing impacts would be continued (see the impacts of the alternatives).

Impacts on Anacapa Island. Eliminating the campground on East Anacapa would allow approximately 0.25 acre of island grassland vegetation to be actively restored at the existing campground. Continuing use at this site has severely affected native plant communities.

Use of the existing bunkhouse for research personnel and organized groups when it was not needed for management personnel would have minimal impacts. Additional impacts would be primarily related to increased water consumption and waste products.

Temporary use of an additional camping area near the visitor center for limited camping would eventually eliminate exotic ice plants in the immediate vicinity and would slightly compact the soils.

The impacts of increased group use at Frenchy's Cove would probably not be significant because groups would be closely supervised. Periodic monitoring would be required to ensure that there were no adverse effects on tide pools and terrestrial resources.

Impacts on San Miguel Island. Providing camping areas, one at Cuyler Harbor/Lester Ranch and one near Dry Lake, would be subject to concurrence from the U.S. Navy. If approved, impacts would be similar to those on the other islands. Overall, limited overnight use would have minimal environmental impacts.

Permitting camping on an experimental basis on the beach at Cuyler Harbor would have potential adverse effects on a sensitive coastal dune plant community. These plants are more susceptible to damage,

trampling, and surface disturbance primarily because beach/dune soils are less stable than terrestrial soils. Similarly, the bluffs above the beach are extremely unstable and are severely affected by persons climbing on them. If visitors obeyed regulations and remained on the beach, impacts would be minimal.

Unsupervised visitor hiking in selected areas could lead to damage (inadvertent or intentional) of sensitive resources from trampling or collecting. This would be mitigated by requiring all visitors to obtain permits and be briefed by qualified personnel. Permission for unsupervised hiking would be at the discretion of the island rangers.

Permitting a limited number of landings at Tyler Bight would cause some soil and vegetation loss because a trail up the steep slopes would result from use. If monitoring indicated the potential for serious impacts, a formal trail would be developed so that impacts would be localized. Wildlife would not be significantly affected by this proposal because landings would not be permitted during critical pinniped haulout and breeding periods, and all visitors to this area would be accompanied by a ranger.

Impacts on Santa Barbara Island. The impacts of dock reconstruction and facility replacement would be analyzed during the comprehensive design phase. The precise environmental impacts would depend on specific design proposals. General impacts of these proposals were addressed in the Environmental Assessment prepared for the 1980 General Management Plan.

ALTERNATIVES

Resource Management Impacts

Continued Grazing. The most significant current impacts on the vegetation and soils of east Santa Cruz and Santa Rosa islands are those caused by cattle and sheep grazing. The environmental concerns associated with grazing, which would continue under a no-action alternative, are described below.

Generally, grasses can tolerate up to 50 percent stem and shoot removal due to grazing; anything beyond this causes the root system to cease growing. Adequate root system development is essential for binding soil particles to prevent wind and water erosion. Removal of over 50 percent of the plant shoots and stems, coupled with surface disturbances by animals, results in the soil being very susceptible to erosion hazards during periods of rainfall or moderate winds (Stonier 1970).

Water erosion leads to gulying, and this can be further aggravated by reduced vegetative cover, restricted root growth, surface disturbance, and compacted underlying soils as a result of grazing. All of these impacts contribute to a high susceptibility to erosion. Severe sheet erosion can be caused by a ground wind of only 11 miles per hour, depending on ground cover, root development, soil type, and the degree of surface disturbance (Stonier 1970). Wind erosion is further intensified if dust and abrasive particles are picked up and carried off, resulting in exposed roots, loss of nutrients, and damaged or covered adjacent vegetation. This sequence occurs on most agricultural land areas, and without protection, a sterile soil substrate can result. (It reportedly takes more than 100 years for the natural replacement of 1 inch of topsoil under ideal circumstances.)

Grazing also modifies the plant species composition within the affected area because of selective feeding, plant species' tolerance to stem and shoot removal, trampling, and changes to the chemical environment. Many tree and shrub species are especially sensitive to such disturbance, and seedlings can be completely eliminated. A major concern is that the native vegetation was not under any grazing pressure before cattle and sheep were brought to the islands, and native plants may be substantially more susceptible to damage and potential elimination due to grazing activities than are exotic grasses.

Chemical changes in the soil are primarily due to vegetation removal and waste products of cattle. An absence of vegetation allows chemical nutrients essential to plant growth to leach out of plant root zones into deeper zones more rapidly than normal, thus impeding regrowth. Cattle wastes result in extremely high concentrations of nutrients in small areas, which can be just as restrictive to plant growth as very low nutrient levels. The quantity of animal waste products on the soil surface also affects water quality. If a high percentage of this material is carried into the drainage system by runoff, water quality is decreased. The percentage of nutrients in the runoff increases with higher runoff, which in turn is affected by soil compaction.

Erosion by wind and water is prevalent on both east Santa Cruz and Santa Rosa islands. The wind erosion adds a substantial amount of dust and particulate matter to the air, a portion of which reaches Los Angeles County and the south coast air basin.

Overgrazing by cattle can be severe, but that by sheep can be disastrous. Cattle generally shear the tops of plants, but sheep actually pull out the plants, including roots. Sheep also create greater surface disturbances than do cattle because of the difference in hooves and because they can traverse steeper slopes.

The other alternatives that would continue ranching at some level would have the following impacts:

The continuation of ranching on Santa Rosa would limit the degree of successful resource protection. Extensive management would be required to exclude exotic grazing, browsing, and rooting animals from selected resource management areas. Phasing out ranching on

east Santa Cruz would allow the eventual restoration of native vegetation.

If the ranching operation on Santa Rosa was reduced to its minimum economically feasible level, the impacts of grazing would continue on part of the island, and resource management programs would be implemented on the lands acquired by the Park Service in fee or easement. It could be difficult to isolate the impacts of grazing, and there would likely be spillover effects from grazed lands, including the spread of exotic plant species, erosion, and contamination of runoff from animal wastes.

Maintaining a demonstration level of ranching for educational purposes would preclude active restoration activities in the pasturing area. Although the size of the ranching operation would be significantly reduced, existing impacts would continue in the grazed area. Reserving 15 acres of prime grazing land per animal would help minimize severe impacts of overgrazing.

Exotic Animal Management. If exotic grazing, browsing, and rooting animals were allowed to remain on both islands under the no-action alternative, the full impacts of grazing would continue. Restoration of native vegetation would be severely restricted, and successful efforts could not be expected to any large degree. All native plant species are of concern because of their possible susceptibility to even light grazing. The island oak, which is of immediate concern due to lack of reproduction, could be eliminated from Santa Rosa. Most of the oaks in the southwest United States are listed as potentially poisonous to cattle (Kingsbury 1960) because of tannins, which function as a protection chemical against herbivores (Goldstein and Swain 1965). It is unknown if the island oaks produce such protective chemicals, but due to the lack of long-term grazing and browsing pressure, it is unlikely.

Maintaining an operating cattle ranch with a large number of cattle on Santa Rosa would preclude revegetation with native species in the pasturing area. To minimize the effects of grazing, 15 acres of prime grazing land per animal would initially be allowed. The continued impact on the pastures would be monitored, and the required acreage per animal would be adjusted in accordance with the carrying capacity of the land.

Reducing the herd of deer and elk on Santa Rosa would benefit plant species used as browse, but the program could be difficult to implement. The habits of these animals would make it hard to isolate them. Because there are no predators of the animals on the islands, an active population control program would be required to maintain the desired population density.

Exotic Vegetation Management. If no active management programs were undertaken to control exotic species, any reduction in such vegetation would depend on the level and extent of grazing and the presence of exotic animals. If present impacts continued, it is possible that several native species would be eliminated because of competition from exotic species and their inability to withstand grazing pressure.

If all exotic vegetation was removed to the extent feasible (the other alternative that was considered), extensive areas would ultimately be restored to a more natural state. The exotic vegetation immediately adjacent to historic structures would be retained, and it would be monitored to ensure that its range did not expand.

Impacts of Flood Management. If no action was taken to manage flooding on east Santa Cruz, current floodplain hazards and impacts would continue.

Construction of a permanent flood channel in the Scorpion Valley drainage system would maintain drainage flows and would reduce hazards from flooding. The actual channelization would require the removal of deposited silt and sediment, which builds up yearly because of high erosion and water flow fluctuations. The precise location and amount of material to be removed would be determined after further analysis. Because of the fluctuating conditions of the drainage system, a minimum of bottom organisms would be affected by this action. In addition, constructing a tidal gate at the ocean outlet would reduce or eliminate the need to periodically open a drainage channel through the beach berm. Although this might eliminate the need to disturb the beach on a seasonal basis, it could have a limited effect on flooding because waters in the valley could only be released at low tides. Further study of the cost-effectiveness and environmental consequences would be needed before such a proposal could be implemented.

Marine Resource Management. If cooperative management and law enforcement programs were not continued for marine resources, these resources could deteriorate over the long term. The state of California and the national marine sanctuary program are not adequately staffed or funded to patrol and enforce marine resource regulations. Without the cooperative management of the National Park Service, marine resource protection might not be adequately accomplished.

Visitor Facilities and Services Impacts

The impacts of the alternative for expanded visitor facilities and services would be similar to the impacts of the proposal. Because more facilities and services would be provided for visitors, however, the impacts on the natural environment would increase proportionately.

General Impacts. Providing on-island vehicular transportation would preclude the restoration of vegetation along the traveled roads, and the roads would require regular maintenance. A slight amount of vehicular emissions and a moderate amount of dust would result. The use of vehicles would be a visual intrusion for backcountry users.

If horseback-riding trails were provided, they would follow existing animal trails or roads wherever possible. As with hiking trails, the paths would be kept clear of vegetation, and the soils would become slightly more compacted. The erosion potential would increase, and horse waste products would enter the drainage system. Corrals and pasture areas for the horses would be large enough to prevent severe impacts; as with the

proposal, 15 acres per animal would be allowed for pasturing. Grazing impacts would be carefully monitored, and adjustments in the area would be made to reflect the carrying capacity of the land.

Expanded interpretive programs, including marine boat trips, would have limited environmental consequences. Pollution due to petroleum spillage from boats would be possible. This potential would be insignificant when compared to the hazards associated with a spillage from offshore drilling and pumping operations outside park waters.

Impacts on East Santa Cruz Island. Providing regular vehicular transportation for visitors from Scorpion Valley to Smugglers Cove would preclude the restoration of vegetation along the road. This impact would be greater than under the proposal, which allows for continued, but infrequent, use of the road for administrative purposes. Providing overnight facilities at the main ranch would require the construction of 10 to 15 tent-cabins, a dining tent, restroom facilities, and employee quarters. From 0.5 to 1.0 acre total would be affected; approximately 0.5 acre of surface area would be removed from biological productivity. Increased dust and particulate matter would occur during construction, along with noise. Water and sewage facilities would require an in-depth analysis to determine supply needs and impacts. The overnight visitor capacity would increase by a maximum of 60 persons per night if a lodging facility was constructed in addition to campsites. There would be no increase in capacity if a lodge was constructed in lieu of campsites.

The impacts of the various site-specific development alternatives are described below.

Scorpion Anchorage and Valley:

Removal of the pier at Scorpion Anchorage would cause very minor ocean bottom disturbances, and natural successional processes would rapidly restore the area. Allowing landings only by skiff would require monitoring to determine the precise impacts. The potential impacts would not be significant. The primary impact would be on visitors because of slower transfers from boat to shore and the associated risks of landing through the surf.

Using an existing grass airstrip near Smugglers Cove would require monitoring to determine the long-term effect on adjacent plants and soils. Restricting flight paths would reduce interference on marine mammal and bird habitats. The use of an existing road from Smugglers Cove to Scorpion Valley (2.9 miles) and to the campground (3.7 miles) would preclude revegetation efforts along the route. Dust, particulate matter, exhaust emissions, and noise would occur along the road. Although management use of the roads and airstrip would occur, such use would be infrequent, with minimal long-term impacts.

Providing a rustic full-service lodge would result in covering from 0.5 to 1.0 acre of surface area, depending on the development configuration. The area covered by the structures would be removed from biological productivity. Existing utility systems would have to be thoroughly evaluated to determine adequacy.

Smugglers Cove:

Construction of a pier beyond the surf line would help establish a safer access point for boaters using the area. The primary environmental impact would be from driving or drilling support pilings into the seabed and destroying sessile organisms. The pier would also be a visual intrusion along this undisturbed shoreline. Providing a second visitor access point would distribute day use over a longer area, increasing impacts at Smugglers and reducing them at Scorpion, assuming that capacities remained unchanged.

Permitting beach camping at Smugglers Cove would require extensive precautions because beach soils are less stable than terrestrial soils, and the plants are more susceptible to damage, trampling, and surface disturbances (McDonnell 1981). In selecting a site, tidal and wave hazards, sensitive resources, and microclimatic conditions would have to be considered. Several significant archeological sites could be adversely affected by trampling and collection under this alternative.

Developing a five-site temporary campground in the Smugglers Valley area would disturb about 0.25 acre.

Backcountry:

Random camping would result in very limited environmental impacts as long as campsites were adequately dispersed.

Impacts on Santa Rosa Island. Providing four-wheel-drive tours would result in similar but more extensive impacts on Santa Rosa than on Santa Cruz because of the longer road system.

Developing a tent-cabin complex in Arlington Canyon would affect a total of 0.5 to 1.0 acre, and visitor use would affect adjacent areas. Expansion of the campground in Windmill Canyon over the long term would affect an additional 0.25 to 0.5 acre. Allowing overnight visitor use in the buildings at Johnsons Lee would not result in additional environmental impacts.

The site-specific alternatives for Santa Rosa would have the following impacts:

If the majority of Santa Rosa was maintained as a cattle ranch, with the Park Service only acquiring a portion of the island, it would be very difficult to reestablish native vegetation. Substantial fencing would be required for exclusion, with no guarantee of success. Exotic rooting and browsing animals could also have a major negative effect on attempts to reestablish native vegetation.

Maintaining a significant portion of the island as an active cattle ranch would result in almost identical limitations on the park's resource management objectives.

If no visitor services or facilities were provided, the majority of existing structures (except for the main ranch buildings and historic structures) could be removed and roads obliterated, thus allowing natural succession to proceed at a maximum rate. Backcountry camping would cause minimal impacts.

Developing an educational complex at the main ranch would require the adaptation of one of the existing structures. The impacts associated with this adaptive use would be minimal unless a significant portion of the island was also maintained as a cattle ranch.

Developing an airstrip at Johnsons Lee would result in impacts similar to those discussed for other airstrips. The area would be closely monitored to determine the effects on the plants and soils. Because of the rugged terrain adjacent to the airstrip site, flight paths could not be adjusted if needed to avoid disturbance to wildlife.

Impacts on Anacapa Island. If camping was allowed only during April and May for organized groups, impacts would be less than those associated with year-round camping. However, complete recovery of native plant communities would not occur if use was concentrated during the spring blooming period.

IMPACTS ON CULTURAL RESOURCES

Both the proposed plan and the alternatives would have similar impacts on cultural resources.

IMPACTS ON ARCHEOLOGICAL SITES

Current ranching activities are apparently having little direct impact on the islands' extensive archeological resources. Sheep ranching on Santa Rosa Island in the 1800s appears to have severely affected some areas, and overgrazing caused significant erosion and the related loss of intact archeological sites. Although vegetation in some areas has recovered, the integrity of these sites has been permanently disrupted. Continuing erosion due to both natural circumstances and grazing has affected several sites, and the rooting of feral swine appears to have disturbed a few others. Collecting of artifacts by residents and trespassers at specific sites, however, has probably caused more harm than the more generalized impacts of ranching. Relatively little land on either island has been cultivated, and physical development has been minimal, so resulting impacts on archeological sites have not been serious. The abandoned air force base at Johnsons Lee is reportedly the single largest cause of disturbance to archeological sites.

Increased public use under NPS management would potentially expose archeological sites to adverse effects such as soil compaction, vandalism, and collecting. The increased capacity at Frenchy's Cove and easing of restrictions on some visitor activities on San Miguel would increase the potential for adverse effects. Organized groups using Frenchy's Cove would be supervised, and their leaders would be briefed on the sensitivity of terrestrial as well as marine resources in the area. Visitors to San Miguel would check-in with park personnel on the island, who would be responsible for supervising use. These precautions should minimize the potential for an increase in adverse effects on cultural resources.

Careful planning, sufficient patrol staff, and adherence to management policies would mitigate, but probably not eliminate, impacts of public use on archeological sites. NPS personnel on the islands would help reduce illegal collecting and other disturbances now occurring. Trails would be designed to avoid highly visible and sensitive sites, and a stay-on-the-trail policy would be instituted; also areas would be closed as necessary, or other protective means would be taken. Although the National Park Service could offer a high degree of protection to these resources, not all current and future disturbances on cultural resources could be eliminated because it would be impossible to accompany all visitors at all times.

IMPACTS ON HISTORIC SITES

Several potential historic sites have been identified during limited resource inventories. Until studies were completed to determine the

significance of individual sites, all sites must be considered potentially significant. Under current ownership a number of potential historic resources have been permitted to deteriorate, and some structures have disappeared or in some instances have been dismantled and used elsewhere. A cave used by George Nidever, an otter hunter in the 1830s, is considered a potential historic resource. It is threatened by erosion and possible collapse because the main ranch road is directly above it. Vandalism from trespassers has been particularly severe at Johnsons Lee on Santa Rosa Island and at Smugglers Cove on Santa Cruz Island. Generally, structures and facilities actively used in ranching operations have been well cared for on Santa Rosa but show serious neglect on east Santa Cruz.

In areas designated as historic zones, the significance of specific sites would be further evaluated. In the interim, use of these areas would be restricted to protect and preserve potentially significant resources. Historic structures could be adaptively used for public or administrative needs, but these uses would not modify the historical character of the structures. Any modifications for adaptive use would be undertaken in accordance with NPS cultural resource management policies.

Any activities with potential for ground disturbance would be preceded by archeological surveys to ensure that no resources were unintentionally damaged. Surveys of archeologic and historic resources would also be conducted to determine whether they were eligible for the National Register of Historic Places.

Overall, NPS management of east Santa Cruz and Santa Rosa would have a positive impact on archeologic and historic resources, and significant resources would be preserved. Vandalism would be significantly reduced because NPS rangers would be present on the islands.

IMPACTS ON MARINE RESOURCES

The establishment of state ecological reserves, with appropriate regulations to protect submerged cultural resources, would allow for research and resource conservation, interpretation, and evaluation of artificial microenvironments created by sunken vessels. Unless more restrictive state regulations were imposed and enforced, or marine sanctuary regulations strictly enforced, the removal of historically significant submerged artifacts (primarily by sport divers) would continue; the commercial salvage of both historic and aboriginal resources would remain a possibility under current state regulations.

IMPACTS ON THE SOCIOECONOMIC ENVIRONMENT

The impacts of acquiring privately owned lands within Channel Islands National Park and of the transition from private to public use are assessed in the Land Protection Plan.

REGIONAL IMPACTS

Proposed Plan

Visitation to Channel Islands National Park would increase moderately, but it would have a minimal impact on the regional economy. Other than a slight increase in transportation services, which could be accommodated by existing private enterprise, none of the proposed actions would produce significant revenues. Visitor use patterns would likely remain essentially the same, with a high percentage of day visitation by regional residents and tourists. This use would not be expected to increase demand for mainland support services such as lodging and shopping facilities.

Overnight use, primarily camping, could increase significantly because this activity would be permitted on three of the islands currently closed to such use. However, the number of campers would be insignificant on a regional basis. Transportation costs would be a limiting factor as would capacities, which would be controlled by the Park Service through a reservation system. Most island campers would probably be regional residents who would not require additional mainland support facilities.

Establishing a research station and an environmental education center on Santa Rosa would primarily benefit regional educational and scientific institutions. This action would provide a field station base for marine and terrestrial scientific studies. These facilities would complement similar facilities on Santa Cruz and Santa Catalina islands.

Other proposals to defer wilderness studies, implement resource management and research programs, and adopt management zoning would have no direct regional impact. If more stringent regulations on the use of marine resources were implemented, there would undoubtedly be regional economic impacts. Such impacts, however, cannot be evaluated until the state of California, which has jurisdiction over marine resources, issues draft or proposed regulations.

Alternatives

Alternatives for resource management that would permit continued ranching at various levels would have a minor impact on the regional economy because requirements for mainland support services and facilities would continue. Information on the economics of existing ranching operations is not available, so the effects of continued ranching on the regional economy cannot be evaluated.

Under the expanded development and services alternative, overnight use would be available to a wider segment of the general public because lodging and on-island transportation services would be provided. These visitors would probably require lodging and dining facilities on the mainland prior to and following their visits to the islands. Although the number of visitors would be low, their expenditures in local areas could be significant. Additional economic benefits would accrue through a concession operation of on-island services. Such an operation would probably require mainland office and warehouse facilities; supplies would be purchased regionally; and taxes would be generated from this business operation. Because an alternative for expanded services was not developed in detail, its economic impacts cannot be fully evaluated.

IMPACTS ON THE PARK VISITOR EXPERIENCE

Proposed Plan

Overall visitor capacities on the park islands would more than double under the proposed plan, and a wider range of experiences would be available. However, the actual number of visitors would show a moderate increase, primarily due to the cost of visiting the more remote islands.

Santa Cruz Island. When acquisition was completed and facilities had been provided, east Santa Cruz could accommodate significantly more visitors than East Anacapa. Day visitors would be somewhat limited by the single landing point and rugged terrain, but the more hardy could explore the island's many resources and participate in varied interpretive programs. Two types of camping experiences would be provided. The campground in Scorpion Valley would appeal to families and groups who wanted to establish a base and explore the island. Backcountry campsites would appeal to those who wanted to spend more time in specific areas or who wanted a more isolated experience.

Interpretive boat tours in park waters would provide visitors with a firsthand understanding of this ecosystem and would add significantly to their experience.

Although scientific reports indicate that many areas could withstand extensive use with minimal and acceptable levels of resource impact, it is difficult to predict typical use patterns. If day visitors concentrated in certain areas, impacts could approach unacceptable levels, and capacities might have to be lowered or use patterns altered. If visitors dispersed, capacities could be increased. NPS resource management specialists would monitor the impacts of both day and overnight use, and capacities would be adjusted as necessary.

Santa Rosa Island. For the most part, visitors to Santa Rosa Island would have to experience the island resources on their own. Few facilities and services would be provided. Use by day visitors would probably be minimal because of the distance from the mainland, high transportation costs, and the large size of the island. However, some day use by private boaters could be expected.

As on east Santa Cruz, providing two types of camping (a developed campground in the Bechers Bay area and low-impact camping in the 52,000-acre backcountry) would improve recreational opportunities on Santa Rosa. Providing a small hostel in a structure at the main ranch, and at the Johnsons Lee environmental education center when it was not being used for educational or research programs, would allow a broader spectrum of the public to stay overnight on the island. Opportunities would also be provided for backcountry users.

Interpretive programs at the main ranch at Bechers Bay and at Johnsons Lee would help visitors understand the complexities of the island/marine ecosystem, its history and culture, and the changes occurring as the island was recovering from many years of intensive ranching. Some visitors might spend their entire visit at these two locations, but most visitors would probably be backpackers coming for an extended visit. Maintaining a small ranching operation for interpretive purposes would help satisfy public interest in the island's ranching history.

Anacapa Island. Anacapa would be somewhat less crowded with the elimination of overnight camping on a regular basis. This would help improve the experience for day visitors at the expense of overnight visitors who would have to seek similar experiences on another island. Camping on East Anacapa would still be permitted on a very limited basis for educational and research purposes. Increasing the organized group capacity at Frenchy's Cove to correspond more closely with school group sizes and boat capacities would permit more individuals to participate in the educational programs and should reduce costs somewhat.

San Miguel Island. Although transportation would be provided to San Miguel, the number of visitors allowed would be extremely limited, and the cost would be relatively high. Permitting limited aircraft access to San Miguel and some boat landings at Tyler Bight would significantly reduce hiking distances, making this island more accessible to a broader spectrum of the public. Limited overnight use would greatly enhance the experience for some visitors; it would allow a more leisurely visit to the island and opportunities to closely explore the island's resources.

Relaxing visitor use restrictions on San Miguel would require the cooperation of the U.S. Navy so that visitors could be excluded in advance from potentially hazardous areas during essential national defense exercises. Because little warning is now given, visitors are restricted from large portions of the island. The National Marine Fisheries Service and the California Fish and Game Commission would also be consulted before any visitor use changes on San Miguel were implemented.

Santa Barbara Island. The renovation of facilities on Santa Barbara Island would primarily benefit management and improve employee morale. The primary effect on visitors would be aesthetic in that dilapidated and outmoded facilities would be replaced. Capacities and programs would not change. The island would seem congested on a few days each year. Most visitors would experience an almost deserted, remote island.

Alternatives

Continued Ranching on Santa Rosa. If a portion of Santa Rosa was maintained as an operating cattle ranch, visitor use would have to be limited in this area. It would not be possible to restore a natural ecosystem in this area or to provide a wilderness experience. To some visitors who were seeking a wilderness experience, the island would be a disappointment. To others, the ranching scene would be a positive value. This alternative was carefully evaluated against the primary objective to restore natural biotic associations. To accomplish this, however, ranching would have to be severely reduced, and based on the best available information, such a reduced operation would probably not be economically viable.

Day Use Only. If day use only was allowed on the islands, the visitor experience would be significantly affected on Santa Rosa, San Miguel, Santa Barbara, and east Santa Cruz. San Miguel has been managed for day use since management responsibilities were transferred to the National Park Service, and the island has had a chance to recover from past uses. However, allowing only day use does not permit visitors to fully explore the island because of its distance from the mainland and its size. Similarly, Santa Rosa would be difficult to experience on a day trip. For a quality experience, visitors must be able to explore the island's resources at a leisurely pace over an extended period. Day use only would be feasible on east Santa Cruz because it is close to the mainland and is a relatively small area. Many of the more significant resources, however, would not be readily accessible in one day because of the rugged terrain and their distance from the boat landing.

Expanded Facilities and Services. If an alternative to expand visitor facilities and services over the long term on east Santa Cruz and Santa Rosa was implemented, the primary effect would be to make these islands more accessible to the general public, particularly the very young, the elderly, and the disabled. For those who do not enjoy camping and who are unable to hike long distances, these facilities and services would provide an experience that would not be offered otherwise. Providing lodging facilities at three locations on Santa Rosa, with transportation between them, would let visitors spend one or more nights at each location, thus experiencing three distinct resource areas. On east Santa Cruz, providing lodging in Scorpion Valley and limited transportation out of the valley to trailheads and Smugglers Cove would make some resources more accessible. It would also aid in distributing visitors so that congestion would be avoided in the valley, and it would permit a broader range of experiences for some visitors.

On Santa Rosa the quality of visits for some would be enhanced, while for those seeking a wilderness-type experience, the maintenance of roads and facilities at certain locations would be an intrusion. Although less than 1 percent of the island would be used for visitor facilities, the structures would be visible from many areas because of the generally open character of the island. In particular, moving vehicles could be seen from various locations because many of the roads follow ridgelines. Even if roads were not used for visitor transportation services, they would still have to be used for management purposes for some time.

IMPACTS ON PARK MANAGEMENT

PROPOSED PLAN

The proposed plan generally consists of the minimum necessary actions to adequately provide for resource conservation and visitor use. The one proposal that may not be cost-effective, the research field station/environmental education center on Santa Rosa Island, would require additional study at the time the facilities were acquired. If adequate private sector funding could be obtained, the facility would be an asset to the park, visitors, and the scientific community.

The acquisition and subsequent public use of east Santa Cruz and Santa Rosa islands would have a significant impact on park management. Large amounts of money, as yet unestimated, would be required to renovate existing facilities, develop minimal new facilities and utility systems, and implement research and resource management programs. To the extent feasible, existing facilities would be used both to minimize new development and to reduce costs. Because of the uncertainties of land acquisition and the existing deteriorated condition of some structures, no attempt has been made to determine which structures might be available for adaptive use when finally acquired. Some structures could have historic significance, and rehabilitation costs could exceed new construction costs.

Funding for major improvements would probably not be appropriated all at one time. Therefore, priorities would have to be determined during the actual land acquisition program. Acquisition, improvements, and opening for visitor use would likely be phased over several years.

The proposals for Anacapa and Santa Barbara islands were approved in the 1980 General Management Plan. Permitting limited camping on San Miguel would require minimal development costs for the establishment of primitive sites and toilet facilities.

Development costs for the proposal would be short-term, one-time costs. Long-term effects on park management would probably be more significant, although they cannot be quantified at this time. Personnel requirements would increase significantly with the acquisition of private lands. As a minimum, two permanent ranger and two permanent maintenance positions would be needed. Seasonal ranger, maintenance, and interpretive positions would be required when the proposed actions were actually implemented. Resource management positions could increase significantly if an active research, management, and monitoring program was implemented. Major long-term costs would include the maintenance of facilities, roads, and trails.

The replacement of obsolete facilities on Santa Barbara Island and the removal of the campground on Anacapa would slightly reduce maintenance costs. Transportation of personnel and supplies to the islands, along with the maintenance of patrol boats, vehicles, and support services and facilities, would increase significantly with the acquisition of private lands on Santa Rosa and east Santa Cruz. Annual park operating costs could

increase by a minimum of 40 percent once the proposed plan was fully implemented.

In summary, the proposed plan would have significant long- and short-term impacts on park management. However, these impacts would result more from acquiring east Santa Cruz and Santa Rosa islands than from providing for management and visitor use. In establishing the park, Congress authorized the appropriation of such sums as may be necessary, but not to exceed \$500,000 for development. Although cost estimates for development cannot be made until site-specific conditions have been evaluated following acquisition, it is likely that an increase in the development ceiling would be necessary because construction and maintenance costs on the islands are very high. Although some projects such as trail and campsite construction lend themselves to volunteer and similar work programs, major projects such as dock rehabilitation or reconstruction, utility system updating or replacement, and major structural renovation must be contracted.

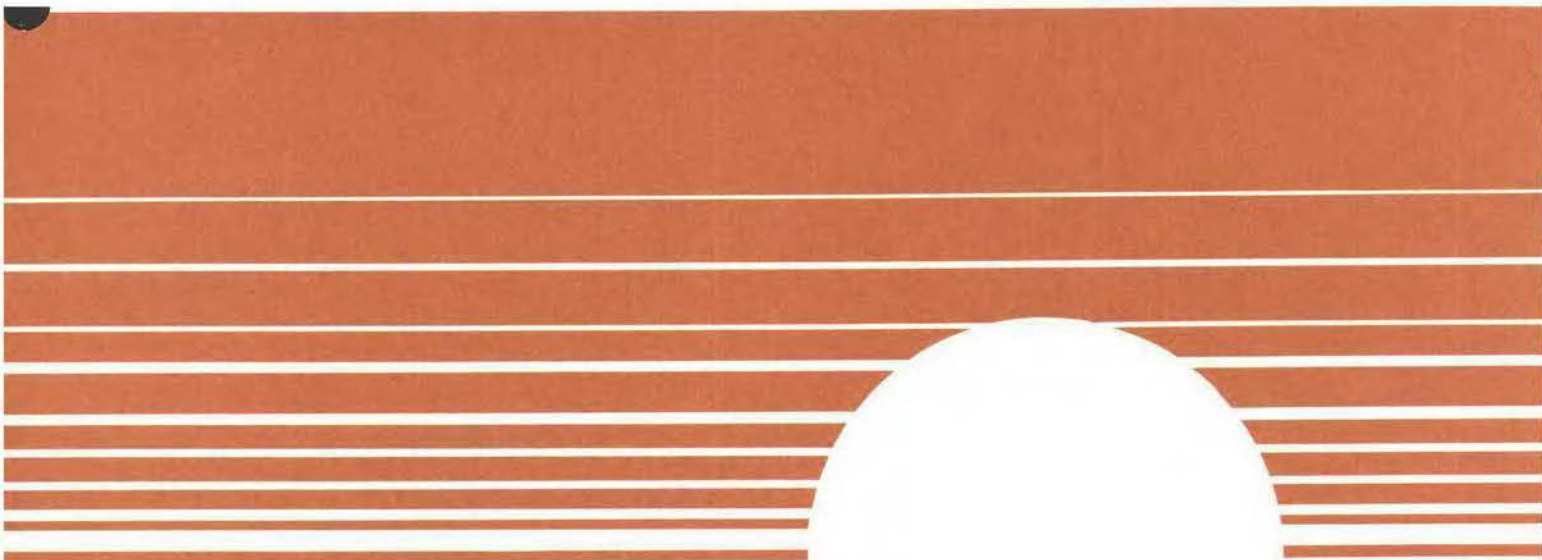
ALTERNATIVES

The resource management alternatives that were considered would have relatively minor effects on park management. If ranching was continued, the cost of active resource management programs would be reduced, but these savings would likely be offset by increased monitoring costs, as well as by costs to construct and maintain fences. Comparative costs and the effects of programs to manage exotic vegetation would have to await the development of a comprehensive management program.

An alternative to reduce NPS law enforcement responsibilities in regards to marine resources would significantly reduce management costs. However, such an action would be contrary to the purposes for which the park was established.

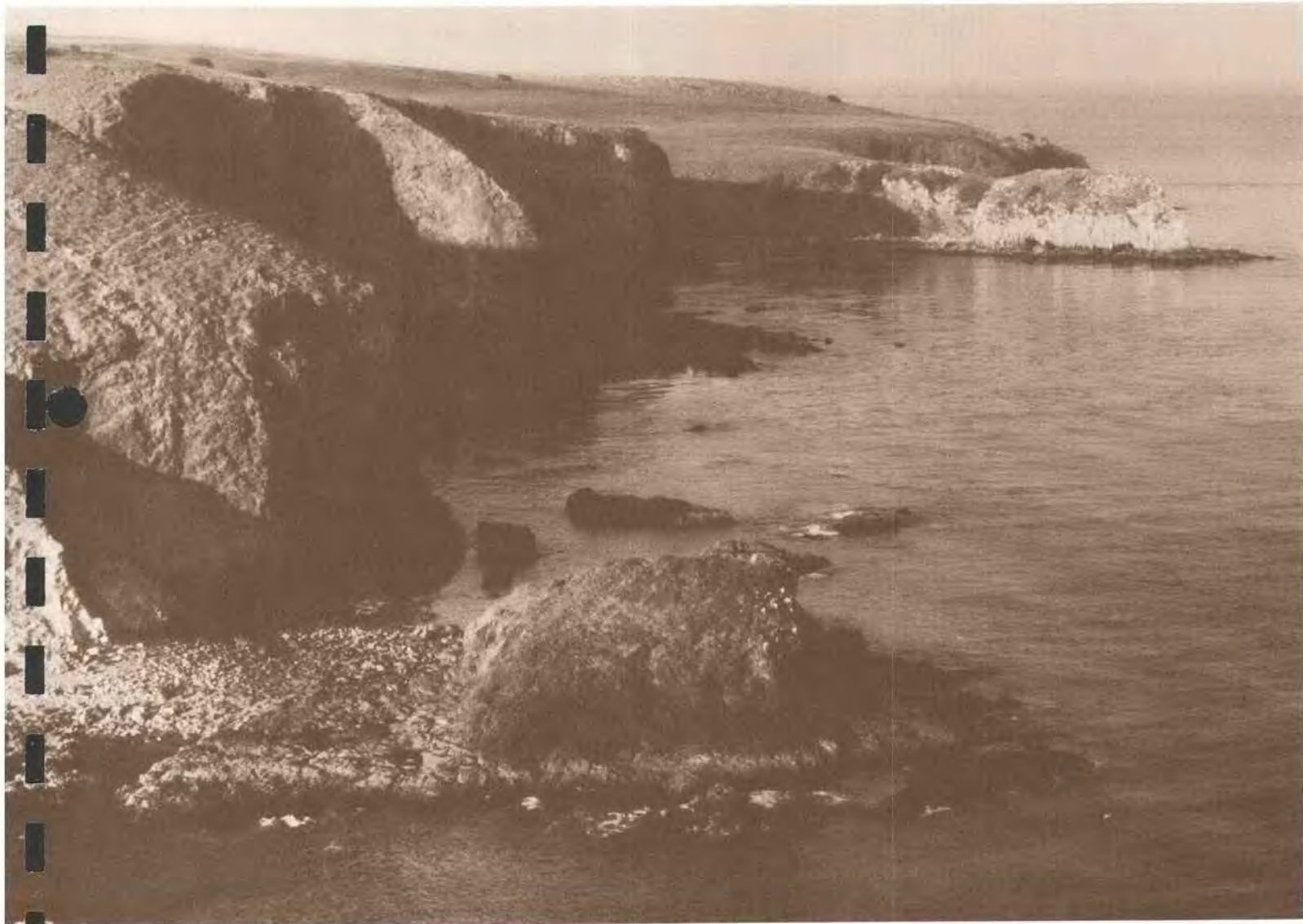
An alternative to construct a permanent flood channel and tidal gate on east Santa Cruz was not explored in sufficient detail to assess the impacts on park management.

The alternative to expand visitor facilities and services on east Santa Cruz and Santa Rosa islands would have minimal direct impacts on park management in that most development and operational costs would be assumed by a concessioner. Some development and maintenance costs would be the responsibility of the National Park Service, but these would not be determined until a contract was negotiated. The primary impact on management would occur in personnel costs to manage the concession contract and to provide expanded interpretive programs.



consultation and coordination





Various public and private interests have been consulted on a continuing basis since Channel Islands National Park was established in 1980. The significant contacts are described in this section. Additional consultations will be necessary when the resource management plan for east Santa Cruz and Santa Rosa islands is prepared. Earlier consultations are described in the 1980 General Management Plan.

THE SCIENTIFIC COMMUNITY

As required by PL 96-199 and NPS policy, members of the scientific community have been and are being consulted. These consultations are discussed in the "Planning Background" section of this document.

LANDOWNERS

Consultations with the owners of Santa Rosa and east Santa Cruz have occurred on a continuing basis. Less frequent consultations with the owners of the remainder of Santa Cruz Island (the Santa Cruz Island Company and The Nature Conservancy) have been conducted to discuss the planning effort and areas of mutual concern.

Various public and private interests have been consulted on a continuous basis since Channel Islands National Park was established in 1980. The significant contacts are described in this section. Additional consultations will be necessary when the resource management plan for east Santa Cruz and Santa Rosa islands is prepared. (Consultations before 1980 are described in the General Management Plan.)

THE PUBLIC

The formal public involvement program for planning at Channel Islands National Park was initiated with the distribution of a brochure early in 1982. Three public workshops were then held in June and July 1982 in Santa Barbara, Ventura, and Los Angeles, California. (The public involvement process is discussed in more detail in the "Planning Background" section of this document.) In addition, the Draft Land Protection Plan, which forms a basis for much of this document, was distributed to over 900 individuals, organizations, and agencies for comment. Sixteen comments were received, which we believe indicates that the proposals were well received.

Informal discussions between the park staff, individuals, and representatives of various organizations occur on an irregular basis. Representatives of native American interests participated in the 1980 science workshop, attended public workshops, and are consulted occasionally by park staff. The planning team met with representatives of the Brotherhood of the Tomol, Santa Barbara Indian Center, and United Chumash Council in June 1983 to discuss the alternatives being formulated and to learn about their concerns.

CONSULTATIONS ABOUT ENDANGERED SPECIES

Informal consultations have been initiated with the following agencies:

U.S. Fish and Wildlife Service
Endangered Species Office
Sacramento, California

California Department of Fish and Game
Sacramento, California

GOVERNMENTAL AGENCIES

The following agencies have been consulted about the general planning effort and land protection strategies:

Federal Agencies

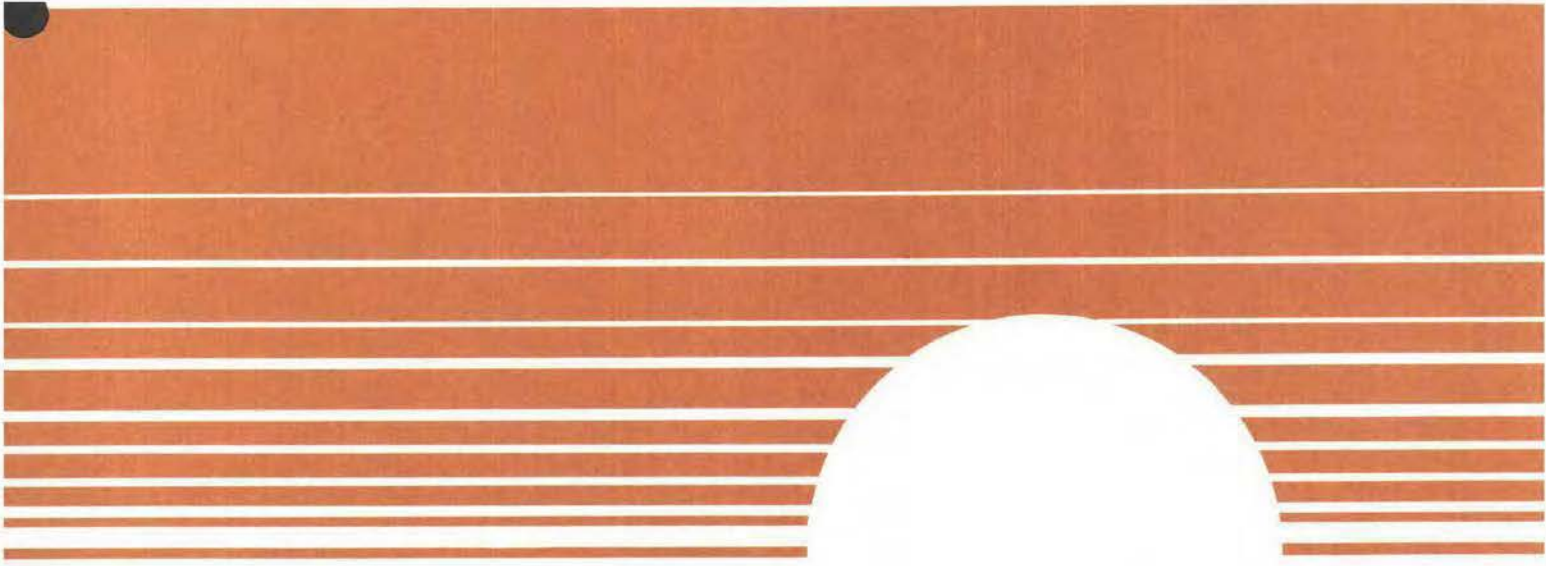
Advisory Council on Historic Preservation
Department of Commerce
 National Oceanic and Atmospheric Administration
Department of the Interior
 Bureau of Land Management
 Fish and Wildlife Service
Department of the Navy
Department of Transportation
 Coast Guard

State Agencies

California Coastal Commission
 South Central Coast District
California Department of Fish and Game
California Department of Transportation
State Historic Preservation Officer

Local Agencies

City of Oxnard
 Planning Department
City of San Buenaventura
 Department of Community Development
San Buenaventura County
 Planning Division
Santa Barbara County
 Resource Management Department
 Comprehensive Planning Division



**appendixes
bibliography
planning team**

APPENDIX A: LEGISLATION

Public Law 96-199
96th Congress

An Act

To establish the Channel Islands National Park, and for other purposes.

*Be it enacted by the Senate and House of Representatives of the
United States of America in Congress assembled,*

TITLE I

Title I applies to other areas of the National Park
System and has been omitted.

TITLE II

Mar. 5, 1980
(H.R. 3757)

National Parks
and Recreation
Act of 1978,
amendment.

Channel Islands
National Park,
Calif.
Establishment.
16 USC 410ff.

SEC. 201. In order to protect the nationally significant natural, scenic, wildlife, marine, ecological, archaeological, cultural, and scientific values of the Channel Islands in the State of California, including, but not limited to, the following:

- (1) the brown pelican nesting area;
- (2) the undisturbed tide pools providing species diversity unique to the eastern Pacific coast;
- (3) the pinnipeds which breed and pup almost exclusively on the Channel Islands, including the only breeding colony for northern fur seals south of Alaska;
- (4) the Eolian landforms and caliche;
- (5) the presumed burial place of Juan Rodriquez Cabrillo; and
- (6) the archaeological evidence of substantial populations of Native Americans;

there is hereby established the Channel Islands National Park, the boundaries of which shall include San Miguel and Prince Islands, Santa Rosa, Santa Cruz, Anacapa, and Santa Barbara Islands, including the rocks, islets, submerged lands, and waters within one nautical mile of each island, as depicted on the map entitled, "Proposed Channel Islands National Park" numbered 159-20,008 and dated April 1979, which shall be on file and available for public inspection in the offices of the Superintendent of the park and the Director of the National Park Service, Department of the Interior. The Channel Islands National Monument is hereby abolished as such, and the lands, waters, and interests therein withdrawn or reserved for the monument are hereby incorporated within and made a part of the new Channel Islands National Park.

Channel Islands
National
Monument.
Abolishment.

16 USC 410ff-1.

SEC. 202. (a) Within the boundaries of the park as established in section 201, the Secretary of the Interior (hereinafter referred to as the "Secretary") is authorized to acquire lands, waters, or interests therein (including but not limited to scenic easements) by donation, purchase with donated or appropriated funds, transfer from any Federal agency, exchange, or otherwise. Unless the property is wholly or partially donated, the Secretary shall pay to the owner the fair market value of the property on the date of its acquisition, less the fair market value on that date of any right retained by the owner. Any lands, waters, or interests therein owned by the State of California or any political subdivision thereof shall not be acquired. Notwithstanding any other provision of law, Federal property located within the boundaries of the park shall with the concurrence of the head of the agency having custody thereof, be transferred to the administrative jurisdiction of the Secretary for the purposes of the park: *Provided*, That the Secretary shall permit the use of federally owned park lands and waters which (i) have been transferred from another Federal agency pursuant to this section or which (ii) were the subject of a lease or permit issued by a Federal agency as of the date of enactment of this title, for essential national security missions and

California lands
or interests,
exemption.

for navigational aids, subject to such terms and conditions as the Secretary deems necessary to protect park resources.

(b) Notwithstanding the acquisition authority contained in subsection 202(a), any lands, waters, or interests therein, which are owned wholly or in part, by or which hereafter may be owned by, or under option to, the National Park Foundation, The Nature Conservancy (including any lands, waters, or interests therein which are designated as "Nature Conservancy Lands" on the map referred to in section 201 of this title) or any similar national, nonprofit conservation organization, or an affiliate or subsidiary thereof shall be acquired only with the consent of the owner thereof: *Provided*, That the Secretary may acquire such property in accordance with the provisions of this Act if he determines that the property is undergoing or is about to undergo a change in use which is inconsistent with the purposes of this title.

Nature Conservancy Lands acquisition.

(c) With respect to the privately owned lands on Santa Rosa Island, the Secretary shall acquire such lands as expeditiously as possible after the date of enactment of this title. The acquisition of these lands shall take priority over the acquisition of other privately owned lands within the park.

Santa Rosa Island lands, priority acquisition.

(d)(1) The owner of any private property may, on the date of its acquisition and as a condition of such acquisition, retain for himself a right of use and occupancy of all or such portion of such property as the owner may elect for a definite term of not more than twenty-five years, or ending at the death of the owner, or his spouse, whichever is later. The owner shall elect the term to be reserved. Any such right retained pursuant to this subsection with respect to any property shall be subject to termination by the Secretary upon his determination that such property is being used for any purpose which is incompatible with the administration of the park or with the preservation of the resources therein, and it shall terminate by operation of law upon notification by the Secretary to the holder of the right, of such determination and tendering to him the amount equal to the fair market value of that portion which remains unexpired.

(2) In the case of any property acquired by the Secretary pursuant to this title with respect to which a right of use and occupancy was not reserved by the former owner pursuant to this subsection, at the request of the former owner, the Secretary may enter into a lease agreement with the former owner under which the former owner may continue any existing use of such property which is compatible with the administration of the park and with the preservation of the resources therein.

Right of use and occupancy not reserved by former owner, lease agreement.

(3) Any right retained pursuant to this subsection, and any lease entered into under paragraph (2), shall be subject to such access and other provisions as may be required by the Secretary for visitor use and resources management.

SEC. 203. (a) The Secretary is directed to develop, in cooperation and consultation with the Secretary of Commerce, the State of California, and various knowledgeable Federal and private entities, a natural resources study report for the park, including, but not limited to, the following:

Natural resources study report, development. 16 USC 410ff-2.

(1) an inventory of all terrestrial and marine species, indicating their population dynamics, and probable trends as to future numbers and welfare;

(2) recommendations as to what actions should be considered for adoption to better protect the natural resources of the park. Such report shall be submitted within two complete fiscal years from the date of enactment of this title to the Committee on Interior and

Submittal to congressional committees.

Insular Affairs of the United States House of Representatives and the Committee on Energy and Natural Resources of the United States Senate, and updated revisions of such report shall be similarly submitted at subsequent two year intervals to cover a period of ten years after the date of enactment of this title.

State of California cooperative agreements for law enforcement, administration.

(b) The Secretary is authorized and directed to enter into and continue cooperative agreements with the Secretary of Commerce and the State of California for the enforcement of Federal and State laws and regulations on those lands and waters within and adjacent to the park which are owned by the State of California. No provision of this title shall be deemed to affect the rights and jurisdiction of the State of California within the park, including, but not limited to, authority over submerged lands and waters within the park boundaries, and the marine resources therein.

16 USC 410ff-3.

SEC. 204. (a) Subject to the provisions of section 201 of this title, the Secretary shall administer the park in accordance with the provisions of the Act of August 25, 1916 (39 Stat. 535), as amended and supplemented (16 U.S.C. 1 et seq.). In the administration of the park, the Secretary may utilize such statutory authority available for the conservation and management of wildlife and natural and cultural resources as he deems appropriate to carry out the purposes of this title. The park shall be administered on a low-intensity, limited-entry basis.

(b) In recognition of the special fragility and sensitivity of the park's resources, it is the intent of Congress that the visitor use within the park be limited to assure negligible adverse impact on the park resources. The Secretary shall establish appropriate visitor carrying capacities for the park.

Comprehensive general management plan, submittal to congressional committees.

(c)(1) Within three complete fiscal years from the date of enactment of this title, the Secretary, in consultation with The Nature Conservancy and the State of California, shall submit to the Committee on Interior and Insular Affairs of the United States House of Representatives and the Committee on Energy and Natural Resources of the United States Senate, a comprehensive general management plan for the park, pursuant to criteria stated in the provisions of section 12(b) of the Act of August 18, 1970 (84 Stat. 825), as amended (16 U.S.C. 1a-1 et seq.). Such plan shall include alternative considerations for the design and operation of a public transportation system connecting the park with the mainland, with such considerations to be developed in cooperation with the State of California and the Secretary of Transportation. The Secretary shall seek the advice of the scientific community in the preparation of said plan, and conduct hearings for public comment in Ventura and Santa Barbara Counties.

16 USC 1a-7.

Hearings.

(2) Those aspects of such a plan which relate to marine mammals shall be prepared by the Secretary of Commerce, in consultation with the Secretary and the State of California.

Federal funds, approval for expenditure.
16 USC 410ff-4.

SEC. 205. The head of any Federal agency having direct or indirect jurisdiction over a proposed Federal or federally assisted undertaking with respect to the lands and waters within or adjacent or related to the park, and the head of any Federal agency having authority to license or permit any undertaking with respect to such lands and waters, shall, prior to the approval of the expenditure of any Federal funds on such undertaking or prior to the issuance of any license or permit, as the case may be, afford the Secretary a reasonable opportunity to comment with regard to such undertaking and shall give due consideration to any comments made by the Secretary and to

the effect of such undertaking on the purposes for which the park is established.

SEC. 206. Within three complete fiscal years from the date of enactment of this title, the Secretary shall review the area within the park and shall report to the President, in accordance with subsections 3 (c) and (d) of the Wilderness Act (78 Stat. 890), his recommendations as to the suitability or unsuitability of any area within the park for designation as wilderness. Any designation of any such areas as wilderness shall be accomplished in accordance with said subsections of the Wilderness Act.

SEC. 207. Notwithstanding any other provision of law, no fees shall be charged for entrance or admission to the park.

SEC. 208. The Secretary is authorized to expend Federal funds for the cooperative management of The Nature Conservancy and other private property for research, resources management, and visitor protection and use. All funds authorized to be appropriated for the purposes of the Channel Islands National Monument are hereby transferred to the Channel Islands National Park. Effective October 1, 1980, there are hereby authorized to be appropriated such further sums as may be necessary to carry out the purposes of this title, but not to exceed \$500,000 for development. From the Land and Water Conservation Fund there is authorized to be appropriated \$30,100,000 for the purposes of land acquisition. For the authorizations made in this section, any amounts authorized but not appropriated in any fiscal year shall remain available for appropriation in succeeding fiscal years.

Approved March 5, 1980.

Review of
park area;
report to
President.
16 USC 410ff-5.
16 USC 1132.

16 USC 1131
note.
16 USC 410ff-6.
16 USC 410ff-7.

Transfer of
funds.
Appropriation
authorizations.

LEGISLATIVE HISTORY:

HOUSE REPORT No. 96-119 (Comm. on Interior and Insular Affairs).
SENATE REPORT No. 96-484 (Comm. on Energy and Natural Resources).
CONGRESSIONAL RECORD:

Vol. 125 (1979): May 7, considered and passed House.
Vol. 126 (1980): Feb. 18, considered and passed Senate, amended.
Feb. 20, House concurred in Senate amendments.

WEEKLY COMPILATION OF PRESIDENTIAL DOCUMENTS:
Vol. 16 (1980): Mar. 5, Presidential statement.

APPENDIX B: EXISTING LANDOWNERSHIPS
AND COOPERATIVE AGREEMENTS

CURRENT OWNERSHIP

The lands and waters within Channel Islands National Park are under the following ownership:

U.S. Department of the Interior - Portions of Anacapa and Santa Barbara islands, and islets and rocks within 1 nautical mile around all five islands

State of California - All submerged lands within the park boundary.

U.S. Navy - San Miguel and Prince islands

U.S. Coast Guard - Portions of Anacapa and Santa Barbara islands (excess Coast Guard lands are in the process of being transferred to the National Park Service; reservations for navigational aids will remain the property of the Coast Guard)

Private Ownership - Santa Rosa and Santa Cruz islands

Total acreage within the established boundary of the park is approximately 250,000 acres. Of this amount, 10,600 acres are in federal ownership, 125,400 acres are in state ownership, and 114,000 acres are in private ownership (see tables 1 and 2 and the Landownership/Jurisdiction map). There are approximately 32 different state and federal agencies with jurisdiction over Channel Islands National Park resources.

Table 1: Ownership/Jurisdiction of Fastlands within
Channel Islands National Park
(acres)

<u>Anacapa</u>		
National Park Service	538	
Coast Guard	161	
Subtotal	699	
<u>Santa Barbara</u>		
National Park Service	595	
Coast Guard	57	
Subtotal	652	
<u>San Miguel</u>		
Navy	9,325	
<u>Santa Rosa</u>		
Vail & Vickers	52,794	
<u>Santa Cruz</u>		
Gherini family	6,264	
Nature Conservancy	12,400	
Santa Cruz Island Company	41,981	
Subtotal	60,645	
Total	124,115	

Table 2: Summary of Ownership within
Channel Islands National Park
(acres)

National Park Service	1,133
Other Federal Agencies	9,543
Private Owners	113,439
State (submerged lands)	125,400
Total	249,515

COOPERATIVE AGREEMENTS

Memorandum of Agreement - U.S. Department of the Navy and U.S. Department of the Interior (May 7, 1963, amended October 20, 1976)

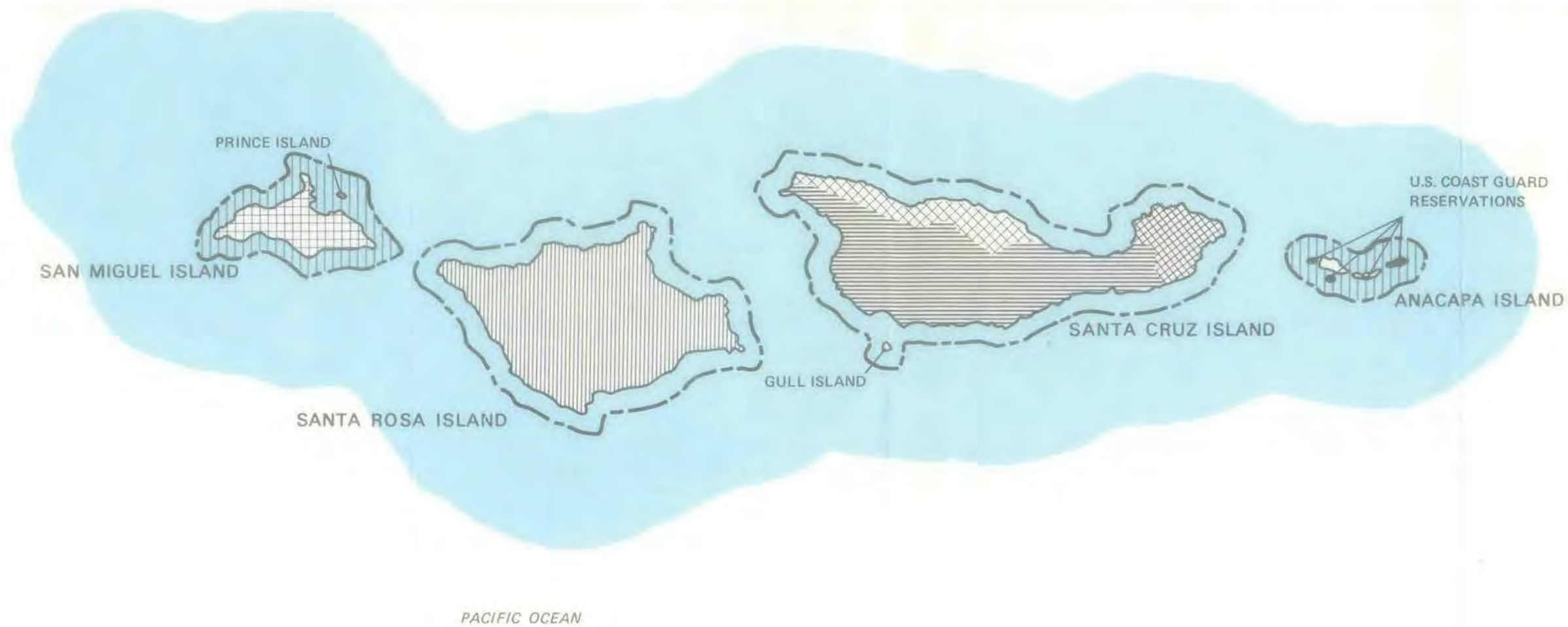
This memorandum of agreement recognizes the scientific values of San Miguel and Prince islands. It enables the Department of the Interior to undertake an inventory of the islands' features; to promulgate and enforce regulations for protection of the resources; to provide for visitor access, during daylight hours only, through a "controlled reservation system"; and to ensure immediate evacuation of persons from the islands when directed by the U.S. Navy. The Department of the Navy agrees to allow employees of the Department of the Interior to manage the islands, and to assist in the preservation and management of their resources. It was agreed that, consistent with the executive order giving the administration of these islands to the Department of the Navy, paramount use of the islands will continue to be for military purposes, but that if such use is no longer required of the islands in the future, the Department of the Interior will seek to add them to the national park system.

License and Agreement - U.S. Department of the Interior, National Park Service, and U.S. Department of Transportation, U.S. Coast Guard (License No. DOT CG11-3075, Agreement No. 11 CGD RL02-70, January 9, 1975)

This agreement, which revises an original 1970 agreement, recognizes that the Coast Guard administers East Anacapa Island but that it has little need for much of the land. Because the Coast Guard wants some of the remaining buildings to be maintained, the agreement therefore specifies that the National Park Service manage East Anacapa Island as part of Channel Islands National Park. The Park Service is to maintain all the facilities except the lighthouse and foghorn building, which the Coast Guard will continue to occupy exclusively.

Memorandum of Understanding - National Marine Fisheries Service (Southwest Region) and National Park Service (Western Region), Channel Islands National Park (May 26, 1981)

This memorandum of understanding deals with management and protection of the park's pinniped populations, and it recognizes the National Park



U.S. COAST GUARD RESERVATIONS



SANTA BARBARA ISLAND

-  PARK BOUNDARY
-  COAST GUARD RESERVATION
-  NAVY
-  NATURE CONSERVANCY
-  STATE ECOLOGICAL RESERVE
-  MARINE SANCTUARY
-  NATIONAL PARK SERVICE
-  SANTA CRUZ ISLAND COMPANY
-  GHERINI
-  VAIL & VICKERS



159 | 20032C
DSC | FEB 84

LANDOWNERSHIP / JURISDICTION

CHANNEL ISLANDS NATIONAL PARK
UNITED STATES DEPARTMENT OF THE INTERIOR / NATIONAL PARK SERVICE

ON MICROFILM

Service's management responsibility for pinnipeds under the Marine Mammal Protection Act of 1972. It specifies the respective and mutual cooperative ventures both agencies are to take in the management of these animals on park islands. It addresses the review of each other's plans relating to the other's area of responsibility, the use of the NMFS research station, the development of the "marine mammal" section of the park's general management plan, cooperation in enforcement of laws, and the question of commercial pinniped capture within the park as a whole.

Interagency Agreement - National Park Service and National Oceanic and Atmospheric Administration (July 17, 1981)

This agreement regarding NPS management of national marine sanctuaries under the National Oceanic and Atmospheric Administration deals with both Point Reyes National Seashore and Channel Islands National Park. Insofar as the Channel Islands National Marine Sanctuary is concerned, the National Park Service agrees to conduct specific research useful for sanctuary management, to provide space in the park headquarters for a sanctuary manager, and to develop interpretive displays regarding the sanctuary, in exchange for funding from the National Oceanic and Atmospheric Administration.

Agreement - National Park Service, Channel Islands National Park, and County of Santa Barbara (March 16, 1981)

This agreement specifies conditions for mutual fire suppression activities on the privately owned park islands within Santa Barbara County, noting responsibilities for responding to fires and notifying the other agency of actions taken and needed. It also addresses reimbursement of funds, and it states that the park, in consultation with the county, should develop fire management plans for each island.

Cooperative Agreement - Santa Barbara County Sheriff's Department and National Park Service, Channel Islands National Park (in draft)

This agreement would authorize the deputization of law-enforcement commissioned rangers at Channel Islands National Park as Santa Barbara County sheriffs to enable them to enforce state and county laws in county areas within the park boundary. It discusses return of commissions, training, access to information, and limitation of duties.

Agreement - National Park Service and Ventura Port District (February 28, 1979)

This agreement supersedes a March 24, 1976, agreement (amended September 22, 1977). It is the result of Resolution No. 1719, passed and adopted on December 20, 1978, by the Board of Port Commissioners of the Port District, which approved a new location, other than the previously agreed-upon site, for the monument headquarters. It describes the new parcel of land; allows use of a portion of a parking lot to be developed

by the Port District for NPS headquarters parking; allows for a cooperating association outlet to be operated at the headquarters; agrees that the Port District develop pedestrian walkways for free public access; states that the National Park Service construct the headquarters according to an agreed-upon plan, and within specified time periods, after Port District, City of Ventura, and California Coastal Commission approval, and within legislative environmental requirements; specifies an amount of money to be paid by the National Park Service to the Port District for offsite improvements that had previously been made to the old agreed-upon headquarters site; and agrees that the National Park Service pay to varying degrees for construction of the parking area, offsite road and utility service to the site, and improvements on the site.

Agreement - National Park Service and the Friends of Channel Islands National Park (date to be determined)

This agreement recognizes the establishment of the Friends of Channel Islands National Park, a nonprofit organization to raise funds, accept donations, and provide other services to assist park programs. It allows the group to use office space in park facilities, and it stipulates conditions and standards for conduct of business and production of materials by the organization. It also specifies several other miscellaneous operational details, and it emphasizes the distinction between the organization and the National Park Service.

APPENDIX C: LAND PROTECTION PLAN RECOMMENDATIONS

Land protection recommendations are presented for public and private lands in Channel Islands National Park. The recommendations are based on an evaluation of protection methods and alternatives previously described, their environmental and socioeconomic consequences, legislative authority and history, the rights of the private landowners, and careful consideration of NPS policies and park management objectives.

PUBLIC LANDS

The U.S. Coast Guard has several parcels on Anacapa and Santa Barbara islands, but current management practices pose no threat to park resources. Procedures to transfer excess Coast Guard lands have been initiated and may be completed by the time this plan is published. The Coast Guard will retain reservations for essential navigational aids.

The U.S. Navy has jurisdiction for San Miguel and Prince islands, and an existing memorandum of agreement provides for adequate resource protection but only for limited visitor use opportunities. If public use of San Miguel is to be accommodated, opportunities for additional visitor use, particularly limited overnight use, are needed. Transfer of these federal lands to the National Park Service would ensure the continuation of the highest level of resource protection and permit additional visitor use opportunities. The U.S. Navy has indicated that it wishes to retain lands under its jurisdiction and that it is prepared to make changes to the present memorandum of agreement to address mutual concerns. The close working relationship between the U.S. Navy and the National Park Service has been in effect since 1963 and should continue. Although transfer of U.S. Navy lands would ultimately be in the best interest of the National Park Service, such action is not essential at this time.

The submerged lands and marine resources of the park are of paramount concern in terms of federal protection. Submerged lands within 3 nautical miles of the islands are owned by the state of California. Although submerged lands within 1 nautical mile of the islands are inside the park boundary and submerged lands within 6 miles are within the national marine sanctuary (administered by the National Oceanic and Atmospheric Administration), the federal government has virtually no control over cultural and biological resources within the 3 miles around the islands that are under state jurisdiction. Further data collection is required, but the National Park Service believes certain marine resources are currently being depleted below levels of sustainable yields. In addition, the Park Service has no authority to enforce its rules and regulations in this portion of the park, which is currently the most important visitor use area.

Once research has been conducted to determine long-term resource trends, additional federal protection, either through stronger cooperation with the state of California or through federal legislation to protect these marine resources, may be warranted. As a minimum, the National Park Service should seek the designation of state ecological reserves around all

the islands so that these resources could be managed to ensure sustained species and habitat diversity and so that the salvage or collecting of submerged historic and prehistoric artifacts could be prohibited. Other protection measures that should be considered include the designation of the park waters as state marine preserves (as recommended in the local coastal plan for Santa Barbara County) or the transfer of the state lands to the state park system.

PRIVATE LANDS

The rapid fee acquisition of all private lands within the boundaries of the national park is in the best interests of both the National Park Service and the private landowners. This would meet the park's long-term management objectives and would recognize the wishes of the private landowners to resolve land acquisition issues as rapidly as possible.

NPS fee ownership could be obtained through any of the previously discussed acquisition methods. Although direct purchase would be the most expeditious means to acquire the properties, all of the methods described should be explored to determine the most cost-effective method of acquisition. The fact that some methods are very time-consuming, however, and the fact that Congress called for rapid acquisition should be considered. Although appraisals have not been completed, the cost of fee acquisition would undoubtedly exceed the current authorized ceiling. Phased acquisition, discussed below, would permit partial acquisition prior to the need to request a ceiling increase.

The option to divide property into "acquisition parcels" along lines of functional utility to the Park Service in the development of the park could result in the Park Service paying substantially more for the property than anticipated. Thus, a division of property currently in one ownership into several parcels for phased acquisition could raise claims for "severance damage" by a landowner when his land was initially severed by the acquisition of only a portion of the property. This could result in the payment for the portion acquired plus damages to the remainder, the total of which could be substantially higher than the overall value of the property.

Another and even more important consideration is the operation of the "scope of the project" rule, where the acquisition of park lands would be done in stages over a period of years. This could require the Park Service to pay the enhanced market value of adjoining property when it was acquired at a later date, even though the earlier acquisition might have caused the increased market value of the property acquired later.

East Santa Cruz Island

The acquisition of approximately 6,200 acres on the east end of Santa Cruz Island would provide a prime public recreation area that is close to major urban population centers. The proximity to mainland harbors permits relatively fast and inexpensive access. Portions of the property appear suitable for relatively high visitor use levels, while other areas

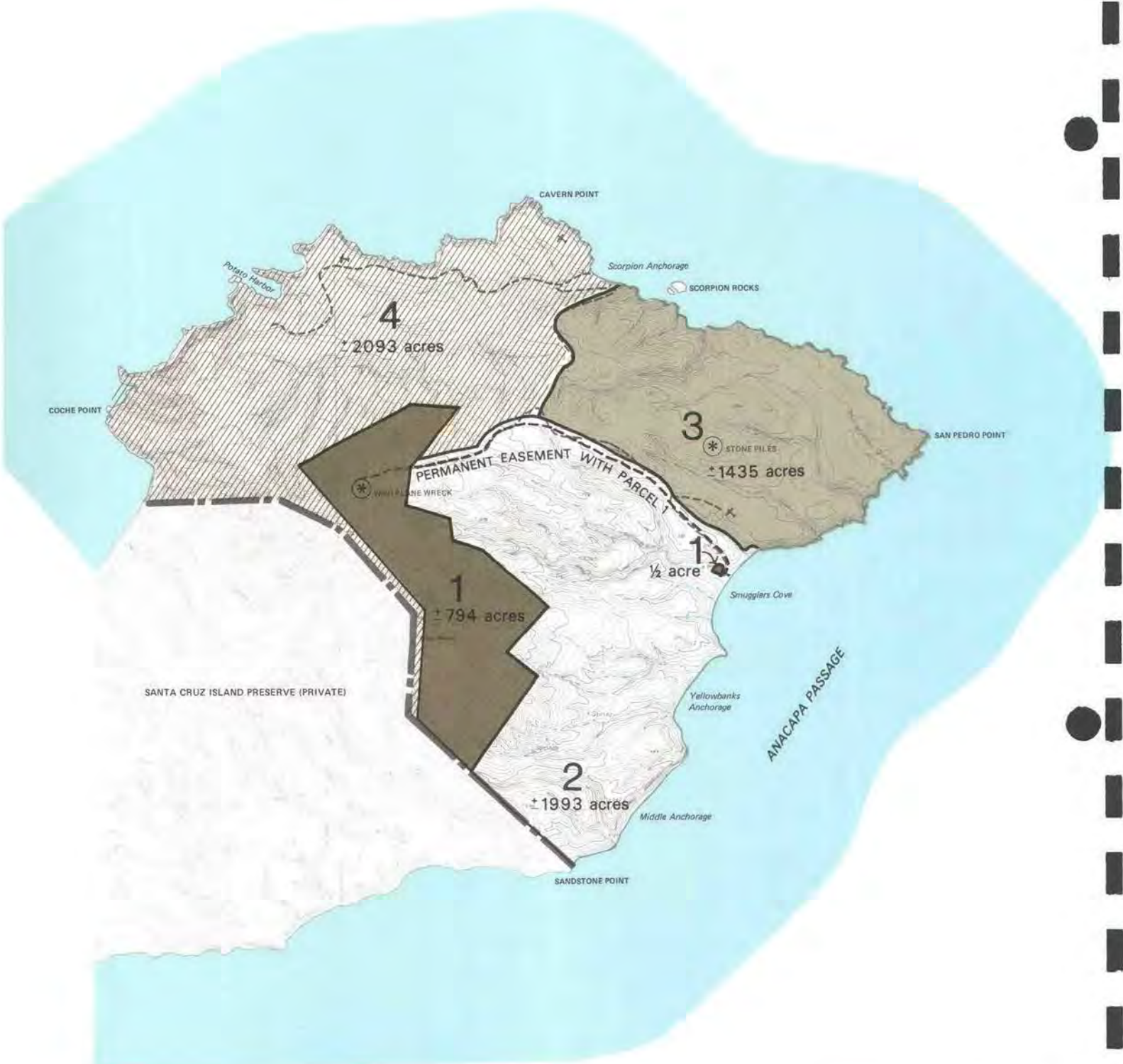
are more suitable for lower intensity use. The current sheep-ranching activities are not compatible with public use, primarily because of limited access points and the anticipated concentration of public and administrative use in the ranch's main operating areas. Furthermore, the current ranching practices have reduced many native species to small refuge habitats inaccessible to grazing animals, and the remaining lands have at times been severely overgrazed. The resultant impacts include erosion, the lack of vegetation in some areas, and the absence of new growth in overmature forests. The levels of visitor use anticipated at this stage of the planning effort do not provide an economically viable concession package that might offset some of the acquisition costs.

Recommended Action. The entire property should be acquired in fee, and the right of use and occupancy should not be granted because all of the property would be needed for resource management actions and public use. An appropriate phaseout period for current ranching operations would be negotiated.

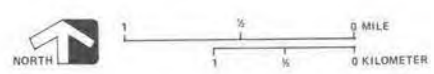
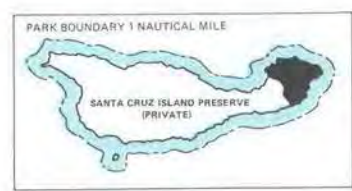
Because PL 96-199 requires that Santa Rosa be acquired prior to the expenditure of acquisition funds for east Santa Cruz, the National Park Service should seek to obtain interim resource management rights until the lands can be acquired. Such rights could be obtained through cooperative agreements or through a third-party purchase wherein the buyer would hold the property for future purchase by the Park Service and would permit the Park Service to manage the lands. The owners have indicated that they are not open to cooperative agreements for resource management or visitor use, and the high costs to acquire the lands may preclude a third-party purchase. Adequate appropriations to expeditiously purchase Santa Rosa followed by appropriations to purchase east Santa Cruz would, of course, provide the most direct means of protecting the land.

Phased Acquisition Option. If full acquisition was not immediately possible because of funding or other limitations, east Santa Cruz could be acquired in phases. The property has been divided into acquisition parcels. The acquisition of parcels in the following order would protect both the rights of the landowners and the interests of the National Park Service until the acquisition program was completed. These parcels are identified on the accompanying map, and general terms are discussed below.

Parcel 1 - Acquire in fee approximately 700 to 800 acres of high mountain property plus a ½-acre management site in Smugglers Cove; acquire a permanent access easement between the shoreline, the management site, and the high mountain property; acquire easements for research and planning on the entire property and for limited visitor use in the Smugglers Cove area; and acquire a temporary trail easement from Smugglers Cove to the high mountain property. The National Park Service would also obtain permanent water rights and the right to preserve, restore, and interpret the historic ranch house and related property in Smugglers Cove. The owners would retain the right of use and occupancy of the house when essential for continuing ranching operations. The owners have indicated that easements for research, planning, and visitor use would be granted only for a period of two years, renewable at their option.



SANTA CRUZ ISLAND PRESERVE (PRIVATE)



159 | 200318
DSC | FEB 84

PHASED ACQUISITION OPTION

EAST SANTA CRUZ ISLAND

ON MICROFILM

CHANNEL ISLANDS NATIONAL PARK
UNITED STATES DEPARTMENT OF THE INTERIOR / NATIONAL PARK SERVICE

Parcel 2 - Acquire in fee approximately 2,000 acres comprising the remaining southern portion of the property, including the permanent access easement and the lands south to Sandstone Point, plus an easement for access to and use of the airstrip in parcel 3. If sufficient funds were available, development rights should be acquired on parcels 3 and 4. The owners could lease back grazing rights on parcel 2 if such rights were in the best interest of both parties and if terms, including some restrictions on grazing, could be agreed upon.

Parcel 3 - Acquire in fee approximately 1,400 acres in the eastern portion of the property. The owners could lease back grazing rights on this parcel subject to mutually agreeable terms. Grazing rights on parcel 2 would be terminated with the purchase of parcel 3 so that NPS resource management and visitor use programs could be implemented.

Parcel 4 - Acquire in fee the remaining \pm 2,100 acres and terminate all grazing leases and any remaining incompatible uses. Continued use and occupancy would not be granted.

It should be noted that the owners have stated that phased acquisition of parcels 2, 3, and 4 is not acceptable to them. It is their desire that after the initial purchase (parcel 1), the remainder of the property be acquired as a single parcel as rapidly as possible.

Santa Rosa Island

The fee acquisition of Santa Rosa Island would provide for the long-term protection needed to preserve and restore the island's resources. In the short term, ranching operations could be continued subject to mutually agreeable restrictions. As more information was gathered, further reductions in grazing would likely be negotiated. Ultimately, grazing and exotic mammals would be eliminated from all but a small portion of the island, where grazing stock would be maintained as part of the interpretive theme.

Recommended Action. The entire property should be acquired in fee. The owners, at their option, would be granted the right of use and occupancy for continued ranching operations and residential use if mutually agreeable terms for resource management and visitor use could be negotiated. In the specific situation at Santa Rosa, a leaseback would be considered preferable to a reserved right of use and occupancy because it would provide flexibility for future management needs. Although this might not be the most cost-effective approach, that could not be determined until appraisals had been completed and negotiations were started. A number of options could be considered during negotiations. For example, the owners might wish to reserve the right to use and occupy all or certain ranch structures and to continue hunting club operations, yet enter into a leaseback for grazing rights.

A reserved right of use and occupancy would reduce the initial purchase cost, and it would provide the owners with a known period of use at a

certain cost. A leaseback would not directly reduce the purchase cost because funds obtained from the leases would not revert to the Land and Water Conservation Fund; they would, however, help offset the cost of acquisition over the long term. A leaseback would provide flexibility to renegotiate terms, whereas a reserved right of use and occupancy would make it more difficult to renegotiate terms.

It should be noted that park managers consider the operation of a commercial hunting club on park lands to be an incompatible use. However, this operation provides a significant portion of the ranch income, and it could prove costly to acquire this right. Ultimately, it would be desirable to terminate hunting and to remove the exotic species. The issues are complex, and extensive negotiation would be required.

Phased Acquisition Option. If full acquisition was not possible because of funding or other limitations, the property could be acquired in phases. Various alternatives and acquisition methods have been discussed with the landowners. Although their preference is for the rapid, fee acquisition of the entire property, they would be willing to consider phased acquisition if terms could be negotiated that would ensure the economic viability of their ranching/hunting operations and the completion of acquisition within a reasonable period of time.

The owners of Santa Rosa, however, have expressed a number of concerns that could make it difficult to negotiate mutually acceptable terms. Primary among these concerns are the following:

Even low levels of visitor use on a repeated basis in a given area would tend to drive cattle from these areas.

While small areas could be fenced to exclude cattle and exotic animals, major exclosures could severely affect the success of ranching operations.

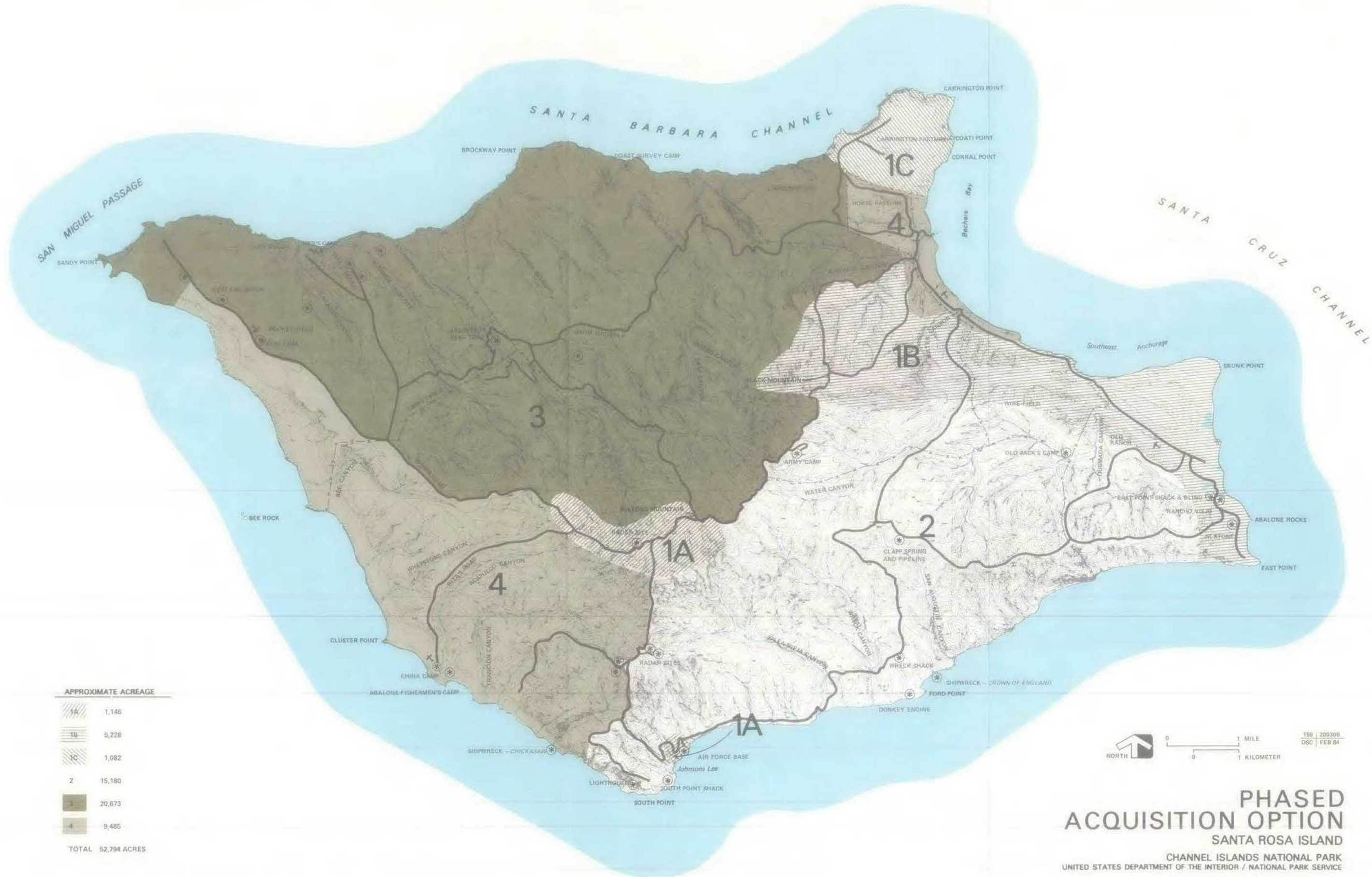
Exclosures, particularly for swine and deer, might not be successful in protecting resources, causing the National Park Service to seek more restrictions.

If phased acquisition took too long, the National Park Service might need to progressively seek more restrictions on ranching operations to allow for expanded resource management actions and increased visitor use.

The incompatibility of long-term NPS objectives and continued ranching would probably lead to major conflicts.

The parcels for phased acquisition are identified on the accompanying map, and general terms are discussed below. Acreages are approximate because the boundaries would probably be modified as a result of NPS research and negotiations with the owners.

Parcel 1 (approximately 7,456 acres total) - This parcel contains significant resources that have been affected to varying degrees by ranching operations or the presence of exotic mammals. A



APPROXIMATE ACREAGE

1A	1,146
1B	5,228
1C	1,082
2	15,180
3	20,673
4	9,485
TOTAL	52,794 ACRES



**PHASED
ACQUISITION OPTION**
SANTA ROSA ISLAND
CHANNEL ISLANDS NATIONAL PARK
UNITED STATES DEPARTMENT OF THE INTERIOR / NATIONAL PARK SERVICE
ON MICROFILM

management site would be included at Johnsons Lee that could provide an operations base for research efforts, a ranger station, and visitor use facilities. A major cleanup and renovation effort would first be required. Parcel 1 has been divided into three subparcels if funds were insufficient to acquire the entire parcel.

Parcel 1A (approximately 1,146 acres) consists of two areas--the Johnsons Lee site and a mountaintop area containing a very small community of island oaks. These oaks have been identified as an environmentally sensitive habitat area in the local coastal plan. They are also listed as a rare and endangered species by the state, and NPS scientists have recommended immediate measures to protect these stands because they show no signs of reproduction.

The protection of the oak stands is considered such a high priority that the National Park Service should immediately seek a cooperative agreement with the landowners to conduct research and to implement the necessary measures. Other rights that the Park Service would acquire would be an easement for access between Johnsons Lee and the mountaintop, an easement or cooperative agreement for the right to conduct nonmanipulative research on the remainder of the island, and an easement or cooperative agreement for limited visitor use in the Johnsons Lee area, along the coast to the east of Johnsons Lee, and along the access route to the oak stands. An agreement would also be sought or rights acquired to permit the National Park Service to initiate an islandwide swine reduction program.

Parcel 1B (approximately 5,228 acres) contains significant resources that appear to require active resource management measures to ensure their survival, and other resources that should be the subject of intensive research and monitoring. This parcel also includes the few remaining stands of Bishop pine and ironwood, which may not be reproducing, Torrey pine forests, an extensive dune and beach system, a major example of an oak/chaparral community, and the only significant wetlands on the island. Ranching operations would be permitted to continue in most of parcel 1B, but exclosures might be constructed in some areas to keep out both cattle and exotic mammals.

During the negotiations for parcel 1B, the owners should determine if they wanted to reserve a right of use and occupancy or to enter into a leaseback agreement. Negotiations on these rights for parcel 1B would affect subsequent negotiations on other parcels.

Parcel 1C (approximately 1,082 acres) consists of the area known as Carrington pasture on the northeast tip of the island. The National Park Service would seek the elimination of cattle grazing in this area either through a conservation easement or fee acquisition if ranching operations would not be seriously affected. The National Park Service would initially use this area for research and monitoring to evaluate the impacts of exotic animals, primarily deer, in an area where there is no competition from cattle. Hunting would be permitted in this area if the owners elected to reserve this right and if it was essential to maintain an economically viable ranching operation.

Parcel 2 (approximately 15,180 acres) - This parcel encompasses the major watersheds on the southeastern portion of the island, which includes areas of significant geological, paleontological, archeological, and possibly historical value; spectacular scenic vistas are also available. Ranching operations would be permitted to continue under negotiated terms. The area would be opened to limited visitor use, and a temporary ranger station and small campground might be established in the old ranch area, where aircraft access would be available. These facilities would only be established if an agreement could not be reached on the use of existing facilities and the development of a campsite in the main ranch area. Backcountry camping would be permitted if suitable terms could be negotiated with the landowners. Active resource management activities would be limited to those compatible with ranching operations.

Parcel 3 (approximately 20,673 acres) - This parcel encompasses the northern watersheds and is particularly significant for archeological and paleontological resources and the diverse resources of Canada Lobos, among others. Both resource management and visitor use activities would be limited in this area as long as ranching continued. Emphasis would be on research, and some visitor groups with particular interests could be allowed into the area. Small enclosures may be needed at some research sites, and it might be desirable to construct an enclosure around a major portion of Canada Lobos.

Parcel 4 (approximately 9,485 acres) - This parcel, in two parts, includes the southwestern watersheds and the main ranch complex. If Carrington pasture was not previously acquired in fee, it would be included in this phase to complete acquisition of the island. Visitor use and resource management practices at this stage would largely depend on the rights retained by the former owners through negotiations with the National Park Service.

The necessity of continuing research is recognized in this phased approach to acquisition. Research could lead to a change in priorities for acquisition or a change in determination of the compatibility or incompatibility of continued ranching operations.

Pending the completion of this phased acquisition process, the National Park Service would seek, through easements or cooperative agreements, certain rights in the area of the main ranch complex. These rights could include access through the ranch complex, use of the airstrip and pier, development of a campground, and possibly the use of some ranch structures or the right to take necessary actions to preserve the historic integrity of structures and other cultural resources.

PROTECTION PRIORITIES FOR PRIVATE LANDS

PL 96-199 specifically provides that Santa Rosa be acquired prior to any interests in east Santa Cruz. However, prompt fee acquisition of both properties should have high priority: on Santa Rosa so that resource protection measures can be initiated, and on east Santa Cruz so that

resources can be protected and public use accommodated. The full potential of these park lands cannot be realized until acquisition is completed. Until all of these lands or interests in them can be acquired, the superintendent should seek, through cooperative agreements or other means, the right to implement resource management actions to protect threatened resources.

In accordance with PL 96-199, the parcels on Santa Rosa should be acquired first and in the order of their identification--parcels 1A, 1B, 1C, 2, 3, and 4, followed by east Santa Cruz parcels 1, 2, 3, and 4.

If it was not necessary to acquire all of Santa Rosa Island before acquiring parcels on east Santa Cruz, then those areas requiring immediate resource management actions should be acquired first, followed by those areas with immediate potential for visitor use. This rationale is reflected in the list below. However, the opportunity to acquire a lower priority parcel should not be denied because of a failure to reach agreement on the acquisition of a higher priority parcel. The following priority order should also be used if a third party purchased the private lands and held them for later acquisition by the Park Service.

<u>Parcel</u>	<u>Approximate Acres</u>
Santa Rosa Island, parcels 1A and 1B	6,374
Santa Cruz Island, parcel 1	794.5
Santa Cruz Island, parcel 2	1,993
Santa Rosa Island, parcel 1C	1,082
Santa Rosa Island, parcel 2	15,180
Santa Rosa Island, parcel 3	20,673
Santa Cruz Island, parcel 3	1,435
Santa Cruz Island, parcel 4	2,093
Santa Rosa Island, parcel 4	9,485

As previously discussed, the landowners do not agree with the phased acquisition approach, and both parties have stated that rapid, full fee acquisition is their preference. Before they agreed to phased acquisition, they would require assurances that the acquisition process would not be drawn out. Furthermore, they have stated that they would seek terms under partial acquisition to protect their interests and these terms would probably minimize the potential for NPS resource management and visitor use programs. The owners understand that the National Park Service cannot guarantee an acquisition schedule, that Congress must appropriate funds on an annual basis, and that expenditure of these funds requires approval of the Department of the Interior. It is also recognized that funds appropriated in a given year may permit only partial acquisition of a particular parcel. Phased acquisition, particularly if extended over a long time span, would undoubtedly lead to complex management problems and higher acquisition costs.

APPENDIX D: MANAGEMENT OBJECTIVES

Within the constraints of federal laws and regulations, NPS policies, and the organic act establishing the National Park Service, the superintendent and staff have prepared three primary objectives for the management of Channel Islands National Park. Each primary objective consists of a series of goals or subobjectives to direct the staff in achieving the primary objective.

Obtain the maximum level of resource restoration and preservation, commensurate with the legislated purposes of the park.

Implement an orderly sequence of research, planning, development, monitoring, and management.

Cooperate with federal, state, and local governmental agencies, and with private and community organizations, native American groups, and private landowners, to achieve mutually identified resource management goals and to promote compatible uses within and adjacent to the park.

Develop an accurate information base to guide resource management and visitor use planning.

Seek rapid, fair, and equitable resolution of land acquisition issues, including determination of the rights of use and occupancy to be retained by the present owners.

Pending resolution of land protection funding, seek cooperative agreements or acquire sufficient rights to permit the following:

research to develop baseline data on natural and cultural resources, visitor use, and current management practices

cooperative assistance (at a landowner's request) in resource management, law enforcement, and visitor use/interpretation

an NPS presence on the islands to assist in research, planning, and management

limited low-entry public use consistent with the park's enabling legislation (on an overnight basis if determined appropriate) when research has progressed to the point where nonsensitive, public use areas can be defined (such use will primarily be for the purposes of obtaining further planning data)

Develop and implement a supplement to the natural resources management plan for the restoration of natural habitats and the preservation of genetic diversity of those areas not covered in the current plan.

Develop and implement a supplement to the cultural resources management plan for the identification, evaluation, and appropriate

preservation of prehistoric and historic sites, structures, and settings.

Based on the above studies and plans, determine appropriate levels of visitation (carrying capacities) in relation to the various resources, seasons, and types of anticipated uses to be permitted, while operating the overall park on a limited-entry/low-intensity use basis.

Based on the above plans and studies, initiate public transportation and wilderness suitability studies.

Amend the 1980 General Management Plan to cover those areas of the park not included in the current plan; to document management guidelines for carrying capacities, appropriate uses, and interpretive themes; to describe the location, scale, and style of any visitor use or administrative facilities; to set guidelines for public transportation to the park; and to establish management zoning classifications that ensure future management of specific areas in accordance with these objectives and the legislated mandates for maximum resource preservation.

Provide for visitor use and enjoyment of the park, and foster visitor understanding of its unique natural and cultural resources in a manner commensurate with the legislated purposes of the park.

Provide visitors with information, orientation, and interpretive services, as specified in the park's "Statement for Interpretation," which will enhance their safe enjoyment and understanding of the park and will promote low impact, nonconsumptive uses.

Provide visitors with adequate and feasible access so they can directly experience the park resources.

Encourage private enterprise (through cooperative agreements or other means) to provide at the lowest possible cost transportation and recreational/educational services consistent with identified carrying capacities from bases of operation to be located, to the extent possible, outside the park.

Establish, in accordance with the approved General Management Plan and Supplement, any necessary administrative and visitor use facilities in nonsensitive areas.

Monitor the effects of visitor use and park management actions and modify management policies as may be necessary to mitigate impacts and ensure maximum preservation of the natural and cultural resources.

Provide off-site programs to target audiences and the general public in order to inform them about the unique values of the park and, for those who may not be able to visit the park, to bring the park to them.

Seek, through cooperative and innovative means, to make the park reasonably accessible to those special populations who may not be able to experience the park by conventional means.

Ensure long-term management of the park in accordance with the approved management plans and legislated mandates.

Seek adequate funding to implement and continue long-term research and monitoring programs.

Provide the minimum necessary personnel to carry out interpretation, resource management, visitor protection and services, law enforcement, and maintenance programs.

Employ innovative approaches to executing optimal staffing plans that recognize the knowledge, skills, and interests of local persons.

Seek assistance from the scientific community in conducting research programs that directly address park management problems or needs.

Employ innovative approaches to use community resources and expertise to promote the management objectives of the park.

APPENDIX E: THREATENED OR ENDANGERED SPECIES
OCCURRING WITHIN CHANNEL ISLANDS NATIONAL PARK
 (U.S. Fish and Wildlife Service, May 1983)

Anacapa
 Santa Barbara
 San Miguel
 Santa Rosa
 Santa Cruz

LISTED SPECIES

California brown pelican, Pelecanus occidentalis californicus
 Bald eagle, Haliaeetus leucocephalus
 (nested historically on all Channel Islands;
 plans for reintroduction on some of the islands)
 American peregrine falcon, Falco peregrinus anatum
 (historically nested on all Channel Islands,
 except San Nicolas; common winter visitor)
 Island night lizard, Klauberina riversiana
 California sea otter, Enhydra lutris nereis
 (historic on all islands)
 Santa Barbara Island live-forever, Dudleya traskiae

X	X			
		X		
	X			

PROPOSED SPECIES

None

CANDIDATE SPECIES

Concentrated snail, Micrarionta facta
 Slug snail, Binneya notabilis
 Tryon's snail, Micrarionta tryoni
 Hoffmann's rock-cress, Arabis hoffmannii
 Santa Catalina Island manzanita, Arctostaphylos catalinae
 Trask's milk-vetch, Astragalus traskiae
 White-felted paint-brush, Castilleja hololeuca
 Soft-leaved paint-brush, Castilleja mollis
 Santa Rosa Island live-forever, Dudleya blochmaniae
 subsp. insularis
 Candelabra live-forever, Dudleya candelabrum
 Santa Cruz Island live-forever, Dudleya nesiotica
 Santa Barbara Island buckwheat, Eriogonum giganteum
 var. compactum
 San Miguel Island buckwheat, Eriogonum grande var.
dunklei
 Island bedstraw, Galium buxifolium
 Showy gambelia, Galvezia speciosa
 Hoffmann's slender-flower gilia, Gilia tenuiflora subsp.
hoffmannii
 Island hazardia, Hazardia cana
 Island bush-rose, Helianthemum greenei
 Island alum-root, Heuchera maxima

	X			
	X			
	X			
			X	X
			X	X
	X			
			X	
			X	X
			X	X
	X			
		X		
	*	X	X	X
			X	
X			X	X
		*		X
X			X	X

Santa Cruz Island hosackia, Lotus argophyllus subsp. niveus
 Fern-leaved ironwood, Lyonothannus floribundus subsp. asplenifolius
 Island barberry, Mahonia (Berberis) pinnata subsp. insularis
 Santa Cruz Island bush-mallow, Malocothamnus fasciculatus var. nesioticus
 Santa Cruz monkeyflower, Mimulus brandegei
 Short-lobed broomrape, Orobanche parishii subsp. brachyloba
 Island phacelia, Phacelia insularis var. insularis
 Torrey pine, Pinus torreyana
 Island oak, Quercus tomentella
 Hoffmann's sanicle, Sanicula hoffmannii
 Island rock-cress, Sibara filifolia
 Island fringepod, Thysanocarpus conchuliferus

Anacapa
 Santa Barbara
 San Miguel
 Santa Rosa
 Santa Cruz

	Anacapa	Santa Barbara	San Miguel	Santa Rosa	Santa Cruz
Santa Cruz Island hosackia, <u>Lotus argophyllus</u> subsp. <u>niveus</u>					X
Fern-leaved ironwood, <u>Lyonothannus floribundus</u> subsp. <u>asplenifolius</u>			X	X	
Island barberry, <u>Mahonia (Berberis) pinnata</u> subsp. <u>insularis</u>	X		X	X	
Santa Cruz Island bush-mallow, <u>Malocothamnus fasciculatus</u> var. <u>nesioticus</u>					X
Santa Cruz monkeyflower, <u>Mimulus brandegei</u>					*
Short-lobed broomrape, <u>Orobanche parishii</u> subsp. <u>brachyloba</u>	X	X	X	X	X
Island phacelia, <u>Phacelia insularis</u> var. <u>insularis</u>		X	X		
Torrey pine, <u>Pinus torreyana</u>			X		
Island oak, <u>Quercus tomentella</u>	X		X	X	X
Hoffmann's sanicle, <u>Sanicula hoffmannii</u>			X		X
Island rock-cress, <u>Sibara filifolia</u>					*
Island fringepod, <u>Thysanocarpus conchuliferus</u>					X

*Possibly extinct.

APPENDIX F: FEDERAL CONSISTENCY WITH
CALIFORNIA COASTAL ZONE MANAGEMENT POLICIES

In evaluating the consistency of the General Management Plan Supplement with coastal zone management policies, both Coastal Zone Management Act policies and local plan policies and actions were considered. The portion of the local coastal plan relating to the Channel Islands has not been approved (certified) by the California Coastal Commission. Litigation by the landowners and Santa Barbara County is pending. It is not believed that the issues in dispute will affect the proposed plan for Channel Islands National Park.

Certain inconsistencies exist within the coastal act policies if each policy is considered as a separate entity. The full range of policies and goals must be evaluated in making a consistency determination. The following table uses four ratings to indicate consistency:

- C - Consistent with coastal zone management policies
- I - Inconsistent
- Q - Consistent with qualifications (when this rating is given, generally another policy is cited as the controlling or more restrictive policy)
- NA - Not applicable

Only one inconsistency exists, apparently because of the inadequate information base for environmentally sensitive habitat areas on the Channel Islands. This inadequacy is recognized in the local coastal plan and the NPS General Management Plan Supplement. It is believed that this inconsistency will be resolved through additional resource inventories.

The Ventura County coastal plan does not address Channel Islands National Park. Some concern has been expressed that visitors to the islands will require increased facilities on the mainland, particularly campsites. The proposed low-intensity visitor use levels within the park should have a minimal impact on facilities within Ventura County.

The following table discusses applicable state and local coastal zone management policies, briefly evaluates NPS proposals, and states the NPS view on consistency.

FEDERAL CONSISTENCY WITH CALIFORNIA COASTAL ZONE MANAGEMENT POLICIES

COASTAL SECTION	POLICY	EVALUATION OF THE PROPOSAL	CONSISTENCY
<u>Public Access</u>			
30210	Maximum access and recreational opportunities shall be provided for all.	Limited recreational experiences are provided for the general public and, to the extent feasible, special populations. Access will, however, be limited in some areas (see policy 30214) to ensure resource preservation and a quality visitor experience.	Q
30211	Development shall not interfere with public right of access to the sea.	Access to certain shoreline areas may be restricted to protect significant resources, but no proposed development will interfere with public access. The renovation of piers will improve general access, and the change from private to public ownership will significantly increase coastal areas open to public use.	C
30212	Public shoreline access shall be provided from nearest roadway.	Access to the park islands will be by boat and, to a lesser extent, aircraft.	NA
<u>Recreation and Visitor-Serving Facilities</u>			
30212.5	Parking areas and facilities shall be distributed through the area so as to mitigate against the impacts of overuse of any single area.	Facilities are proposed in currently developed areas, and carrying capacities will be established to minimize impacts. Because the number of access points is limited by topographic and other considerations, some areas will receive heavier use than others. Dispersal of visitors will depend upon their interests and hardiness, but will be restricted for some by the lack of on-island transportation. Impacts will be monitored and capacities adjusted as needed to mitigate any adverse effects.	C
30213	Low-cost visitor and recreation facilities shall be protected and encouraged.	Under current private ownership there are no low-cost visitor facilities on east Santa Cruz or Santa Rosa. Camping is available on Anacapa and Santa Barbara, and camping is proposed on east Santa Cruz, Santa Rosa, and San Miguel. Relatively low-cost hostel or bed-and-board facilities were considered for future implementation, but were rejected as incompatible with limited-entry, low-intensity use concepts. Camping will be eliminated on Anacapa when camping facilities are developed on east Santa Cruz island.	C
30214	The public access policies shall be implemented in a manner that takes into account the need to regulate the time, place, and manner of public access.	The plan recognizes that the islands and adjacent waters contain many significant and sometimes sensitive resources. The management zoning plan for each island prescribes uses appropriate to particular habitats, based on such factors as the fragility of resources or the sensitivity to human disturbance. In evaluating consistency, section 30214 has been considered the controlling policy when there are apparent conflicts with the congressional intent to maximize resource preservation while permitting public use on a limited-entry, low-intensity basis.	C
30220	Coastal areas shall be used for water-oriented recreational activities that cannot be provided inland.	The emphasis in the plan is on nonconsumptive, recreational use of the marine resources and educational/interpretive programs.	C
30221	Suitable oceanfront land shall be protected for recreational use unless such uses are already adequately provided.	All oceanfront land within the park will be protected for public recreational use subject to some restrictions for resource preservation.	C

COASTAL SECTION	POLICY	EVALUATION OF THE PROPOSAL	CONSISTENCY
30222	The use of private lands suitable for visitor-serving commercial recreational facilities designed to enhance public opportunities for coastal recreation shall have priority over private residential, general industrial, or general commercial development, but not over agriculture or coastal-dependent industry.	No private residential, general industrial, or general commercial developments are proposed. All proposed facilities are related to providing visitor services and educational/research opportunities. Limited management facilities will be required in support of these public services. An inconsistency exists in that the restoration of natural biotic associations is given preference over agricultural or coastal-dependent industry. NPS scientists have determined that current ranching practices are severely affecting environmentally sensitive habitats on east Santa Cruz and, to a lesser extent, on Santa Rosa. Current agricultural uses and feral animals must be eliminated on east Santa Cruz to ensure perpetuation of native plant species. On Santa Rosa Island, continued agricultural uses could be permitted on a reduced basis that would allow fencing of sensitive habitat areas (see local plan, action 2). Such actions would prove only partially successful as long as feral animals remained on the island. Although options were explored to permit continued ranching on Santa Rosa Island, the owners have indicated that a reduced operation would not be economically viable.	Q
30241	The maximum amount of prime agricultural land shall be maintained in production.	Although the proposals may not be consistent with policies to preserve agricultural lands, they are consistent with policies 30240a and b for the preservation (and restoration) of environmentally sensitive habitat areas. Furthermore, the proposals are consistent with a basic goal of the Coastal Zone Management Act: "Protect, maintain and, where feasible, enhance and restore the overall quality of the coastal zone environment and its natural and man-made resources."	
30242	Suitable agricultural land shall not be converted to nonagricultural uses.		
30411c	Salt water or brackish water aquaculture is a coastal-dependent use which should be encouraged to augment food supplies.	Aquaculture is not proposed for Channel Islands National Park. Any such proposals from the private sector will be evaluated on a case-by-case basis for consistency with NPS management policies and objectives.	C
30223	Upland areas necessary to support coastal recreational uses shall be reserved for such uses, where feasible.	Both coastal and upland areas will be managed as an integral ecosystem, and appropriate facilities and services will be provided on a minimal basis to support coastal, marine, and terrestrial recreational uses.	C
30224	Increased recreational boating use of coastal waters shall be encouraged, in accordance with this division, by developing dry storage areas, increasing public launching facilities, providing additional berthing space in existing harbors, limiting non-water-support facilities, providing harbors of refuge, and by providing for new boating facilities in natural harbors, new protected water areas, and in areas dredged from dry land.	Increased, nonconsumptive recreational boating use will be encouraged through a variety of programs. However, other than repair (or replacement) of some docks, boating facilities such as moorings, berthing spaces, and storage areas, are not proposed by the National Park Service except for limited management needs. Although some anchorages may be closed to protect marine resources, they will remain available as harbors of refuge in emergencies or severe weather. Construction of new facilities on the seabed are prohibited under the national marine sanctuary regulations and any facilities such as moorings or berthing spaces will be within state jurisdiction. The proposal is consistent with the local coastal plan policy 4.	Q
30250a	New development shall be located within or near existing development with public services.	To the extent feasible, existing facilities will be adapted for public and management needs. New facilities, other than primitive backcountry facilities, are proposed in existing or previously disturbed areas. No public services exist. No hazardous industrial development is proposed.	C
30250b	Hazardous industrial development shall be located away from developed areas.		
30250c	Visitor-serving facilities that cannot feasibly be located in existing developed areas shall be located in existing isolated developments or at selected points of attraction for visitors.		

COASTAL SECTION	POLICY	EVALUATION OF THE PROPOSAL	CONSISTENCY
<u>Water and Marine Resources</u>			
30230	Marine resources shall be maintained, enhanced, and restored.	Jurisdiction over the management of marine resources lies with the state. The plan proposes the establishment of ecological reserves around Santa Cruz and Santa Rosa islands and the adoption of regulations to ensure the preservation of a balanced marine ecosystem.	C
30231	Coastal water quality shall be maintained, enhanced, and restored.	None of the proposals will directly affect the quality of coastal waters. However, increased boating use may lead to some minor and localized deterioration of water quality. This possibility is consistent with section 30224, which calls for increased recreational boating use. Therefore, some minor, short-term deterioration of water quality appears consistent with policy.	C
30233a	Diking, filling, and dredging of ocean waters shall be permitted when other alternatives are not available or when adverse impacts are minimized.	Diking, filling, or dredging are not proposed. Some minor, short-term disturbance of the seabed may occur during dock rehabilitation or reconstruction.	C
30233b	Dredging and spoils disposal shall avoid significant disruption to marine and wildlife habitats.		
30233c	Dredging in existing estuaries and wetlands shall maintain or enhance the wetland or estuary.		
30236	Channelizations, dams, or other substantial alterations of rivers and streams shall incorporate the best mitigation measures feasible.	Proposed flood mitigation measures are of a minor nature, consisting of maintaining existing channels with some modifications to improve visual quality. Maintaining an outlet through the beach berm at Scorpion Anchorage to mitigate flooding in the lower valley may prove difficult and costly. Further analysis will be required before this proposal can be implemented.	C
<u>Commercial Fishing and Recreational Boating</u>			
30234	Facilities serving the commercial fishing and recreational boating industries shall be protected and, where feasible, upgraded. Proposed recreational boating facilities shall, where feasible, be designed and located in such a fashion as not to interfere with the needs of the commercial fishing industry.	No facilities serving the commercial fishing or recreational boating industries are affected by the proposals. The proposed establishment of state ecological reserves and adoption of regulations could impose additional restrictions on commercial and sport fishing. The proposals are consistent with actions proposed in the local coastal plan.	C
<u>Environmentally Sensitive Habitat Areas</u>			
30240a	Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on such resources shall be allowed within such areas.	As currently mapped in the local coastal plan, environmentally sensitive habitat areas are quite extensive and include most of the developed areas on east Santa Cruz and Santa Rosa islands. The local coastal plan recognizes the need to update these maps (see action 4, section 4.8.6 of the local plan). A team of NPS scientists has investigated all environmentally sensitive habitat areas where current and projected visitor use might occur. It generally was found that significant plant species listed for these areas occur in limited refuge habitats. Because these habitats could expand with the elimination of grazing, the initial proposals call for limited development and relatively low use levels. This approach will permit resource management specialists to monitor vegetation changes and visitor use impacts. Increased facilities and use levels	I
30240b	Development in areas adjacent to environmentally sensitive habitat areas shall be compatible with the continuance of such habitat.		

COASTAL SECTION	POLICY	EVALUATION OF THE PROPOSAL	CONSISTENCY
		<p>will be permitted only if further research indicates such actions will not cause significant adverse effects. The primary visitor facilities on both islands are proposed in currently designated environmentally sensitive habitat areas. Because these are also the currently developed areas, as well as logical points of access (and in the case of east Santa Cruz, the only safe point of access), it is logical to continue to use these areas and existing facilities rather than develop new facilities in currently undisturbed areas. The environmental and financial consequences of attempting to duplicate these facilities in another location is prohibitive.</p> <p>The National Park Service will make every effort to ensure that development in and adjacent to currently designated environmentally sensitive habitat areas will be compatible with the continuance of such habitat. The Park Service will cooperate with Santa Barbara County and other agencies to produce a comprehensive, mapped inventory of the species and habitat locations on the two islands. Based on recent research, existing areas will be redefined, and a number of additional sensitive areas will probably be identified.</p> <p>Although the proposals appear inconsistent with section 30240a and, to a lesser extent, section 30240b, we are confident that further research prior to implementation will permit the provision of visitor services and facilities in a manner consistent with these policies.</p>	
<u>Development</u> 30244	Adverse impacts on archeological and paleontological resources shall be mitigated.	NPS policies require the protection of archeological and paleontological resources. The proposals are based on data obtained by NPS scientists and should not have adverse effects on these resources. However, prior to the implementation of any actions, site-specific surveys will be conducted, and if required, adverse impacts will be mitigated.	C
<u>Visual Resources</u> 30251	Scenic and visual quality shall be considered and protected.	A major emphasis of the plan is to preserve scenic and visual quality. The visual character of the islands will change with the elimination of grazing, and the change from a pastoral scene to native biotic associations may be objectionable to some people. It is proposed that a portion of Santa Rosa Island be preserved as a pastoral/ranching scene and designated as a historic landscape preservation area.	C
30252	The location and amount of new development should maintain and enhance public access to the coast through provision of transit services, commercial facilities within or adjoining residential development, nonauto circulation, adequate parking or public transit, and adequate amounts of recreation facilities.	The proposals will enhance public access to the islands primarily through the provision of scheduled water transportation services, limited air access, docking facilities, and extensive trail systems. On-island transportation services were considered but are not proposed. Facilities, while primitive, will be adequate within the limits of carrying capacities. Commercial facilities and services planned primarily to increase accessibility for a broader spectrum of the public, including the disabled, were considered as an alternative but are not proposed. The proposals may not be fully consistent with the intent of this policy.	Q
<u>Hazard Areas</u> 30253 (1)	The development shall minimize risks to life and property in geologic, flood, and fire hazard areas.	Risks to life and property have been evaluated, and all proposals are consistent with this policy. It is recognized that certain hazards are associated with boating activities and landings in coastal areas and cannot be entirely eliminated. Additional public use (over current levels) and vegetation changes may increase fire hazards. Open fires will be prohibited, and if necessary, areas may be closed to public use during times of extreme fire hazard.	C

<u>COASTAL SECTION</u>	<u>POLICY</u>	<u>EVALUATION OF THE PROPOSAL</u>	<u>CONSISTENCY</u>
30253 (2)	The development shall ensure site stability and will not substantially alter natural landforms.	All proposed development will be designed to harmonize with the natural landforms. Site alterations will be minimal.	C
30253 (3)	The development shall be consistent with air pollution control requirements.	All development will be consistent with air pollution control requirements. The National Park Service will seek class I designation under the Clean Air Act. Currently, the islands under NPS administration are designated as class II.	C
30253 (4)	The development shall minimize energy consumption.	Alternative energy sources and energy-conserving designs for facilities will be used to the extent feasible. Fuel consumption will increase some above current levels because public transportation will be provided to the islands.	C

FEDERAL CONSISTENCY WITH SANTA BARBARA COUNTY COASTAL ZONE
MANAGEMENT POLICIES AND ACTIONS FOR THE CHANNEL ISLANDS

Policies and Actions

The following policies and actions are proposed to ensure long-term preservation of the natural resources of Santa Cruz and Santa Rosa islands:

Policy 1:	Agricultural activities should continue to be carried out in a manner consistent with historical practices, future technology, and good cultural practices, and with the maintenance of natural flora and fauna, preservation of soils and topography, and protection of the quality of surface and subsurface waters.	See discussions on state policies 30222, 30241 and 30242. NPS scientists have determined that current agricultural uses must be discontinued if the restoration of natural flora and fauna assemblages is to be achieved and severe erosion is to be reduced. The proposals are consistent with the policy for preservation of resources but are inconsistent with the portion of the policy for continued agricultural uses.	Q
Policy 2:	Prior to the issuance of a permit for any major grading or construction, the site to be disturbed shall be inspected by both a qualified archeologist and biologist, to be selected jointly by the applicant and the county. If archeological or environmentally sensitive habitat resources are found, measures to mitigate or avoid impacts shall be required for issuance of a permit.	All proposals are consistent with NPS policies for the preservation of natural and cultural resources and are therefore consistent with this policy.	C
Policy 3:	Introduction of any nonnative animal, other than cattle, sheep, horses, dogs, and domestic fowl, or plant species which could be detrimental to the ecological equilibrium of the islands is prohibited.	NPS management policies are consistent with this policy.	C

Policies and Actions

Policy 4:	Construction of major facilities for commercial and/or recreational purposes is prohibited except where found not to have significant unavoidable adverse impacts. In this context, major harbor facilities mean development involving construction of breakwaters, permanent slips, or related commercial support facilities (i.e., gas stations, restaurants) for use by visitors to the islands. Upgrading or expansion of existing pier facilities or moorings for agricultural, educational, scientific, or low-intensity public recreational purposes may be allowed with a conditional use permit.	The proposals do not include any major new facilities. Upgrading of existing pier facilities for educational, scientific, and low-intensity public recreational purposes is proposed. It should be noted that recent winter storms have severely damaged some existing pier facilities. By the time the proposals can be implemented, totally new facilities may be required.	C
Policy 5:	Light recreational uses, both public and private, may be allowed with a conditional use permit provided that the kinds, intensity, and location of uses are managed to avoid impacts to all habitat, archeological, and historical resources. The existing hunt clubs and landing permit systems which are operated by the property owners shall be allowed to continue at their current levels without permit requirements.	The proposals for limited-entry, low-intensity public use, which are compatible with the preservation of natural and cultural resources, are consistent with this policy. When the National Park Service acquires the private lands, existing hunt club operations on Santa Rosa Island will be phased out in accordance with NPS policies.	C
Policy 6:	Permitted development shall be sited and designed to be subordinate to the natural setting. Construction of new aboveground structures in excess of 1,000 square feet excluding structures for agricultural purposes shall be subject to design review by the County Board of Architectural Review.	All new facilities will be designed to harmonize with the natural and/or historic setting. No major structures are proposed, but some existing structures are proposed for renovation and adaptive use.	C
Policy 7:	All new oil and gas related development, including pipelines, shall be subject to the issuance of a conditional use permit (CUP). Prior to granting of a CUP, the county shall make the specific finding required by PRC Section 30280.	No new oil and gas related development is proposed by the National Park Service.	NA

Policies and Actions

- | | | | |
|-----------|--|--|---|
| Action 1: | The county in consultation with the Department of Fish and Game, the landowners, commercial and sport fishing groups, and other interested persons shall determine whether certain intertidal and subtidal areas adjacent to the islands qualify for preserve status. Such preserves, if established, shall not be used for commercial or sport fishing. Permitted uses shall be limited to nonappropriative recreation (i.e., diving or photography) and scientific research. The county shall also work with these groups to determine the feasibility of prohibiting all uses, including overnight anchoring of boats, within and in close proximity to marine bird nesting sites and pinniped rookeries during the time when such uses would create disturbances to those habitats and the species utilizing them. | The National Park Service supports this action and will cooperate with applicable agencies to establish protective zoning and regulations to ensure the sound management of marine resources. | C |
| Action 2: | Until such time as feral animals are eliminated from the islands, the county should encourage and support efforts by landowners or other interested parties to protect areas with significant native vegetation by fencing or other such enclosures. | The National Park Service supports this action and, subject to current owners' consent, will actively participate in its implementation. | C |
| Action 3: | The county shall encourage the nomination of Santa Rosa and Santa Cruz islands to the National Register of Historic Places. | The National Park Service is in the process of evaluating archeologic and historic resources. This effort has been limited by restrictions on access to the properties. Upon completion of research and documentation and in consultation with the state historic preservation officer, appropriate National Register nomination forms will be prepared. | C |
| Action 4: | If funding permits, future work should be initiated to produce a comprehensive mapped inventory of the species and habitat locations not included on the Channel Islands Resource Maps as of May 1980. In updating these Resource Maps, the county shall consider mapping inventories performed on the Channel Islands by other agencies. | The National Park Service supports this action and believes that this effort will resolve some of the inconsistencies between the proposals and policies. No action will be taken to implement the proposals until the site-specific resource inventories have been completed and the inconsistencies resolved. | C |

SELECTED BIBLIOGRAPHY

- BROWN, PATRICIA E.
1980 "Distribution of Bats of the California Channel Islands." In The California Islands, ed. Dennis M. Power, 751-56. Santa Barbara: Santa Barbara Museum of Natural History.
- COLE, D.N., AND R.K. FICHTLER
1983 "Campsite Impact on Three Western Wilderness Areas," Environmental Management 7(3):275-88.
- DIAMOND, J.M.
1969 "Avifaunal Equilibria and Species Turnover Rates on the Channel Islands of California." Proceedings of the National Academy of Sciences 64:57-73.
- DOBBIN, JAMES, ASSOCIATES, INC.
1983 Channel Islands National Marine Sanctuary Management Plan (Final Draft). Prepared for the U.S. Department of Commerce, National Oceanic and Atmospheric Administration, Sanctuaries Programs Division. On file at Channel Islands National Park.
- GILL, AYESGA E.
1980 "Evolutionary Genetics of California Islands Peromyscus." In The California Islands, ed. Dennis M. Power, 719-43. Santa Barbara: Santa Barbara Museum of Natural History.
- GLASSOW, MICHAEL A.
1983 "The Status of Archaeological Research on Eastern Santa Cruz Island, California." Prepared for the National Park Service by the Office of Public Archaeology, Social Process Research Institute, University of California, Santa Barbara. On file at Channel Islands National Park.
- GLASSOW, MICHAEL A., LARRY R. WILCOXON, JOHN R. JOHNSON, AND GREGORY P. KING
1983 "The Status of Archaeological Research on Santa Rosa Island." Prepared for the National Park Service by the Office of Public Archaeology, Social Process Research Institute, University of California, Santa Barbara. On file at Channel Islands National Park.
- GOLDSTEIN AND T. SWAIN
1965 "The Inhibition of Enzymes by Tannins," Paytochemistry 4:185-92.
- GRINNELL, J., AND A.H. MILLER
1944 "The Distribution of the Birds of California." Pacific Coast Avifauna 27:1-608.

- HOWELL, A.B.
1917 "Birds of the Islands Off the Coast of Southern California." Pacific Coast Avifauna 12:1-127.
- JENSEN, H.A.
1957 "A System for Classifying Vegetation in California." California Fish and Game 33:199-266.
- JOHNSON, N.K.
1972 "Origin and Differentiation of the Avifauna of the Channel Islands, California." Condor 74:295-315.
- JONES, H.L., AND J.M. DIAMOND
1976 "Short-Time-Base Studies of Turnover in Breeding Birds of the California Channel Islands." Condor 76:526-49.
- JONES, LEE, ROSE STEFANI, AND PAUL W. COLLINS
1981 "Birds of the Channel Islands National Park." On file at Channel Islands National Park.
- JONES, PHILIP MILLS
1956 Archeological Investigations on Santa Rosa Island in 1901. Edited by R.F. Heizer and A.B. Elsasser. Berkeley: University of California Press.
- KINGSBURY, J.M.
1960 Poisonous Plants of the United States and Canada. Englewood Cliffs, N.J.: Prentice-Hall.
- KUCHLER, AUGUST WILL
1977 Map of the natural vegetation of California. In Terrestrial Vegetation of California, ed. M.G. Barbour and Jack Major. New York: John Wiley and Sons.
- LAUGHRIN, LYNDAL
1977 "The Island Fox: A Field Study of Its Behavior and Ecology." Ph.D. diss., University of California at Santa Barbara.

1980 "Populations and Status of the Island Fox." In The California Islands, ed. Dennis M. Power, 745-49. Santa Barbara: Santa Barbara Museum of Natural History.
- LYNCH, J.F., AND N.K. JOHNSON
1974 "Turnover and Equilibria in Insular Avifaunas, with Special Reference to the California Channel Islands." Condor 76:370-84.
- MCDONNELL, M.J.
1981 "Trampling Effects on Coastal Dune Vegetation in the Parker River National Wildlife Refuge, Massachusetts, USA." Biological Conservation 21:289-301.

- MYLER, J.L.
1970 "The Dirty Animal-Man." In Eco-Crisis, edited by C.E. Johnson, pp. 116-41.
- MUNZ, PHILIP A., AND DAVID D. KECK
1959 A California Flora. Berkeley: University of California Press.
- ODUM, E.P.
1971 Fundamentals of Ecology. 3rd. ed. Philadelphia: W.B. Saunders Company.
- ORR, P.C., AND R. BERGER
1966 "The Fire Areas on Santa Rosa Island, California." Proceedings of the National Academy of Sciences 56:1409-16.
- PHILBRICK, RALPH N., AND ROBERT HALLER
1977 "The Southern California Islands." In Terrestrial Vegetation of California, ed. M.G. Barbour and Jack Major, 893-908. New York: John Wiley and Sons.
- POWER, DENNIS M.
1972 "Numbers of Bird Species on the Channel Islands." Evolution 26:451-63.
- POWER, DENNIS M., ed.
1980 The California Islands: Proceedings of a Multidisciplinary Symposium. Santa Barbara Museum of Natural History.
- RUSSELL, GEORGE VERNON, F.A.I.A., AND ASSOCIATES
1965 A Master Plan for the Gherini Ranch Development, Santa Cruz Island, Santa Barbara County, California. Los Angeles.
- SAN BUENAVENTURA, CITY OF, CALIFORNIA
1981 Local Coastal Program, Ventura Harbor Segment.
1982 "Local Coastal Program, Land Use Plan." Draft.
- SANTA BARBARA COUNTY, CALIFORNIA
1982 Santa Barbara County Coastal Plan.
1982 Santa Barbara County Coastal Zoning Ordinance.
- SMALL, A.
1974 The Birds of California. New York: Macmillan Publishing Co.
- SMITH, CLIFTON F.
1976 A Flora of the Santa Barbara Region, California. Santa Barbara: Santa Barbara Museum of Natural History.
- SONNEMAN, H., D. WEAVER, D. DOERNER, AND F. AVILA
1969 Geology map of Santa Rosa Island. Special publication. Pacific Sections of American Association of Petroleum Geologists and Society of Economic Paleontologists and Mineralogists.

STONIER, TOM

- 1970 "Ecological Upsets: Climate and Erosion." In Eco-Crisis, edited by C.E. Johnson, pp. 49-60.

U.S. DEPARTMENT OF COMMERCE, NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

- 1980 Final Environmental Impact Statement on the Proposed Channel Islands Marine Sanctuary. Washington, D.C.

U.S. DEPARTMENT OF THE INTERIOR, NATIONAL PARK SERVICE

- 1978 "Management Policies." Washington, D.C.
- 1979 Environmental Assessment of Alternatives for Visitor Use/ Interpretation/General Development, Channel Islands National Monument. Denver Service Center.
- 1980 General Management Plan, Channel Islands National Park--Anacapa, Santa Barbara, and San Miguel Islands. 2 vols. Vol 1: Visitor Use, Interpretation, and General Development; vol 2: Natural and Cultural Resources Management. Denver Service Center.
- 1982 Channel Islands National Park Biennial Natural Resources Study Report. Denver Service Center.
- 1982 Land Protection Case Study, Channel Islands National Park. Denver Service Center.
- 1982 New Tools for Land Protection: An Introductory Handbook. Washington, D.C.
- 1983 "Draft Statement for Management, Channel Islands National Park." On file at Channel Islands National Park.
- 1983 Draft Land Protection Plan, Channel Islands National Park. Denver Service Center.
- 1983 "Natural and Cultural Resources Survey, Santa Rosa and East Santa Cruz Islands." On file at Channel Islands National Park.

VENTURA COUNTY, CALIFORNIA

- 1982 Ventura County General Plan, Land Use Element for the Coastal Zone.

WEAVER, D.W., D.P. DOERNER, AND B. NOLF

- 1969 Geology of the Northern Channel Islands. Special Publication. Pacific Sections of American Association of Petroleum Geologists and Society of Economic Paleontologist and Mineralogists.

WENNER, ADRIAN M., AND DONALD L. JOHNSON

- 1980 "Land Vertebrates on the California Channel Islands: Sweepstakes or Bridges?" In The California Islands, ed. Dennis M. Power, 497-530. Santa Barbara: Santa Barbara Museum of Natural History.

PLANNING TEAM AND CONSULTANTS

PLANNING TEAM

Douglas B. Cornell, Jr.
Senior Planner, Denver Service Center

John Brooks
Environmental Specialist, Denver Service Center

Alan H. Robinson
Environmental Specialist, Denver Service Center

William H. Ehorn
Superintendent, Channel Islands National Park

Nicholas Whelan
Management Assistant, Channel Islands National Park

Robert Easterling
Realty Specialist, Western Regional Office

CONSULTANTS

Bruce Craig
Park Historian, Channel Islands National Park

Gary Davis
Marine Biologist, Western Regional Office

Charles Drost
Research Assistant, Channel Islands National Park

Gary Fellers
Research Biologist, Point Reyes National Seashore

Denny Fenn
Soil Scientist, Western Regional Office

Reed McCluskey
Resource Management Specialist, Channel Islands National Park

Don Morris
Archeologist, Western Archeological and Conservation Center

Carol Pillsbury
Manager, Channel Islands National Marine Sanctuary

Charles van Riper, III
Ornithologist, University of California, Davis

Steve Veirs
Research Biologist, Redwoods National Park

As the Nation's principal conservation agency, the Department of the Interior has basic responsibilities to protect and conserve our land and water, energy and minerals, fish and wildlife, parks and recreation areas, and to ensure the wise use of all these resources. The department also has major responsibility for American Indian reservation communities and for people who live in island territories under U.S. administration.

Publication services were provided by the graphics and editorial staffs of the Denver Service Center. NPS 2197

U.S. DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
CHANNEL ISLANDS NATIONAL PARK
1901 Spinnaker Drive
Ventura, California 93001

POSTAGE AND FEE PAID
U.S. DEPARTMENT OF THE INTERIOR
INT-417



OFFICIAL BUSINESS

PENALTY FOR PRIVATE USE, \$300