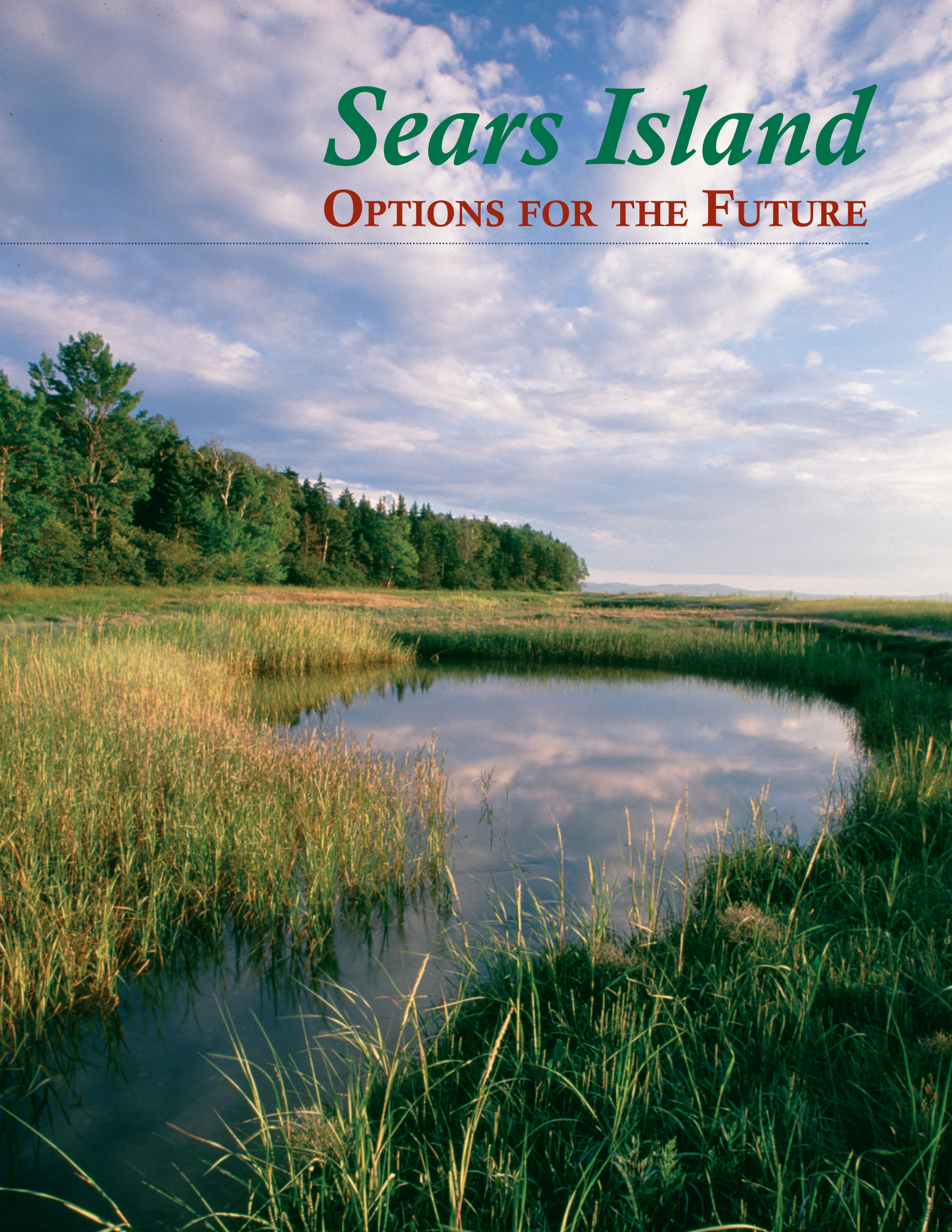

Sears Island

Options for the Future


Long Cove
Tidal Flat
Legend
Wetlands
Slopes > 20%
Existing tree line
100 acres
50 acres
10 acres
42
SEARS ISLAND
Existing Conditions
tjd&a
April 11, 2006

Sears Island

Options for the Future

An Economically Productive

& Ecologically Sustainable Vision

Acknowledgments

Sears Island: Options for the Future has been supported by the following collaborating groups: Coastal Mountains Land Trust, Friends of Midcoast Maine, Friends of Sears Island, Maine Chapter of the Sierra Club, Maine SeaGrant, Islesboro Islands Trust, the Penobscot Bay Alliance and Protect Sears Island. Many private citizens from the Penobscot Bay region participated in numerous planning and visioning sessions.

The first section of this report was prepared by Terrence J. DeWan of Terrence J. DeWan & Associates (TJD&A), a landscape architecture and planning firm in Yarmouth, Maine. The maps of the three options for Sears Island and many of the photographs were provided by TJD&A.

The economic analysis section was written by Charles Lawton of Planning Decisions, Inc., a multipurpose planning company in South Portland, Maine. This economic analysis was peer-reviewed by Professor David Vail, Bowdoin economics department, and Catherine J. Reilly, State Economist, Maine State Planning Office.

Other photographs of Sears Island used throughout the report were taken by Kevin Shields of Rockport, Maine.

The layout was created by Headwaters Writing & Design in Camden; Camden Printing printed the publication on recycled, totally chlorine-free paper.

We also thank the thousands of Maine people who have expressed their hopes and concerns for Sears Island during the past forty years, and who became engaged in charting its future. The discussions and debates that ensued over the period have shaped a future for this island that is both economic and ecologic. We hope that the options presented in this report guide all of us toward a broadly confirmed resolution of one of our state's most persistent uncertainties.

An Adobe Acrobat (PDF) copy of this report may be found and downloaded at the following web sites:

- Maine Sea Grant (www.seagrant.umaine.edu)
- Maine Chapter Sierra Club (www.maine.sierraclub.org)
- Friends of Midcoast Maine (www.friendsmidcoast.org)
- Coastal Mountains Land Trust (www.coastalmountains.org)

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Summary

Introduction

Sears Island: Options for the Future considers an economically productive and ecologically sustainable future for Sears Island that would:

1) create direct and indirect **economic benefit** for the Town of Searsport, the Penobscot Bay region and the State of Maine;
2) provide **public access** for low-impact uses, such as fishing, picnicking, hiking and cross-country skiing;
3) enhance **public education** about the Penobscot Bay environment; and
4) maintain as much of the island as possible in its present undeveloped, natural and relatively **unspoiled condition**.

Its purpose is to explore concrete ways to contribute to economic and community well-being while simultaneously permanently protecting the island's natural heritage and public access legacy.

This work began with public meetings in 1996 and 1997 to discuss the future of Sears Island following the withdrawal of a cargo port proposal, was further developed during a participatory Sears Island planning charrette in the spring of 2004, and is here articulated more thoroughly.

Chief findings of the report include:

- With proper planning, management and foresight, Sears Island can be both a sustainable base of employment and an environmental legacy.
- The three potential investments described here, from a modest visitor center and trail rehabilitation to a major complex with a Heritage Center, Marine Research Facility, Educational Center, traditional boat building shop, restaurant and boat rental facility, range in magnitude from just over $1 million to nearly $9 million.
- Total annual retail sales generated by visitors will range between approximately $1.6 million for the smallest investment to over $4 million for the largest investment.
- As many as 60 new jobs may be created on the island, depending on which options are chosen.
- The ecological resources on and surrounding Sears Island are of exceptional value. Sears Island is a Noah's Ark of biodiversity that lies in the center of Penobscot Bay and its dynamic, natural resource-based economic traditions.
- Penobscot Bay is a residential, recreational and ecological location of world-class standing. Its status over the last 150 years as one of the best sailing and vacationing environments on the globe and the rapidly rising values of its waterfront properties derive largely from the pristine, undeveloped nature of the land along the Bay.
- The recreational/educational investments proposed here must be seen not so much as adding environmental value but as protecting existing environmental values.

Background

Ecological Diversity is the phrase that best summarizes the rich, varied Sears Island environment. Sears Island can be thought of as a microcosm of the Penobscot Bay ecosystem. This diversity, measure for measure, puts Sears Island into a rare class which has, none-the-less, been threatened time and time again over the past forty years by numerous development proposals. We have seen an oil refinery, nuclear power plant, coal fired power plant, cargo port and liquefied natural gas terminal proposed—all generating intense public debate and controversy and all eventually failing.

Happily, we are today looking at the best, and maybe the last, opportunity to put aside past development schemes that created highly polarized economy-versus-ecology divisions and reach a broadly endorsed resolution for the island's future. This report was founded on the principle that Sears Island is both an economic and an ecologic asset and that options should be explored that give opportunity for both assets to be utilized and preserved.

Sears Island, at 941 acres and five miles of coastline, is the largest uninhabited island on the coast of Maine. Its central ridge rises to 185 feet above mean sea level, making it prominently visible throughout the bay. Sears Island includes salt marshes, rocky intertidal areas, sand beaches, eelgrass beds and clam flats. One hundred and sixty-eight species of birds depend on Sears Island's hardwoods, mixed woods, fern meadows, old fields, shrub and scrub and 73 distinct wetlands. Twenty-eight mammal species, from bear and raccoon to seals and shrews, can be found on Sears Island, along with nine species of amphibians and reptiles. Sears Island exhibits both mainland and island vegetation characteristics and has documented sightings of 12 different state or federal rare species, including two federally endangered birds, one state listed reptile, eight state listed birds and one state listed rare plant.

Tourism is Maine's strongest and most vigorous economic sector. David Vail, an economist and professor at Bowdoin who agreed to review this report, in a narrative for the Governor's Conference on Natural Resource-based Industries, pointed out that 44 million tourists spend more than $5.5 billion a year here and that, "All Maine tourism is dependent directly on the state's outstanding natural attractions or indirectly on the state's natural and cultural heritage." He has elsewhere noted that ecotourism should "minimize damage, restore ecosystem health, educate tourists about nature conservation and cultural heritage, and involve local citizens in management and benefits." Our vision for Sears Island is consistent with these concepts.

Three Options

Sears Island: Options for the Future describes three alternatives for the future of Sears Island, each based on a common foundational vision of economic and ecologic well-being. People will come to Sears Island to recreate, to learn and to simply enjoy being in a place apart. With proper planning and foresight, Sears Island can be a sustainable base of employment for people concerned about the future of our coast. Hiking, snowshoeing, nature study, cross-country skiing, and other ambulatory pursuits, including handicap accessible areas, would be a primary focus for visitors to the island. More than 900 acres of undeveloped land and the five miles of shoreline will remain a wildlife preserve. With the trail system, interpretive and educational opportunities would be utilized: old trees, stone walls, cellar holes, vernal pools, wildlife, scenic views, and saltwater wetlands. Interpretive signage would be a key component of the visitor experience, providing information on the cultural, historic, natural, and scenic environment.

All buildings would be models of green building and site technology to reinforce the theme of Sears Island as a resource for greater community understanding and sustainability. The style of the structures, designed by local architects, would grow out of an appreciation of the site and its unique location on the coast of Maine. The main structure on the island would be a two-story visitor center, tucked into the woods near the causeway, overlooking Stockton Harbor. The building would be designed for visitor orientation, seasonal displays, and interpretive exhibits. A community meeting room would provide space for local conservation organizations, classroom lectures for school groups, and other similar uses. The second floor of the building would be designed to provide office space for a state or federal resource agency.

The end of the causeway provides an easily accessible place to put in a canoe or kayak. Facility needs for the put-in would include signage, a simple set of stairs and a ramp leading into the water, perhaps done in conjunction with improved beach access. A wooden fishing pier would be constructed over a portion of the existing jetty to provide accessible fishing opportunities for visitors to the western side of the island.

If more development is required to meet public demands, there could be a minimal number of improvements at the end of the causeway or slightly dispersed in the northern quadrant. These are described as Levels 2 and 3 in the report. The waterfront activity area would consist of a number of interrelated uses and facilities. This small 'village' should be informal, yet organized, with well-developed pedestrian circulation patterns. Landscaping should concentrate on restoring the natural communities that were formerly found on the site. The waterfront development would include:

- An education complex that would house a Heritage Center devoted to the natural and cultural history of Penobscot Bay, including Native American culture; a marine research facility; and a resource agency office.
- A small group of commercial services buildings arranged around a common green that may include a small boat rental office and storage area and a boatbuilding shop dedicated to building and sales of small rowing/sailing vessels using traditional methods.

Sears Island: Options for the Future is accompanied by a set of three maps that illustrate these various components.

This or similar development will bring good paying jobs to the local economy, enhance existing businesses and spawn off-island development. If properly planned and marketed, this development will complement and be complemented by other local points of interest (Fort Point State Park, Fort Knox, etc.) and enhance sustainable economic growth in eastern and northern Maine. It will enrich citizens' lives, preserve the natural and cultural resources of Sears Island and improve and diversify the regional economy. This vision for Sears Island also conforms with the Town of Searsport Comprehensive Plan and related local zoning.

Visitors who come to enjoy the abundant recreational opportunities on Sears Island would provide economic benefits to Searsport and the surrounding area.

Economic Analysis

Three types of economic impact will occur as a result of the creation of any one of the recreational/educational facilities described in this report. The first is the intrinsic satisfaction enjoyed by those who engage in the recreational and educational activities provided by the facility. This impact is best measured by the number of visitors who use the facility and by the public's willingness to pay entrance or membership fees.

The second economic impact is the likely additional spending in Searsport and the mid-coast region by Sears Island visitors.

Finally, the third impact of these investments is the maintenance of Sears Island as a largely natural environment. Developing any of the three investment proposals described here is unlikely to change the real estate and ecological values of the region in any way. Indeed, commitment of Sears Island to relatively undeveloped, recreational/cultural uses will remove a major uncertainty hanging over the area for decades.

Economic Comparisons (in millions of dollars)

	Level 1	Level 2	Level 3
Capital Investment	$ 1.1	$ 6.1	$ 8.6
Annual Operating Budget	0.2	1.1	1.9
Annual Associated Retail Sales	1.7	3.3	4.2
Sears Island Employment (FTE)			
Year Round	1.5	20-40	20-40
Seasonal	4	14	18

Management

Management of Sears Island will likely involve the creative collaboration of local citizens, state agencies, nonprofit organizations, the Penobscot Nation, small local businesses and perhaps a federal agency. Utilizing conservation easements, lease agreements and/or other legal tools, this type of management partnership will yield the economic and ecologic benefits described above and minimize—or eliminate—cost to the State of Maine.

The Plan

Introduction

People will come to Sears Island to recreate, to learn, and to simply enjoy being in a place apart. For some folks, the island may be the high point of their trip to Penobscot Bay; to others, it will offer a way to get to an intimate knowledge of their own back yard. With proper planning and foresight, Sears Island can be a sustainable base of employment for people concerned about the future of our coast.

What will draw them is a sense of uniqueness… a place both convenient and a world apart.

This report has been prepared by Terrence J. DeWan & Associates (TJD&A), a landscape architecture and planning firm in Yarmouth, Maine, for the collaborating group of citizens and nonprofit organizations interested in a future of Sears Island identified above. The group examined the Sears Island resources and developed this report to provide economic value to the Penobscot Bay region while preserving the extraordinary ecological and outdoor recreation features of the island. The plan is accompanied by a set of three maps that illustrate the various components of the proposal. The report is presented in three Levels that represent varying intensities of land use on the Island.

The following narrative describes three options for the future of Sears Island, each based on a common foundational vision of economic and ecologic well-being. The first section presents the Trails, which are at the core of the plan. The second section describes the other Common Facilities that are repeated in the three different levels. The last sections describe each of the unique components of Levels I, II, and III.

This document describes the 'what, why, and where' of the plan. The 'who' and 'how' of the plan will have to be the subject of intense discussions between all stakeholders to meet the goals of this planning effort. The management plan for Sears Island should address issues such as:

- **Management**: What are appropriate models for managing the island? Should it all be under one management entity? Might strategic partnerships prove more effective?
- **Community Involvement**: What role should local/regional/state-wide citizen's groups play in the management of the island? Should a 'Friends' group provide on-site assistance?
- **Funding**: Should the island be financially self-sustaining? Should there be a fee structure for day-use of the island's recreation and open space resources? Should there be a sliding scale, based upon residency, age, or other factors? What mix of fees, memberships and both governmental and foundational funding would work best?
- **Development**: What is the carrying capacity of the island? How will human impact be measured? Who will decide what is an appropriate level of development? What types of safeguards (*e.g.,* design standards) will be put in place to maintain the character of the island? How will changing economic and demographic conditions in this part of Maine be factored into the island's future?

The Trails

Hiking, snowshoeing, nature study, cross-country skiing, and other ambulatory pursuits would be a primary focus for visitors to the island. With over 900 acres and close to five miles of mostly undeveloped shoreline, Sears Island can be an outdoor enthusiast's dream. The Preliminary Plan calls for three distinct types of trails that will provide a wide variety of experiences for people of all ages, interests, and abilities. The trail construction described below is common to all three development levels envisioned in the plan.

Farm Roads

A number of old farm roads had been constructed throughout Sears Island over its agricultural and settlement history. Remnants are found throughout the northeast quadrant, following ancient treelines, and paralleling the gentle slopes. The Plan envisions a restoration of these old roads into wide stonedust pathways as main pedestrian thoroughfares. They would connect some of the major activity areas, *e.g.,* the entrance area/beach/picnic area with the old fields in the mid-section of the island.

The farm roads would be handicapped accessible, and would include frequent places along stone walls or under the trees for people to stop and rest. The woods along the edge of the trails would be thinned in some areas to provide views well beyond the trail. In other areas, the trees would remain tight to the path to maintain a sense of enclosure and perhaps mystery.

In addition to being a core visitor experience, the 10'± roads would provide a route for emergency and authorized maintenance vehicles to gain access to the more popular parts of the island. Their design and construction would take into account the need to support occasional vehicles while not appearing to be a major thoroughfare.

Walking Paths

The Preliminary Plan calls for two or more miles of new and upgraded walking paths that would provide an accessible way for people of all abilities to explore the island. Walking paths would be designed in interconnecting loops to give visitors a variety of experiences depending upon their interests, abilities, and amount of time they have to spend.

The walking paths would be laid out to keep people well above the waterline and away from sensitive habitats and dangers to public safety. With proper planning and some light thinning of lower tree branches, these paths can provide periodic views of Long Cove, Stockton Harbor, and Penobscot Bay. A buffer zone of at least 25 feet should be maintained between the paths and the high tide line, in keeping with DEP criteria for setbacks from natural resources.

The paths would average 3 to 4 feet in width and be surfaced with stone dust or woodchips. Some of the more popular routes (*e.g.,* near the entranceway and along the shoreline nearest the parking area) may have to be widened to 5-6 feet to accommodate the anticipated number of visitors. The maximum slope would be held to 5% (a five foot rise/fall over 100 feet of distance) to eliminate the need for handrails or ramps.

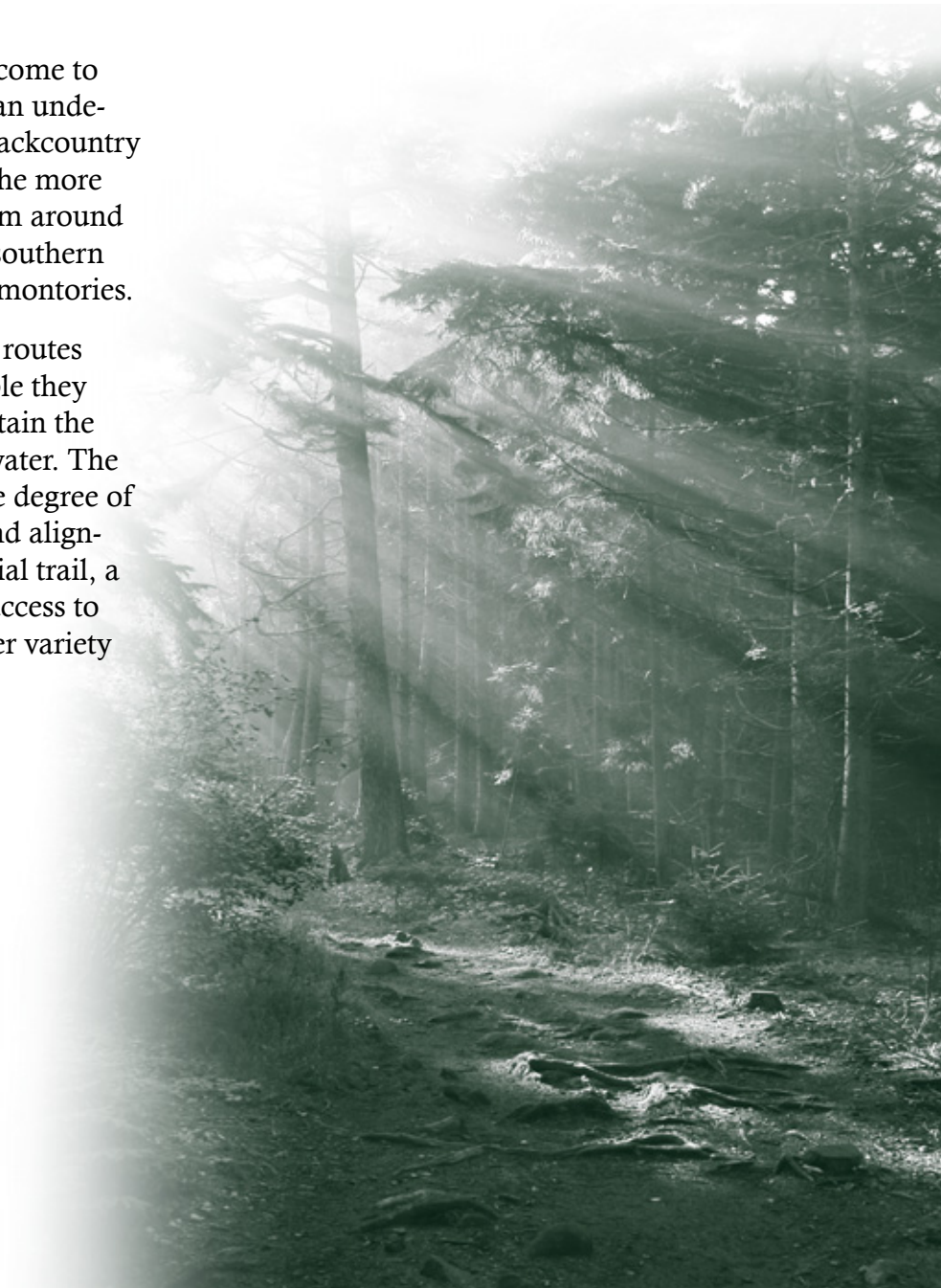
The proposed footpaths on Sears Island would resemble those on Monhegan Island, pictured above.

While it is anticipated that trained volunteers or Youth Corps workers could complete a percentage of the construction, a general contractor would be necessary to oversee construction to ensure compliance with environmental guidelines and proper construction standards. Approximately two miles of walking paths are shown on the plans. While the island could certainly hold more, the objective is to provide a high quality recreational experience while minimizing the overall impact on the island as a whole.

Backwoods Trails

Many of the anticipated visitors will come to get a feel for a true Maine rarity, *i.e.,* an undeveloped coastal island. A system of backcountry hiking trails would be developed for the more adventurous individuals, bringing them around the whole island, to the beach at the southern end, to sheltered coves and rocky promontories.

These would be much more informal routes than the walking paths. Where possible they would follow existing trails and maintain the same degree of separation from the water. The trails would be designed to offer some degree of challenge by their length, gradient, and alignment. In addition to the circumferential trail, a number of side trails would provide access to the interior of the island to add further variety to the visitor experience.



Other Common Facilities

In addition to the trail system, each of the three levels within the Preliminary Plan would have a number of common elements, described below:

Interpretation/Observation Areas

Interpretive opportunities abound on Sears Island: the old trees that mark the edge of the fields, the stone walls, the cellar holes, the wildlife, the views, the entirety of Penobscot Bay. Interpretive signage would be a key component of the visitor experience, providing information on the cultural, historic, natural, and scenic environment. The interpretive signage would be one part of a larger plan for island-wide interpretation aimed at visitor understanding and educational use. Signage would be developed according to the MaineDOT guidelines for Scenic Byways, stressing colorful graphics, timeless messages, and multi-lingual audiences.

Trailheads

With a 900-acre island, the general public will need simple, yet effective trailheads to orient them to the island and outline the various opportunities for hiking and other outdoor pursuits. Several covered trailheads would be located at points of visitor concentration to encourage a wide range of trail use and minimize people getting lost on the island. The graphics would be lively, informative, and indicative of the spirit of Sears Island.

Interpretive signs, like this one in New Hampshire, would enhance visitors' understanding and appreciation of the place.

Beaches

The existing beaches on either side of the causeway are a draw for local residents and summer visitors alike. They are easily accessed and are generally lightly used. The Preliminary Plan calls for a few minimal enhancements to improve their aesthetic qualities (general clean up, debris removal, erosion control) and accessibility (ramp and stairway from parking areas and/or causeway).

Picnic areas (Birch Point State Park pictured above) would provide a welcome amenity for Sears Island visitors.

Picnic Areas

Formal picnic areas would be established in the woods above each of the beaches on either side of the access road. A total of 10± tables would be installed within an easy walking distance of the parking areas and composting toilet.

Toilets

Composting toilets would be installed at key locations on the island to provide a necessary visitor service. A Clivus Multrum M-12 (or suitable equal) with four fixtures would be located at the entrance to the island that will be the main point of visitor contact. Smaller composting units may be suitable for other locations on the island (such as the trailhead at the old field and the waterfront). Other restroom facilities may have to be used in these areas, depending upon visitor use levels.

Parking Areas

The Preliminary Plan stresses a low-impact approach to the development of Sears Island. While cars are recognized as a necessity in getting to the island, they should never dominate the landscape or become an intrusion into the marine and upland environment. Where parking areas are needed, they would be sited off the main road, away from the farm roads and trails, and screened by native vegetation and low earth berms. Parking surfaces would be constructed of gravel or similar porous pavement. Runoff would be treated using low impact design techniques promoted by MaineDEP.

The proposed parking area would blend into the existing landscape as much as possible, like this one at the Society for the Preservation of New Hampshire Forests.

Sears Island Entrance

The entrance onto Sears Island would be designed to welcome the visitor and provide a friendly point of initial contact. The Plan splits the existing access road with an island to slow traffic down and provide a base for a small welcome/information booth. A unique sign would identify the island and provide some basic information when an attendant was not on duty. The entrance would be attractively landscaped with native plantings. A marked crosswalk over the traffic island would also serve people walking to the beach.

Visitors to the island would be welcomed by a formal entrance with a gatehouse--similar to the one pictured above at Camden Hills State Park.

Buildings

All buildings would be models of green building and site technology to reinforce the theme of Sears Island as a resource for greater community understanding and sustainability. The style of the structures, designed by local architects, would grow out of an appreciation of the site and its unique location on the coast of Maine. The details and material would be repeated throughout all island improvements (*e.g.,* from the composting toilet buildings and trailhead kiosks to the research facility and visitor center) to foster a sense of continuity and cohesiveness.

Structures would harmonize with their surroundings and employ sustainable design principles (Society for the Preservation of New Hampshire Forests shown above).

Level I: A Minimal Development Plan

The Level I Plan represents minimal change of the island's resources. What little development is planned would be concentrated at the entrance. To the casual observer, very little would change to the physical landscape that people now recognize as Sears Island.

Parking

The Plan calls for two options for parking. The first keeps all cars (with the exception of emergency vehicles) off the island. Parking for 30± cars would be allowed on the east side of the causeway, screened from the roadway by plantings of native shrub to minimize the view. People would walk to the entrance point, just like they do at the present time.

As an alternative, the causeway parking would be reduced to ten cars and a small parking lot (providing space for 20± cars) would be provided at the visitor center. It would be located off the main road and screened by evergreens.

Visitor Center/Resource Agency Office

The main structure on the island would be a two-story visitor center, tucked into the woods near the causeway, overlooking Stockton Harbor. The building would be designed for visitor orientation, seasonal displays, and interpretive exhibits. A community meeting room would provide space for local conservation organizations, classroom lectures for school groups, and other similar uses.

The second floor of the building would be designed to provide office space for a state or federal resource agency that may benefit from this location in Mid-Coast Maine. It may be possible to work with the existing grade to provide a separate entrance to the office component at an upper level and eliminate the need for an elevator.

Put-In For Small Hand-Carried Watercraft

The end of the causeway provides an easily accessible place to put in a canoe or kayak. Facility needs for the put-in would include signage, a simple set of stairs and a ramp leading into the water (perhaps done in conjunction with improved beach access). The east side of the causeway (into Stockton Harbor) may be a more desirable location than the west side (Long Cove) to keep the light boats away from the ships at Mack Point.

Old Fields Area

The old fields surrounding the site of the original island homestead would be restored to capture a sense of how the island developed over the past centuries. This level of improvement would require minimal infrastructure, which would be limited to a composting toilet (or wooden enclosure for a portable outhouse) and a trailhead kiosk.

Waterfront

The existing waterfront improvements would remain intact under this scenario. A wooden fishing pier would be constructed over a portion of the existing jetty to provide accessible fishing opportunities for visitors to the western side of the island. A composting toilet (or wooden enclosure for a portable outhouse) would be sited at the edge of the woods.


Long Cove
Welcome Booth
Crosswalk
Sears Island Entrance
Light boat put-in
Trailhead / Kiosk
Composting Toilet
Parking (20+/- spaces)
Beach
Picnic Area
Beach
Picnic Area
Visitor Center / Resource Agency Office
Farm Road
Trails
Tidal Flat
Kiosk/Trailhead/Toilet
Accessible Fishing Pier
Toilet
Observation Area
Legend
Wetlands
Slopes > 20%
Existing tree line
100 acres
50 acres
10 acres
SEARS ISLAND
Level 1 Preliminary Plan
tjd&a
April 11, 2006

Level II: A Moderate Development Plan For the Island

Level II represents moderate development of Sears Island, with a concentration of activities and new facilities at the end of the road on the waterfront. People would be able to drive onto the island and start their day trips at either the entrance area, the old field, or at the waterfront.

Entrance Area

Under Level II there would be a minimal number of improvements at the end of the causeway as visitors come onto the island. Parking for 20± cars would be provided for the beaches, picnic areas, and trails. The only structure would be a composting toilet hidden in the woods but convenient to the attractions.

Old Fields Area

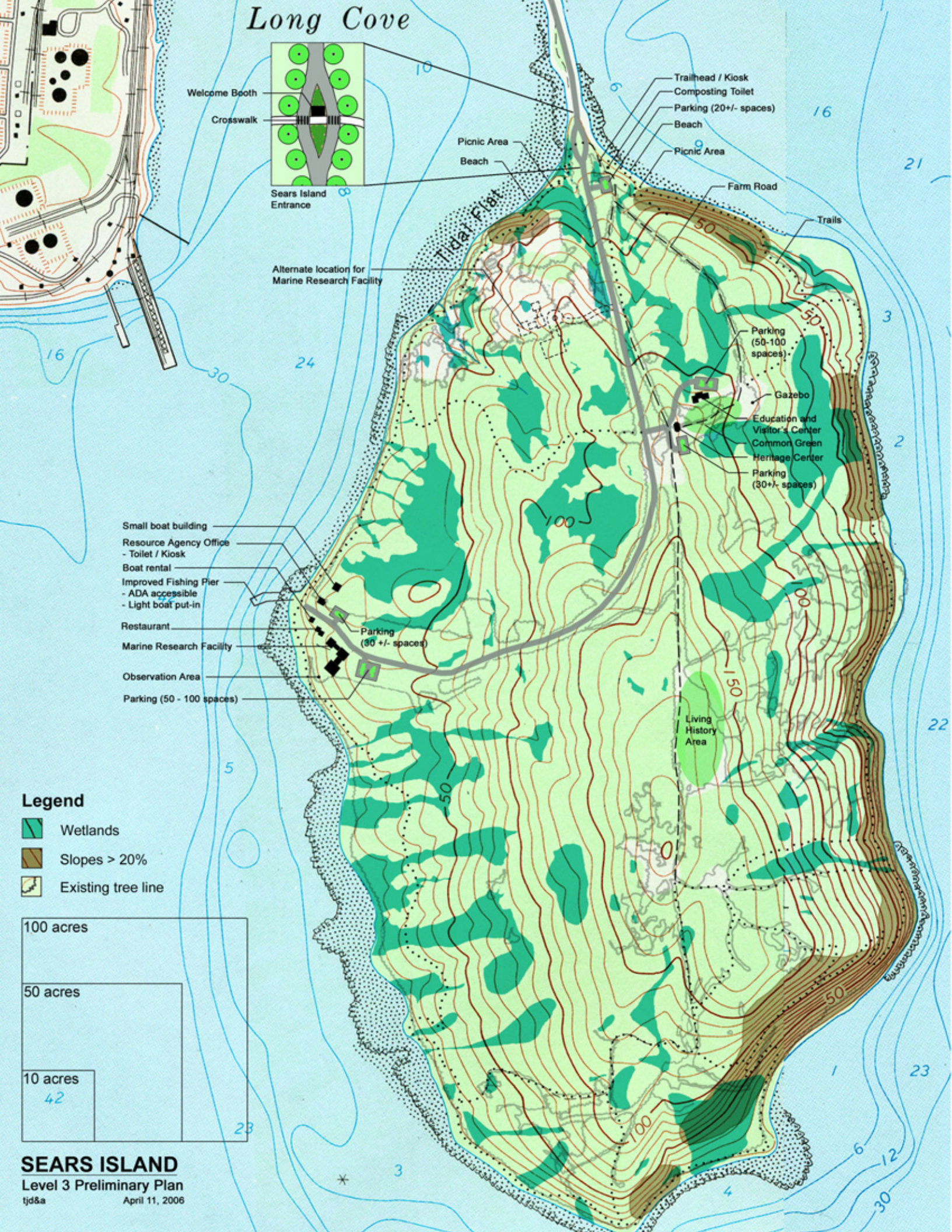
The old fields on the east side of the road would be the starting point for many of the visitors to Sears Island. A small parking area and trailhead (with information kiosk and toilet facilities) would be located off the main access road at the edge of the woods. The old fields would be restored as described in Level I.

Waterfront

The waterfront activity area would consist of a number of interrelated uses and facilities, united by a common architectural approach. This small 'village' should be informal, yet organized, with well-developed pedestrian circulation patterns. Parking should be plentiful, but designed and located to reduce its visual mass. Landscaping should concentrate on restoring the natural communities that were formerly found on the site. The waterfront development would include:

- An education complex that would house a Heritage Center devoted to the natural and cultural history of Penobscot Bay and/or Native American culture; a marine resource facility that focuses on the scientific aspects of the bay; and a resource agency office to provide an on-site presence for a state or federal agency. This structure, or group of buildings, would be located to the north of the jetty and would have a separate parking lot to accommodate staff and visitors.
- A small group of commercial services buildings arranged around a common green, that may include a small boat rental office and storage area; and a boatbuilding shop dedicated to building and sales of small rowing/sailing vessels using traditional methods.
- A wooden fishing pier would be built over a section of the existing jetty to provide a place for accessible fishing and a way to get out on the water. A boat put-in for small boats would be developed in conjunction with the small buildings and parking facilities. A composting toilet (or wooden enclosure for a portable outhouse) would be sited at the edge of the woods.
- A trailhead/observation area would be the starting point for people who want to get out and explore the island trails. This would also serve as a meeting place for interpretive programs that would explore the natural history of Sears Island.


Long Cove
Welcome Booth
Crosswalk
Sears Island Entrance
Trailhead / Kiosk
Composting Toilet
Parking (20+/- spaces)
Beach
Picnic Area
Picnic Area
Beach
Farm Road
Trails
Tidal Flat
Common Green
Visitor's Center
- Toilet / Kiosk
Parking (20+/- spaces)
Parking (50 +/- spaces)
Educational Complex
- Resource Agency Office
- Heritage Center
- Marine Research Facility
Improved Fishing Pier
- ADA accessible
- Light boat put-in
Waterfront
- Boat rental
- Small boatbuilding
Parking
(30 +/- spaces)
Observation Area
Parking (50 +/- spaces)
Legend
Wetlands
Slopes > 20%
Existing tree line
100 acres
50 acres
10 acres
SEARS ISLAND
Level 2 Preliminary Plan
tjd&a
April 11, 2006


Long Cove
Welcome Booth
Crosswalk
Sears Island Entrance
Trailhead / Kiosk
Composting Toilet
Parking (20+/- spaces)
Beach
Picnic Area
Picnic Area
Beach
Farm Road
Trails
Tidal Flat
Alternate location for Marine Research Facility
Parking (50-100 spaces)
Gazebo
Education and Visitor's Center
Common Green
Heritage Center
Parking (30+/- spaces)
Small boat building
Resource Agency Office - Toilet / Kiosk
Boat rental
Improved Fishing Pier - ADA accessible - Light boat put-in
Restaurant
Marine Research Facility
Observation Area
Parking (50 - 100 spaces)
Parking (30 +/- spaces)
Living History Area
Legend
Wetlands
Slopes > 20%
Existing tree line
100 acres
50 acres
10 acres
SEARS ISLAND
Level 3 Preliminary Plan
tjd&a
April 11, 2006

Level III: A More Dispersed Plan for the Island

Level III would offer most of the facilities in Level II, but they would be located over a more dispersed part of the northern half of the island. The Marine Research Facility, the most intensive use proposed for Sears Island, could be located at the waterfront, in the existing open area overlooking the jetty, or in the northwest quadrant, overlooking Long Cove.

Entrance Area

Level III improvements would be identical to those proposed for Level II; *i.e.,* a minimal number of visitor facilities. Parking for 20± cars would be provided for the beaches, picnic areas, and trails. The only structure would be a composting toilet hidden in the woods but convenient to the attractions.

Old Fields Area

Under Level III the old fields on the east side of the access road would become a major visitor destination and education area, centered on the restored fields. This education complex would include:

- A Heritage Center devoted to the natural and cultural history of Penobscot Bay and/or Native American culture.
- An Education and Visitor Center featuring seasonal and permanent interpretive displays, an orientation area, classrooms/meeting spaces, and outdoor displays.
- Parking would be provided for 80-130 cars in three dispersed areas to minimize the visual impact of the cars and provide easy access to the facilities.
- The old fields would be restored and developed as an informal green, bounded on two sides by the two buildings described above. A gazebo on the eastern end of the field would provide a focal point for orientation tours, special activities, and general visitor use.

Living History Area

The Living History area in the center of the island would be developed in conjunction with the Heritage Center and Education Center describe above. The existing fields would be used as a flexible site for seasonal displays, demonstration areas highlighting traditional crafts, and a host of other uses that would complement the educational goals of the island.

Waterfront

In Level III the waterfront would have several of the same components as Level II, but without the educational facilities (which would be in the old field). The design parameters for Level III would be the same, *i.e.,* a common architectural approach, a small informal 'village' feel, well-developed pedestrian routes, well-screened parking, and naturalized landscaping. The waterfront development would include:

- A small group of commercial services buildings overlooking the bay that may include a small boat rental office and storage area; a boatbuilding shop dedicated to building and sales of small rowing/sailing vessels using traditional methods; a resource agency office to provide an on-site presence for a state or federal agency
- A wooden fishing pier would be built over a section of the existing jetty to provide a place for accessible fishing and a way to get out on the water. A boat put-in for small boats would be developed in conjunction with the small buildings and parking facilities. A composting toilet (or wooden enclosure for a portable outhouse) would be sited at the edge of the woods.
- A marine resource facility that focuses on the scientific aspects of the bay. As noted in the introduction, this building complex could be located either at the waterfront, away from the other structures, or in a separate site on the west side of the access road near the entrance. If the latter site was selected, care would be taken to maintain a substantial buffer between the access road and all parts of the facility to minimize its visual presence on Sears Island.
- A trailhead/observation area would be the starting point for people who want to get out and explore the islands trails. This would also serve as a meeting place for interpretive programs that would explore the natural history of Sears Island.
- A small restaurant that would have seating for 25-50 overlooking the bay. A portion of the seating would be on decks to provide intimate contact with the natural environment.

This aerial photo shows the causeway at the north end of the island, where most of the proposed development would be concentrated.

An Economic Assessment of Investment Alternatives for Sears Island

Summary & Conclusions

The purposes of this report are:

- To set the economic context within which any investment on Sears Island must be considered; that is, to describe the general economic conditions of Waldo County Maine.
- To describe a set of three investment proposals, brought forward by a group of interested citizens, for the development of an educational and recreational center on Sears Island;
- To estimate, in broad, order of magnitude numbers, the likely operational income and expenses of this "Sears Island Center" under the various investment scenarios proposed; and
- To estimate, again in broad, order of magnitude fashion, the likely economic impact of a Sears Island Center under these three investment scenarios.

Waldo County is a predominantly rural and small town economy surrounding the City of Belfast. Its commercial activity, traffic patterns and lifestyle are structured around the Route 1/1A corridor to the east, the I-95 corridor to the west and a series of arterial roads running like spokes from Belfast. Like much of Maine, Waldo County has experienced a sprawling pattern of population growth over the past several decades, with smaller towns lying on the arterial roads growing much faster than the service center of Belfast.

The sprawling pattern of growth evident in Waldo County is further evidenced in its employment structure. In 2004, the Maine Department of Labor reported that Waldo County had a labor force of 19,761 of whom 18,769 were employed. For the same period, however, the DOL reported that total employment in the county was only 11,245. That is, in net terms, 7,524 of the county's employees had to go outside the county to find work. Employment by

place of residence vastly exceeds employment by place of work. The number of jobs held by residents of Waldo County vastly exceeded the number of jobs offered by businesses located in Waldo County. In short, the county is, to a large degree, a bedroom community for commuters working in surrounding towns from Camden to Waterville to Bangor to Bucksport.

Those jobs that do exist in Waldo County are highly concentrated in financial services, health care and retail trade. While much of the county straddles the major tourist route along the coast—Rt. 1—its retail sales per person and per dollar of local income are much smaller than those of its neighbors to the south and to the north along Rt. 1.

The three investment proposals brought forward by the Sears Island Citizens Group range from a modest visitor center and trail rehabilitation to a major complex with a Heritage Center, a Marine Research Facility, an Educational Center including a traditional boat building shop, a restaurant and a boat rental facility. The investments range in size from just over $1 million to nearly $9 million.

Estimating the number of visitors likely to use the Center and multiplying by their likely spending patterns as derived from the 2005 Longwoods Visitor Study for the state of Maine, indicates that the total annual retail sales generated by these visitors will range between approximately $1.6 million for the smallest investment to over $4 million for the largest investment. Much of this spending is likely to be a diversion of spending now flowing elsewhere. However, if a Sears Island Center is successful, it will, over time, become its own attraction and bring new visitors to the area. And even in the short run, it is likely to help the Searsport area derive more sales from the flow of tourist traffic along Route 1.

Perhaps the most important purpose of this report is to establish a framework for evaluating *any* investment proposed for Sears Island. A central consequence of the investments proposed below is that they maintain Sears Island as a largely natural environment. Penobscot Bay is a residential, recreational and ecological location of truly world-class standing. Both its century and a half status as one of the best sailing and summer living/vacationing environments on the globe and the rapidly rising values of its waterfront properties derive largely from the pristine, undeveloped nature of the land along the Bay. Developing any of the three investment proposals described here is unlikely to change these property values in any way. However, alternative, heavy industrial and associated transportation investments may well affect these property values. Indeed, commitment of Sears Island to relatively undeveloped, recreational/cultural uses will remove a major uncertainty that has been hanging over the area for decades.

Thus, the recreational/educational investments proposed here must be seen not so much as *adding* environmental value but as *protecting* existing environmental values. The existence of these recreational/educational investment alternatives means that any other industrial/transportation alternatives must, in their analysis of costs and benefits, include estimates of their negative impact on environmental conditions and their associated impacts on property values and travel/recreational businesses.

The Economic Context of Sears Island: Waldo County

Economic Geography

Waldo County is a predominantly rural and small town economy surrounding the City of Belfast. Its commercial activity, traffic patterns and lifestyle are structured around the Route 1/1A corridor to the east, the I-95 corridor to the west and a series of arterial roads running like spokes from Belfast. Figure 1 illustrates the basic geography of the area.

The economically disjointed nature of Waldo County is evident in the fact that its twenty-six towns belong to five different shopping areas—thirteen oriented to Belfast, five to Winterport, five to Waterville, two to Camden and one to Pittsfield.[1]

Figure 1: The Waldo County Economic Area

[1]The Maine State Planning Office defines what it calls Economic Summary Areas (ESA) for the purpose of gathering and publishing data on retail sales. ESA's are supposed to represent internally coherent shopping areas. http://www.state.me.us/spo/economics/economics/. See Appendix 1 for a listing of towns in the Searsport area by County and ESA.

While Belfast is, by far, the largest settlement in the county, its population growth has been very slow. Like much of Maine, Waldo County has experienced a sprawling pattern of population growth over the past several decades. Table 1 illustrates this pattern.

Table 1: Patterns of Population Growth, Waldo County, 1990 to 2000

Region	2000 Population	1990 to 2000 Population Growth	share of population, 2000	share of property value, 2003
Belfast	6,381	0.1%	18%	22%
Rt 1 Towns	7,495	6.8%	21%	27%
Spoke Road Towns	21,801	13.7%	60%	38%
Islesboro	603	3.8%	2%	13%
Total	**36,280**	**9.9%**	**100%**	**100%**

Source: U.S. Bureau of the Census and Maine Department of Revenue Services

The City of Belfast, with a population of approximately 6,400 in 2000, accounted for 18% of the County's total population and about 22% of its total assessed property valuation. But Belfast experienced virtually no population growth over the decade. Those towns along the Rt. 1 corridor (Lincolnville, Northport, Searsport, Stockton Springs) accounted for just over 20% of the population and about 27% of the assessed property value and grew nearly 7% over the decade. The inland towns along the arterials leading out of Belfast (here called the spoke road towns) had a population in 2000 of nearly 22,000. This represented a growth over the decade of nearly 14%. Yet these towns accounted for only 38% of the county's total assessed property value. Finally, the county's one island town—Islesboro—had about 600 residents in 2000 (representing an increase of approximately 4% over the decade). Islesboro, while accounting for only 2% of the county's total population,

made up 13% of its total property value, reflecting the size of the island's large seasonal population and the high value of their property.

The sprawling pattern of growth evident in Waldo County is further evidenced in its employment structure. In 2004, the Maine Department of Labor reported that Waldo County had a labor force of 19,761 of whom 18,769 were employed. For the same period, however, the DOL reported that total employment in the county totaled only 11,245. That is, in net terms, 7,524 of the county's employees had to go outside the county to find work. Employment by place of residence vastly exceeds employment by place of work. The number of jobs held by residents of Waldo County vastly exceeded the number of jobs offered by businesses located in Waldo County. In short, the county is, to a large degree, a bedroom community for commuters working in surrounding towns from Camden to Waterville to Bangor to Bucksport.

One of Waldo County's major employment sources is medical services, centered around Waldo County Hospital in Belfast.

Employment Structure

Employment within the county derives principally from three sources—financial services centered around MBNA, health services centered around the Waldo County Hospital and tourist services scattered among a large number of hotels, motels, restaurants and retail shops. Table 2 presents the distribution of in-county employment by sector.

Table 2: Distribution of Employment in Waldo County by Sector, 2004

Sector	Employees
Financial Activities (estimated)	2,000
Health Care and Social Assistance	1,775
Retail Trade	1,629
Education	1,287
Manufacturing	1,180
Leisure and Hospitality	1,032
Wholesale, Transportation & Utilities	443
Construction	621
Public Administration	396
Professional and Business Services	383
Other Services	327
Information	118
Natural Resources and Mining	79
Total	**11,245**

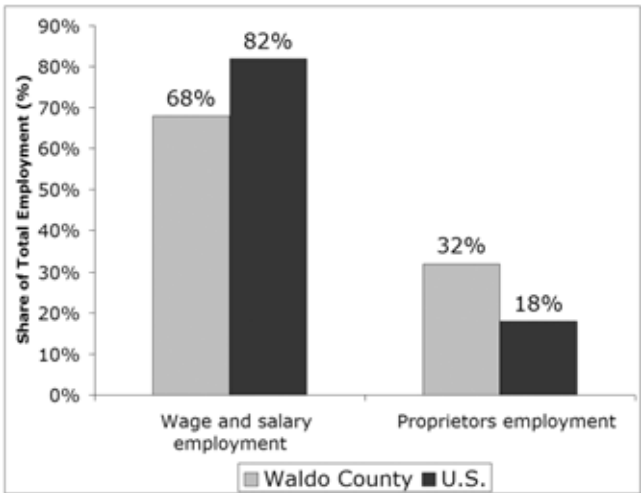
Source: Maine Department of Labor http://198.182.162.220/default.asp. Data for financial services were not disclosed, so the figure presented is an estimate derived from published reports regarding MBNA and the overall total employment reported.

Two other factors are important in understanding Waldo County's employment structure—its relatively high level of sole proprietors and its relatively high dependence on unearned income.

Most employees work for a formally established business for a set wage or salary. Others, sometimes the same people working second jobs, work for themselves as sole proprietors. These include fishermen, doctors, lawyers, shop owners and many others. Generally, these sole proprietors constitute a small minority of total employment and generally their average compensation, particularly when non-salary benefits are included, is less than the average compensation of wage and salary employees.

Nationally, in 2003, proprietor's employment made up less than one-fifth of total employment (18%), and the average income earned by a proprietor amounted to approximately $27,000. In Waldo County, in contrast, proprietor's employment accounted for nearly one-third of total employment (32%), and average proprietor's income amounted to approximately $14,000, barely one half the national average.[2] This fact is important because it highlights one reason why incomes (and hence spending in local businesses) is less than it would be if there were more full-time, formal employment opportunities in the county.[3]

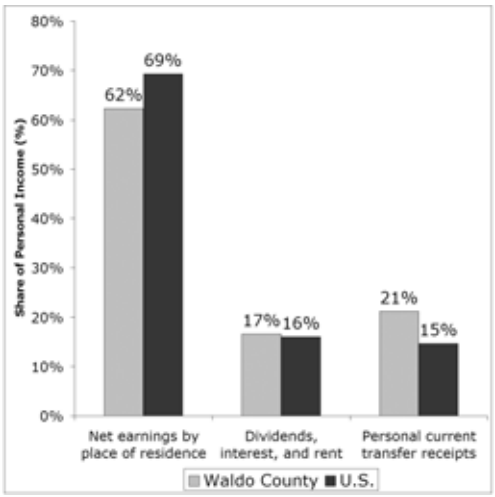
Figure 2: Distribution of Employment, Waldo County & U.S., 2003



Source: BEA

Another of Waldo County's distinguishing economic characteristics is its relatively high dependence on unearned income. Nationally, 69% of total personal income comes from earnings, from wage or salary payments or sole proprietor earnings. That leaves 31% from unearned income—either property income (dividends, interest or rental payments) or transfer payments (such as Social Security, Medicare/Medicaid, unemployment or welfare payments). Figure 3 shows how much more of Waldo County's income derives from unearned sources.

Figure 3: Distribution of Income, Waldo County & U.S., 2003



Source: BEA

Residents of Waldo County receive a substantially smaller share of their income from working (62%) compared to the national average, and a substantially larger share from transfer payments (21%). This disproportion follows from the fact that earnings per worker in Waldo County are substantially lower than in the nation as a whole, so a larger proportion of the population is eligible for social assistance. Furthermore, Waldo County has a higher proportion of elderly than the U.S. as a whole and thus a higher proportion eligible for health benefits of various kinds.

Table 3: Measures of Earning Waldo County & U.S., 2003

Income Category	Waldo	U.S.	Waldo/ US ratio
Per Capita Income	$24,552	$31,472	78%
Earnings per Employee	$26,148	$42,502	62%
Wages & Benefits per Covered Employee	$32,033	$45,935	70%
Average Proprietor's Income	$13,622	$26,864	51%

Source: BEA.

[2]U.S. Department of Commerce Bureau of Economic Analysis http://www.bea.doc.gov/.. employment reported for labor force participation, where a person is counted once no matter how many jobs he/she may hold.

[3]It is important here to note the distinction between people and jobs. Employment here means jobs. Thus, since one person can hold more than one job, total employment reported for jobs may exceed total employment reported for labor force participation, where a person is counted once no matter how many jobs he/she may hold.

While total per capita income in Waldo County is nearly 80% of the national average, earnings and benefits of wage and salary workers in the county is only 70% of the national average, average earnings for all workers is barely 60% of the national average and average earnings per proprietor is barely half the national average.

Table 4: Age Distribution of the Population, Waldo County & U.S., 2000

Age Category	Waldo	U.S.	Waldo/U.S. Ratio
under 20	27%	29%	0.93
20 to 44 years	33%	37%	0.89
45 to 64 years	27%	22%	1.22
65 years and over	14%	12%	1.10
median age	39.3	35.3	1.11

Source: Bureau of the Census

In 2000, Waldo County had substantially lower proportions of its population in the under 20 and between 20 and 44 age categories, and substantially higher proportions of its population in the between 45 and 64 and the 65 and older age categories. Given the absence of any major source of employment growth since 2000, this disproportion is most likely even greater today.

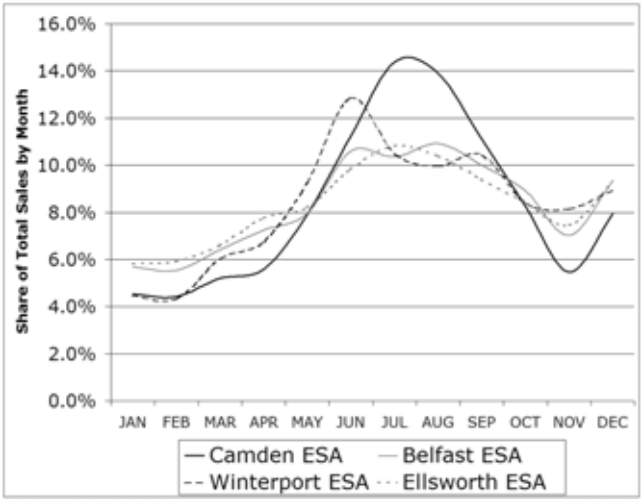
Retail Sales

Because of the importance of the tourist economy noted in Table 2 above, it is important to examine the pattern of retail sales in the Waldo County area. This examination is particularly important since the nature of the investment proposals for Sears Island considered below depend largely on their connection to the larger tourist economy.

As noted above, the Maine State Planning Office designates Economic Summary Areas (ESA) for the purpose of gathering and analyzing data on retail sales. For the purpose of setting the economic context for Sears Island, four ESA's are of particular importance—Camden, Belfast, Winterport and Ellsworth, with total consumer retail sales in 2004 of $139 million, $160 million, $31 million and $370 million respectively.[4]

The first important characteristic of retail sales in these ESAs is their high seasonality. Consumer sales in all four routinely average two or three times more in the summer months than in the winter months. Figure 4 illustrates the trend.

Figure 4: Monthly Share of Consumer Sales, Waldo County Area, 2002-2004 Average



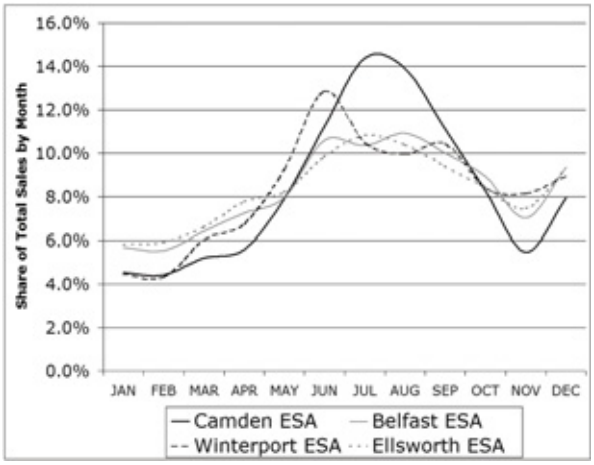
Source: Maine State Planning Office

The Camden ESA has the most extreme seasonal fluctuation, and the Winterport ESA has an interesting June peak, but all four show a marked increase in sales during the summer months.

This pattern is even more marked when considering only restaurant and lodging sales, which naturally form the base of the tourist economy. Figure 5 (see following page) illustrates this difference.

[4]See Appendix One for a listing of towns in each ESA.

Figure 5: Monthly Share of Restaurant & Lodging Sales, Waldo County Area, 2002-2004 Average

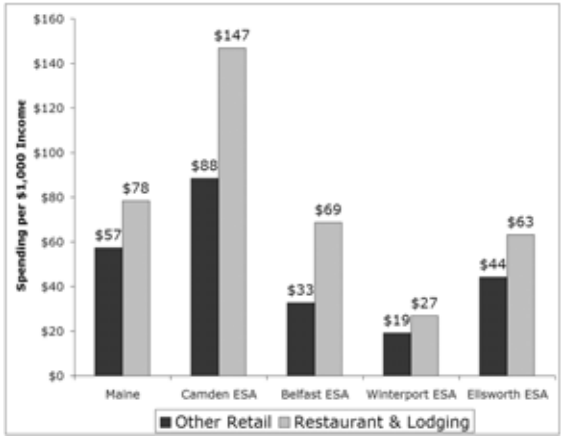


Source: Maine State Planning Office.

Here it is interesting to note that restaurant and lodging sales in the Ellsworth area are much less seasonally varied than in the other three ESA's.

Another measure of the strength of the tourist economy in an area is the level of spending on restaurant and lodging sales and "other" retail sales per $1,000 of income in the area. Most consumer spending is the result of local households purchasing for their own needs from their own incomes. An unusually high level of spending for a particular category would indicate spending by non-residents. This is particularly true for restaurant and lodging sales and "other" retail sales that includes a variety of specialty products likely to be sold to tourists. Figure 6 shows this ratio for the Waldo County ESA's.

Figure 6: Retail Sales per $1,000 of Local Income, 2000



Source: Maine State Planning Office

For Maine as a whole in 2000, total "other" retail spending amounted to $57 for every $1,000 of resident income. For restaurant and lodging sales, the figure was $78. For the Camden ESA, in contrast, "other" retail spending amounted to $88 for every $1,000 of income earned by the residents of the Camden ESA, and restaurant and lodging sales amounted to $147.[5] This does not mean that Camden residents bought more trinkets and ate out more than the average Maine resident but rather that the Camden area attracted visitors (and therefore income) from outside the area who accounted for much of these sales. The point here is to highlight the fact that the other ESA's in the Waldo County area all have spending levels for these categories that fall below the state average, and, in the case of the Winterport ESA, far below the state average. This would seem to point out a potential for further growth in tourist spending in these ESA's.

This potential is further indicated by an examination of the rates of growth of sales in these categories over the 2000 to 2004 period.

[5]The "other" retail sales category includes a wide selection of taxable sales not covered elsewhere. Examples are dry goods stores, drug stores, jewelry stores, sporting goods stores, antique dealers, morticians, book stores, photo supply stores, gift shops, etc. While local residents buy some of these items, it is not so clearly locally oriented as auto sales, food sales or building supply sales are likely to be. We therefore us it as a proxy for the shopping likely to be conducted by tourists.

Table 5: Rate of Increase in Sales, Selected Categories, 2000 to 2004

Category	Maine	Camden ESA	Belfast ESA	Winterport ESA	Ellsworth ESA
Other Retail	12%	-6%	45%	11%	13%
Restaurant & Lodging	15%	1%	13%	3%	18%

Source: Maine State Planning Office

Growth in the Camden ESA was essentially stagnant, and growth in the Winterport ESA was below the state average. Growth in the Ellsworth ESA was slightly above the state average, and only the "other" retail category in the Belfast area showed remarkable growth.

Another index of the level of economic activity in Waldo County is the volume of traffic flowing along U.S. Rt. 1. Table 6 lists the average annual daily traffic flow (AADT) measured in vehicles per day by the Maine Department of Transportation for points along Rt. 1 southwest and northeast of Searsport.

Table 6: Traffic Flow Along U.S. Rt. 1, selected locations

Location	1999	2000	2001	2002	2003	2004
Nobleboro, U.S. Rt. 1 @ Damariscotta	9,895	10,030	10,150	10,490	10,520	10,610
Camden, U.S. Rt. 1 @ Elm St.				16,290		
Searsport, U.S. Rt. 1 @ Main St.		12,440		15,140		
Ellsworth, U.S. Rt. 1 @ Main St.			24,690		23,830	
Trenton, SR 3 @ Thompson Island	13,396	13,440	14,410	14,280	14,360	14,370

Source: Maine Department of Transportation Traffic Volume Counts, various years; http://www.maine.gov/mdot/traffic-counts/traffic-monitoring.php some cells are blank because not all points are measured every year.

The steady or slightly increasing traffic flow over the period that included the tourist decline following the terrorist attacks of September 2001 indicates that the potential market for visitors to Sears Island is substantial and has not declined over recent years.

These retail sales and traffic data point to the potential for further growth of tourist related retail spending in the Waldo County area and leads into a consideration of the alternate proposals for development of Sears Island.

Route 1 traffic data in the midcoast region suggest a high potential market for visitors to Sears Island.

The Proposals for Developing Sears Island

The citizens group examined the resources that make up Sears Island and developed a Preliminary Plan for its ultimate use. The Preliminary Plan is presented in three Levels that represent varying intensities of land use on the Island. A basic principle in all levels is a desire to keep the vast majority of the land undeveloped and to make the island a model for sustainability. All three levels include a basic foundation development consisting of improvement and creation of hiking trails as well as trailhead information sites, appropriately placed observation and interpretive sites, picnic areas, toilets and an entrance area. This basic infrastructure common to all three levels of investment is listed below.

The three alternative investment levels are distinguished by the number and type of buildings proposed, the amount of parking provided and the levels of use anticipated for each. The purpose of the remainder of this section of the report is to describe each of these levels of investment.[6]

[6]See Section 1, Sears Island: Options for the Future for a detailed description of the three levels of investment proposed.

Table 7: Improvements Common to All Three Investment Levels

Facility	Description	Cost
entrance	Welcome booth (10'x15'); Split entrance; Marked crosswalk; Entrance sign; Landscaping	$ 20,000
entrance parking	Spaces for 20± cars; 2 accessible spaces	$ 20,000
entrance area toilet	3 waterless toilet fixtures; one waterless urinal; 500 gallon liquid storage tank Hand sanitizer	$ 45,000
light boat put-in	Simple access for kayaks and canoes	$ 5,000
picnic areas	4-6 tables in each of two locations on opposite sides of access road. 10 total	$ 10,000
beach	Minimal improvements: Access stairs/ramp; Clean-up	$ 5,000
old field area trailhead information kiosk	Simple wooded shelter for trail maps, general information, and seasonal exhibits	$ 10,000
old field area toilet	Same as at entrance	$ 45,000
fish pier	Extend walkway half-way to end of pier	$ 75,000
waterfront area toilet	Same as at entrance	$ 45,000
boat put-in	Simple put-in for small boats	
cart-way trails	3,000 linear feet of trails to be upgraded; Core visitor experience for year-round recreation: hiking, nature study, cross-country skiing, snowshoeing.	$ 10,000
new trails	10,000 linear feet of new trails; Provide accessible trails in looped system to encourage island exploration, especially for family groups	$ 50,000
hiking trails	20,000 linear feet of new hiking trails; Provide hiking opportunities for more adventurous individuals	$ 50,000
observation area	Circular area 20' diameter± adjacent to trails	$ 10,000
Total		**$ 400,000**

Level One

The Level One Plan represents a minimal use of the island's resources. What little development is proposed would be concentrated at the entrance at the end of the causeway. To the casual observer, very little would change to the physical landscape that people now recognize as Sears Island.

Beyond the common investments listed in Table 7 above, the development proposed in Level One would be basic parking improvements along the causeway and a 30' by 40', two story building designed to serve as an information desk and a meeting room/office capable of hosting educational visits for up to 30 students and office space for a state or federal resource agency that may benefit from this location in Mid-Coast Maine. Table 8 summarizes the required investment.

Table 8: Level One Investment

Facility	Description	Cost
1. Entrance		
causeway parking	Provide improved parking for 30± vehicles; 10± if optional on-island parking is also used	$ 30,000
entrance parking	Spaces for 20± cars, 2 accessible spaces	$ 20,000
visitor center & office	30'X40'± footprint; Two story building; Information desk; Sears Island displays; Meeting room/office; Ability to host classroom visits of 20-30 students.	$ 500,000
3. Waterfront		
trailhead & info kiosk	Simple wooded shelter for trail maps, general info., and seasonal exhibits	$ 10,000
toilet		$ 45,000
Total Level 1		$ 605,000
Total Common		$ 400,000
Grand Total		**$ 1,125,000**

Level Two

The Level Two Plan represents a moderate use of Sears Island, with a concentration of activities and new facilities at the end of the road on the waterfront. Visitors will be able to drive onto the island and start their day trips at the entrance area, the old field or the waterfront.

Under the Level Two Plan, the bulk of the development will occur in the waterfront area in the island's northwest quadrant overlooking Long Cove. This development will include:

- An education complex designed to house a Heritage Center devoted to the natural and cultural history of Penobscot Bay and/or Native American culture; a marine resource facility focusing on the scientific aspects of the bay; and a resource agency office to provide an on-site presence for a state or federal agency. This structure, or group of buildings, would be located to the north of the jetty and would have a separate parking lot to accommodate staff and visitors;
- A small group of buildings arranged around a common green, that will include a small boat rental office boat storage area and a boatbuilding shop dedicated to building and sales of small rowing/sailing vessels using traditional methods;
- A wooden fishing pier will be built over a section of the existing jetty to provide a place for accessible fishing and a way to get out on the water. A boat put-in for small boats will be developed in conjunction with the small buildings and parking facilities. A composting toilet (or wooden enclosure for a portable outhouse) will be sited at the edge of the woods;
- A trailhead/observation area will be located at the starting point of the trail system for people who want to get out and explore the islands trails. This will also serve as a meeting place for interpretive programs that would explore the natural history of Sears Island.

The Level Two plan will require a substantially larger investment beyond the core investment listed in Table 7 and the Level One investment listed in Table 8. Table 9 summarizes this larger investment required by the Level Two Plan.

Table 9: Level Two Investment

Facility	Description	Cost
1. Entrance		
entrance parking	Spaces for 20± cars; 2 accessible spaces	$ 20,000
2. Old Fields Area		
parking area	Gravel parking; spaces for 20± cars with provisions for overflow parking on grass for events	$ 30,000
common green	6 acres +/-	$ 50,000
3. Waterfront		
trailhead & info kiosk	Simple wooded shelter for trail maps, general info. and seasonal exhibits	$ 10,000
visitor center; resource agency office; marine research facility	40'x200'± footprint two story building; host classroom visits of 20-30 students; Resource Agency Office: Employ 2 to 6; Heritage Center: Employ 6 to 12; Marine Research facility: employ 10 to 20; Visitor use similar to Visitor Center.	$ 5,000,000
boat building shop	Dedicated to building and sales of small rowing/sailing vessels using traditional methods; 1,000SF	$ 400,000
boat rental shop	Small office, workroom, outdoor boat storage. A place to rent kayaks, other small boats for day trips on Penobscot Bay. Anticipated use: 25-50 rentals/day during season. 400SF	$ 80,000
waterfront parking	Spaces for 80 to 100± cars	$ 80,000
Total Level 2		$ 5,670,000
Total Common		$ 400,000
Grand Total		**$ 6,070,000**

Level Three

The Level Three Plan offers most of the facilities in Level Two, but will locate them over a more dispersed portion of the northern half of the island.

The old fields on the east side of the access road will become a major visitor destination and education area, centered on the restored fields. This complex will include:

- A Heritage Center devoted to the natural and cultural history of Penobscot Bay and/or Native American culture;
- An Education and Visitor Center featuring seasonal and permanent interpretive displays, an orientation area, classrooms/meeting spaces, outdoor displays and a waterfront restaurant with seating for 25 to 50 patrons;
- Parking for 80 to 130 cars in three dispersed areas to minimize the visual impact of the cars and provide easy access to the facilities;
- The old fields restored and developed as an informal green, bounded on two sides by the two buildings and with a gazebo on the eastern end of the field to provide a focal point for orientation tours, special activities, and general visitor use.

Table 10 summarizes the investment required by the Level Three Plan.

Table 10: Level Three Investment

Facility	Description	Cost
1. Entrance		
entrance parking	Spaces for 20± cars; 2 accessible spaces	$ 20,000
2. Old Fields Area		
parking area	30± cars for Heritage Center 50-100 cars for Ed & Visitor Center Provisions for overflow parking on grass	$ 150,000
common green	6 acres; Construct gazebo as focal point	$ 75,000
education/visitor center	40' x 100' footprint; Ability to host classroom visits of 20-30 students.	$ 2,000,000
heritage center	30' x 80' footprint Resource Agency Sears Island Center Office; Heritage Center: Employ 6-12 people.	$ 1,000,000
3. Waterfront		
trailhead & info kiosk	Simple wooded shelter for trail maps, general info, and seasonal exhibits	$ 10,000
resource agency office; marine research facility boatbuilding shop	Agency Office: Employ 2-6 people; Shop: building and sales of small rowing/sailing vessels using traditional methods; Boat Rental: small office, workroom, outdoor boat storage, rent kayaks, other small boats for day trips Marine Research Facility: Dedicated to study of Penobscot Bay marine resources. Employ 10-20 people.	$ 4,000,000
restaurant 2,000	Small seasonal restaurant with seating for 25-50	$ 800,000
waterfront parking	Spaces for 80 to 130± cars	$ 120,000
Total Level 3		$ 8,175,000
Total Common		$ 400,000
Grand Total		**$ 8,575,000**

The Economic Impacts of the Proposed Investments

The purpose of this section of the report is to estimate the probable economic benefits of each of the three levels of investment described in the previous section. From an economic development perspective, two questions arise with respect to the investments outlined above:

- What revenue and expenses are each of these investments likely to generate once they are fully operational? and
- What external impacts might they have on the Searsport and Waldo County economy of which they will be a part?

There are three economic impacts that will occur as a result of the creation of a recreational/educational facility on Sears Island. The first is the intrinsic satisfaction enjoyed by those who engage in the recreational and educational activities provided by the facility. This impact is best measured by the number of visitors who use the facility and by their willingness to pay entrance or membership fees for that opportunity. Short of an actual survey of potential users, this impact can be estimated only by examination of the use of somewhat similar facilities and the best judgment of those familiar with the demand for recreational facilities in the area. This report is based on the user-days estimated by the citizen group that developed these investment plans. They were derived after examining the experiences of other park/educational centers and based on the assumption that such experience could be brought to bear for Sears Island.[7] Table 11 lists visitation data for state parks in the Sears Island area.

Table 11: Visitors of State Parks Near Sears Island

Park	Number of Visitors, 2004	Number of Visitors, 2005
Camden Hills State Park	182,639	139,871
Moose Point State Park	24,567	24,610
Fort Point State Park	29,044	23,185
Holbrook Island Sanctuary	23,134	22,858

Source: Maine Department of Conservation.

In short, this report is an examination of the impacts of a successfully operating Sears Island facility. The likelihood of this success is a separate question demanding further investigation after a full-scale business and marketing plan has been prepared.

The second economic impact realized by development of the facilities described above is the spending outside the Center that its visitors are likely to make. This impact will be estimated by extrapolating from the results of the most recent survey of tourist spending in Maine (hereafter called the Longwoods Report).[8] This impact, moreover, will depend on how the visitors to the Sears Island Center are distributed among three possible groups—local residents, existing tourists and new tourists drawn explicitly by the Center.

The first group, because the bulk of their consumer spending is already flowing through the local economy, will add little to the area's overall total. They may, however, reallocate some of this spending to the Searsport area—particularly food and transportation spending—as they spend more of their recreational time coming to the Center rather than doing whatever other activities they might undertake. For example, a local resident may visit Sears Island for a day rather than go to Portland or Rangeley or North Conway, New Hampshire which would keep more local discretionary spending in the area.

[7] The Wells National Estuarine Research Reserve, for instance, publishes a weekly activity brochure and distributes it to most local restaurants and places of accommodation. The reserve receives between 40,000 and 45,000 visitors per year.

[8] Longwoods International Travel and Tourism in Maine The 2004 Visitor Study Management Report Prepared for the Maine Office of Tourism July 14, 2005.

The second group—existing tourists—is likely to be the largest category of users. As noted in Figure 6 above, retail sales in the shopping area including Searsport is substantially lower than in the surrounding areas. To the extent that the Sears Island Center draws more of the existing visitors who pass by Searsport to stop and visit the Center, the local economy will benefit.

The third group—entirely new tourists drawn to the Sears Island Center (or existing tourists who extend their stays because of the Center)—will add not just their local spending but also a multiple of that spending representing the indirect effects of this totally new spending.

The process of estimating these retail spending effects is thus largely a matter of estimating how many of the visitors projected by each investment level fall into each of these three categories.

Finally, the third impact of these investments is the maintenance of Sears Island as a largely natural environment. Penobscot Bay is a residential, recreational and ecological location of truly world-class standing. Its century and a half status as one of the best sailing and summer living/vacationing environments on the globe and the rapidly rising values of its waterfront properties derive largely from the pristine, undeveloped nature of the land along the Bay. Developing any of the three investment proposals described here is unlikely to change these property values in any way. Indeed, commitment of Sears Island to relatively undeveloped, recreational/cultural uses will remove a major uncertainty hanging over the area for decades.

Alternative, heavy industrial and associated transportation investments will undoubtedly affect these property values. Thus, the recreational/educational investments proposed here must be seen not so much as *adding* environmental value but as *protecting* existing environmental values. The existence of these recreational/educational investment alternatives means that any other industrial/transportation alternatives must, in their analysis of costs and benefits, include estimates of their negative impact on environmental conditions and their associated impacts on property values and travel/recreational businesses.

The balance of this section of this report will address each of the investments proposed above in turn.[9]

Level One Investment

Operational Impact of the Level One Facility

The use estimated for the facility at this level of investment is listed in Table 12.

Table 12: Estimated Use of Sears Island Center at Level One Investment

Season	Visitors per Day
Summer Peak (25 Days)	250
Summer Avg. (94 days)	125
Off-Season (245 days)	20
Total Visitors per Year	**22,900**

Source: Sears Island Study citizen's group estimate drawing on recent experience of neighboring state parks

Table 13 lists a *pro forma* income statement for the hypothetical organization that would operate the Sears Island facility.

Table 13: *Pro Forma* Income Statement

Annual Revenue	Amount
rent	$ 9,600
entrance fees	$ 65,150
membership	$ 75,000
grants	$ 50,000
Total Revenue	**$ 199,750**
Annual Expense	
amortization	$ 65,059
operation	$ 17,600
staff	$ 115,600
Total Expense	**$ 198,259**
Net Income	**$ 1,491**

[9]It must be noted here that this report is not a full-blown cost benefit analysis or even a feasibility analysis of the three proposed investments. Rather, it is an examination, in general orders of magnitude, of the likely consequences of these investments and a framework for answering the more detailed questions that are likely to emerge from this preliminary investigation.

Table 13 presents a "break-even" budget. Rent is based on 1,200 SF at a rate of $8 per SF. Entrance fees are estimated at $4.00 per visitor for peak-summer week-ends, $3.00 per visitor for summer weekdays and $1.00 per visitor for off-season use. Membership is estimated at 500 people at $150 per year, and an operating grant of $50,000 was assumed.

Amortization is the cost of paying off the $1.1 million initial investment over 30 years at 4% interest. Operational costs are estimated to be $4 per SF for the building and $8,000 for other maintenance and operations. Staff expenses are estimated based on 1.5 full-time equivalent positions year-round and 4 FTE positions during the season at rates of $5,000 per month for year-round positions and $1,600 per month for seasonal positions.

The above figures are based on interviews conducted with officials from the Wells National Estuarine Research Reserve and suppositions about rental and operational costs in the Sears Island area. All, however, are estimates. Various "what if" scenarios may be examined by altering the income and cost variables that generate these *pro forma* financial statements.

External Impact of the Level One Facility

The external economic impact of the Level One facility will depend on how many of the 22,900 visitors are local residents, how many are existing tourists and how many are new tourists (either entirely new to Maine or those who extend their stay and thus spend more money in Maine than they would without the existence of the Sears Island Center). Table 14 presents an estimate of local tourist spending based on extrapolations made from the Longwoods Study.

Table 14: Estimated Spending per Trip by Visitor Category, 2004

Category	Local Visitor	Existing Tourist Visitor	New Tourist Visitor
Retail	$ 18	$ 36	$ 76
Food	$ 31	$ 31	$ 73
Transportation	$ 0	$ 18	$ 42
Recreation	$ 15	$ 15	$ 30
Accommodation	$ 0	$ 0	$ 82
Total	**$ 65**	**$101**	**$303**

Source: Longwoods Study

Spending by New Tourist Visitors (column 4) is the amount spent per trip by overnight visitors to the state as reported in the Longwoods Study, and the amount spent by Existing Tourist Visitors (column 3) is the amount spent per trip by day-trip visitors. Their spending by retail category was extrapolated from the total spending reported for all tourists.[10] Spending by local visitors (column 2) was assumed to be zero for transportation, equal to that of day trip visitors for food and recreation and one half that of day trip visitors for retail spending.

According to the Longwood study, a trip is defined as "any day or overnight (1+ nights away from home) journey for business or pleasure outside one's community and not part of normal routine; trips are the number of individual adult person trips."[11] Thus in order to estimate the sales impact of the visitors reported in Table 12 above it is necessary to estimate the number of children and the distribution of adults by category—local, existing or new visitor. Table 15 presents estimates for these parameters.

[10]The distribution by retail category for day trip visitors was adjusted to zero for accommodations and upwards for other categories within the constraint of equaling the reported total spending per trip. Conversely, the distribution for overnight visitors was adjusted upward to account for 100% of accommodation spending and downward in the other categories within the constraint of meeting the reported total.

[11]Longwoods Study, 2004, p. 6.

Table 15: Distribution of Level One Visitors

Number of Visitors	22,900
% Children	40%
# Adult Visitor Trips	13,740
% Local Trips	20%
% Existing Trips	70%
% New/Extended Trips	10%

Multiplying the estimated distribution of visitors in Table 12 by the estimated spending per trip by category of visitor in Table 14 yields an estimated total sales impact of approximately $1.6 million. Table 16 summarizes the distribution by visitor type and sales category.

Table 16: Estimated Spending by Level One Visitors

Category	Local Trip	Day Trip	Over-night Trip	Total
Retail	$49,892	$349,241	$104,208	$503,341
Food	$85,924	$300,736	$100,040	$486,700
Transportation	$0	$174,621	$58,356	$232,977
Recreation	$41,576	$145,517	$41,683	$228,777
Accommoda-tion	$0	$0	$112,544	$112,544
Total	$177,393	$970,115	$416,831	$1,564,339
Multiplier	$0	$0	1.3	N.A.
Indirect Sales Impact	$0	$0	$125,049	$125,049
Total Sales Impact	**$177,393**	**$970,115**	**$541,881**	**$1,689,389**

Spending by locals and day-trippers would have occurred anyway, so only the overnight trip spending is multiplied by a conservative retail sales multiplier of 1.3. This yields an indirect spending impact of approximately $125,000 and a total annual sales impact of approximately $1.7 million.

It is important to underline here that the $1.7 million noted above is ***not*** all new income or spending to Maine. New money is the approximately $540,000 direct and indirect effects of new or extended stay visitors. The $1.7 million is relevant both to those investing in this project and to those in the immediate Searsport area who might see some of these sales as new business. From the perspective of those making an investment (and others who support it), the fact that money spent on this project may come from somewhere else is irrelevant. That's the essential nature of a free competitive economy. The point of this analysis is to examine the possible outcomes of several proposed investments. Some of those outcomes may bring new money to the area; others may simply shift money around from one business to another. Both need to be noted.

Level Two Investment

Operational Impact of the Level Two Facility

The use estimated for the facility at this level of investment is listed in Table 17.

Table 17: Estimated Use of Sears Island Center at Level Two Investment

Season	Visitors per Day	Vehicles per Day	H.C. Visitors per Day
Summer Peak (25 Days)	400	160	200
Summer Avg. (94 days)	200	100	100
Off-Season (245 days)	20	10	10
Total Visitors per Year	**33,700**	**15,850**	**16,850**

Source: Sears Island Study Citizen's Group Estimate

Table 18 lists a *pro forma* income statement for the hypothetical organization that would operate the Sears Island facility under the Level Two organization.

Table 18: *Pro Forma* Income Statement

Annual Revenue	Amount
agency rent	$20,000
boat rental rent	$1,600
Marine Research rent	$30,000
park entrance fees	$67,000
Heritage Center fees	$72,000
membership	$500,000
donations	$350,000
grants	$50,000
Total Revenue	**$1,090,600**
Annual Expense	
amortization	$351,029
operation	$95,800
staff	$640,000
Total Expense	**$1,086,829**
Net Income	**$3,771**

Table 18 presents another "break-even" budget. Rental income is based on a rate of $8 per SF for all space except the boat rental shop that is assumed to go for $4.00 per SF and the Marine Research space that goes for $10. Entrance fees are estimated at $5 per vehicle for peak-season and nothing for off-season. Under this scenario, half the visitors are expected to visit the Heritage Center and pay an entrance fee of $5 per person for peak-season times. Membership is estimated at 1,000 people at $500 per year, donations of $350,000 are assumed and the same operational grant of $50,000 as was assumed in Level One is assumed to remain here.

Amortization is the cost of paying off the $6.1 million initial investment over 30 years at 4% interest. Operational costs are estimated to be $5 per SF for all buildings except the boat rental shop. Staff expenses are estimated based on 8 full-time equivalent positions year round and 10 FTE positions during the season at rates of $6,000 per month for year round positions and $1,600 per month for seasonal positions.

This scenario assumes that the central focus of the Sears Island Center itself is the Heritage Center, that the Marine Research facility is basically a renter and that the organization undertakes an aggressive membership and donation effort. As in the explanation of Level One investment, these figures are based on interviews conducted with officials from the Wells National Estuarine Research Reserve and suppositions about rental and operational costs in the Sears Island area. All, however, are estimates. Various "what if" scenarios may be examined by altering the income and cost variables driving these *pro forma* financials.

External Impact of the Level Two Facility

As was true for Level One, the external economic impact of the Level Two facility will depend on how many visitors are local residents, how many are tourists already visiting Maine and how many are new tourists or current tourists who extend their stays to visit Sears Island.

Table 19 presents estimates for these parameters.

Table 19: Distribution of Level Two Visitors

Number of Visitors	33,700
% Children	40%
# Adult Visitor Trips	20,220
% Local Trips	20%
% Existing Trips	60%
% New/Extended Trips	20%

Because of the additional emphasis on the Visitors/Heritage Center in this scenario, we assume that visitors who come explicitly to see the Center or extend their stay for the Center represent 20% of all visitors, up from the 10% in Level One.

Multiplying the estimated distribution of visitors in Table 19 by the estimated spending per trip by category of visitor listed in Table 14 above yields an estimated total sales impact of approximately $2.7 million. Table 20 summarizes the distribution by visitor type and sales category.

Table 20 :Estimated Spending by Level Two Visitors

Category	Local Trip	Day Trip	Overnight Trip	Total
Retail	$73,421	$440,528	$306,708	$820,657
Food	$126,448	$379,344	$294,440	$800,231
Transportation	$0	$220,264	$171,756	$392,020
Recreation	$61,184	$183,553	$122,683	$367,421
Accommodation	$0	$0	$331,244	$331,244
Total	$261,054	$1,223,689	$1,226,831	$2,711,574
Multiplier	0	0	1.3	N.A.
Indirect Sales Impact	$0	$0	$368,049	$368,049
Total Sales Impact	**$261,054**	**$1,223,689**	**$1,594,881**	**$3,079,623**

It is important to point out here that the research facility renting 3,000 SF in the Center will have 10 FTE employees and a payroll of approximately $700,000. This (just like new tourist spending) will be new income and spending to the area and thus have an indirect economic impact to the area in the order of $200,000, bringing the total sales impact to nearly $3.3 million.

Level Three Investment

Operational Impact of the Level Three Facility

The use estimated for the Sears Island Center at Level Three investment is listed in Table 22.

Table 22: Estimated Use of Sears Island Center at Level One Investment

Season	Visitors per Day	Vehicles per Day	H.C. Visitors per Day
Summer Peak (25 Days)	500	200	250
Summer Avg. (94 days)	300	150	150
Off-Season (245 days)	20	10	10
Total Visitors per Year	**45,600**	**21,550**	**22,800**

Source: Sears Island Study Citizen's Group Estimate

Table 23 lists a *pro forma* income statement for the hypothetical organization that would operate the Sears Island facility under the Level Three scenario.

Table 23 *Pro Forma* Income Statement

Annual Revenue	Amount
agency rent	$20,000
boat rental rent	$1,600
restaurant rent	$16,000
park entrance fees	$100,500
H.C. entrance fees	$108,500
membership	$100,000
donations	$100,000
grants	$1,500,000
Total Revenue	**$1,946,100**
Annual Expense	
amortization	$495,893
operation	$85,800
staff	$1,360,000
Total Expense	**$1,941,693**
Net Income	**$4,407**

It should be noted here that because Level Three includes a restaurant in the Center, it is likely that more of the food sales will occur on the island than under the other scenarios. The major operational difference between Level Three and Level Two is that there is a restaurant on the island in Level Three and the Marine Research Center is separated from the Visitors/Educational/Heritage center. In addition, amortization expense is greater under the Level Three scenario because of the greater initial construction costs. Level Three assumes that the Sears Island Center takes on direct responsibility for the Marine Research Center rather than just renting it space. This scenario is more similar to the Wells Reserve operation and assumes that the Center takes on the staff of 10 FTE research employees and obtains a research grant of $1.5 million.

External Impact of the Level Three Facility

Table 24 presents estimates of the standard visitor parameters for Level Three.

Table 24: Distribution of Level Three Visitors

Number of Visitors	45,600
% Children	40%
# Adult Visitor Trips	27,360
% Local Trips	20%
% Existing Trips	60%
% New/Extended Trips	20%

Because of the additional emphasis on the Visitors/Heritage Center in this scenario, we again assume that visitors who come explicitly to see the Center or extend their stay for the Center represent 20% of all visitors.

Multiplying the estimated distribution of visitors in Table 24 by the estimated spending per trip by category of visitor listed in Table 14 above yields an estimated total sales impact of approximately $3.7 million. Table 25 summarizes the distribution by visitor type and sales category.

As with Level Two, the employees at the research center must be treated as new business to the area, so an indirect impact of approximately $200,000 must be added to the sales total listed in Table 25, bringing the total sales impact to nearly $4.4 million.

Any attempt to measure a fiscal impact on the Town of Searsport resulting from any of these proposed investments and their likely commercial impacts would be speculative at best. Nonetheless, it is clear that any additional retail sales in the area would help maintain the commercial viability of the area and thus help maintain the tax base of the town.

In the same vein, any success these investments have in bringing research activities to the area (and thus relatively high paying jobs) will help address the problem highlighted above of Waldo County's relatively high dependence on self employment, a backward way of saying its lack of high-skill, high-wage jobs.

Table 25: Estimated Spending by Level Three Visitors

Category	Local Trip	Day Trip	Overnight Trip	Total
Retail	$ 99,348	$ 596,085	$ 415,011	$1,110,444
Food	$171,099	$ 513,296	$ 398,411	$1,082,805
Transportation	$ 0	$ 298,043	$ 232,406	$ 530,449
Recreation	$ 82,790	$ 248,369	$ 166,004	$ 497,163
Accommodation	$ 0	$ 0	$ 448,212	$ 448,212
Total	**$353,236**	**$1,655,793**	**$1,660,045**	**$3,669,073**
Multiplier	0	0	1.3	N.A.
Indirect Sales Impact	$0	$0	$ 498,013	$ 498,013
Total Sales Impact	**$353,236**	**$1,655,793**	**$2,158,058**	**$4,167,087**

Appendix 1: Waldo County Towns and Surrounding Economic Summary Areas

A. Waldo County Towns

Town	ESA Shopping Area	Highway	Population, 2000	Property Valuation, 2003
Belfast	Belfast	1	6,381	$686,100,000
Belmont	Belfast	3	821	$47,650,000
Brooks	Belfast	7	1,022	$41,800,000
Burnham	Pittsfield	95	1,142	$73,250,000
Frankfort	Winterport	1A	1,041	$53,750,000
Freedom	Waterville	137	645	$35,000,000
Islesboro	Camden	1	603	$394,800,000
Jackson	Belfast	7	506	$25,100,000
Knox	Belfast	137	747	$37,250,000
Liberty	Belfast	3	927	$74,950,000
Lincolnville	Camden	1	2,042	$290,250,000
Monroe	Belfast	141	882	$59,450,000
Montville	Belfast	137	1,002	$57,100,000
Morrill	Belfast	137	774	$40,250,000
Northport	Belfast	1	1,331	$251,450,000
Palermo	Waterville	3	1,220	$103,100,000
Prospect	Winterport	1A	642	$30,450,000
Searsmont	Belfast	3	1,174	$101,300,000
Searsport	Winterport	1	2,641	$190,750,000
Stockton Springs	Winterport	1	1,481	$126,000,000
Swanville	Belfast	141	1,357	$72,000,000
Thorndike	Waterville	137	712	$32,300,000
Troy	Waterville	7	963	$36,950,000
Unity	Waterville	137	1,889	$73,200,000
Waldo	Belfast	7	733	$43,000,000
Winterport	Winterport	1A	3,602	$171,200,000

Sources: Maine State Planning Office and Maine Revenue Service.

B. Shopping Areas in the Waldo County Area

Town	Shopping Area	County
Belfast	Belfast	Waldo
Belmont	Belfast	Waldo
Brooks	Belfast	Waldo
Jackson	Belfast	Waldo
Knox	Belfast	Waldo
Liberty	Belfast	Waldo
Monroe	Belfast	Waldo
Montville	Belfast	Waldo
Morrill	Belfast	Waldo
Northport	Belfast	Waldo
Searsmont	Belfast	Waldo
Swanville	Belfast	Waldo
Waldo	Belfast	Waldo
Islesboro	Camden	Waldo
Lincolnville	Camden	Waldo
Rockport	Camden	Knox
Appleton	Camden	Knox
Hope	Camden	Knox
Amherst	Ellsworth	Hancock
Aurora	Ellsworth	Hancock
Bucksport	Ellsworth	Hancock
Dedham	Ellsworth	Hancock
Eastbrook	Ellsworth	Hancock
Ellsworth	Ellsworth	Hancock
Franklin	Ellsworth	Hancock
Gouldsboro	Ellsworth	Hancock
Great Pond	Ellsworth	Hancock
Hancock	Ellsworth	Hancock
Lamoine	Ellsworth	Hancock
Mariaville	Ellsworth	Hancock
Orland	Ellsworth	Hancock
Osborn	Ellsworth	Hancock
Otis	Ellsworth	Hancock
Sorrento	Ellsworth	Hancock
Sullivan	Ellsworth	Hancock
Surry	Ellsworth	Hancock
Trenton	Ellsworth	Hancock
Verona	Ellsworth	Hancock
Waltham	Ellsworth	Hancock
Winter Harbor	Ellsworth	Hancock
Frankfort	Winterport	Waldo
Prospect	Winterport	Waldo
Searsport	Winterport	Waldo
Stockton Springs	Winterport	Waldo
Winterport	Winterport	Waldo

Source: Maine State Planning Office

Appendix 2: The Wells National Estuarine Research Reserve

Laudholm Trust is a nonprofit organization formed in 1982 to protect Laudholm Farm. In the years following its initial success, the Trust has continued to support research, education, and management activities at the Wells Reserve. Trust programs increase public awareness of coastal watersheds and build community support for their protection. Laudholm Trust has about 2,500 members.

The Wells National Estuarine Research Reserve was dedicated on August 31, 1986, with a mission to investigate coastal environments and to enhance understanding of their ecology. The Reserve achieves its mission through original research, diverse education programs, and community partnerships. Reserve facilities are situated at historic Laudholm Farm and its activities are supported in part by Laudholm Trust.

Located in the heart of the Gulf of Maine, the Wells National Estuarine Research Reserve (Wells NERR) is the southern-most marine research and education institution in the State. Its 1,600-acre field laboratory and campus of facilities attract researchers (and new grant funds) in the study of ways to protect and improve coastal resources of Maine communities and beyond, including the following: documenting fisheries values of tidal marshes, improving the State's capacity to provide vital coastal watershed data and information to communities; conducting and coordinating estuarine research for the purpose of improving the understanding, health, and management of estuarine areas; and conducting long-term monitoring of short-term variation and long-term change in coastal ecosystems

Wells NERR is Maine's only NOAA-designated National Estuarine Research Reserve—a formal partnership between the State of Maine and this federal agency. It is part of a system of 26 National Estuarine Research Reserves located throughout the nation that works on relevant local and regional issues as well as on national, NERR System-wide education, research, and stewardship initiatives.

The Wells NERR is committed to investigating coastal environments and transferring that knowledge to resource managers and coastal decision-makers. Our scientists and educators participate in activities locally, regionally, and nationally that aid the goal of better stewardship of coastal and estuarine resources.

Through its partnerships with NOAA programs—such as the Cooperative Institute for Coastal and Estuarine Environmental Technology (CICEET) and the Coastal Services Center—the Wells NERR both initiates and facilitates research projects focused on the use of technology to monitor and analyze the current conditions and predict future changes to coastal ecosystems. These projects support scientists, students, technicians, consultants and vendors. A growing number of CICEET projects lead to commercial ventures, including a recent project funded by CICEET at the Wells NERR.

Wells NERR scientists have made, and will continue to make, significant contributions to key coastal and estuarine issues for Maine, such as water quality, non-point source pollution, fisheries habitat value, salt marsh restoration, coastal food web dynamics, invasive species management, and toxic phytoplankton. Wells NERR scientists and collaborators provide critical data to decision-makers charged with the management of Maine's coastal resources. Wells NERR science seeks to answer questions of near-term relevance to coastal decision-makers, which will enable them to help sustain and grow Maine's natural resource-based economy.

The Wells NERR education and research programs have molded a deep tradition for involving citizens and students in key investigations. We have a strong interest and commitment to providing science-based educational opportunities for the people and visitors of Maine through public programs, formal course offerings, workshops, and training programs. Our research program has a strong commitment to research training and mentoring at the undergraduate and graduate levels.

The Wells NERR Research Program pursues and supports projects focused on several related coastal science themes: the quality of water resources in estuaries and coastal watersheds; the relative influence of sea level rise and hydrologic alteration on coastal habitats; the value of tidal marsh as habitat for fish and shellfish; and restoration of tidal marshes degraded through human activity. We are now in the process of analyzing and synthesizing habitat imagery from underwater video and sediment profile imager, fish samples, and benthic invertebrate grab samples to determine patterns of correlation. The project involved the work of 4 fishing vessel captains and crew, four additional members of the fishing industry, two scientists, four research technicians, and 10 undergraduate interns, working both in the field and in the lab

The Wells Reserve has 13 FTE employees and operates on an annual budget of approximately $1 million, the bulk of which comes from the federal government in the form of research grants.

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