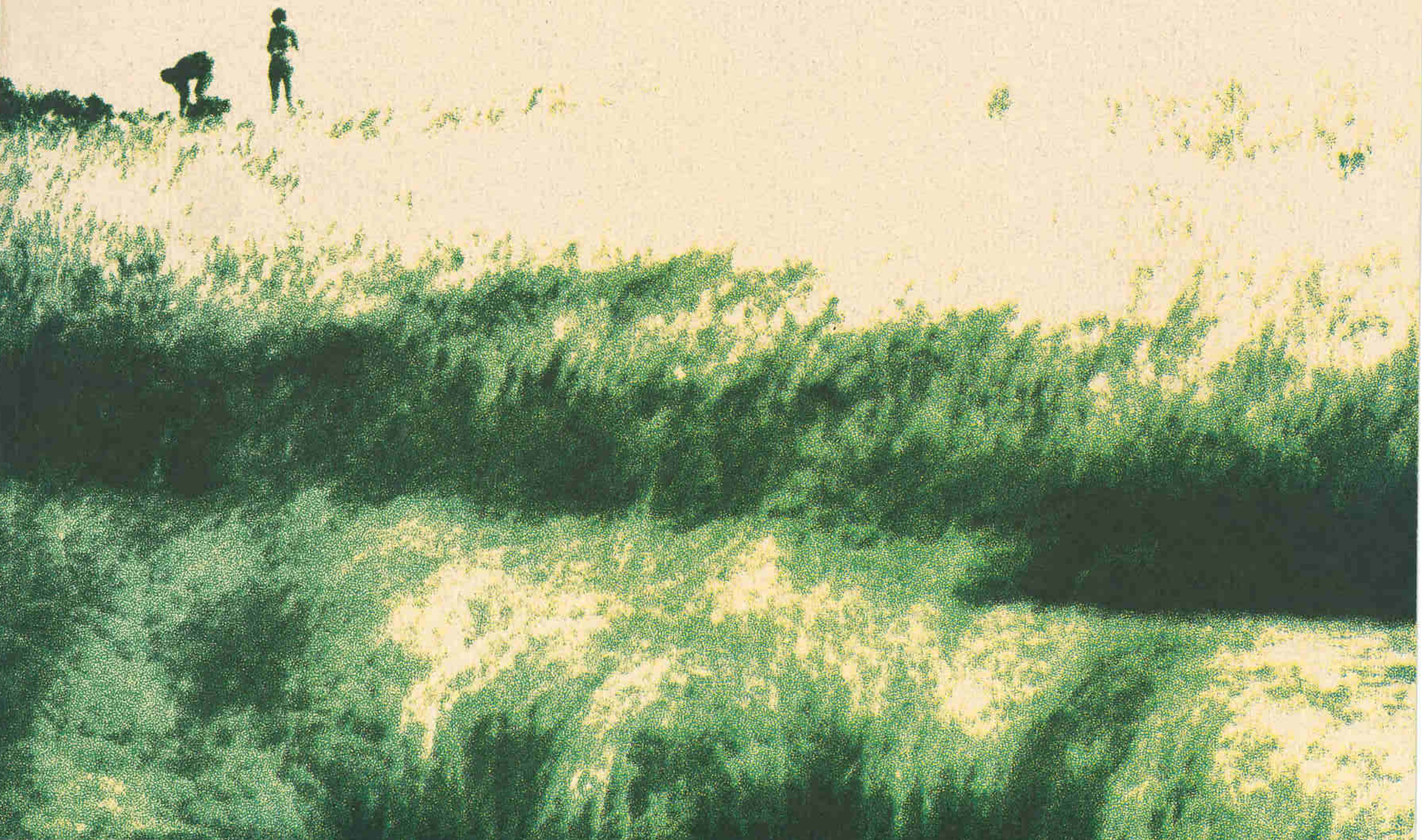


# The Bay Islands Park: A Marine Recreation Plan For The State Of Rhode Island





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Prepared for the  
Advisory Committee on Island Parks

By the  
Coastal Resources Center  
University of Rhode Island



In association with the  
Departments of Natural Resources  
and Community Affairs,  
the Statewide Planning Program,  
and the University of Rhode Island

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Dennis Murphy, Jr.  
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Dear Mr. Murphy:

The members of the Citizens' Advisory Committee on Island Parks commend the State Department of Natural Resources for its continued persistence and determination in placing before the public for discussion the concept of a series of island parks in Narragansett Bay.

The concept has provoked healthy and rather complete discussion throughout the state, and particularly in those communities that have a physical relationship to Narragansett Bay.

The Advisory Committee, in presenting this final report to the Director of Natural Resources, wants to make the following summary points:

1. The action recommended in this report is practical, timely, and achievable.
2. The Bay Islands Park proposal provides a rare, one-time opportunity to help guarantee for future generations of Rhode Islanders the excellent quality of life still available in our state.
3. If for any reason the state earmarks the bay islands primarily for industrial use, it will be casting aside forever the only major opportunity of this magnitude to demonstrate in a tangible way that the quality of life in this state is its greatest natural resource.

The Advisory Committee urges the Department of Natural Resources to forcefully communicate the merits of this final report to those who by virtue of public charge and position can translate these recommendations into positive action.

The committee is prepared to do whatever it can to support the recommendations contained in this report by working with the director and staff of the Department of Natural Resources.

We thank you for the opportunity to participate in this study.

*Respectfully submitted,*



Raymond W. Caine, Jr.  
Chairman, Citizens' Advisory  
Committee On Island Parks



## Origin of the Concept

A system of parks on the islands of Narragansett Bay has been the dream of a number of farsighted Rhode Islanders since early in the 1960s. Until the Navy began cutting back its operations in 1973, only limited land resources for the park had been available, and little had been or could be done to translate the dream into a reality. Since then, however, much has been accomplished, and the concept of the Bay Islands Park has been developed and refined.

The process leading up to publication of this proposal began in 1972 with Governor Philip Noel's pledge to more fully develop the recreational potential of Narragansett Bay. Acting on this pledge, the Director of Natural Resources, Dennis Murphy, appointed a Citizens' Advisory Committee to study the feasibility of developing a state-run island park system and to make recommendations to him. In addition to the committee, a professional staff of planners, recreational specialists, and technical experts was assembled. The staff consisted of representatives of three state agencies and four departments within the University of Rhode Island.

The Citizens' Committee and its technical staff began their efforts late in 1973. A close working relationship

soon developed under the able leadership of Committee Chairman Ray Caine. Staff members met weekly with a small steering subcommittee comprised of members of the citizens' group to develop, discuss, and test ideas and concepts. These ideas were then discussed before the full committee and modified where necessary. The Bay Islands Park concept, as presented in this proposal, represents a unique synthesis of professional input and the recommendations of interested and informed citizens. It is the product of many minds.

This proposal is a refinement of a Preliminary Report presented to the Director of Natural Resources, Governor Noel, and the General Assembly in March 1974. The initial document concluded that the new park could become a vital link in the state's recreational system and should be developed as soon as possible. Additional research and deliberations undertaken since publication of the Preliminary Report have only served to solidify the conviction of those involved in developing the concept that the Bay Islands Park represents a rare opportunity to significantly enhance the quality of our lives for generations to come.

Malcolm Grant, *Project Director*

## The Bay Islands Park Concept: A Summary

The Bay Islands Park concept reflects ten central ideals and objectives:

1. The islands of Narragansett Bay are among the state's greatest natural assets and most unique recreational resources.
2. The islands should be readily accessible to all, regardless of income.
3. The islands should serve a wide variety of recreational interests.
4. Recreational use must respect natural frailties and limitations.
5. The Bay Islands Park must support existing recreational facilities.
6. Primary emphasis should be on water-oriented or -enhanced activities.
7. Low-cost, daytime recreational experiences such as bathing, picnicking, fishing, sightseeing, boating, and hiking should be provided.
8. The environmental education potential of the islands should be developed.
9. The rights and privacy of nearby island residents should be respected.
10. Public costs should be reduced, where possible, by private operation of such services as the ferry system.



**In translating the objectives into reality, the following recommendations have been made:**

1. The park system should be developed gradually with financial burdens spread over time. Priorities of acquisition and development should be established with highest priority afforded to the lowest-cost opportunities: upgrading of existing state holdings and development of free, federal "excess" properties. Private holdings should be acquired as soon as possible with federal support.
2. A convenient and low-cost water transportation system should be developed. This would best be provided by private ferry operators under contract to the state. The state would set and collect fares. Revenues could support contract costs allowing for an essentially self-supporting system. Terminals should be developed at India Point in Providence to serve inner-city residents, Davisville (Allen Harbor) in North Kingstown to serve West Bay residents, and the Melville Small Boat Basin in Portsmouth to serve East Bay and Aquidneck Island residents. Development costs could be kept down to approximately \$40,000 by utilization of existing pier facilities.
3. Highest priority should be assigned to acquisition of the former Naval ammunition depot on the south end of Prudence Island. This should be developed as a major recreational area and central receiving area for the water-accessible portions of the park. Picnic and camp sites, hiking trails, walking and bicycle paths, scenic overlooks, and fishing access points should be provided using existing Navy improvements wherever possible. Sanitary facilities should be upgraded and appropriate buildings renovated for administrative, maintenance, storage, and environmental/education purposes. Renovation and development costs can be kept down to approximately \$125,000 by utilizing state personnel and existing facilities wherever possible.
4. Other excess Navy holdings on Hope Island and the Beavertail portion of Conanicut Island (Jamestown) should be acquired for park use. Hope Island has already been acquired by the state for recreational purposes and should be dedicated to nature-oriented day uses such as hiking, fishing, and sightseeing. Renovation costs are estimated at \$21,000. Beavertail should be developed for more intensive day use by the construction of additional parking areas, walkways, overlooks, and sanitary facilities. Combined cost for the Fort Burnside and Beavertail Point portions of this area is estimated at \$97,000.
5. Existing state recreational holdings on Dutch Island and at Fort Wetherill, Fort Adams, and Brenton Point should be upgraded under development programs already underway. Additional improvements on Dutch Island would focus on securing derelict structures, renovating historically significant fortifications, and improving pier facilities. Costs are projected at \$18,000. Improvements at the other areas mentioned would emphasize daytime opportunities and historic restoration. Costs are already accommodated under the Department of Natural Resources capital development budget.
6. Private holdings on the northern end of Prudence Island, on Patience Island, and the extreme northern tip of Conanicut Island should be acquired with federal funding support. A maximum total cost of \$2.5 to \$3.0 million is possible, but could be substantially less, depending upon donations of some areas, the amount of federal support available, and the acquisition techniques chosen. Opportunities on Prudence Island would emphasize picnicking, swimming, fishing, hiking, and natural-resources education and appreciation at a projected cost of \$63,000. Patience Island would be acquired as a wildlife management and conservation area with hiking and fishing emphasized. Costs are estimated at \$20,000. A small three-to-five acre scenic overlook would be developed on the Jamestown site. Parking lots, walkways, and picnic sites would cost approximately \$7,000.
7. Adequate provision for operation, maintenance, and surveillance of all park sites should be made by the Department of Natural Resources. This would require, at a minimum, the hiring of several full-time and seasonal supervisory and maintenance personnel in addition to those already employed by the department. The annual cost of additional personnel and equipment is estimated at approximately \$37,000.



## Framework for Action

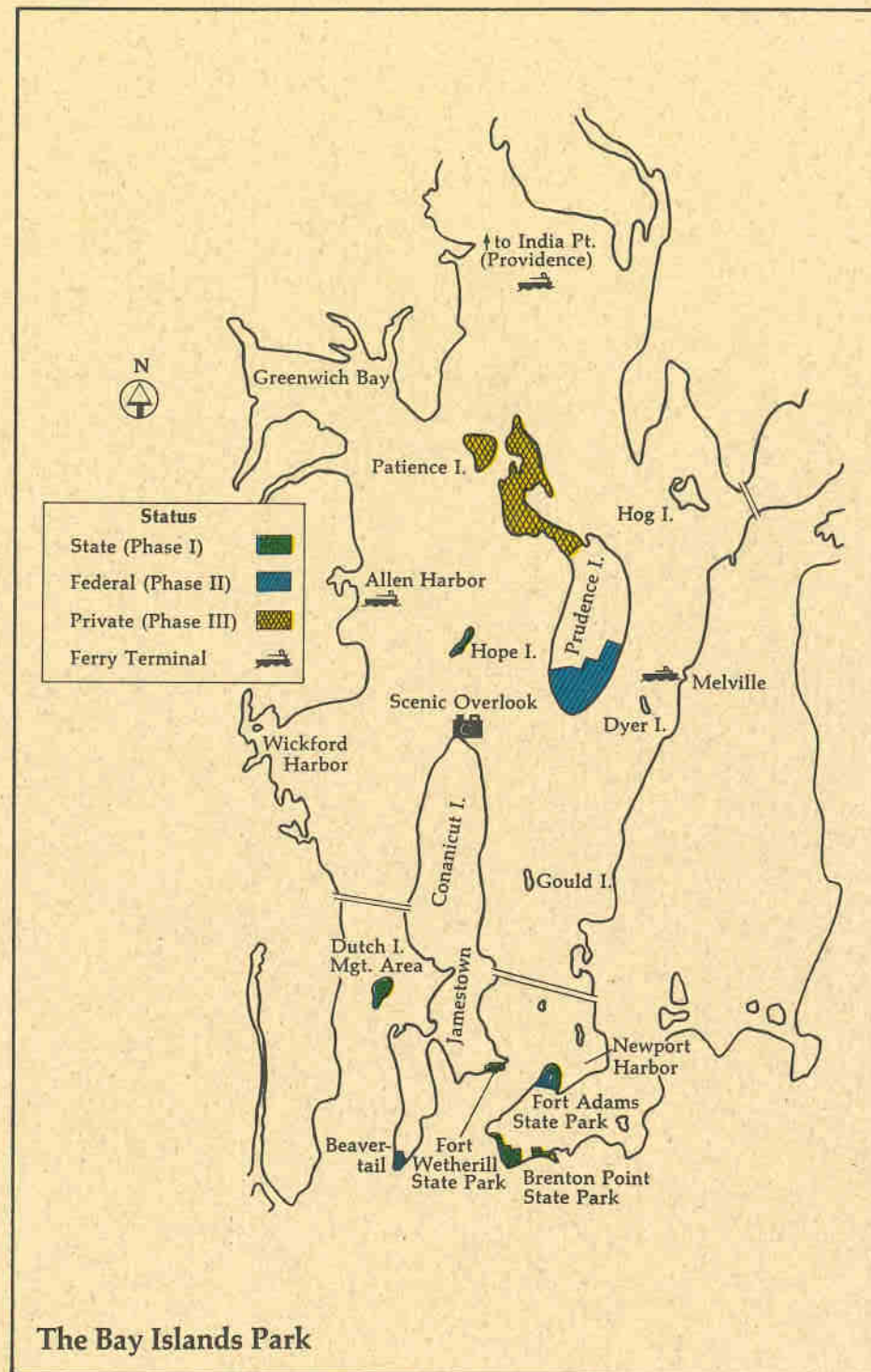
### The Opportunity

The opportunity exists today to create an exceptional recreational system of immeasurable value for present and future generations of Rhode Islanders. It was born of adversity: the sharp cutback of Navy operations in Narragansett Bay with the loss of thousands of civilian jobs and hundreds of millions of dollars in federal payrolls.

The opportunity to create this park system can be lost as quickly as it materialized if the choices and decisions regarding it are based on expediency rather than farsighted and sound planning. Recession, inflation, unemployment, spiralling energy costs, and burgeoning governmental costs have combined to place a heavy burden on our leaders. The public till is not bottomless; priorities must be defined and sacrifices made. A very real danger exists, however, in that while making these hard decisions, we may needlessly and irreparably lose great opportunities to improve our future. Recreational use of the Bay Islands is such an opportunity. It will offer a unique experience to generations of Rhode Islanders. It will enhance the attractiveness of this state and its shoreline for residents, visitors, commerce, and industry. Its unique potential for contributing to

the quality of our lives is perhaps a Bay Islands Park's greatest virtue. As the coastal megalopolis continues to spread from Washington to Portland, enclaves of unspoiled natural beauty will become public assets of great worth, havens in which to find refreshment and relaxation.

The economic dislocations associated with the Navy's pull-out have come at a particularly troubling point in the state's history. Nevertheless, at no time in the recent past have there been, and at no time in the foreseeable future will there again be, so many exciting options opened to the people of Rhode Island. Available to the state is a windfall gift of thousands of acres of valuable and heretofore unavailable coastal real estate. Much of the land, especially that on the mainland, can be put to commercial and industrial uses which will broaden and deepen the state's economic base. Some of it, however, can be even more usefully committed to activities that will expand our recreational base, making Rhode Island a more attractive place in which to live and work. The Bay Islands Park proposal concerns this recreational opportunity.





## The Framework

The creation of a Bay Islands Park must take into consideration the practical and financial difficulties of introducing a major public program during a period when government and taxpayer alike are struggling to make ends meet. A major commitment of funds or manpower is, consequently, not sought. Rather, it is proposed that the park should evolve gradually, with physical improvements, manpower commitments, and financial commitments spread over a number of years. This evolutionary approach would be implemented through a phased development process.

The phases of development would reflect priorities of acquisition and development. Highest priority would be given to areas that can be most readily and inexpensively acquired and managed for public recreational use. These represent immediate opportunities which demand immediate responses. These areas are included in this category:

*Present state recreation and wildlife management holdings on the Bay Islands.*

*Excess Navy lands having high recreation or conservation value and limited commercial or industrial potential.*

Receiving less immediate priority would be areas which may prove more difficult, time consuming, or expensive to incorporate into the Bay Islands Park system. These would consist primarily of undeveloped private holdings which have exceptionally high conservation and recreation value and which would complement other elements of the park. Their eventual incorporation into the system is vital, but cannot be pursued to the detriment of more readily acquired properties.

It is proposed, therefore, that a highly pragmatic approach to park development be followed. Commitments must reflect evolving recreational needs and demands, changing public priorities, and new opportunities for land acquisition and financial support. From its inception, the Bay Islands Park must be a *living* system capable of responding to the state's changing recreational needs in a creative and flexible way.

Acquisition of federal properties is the key to successful introduction of the new recreational system. Among the available areas, one is most essential to the plan. This is the 624-acre for-

mer ammunition storage depot on the south end of Prudence Island. The future use of this beautiful natural area will influence the appearance and visual impact of central Narragansett Bay. Assigned to recreational and conservation use, it could in itself provide a significant recreational experience for thousands of Rhode Islanders, while forming a central base of operations for the Bay Islands Park system.

Smaller Hope Island, to the west, has already been acquired as part of the state's recreation and conservation holdings. It too has a role to play in the Islands Park system as a camping and picnicking area.

Acquisition of portions of Naval properties at Allen Harbor in North Kingstown and at the Melville Small Boat Basin in Portsmouth is also important to the plan. These properties are likely to be assigned to the towns of North Kingstown and Portsmouth respectively for recreational development. It is proposed that ferry landings and boat-launching ramps for access to the Islands Park be incorporated into town plans. Additional access sites might eventually be provided by other private or municipal facilities.

Naval holdings at Beavertail on Conanicut Island may also become available in the near future. This area overlooks some of the most strikingly beautiful seascapes in the state. It too should be designated a part of the Bay Islands Park.

The Navy's Sachuest Point property in Middletown, offering, as does Beavertail, an exceptional ocean vista, was a potential unit of the Islands Park until recently. It now appears more likely to be assigned to the town of Middletown for recreational use. This would not be incompatible with the Islands Park proposal if the natural values of the site are preserved.

The existing state properties which should be incorporated into the system are Dutch Island off the western shore of Conanicut Island, Fort Wetherill on its eastern shore, and Fort Adams and Brenton Point state parks in Newport on Aquidneck Island. These areas already form a modest beginning for the Bay Islands Park system. Except for Dutch Island, they are accessible by automobile, thus providing a marine recreational experience to thousands of Rhode Islanders and out-of-state visitors who do not wish to travel by boat.





The private holdings of primary importance to the park concept are located on the extreme north end of Prudence Island and on Patience Island to the west. Little development has occurred to mar their natural beauty, and they therefore offer extremely important wildlife and scenic values. These areas should be incorporated into the Bay Islands Park system as soon as suitable arrangements for their acquisition can be negotiated.

Additional acreage should be purchased on the northern tip of Conanicut Island when funds become available. A scenic overlook with a dramatic panorama of the upper Bay could be developed on as little as four or five acres. Additional land purchases at the north end of Conanicut Island do not appear feasible even though substantial undeveloped acreage remains.

Six other properties were considered for inclusion in the Bay Islands Park proposal. They were Rose Island, off the mouth of Newport Harbor; Gould Island, a former Navy facility north of the Newport Bridge; Dyer Island, off the west shore of Portsmouth; Hog Island, occupied by a summer colony and located at the entrance to

Bristol Harbor; tiny Fox Island, off Wickford Harbor in North Kingstown; and Plum Point Lighthouse, perched on an isolated rock north of the Jamestown Bridge. None of these properties appear at this time to have major public recreational potential. Dyer and Hog islands both have wildlife and marine life which should be protected, but all six have been excluded from the proposal because costs of acquisition and development do not appear warranted.

This then represents the physical framework of a Bay Islands Park system. In subsequent sections of this report, the individual elements of the Park proposal are discussed in detail.



### Compatibility With Other Plans

The Bay Islands Park proposal is entirely consistent with state and local plans as presently written. It is an outgrowth of recommendations first made in the 1971 State Comprehensive Outdoor Recreation Plan, *Plan for Recreation, Conservation, and Open Space*, and again in a 1973 supplement. The *Plan* is the state's official recreational planning document and is the basis for federal funding assistance administered by the Bureau of Outdoor Recreation in the Department of Interior. The 1971 report called for an Island's National Park which, upon later consultation with National Park Service representatives, was determined not feasible in the foreseeable future. The 1973 supplement, recognizing that federal action was unlikely, recommended that many of Narragansett Bay's islands be acquired by the state for recreation and conservation use. The Bay Islands Park concept has been incorporated into the 1976 *Plan for Recreation, Conservation and Open Space*. This document is thus an official and integral part of Rhode Island's recreational planning effort. It is fully consistent with recommendations made in the *State Land Use Policies and Plan* adopted by the State Planning Council in June of 1975.

The park concept also has a place in the state's coastal management effort. It has been endorsed by the R.I. Coastal Resources Management Council (CRMC) which has cooperated from the beginning in the preparation of this proposal. The CRMC will now review it and is expected to adopt this proposal as part of its statewide coastal management plan. This management plan serves as the basis for CRMC regulation of coastal areas and will be an important element in an overall management program, which will be one of the first in the nation to be funded by the Office of Coastal Zone Management in the Department of Commerce.

The only land area in the Bay Islands Park proposal where conflict with other state plans may possibly arise involves reuse of excess Navy lands





on Prudence Island. In response to the economic problems arising from the Navy's pull-out, the newly founded R.I. Department of Economic Development contracted to have the south end of Prudence Island evaluated for a number of commercial and industrial uses. These studies have been recently released. It is neither appropriate nor necessary to comment on their conclusions in this report. The area involved is vital to the entire Bay Islands Park concept. The study team and advisory committee believe that its value as a public recreational resource for generations to come far outweighs any short-term economic advantage to be gained by its commercial use.

On the municipal level, plans for many of the sites proposed for inclusion in the Bay Islands Park are understandably vague, because the sites have been, until recently, under Navy ownership. All of the park sites included in local plans, however, are designated for either recreational conservation, or low-density residential uses. The park, therefore, is also fully consistent with municipal plans that presently exist.

### Recreational Preferences

Recently completed studies conducted by the Department of Natural Resources as part of the 1976 states outdoor recreation plan reveal a growing demand for activities which could be carried out in the Bay Islands Park. Ranked in descending order of popularity, Rhode Island's four most popular recreational pursuits are swimming, picnicking, boating, and sightseeing. Of these, two are water-dependent, and the other two are enhanced by the presence of water. The 1976 results confirm earlier state and federal studies indicating that water-related recreational activities are preferred by a clear majority of Rhode Island and other New England residents. The 1971 state outdoor recreation plan, for instance, indicated that 65 percent of those sampled had a preference for activities such as swimming, picnicking, fishing, sightseeing, and boating. The National Recreation Survey completed by the Bureau of Outdoor Recreation in 1972 corroborated these findings. It was found that 50 percent

of the New England population swims, 50 percent picnics, 27 percent boats, and 23 percent fishes. Results of statistical studies developed by New York State suggest similar breakdowns: 65 percent swim, 36 percent picnic, 16 percent fish, and 15 percent boat. While upwards of 50 percent of the region's population participates in water-related or water-enhanced recreational activities, an activity as popular as golf only draws 10 percent of the population.



### Recreational Demand

Determining recreational demand, especially for a new recreational system, is a difficult and elusive task. Demand is often conditional upon the availability, convenience, and cost of facilities, as well as the public's awareness of the system's existence and quality. Promotion stimulates demand and is a crucial element in the introduction of new systems. Where new opportunities are not provided, latent demand is transferred to existing and often overtaxed recreational outlets.

Potential use of the Bay Islands Park was estimated through a combination of computer modelling and statistical evaluations. The model estimated the numbers of visits per day that would be generated by varying factors of price and travelling distance. Estimated visits varied substantially from a low of 160 to a high of 8,500 per day. At an assumed transportation cost of \$1 per user, a more manageable range of 1,900 to 8,500 visits/day was found. While neither the demand model itself nor the several basic assumptions on which it is based have yet been verified empirically, the model's findings are substantiated by the application of New York's previously mentioned statistical methods.





### Adequacy of Supply in Selected Areas

The results indicate that on a given day, 20 percent to 25 percent of the swimming, 5 percent of the fishing, and 12 percent of the boating public will be engaged in those activities. Applying these percentages to Rhode Island suggests a potential water-oriented recreation market of 136,000 people per summer's day, of whom 112,000 would be swimmers and/or picnickers, 7,600 would be fishermen, and 17,100 would be boaters. While it cannot be reliably predicted how many of these would use the Bay Islands Park, the model's estimate of up to 8,500 seems reasonable—perhaps even conservative—representing, as it does, only 6 percent of overall water-oriented recreational activity. This estimate is further substantiated by the several Rhode Island recreation surveys previously discussed. These demonstrate that Narragansett Bay's recreational facilities, especially those operated by the state, are preferred by a substantial majority (up to 70 percent) of those surveyed and consequently receive many times the use of inland facilities. Narragansett Bay is clearly and demonstrably Rhode Island's most popular, and hence most valuable, recreational resource, not only for its water-enhanced environment but because of its convenience to large population centers.

As indicated in the following table, general observations on the relative adequacy of recreational opportunities in the state are largely meaningless. Deficiencies and surpluses vary considerably from region to region. Noteworthy, however, are the large deficiencies of recreational sites in the urban areas, particularly in and around Providence, where most of the state's low-income households are concentrated.

Clearly, then, proposals for new recreational systems in Rhode Island must address themselves to the metropolitan concentrations of the upper Bay with their large populations of low and middle-income residents. It is here that the major deficiencies persist. In recognizing this, the 1976 outdoor recreation plan recommends the improvement of existing urban facilities and the development of additional recreational and open-space areas, readily and inexpensively accessible to urban concentrations of low-income households.

Region	Salt Water Swimming		Picnicking
Providence Metropolitan	Demand*	33,908	30,405
	Supply**	28,545	5,582
		— 5,363	—24,823
East Bay Metropolitan	Demand	6,578	5,898
	Supply	6,922	2,940
		+ 344	— 2,958
Aquidneck Island	Demand	3,969	3,559
	Supply	35,588	638
		+31,619	— 2,921
East Bay Rural	Demand	1,093	980
	Supply	20,325	60
		+19,232	— 920
West Bay Coastal	Demand	5,883	5,275
	Supply	81,907	8,130
		+76,024	+ 2,855
Western Rural	Demand	4,810	4,313
	Supply	0	9,652
		— 4,810	+ 5,339
Northeast	Demand	8,057	7,224
	Supply	0	2,955
		— 8,057	— 4,269

Source: Plan for Recreation, Conservation and Open Space, January 1976.

\* Design-day demand (no. of individuals)

\*\* Design-capacity (no. of individuals)



### Socio-economic Considerations Affecting Recreation

Recreational activity is income-dependent. As indicated in the following table, the amount of activity increases dramatically with an increase in family income.

Annual Gross Family Income	Recreational Activity Days* / Family/Month
\$9,000 or less	9.49
\$9,000-\$15,000	17.41

\* One person engaging in one activity for one day.

Source: Plan for Recreation, Conservation and Open Space, January 1976.

It is noted in the *Plan* that the principal reasons for this phenomenon are high participation costs, lack of open space and other recreational opportunities in low-income urban areas, and inadequate or prohibitively expensive transportation access to outlying recreational areas.

### Responding to Rhode Island's Recreational Needs

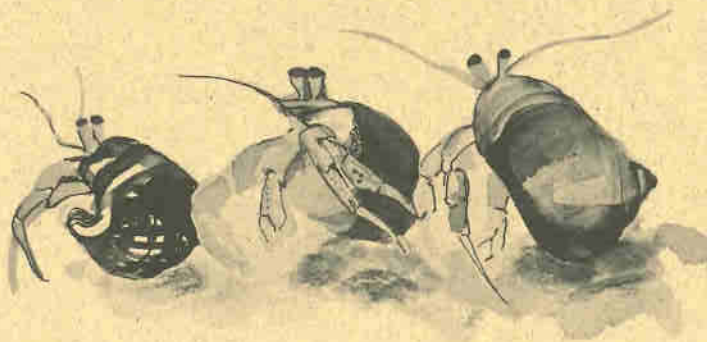
As the 1976 outdoor recreation plan demonstrates, recreational demand responds dramatically to fluctuations in the cost, convenience, and time demands associated with participation in recreational activities. When these factors increase, an equally satisfying but cheaper, more convenient, or less time-consuming outlet is often substituted. In urban areas where such alternatives are in short supply, recreational opportunities, especially for low-income families, are cut off. If, then, the Bay Islands Park is to complement existing facilities by serving an element of the Rhode Island population that is most in need of additional outlets, it must look to the metropolitan centers of the upper Bay for its primary clientele. These people will be well served only if the park provides an easily accessible, low-cost, and high-quality recreational experience.

### Access and Transportation

Convenience of access, and cost, will be largely dependent upon the adequacy of the transportation system provided. Many existing mainland facilities are inaccessible to inner-city residents because public transportation is not available or is presently inconvenient or expensive. The Bay Island Park proposes to address this problem by establishing a major terminal in downtown Providence at India Point, where it could be serviced by Transit Authority buses. Privately operated ferries under contract to the state would then provide a scenic and leisurely ride down the Bay to a central receiving area and major recreational facility at the south end of Prudence Island. The ride itself would be a major recreational attraction.

Fares would be kept low under the terms of the service contracts negotiated by the state with private ferry operators. They would receive an agreed-upon annual fee for their services, while the state would set and collect fares, and establish routes and schedules. Details of the proposed transportation system are explained in a later section of this report.

While a primary thrust of the Bay Islands Park concept is to expand the recreational opportunities available to inner-city residents, it is also proposed that the park serve the many other residents of the state and region. The Bay and its tributaries have influenced life in southeastern New England since Colonial times. Early settlements huddled along its shores because the Bay provided them a natural transportation network and a plentiful source of food. It still provides these basic amenities for a modern society, and has in addition become a tremendous recreational resource. The Bay's shores are no more than 45 minutes away from even the most distant of the state's residents. Interstate highways bring it within range of the nearly 8 million people living within a two-hour driving radius. Many of the Bay Islands Park component areas would be directly accessible by road and hence convenient to a large public. Transportation for those accessible only by ferry would be provided from major terminals at Allen Harbor in North Kingstown on the Bay's west shore, Melville Small Boat Basin in Portsmouth on its east shore, and at India Point in Providence.





## Ideas, Ideals, and Objectives

### Economic Spinoffs

The direct and indirect public benefits of preserving the Narragansett Bay islands for conservation and recreation themselves justify implementation of the Bay Islands Park proposal. The Bay is an irreplaceable recreational resource, and should be preserved as such. Recreation and industrial development are not inherently incompatible. If responsibly pursued, they can complement each other to produce a prosperous economy and a healthy and attractive environment. Indeed, an aesthetically pleasing and recreationally attractive Bay will attract industry and commerce to Rhode Island. The availability of such amenities is becoming an increasingly important consideration in the siting of industrial facilities and other major investments. It is not, therefore, to the advantage of this state to surrender long-term environmental and recreational values to obtain short-term economic returns. This fact should be considered carefully in deciding on the disposition of excess Navy holdings.

In a more immediate way, the Bay Islands Park can contribute to Rhode Island's economic vitality by stimulating vacation spending and tourism. It is estimated that tourism already brings some \$80 million into the state

annually. The bulk of this money is spent in the many vacation areas along our coasts. A prosperous tourist industry requires that a variety of high-quality recreational opportunities be provided. Where these exist and are properly promoted, they require and support diverse services such as restaurants, motels, and marinas. In its unique capacity to augment Rhode Island's existing tourist attractions, the Bay Islands Park demonstrates great potential for stimulating recreational service industries in coastal communities. The resulting stimulus to local economies is likely to more than compensate for any losses in tax revenue caused by public acquisition of island properties for recreational purposes.

A public recreation system should be many things: conservation area, people's park; accessible, isolated; developed, rustic; unique, familiar. A delicate equilibrium must, however, be sought and maintained. Just as a system cannot legitimately serve only the needs of limited segments of our population, it cannot reasonably be expected to be all things to all people.

To avoid the twin pitfalls of asking too little or too much of a Bay Islands Park system, a number of guiding principles and objectives have been identified. These reflect, as far as can be determined, the recreational needs and priorities of the Rhode Island and southern New England populations as well as the recreational

potential of the islands themselves. The guidelines must, of necessity, provide the axis along which any proposal will evolve; their inclusion here prefaces all that follows:

1. The islands of Narragansett Bay are one of Rhode Island's greatest natural assets. They represent an unparalleled and irreplaceable resource. Few coastal areas in New England offer the same vital combination of sheltered waters, available space, scenic natural beauty, and proximity to major metropolitan areas. Because of this, the Bay islands can provide a unique recreational experience to Rhode Islanders, serve as a magnet for income by generating tourism and its related industries, and enhance the overall quality of the Bay's environment.

2. A high-quality, marine-oriented recreational experience should be equally available and accessible to all Rhode Islanders, regardless of their economic status. The design of the Bay Islands Park system must accommodate an inexpensive, convenient, reliable, and attractive transportation network if it is to justify the desired levels of public investment.







3. The Bay Islands Park should serve a wide range of interests by providing diverse recreational and educational opportunities. Use of the islands must, however, harmonize with the natural environment. Many of the areas recommended for inclusion in the Park have been designated significant or unique by the Rhode Island Natural Areas Survey. Recreational use must respect their sensitivity and value.

4. Types and levels of recreational activity must be determined by each island's ability to support use without damage to its environment or degradation of its beauty. It is both tragic and ironic that in our enjoyment of natural areas, we so often destroy what we seek. With this in mind, the following objectives can be set forth:

*a. The environmental impact of the recreational use of the islands should be carefully and periodically monitored. An understanding of the effects of recreational use must precede its introduction and subsequent expansion. For this reason, an environmental inventory of each Bay island should be completed by the Division of Fish and Wildlife of the Department of Natural Resources before it is opened to recreational use. This*

*inventory should identify animal and plant species present, their health, diversity, and approximate population, as well as significant natural features, areas, and phenomena that might be affected by recreational use. The inventory would serve both as a baseline against which to measure change, and a mechanism to identify potential problems before they materialize. Where there is any question, initial recreational development should reflect a conservative assessment of each island's ability to support such activities.*

*b. Support facilities and related development should be kept to the minimum necessary to promote a high-quality recreational experience. Where provided, they should be unobtrusive and rustic in appearance.*

5. The Bay Islands Park should be supportive of and compatible with other recreation programs and facilities, federal, state, and municipal. Duplication of services should be avoided, except to supplement over-taxed mainland facilities.

6. As a potentially important component of Rhode Island's comprehensive recreation program, the Bay Islands Park should emphasize only those activities that require or are substantially enhanced by a coastal location. Rhode Island's strong preference for marine-oriented recreation suggests that to do otherwise would be unresponsive to public demand.

7. The Bay Islands Park should respond to the recreational demands of the Rhode Island population to the extent that it is consistent with environmental and recreational quality considerations. Emphasis should be placed on activities and facilities that provide convenient, low-cost, daytime recreational experiences. These include:

*bathing beaches  
picnic sites  
fishing access areas  
scenic viewpoints  
small boat landings and mooring areas  
walkways and hiking trails  
historical and natural attractions*

8. A major effort should be made to capitalize on the marine-education potential of the Bay islands. Tremendous opportunities exist for unique educational, conservation, and research programs. These would be of great interest to the general public, would enhance the quality of education in schools and colleges, and would improve our knowledge of the Bay environment.

9. The Bay Islands Park should, to the greatest extent possible, accommodate the interests, views, and plans of island residents and coastal communities. Public recreational activity should be managed with respect for the privacy and rights of local landowners, and acquisition and development programs must be sensitive to the local economy.

10. Every opportunity for decreasing public expenditures and increasing operational efficiency by encouraging private operation of appropriate support facilities and services should be pursued. Public supervision and control should, however, be retained through negotiation of leases or service contracts.



## Concept to Reality: An Action Strategy

If the full potential of the Bay islands is ever to be realized, it is imperative that the most favorable areas be committed to public recreational use as soon as possible. The number of other uses already proposed suggests that we hesitate at our peril. *Recognizing, however, that translating a commitment into an accomplished fact will be a formidable task, it is recommended that a Bay Islands Park evolve out of a phased approach to development.* Such an approach would recognize the practical and financial difficulties and disadvantages of bringing a whole new recreational system into full and immediate use. The islands will require varying amounts of improvement and financial investment. Some, such as those now owned by the state, already support several types and intensities of recreational use. Others, on the federal government's excess list, may be acquired free for public recreation, although time and money will be required to prepare them for use. Still others, now in private ownership, must be purchased, a time-consuming and potentially expensive proposition.

It is proposed, therefore, that development of a Bay Islands Park accommodate rather than ignore the many variables which influence each island's availability and potential for recreational use. Where immediate use of a particular site is feasible and desirable, its early development is provided for. Since recreational services are continually expanded as need and opportunity dictate, phased development would allow for the immediate and continued recreational use of the Bay islands system as, not after, it evolves.

Because design of the Park is not fixed from inception, it is flexible. The Park can respond to and accommodate unforeseen opportunities or changes in recreational demand in an innovative and creative way. We have no crystal ball. We can guess, but we do not know with any certainty what types of recreation Rhode Islanders will enjoy ten or 20 years from now. The phased approach to park development does not presume that we do. It allows us to preserve the opportunity for recreational use while keeping our options open. This is the key. We can no more impose our own preferences on future generations than we can in good con-

science ignore our responsibility to safeguard their right to make their own decision.

Phased development offers an additional advantage, which is especially attractive in today's economic climate. It requires minimum, long-term commitments of money and manpower. Acquisition and development need proceed only as demand, opportunity, and finances allow. We may wish to start out slowly; we can. We may wish to provide only limited services at first; we can. As the level of services and the number of users increase, obviously so will the costs. The sum of these costs will not, however, be borne by us today, but by the people whose demands generate them. Thus the load is distributed so that it never becomes more than we wish to bear. This generation is only being asked to invest in an opportunity. Further obligations can be as great, or as small, as future generations wish.

Phased development does not, strictly speaking, imply a fixed chronological progression. It rather represents an ordering of priorities which may change as opportunities and needs change.

### Phase I Objectives

State recreational holdings on Dutch and Hope islands, at Fort Wetherill on Conanicut Island (Jamestown), and at Fort Adams and Brenton Point on Aquidneck Island should be designated components of the Bay Islands Park. These would form the nucleus of an evolving island-oriented recreation system to complement the state's woodland, metropolitan, and coastal systems. Improvements at Fort Wetherill, Fort Adams, and Brenton Point should proceed according to existing plans of the Department of Natural Resources with funds already committed. Only minor additional improvements will be necessary on Dutch Island.







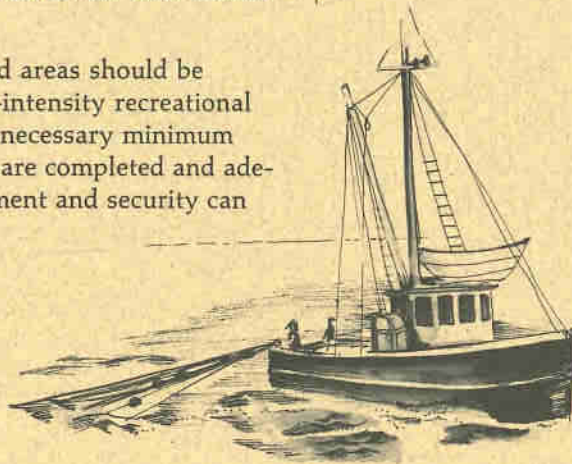
### Phase II Objectives

Federal property on Hope Island, the south end of Prudence Island, and Beavertail on Conanicut Island should be acquired by the state for recreation and conservation use as it becomes excess. Allen Harbor with the adjacent Mount View and Dogpatch beaches in North Kingstown and the Melville Three Ponds area and small boat basin in Portsmouth should be acquired by the town or the state for recreational purposes as they become available. Parking and ferry slips for access to the Bay Islands Park should be provided from Allen Harbor and the Melville Small Boat Basin. If these are controlled by the towns, as appears likely, cooperative arrangements between town and state should be negotiated.

Acquired island areas should be opened to low-intensity recreational use as soon as necessary minimum improvements are completed and adequate management and security can

be provided. Usage should be increased and services expanded and diversified as demand dictates and only to the extent that environmental and aesthetic considerations allow. Private ferry operators should be contracted by the state to provide convenient, low-cost service to a central recreational facility on the south end of Prudence Island. Terminals should be located at India Point to provide easy access for inner-city residents, and at Allen Harbor and Melville to provide access to West and East-Bay residents, respectively.

High capital investments are neither foreseen nor appear justified during Phase II.



### Phase III Objectives

Prudence Island north of Nag Creek, Patience Island, and a viewpoint on the northern tip of Jamestown should be acquired for conservation and public recreational use. Highest priority should be assigned to acquisition of the Pine Hill Point Beach and marshes and the area north of Potter Cove, all on the north end of Prudence Island.

Donation of portions of these areas in return for the substantial tax advantages thereby accruing to the donor should be encouraged. Donated land can then be used to match federal funds for acquiring adjacent areas at substantially reduced or no cost to the state.

Recreational use of these areas should be subject to the same general limitations set forth for newly acquired federal excess property. The impact of recreational activity on the scenic environment of northern Prudence Island should be of particular concern and should be carefully monitored. Transportation to outlying Island Park areas should be provided as new areas are acquired and developed.

### Phase IV Objectives

Phases I through III propose an ordering of acquisition and recreational development priorities. They also set forth the broad conditions under which expanded and diversified services and opportunities should be provided. In Phase IV, emphasis will shift entirely to internal development, consolidation, and upgrading of facilities, services, and opportunities. Phase IV is a much more difficult area to define and requires us to look far into the future. It is an area in which, quite properly, we should have least to say. It will remain for the future generations of Rhode Islanders to respond to the opportunities we have provided them in a way they find appropriate. If development of the Bay Islands Park continues to respond to the state's recreational demands, reflecting changing opportunities and priorities and respecting the natural beauty of the islands themselves, the park's value to the people of Rhode Island will increase indefinitely.



## Funding: Sources, Techniques, and Requirements

Fundamental assumptions in developing the Bay Islands Park concept have been that necessary public expenditures must be spread over a considerable time; that start-up costs must be moderate; and that public financial commitments should grow only as recreational demand justifies and other priorities allow. To realize the immediate objective of obtaining a highly attractive resource for public recreational use, the people of Rhode Island are asked to make only a relatively modest short-term financial commitment. This would support acquisition of private holdings on Patience, northern Prudence and northern Conanicut islands, and provide services and improvements to support initial, low-intensity, recreational use of all parklands. The more sophisticated services which may become desirable as recreational use of the Bay

Islands Park increases would be funded only as demand for them develops. There is no outright or implied long-term financial commitment for this purpose.

Projected costs for implementing the recommendations contained in this proposal range from \$561,000 (assuming zero acquisition costs) to \$3.5 million (assuming highest probable acquisition costs).<sup>\*</sup> Costs could be amortized over a period of several years. Actual state expenditures, however, can be substantially reduced through innovative application of acquisition and land-use control techniques, use of federal matching funds, and use of Department of Natural Resources personnel to undertake initial improvements. It is proposed that the Department assume responsibility for development, operation, and maintenance of the entire Bay Islands Park as an element of the state recreation system.

<sup>\*</sup> These estimates do not reflect \$1.2 million already budgeted for proposed improvements at Brenton Point State Park, \$780,000 budgeted for Fort Adams State Park, and \$170,000 for Fort Wetherill State Park, as they do not represent new or additional costs generated by the Bay Islands Park proposal.



## Funding and Expenditures

### One-Time Costs:

\$2.5-\$3.0 million

Acquisition costs could be high for private holdings on North Prudence, Patience, and North Conanicut (Jamestown) islands. However, donation of some areas and combined donation and purchase of others could substantially reduce this price. Funding support for acquisition is available from the Bureau of Outdoor Recreation (BOR) (50 percent match). Excess Navy holdings can be acquired free for public recreation.

\$390,000

Site preparation and development costs for Bay Islands Park sites represent a relatively modest financial commitment because maximum use would be made of existing Navy buildings, roads, and piers, and because development would be kept to a minimum. BOR funding support is available. Individual island improvement costs are summarized below:

South end of Prudence Island	\$125,000
Hope Island	\$20,900
Beavertail (Ft. Burnside)	\$67,000
Beavertail (Point)	\$30,000
Dutch Island	\$18,200
Ft. Wetherill State Park	budgeted
Ft. Adams State Park	budgeted
Brenton Point State Park	budgeted
North end of Prudence Island	\$62,500
Patience Island	\$19,800
North end of Jamestown	\$7,200

\$40,000

Transportation-related expenditures would be limited primarily to upgrading existing Navy piers at Davisville and Melville to handle passenger ferries. A terminal at India Point in Providence is—and would remain—privately owned and operated. Fares should be set sufficiently high to cover the cost of service contracts, thereby making the system self-supporting.

### Annual Costs:

\$37,400

Operation and maintenance will be an increasingly important function as the popularity of the park increases. Because of their essentially rustic and undeveloped nature, most island holdings will not require substantial investments in men and equipment. Costs break down as follows:

Jamestown facilities	\$14,500
Other island holdings	\$22,900
Aquidneck Island facilities	budgeted



## Acquisition

Acquisition costs could comprise a very large portion of initial expenditures—up to \$3 million. It is in this area, however, that the greatest savings can be realized. The most direct means is to match donated property with federal matching funds. This requires that property be assessed and its market value determined. This amount can then be applied, much as cash in hand, to obtain federal funds for acquisition of additional property or for development of recreational services and facilities. No actual cash outlay is required.

Lest it appear that this type of strategy presumes too much regarding a prospective donor's generosity, it should be recognized that a donor can accrue substantial tax benefits, especially where large or valuable parcels of land are involved. The entire assessed value of donated property can be written off as an income tax credit. This can then be applied to reduce the tax burden on other sources of revenue, an attractive possibility where these are large. The tax advantages of donating property for recreational or conservation use thus provide other than purely altruistic incentives. This in no way demeans the civic motives of prospective donors. It is one of those infre-

quent, but happy, coincidences of good intent and financial advantage.

That donation is not an unrealistic method of obtaining land for public use has been proved frequently by experience both in Rhode Island and elsewhere. Many thousands of acres of park and management areas have been acquired in this manner. Indeed, over 30 acres of potential Bay Islands Park property on the north end of Prudence Island has already been donated to the state, with the possibility that more may soon follow.

Donated land may be applied toward the acquisition of additional property in other ways advantageous to both the state and the donor. Among the more ingenious of these methods is the combined donation and sale of a single, large holding. The landowner donates a portion of his land to the state and sells the state the remainder. If the donated portion is sufficiently large or valuable, the resultant income tax deduction cancels the capital gains tax on the portion sold. In most instances where large acreages are involved, the landowner stands to realize a higher real profit by combining donation with sale due to reduction in his tax liability. The state also gains from such a proce-

dure, as it can apply the appraised value of the donated portion as a match for federal funds to purchase the remainder. A large holding can thus be obtained for conservation or recreational use at essentially no cost to the state. Combined donation-purchase programs may prove especially attractive for acquisition of Patience and northern Prudence islands.

It must be recognized, however, that the state may be unable or unwilling to acquire full title to all of the private holdings recommended for inclusion in the Bay Islands Park. Conversely, unforeseen needs and opportunities may suggest that additional holdings be brought under some level of public control. In neither of these cases should we necessarily paint our options in black and white; buy it or forget it. In some instances it may be advantageous to acquire less than full title, frequently at a substantial reduction in cost. Possibilities include negotiation of easements, leases, and purchase options.

Easements confer rights to use privately held land for specified public purposes or impose restrictions on its



private use. Scenic vistas, conservation areas, and rights-of-way for trails can all be secured through easements. Donated easements offer the landowner the same tax advantages as does outright donation. The tax incentive is not as strong, however, as deductions can reflect only the value of surrendered rights. The public cost of a purchased easement will vary with the amount and nature of the rights obtained, but will commonly be substantially less than outright acquisition.

Private property can also be leased or rented for certain types of public use. Costs, terms, and duration are subject to negotiation. Leases might provide an especially attractive alternative to acquisition where public use does not require immediate, extensive development or alteration, as would be typical of the Bay Islands Park.

Negotiation of purchase options becomes useful where no immediate public use is projected and where continued private control is compatible with eventual public acquisition. Options are normally quite reasonable, but have the drawback that investments are not normally refundable and unless the option is exercised within an agreed time limit, all public rights are extinguished.



### Federal Funding Programs

A number of federal programs provide funds, usually on a matching basis, for recreation, conservation, development, and management. Proper utilization of these programs can reduce the state's financial commitments to tolerable levels, even by today's standards.

The most generally attractive supportive program for recreational development of the Bay Islands Park is

the Land and Water Conservation Fund. Funds are administered on a dollar-for-dollar matching basis by the Bureau of Outdoor Recreation of the Department of Interior, and may be applied to the planning, acquisition, and development of approved outdoor recreation projects. This fund provides federal matching funds for state and municipal Green Acres Programs, and could become a basic financial underpinning for the Bay Islands Park.

Other notable sources of federal funds are the Pittman-Robertson and Dingell-Johnson Acts which, respectively, subsidize fish and wildlife management programs. Up to 75 percent of the cost of acquisition, development, restoration, and rehabilitation of feeding and breeding areas may be underwritten by the Bureau of Sports Fisheries and Wildlife of the Department of Interior under the terms of these acts. While the primary thrust of these programs is conservation-oriented, they provide for compatible recreational use of acquired lands. Funds could thus be applied toward acquisition and/or management of proposed Bay Islands Park conservation management areas on Dutch, Patience, and portions of northern Prudence islands.

### The State's Contribution

Shortages of state matching money have in the past curtailed Rhode Island's participation in federally subsidized recreation and conservation programs. The traditional source of matching money has been legislatively approved and voter-endorsed bond issues. These offer an equitable approach to the funding of programs whose benefits are distributed over time and whose full value may not be realized for many years to come.

The bond issue does this by amortizing the required investments over an extended period, much as a home mortgage, with the state paying back principal and interest on notes issued. By spreading the financial burden, bonding allows the state to make major capital investments which annual budgets could not otherwise absorb.

Bonding is, however, notably sensitive to economic conditions, and therefore provides a rather unstable foundation for programs whose priority may seem relatively low during difficult economic periods. While the recreational opportunity now provided by the Bay islands is both unparalleled and transitory, it can hardly be argued that this opportunity comes at an auspicious time. Bonding

is not consequently proposed as a primary funding source. It is suggested, rather, that to the maximum extent possible, costs associated with land acquisition and recreational development be absorbed by the Department of Natural Resources budget. Bonding should be considered only as a source of acquisition funds and then only when budgetary sources are insufficient to meet federal match requirements.

Bay Islands Park funding from within the Department is not as unrealistic as it might first appear and need not require major augmentation of its yearly appropriation. Developments at Brenton Point, Fort Adams, and Fort Wetherill have all been successfully funded in this manner. Substantial savings can be realized by implementation of imaginative and cost-cutting acquisition programs of the sort just described. As this is potentially the largest area of expenditure, such savings can markedly reduce the state's financial responsibility. Additional savings will result from utilization of departmental personnel and equipment to complete recommended improvements. These



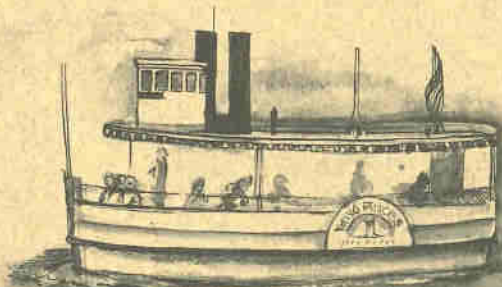




primarily involve trail and site clearing, picnic table and sanitary facility construction, and building renovation and modification, for which the Department of Natural Resources has a demonstrated ability. Experience gained during the summer of 1974 in securing derelict structures and clearing trails and campsites on Dutch Island can be usefully applied to other Bay islands. Successful completion of scheduled tasks at significantly less than projected cost have proved the Department's ability to work cheaply and efficiently under the difficult conditions imposed by island isolation. It also demonstrated the feasibility of using youth and conservation groups and other volunteer organizations to augment the

efforts of state employees at substantial saving to the taxpayer.

While implementation of the Bay Islands Park concept will require some increase in the Department of Natural Resources' operating costs and, hence, budget requirements, it is believed that the above-mentioned cost-cutting measures can reduce them to a reasonable and tolerable level. The Bay Islands Park represents an incomparable opportunity to expand the state's recreational base and make Rhode Island a more attractive place in which to live and work. As such, it deserves a high public priority, which should be reflected in both legislative and departmental budgetary allocations.



## Getting There Should Be Half the Fun

*A high-quality, marine-oriented, recreational experience should be equally available and accessible to all Rhode Islanders, regardless of their economic status. The design of the Bay Islands Park system must accommodate an inexpensive, convenient, reliable, and attractive transportation network if it is to justify public investment.*

Transportation considerations are central to the creation of a park system which meets the recreational needs of the general public. If it is difficult or expensive to get to the Bay islands, Rhode Islanders will seek their recreation elsewhere, further congesting already saturated mainland facilities or spending their leisure time and money out of state. If it is difficult to move between the islands, the variety of experiences they could provide will be diminished, and the islands' collective value as a unique and multi-faceted recreational system will be compromised.

### Options

Three major organizational options are available for providing low-cost, high-quality transportation service to the Bay Islands Park. The first of these, public ownership and operation, was rejected outright. It would require a prohibitively large capital investment for equipment and facilities, and the creation of a new bureaucracy. In return, there would be little reason to anticipate efficient, low-cost service or subsidy-free operation.





The second option, private ownership and operation, is more attractive. Competitive realities and profit incentives reward efficient and low-cost operation of transportation systems. Several companies already operate in Rhode Island waters. Vessels, personnel, and experience are available, or could be made so, given sufficient demand. The major drawback of private operation is that the same profit motives which encourage efficiency also encourage high fares. High transportation costs could discourage widespread use of the Bay Islands Park, especially by those who need it most—low-income urban families.

The third option, negotiation of franchise service contracts, effectively combines private operation with public supervision, and is the strategy recommended for the Bay Island Park's transportation system. With this approach, the state is the purchaser of a service—transportation. It purchases this service at the lowest available price from those willing to sell it. The usual means of effecting this transaction is a bidding process. On its part, the state, as buyer, spec-

ifies how many people it wants moved in a given period of time (capacity), how frequently it wants boats to call (scheduling), where it wants them to call (routing), and during which months of the year it wants this whole procedure to continue (season). Additional conditions, such as safety requirements and renegotiation clauses, might also be attached. As sellers, private ferry-system operators bid against each other to obtain the exclusive right, or franchise, to provide the services specified for the duration of the contract, usually three to five years. The bidder with the lowest operating expenses, or the one willing to accept the smallest profit margin, can be expected to submit the lowest bid and thereby obtain the contract. The private operator's sole revenue from this contractual arrangement is the bid price he receives from the state either in a lump sum or in annual installments. The state, as purchaser of the service, assumes responsibility for setting and collecting fares. Fare revenue belongs to the state.

The service franchise is attractive to the private ferry operator because it guarantees him a known return on his investment—the bid price. Interest in obtaining franchises and competition

to do so are thereby stimulated. It is also attractive to the public. The bidding process rewards efficient and low-cost service, and franchise awards stimulate the state's marine transportation and service industries. The service contract also allows the state to control aspects of a transportation system with which it must be most concerned (routes, scheduling, and fares), while leaving routine operational responsibilities in the more experienced hands of private entrepreneurs.

Control over the level at which fares are set and the distribution of the revenue they generate are particularly useful tools. Fares can be maintained at artificially low levels to stimulate initial public interest in the new park system. Use by low-income groups can be subsidized by similar arrangements. Fare revenues may be applied to the cost of the service franchise. The system could thus support itself or even generate a profit. While the latter is unlikely to occur until the Bay Islands Park has established itself as a popular recreation area, initial deficits need not be large and could be reduced each year.

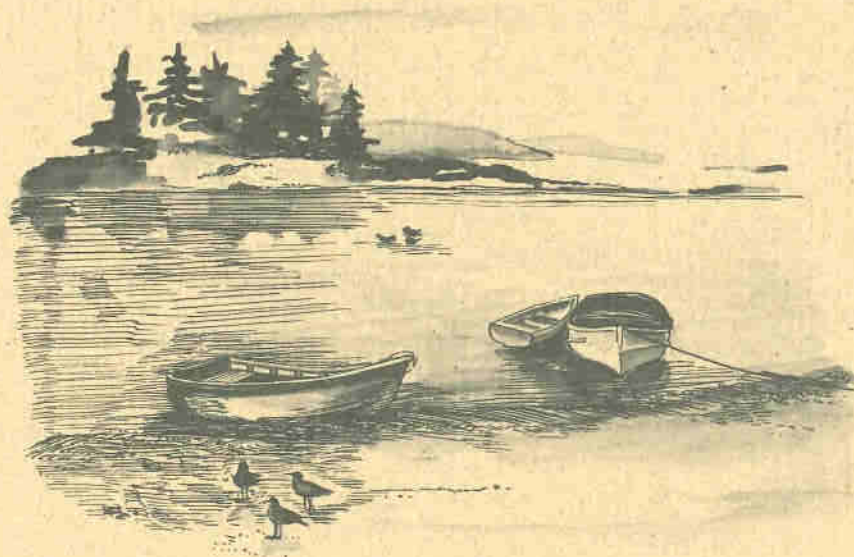
## Facilities

The public cost of providing transportation service to the Bay Islands Park can be further reduced by a careful examination of capital development responsibilities. While private ferry operators can absorb the costs of building and operating vessels in their franchise arrangements with the state, it is unlikely that they will readily burden themselves with the high capital development obligations of constructing major new piers or terminals. It is recommended rather that the state assume this responsibility and that it keep costs down by emphasizing the restoration of existing facilities rather than the construction of new ones. Nearly all of the proposed island parks have restorable piers of sufficient size to land small ferries or launches. Major ferry terminals at India Point in Providence, Melville Small Boat Basin in Portsmouth, the Davisville Piers or Allen Harbor in North Kingstown, and on the south end of Prudence Island could also be developed around existing facilities. Projected restoration costs as summarized below seem well within reason:



India Point	privately owned
Melville	\$25,000
Davisville	\$15,000
South Prudence	\$12,000*
Fort Adams	restored
Dutch Island	\$15,000*
Hope Island	\$ 9,000*
Patience Island	\$12,000*
Potter Cove (Prudence Island)	\$10,000*
	<hr/>
	\$98,000

\* These figures are already included in projected development costs for the Bay Islands Park.



### Convenience

Another major area of concern in designing a Bay Islands Park marine transportation system should be the ease with which it can be used. Service, especially from the Providence metropolitan area, must be convenient, comfortable, and reliable. If it is difficult to get to ferry terminals and hard to find parking once there, people will not come. If riders must wait very long for their boat to arrive, or if the boat is late, dirty, or uncomfortable, they will go elsewhere.

### Terminals

In the interest of rider convenience, then, it is recommended that mainland ferry terminals 1) be sited in or near major population centers; 2) have good road access; 3) be serviced by public transit systems where they exist; and 4) have adequate parking.

A terminal would consist of a suitable pier or float and a ticket booth. Construction of more elaborate facilities is not justified at this time.

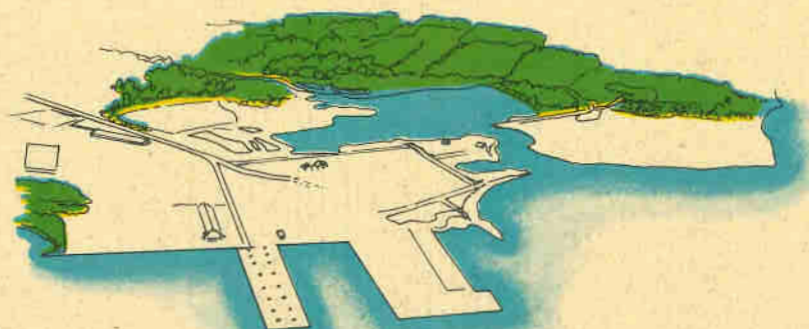
Three sites capable of serving major population concentrations have been identified as meeting the above criteria. They are India Point at the head of the Bay in Providence, the Davisville Pier-Allen Harbor area in North Kingstown on the west shore, and the Melville Small Boat Basin in Portsmouth on the east shore.

The India Point site is privately owned and already serves as a terminal for the Providence-to-Block-Island ferry operated by the Interstate Navigation Company of New London. A lease for concurrent use of the pier for the Bay Islands Park should be negotiated. It would also be desirable to lease additional vacant land in the area for parking, as on-site space is limited. Primary access to this terminal, however, should be by bus. It is near downtown Provi-

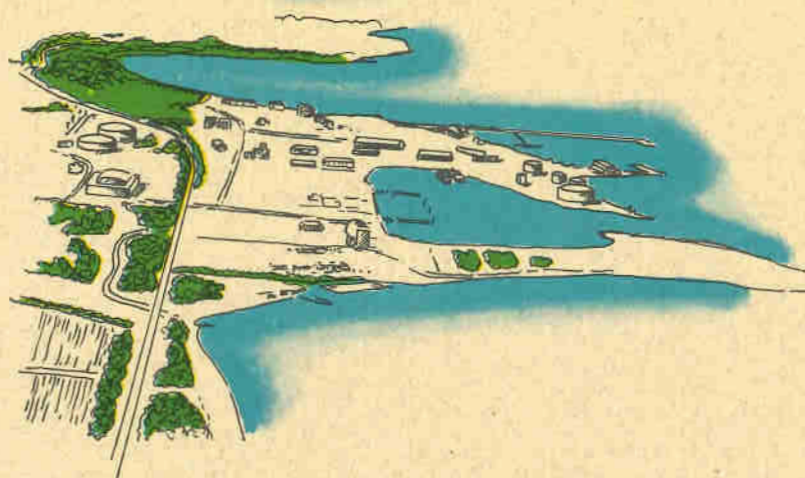
dence and no major rerouting would be necessary to provide service, especially on summer weekends when bus use is minimal. Location near the inner city and the availability of convenient bus service would facilitate park use by low-income city dwellers, many of whom can not get to more distant recreational facilities because they do not own automobiles. The India Point terminal would serve the Providence metropolitan, northern Rhode Island, and nearby Massachusetts populations.

A ferry terminal at Davisville in North Kingstown would be a more convenient access point for residents of the southwestern corner of the state and tourists from New York and Connecticut. It is near Route I-95 and is serviced by several major highways. The site was recently declared excess by the federal government and includes an excellent small boat anchorage in Allen Harbor and two large deepwater piers on the Davisville waterfront. Allen Harbor has been obtained by the town of North Kingstown for recreational development, and the state hopes to attract industry to nearby Davisville. It is





Allen Harbor



Melville

recommended that plans for both areas accommodate a Bay Islands Park ferry terminal. Necessary improvements could be minimal and need not conflict with other activities. A portion of the large, paved staging area adjacent to the piers should be reserved for parking. The terminal itself could be located either in the small boat basin just inside the harbor entrance channel or at Davisville Pier Number Two. The latter option would allow the use of larger vessels and might, therefore, be preferable.

Projected costs for building a large float and ramp off the existing pier range from \$10,000 to \$15,000.

The proposed East Bay terminal would be located at the Melville Small Boat Basin in Portsmouth. This area was also recently declared to be excess by the Navy and will be acquired by the Town of Portsmouth for recreational use. It is convenient to the entire Aquidneck Island and eastern Rhode Island communities,

and to nearby southeastern Massachusetts via routes 138, 114, and 24. Tentative town plans for the basin focus on developing a major marina. It is proposed that the state negotiate with the town to allow pier space for ferry use in its marina plan. Parking for Bay Islands park patrons should also be provided. Development costs for these facilities are estimated at between \$15,000 and \$25,000. Properly managed, concurrent use of this site by the state and town could benefit both.

Construction or restoration of additional mainland ferry terminals does not appear necessary or desirable at this time. The transportation system should be kept as simple as possible until growing demand justifies its expansion. Where suitable facilities already exist, however, they could be used as excursion boat or secondary ferry service landings. The restored pier at Fort Adams in Newport, for instance, could be put to this use even if only on an occasional basis. Likewise, the Bristol landing of the Prudence Island ferry could service the Bay Islands Park if its route were extended.

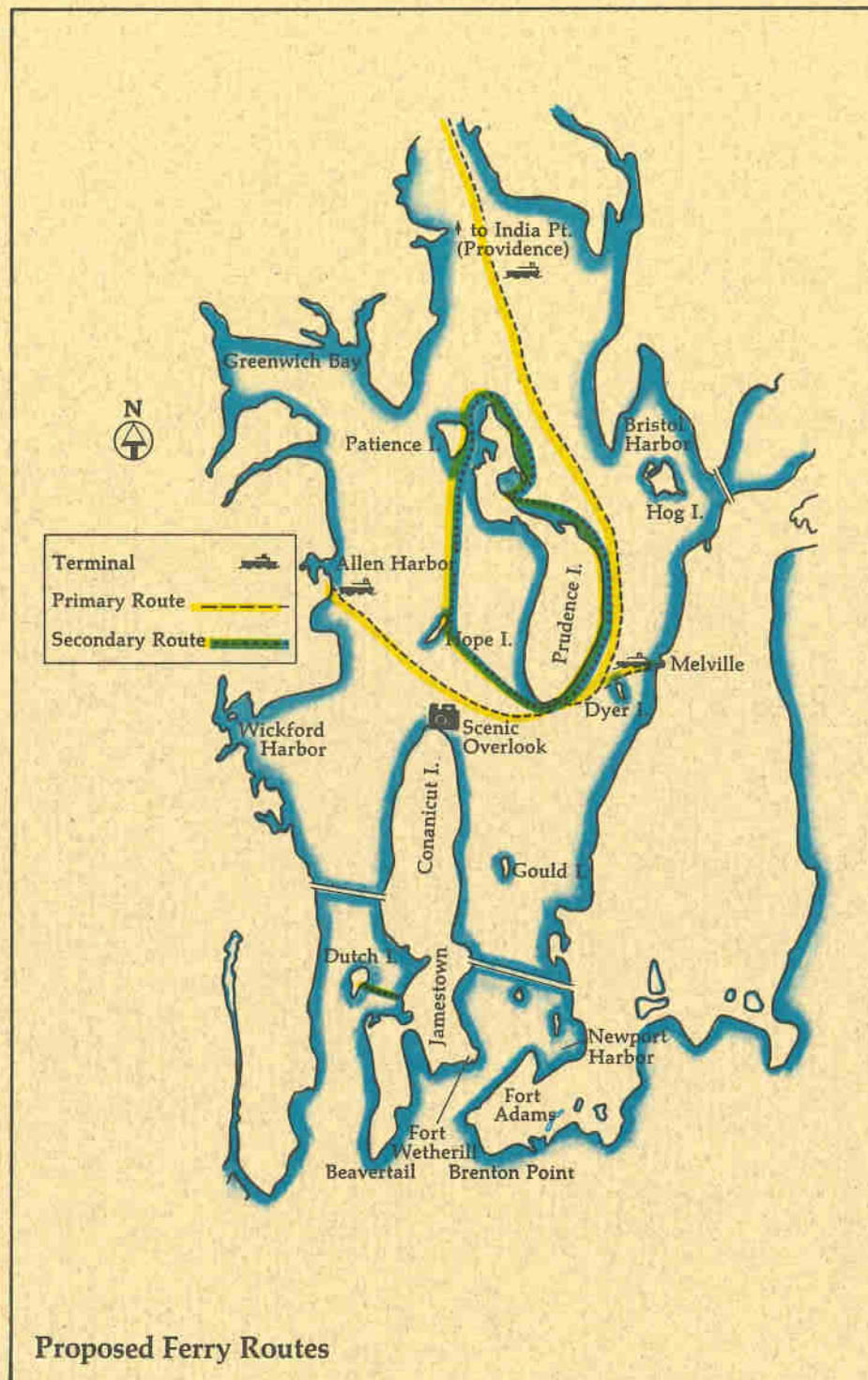
### Routes

It is proposed that ferries from the India Point, Davisville, and Melville terminals land at a central point in the Bay Islands Park rather than stop at all islands. By reducing turnaround (round trip) time, this strategy would increase the daily capacity of each vessel in use, thus reducing the number of vessels required to maintain frequent service. The resultant savings in operating expense would be passed on to the state in the bid price of transportation service contracts. In addition, by funneling park users through a central receiving area, the use of smaller and more fragile areas could be more easily monitored and controlled.

It is recommended that the proposed park area at the south end of Prudence Island be designated the central receiving area for the water accessible elements of the Bay Islands Park. Its pier is capable of handling large ferries, it is centrally located in the Bay, and it is large enough to accommodate a considerable number of people. It could thus absorb the users that, for environmental reasons, could not be accommodated by smaller areas.

Transportation links to outlying Island Parks would radiate from the central receiving area. These sec-





ondary routes would be serviced by small ferries or open launches. Use of small vessels will require a minimum of pier restoration at landing points, thus reducing development costs. Since routes will be short, what the boats may lack in capacity can be compensated for by fast turnaround times. Limited capacity will also be a useful management tool. By limiting vessel size and scheduling frequency, park managers can effectively control access to, and hence use of, delicate areas.

Initial Park requirements dictate developing only two secondary ferry routes. One would be a loop originating at south Prudence and serving Hope Island, Patience Island, and Potter Cove on north Prudence. A smaller vessel could service Dutch Island from a base at West Ferry in Jamestown. All other proposed Island Parks are accessible by land, although a scenic boat shuttle between Fort Adams in Newport and Fort Wetherill across the East Passage in Jamestown could be popular.

Franchise arrangements for secondary route service would be essentially the same as for the major routes. Lump sum service contracts would be negotiated. The state would set and collect fares.

### Schedules

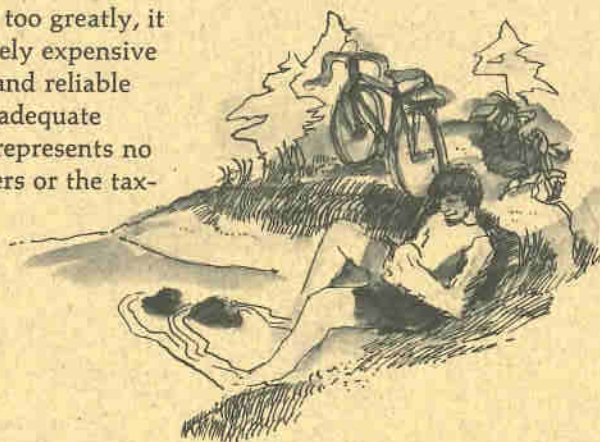
The scheduling of boat service is important both to the cost and convenience of a Bay Islands Park transportation system. It is essential that frequent service be provided to keep passenger waiting time at a tolerable minimum. Convenience, however, must be balanced against operating costs. These costs will increase prohibitively if a large surplus of passenger capacity is provided. To avoid such a surplus and to enhance passenger convenience, it is recommended that scheduling reflect predictable fluctuations in recreational demand. Departures should be most frequent during peak demand summer weekends, and should fall off significantly on summer weekdays. Spring and fall (April through June and September through October) scheduling should be restricted to weekends and should provide only limited service unless user demand warrants more. Winter service does not appear necessary, although it might be considered if justified by demand.



## The Islands of Narragansett Bay: An Overview

### Fares

A final and critical component of an attractive transportation system will be its fare structure. It should be expected that as a new recreational outlet the Bay Islands Park must be promoted until the concept becomes more familiar to the public. Reasonable fares or the availability of season passes would be a strong inducement to potential users, especially among lower income groups. Using such fares as a promotional technique is recommended. It may additionally prove desirable to establish special low-income subsidies similar to the familiar Golden Age pass for the elderly. Fare subsidy, however, must be balanced against revenue needs. If the cost of negotiating service franchises and the revenue generated by fares diverge too greatly, it may become prohibitively expensive to provide convenient and reliable service. A cheap but inadequate transportation system represents no bargain to either its users or the taxpayer.



To further reduce passenger expenses, it is recommended that separate fares be set for all routes in the transportation system. Those making short trips, therefore, could anticipate substantial savings. Those wishing to make longer trips or to travel between the Bay islands on secondary ferry routes could expect to spend more. In either case, the fare would reflect the actual distance travelled. This appears preferable to a general fee, which would in effect subsidize long-distance travellers at the expense of those on shorter trips.

### Geology

During much of the last Ice Age, Narragansett Bay was a peaceful upland valley. Its rivers and streams flowed toward a sea whose shores lay off what is now Block Island. As the glaciers continued their inexorable progress southward, they covered the land with up to a mile of ice, scouring and scraping all before them and creating the gentle contours characteristic of the Rhode Island landscape. As the glaciers melted and receded, they deposited an immense quantity of the boulders, sand, and sediments that they had so recently torn from the face of the land.

The Bay islands are artifacts of this glacial action. The rocky crags and headlands of Hope Island, Fort Wetherill, and Beavertail were laid bare by glacial scour. The land masses of Conanicut, Prudence, Patience, Aquidneck, and Dutch islands were deposited as the melting glaciers retreated northward. The glacial derivation of Narragansett Bay and its islands should be of more than passing interest. Not only have the glaciers been the sculptor of great natural beauty, they have created geologic and hydrologic conditions which continue to influence man and his works today.

The islands are composed predominantly of glacial till—a poorly sorted mixture of boulders, gravel or sand, and clay. Varying considerably in thickness, the till frequently contains layers of clay hardpan which forms a compacted and nearly impermeable barrier to water penetration. Much annual rainfall is consequently lost to surface runoff with little retained as groundwater. With very few exceptions, then, freshwater reserves are limited, and residential wells frequently run dry during the drier months of midsummer. Water supply problems are complicated by a scarcity of surface impoundments (ponds and wetlands). Little runoff is captured to percolate into the soil; most is lost to the Bay. Inadequate water supplies have thus far served as a deterrent to development of the Bay islands, and will continue to limit their potential for intensive residential (and many forms of industrial or commercial) development.

The relative impermeability of the hardpan subsoil also makes sewage disposal difficult. Extensive leach fields are required to provide necessary capacity. Backups caused by inadequate percolation are nevertheless common, and sewage contamination of limited and shallow groundwater





sources becomes an increasingly real possibility with continued development.

The overlying topsoils of the Bay islands are shallow, rarely more than three feet deep, and vary considerably in composition. They have been formed by weathering of glacial deposits and accumulation of organic matter from a vegetative cover of mixed hardwood and coniferous forest. Soil characteristics reflect their glacial origins. Except over scattered outcrops of high-bearing bedrock, bearing strengths are generally fair to poor, while stability ranges only from reasonable to poor. Industrial development potential is consequently limited.

### Wildlife

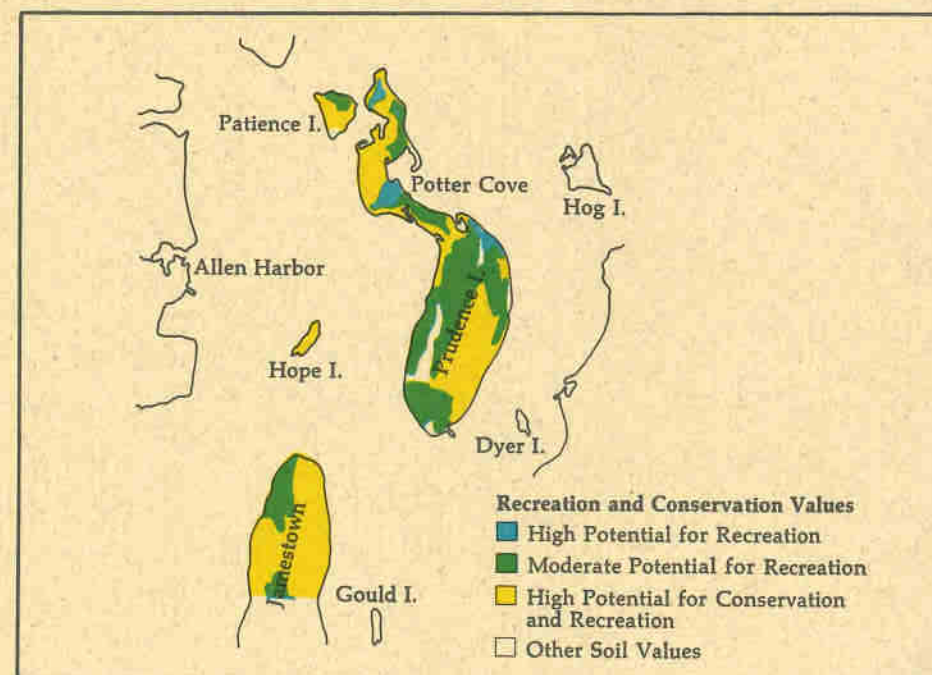
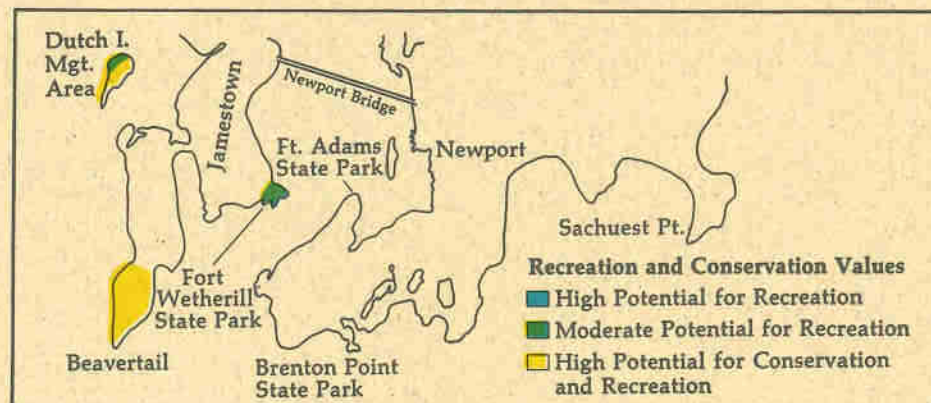
Most of the islands support animal populations typical of the southern New England coastal region. Small upland game species such as eastern cottontail and gray squirrel are particularly numerous, while Prudence and Patience islands have sizable deer herds. Vegetation is also typical of the coastal area, with much of the surface covered in mixed, second-growth hardwood and coniferous forest, or scrub, which provides an excellent habitat for wildlife.

Narragansett Bay is situated along the Atlantic migratory flyway. Its native bird population is, therefore, swelled each spring and fall by species moving back and forth between their summer and winter habitats. Waterfowl in particular congregate

in coastal marshes where they winter-over or rest and feed before continuing south. The annual bird migrations are paralleled by a rare phenomenon: the migration of the Monarch butterfly. These gaily colored insects provide a seasonal spectacle of which few Rhode Islanders are aware.

The waters of Narragansett Bay and Rhode Island Sound teem with marine life of every description. Salt

marshes serve as abundant food sources while providing homes and refuge for the adults and young of many species of fish and shellfish. The shoreline and nearby waters support clams, mussels, lobster, and crab. Tautog, squeteague, flounder, cod, scup, bluefish, striped bass, and mackerel are landed in great numbers commercially, as well as for sport, at various times throughout the year.





## Narragansett Bay

The Bay is one of New England's largest estuaries, some 25 miles from Beavertail to Providence and ten miles from west to east at its widest point, with a surface area of nearly 100 square miles. Twice daily, tides range in height from 3.5 feet at the mouth to 4.6 feet at the head. Currents rarely exceed one-half to one knot during flood and ebb tides, and slack off at high and low water. Water temperatures range from a winter low of 35°F to a summer high of a seasonable 69° F. Climate is moderated by proximity to the ocean, with pleasantly cool, breezy summers and relatively mild but damp winters. Mean air temperatures range between a July high of 68° to 71° F and a February low of 27° to 32° F.



## History

Narragansett Bay has long provided the central theme around which much of the history and culture of Rhode Island is woven. Long before its first western visitor, Giovanni de Verrazano, anchored his ships in Newport Harbor during the early spring of 1524, native Americans lived, hunted, and fished along its shores. Throughout the seventeenth and eighteenth centuries, as Roger Williams' colony of dissidents grew and prospered, the Bay remained a lifeline of commerce, communication, and transportation. All the early settlements huddled along its shores. The colony's political and cultural life revolved around the port towns of Newport and Providence.

The majority of the Bay islands were purchased from the natives at a very early point in the state's history. Major purchases on Hope, Fox, Dyer, and Prudence islands by Roger Williams, Governor John Winthrop of Massachusetts, and Governor Caleb Carr of Rhode Island were negotiated with Chief Canonicus of the Narragansett tribe.

Most of the islands were cleared and farmed well into the nineteenth and even early twentieth centuries. Conanicut, Aquidneck and Prudence

islands supported thriving agricultural communities. Archaeologically significant traces still remain.

The Bay's military history is still evident in the abandoned fortifications scattered along its shores. Fort Wetherill, Fort Adams, and Fort Greble (Dutch Island) were all at one time major installations commanding the approaches to Narragansett Bay. Wetherill supported cannon and earthworks as early as the War of Independence. Its present fortifications date from 1899 and were improved through World War II. Fort Adams dates from 1824, and its massive fortifications were only abandoned by the Army during the 1950s. Dutch Island was last used as a prisoner-of-war camp during World War II, although some of its batteries date back to the Civil War. A military presence is also apparent on

other of the Bay islands. Hope and South Prudence, for instance, are dotted with ammunition bunkers and were declared excess only recently. Many of the decaying artifacts of past military activity have archaeological and historic significance. Most have proved to be a magnet for island visitors.

A feeling for the islands of Narragansett Bay comes not merely from digesting these facts and figures of history, natural history, geology, and wildlife. The beauty and serenity of the islands are difficult to convey in words and sketches. Each of us reacts differently to the strange and wonderful experience of walking on a small piece of earth surrounded by the broad waters of the ocean. To share what can be shared of the island experience and to place the park proposal in its true context, the following descriptions are offered.

## Legend

Restrooms	Scenic Overlook	Historical Site
Parking	Boat Launch Site	Quahauing
Picnicking	Swimming	Shrubs
Fishing	Scuba Diving	Trees
Walking	Anchorage	Boulder
Hiking	Hunting	Sandy
Bicycle Trail	Facilities for Handicapped	Environmental Study Area
Rustic Camping		



## Prudence Island, South End Naval Reservation

(624 acres)

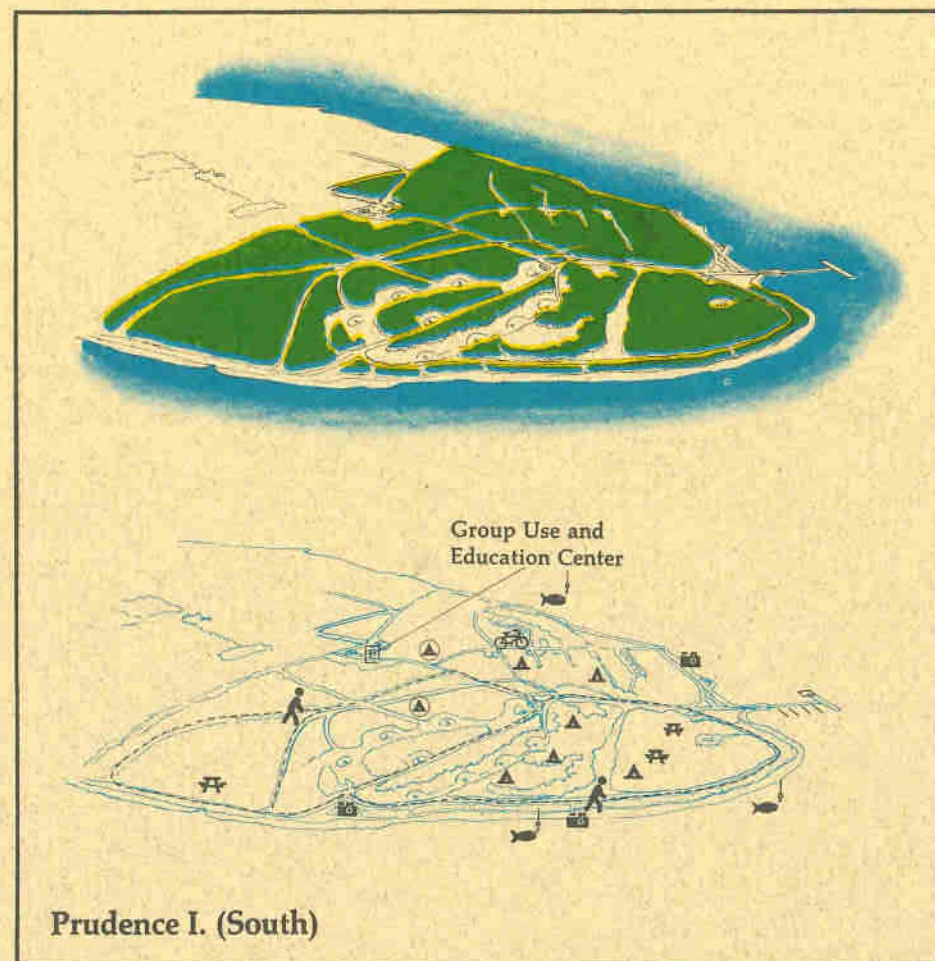
The southern tip of Prudence Island is only a mile north of Jamestown's Conanicut Point. Prudence and Conanicut are the two large islands dividing Narragansett Bay into East and West Passages. Long and narrow, Prudence stretches nearly six miles in a roughly north-south direction. The island supports a thriving summer colony and a small, year-round community. Most of the homes are concentrated along the eastern shore between Homestead and Sandy Point. A small ferry lands at both points, providing the island's only transportation link with the mainland.

Prudence is heavily vegetated, primarily with deciduous trees. Narrow, boulder-strewn beaches front on a steep and eroded shoreline. Interior contours are gentle, and the terrain rises gradually toward a low, central ridge.

Surrounded by densely populated and heavily developed mainland areas, Prudence Island represents a rare and exceptionally valuable recreational resource. The Bay Islands Park proposes to make selected portions of that resource available to greater numbers of Rhode Islanders while respecting the rights and privacy of

the island's residents. To implement this objective, only those areas isolated from residential concentrations are proposed for inclusion in the park system. The former naval ammunition storage reservation on the extreme southern end of the island is one such area. Separated from the populated portions of the island by distance, high fences, and a nearly impenetrable tangle of bullbriars, its large size (624 acres) and rolling topography make it an excellent site for recreational use. Its central location in the Bay, moreover, provides an ideal setting for the Bay Islands Park's central receiving area and major recreational facility.

The south end's terrain is characteristically regular. From a maximum elevation of some 80 feet the land falls off gradually toward the water, which surrounds the site on three sides. Many acres of these broad slopes have been cleared for fire breaks or maintained as open meadow. They command sweeping views out across the Bay. Termination of the harrowing which kept the fire breaks clear of vegetation, and initiation of a seeding program, could create many additional acres of grassy field valuable both for recreational use and as wildlife habitat.



After nearly 30 years of military use, many alterations have been made to the reservation's natural environment. Some of them are desirable from the standpoint of recreational use; many of those which are not are reversible. Derelict buildings can be razed and old roads allowed to grow over. Some alterations cannot be so easily reversed, however, and these must be accommodated in other ways. Fortunately, the two major items in this category, the several miles of con-

crete roads servicing the ammunition bunkers and the bunkers themselves, are objectionable for aesthetic rather than environmental reasons. The roads, moreover, may ultimately prove a boon. In crisscrossing the area they provide several miles of excellent walking and bicycling trails. The bunkers demonstrate no such immediate potential, but sunk into hillsides or covered and screened with vegetation as most of them are, their visual impact is not great. They should not, therefore, detract mark-





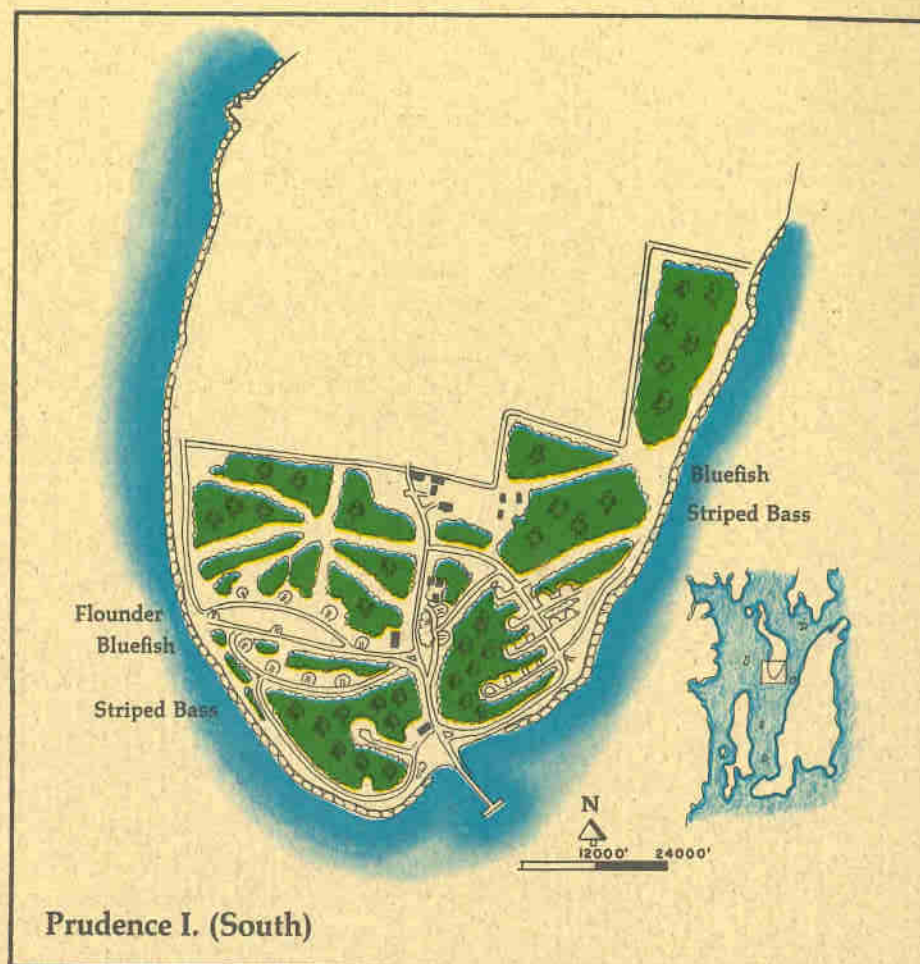
edly from the recreational attractiveness of a location which, despite military alterations, retains much of its natural beauty. Extensive areas are heavily forested. Tupelo, maple, oak, cherry, tamarack, birch, white oak, and willow are among the species represented. Isolated glades, hollows, and wetland areas dot the interior, supporting a diverse wildlife community whose members include squirrels, rabbits and other small mammals, fox, deer, and many birds and waterfowl.

The south end's coastal environment is particularly attractive. The plateau running along the shore is sufficiently elevated to provide magnificent views. Gnarled trees, stunted and twisted by onshore winds, frame ever-changing tableaux of water and land. Open meadows provide ideal sites for picnics and games. Sportfish pass close offshore during their seasonal migrations up the Bay.

South Prudence must be a key component in any Bay Islands Park proposal. It provides an ideal site for the system's headquarters and central receiving area. With very few modifications, its large pier could be adapted

for use by ferries and private vessels. Many of its buildings could be used for administrative or maintenance purposes, while others could be modified for direct recreational use as hostels, activity or education centers, dining halls, or sanitary facilities. Existing roads could be adapted to use as trails and walkways, opening up much of the site's interior to easy access. The existing water system could support many recreational activities. The combination of these possibilities with South Prudence's large size, gentle terrain, and central and scenic location suggest that it could become one of the most heavily used elements in the Bay Islands Park system. While reflecting this potential, plans for this, as for other elements of the Park, must nevertheless emphasize quality over quantity. In this context, the following recommendations for recreational development of South Prudence are made:

1. South Prudence should be the central receiving area for and transportation hub of the water-accessible elements of the Bay Islands Park. Ferry service from mainland points should land here. The trip to outlying islands would then be continued via smaller ferries or launches. It is recommended that:



*A float should be installed on the outer face of the existing T-shaped Naval pier to serve as a major ferry landing.*

*Smaller floats or finger piers should be installed on the inner face and along the length of the same pier to serve as launch and private vessel landings. Their number could be increased as demand warrants. Protection might be provided by an inexpensive floating breakwater.*

*An open shelter and information center should be built on or adjacent to the pier. This should be rustic in appearance and should display ferry and launch schedules, site plans, and trail maps of South Prudence and the other Park facilities accessible from it. If future use warrants, this structure could be replaced by a more sophisticated but costly information-service complex.*





2. South Prudence should be designated the Bay Islands Park's headquarters. Its potential for providing large numbers of people with a diversified and high-quality recreational experience should be developed. Existing Naval structures and improvements should be modified for recreational use, secured, or razed.

The fire station should be maintained for use by Park personnel and the island community.

Former officers' quarters should be used, as presently exist, for a resident caretaker-manager's residence.

Office space should be provided in the old administration building.

Existing maintenance and equipment storage buildings should remain for that use.

The two barracks should be modified to serve as hostels or dormitories for group use, or for natural resources educational programs. Showers and toilet facilities should be renovated.

A small general store handling food, beverages, and other items likely to be needed by visitors might be located in one of the other abandoned buildings. Provision of this service should await a demonstrated demand.

Existing roads should be maintained as bicycle and walking paths. Except for maintenance and security, the use of motorized vehicles should be prohibited.

The Naval pumping station should be reactivated and the water supply and distribution system renovated.

3. Development and recreational use of this site should capitalize on its natural beauty and that of the Bay around it.

Existing natural areas should be preserved; presently cleared areas should be replanted. Unusual or uncommon plant habitats should be protected.

The patrol road around the site perimeter should be maintained for bicycle and pedestrian use. Viewpoints, some with log benches, should be placed at particularly scenic points.

Fishing access trails should be cleared at periodic intervals.

Interior trail clearing should be kept to the minimum necessary to serve picnic sites and campsites or to provide access to scenic natural areas. Access should not be provided to sensitive features such as wetlands or rookeries.

Picnic sites should be scattered around the area. These should be concentrated in presently cleared or open areas and should be convenient to roads or trails. All sites should be inland of the coastal road and located so as not to interfere with scenic overlooks.

Rustic campsites should also be scattered around the area to prevent undesirable concentrations of campers. Sites would be of two types: single unit and group. Single units would consist of a cleared site with firepit. Water (from Navy mains), toilet facilities, and trash receptacles would be centrally located, but not necessarily convenient to each site. Group sites (six to ten units) would be con-

venient to such services and located only in already cleared areas. All sites would be inland of the perimeter road.

Informal game fields should be maintained in selected open areas, but no grading or additional clearing for this purpose should be undertaken. Game fields should be convenient to picnic areas and group campsites.

Hunting should be permitted only if it is determined to be compatible with game management and recreational use. In any event, it should not be allowed during the June to September summer recreation season, and may require substantial restriction during other seasons as well.

Estimated costs for recommended improvements are as follows:

Picnic tables/sites	50 @ \$200 ea	\$ 10,000
Campsites	30 @ \$100 ea	3,000
Trail clearing	5 miles @ \$200 per mile	1,000
Shelters	4 @ \$1,000 ea	4,000
Pit toilets	6 @ \$500 ea	3,000
Scenic overlooks	4 @ \$200 ea	800
Fishing access trails	6 @ \$200 ea	1,200
Pier improvements, floats, finger piers		12,000
Central sanitary facility		50,000
Building and water system renovation		40,000
<b>Total</b>		<b>\$125,000</b>



## Hope Island

(92 acres)

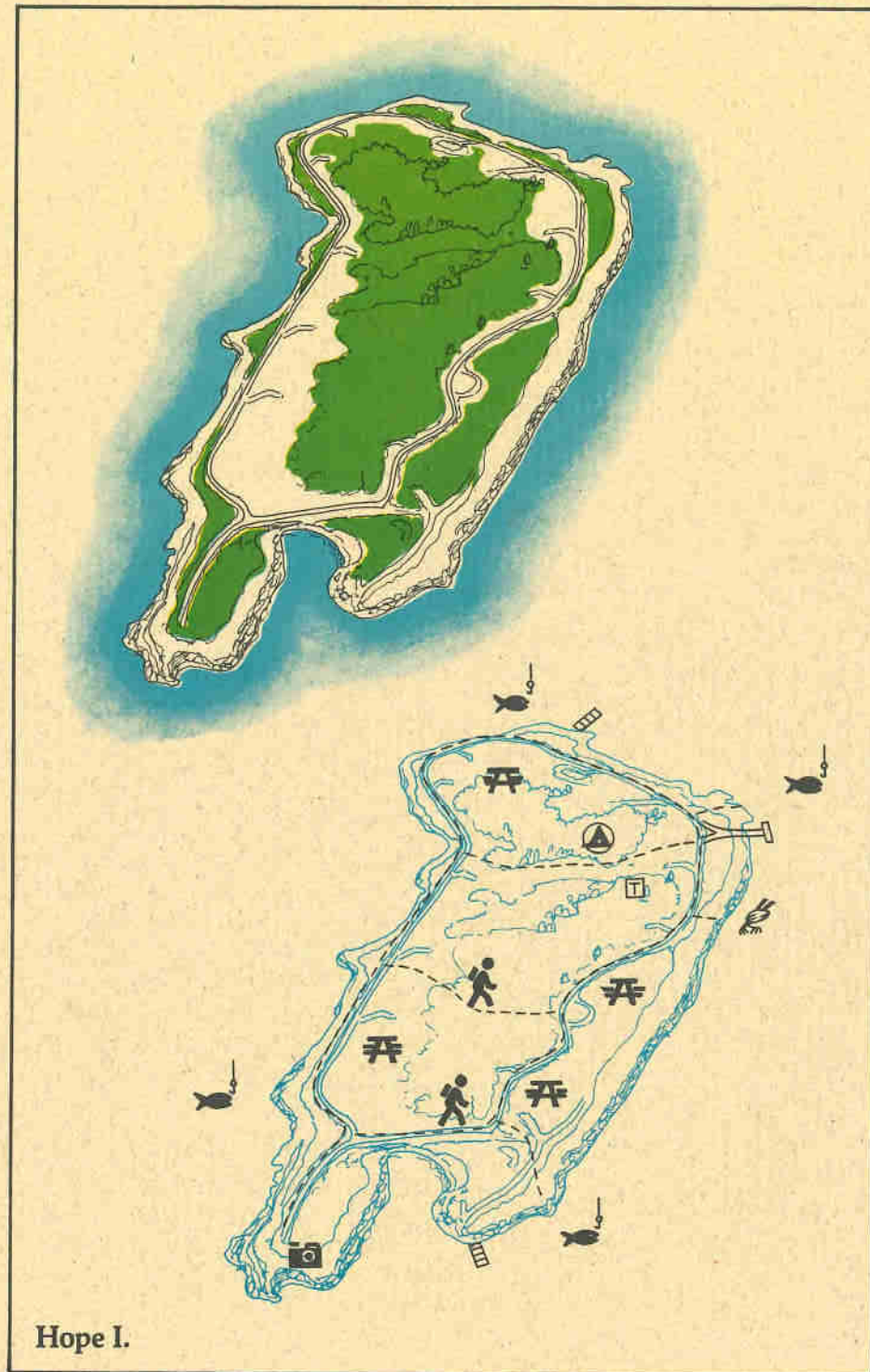
Narrow, low, and rocky, Hope Island lies in the West Passage of Narragansett Bay midway between Quonset Point in North Kingstown and Prudence Island. It has been used for many years as an ammunition store by the U.S. Navy, which has constructed numerous bunkers and several cinderblock and wood-frame structures on it. While unattractive in themselves, these do not irreversibly detract from the island's scenic beauty. It would appear feasible to return the area to very nearly a natural condition at only modest cost. The island was recently acquired by the state for recreational and conservation use.

Hope Island's topography is irregular, with numerous low hills and ledge outcroppings. A small freshwater wetland is located on an isolated depression in the south-central portion of the island. During a 1974 survey, the island was discovered to contain a rare and heretofore unknown heron rookery. Species such as black crowned night heron, great egret and glossy ibis, which seldom nest as far north as Rhode Island,

were found to have established a tenuous foothold on this remote site. Spectacular both in size and beauty, these birds need continued isolation from man if they are not to be driven off the island. Preservation of a unique natural environment will, therefore, require careful management of recreational activity in the area surrounding the rookery.

The island is also rich in other bird life. Great flocks of gulls have taken over in man's absence. They rise squalling from ledge and tree to wheel lazily overhead when a visitor enters the island's interior. More delicate in both manner and appearance, terns, generally on the decline in Rhode Island, rest and may nest on rugged coastal ledges and on the several rocky islets surrounding Hope itself.

Other animal life is less visible, although terrain and vegetation provide ideal habitat for small mammals. Rabbit warrens dot the terrain, and an abundance of small game paths cut through high grasses and dense stands of sumac and bayberry. Wind-stunted junipers and wild cherry are scattered through the interior uplands. The island's rocky shoreline and nearby waters are rich in marine





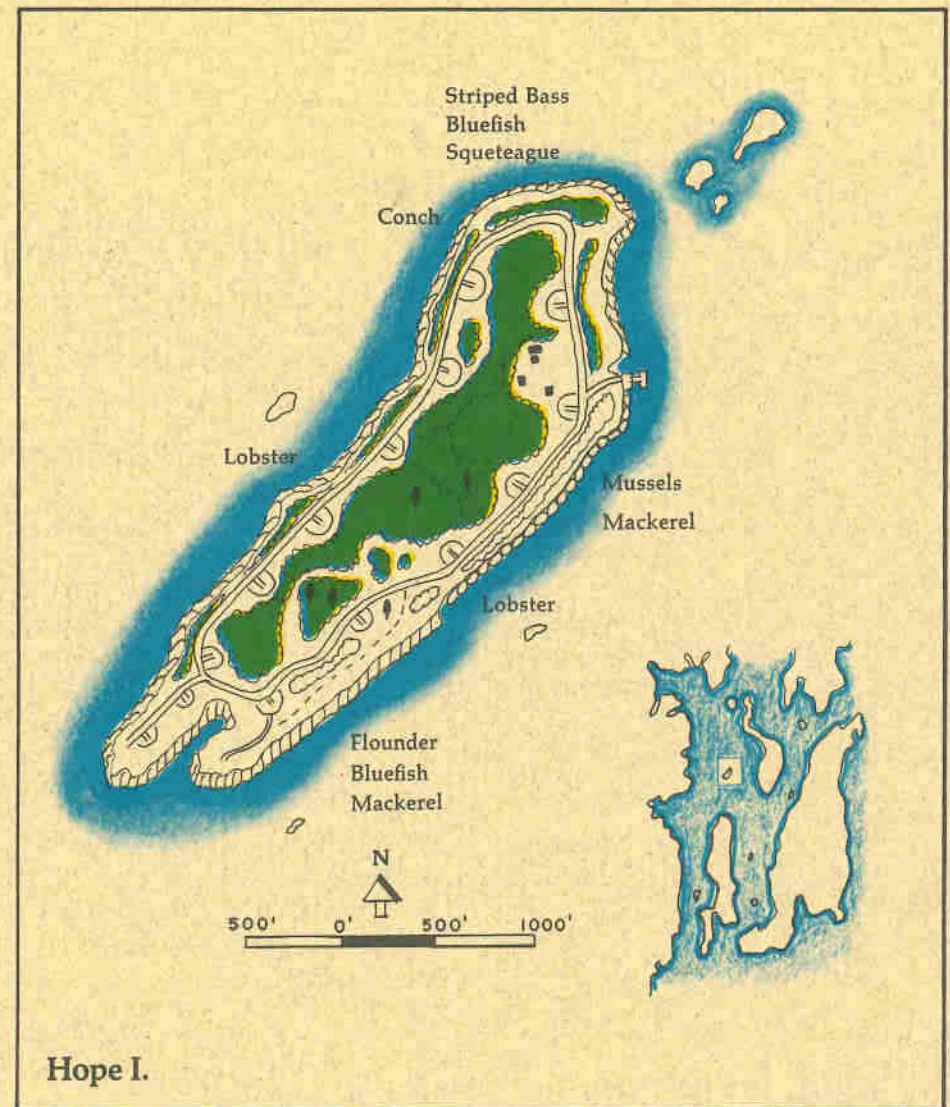
life. Wintering seals occasionally visit its ledges where edible blue mussels cling to wave-washed rocks. Soft shelled clams burrow into rocky bottoms, while lobsters inhabit deeper bottom areas. Bluefish, tautog, striped bass, flounder and squeteague are all taken in season by sportfishermen trolling offshore.

Hope Island's sole convenient landing point is a wooden pile and rubble-filled Naval pier on its eastern shore. While some repairs to its surface will be required, it appears to be structurally sound and usable with only minor improvements. Adjacent to the pier are several derelict buildings and storage tanks, all of which should be razed to discourage vandalism and to improve the island's appearance. An overgrown and deteriorating road follows the shoreline completely around the island. Ammunition bunkers are sunken into the hillside immediately inland of the road. With their low profiles and cover of vegetation, these bunkers are sufficiently unobtrusive so as not to detract from the island's scenic appeal.

The perimeter road and inland highlands afford numerous vistas out over the waters of Narragansett Bay. On no other Bay Island do so many vantage points offer unobstructed views of water in all directions. The Bay's marine and coastal tableau surrounds the viewer at every turn. A scenic attraction in itself, Hope Island provides a platform from which to absorb a new and unique perspective of Narragansett Bay's natural beauty.

Because of its isolation, small size, and apparent absence of a potable water source, Hope Island is not suitable for sustained or intensive recreational use. Its rugged attractiveness and commanding views further suggest it would better be dedicated to passive, nature-oriented, day activities. Some limited-duration overnight use could be accommodated, however. The following recommendations are consequently made:

1. Remaining, above-ground structures should be razed and burned, or disposed of on site where possible. The many telephone poles that follow the perimeter road should be cut down and either destroyed or used in the construction of shelters or picnic tables. One or two might be left





standing at the remote, southern end of the island to provide nesting platforms for ospreys, which are making a slow comeback in southern New England. The bunkers should be secured to prevent access and vandalism.

2. A maximum of 12 picnic sites with table, firepit, and trash receptacles should be scattered around the island adjacent to the perimeter road. Sites should be concentrated on the north end; other areas could be cleared for informal picnicking.

3. A maximum of ten primitive campsites should be located in naturally clear areas inland of the perimeter road at the north end of the island. These should be isolated from the picnic sites and located so as not to interfere with scenic viewpoints.

4. Trails servicing and crossing the interior of the island should provide access to scenic overlooks and campsites. No trails should be cleared or permitted in the area surrounding the heron rookery. The perimeter road should be maintained for casual walking, rather than for the more rugged hiking that could be provided by the trails.

5. The area surrounding the heron rookery should be posted with signs indicating its significance and prohibiting trespassing. This prohibition should be strictly enforced by the Department of Natural Resources. The perimeter road, where it passes close by the rookery on the east side, should be rerouted to more nearly follow the shoreline. Remnants of an older road could be cleared of growth to create a scenic bypass and provide a natural buffer between strollers and nesting birds.

6. Three pit toilets should be constructed in unobtrusive but centrally located areas.

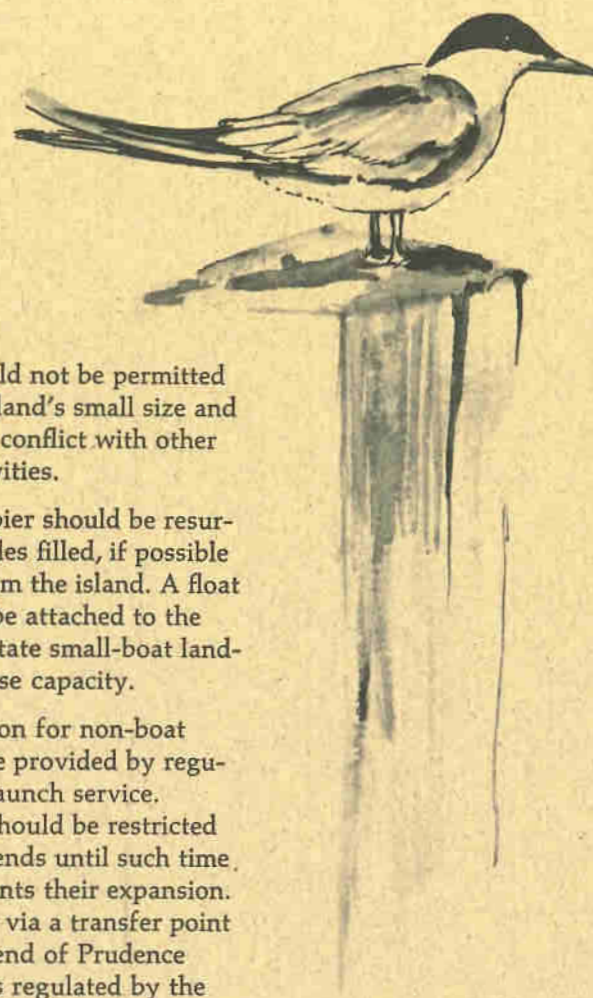
7. Access to the shoreline for fishermen should be provided at suitable points.



8. Hunting should not be permitted because of the island's small size and the potential for conflict with other recreational activities.

9. The existing pier should be resurfaced and pot holes filled, if possible with material from the island. A float or floats should be attached to the pier face to facilitate small-boat landing and to increase capacity.

10. Transportation for non-boat owners should be provided by regularly scheduled launch service. Scheduled runs should be restricted to summer weekends until such time as demand warrants their expansion. Access should be via a transfer point on the southern end of Prudence Island, with fares regulated by the state.



*The cost of these recommended improvements, all of which need not be undertaken at once, is estimated to be as follows:*

Razing and securing derelict structures	\$ 5,000
Twelve picnic sites with tables @ \$200 each	2,400
Ten campsites @ \$100 each	1,000
Three miles of trail clearing @ \$200 per mile	600
Three pit toilets @ \$500 each	1,500
Six fishing access points @ \$200 each	1,200
Pier repair and improvement	9,000
Two overlooks @ \$100 each	200
<b>Total</b>	<b>\$20,900</b>



## Beavertail: Fort Burnside

(114 acres)

With the cutbacks in Naval operations, the overseas transmission station at Fort Burnside, a total of some 114 acres on the Beavertail portion of Conanicut Island (Jamestown), have been declared excess. The town of Jamestown has already obtained 20 acres on the southeastern shore of the peninsula for a town-operated camping and fishing area. This would augment the present town facility at Fort Getty on Dutch Harbor, which is seriously overcrowded. A well-managed and carefully designed town camping area is fully consistent with the objectives of the Bay Islands Park system and is strongly endorsed.

The remaining property on the western side of the peninsula should also be committed to public, recreational use when it becomes available. This property consists of predominantly open, level fields overlooking the lower West Passage of Narragansett Bay. The area is dominated by radio transmission towers, but with the exception of several gravel service roads and two small building clusters, it is undeveloped. Removal of the towers would, therefore, reestablish an essentially natural environment.

The shoreline in this area is steep and rocky. The open interior plateau ends abruptly and falls off in a confusion of eroded gravel, boulders, and exposed ledge to the water's edge some 30 feet below. Tongues of ledge extend out into deep, offshore waters and create the rugged and highly irregular coastline typical of the entire Beavertail peninsula.

Because the transmission facility is presently closed to non-military personnel, no assessment of its wildlife population has been made. It may be assumed, however, that the wildlife consists primarily of small upland game, native birds and seasonal influxes of migrating species. Marine life is present in abundance in near-shore waters, and surf casting is popular off nearby ledges.

With easy access by road, gentle land contours, and scenic coastal vistas, Fort Burnside could become an attractive recreational area best committed to day use. Accessibility, size, and terrain further suggest that a properly designed facility could service significant numbers of people without environmental or aesthetic deterioration. It is, therefore, recommended that if it is acquired for recreational use, Fort Burnside be developed for recreational use as follows:

1. Transmission towers should be dismantled and removed by the Navy upon surrender of the facility.
2. Buildings should be secured until suitable uses for them are determined. Among these uses might be maintenance and storage, public information or exhibitions, sanitary services, or administration. Where at all possible, existing structures should be used, rather than new ones built, to house these activities.
3. Existing service roads should be used to provide automobile access to the site.
4. Parking should be provided at the two Navy lots at the north and south ends of the facility.
5. A one-way traffic flow pattern should be instituted to prevent congestion and to facilitate movement of sightseers and other short duration users.
6. A surfaced or gravel walkway for casual strolling and scenic viewing should be constructed along the edge of the coastal bluff.
7. Pedestrian overlooks with benches should be constructed at a few, especially scenic points along the walkway.

8. Periodic access via trail or stairway from the walkway to the shoreline should be provided for fishermen and more nimble walkers.

9. Up to 40 picnic sites should be scattered in small clusters throughout the area. Those placed closest to the water should be located inland of the walkway.

10. A sanitary facility of sufficient capacity to handle the anticipated use of the area should be built in a central location. It should be screened with vegetation and be as visually unobtrusive as possible.

11. Selective plantings should be made to provide screens or wind breaks, and remote areas should be allowed to revert to natural cover. Most of the area, however, should be maintained as open fields for informal use.

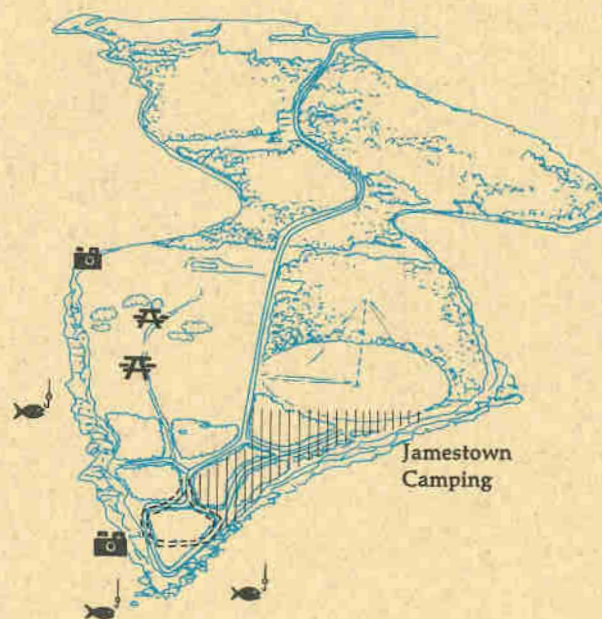
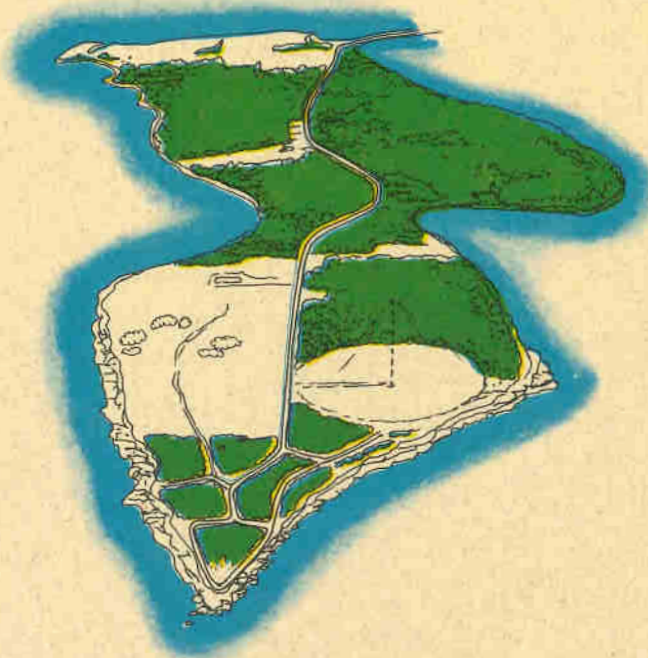
### *Projected costs for these improvements break down as follows:*

Forty picnic sites @ \$200 per site	\$ 8,000
Walkway (1000 feet x 4 feet @ \$5 per square yard)	2,500
Three overlooks @ \$500 each	1,500
Landscaping	5,000
Sanitary facility	50,000
<b>Total</b>	<b>\$67,000</b>



## Beavertail Point

(8.8 acres)



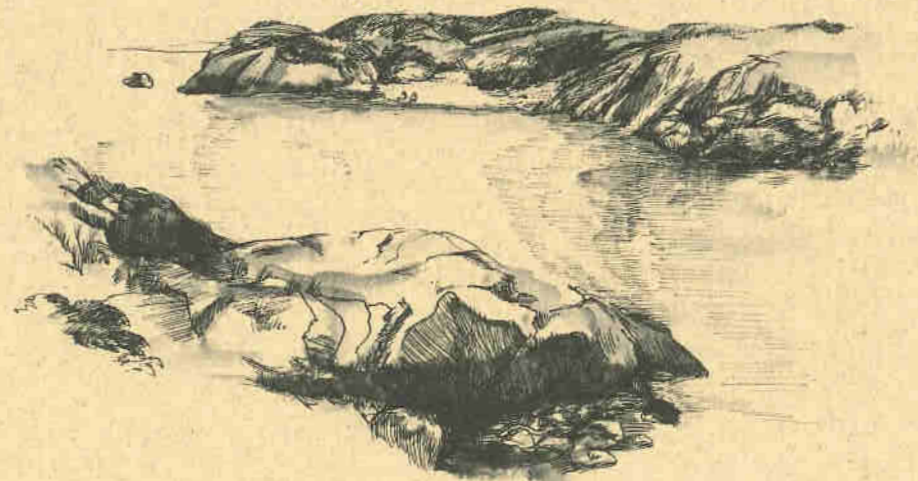
Beavertail

The Coast Guard station on Beavertail Point at the extreme southern tip of Conanicut Island is one of Rhode Island's most scenic and historically significant coastal areas. There are, however, no known plans to declare this facility excess in the near future. Although federal policy continues to tolerate public use of much of the Point, the state should make every effort to obtain it for formal recreational use if and when it is available.

Beavertail's historic significance dates back to 1749, when the third of only seven East Coast lighthouses built before the Revolutionary War was placed on its headland. Lost for many years, the lighthouse's stone foundation was exposed by a hurricane in

the 1950s. It is now a popular tourist attraction. The present lighthouse, recently automated, is one of an unbroken line that has occupied the site for well over 200 years.

As the most seaward promontory of the Beavertail peninsula and one of the state's most exposed headlands, Beavertail Point is surrounded by open ocean on three sides. Its vistas of ocean and distant shores to the east and west, its stormy seas crashing on long fingers of ledge, and its scenic old lighthouse combine to create a breathtaking natural spectacle. The smells and sounds of the sea are everywhere, and the Point has long been a mecca for sightseers and fishermen.





## Dutch Island

(110 acres)

With their many folds, intrusions, and crystal formations, the steep rocky shores and ledge outcroppings create a dramatic and scenic environment. Surfcasters fishing from these shores take striped bass, bluefish, tautog, mackerel, cod, pollack and flounder. University classes visit to study thriving and unusually diverse algal and intertidal communities. Each fall and spring the Point is visited by great numbers of migrating birds and myriads of gaily colored insects. In one of nature's less well-known migrations, beautiful monarch butterflies rest briefly here in the fall before heading out over the open waters of Block Island Sound on their way south.

If acquired for recreational use, Beavertail Point should be subjected to no additional development, but rather improved so that its beauties may become more easily accessible to greater numbers of visitors. It is consequently recommended that:

1. The area should be dedicated to sightseeing, picnicking, sportfishing, nature study and other passive, day activities of a comparable nature.
2. The existing road should be closed to automobile traffic at the point where it now becomes one-way and

veers sharply to the right to follow the high bluff around the Point and in front of the lighthouse. The guard rail should be removed, the road removed or resurfaced, and its right-of-way transformed into a pedestrian mall for casual strolling. Benches and appropriate plantings should be scattered along its length; a few trails or stairways leading down to the coastal ledges should be built.

3. Parking for up to 50 cars should be provided off Beavertail Road immediately north of the site.
4. The open field behind (north of) the lighthouse and inland of the existing coastal road should be kept open for informal uses.
5. The lighthouse should be maintained as a scenic attraction. It might someday house an information center or maritime museum, but until such time as either use becomes feasible, it should be secured.

### *Estimated costs for recommended improvements are:*

Parking area (50 car capacity)	\$ 5,000
Road relocation and turn-around	10,000
Mall construction	15,000
<b>Total</b>	<b>\$30,000</b>

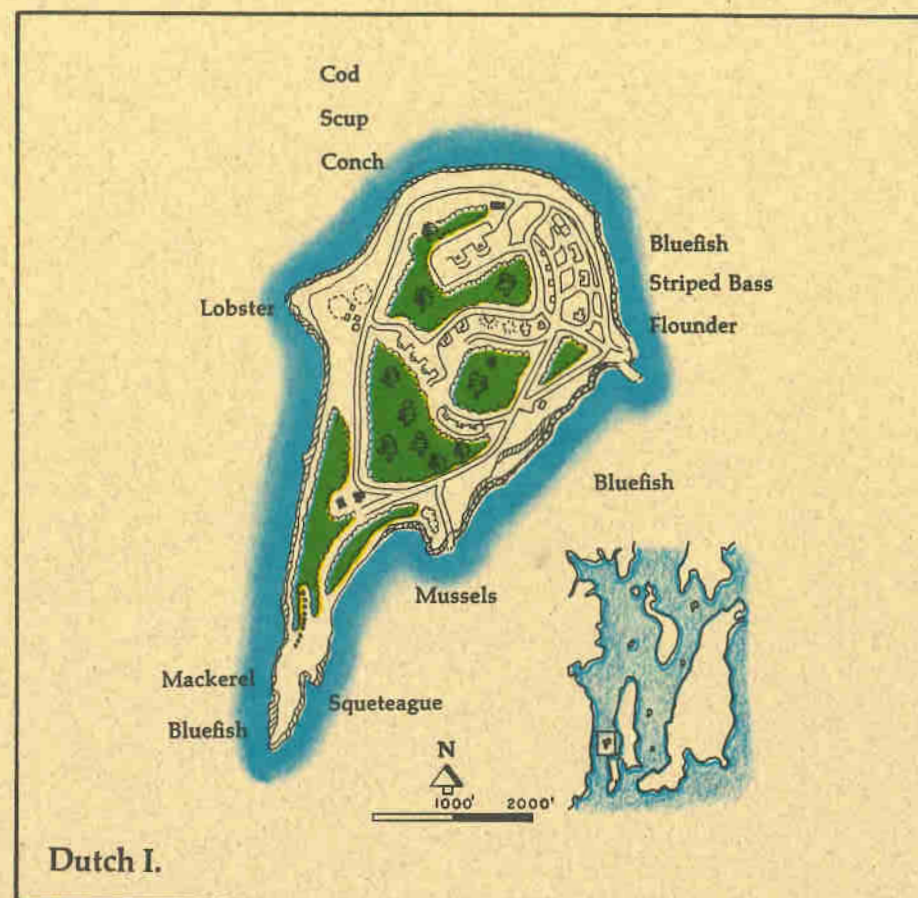
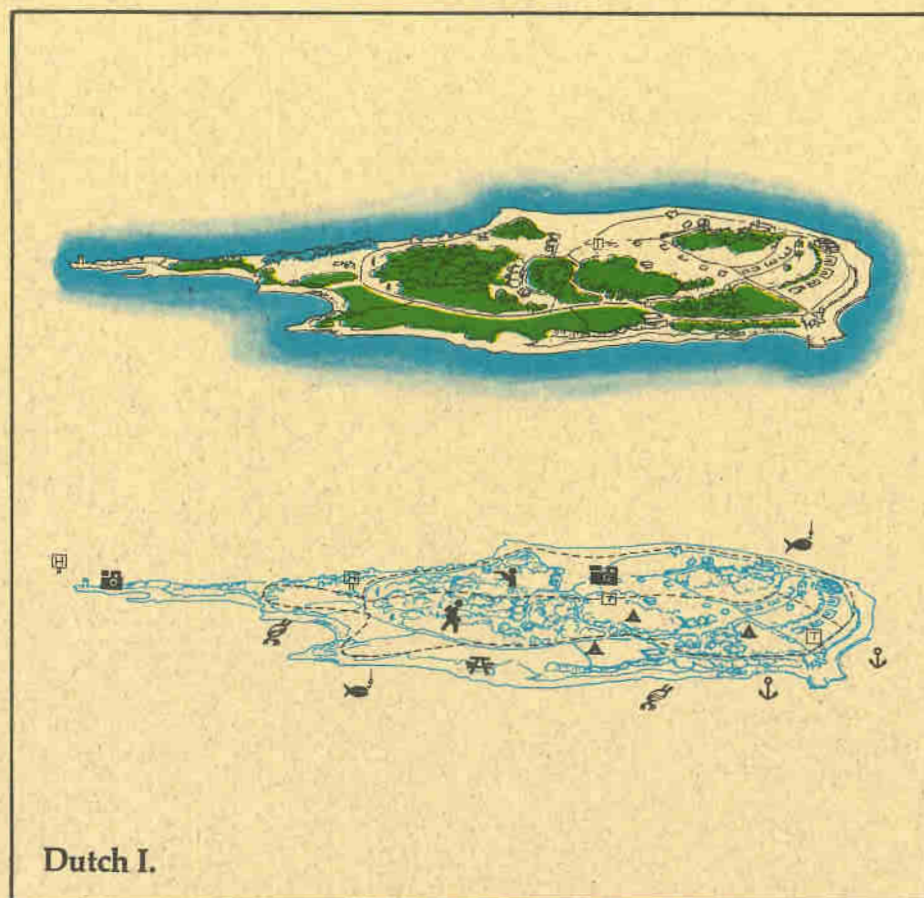
Acquired by the state in 1958 and operated since that time as a wildlife management area, Dutch Island was designated the first Bay Island Park during the summer of 1974. Department of Natural Resources personnel and student volunteers from North Kingstown High School prepared the island for recreational use over the course of the summer at a net cost of only \$8,000. Many derelict structures and other hazards were razed or secured, trails and ten campsites cleared, 20 picnic tables installed, and two pit toilets erected. As a consequence of the Department's enthusiastic response to preliminary recommendations for the Bay Islands Park system, much of the groundbreaking work on Dutch Island has already been completed, and the feasibility of the Park concept has been successfully tested. At minimal cost to the public, the island was prepared for environmentally compatible recreational use, and, for the first time, hiking and camping on the island were made possible for a significant number of Rhode Island families.

Dutch Island lies some half-mile off the Jamestown shore, approximately one mile south of the Jamestown Bridge in the West Passage of Narragansett Bay. Much of its coastline is steep, having high bluffs with eroded faces to the north and west and extensive ledges and low cliffs to the east. A coarse, stony beach extends around most of the island's perimeter, and a low spit of ledge juts seaward from its southern end. Land contours are characteristically gentle, sloping upward to an interior plateau of 90 foot elevation. After a long history of military use, the terrain is dotted with long-abandoned barracks, bunkers, and gun emplacements.

Vegetation includes a mixture of native species and plantings. Low scrub has covered the many previously cleared areas that have reverted to a natural state. High scrub with scattered stands of sizable trees covers most of the island's remaining surface. Notable species include juniper, wild cherry, honeysuckle, black locust, tamarack, spruce, maple, and wild rose.

Although surface water and groundwater are in extremely short supply





(military needs were met with cisterns), Dutch Island provides excellent habitat for small upland game. Wildlife is abundant and includes woodcock, owl, duck, rabbits, squirrels and, unfortunately, rats. Better maintenance, however, would reduce the rat population on the island. Nearby waters provide excellent sportfishing. Dutch Harbor once contained rich beds of soft-shelled clams, quahogs and bay scallops. These have been severely depleted by overfishing, and harvesting restrictions have been imposed.

The rocky cliffs and ledges along the island's eastern shore are among its most unique and picturesque features. Shimmering tidal pools and submerged ledges are carpeted with edible blue mussels. Dramatically eroded and severely metamorphosed, the rocks reveal an ancient geologic legacy in their innumerable folds and extrusions.

Dutch Island is most easily approached by small boat from its eastern, Dutch Harbor shoreline. An old, stone coaling jetty has been cleared of debris by Department of Natural Resources personnel and now serves as

a landing. A newly blazed trail network radiates from this point. To the north, the trail climbs steep bluffs along the route of an abandoned road. Curving around the ruins of an impressive, old, brick barracks, it commands sweeping views up the West Passage of Narragansett Bay. Continuing in a southerly direction along the island's central ridge, the trail climbs toward an abandoned lookout tower. Fields, overgrown cellar holes with their crumbling walls and chim-







neys, massive concrete gun emplacements, and scattered stands of trees fall off toward the water on either side. From the lookout tower, the whole lower Bay, Brenton Point, Point Judith, and, on the far horizon, Block Island are visible in a sweeping panorama.

To the south of the tower, a trail with scattered picnic sites bears off to the left toward Dutch Harbor. The main trail continues down into a shady glade of large black locusts, which conceals more old battlements and decaying buildings. It ultimately emerges at the upper edge of a broad meadow sloping gently down to low coastal cliffs overlooking the harbor. Picnic tables and campsites, all commanding magnificent water views, have been located there. The trail then continues northward through a wooded area and down toward its origin at the stone jetty. A sanitary station has been located in this woodland. Campsites have been scattered through the woods and on the bluffs along the trail's length.

An older, unimproved trail follows the island's eastern shoreline toward the lighthouse at its southern tip. In a series of often precipitous ascents and descents, it leads across ledges and

around tidal pools, up and over rocky terraces and richly veined extrusions, across rocky beaches and low bluffs. At its southern terminus, all but hidden to the eye by their dense cover of honeysuckle, are Dutch Island's oldest military artifacts—a series of Civil War batteries connected by subterranean bunkers. With their finely crafted granite blocks and arched and groined brickwork, these have survived the ravages of time and neglect with considerable dignity. They possess a historical presence only rarely experienced.

Building on work already done, little more needs to be undertaken to prepare Dutch Island for the types and levels of recreational use most compatible with its environment. Its small size, designation as a wildlife management area, and lack of a potable water source suggest that low-density, nature-oriented, day recreation be stressed. Abundance of small game species, historically significant structures and ruins, and scenic marine vistas further suggest that seasonal hunting, hiking, sightseeing, and camping will be popular and appropriate activities.

A substantial number of campsites have already been cleared to serve those desiring more extended visits. Additional sites to the south and west could be cleared as future demand warrants but do not appear necessary at this time. Expansion of camping facilities will require a parallel expansion of sanitary and refuse-collection services to obviate further problems with rats.

Immediate focus should be on improvement of existing opportunities rather than provision of new ones. It is, therefore, recommended that:

1. Deteriorating tunnels, bunkers, and cisterns should be sealed, and the observation tower stairs repaired or replaced. Restoration should be limited to what is necessary to promote safe use.
2. Additional trails, observation points, and picnic sites (no tables or improvements) should be cleared. The trail network should be extended to encompass the southern and western portions of the island and should include both coastal and upland paths.

3. The stone jetty at Dutch Harbor should be improved to facilitate landing of passengers from small boats and launches. A safe and convenient mooring area should be provided nearby, perhaps by the construction of a floating-tire breakwater or other temporary structure.

4. Launch service from the town pier at West Ferry in Jamestown should be provided for those without boats. This service should be privately operated under a franchise bid arrangement. Regularly scheduled service, weekends only, should be provided during the summer, with the season extended if demand warrants. Fares should be kept low.

5. Additional maintenance and supervisory services should be provided by the Department of Natural Resources. These should include periodic patrol by enforcement personnel and regular refuse collection.

*The cost of recommended improvements is estimated at \$18,200, broken down as follows:*

Demolition and restoration	\$ 3,000
Trail and site clearing	200
Jetty improvement	15,000
<b>Total</b>	<b>\$18,200</b>



## Fort Wetherill

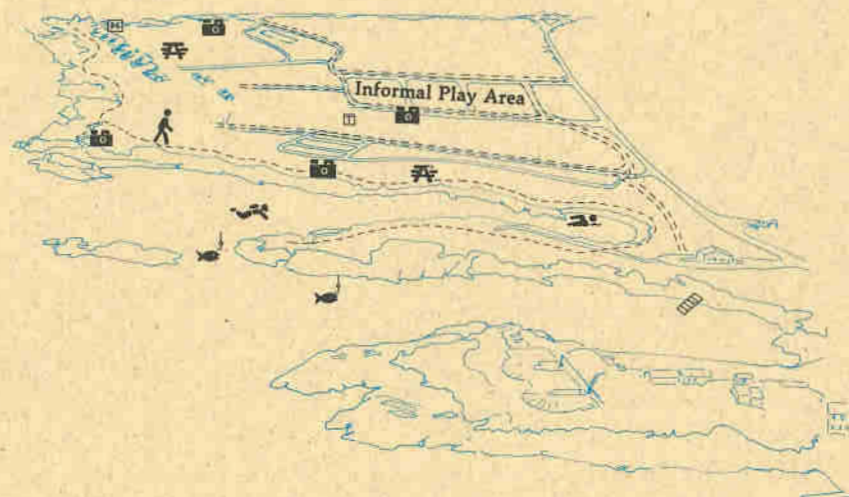
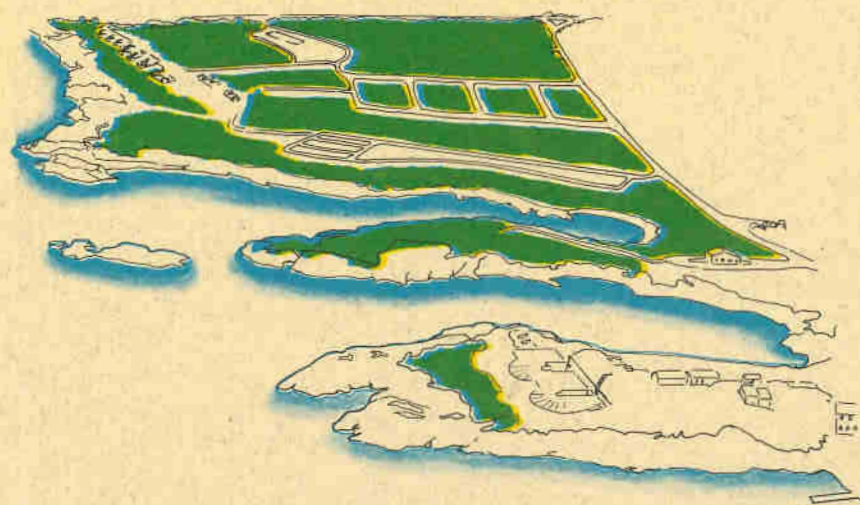
(51 acres)

Fort Wetherill sits atop high cliffs on the rocky, southeastern shore of Conanicut Island, where its guns once commanded the approaches to Narragansett Bay's East Passage. The military significance of this strategic spot was recognized by Rhode Island's earliest colonists, who, during the Revolutionary War, built earthen fortifications on its headland and installed cannon to protect nearby Newport from the British. These cannon never actually fired, and, although a fort has been manned periodically on the site ever since, it has never seen action.



At some 50 to 70 feet in height, the Fort's granite cliffs are among the state's most dramatic coastal features. Cut by deep gorges, their feet awash in a constant surge of waves, the cliffs present a spectacle highly reminiscent of the rock-bound coast of Maine. Deep, clear waters support abundant marine life; lobsters inhabit sheltered cove bottoms and undersea caverns. Seabirds nest and rear their young on wave-battered, offshore ledges and inaccessible crannies of the cliff face. From the cliff's edge and the massive concrete battlements behind, the lower East Passage is seen laid out at the viewer's feet: To the south and west, Beavertail Point extends out to sea; Brenton Reef light tower looms on the horizon to the south; Brenton Point and the rocky Newport shoreline are to the east. Across and up the Bay to the east, Fort Adams, Wetherill's military companion for nearly two centuries, sits on a peninsula and guards the approaches to Newport Harbor.

Vegetation along the cliff edge and across most of the area's exposed plateau is sparse, consisting primarily of hardy grasses, low shrubs such as



Fort Wetherill



bayberry and wild rose, and a few wind-stunted junipers. In the protected lee of the battlements, formerly cleared land has reverted to dense scrub growth broken by old foundation slabs, holes, and other military debris. There are no surface-water accumulations, and wildlife is confined to shorebirds and small mammals.

Recently, Wetherill has become a popular recreational area. For many years unsupervised, it was subjected

to considerable vandalism and abuse. The state acquired title to the property in 1972 and designated it part of the state recreational system in the same year. Since that time, the Fort itself has been secured, the old road network cleared, and a great deal of litter and debris removed. A boat-launching ramp was built at Sand Beach Cove in 1973 to serve sport-fishermen. The site attracts numerous scuba divers, drawn to its clear waters, rocky shoreline, and rich marine

life. Tautog, striped bass, and other species are taken from its coastal ledges. Increasingly, sightseers have come to enjoy its magnificent views, rugged terrain, and crumbling battlements.

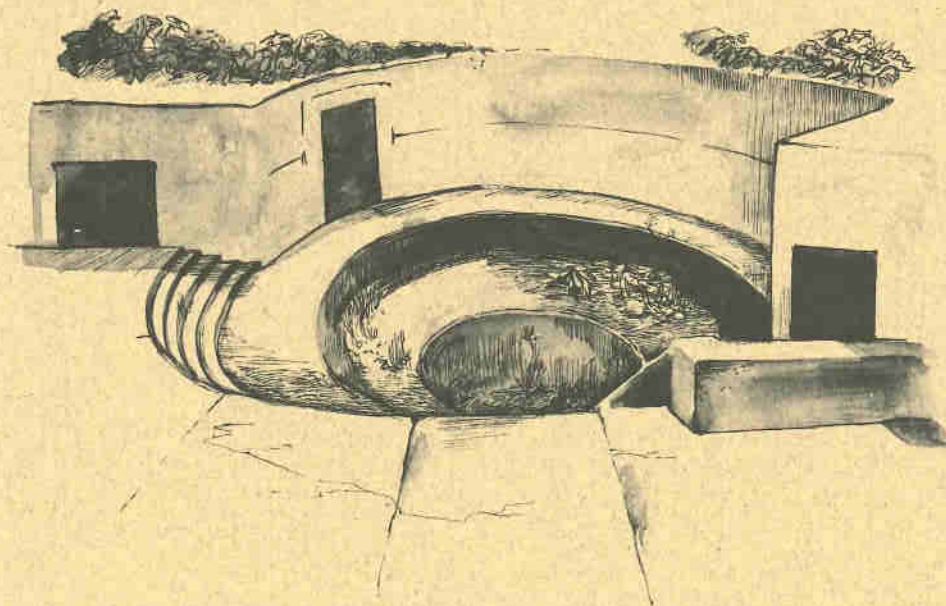
Recreational development of Fort Wetherill continues under the aegis of the Department of Natural Resources. Ongoing plans provide for improvements that will enhance the area's stature as a component of the Bay Islands Park System. The following planned improvements are consequently endorsed:

1. The boat ramp should be moved from Sand Beach Cove to West Cove to expand its capacity and to prevent conflicts with scuba diving.
2. Existing coastal trails should be cleared and improved to provide safe access for hikers and fishermen. Construction of fishing piers or platforms does not appear necessary or desirable.
3. A limited number of picnic tables should be scattered at scenic points. Additional sites should be cleared for informal picnicking.

4. Additional clean-up should be undertaken, remaining dangerous structures secured, and overgrown areas cleared to facilitate and enhance recreational use.

5. The existing road network should be improved, parking for a maximum of 150 cars provided, and a one-way traffic pattern initiated to prevent congestion and to improve public access. Roads and overlooks should not, however, be permitted to interfere with footpaths or interrupt scenic vistas.

6. A central toilet facility with running water and capacity to handle up to 500 people per day should be constructed.



*Total expenditures for the above improvements are estimated at approximately \$170,000. These costs have already been programmed into the Department of Natural Resources' capital development budget and do not represent Bay Islands Park-related expenditures.*

1. New boat ramp	\$ 10,000
2. Trail repair	5,000
3. Picnic site preparation	3,000
4. Clean up	2,000
5. Road work and parking	100,000
6. Sanitary facility	50,000

**Total**      **\$170,000**



## Fort Adams

(55 acres)

Fort Adams' military history dates back to the mid-1700s, when, during the French and Indian Wars, colonists erected first an observation post and later earthwork fortifications on the site. In 1799, the first permanent fort was completed. It fell into disrepair by the end of the War of 1812, and with the burning of Washington, D.C. fresh in a young nation's mind, the fort was rebuilt as a major coastal defense installation. After nearly 25 years of labor, the present fort, with its extensive earthworks, massive granite bastions, and arched brick galleries, was completed in 1857 at a cost of \$3,000,000. Commanding the lower East Passage of Narragansett Bay and the approaches to Newport Harbor with its three tiers of cannon, the fort was designed to mount 468 guns. With a wartime complement of 2400 men, it was the East Coast's most powerful coastal installation. Updated and improved to reflect new developments in military technology, it had outlived its strategic significance by the onset of World War II. It remained, however, the command center for one of the most strategic complexes of coastal batteries in the Northeast.

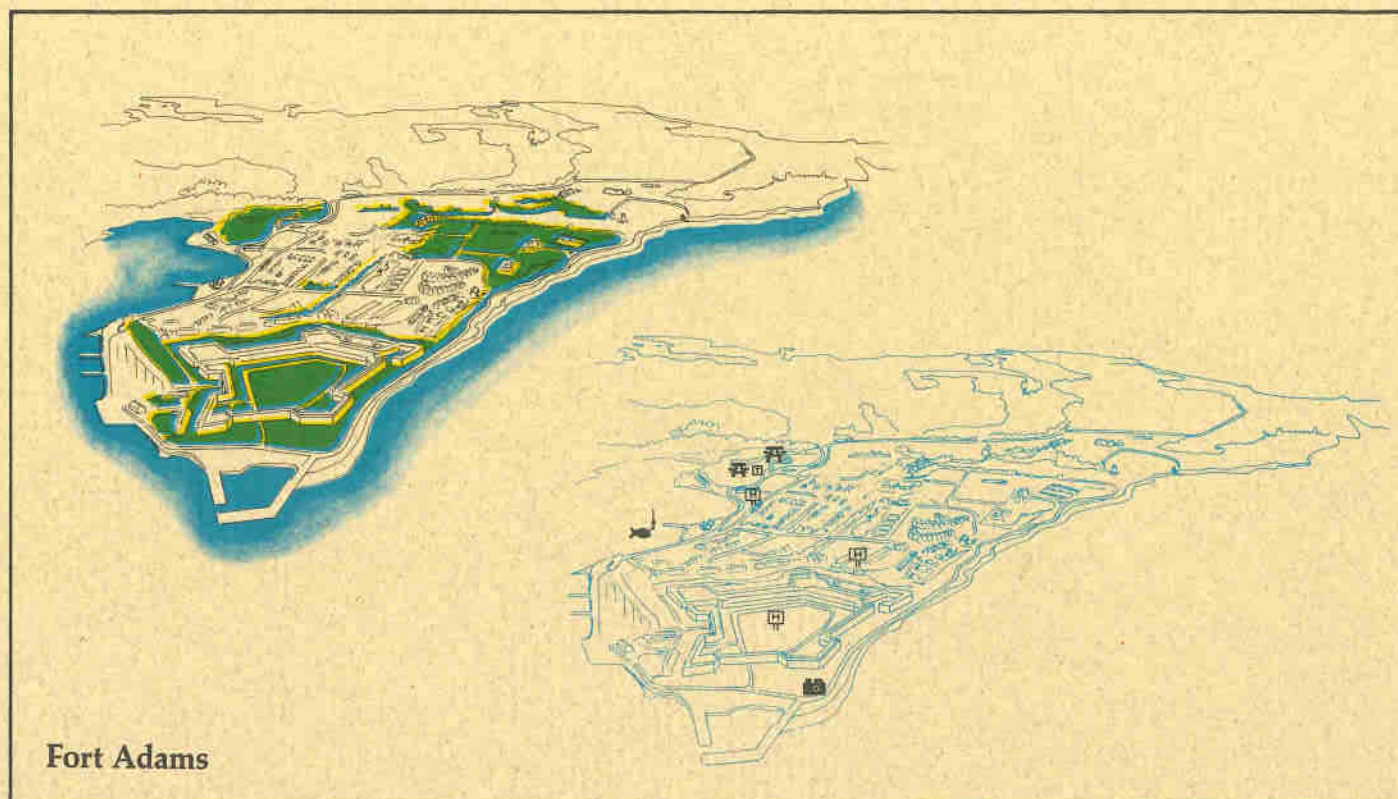
Fort Adams provides a visual record of military history from the 1820s to the end of World War II. It is one of the nation's largest and best-preserved examples of 19th century military architecture. It was briefly the site of the U.S. Naval Academy during the opening months of the Civil War, and its muster roll includes some of the most prominent officers in the military history of the United States.

The fort was acquired by the state in 1965, and plans to restore it as an historic attraction were soon initiated. Considerable historical research and planning have been done under the direction of the Rhode Island Historical Preservation Commission. Work

commenced in 1967, and Fort Adams State Park was dedicated and opened to the public in July of 1973. By the summer of 1974, a 430-car, paved parking lot had been completed and some 40 picnic tables installed at scattered locations around the site. Restoration of the fort itself had proceeded to a point where it could be opened to the general public. Guided tours were initiated, and these tours are scheduled to continue on an expanding basis during the summer tourist season. Restoration of the fort to its original condition continues,

and a number of contracts have been or are soon to be let. Repairs to the seawall along Brenton Cove and pointing of exterior stonework have been completed. Demolition of a 1903 barracks and reconstruction of Civil War barracks, restoration of deteriorating roofs, electrical and drainage repairs, and modification of an existing building to serve as a sanitary facility and park headquarters are planned for the future.

Restoration of the Fort Adams Park complex is carried as an independent item in the Department of Natural Resources' capital development





## Brenton Point State Park

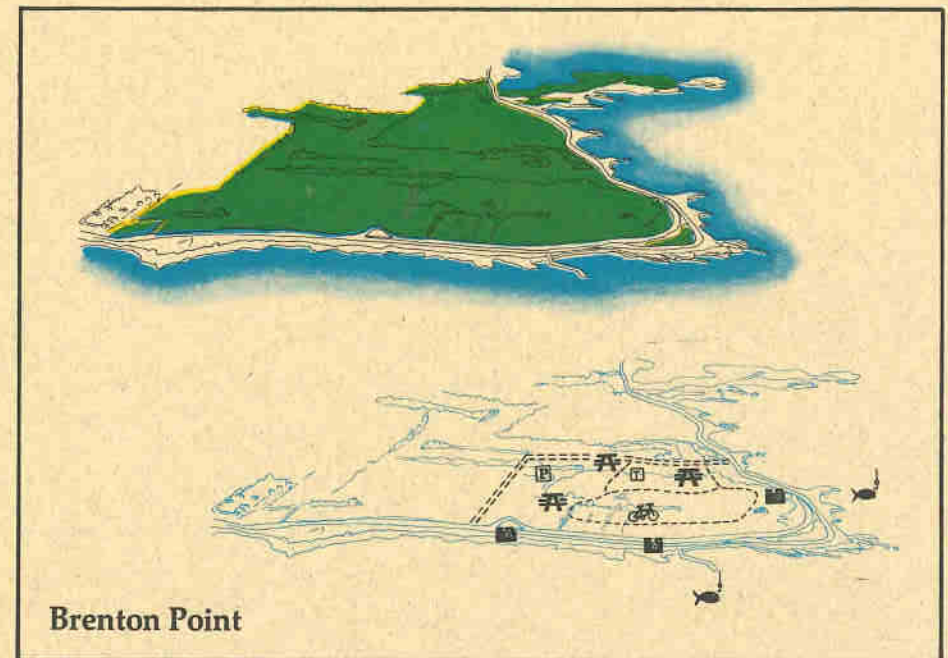
(53 acres)

budget. As such, it does not represent a new or additional expenditure generated by the Bay Islands Park proposal, and is consequently not reflected in Islands Park development-cost projections.

That Fort Adams is a logical and valuable addition to the Bay Islands Park is, however, indisputable. Its insularity and coastal orientation are comparable to many of the more remote island sites recommended for inclusion in the park. At the same time, it is easily accessible by car, and capable of serving large numbers of people. This, coupled with its unique historic significance, will bring a new and important recreational and cultural experience to the people of Rhode Island. With the current Bicentennial interest, it is also likely to draw substantial numbers of tourists into the state, thereby bolstering the local economy. Fort Adams' facilities will complement and add diversity to the recreational experiences offered by the less-developed components of the Bay Islands Park. Experience gained there may also point to heretofore unrealized historical potential in other park areas.

In 1964, the state acquired the former Budlong estate on Newport's Ocean Drive and began a program to transform the deteriorating property into a high-quality recreational facility. Eleven automobile overlooks with a total capacity of 198 vehicles have been built off the drive and have proved extremely popular with the many tourists who travel its scenic length each summer. Renovation of interior sections of the estate is now planned. Projected improvements include upgrading of existing roads, construction of picnic sites and a perimeter road, construction of extensive bicycle trails, renovation and modification of the former servants quarters to a park administration building, and conversion of the old stables into a museum and visitor center. Funds for these projects are programmed into the Department of Natural Resources' capital development budget, and as such do not represent new or additional costs generated by the Bay Islands Park proposal. They are consequently not reflected in projected development costs for the system.

Brenton Point can become an extremely important component of the auto-accessible portion of the Bay Is-



lands Park System. While the insularity of the site is not as dramatic or obvious as it is for the smaller and more remote upper Bay Islands, its marine orientation is comparable. Ease of access, ability to support high-intensity, daytime recreational use, and scenic beauty will contribute to the diversity and quality of recreational experiences offered by the Bay Islands Park.



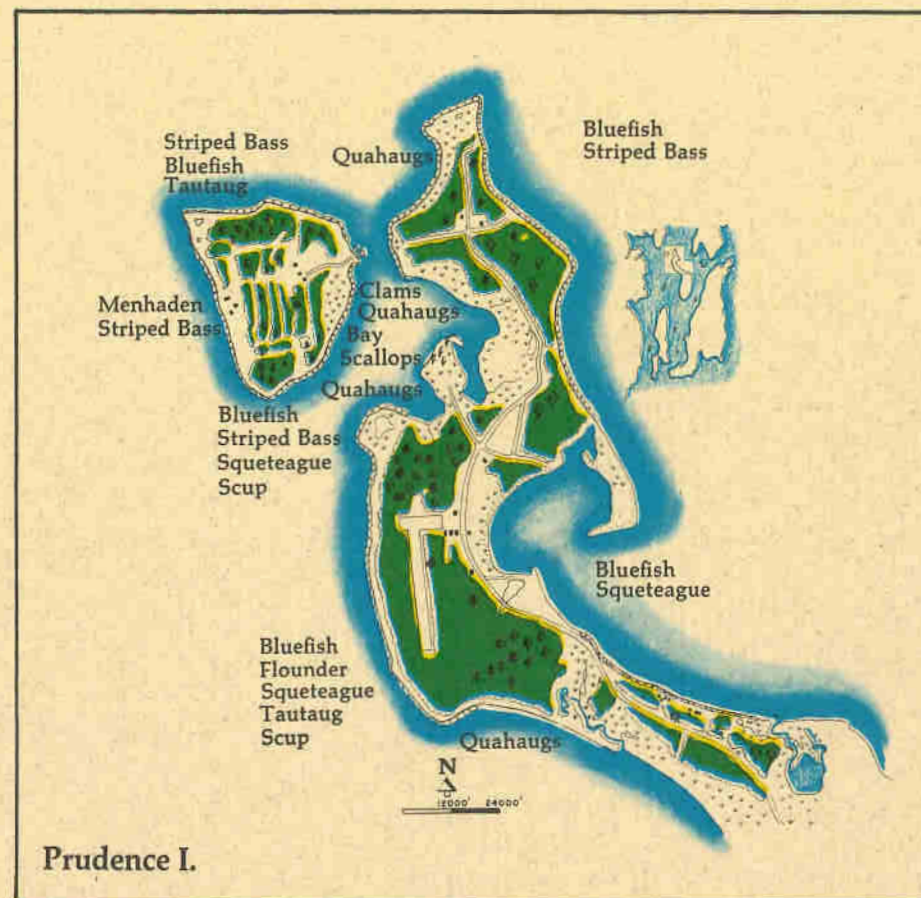


## Prudence Island North of Nag Creek

(1,037 acres)

An island to itself during periods of unusually high water, the northern end of Prudence is connected to the rest of the island by a low, narrow isthmus. Perhaps because of this isolation, it has remained predominantly in large holdings and even now supports at best a dozen buildings and a few miles of rough, dirt road. While for the time being development continues to spare one of Narragansett Bay's most scenic natural areas, it will not do so indefinitely. Much of the north end is for sale. An option to develop it as a luxury condominium-resort complex has been negotiated. Public appreciation and enjoyment of this area, so rich in topographic, vegetative, and faunal diversity, is not compatible with development of this sort. If an invaluable public resource is not to be lost, the north end of Prudence Island should be brought under direct public control. The state may not be able to afford the property's multi-million dollar price, however. Every effort should consequently be made to encourage donation of prime parcels and to obtain federal funding support for the acquisition of others. Negotiations along both these lines are already underway. If successful, they will reduce the state's share of the purchase cost to an acceptable level.

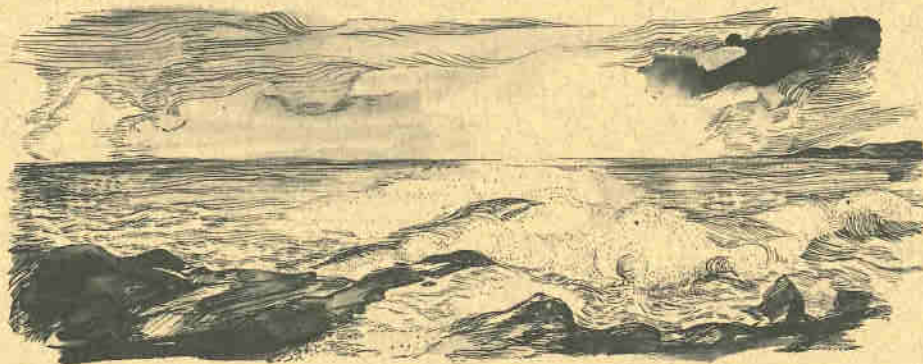
The terrain of the island's north end is low, hilly, and irregular. Isolated hummocks and a long, north-south ridge of unconsolidated glacial material are among its most notable land forms. Its most striking features, however, are the salt marshes along its western shore. Covering a combined area of several hundred acres, the Nag Creek, Jenny Pond, Sheep Pen and Coggeshall Cove marshes compose one of the state's largest surviving concentrations of pristine salt marsh. With their meandering tidal creeks winding through lush green stands of marsh grass, they create a uniquely beautiful and serene environment, all the more satisfying for the absence of surrounding development. Salt marshes, however, are more than simply a visual experience; they are among nature's most productive natural environments. They provide food and refuge for large populations of fish and shellfish, many of which are spawned and spend their vulnerable juvenile years within the marsh's protective confines. They similarly provide food and habitat for both migrating and nesting water birds. Many species of duck, green and little blue herons, snowy and common egrets, terns, and gulls feed or live in the marsh. Upland birds and mammals are also common visitors.



While not as productive as the marsh, the upland portions of the north end provide valuable wildlife habitat. Dense shrub interspersed with stands of both deciduous and coniferous trees covers much of the area's surface. The variety of ground cover supports an abundance of upland species. Pheasant, rabbit, squirrel, fox and other small game animals are plentiful. The island as a whole supports the highest per-acre deer population in New England. A herd estimated at 150 is so large that even with an annual bow-hunting season, malnutrition is sometimes a problem.

The north end's coastal environment is extremely varied. Much of it, especially along the eastern shore, consists of heavily vegetated low bluffs that look out over narrow cobble and boulder beaches. The low, sandy arm of Potter Point hooks out to embrace Potter Cove at the southern end of this shoreline. Its protected waters have proved a popular anchorage for the Bay's yachtsmen. On the west shore, the similarly protected waters of Coggeshall and Sheep Pen coves are also popular anchorages. Good shellfishing and swimming at their





small but high-quality sand beaches attract many boat-owning families. A longer sand beach extends to the southeast from Pine Hill Point along the shoreward edge of the Nag Creek salt marsh. This also could provide excellent swimming, but is not presently popular because of the absence of safe anchorage.

Offshore waters are rich in marine life. The area between Prudence and Patience islands and south of Pine Hill Point is popular with commercial and recreational quahoggers who work both in the water and from small boats. Beds in Potter Cove, however, are closed to shellfishing during the summer because of pollution generated by the concentration of boats that anchor there. Near-shore waters offer excellent sportfishing with bluefish, striped bass, and flounder the most common species landed.

With its varied habitats, large wildlife populations, and extensive salt marshes, the north end of Prudence Island provides an oasis of unique natural beauty within sight of some of the state's most densely populated real estate. It is proposed that as a Bay Islands Park, it become a nature-oriented recreational area and that it

be made more accessible to the many people who cannot now enjoy it. Recreational use and conservation priorities should be carefully balanced, however. Only those activities or improvements that are compatible with, and are enhanced by, an unspoiled natural environment should be provided. Other uses should be relegated to more tolerant sites. Specific recommendations are as follows:

1. *The existing cement jetty at Potter Cove should be renovated to serve as a small ferry or launch landing. Scheduled service from the south end of the island would land visitors at this point.*
2. *An open information shelter should be located near the jetty. Trail maps, interpretive pamphlets, and ferry schedules should be available here.*
3. *Existing structures near the jetty should be either secured or used to house a caretaker or conservation groups. If future demand warrants, one or more of the structures might eventually be renovated as a museum or information-visitor center.*
4. *All intensive, recreational activities should be confined to the area immediately surrounding the jetty and buildings.*



5. An extensive trail system should be developed. This should include both coastal and upland loops with frequent crossovers. Trails should provide access to unique features and vista points, and should be of varying lengths and degrees of difficulty to serve the needs of a variety of users. Trails should follow natural contours and be routed so as to require minimum clearing or other disruption of the natural environment.

6. Interpretive nature trails should be developed as an element of the larger system. These should be self-guided, with key features identified by guidebooks or unobtrusive plaques. The interpretive system should include a salt marsh loop consisting of trails and elevated boardwalks exploring this important feature. Guided group tours by interpretive specialists might be conducted during peak weekends.

7. Scenic vista points should be cleared only to the minimum necessary to facilitate their use. Benches or other improvements should not be provided.

8. Picnic sites should be provided at periodic intervals along trails. With the exception of the area immediately around Potter Cove where tables and

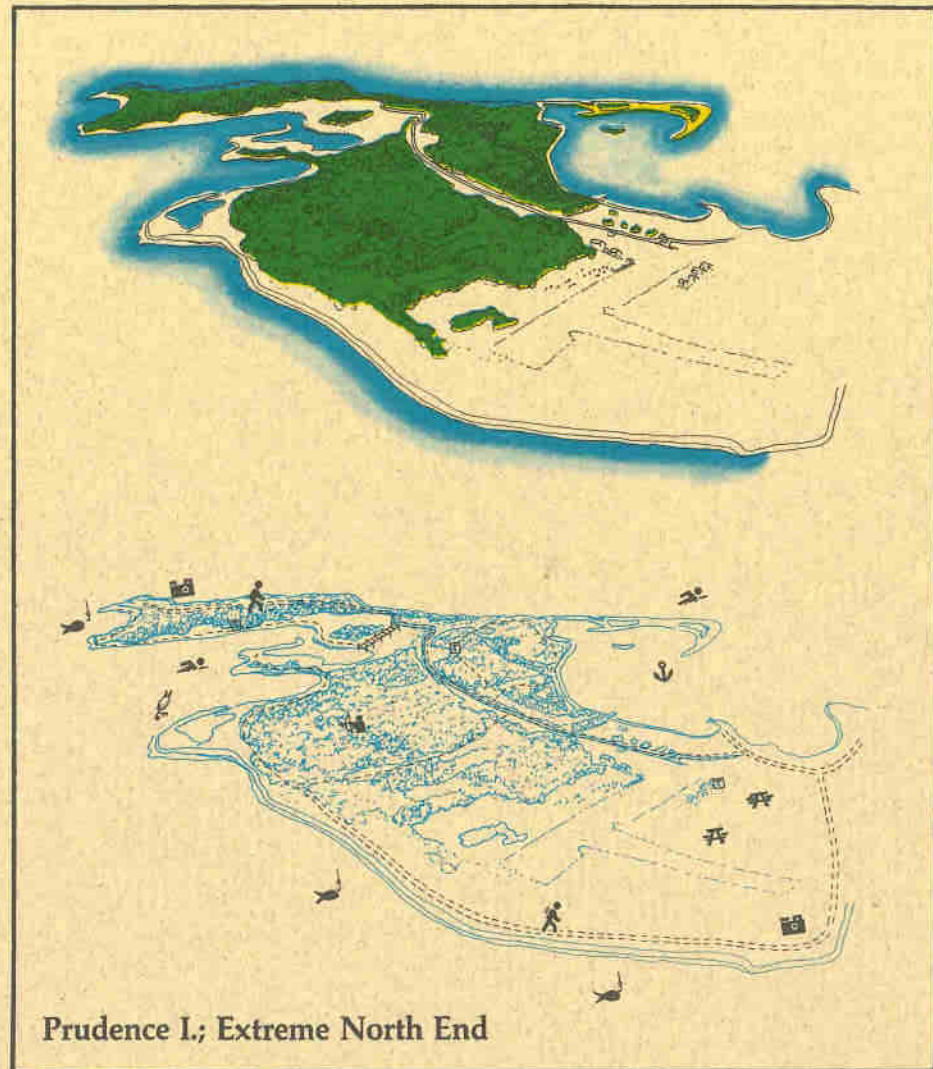
fireplaces could be installed, they should consist only of cleared, level sites.

9. No campsites should be developed. Consistent with the area's high conservation value, passive day uses should be stressed.

10. Toilet facilities and trash receptacles should be provided at central locations along trails, and adjacent to the landing pier at Potter Cove and the beaches on the western side of the island.

11. Access to the shore for fishing, shell-fishing, and unsupervised swimming should be provided. Trails to the sandy beaches of Coggeshall and Sheep Pen coves and Pine Hill Point should skirt salt marshes wherever possible. Where a crossing cannot be avoided, it should be via an elevated boardwalk.

12. Hunting to the extent consistent with sound, wildlife management practices should be permitted under the supervision of the Department of Natural Resources, Division of Fish and Wildlife. It should not, however, be permitted during the summer recreation season.



Prudence I.; Extreme North End

*Projected costs for the above recommended improvements are:*

Trail clearing	5 miles @ \$200 per mile	\$ 1,000
Picnic sites (with tables, etc.)	30 @ \$200 each	6,000
Shelters (interpretive)	4 @ \$1,000 each	4,000
Overlooks	4 @ \$200 each	800
Marsh walks	1500 feet x 4 feet @ \$25 per foot	37,500
Pit toilets	4 @ \$500 each	2,000
Shore access trails	6 @ \$200 each	1,200
Jetty restoration		10,000
<b>Total</b>		<b>\$62,500</b>



## Patience Island

(207 acres)

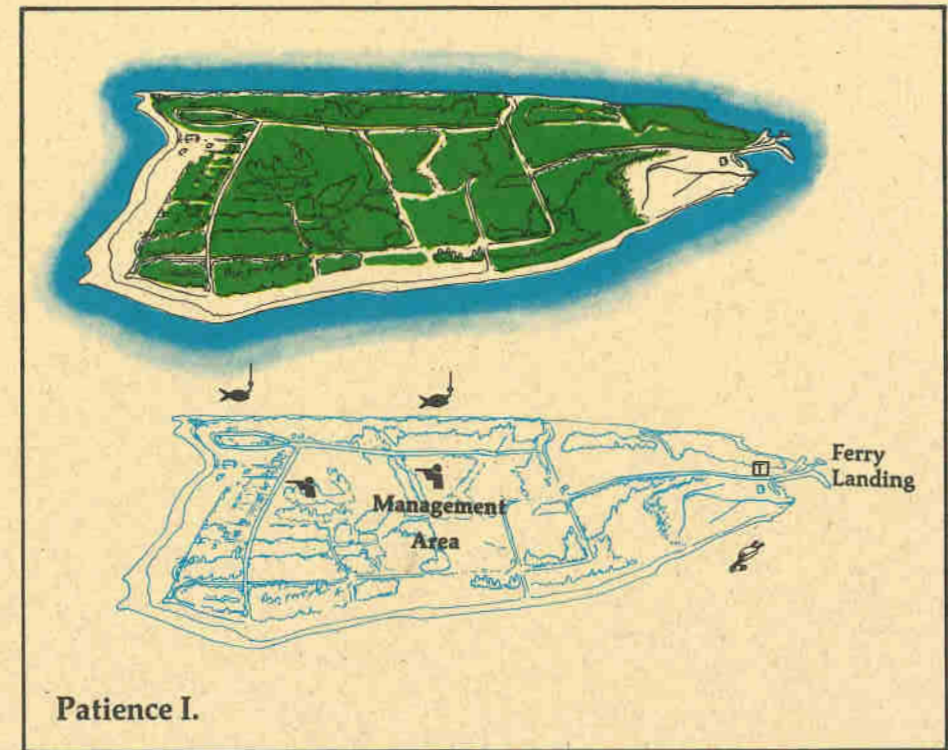
Lying immediately to the west of the northern end of Prudence Island, Patience Island is the larger island's closest neighbor. In fact, the two are separated by a channel in places so narrow that deer occasionally swim from one island to the other in search of food. Like northern Prudence, Patience remains essentially undeveloped, with a few overgrown cart paths connecting its half-dozen cottages. The two islands share similar environments: heavily vegetated interior sections, steep rocky shores, and extensive salt marshes. However, Patience is the only Bay island where coniferous trees, notably juniper, predominate.

The island is accessible via a pier on its northeastern shore. The pier is in good repair and is protected from seas to the northwest by a grounded barge. A dirt road runs from the pier to a group of cottages and outbuildings located several hundred yards inland on a low, tree-covered rise. The island's only year-round resident lives here, where he provides off-season security for property owners. Two other cottages are located on the high bluffs overlooking West Passage. These are accessible by a rough trail. Additional trails, remnants of old farm paths, crisscross the island, trac-

ing the geometric pattern of otherwise unrecognizable, overgrown fields.

With the exception of the large salt marsh on the east side of the island and a small sand spit to the northeast, the shoreline is predominantly cobble and boulder-strewn, with high eroded banks immediately inland. Offshore waters are popular with sportfishermen, while the clam flats between Patience and Prudence are heavily fished by commercial and recreational interests alike. Small upland game animals such as rabbit, squirrel, and pheasant are abundant. Larger species, including deer and fox, are also present. The salt marsh provides a productive environment for fish and shellfish, and a temporary haven for migratory waterfowl of many types.

Because of the variety of wildlife habitat present on the island, the relative abundance of many game species, and the potential for increasing the populations of other species through sound management practices, it is recommended that Patience be acquired as a wildlife management area. Such use would be most consistent with the expressed objectives of the Bay Islands Park system and



would be a recreational asset to the public at large. Moreover, it reflects the constraints imposed by the close physical proximity of Patience and the nearby north end of Prudence. This proximity has created a unique visual and aesthetic interdependence by which the unspoiled natural beauty of each area is enhanced by and sensitive to the visual quality of the other. To acquire one for recreational and conservational purposes without similarly protecting the other therefore makes little practical or aesthetic sense. They are parts of a common and inseparable emotional experience, and any decisions on their future use must reflect this fact. The ongoing effort to acquire the north end of Prudence through donation and federal funding support should,

therefore, be expanded to include Patience Island also. Specific recommendations for this area are as follows:

1. A wildlife management program should be initiated by the Division of Fish and Wildlife of the Department of Natural Resources. This should include selective clearing and planting to provide habitat and to increase natural food supplies; stocking of desirable species; and controlled hunting.
2. Existing trails and pathways should be maintained, and a shoreline access trail should be cleared.
3. Toilet facilities and refuse containers should be situated at central points along the trail network.



## Conanicut Island (Jamestown) North Shore

(3-5 acres)

4. Existing clearings suitable for informal picnicking should be kept clear for this purpose. No facilities should be provided.

5. Camping should not be permitted unless found compatible with wildlife management and hunting activities.

6. A float or floats should be installed at the existing pier to facilitate landings by small ferry or launch. These should arrive via the proposed central receiving area at the south end of Prudence Island.

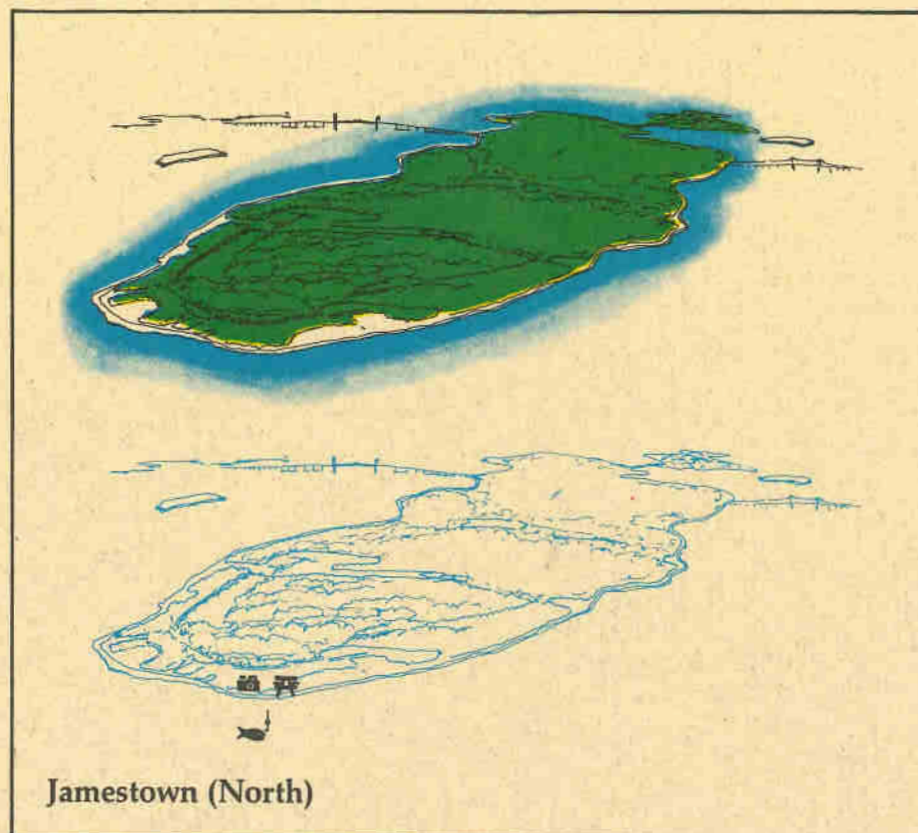
7. Existing structures should be acquired with the island. They should be razed if no eventual use for them can be anticipated, or secured to prevent vandalism until such uses can be initiated.

### *Projected costs are summarized below:*

Trail clearing	
5 miles @ \$200 per mile	\$ 1,000
Fishing access	
4 trails @ \$200 each	800
Pit toilets, 2 @ \$500 each	1,000
Securing existing buildings	5,000
Pier modification;	
float construction	12,000
<b>Total</b>	<b>\$19,800</b>

The north shore of Conanicut Island (Jamestown) commands magnificent views of the broad waters of Narragansett Bay. To the west, the low hills of North Kingstown form a green backdrop for historic Wickford Harbor and the formidable sprawl of hangars, runways, and concrete that once was Quonset Point Naval Air Station. To the north, nearby Prudence Island extends far up the Bay, with Hope Island off its western shore. Patience Island is visible in the distance. Aquidneck Island's central plateau forms the eastern shore of the main shipping channel to the Port of Providence.

Accessible by automobile via the bridges that connect Jamestown to North Kingstown and Newport, the north shore offers several excellent sites for scenic overlooks. It is recommended that one such site of from three to five acres be acquired by the state. Improvements should be limited to those necessary to support limited-duration day use. A primary consideration in site location and design should be the minimization of the impact of recreational use on northern Jamestown's resident community. Parking capacity should be kept sufficiently low so as not to attract disruptive volumes of traffic to the area.



It is, therefore, recommended that a maximum of 25 parking spaces be provided. Up to ten picnic tables, a coastal walkway with a few benches, and a fishing-access point might also

prove desirable additions to the overlook.

Acquisition costs, however, could inflate this figure significantly. At an estimated cost of \$20,000 to \$30,000 per acre for prime coastal frontage in the immediate area, a purchase price of from \$60,000 to \$150,000 may be anticipated. The state's share of this can be reduced by application of federal matching funds and/or negotiation of special purchase arrangements with a prospective seller or donor.

### *Costs exclusive of acquisition are projected as follows:*

Parking area (25 cars—oil penetration)	\$2,500
Walkway (500 x 4 feet @ \$5/square yard)	2,500
Fishing access	200
Picnic sites (10 @ \$200 each)	2,000
<b>Total</b>	<b>\$7,200</b>



## Park Operation and Maintenance

If implemented, the recommendations presented in this proposal will establish a unique recreation system for the State of Rhode Island. It will, in fact, be a system without parallel in the entire United States. Unless adequate attention is paid to the operation and maintenance of this system, however, it is likely to fail in its primary objective of providing the public with a high-quality recreational and educational experience. It must provide clean and pleasant surroundings and facilities if it is to be of value. Few of us enjoy hiking along litter-strewn trails or camping at vermin-infested sites: We would not go back, and we would discourage our friends from ever going at all.

The Department of Natural Resources has demonstrated its ability to develop many of the facilities necessary to support recreational use of the Bay islands with its own staff and equipment. This has resulted, in the case of Dutch Island, in substantial savings to the public. The Department has also demonstrated its ability to operate and maintain high-quality recreational facilities in its mainland parks and management areas. It has had, however, substantially more problems managing its island holdings because of their isolation and

the difficulty of access. Time, money, and manpower are already overcommitted; surveillance, supervision, and maintenance of island property require all three.

It is not surprising that, during the summer of 1975, garbage collected on Dutch Island, or that vandalism was rampant. It may be not surprising—but it is nonetheless not acceptable, as is amply demonstrated by the adverse publicity generated by the problems on Dutch Island. Most of these problems have been resolved by the prompt action of the Department. Such reactive maintenance is not, however, sufficient. It is necessary rather that conditions be prevented from deteriorating in the first place. Preventive maintenance will require that existing departmental efforts be expanded. This, in turn, will require additional staff and funds specifically for Bay Islands Park operation. It is, therefore, recommended that the following steps be taken to facilitate operation of the Bay Islands Park:

1. Daily patrols of island holdings should be instituted by Department conservation officers. Vandals and other violators of state or park regulations should be vigorously prosecuted when apprehended.

2. A caretaker-manager and several seasonal laborers should be hired to maintain the water-accessible elements of the park. The manager could be based at the headquarters facility on the south end of Prudence Island. This team should be provided with sufficient tools, funds, vehicles, and vessels to properly fulfill its responsibilities. Budgetary projections break down as follows:

Caretaker (1), full-time	\$10,000/year
Semi-skilled laborers (2), seasonal	6,000/year
Truck (1), maintenance depreciation	1,000/year
Boat (1), 16 to 20 foot, maintenance depreciation	500/year
Repairs	500/year
Tools and supplies	2,000/year
Utilities	1,500/year
Utilities	1,000/year
<b>Total</b>	<b>\$22,900/year</b>

3. A skilled laborer should be retained on a seasonal basis to maintain park facilities on Conanicut Island (Jamestown). These facilities would include Fort Wetherill, portions of Beavertail, and an overlook on the north end. A proposed operating budget follows:

Skilled laborer (1), seasonal	\$ 4,500/year
Truck (1), maintenance depreciation	1,000/year
Tools and supplies	500/year
Utilities	1,000/year
Repairs	500/year
Rubbish removal by private contractor	2,000/year
<b>Total</b>	<b>\$14,500/year</b>

4. The efforts of the above personnel should be supported and augmented by all divisions of the Department whenever necessary or desirable. Additional assistance will be required to implement major development projects.

Operation of a high-quality, Bay Islands Park system will require cooperation between the Department of Natural Resources and the public. The Department can do much to guarantee a high-quality, recreational experience by stepping up enforcement patrols and surveillance, prosecuting vandals, and regularly collecting refuse. The public must also assume part of the responsibility. Ultimately, vandalism and littering can be curbed only by an aware and concerned citizenry.



