STATE OF VERMONT
AGENCY OF NATURAL RESOURCES
DEPARTMENT OF FORESTS, PARKS, AND RECREATION

LAND MANAGEMENT PLAN

KINGSLAND BAY STATE PARK

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Park Regional Manager
4/92 Updated 12/93

Approved: _____
Conrad M. Motyka, Commissioner Date

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PREFACE

THE PURPOSE AND OBJECTIVES OF LAND MANAGEMENT BY THE DEPARTMENT OF FORESTS, PARKS AND RECREATION

In addressing the natural resource needs of the people of the State of Vermont, the Legislature has established the Department of Forests, Parks and Recreation, as a part of the Agency of Natural Resources. A major assignment of the Department is the responsibility for management of lands acquired to fulfill these needs.

Consistent with legislative direction, and through a policy of economic management of its lands, the Department will protect, conserve and enhance resource qualities and provide recreational opportunities, timber products, varied plant and wildlife habitat, clean water, and natural beauty for the enjoyment and use of the people of the State.

Management of public land will be in accordance with the interests of the people of Vermont, as expressed through the democratic process, and through a systematic assessment of needs. Decisions will consider both public needs and inherent resource capabilities, through application of interdisciplinary review by a staff of professional personnel.

Public ownership shall complement private ownership by fulfilling needs which are not readily met by the private sector. The continuity of public ownership provides the opportunity to meet long-range goals and objectives, an assurance of public access to diverse natural resources, their

availability for use by future generations, and the opportunity for research, education, and study for the enrichment of society.

Public management shall be consistent, yet flexible enough to adapt to changing public needs, technological advances, and relevant economic conditions. The Department recognizes the legislative charge to manage for the purposes implied by its title and jurisdictions: the forest, recreation, and natural areas of the State, but will consider and incorporate all other values consistent with expressed goals and policy.

To achieve the Department assignment of fulfilling resource needs through state lands stewardship, the Department will be guided by the following objectives:

A. To manage the land for the greatest benefit of the people of the State, consistent with the capability of the resource, under the concept of integrated use, while favoring the highest and best use, by:

   1. Establishing land-use definitions, categories, objectives,
   2. Identifying resource capacity through an inventory process,
   3. Assessing and integrating public needs,
   4. Establishing an input process by other divisions and departments, individuals, and special interest groups,

5. Developing long-range plans and goals for the land,
6. Formulating work plans which outline specific tasks to be achieved over a 15-year period,
7. Reviewing and updating plans regularly,
8. Establishing a method of monitoring progress on plans, and,
9. Continually reviewing the public land ownership pattern, and making recommendations with respect to acquisition and/or disposition of property.

B. To protect the resources by:

1. Identifying for acquisition those lands needed to enhance or protect existing State ownership.
2. Identifying and recommending acquisition of lands which have outstanding scenic quality, vital ecosystems needing preservation, vulnerable habitat or landforms,
3. Devising and implementing a fire protection plan,
4. Reducing insect and disease damage through silvicultural practices, or where necessary, other appropriate techniques,
5. Implementing the best erosion control measures feasible in all activities,
6. Including educational efforts in all plans to encourage knowledgeable public use of the lands,

7. Monitoring all uses of State lands to ensure protection of the resource and to revise or adjust uses as needs demonstrate,
8. Locating and marking all property lines to maintain the integrity of the property, and
9. Designing facilities which direct use to areas most suited to certain activities.

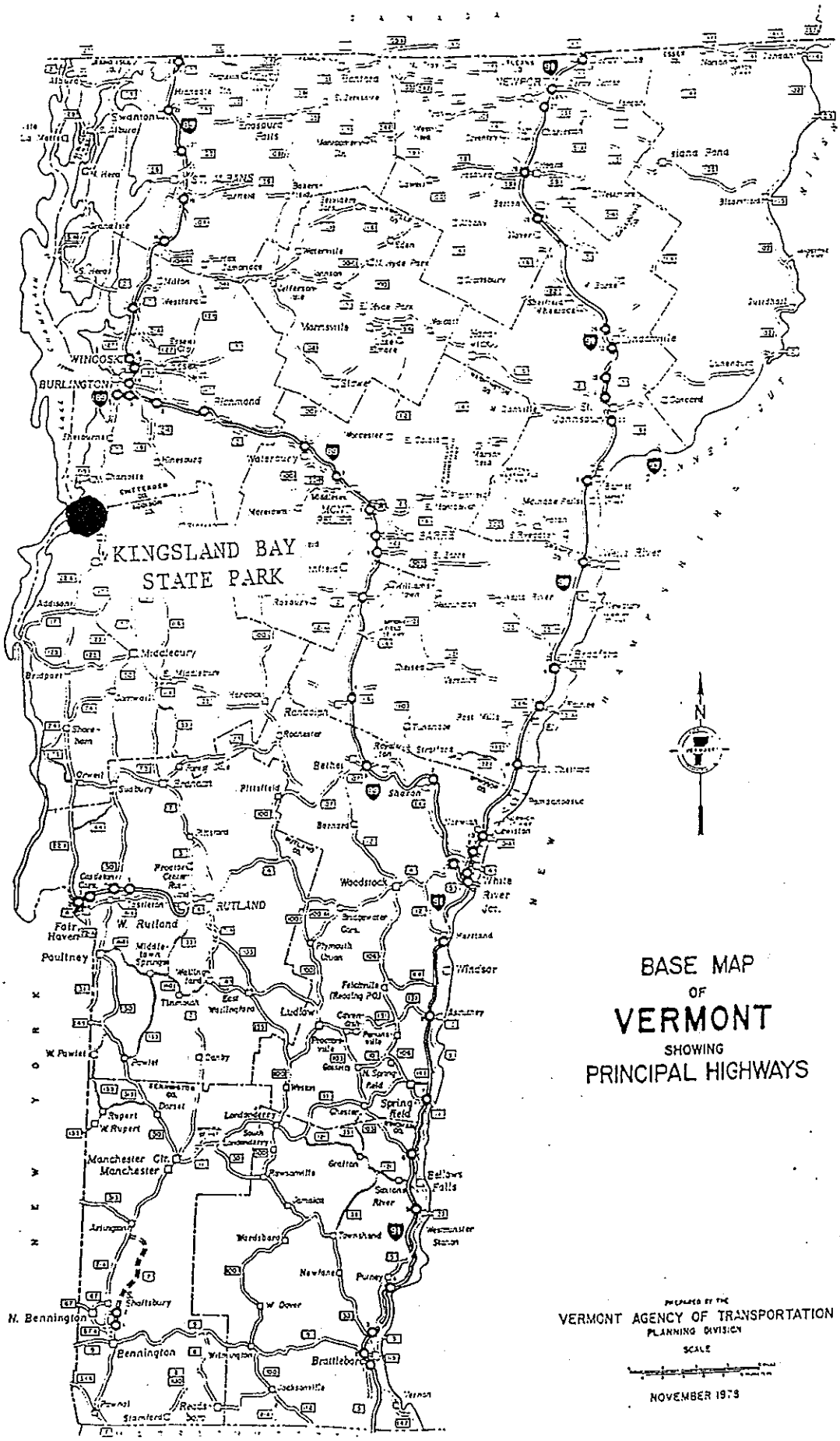
C. To provide a suitable variety of service and products by:

1. Developing outdoor recreational opportunities such as campgrounds, beaches, trails, picnic areas, and other facilities, where compatible with the resource and where need is demonstrated,
2. Harvesting the timber growth through an orderly sales program, to provide fuelwood, logs, pulpwood, and other marketable forest products, based on a sound silvicultural management system,
3. Maintaining enhancing, and creating a variety of wildlife habitat,
4. Acquiring and developing access for public use of State lands,
5. Allowing limited special uses through a permit system, where such uses are clearly beneficial to an individual or group, and fully compatible

with the primary objectives of the parcel, and,

6. Administering all leases in a professional and timely manner, demonstrating appropriate and constructive attention to natural resources, viability of private sector interests, economics and the general public good.

The following land management plan has been prepared consistent with stated objectives under the concept of integrated use, a strategy of land management which considers public need and the capabilities of the land to meet these needs, and favors the highest and best use or uses. Compatible uses shall be recognized, and as conditions and needs change, uses may be changed. Properly implemented, this multiple use concept maximizes benefits and avoids environmental deterioration.



BASE MAP OF VERMONT SHOWING PRINCIPAL HIGHWAYS

PREPARED BY THE
VERMONT AGENCY OF TRANSPORTATION
PLANNING DIVISION

SCALE

NOVEMBER 1973

KINGSLAND BAY STATE PARK

LONG RANGE MANAGEMENT PLAN

GENERAL DESCRIPTION

Kingsland Bay State Park is composed of three parcels of land along the shore of Lake Champlain. The first parcel of 130 acres with a half mile of shoreline along Kingsland and Hawkins Bays, was purchased in 1976 and included the historic Hawley House and the remains of the L'Ecole Champlain summer girls' camp. The second parcel of 136 acres with a mile and a half of shoreline, referred to as the Hurlbut property, was acquired in 1988. The third piece was purchased in 1993 through funding of the Vermont Housing and Conservation Board. The parcel included 21.4 acres with an additional 325 feet of shoreline. This property has operated as the Kingsland Bay School (an alternative school for wayward youths) and was once part of the girl's camp holdings. The school has until May, 1994 to vacate the property.

Historically, Lake Champlain has played an important role as an inland waterway in the early days of exploration and settlement. Ownership of the present park lands date back to the 1780's, with construction of the stone Hawley House by Gideon Hawley. Legend has it that the stones for the house came from the ruins of Fort Ticonderoga, which was dismantled and used in other stone buildings in the region. If this is

so, the stones are assumed to have been dragged across the lake on the ice by horse or oxen.

Ferry lines on Lake Champlain were common in the 1700s. One operating from Hawleys (Kingsland) Bay to Grog Harbor, New York, was first powered by sail and wind power, then later by horse-turned treadmill along a line across the lake. The Hawley House probably served as a inn for overnight guests, especially when the weather was not conducive to lake travel. The second floor served as a ballroom for neighborhood dances and festivities. During the War of 1812, militia were housed at the Hawley House.

The land passed to the Kingsland Family in 1849 and operated as a family farm for the next fifty years. At the turn of the century, it was purchased and used as a monastic retreat with the wooded bell tower added to the Hawley House.

From 1924 until 1974 the property was L'Ecole Champlain, a girl's summer camp which specialized in teaching French, arts, crafts, horsemanship, and outdoor recreation. In the last few years of private ownership, it was used for summer camping, a restaurant, an alternative school, and cooperative farm.

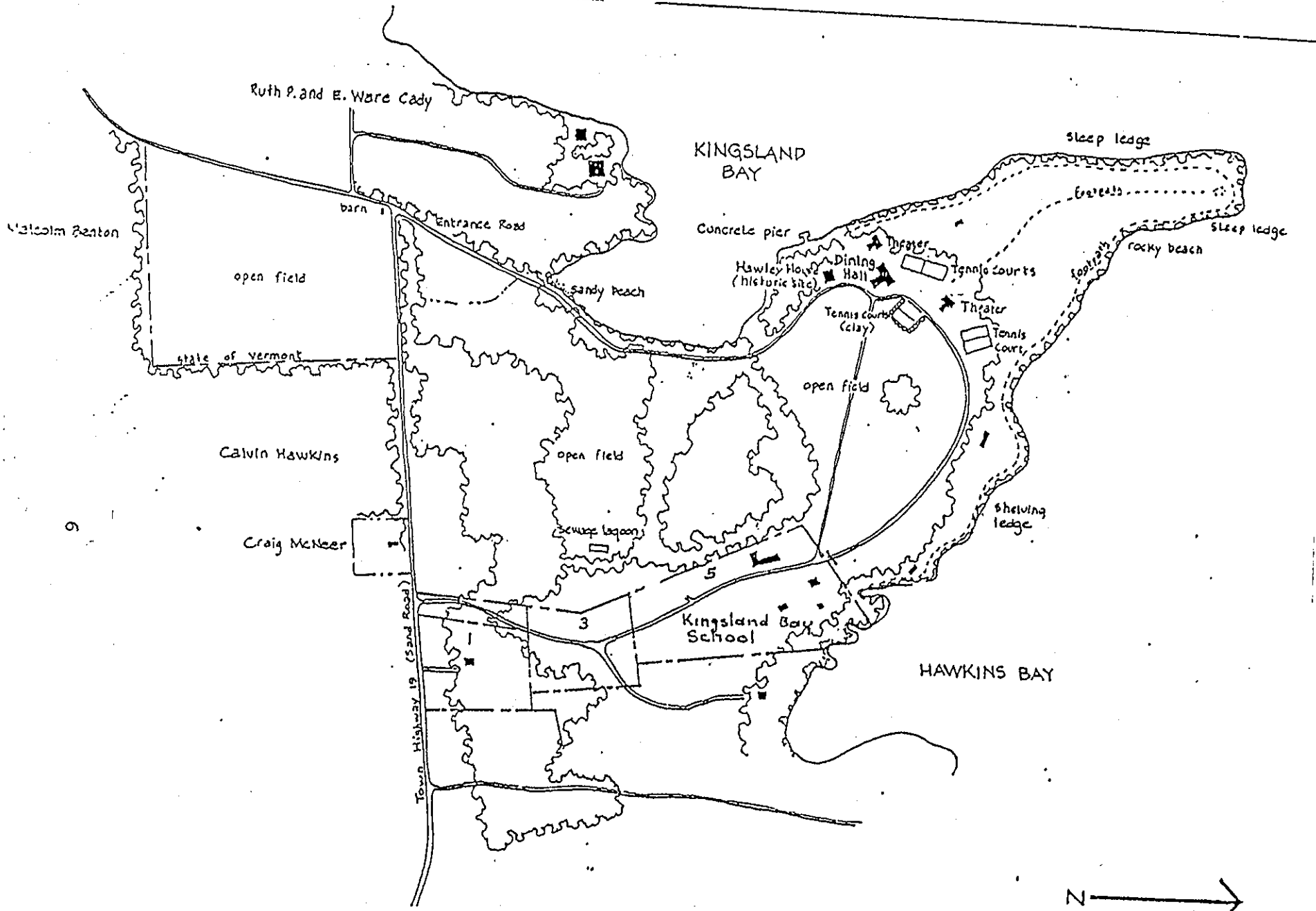
The L'Ecole property was purchased by the State of Vermont on October 21, 1976. In April of 1978, the Hawley

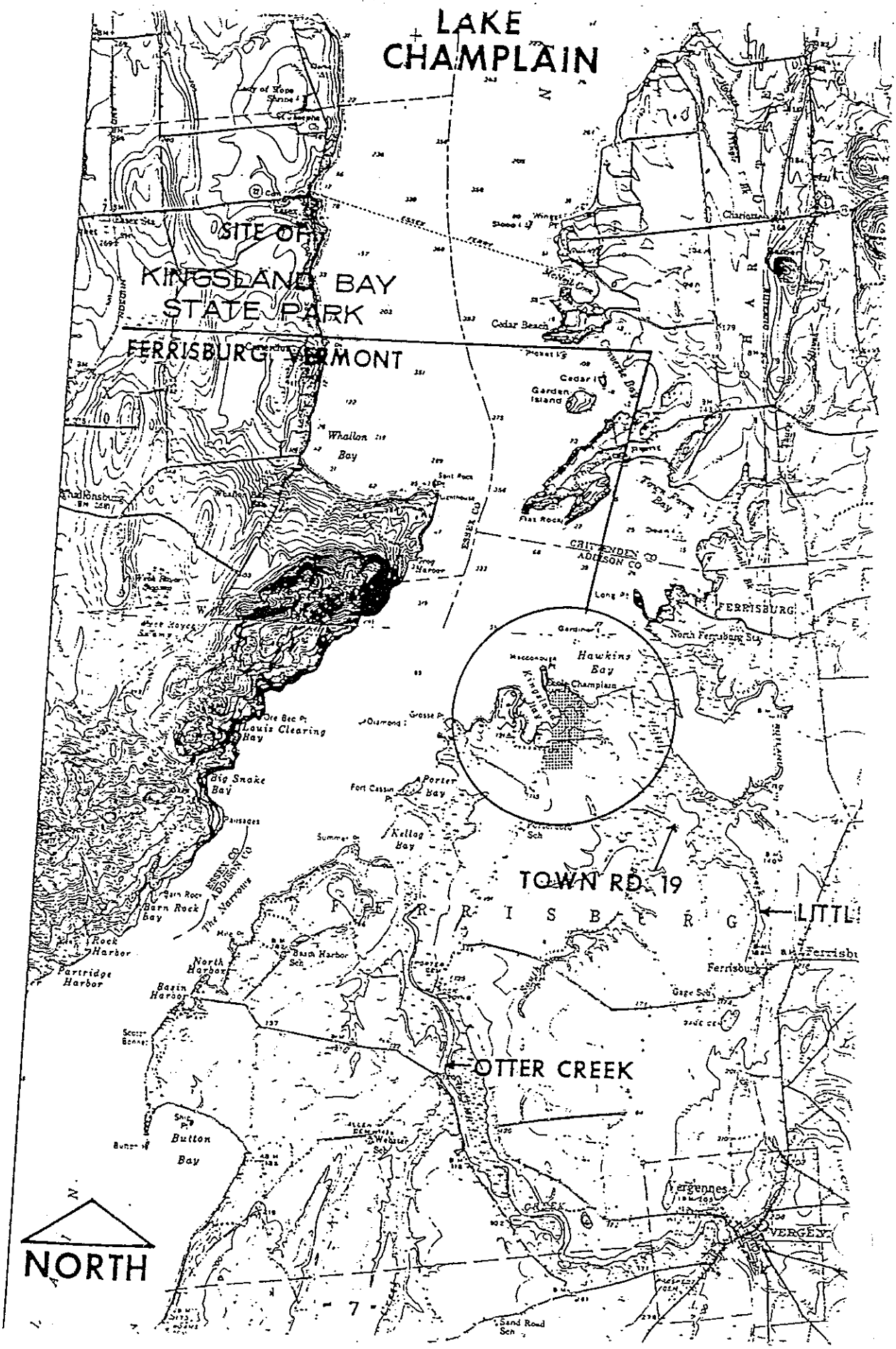
House and 500 feet of land surrounding the building was added to the National Historic Sites Register. A 1980 master plan for the area included a fish hatchery. The study concluded that with a large hatchery, "nestled into the rock ledge and mostly buried in, and covered over by, an earth berm planted with grass and foliage, the natural beauty of the environs would be preserved". Strong public interest and concern over this site location and of the effects of the hatchery discharge in to the bay resulted in relocation of the hatchery to Grand Isle.

Little has been done to change the character of the area since it became a state park. Many of the summer camp cabins have been removed. There are two theaters, the large "restaurant"/meeting hall, the white house, the old toilet building (unused) and two storage buildings, as well as the three houses and a barn on the school property. Some of the buildings have been rewired, most have been re-roofed, and some restoration has taken place including the replacement of the porch on the Hawley House. MacDonough Point, a 13 acre peninsula jutting out between Kingsland Bay and Hawkins Bay has been designated as a state natural area.

The school property containing a main house, two guest houses, and a barn will be evaluated for maintenance needs and future use once the school vacates on or before May, 1994.

The 287 acre park is basically set aside to preserve the natural qualities of the area, provide outdoor recreational opportunities and access to Lake Champlain.


Ruth P. and E. Ware Cady
KINGSLAND BAY
Sleep ledge
Malcolm Benton
barn
Entrance Road
Concrete pier
Theater
Dining Hall
Hawley House (historic site)
Tennis courts
Sleep ledge
rocky beach
open field
sandy beach
Tennis courts (clay)
Theater
Tennis court
state of vermont
open field
Calvin Hawkins
open field
Craig McNeer
sewage lagoon
shelving ledge
Kingsland Bay School
Town Highway 19 (Sand Road)
HAWKINS BAY
N
KINGSLAND BAY STATE PARK
EXISTING CONDITIONS
SCALE: 1" = 150'


LAKE
CHAMPLAIN
SITE OF
KINGSLAND BAY
STATE PARK
FERRISBURG, VERMONT
Whallon Bay
Cedar Beach
Garden Island
Hawkins Bay
FERRISBURG
Kingsland Bay
Louis Clearing Bay
Big Snake Bay
Porter Bay
Kellog Bay
Barn Rock Bay
Rock Harbor
Partridge Harbor
North Harbor
Basin Harbor
Button Bay
TOWN RD. 19
FERRISBURG
OTTER CREEK
Vergennes
NORTH

PUBLIC INVOLVEMENT

The Department of Forests, Parks and Recreation seeks public contribution to its planning process. The Department regards its statutory mandate to manage State lands (10 VSA, Section 2601) as authority to manage on behalf of the owners (the public). The public involvement process requires gathering input from the public, through public meetings, advisory committees, written comments and dialogue with special interest and user groups.

Over the years since the Kingsland Bay property was first acquired, various forums of public involvement have occurred. From a steering committee report in July, 1980 to a more recent public involvement meeting in December, 1990 (Steering Report and Hearing Comments, Appendix) the overwhelming consensus has been that the area remain relatively undeveloped, with its main purpose to provide and protect the access to over two miles of Lake Champlain shoreline. With this mandate in mind, the future of Kingsland Bay State Park unfolds.

To future plan and develop the facilities, a "Friends of Kingsland Bay" committee has formed. The group is composed of neighbors, town residents and other park users and supporters. They have met off and on, almost monthly, for the past two years, to discuss and advise the department regarding such subjects as the composting toilet, the school purchase, the

docks, etc. They are involved in fund raising to supplement the acquisition funding, as well as restoration of the Hawley House. Future long range planning will further involve this group in the direction this park will take.

EXISTING CONDITIONS & PLANNED MANAGEMENT ACTIVITIES

Recreation

Kingsland Bay State Park presently operates as a day use facility. There is a small picnic area with tables and grills, a new composting toilet (constructed in 1993 replacing the pit toilet) and limited swimming off the pier. Fishing, boating, and sailing in Lake Champlain are popular activities. The bay is fairly deep and sheltered from the main lake and therefore offers secure harbor for many small boats.

The "restaurant" building is often reserved for weddings, family reunions, and other large gatherings including the Champlain Valley Festival which was last held in August, 1992 (Moved to Burlington in 1993, future unknown).

McDonough Point Natural Area provides hiking opportunities along a trail that follows around the peninsula, on a bluff 15 to 20 feet above the rocky shoreline. The Hurlbut property provides less defined hiking and at present is used by a church summer camp for two weeks in July.

Tennis courts, volleyball, basketball and open areas for softball and other outdoor activities are available.

The Burlington YMCA has operated a summer day camp since the summer of 1992, providing 125 kids with a day camp experience including archery, boating, swimming, nature study, crafts and a variety of other summer camp activities.

Swimming in Kingsland Bay should be de-emphasized. Past plans for the creation of an artificial pool by constructing a large berm in the bay would be both expensive and would destroy the aesthetics of the area. The present cement pier is structurally unsound and must be either repaired, replaced, or removed (historical significance will determine the fate of the structure). Removal of the pier, in part or whole, with additional wooden decking and/or floating docks added, would improve the swimming. Another alternative swimming area that once served the girls camp, is that area on Hawkins Bay, behind the white house. This area is used by the YMCA camp for boating and swimming. It is a shallow, sandy area, extending out from the rocky shoreline, and is somewhat sheltered from the main lake. The camp provides a ramp/dock out over the rocky shoreline to allow easy access to the lake for swimming and boating. This area, as well as the cove behind the school property, may serve the general public as a better facility for swimming/boating and general day use activities. This would shift the emphasis away from the present day use area around the Hawley house, allowing for Group activities to continue in and around the building complex and shift the general public day use activity to Hawkins Bay.

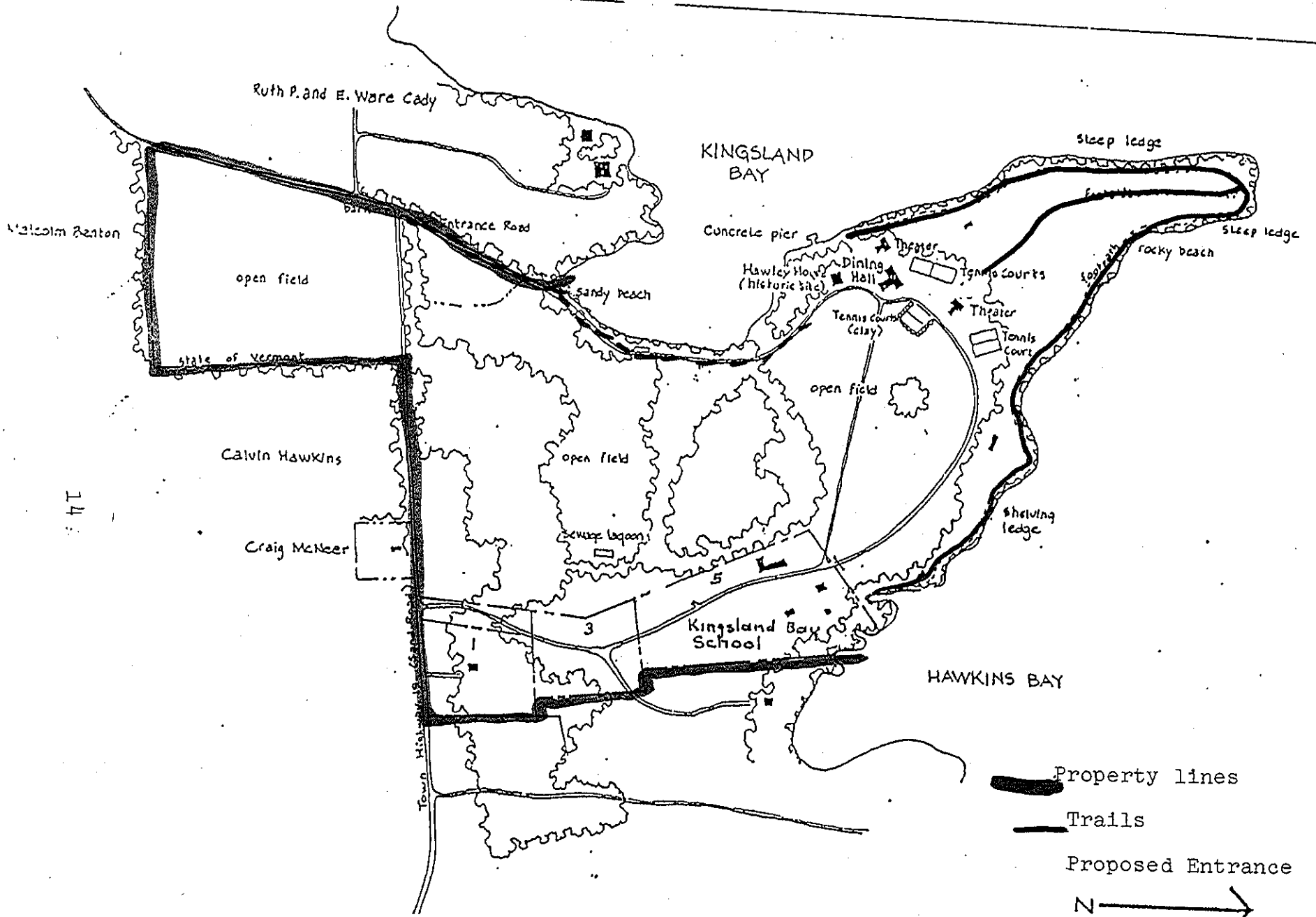
Mooring of boats in Kingsland Bay has been and continues to be a problem. There are four options in addressing the problem. First, ignore the situation by accepting it as an

appropriate use of the area. Second, manage the area using existing trespass regulations on state lands and not permit access to land from moorings unless the day use fee is paid. Third, petition the Water Resources Board to prohibit moorings in the bay except for shoreline owners and overnight anchorages. And fourth, apply to the Water Resources Board for authority to establish a mooring management zone thus gaining jurisdiction over how many moorings and where. This will require town support as the law allows the Board to grant this authority to the towns. It is this fourth option, a mooring management zone, that should be considered in the near future.

The Hurlbut property should be designated as a group and/or remote walk-in camping area of seven to ten sites. By regulation, this differs from primitive camping in that the camping area locations are specific and may include pit toilets, fireplaces, tables and/or leantos on the sites. These sites will be accessible only by foot. All equipment, supplies, food, and rubbish generated from their consumption or use shall be removed on departure. Fires may be restricted, especially during high-fire danger times. To conform with deed restrictions, all sites will be at least 100 feet from the shoreline. The area also has some potential as a "natural area" designation.

The present access road through the Hurlbut property will provide walk-in access to the sites. Future development beyond the designating of sites with fireplace and table may include construction of leantos, which are roofed shelters closed on three sides, open on the fourth, with a ten by thirteen foot wood floor for sleeping.

Use of remote campsites is only by reservation or permit, upon payment of a fee, coordinated through the regional office or park ranger during the operating season. Unauthorized camping will be prohibited.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open field
sandy beach
Theater
Tennis courts (clay)
Tennis Court
state of Vermont
open field
Calvin Hawkins
open field
Shelving ledge
Craig McNeer
Sewage lagoons
5
3
Kingsland Bay School
HAWKINS BAY
Property lines
Trails
Proposed Entrance
N
KINGSLAND BAY STATE PARK
EXISTING CONDITIONS
SCALE: 1" = 150'

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BASE MAP

Septic Systems

The predominance of silty-clay soils on most of the park property has been a problem in providing an adequate septic system. Past failings of previous owners can be directly associated with this problem. Conventional subsurface septic tanks with leach fields are unsuccessful. There were three alternatives to this problem.

One involves major capital expense in both the construction and operation of a sewage lagoon and spray system, similar to the facility at Button Bay State Park south of Kingsland Bay. This system must allow for adequate land for a holding lagoon of chlorinated liquid effluent as well as a fenced off field or wooded area where the effluent can be routinely sprayed. Not only are there considerable construction costs but there are operational costs including licensed operators, testing and monitoring, as well as operational man hours involved with the routine spraying.

The second option was to improve the existing "pit toilet" facilities. Design standards for pit toilets presently provide a better facility than the typical old privy. These standards can be applied to a pit toilet facility at Kingsland Bay. Unfortunately, public acceptability may still deter usage.

The third option, and perhaps the best option, considering the previous two proposals, was the use of

composting toilet facilities. These facilities will meet the needs of sewage disposal as well as provide an acceptable facility as perceived by the public.

During the summer of 1993 a new building was constructed containing two composting units that will service an eight-stall toilet facility. Grey water disposal from lavatories within the facility will be piped into a large contained flower garden for leaching purposes. It should be fully operational for the summer of 1994. This will eliminate the need for the "pit toilet" as well as the port-a-toilet rentals used by the YMCA summer camp. Previous field research and testing determined that an adequate perk of the soils in the vicinity of the white house would allow for a septic system in front of that house, that would accommodate the typical household needs of a live-in ranger. Septic problems with the Kingsland Bay school have existed in the past. Future use of those buildings will determined based on the potential for septic.

Vegetative

The 287-acre park consists of both forested and abandoned pasture land in various stages of succession. Much of the pasture land has not been tilled for many years but sheep, cattle and horses have grazed the area. There is at present an agricultural license agreement on 52 acres used for pasturing horses and hay and/or corn production.

Portions of the pastureland are succeeding to eastern red cedar, northern white-cedar, and eastern white pine. Other areas have nearly impenetrable patches of prickly-ash.

The forested areas are generally ledgy, shallow soiled, and too steep for agricultural use. Hardhack, white-cedar, and eastern hemlock occupy most of the shallow bedrock areas, while white pine and mixed hardwoods dominate the more productive areas.

The forest consists of hardwood species including hickory, maple, birch, ash, oak, aspen, elm, basswood, and locust; softwood species including cedar and pine; and shrubs including hawthorn, sumac, honeysuckle, raspberry, barberry, buckthorn and juniper (Tables of trees and shrubs, appendix). The forest is unique in that many of the trees are generally older and larger than in other forested areas in the vicinity.

Aquatic surveys of the bay indicate little aquatic plant life because of the steep, rocky shoreline where few plants are capable of growing. The troublesome Eurasian milfoil has, however, been found in both the bays. (Aquatic survey, Appendix)

A "Natural Community" is a term used by Natural Heritage Program ecologists to describe a concept of plant and animal communities and their respective physical habitats. A natural community is thus an area which has certain physical characteristics that unify it and make it different from other

areas and has a community of plants and animals that are characteristic of that kind of habitat.

Community types that have been identified at Kingsland Bay include "Temporal Pools" which are small woodland depressions, isolated from other surface water, that flood in the spring and sometimes in the fall but are dry during the summer. They are important breeding areas for amphibians and certain aquatic invertebrates. "Lakeside Calcareous Outcrop" communities are on marble, limestone or other calcareous rocks, and are often on ridge tops that are very dry and sparsely vegetated. "Cobble Shores" usually are made up of cobble, gravel or shale larger than one inch in diameter and are dry during the growing season and sparsely vegetated. "Very Rich Lake" communities are eutrophic systems with abundant plant growth. The water is usually green with algae and a deep organic muck bottom. A "Deep Rush Marsh" is dominated by bulrushes with other emergents often common (arrowhead and pickerelweed). There are "Dry Oak Hickory Forests" made up of red, white and other oaks and hickories, with white cedar and white pine common, usually growing on calcareous bedrock. "Hemlock Forests" occur as microsites in gorges and steep cool slopes within northern hardwood forests and are dominated by hemlock with other hardwood species present. "White Cedar Bluffs" are found on shallow soiled rocky outcrops. "Hayfield" communities are a result of past

or present agricultural tilling to maintain the grass and annual/perennial weed plant inventory.

All these communities have been identified in a 1989 Vermont Natural Heritage Program inventory of the area. Four plant species that are rare in Vermont but found on MacDonough Point include Water Hemp (Amaranthus tuberculatus)on the east side of the east arm of Kingsland Bay, Marsh Horsetail (Equisetum patustre) east of MacDonough Point on the shore, Border Meadow-rue (Thalictrum venulosum) in small coves along the shore on both the east and west side of the Point, and Canada Buffaloberry (Shepherdia canadensis) along the bluff of the point. Buffaloberry, Meadow-rue and Water Hemp are presently restricted to the Lake Champlain valley. Water Hemp, Horsetails and Meadow-rue occur in pockets of cobble shoreline and Buffaloberry is found on the bluffs above. The limy woods provide habitat for Ram's-head Lady's-slipper (Cypripedium arietinum), a globally threatened orchid, which grows along the western edge of the Hurlbut property shoreline. All these species would suffer from trampling as a result of heavy recreational use.

Two uncommon plants have been identified on the Hurlbut property, fragrant sumac (Rhus aromatica) and walking fern (Asplenium rhyzophllyum). A more detailed survey of the area should be made once designated remote campsites are determined to avoid any impact to potential rare species or sensitive communities.

Vegetative management of the entire park should include maintaining those open fields now present through mowing, grazing, brush-hogging, and/or burning. Likewise, those fields that have begun to grow in need to be cut, mowed and maintained. Presently only about half of the one hundred acres of pastureland is maintained through an agricultural license, thus interest in the remaining acreage should be pursued. Forested areas except within the Macdonough Point Area, could support some limited firewood and fence post cutting, as well as some vista enhancement and hazardous tree reduction.

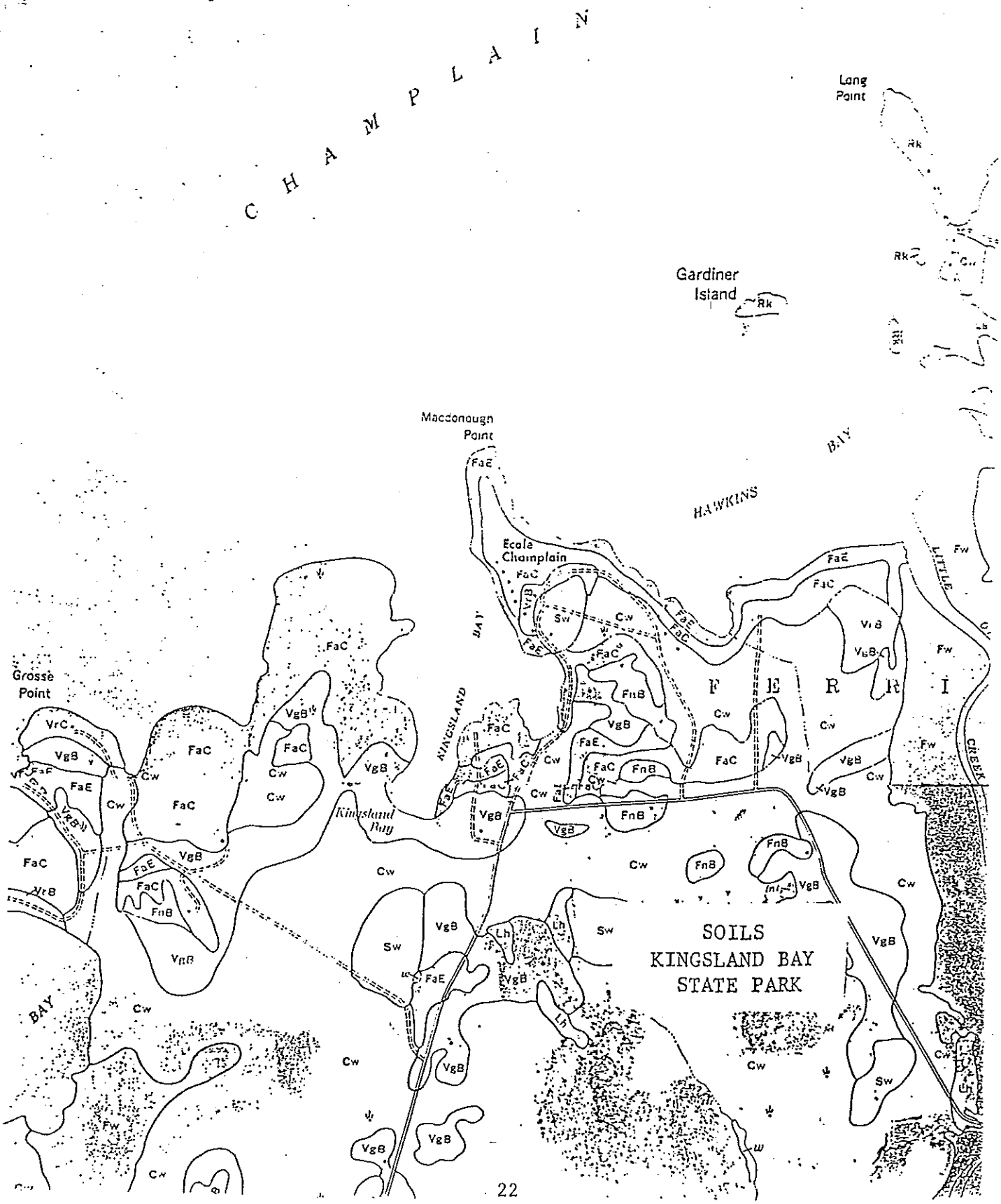
The Point should be maintained as is, as a natural area, including dead and down, snags and den trees. The trail along the bluff around the Point should be maintained and/or upgraded with recreational activity encouraged only along that trail, and discouraged elsewhere, especially along the more sensitive shoreline.

Soils

Much of the greater Lake Champlain region has been effected by the glacial and post-glacial periods in geologic time. The glacier rounded off the ridges and scoured the valleys. Overlying the bedrock is till deposited by the ice, sediment deposited by what was Lake Vermont as well as marine sediment from the sea following deglaciation. Much of the area soil is a result of glacial and marine clays and soils

(Covington and Panton silty clays:Cw) as well as redeposited clays, silts and sands (Swanton fine sandy loams:Sw). At higher elevations on the bedrock knolls, are soils formed from underlying glacial till (Farmington extremely rocky silt loams:Fac). Much of the Hurlbut property is this soil type of moderately deep variant, gently sloping to very steep (5-20%), loamy soil, underlain by limestone or shale and normally well drained. This limits development due to soil depth to bedrock. Most of the clay soils are poorly drained, sticky when wet and hardpan when dry, and therefore are poor for trails, travel lanes or parking areas. Most of the open area east of the Hawley house contains these clay soils. These soils likewise severely limit any development. Any road or parking development must include a supplemental gravel base application.

Soils Map


CHAMPLAIN
Lang Point
Rk
Gardiner Island
Rk
Macdonough Point
FaE
BAY
HAWKINS
Ecole Champlain
FaC
VrB
Sw
Cw
FaE
FaC
Fw
LITTLE
CREEK
Grosse Point
VrC
VgB
FaC
FaE
VrB
Cw
KINGSLAND
BAY
Kingsland Bay
FnB
F E R R I
VgB
Lh
Sw
SOILS
KINGSLAND BAY
STATE PARK
BAY

EXISTING FACILITIES & PLANNED MANAGEMENT ACTIVITIES

Hawley House

This two hundred year old building will always stand out as the focal point of the park. It represents one of the few remaining buildings associated with the 18th century history of the lake region. Restoration of the building has only just begun. A new porch, that surrounds the entire stone structure, was completed early in 1992. It is hoped that within the near future, with its inclusion on the list of National Historic Sites, both financial and technical assistance will help in the restoration of the building. (Refer to Historic Structure Report, Burley, 1987)

There are many possible uses of the Hawley House. Septic limitations again effect its use, but several issues can be addressed. The building could serve as a historical/ cultural/archaeological/maritime museum, focusing on the past, present and future of the lake region. It could provide for a visitor center, public meeting and/or classroom, as well as staff offices and quarters.

The complex, including the Hawley House, has great potential as an Environmental Education Center. Historic as well as natural history of the area provides unlimited potential for a wide variety of programs and workshops for all age groups. This facility could be operated either jointly,

or in cooperation with any number of organizations including the Champlain or Basin Harbor Maritime Societies, Vermont Historical Society, local historic chapters as well as area colleges and universities.

Theaters

The two theater buildings that remain on the site are suitable for summer theatrical productions. The potential for stage productions, in cooperation with local dramatic groups or the Vermont Council on the Arts, could not be more ideal. The Champlain Valley Arts Festival has in the past used the facilities. The summer camp uses one of the buildings for indoor recreation, arts and crafts, etc.

Restaurant

The so called "Restaurant" has been used for weddings, family reunions, and other large group gatherings. The capacity of the building is around one hundred and fifty people, at tables with chairs. Some renovation of the building has been accomplished. Facilities should include adequate cold storage, and a stove for cooking/heating food.

Pumphouse

The building referred to as the pumphouse, is a brick building once used for storage. It presently houses the water works including storage tank and chlorination system

(relocated from the old storage building/garage that was demolished in 1993).

Storage Building

This building has served as a storage facility with added workshop capabilities, and once the school property is evaluated, this building may no longer be needed as the barn will service storage needs. This may be used by the YMCA for office and camper activities, freeing up the theater for other group functions. Demolition of the building may likewise be an option considering the large storage space available in the barn.

White House

This shell of a building served as a rest room and common gathering room for the old camp. Currently, the building is being used by the YMCA as a crafts and activities building as well as changing area for the swim groups.

Main House

The main house at the school property presently houses most of the Kingsland Bay School students. It has potential as an in-residence facility for the park ranger. Presently, all staff must commute to the work site, living outside the park. This would provide added security to the facilities. The house is large and would provide space for park office, a

ranger/family residence, as well as other functions such as YMCA office space (presently in one of the theaters), a group meeting room, or park store/concession.

Barn

This large barn will serve the maintenance/storage needs of both the park as well as regional maintenance operation. It may provide off-season storage capacity for vehicles, mowers and other equipment from throughout the region.

Guest house

The small residence next to the main house would likely serve as staff quarters for any other park staff in need of on-site housing.

Ranch House

This residence facility outside of the park entrance could be used for staff or rented as a weekly/monthly/ permanent residence. Because of its location, its value to the park would best be served as a rental unit, as an income generator for the park. Grant conditions require that any rentals be leased as affordable housing.

Tennis Courts

Two paved courts and several clay courts are located around the complex. The clay courts have not been maintained

and have grassed over. The paved courts were resurfaced twice since the park was acquired (latest in 1993). Routine and on-going maintenance is required of the courts.

Roads

The location of the present road system has served the needs of the park at its present stage of development. To better serve the park, improve the approach off Hawkins Road, and remove the present access along the shoreline, the entrance road should be moved back to its old location through the school property. The approach along the shoreline to the park would then become a path for walking/horseback riding. The old roadway base connecting the school with the park is still evident through the field and would require upgrading. A contact station which serves as fee collection/ registration/information point, would then be constructed either just off Hawkins Road on the school access road or further in near the main house.

Access to the Hurlbut property should remain as at present. A parking area just off the town road, from the present access point, would allow hikers, fishermen, campers, and hunters access to the area. A gate would restrict passage beyond that point, but the access road into the area would be maintained for service accessibility.

Parking

Parking at present is rather undefined. Parking along the rail fence and on the sides of the access road has been adequate. To better define parking, buffer zones of tree plantings would create small, delineated areas of dispersed parking. If the day use area is shifted to the White house area, then small delineated areas would then be created to de-emphasize the parking in that area.

Trails

The present trail, starting near the building complex, follows the shoreline along the bluff, around MacDonough Point to Hawkins Bay, and ends just behind the white house. The first half of the trail is well used, with most hikers then returning down the old bridle path that bisects the point to the complex. The second half is less used and has grown in to some extent.

Upgrading the trail, wood chipping some areas, brushing, adding steps, water bars, railings, and re-locating the trail as needed, away from sensitive areas, will improve the hiking opportunities. Marking the trails will discourage off trail activities and protect the sensitive nature of the area. Shoreline access should be restricted with only an occasional defined access point defined to discourage shoreline bank erosion. Distinct vistas should be maintained and benches placed appropriately to take advantage of the view. A

narrative trail guide describing points of interest along the trail should be developed and printed.

Less defined trails on the Hurlbut property should likewise be upgraded and marked to discourage off-trail activity as well as restrict impact on the area.

CONSTRAINTS

Deed Restrictions

There are certain expressed conditions and limitations with the Hurlbut property (Lease/Deed, Appendix). Members of the Hurlbut family have access to a site within the parcel to be used for camping/recreational activities. There shall be a one week's notice, limited to family members, of less than 9 in number, 2 of which are 21 or older and abide by State Primitive Camping Regulations.

The property shall forever be held in public ownership and used for scientific, educational, recreational and aesthetic purposes. There shall be no structures, roads, or campsites constructed on the property within 100 horizontal feet of the shoreline (mean high water), except for trails, benches, fences, steps, or a small boat launch area. There shall be no marinas or moorings, no fish hatchery, no alteration of rare plant sites, or private/commercial use except for limited portions used for a concession or other use incidental to the operation of the park.

Various easements are granted to Green Mountain power for utility lines.

There is a right-of-way along and off from the Kingsland Bay school access road for ingress and egress and utilities to the Ransford property. The maintenance of the road to be shared between the state and the Ransfords. A separate right-

of-way/access road to that property may be considered in the future.

Grant Conditions

Any leases of buildings on the school property as private residences shall be leased as affordable housing, except for short term leasing to park employees. The state shall contact regional housing organizations to fulfill this condition.

Archeological

A preliminary evaluation of the archeological resources of the area was performed in September of 1984. This involved an intensive walkover after plowing and harrowing a large part of the open field area, close-interval subsurface testing of peripheral areas and along the access road, and an intensive underwater survey of the Bay. The area around and adjacent to the Hawley House, may include old dump sites and privy holes with evidence of the inn, residence, militia post, and farm; the ferry landing, and the log cabin site (location unknown) where Charles Hawley lived while building the stone house. The only other significant prehistoric site was an area (VT-AD-324) located within a 600 square meter area along the eastern edge of the property. Bone fragments, flakes and fragments, a projectile point and other artifacts were found in the area. All other areas produced no evidence of significant prehistoric or historic cultural activity. There

were no submerged sites; either sunken vessels or artifact deposits related to the ferry operation found in the bay. No structural remains or refuse deposits were encountered in the plowed fields or in test pits.

The area (VT-AD-324) that has the most concern may represent one component of a larger settlement of prehistoric groups of western Vermont. This may represent one of the first early sites identified along the lakeshore between Little Otter and Otter Creek. From the Preliminary Report, this site is as good or better than most other sites in Addison Country and includes a wider variety of artifacts. The recovery and further interpretation of the area could lead to a better definition of the site age, which is critical in reconstructing the settlement patterns of the native Americans living in Vermont in the last 12,000 years.

Historically, the most important sites have been found along the river banks leading into Lake Champlain, but based on findings in the area, the shoreline of Kingsland Bay exhibits at least moderate archaeological sensitivity.

Agricultural License

There is presently an agricultural license (092-00-LA-88-Carl Cole) which involves five parcels of land totaling approximately fifty-two acres to be used to pasture horses, hay production, and tillage crops. Included in this license is the use of the barn and attached shed at the entrance to

the park. Licensee is required to maintain the barn, provide the state with up to one hundred bales of hay, mow the park lawns until the park staff returns for the season, and keep the roadsides and fields mowed.

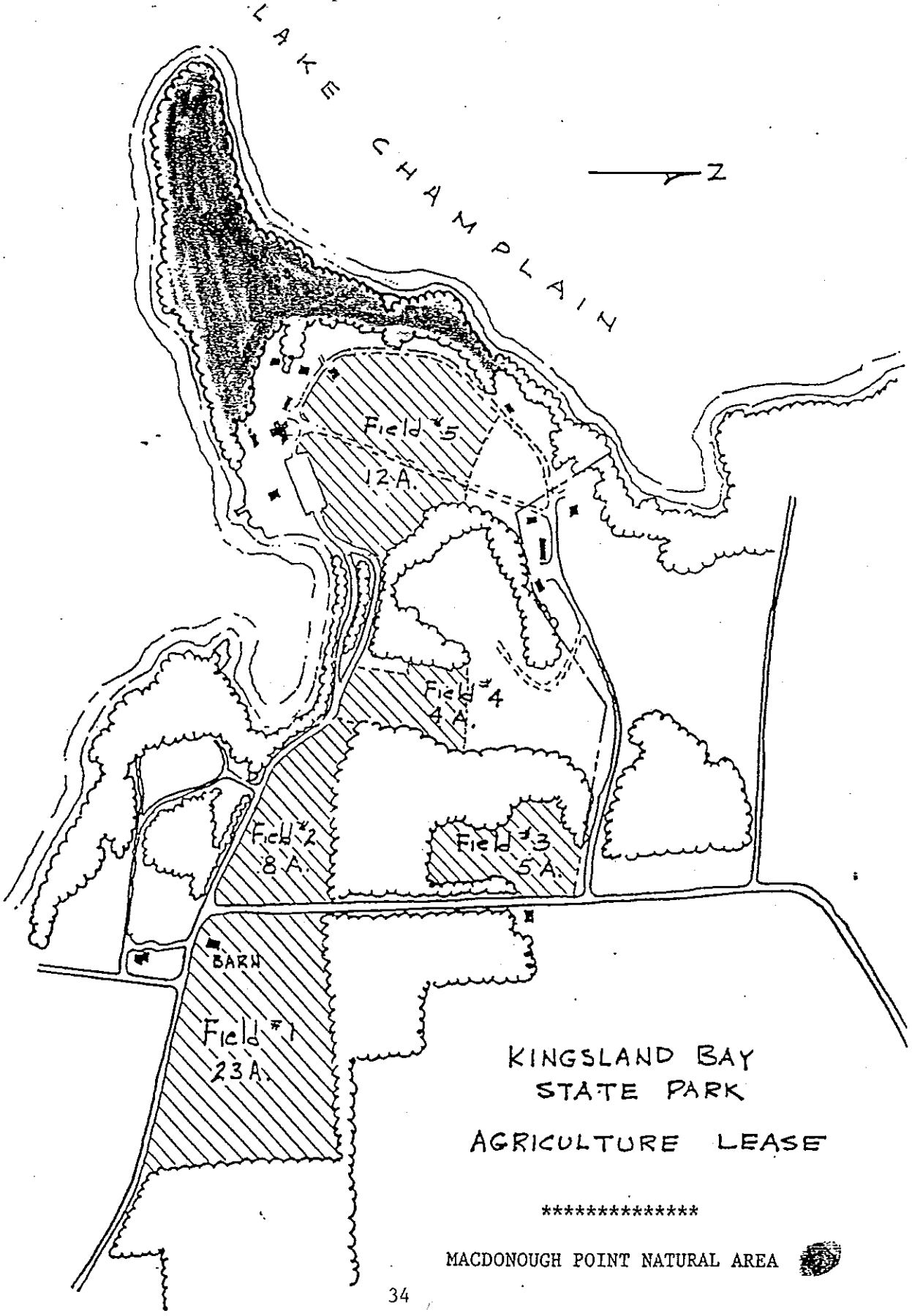
Natural Area Designation

The area from the tree line, beyond the tennis courts, including all of MacDonough Point, has been designated a state natural area. This is defined as an area which has retained its wilderness character, although not necessarily completely natural or undisturbed, but may have unique ecological, geological or scenic qualities worthy of preservation (Natural Area Designation Policy, Appendix).

This area should therefore remain undeveloped. Existing trails should be maintained and upgraded or relocated to address user safety or species protection.

Consideration to a similar designation on the Hurlbut property has been discussed.

Agricultural/Natural Area Map



APPENDIX

KINGSLAND BAY ATTENDANCE/INCOME

YEAR	ATTENDANCE	INCOME
1982	7,649	$2,485
1983	13,930	5,613
1984	12,511	5,989
1985	7,780	6,418
1986	9,083	6,578
1987	10,257	7,599
1988	11,646	8,957
1989	9,083	9,672
1990	11,072	14,541
1991	12,618	14,645
1992	13,696	13,565
1993	13,124	12,800

1/7/91

State of Vermont

Department of Fish and Wildlife
Department of Forests, Parks and Recreation
Department of Environmental Conservation
Office of the State Geologist
Natural Resources Conservation Council

AGENCY OF NATURAL RESOURCES

Department of Forests, Parks and Recreation

MEMORANDUM

To: Cindy Brisson, Parks Naturalist
Bruce Brown, Acting Region II Parks Manager
Ed Leary, Director of Statelands
Larry Simino, Chief of Parks Operations
From: David Brynn, Addison County Forester
Date: December 14, 1990
Subject: Button Bay and Kingsland Bay Public Involvement

The following is a summary of input received at the Kingsland Bay and Button Bay State Parks public involvement meeting held in Ferrisburgh on December 13, 1990. The meeting was attended by over 50 people including representatives of the Ferrisburgh Board of Selectmen, Planning Commission, and Conservation Commission.

KINGSLAND BAY STATE PARK

General

1. The residents of Ferrisburgh supported State acquisition of the Kingsland Bay property based on the promise that future development of the area would only be minimal.

2. The ecological impacts of any proposed development should be documented.

3. No development should occur without a thorough review of the site's capacity to handle septic systems.

4. Development of the park does not have to dramatically change the existing conditions. The possibility of only minimal change should be thoroughly evaluated.

5. The Kingsland Bay Steering Committee addressed many of these problems and their recommendations should be re-examined and incorporated in the planning process. The report should be made available to the general public.

6. The Hurlbut Property is very separate and unique from the existing park. Management planning should recognize and promote the different functions of the two parcels. They should not be viewed as one unit.

7. A local citizens advisory committee should be formed to be an ongoing liaison with the State.

8. Remedial, temporary repairs should be made to the historically important buildings such as the arts and crafts building. These repairs should be made without delay.

9. If more development is deemed necessary, look at Button Bay rather than Kingsland Bay. It is more in keeping with the activities and facilities that already exist at Button Bay.

Recreation

1. There should be guidelines for requiring portable toilets based on the size of the function. This should not be left to the discretion of the users.

2. The boat traffic problems associated with the moorings should be examined.

3. The possibility of a mooring management area with limited capacity should be examined as should the concept of eliminating moorings completely.

4. Water quality impacts of boat mooring should be addressed.

5. There are problems with vandalism especially during the off-season. Year-round supervision of some type is necessary to reduce this problem.

6. A year-round, natural resources education program should be evaluated similar to that proposed for Mallett's Bay State Park.

7. The State should work with the local committee to establish bike path access to the park.

8. The State must be very careful not to add to the eutrophication problems of Kingsland Bay.

9. Kingsland Bay is a very special place because it is one of the few places left on Lake Champlain where one can find quiet.

10. The "Homer Dixon" is causing conflicts with other park users and endangering swimmers.

11. The economic benefits to the town from functions such as the Champlain Valley Folk Festival should be quantified.

12. Glass bottles should be banned.

13. The Town should be advised of the timing of large functions at the park.

14. The State Police should be requested to do a better job of patrolling the bay.

15. A certain amount of noise is inherent in park operations and the State is doing a very good job of managing it.

16. A harbor patrol is essential.

17. The Champlain Valley Folk Festival is the best festival possible and it should be kept at Kingsland Bay.

18. The Champlain Valley Folk Festival should examine the potential of using Button Bay or other state parks.

19. The organizers of the Champlain Valley Folk Festival would like to have some guidelines so that they can better protect the park.

20. The Champlain Valley Folk Festival prefers to use Kingsland Bay because of the park naturally limits the size of the gathering. The Festival has a self-imposed limit of 1500 at any one time.

21. A citizen advisory group would be very helpful to the Champlain Valley Folk Festival organizers.

22. Safety must be improved during the Champlain Valley Folk Festival. Rainy weather can create chaos and a totally unsafe situation.

23. Noise from the Champlain Valley Folk Festival must be addressed.

24. Noise from the park is a serious problem. Gatherings that require amplification should not be held at the park but should go elsewhere.

25. Activities that are appropriate for the quiet surroundings of the park should be determined and inappropriate activities should be discouraged.

26. The present swimming situation is dangerous for young children but is excellent for some swimmers.

27. Opportunities for safe swimming should be explored on the Hawkins Bay side of the park. This area was used for such historically.

28. The beauty of Kingsland Bay is an essential part of the Champlain Valley Folk Festival experience.

29. The hours for large events such as the Champlain Valley Folk Festival should be limited.

Roads and Access

1. The present traffic situation is very dangerous and re-routing the traffic over Sand Road will not address the problem.

2. Off-season parking is inadequate.

3. The primary access to the park should be relocated as proposed in the fish hatchery plan.

4. Improved parking is necessary even when the park is open.

5. Large gatherings should be required to use a shuttle bus.

Vegetation

1. The existing open areas should be maintained. Portions of the Hurlbut Property are rapidly returning to forest. These areas should be kept open through ag-leases, mowing, or controlled burning.

2. There are very few unmanaged, mature forests in the vicinity of the park. The forests in the park should not be managed except for some limited hazard tree reduction and wildlife habitat improvement.

3. The McDonnough Point Natural Area has flora and fauna such as trillium, osprey, eagles and turkeys that require additional protection. The trails should be upgraded so that hikers will know where the trails are and will therefore be more likely to stay on them.

WRITTEN RESPONSE - KINGSLAND BAY/BUTTON BAY HEARING

As adjoining neighbors of Kingsland Bay Park, we would like to see the continued use of the park by the public, leaving it in its pristine, natural setting without any further expansion on building developments nor of public events such as large concerts and other large social events. The prime mission should be to provide the Vermont public free access and enjoyment of the shores and waters of Lake Champlain. I am also interested in finding out the Department's plans regarding a new access road in the park.

I assume the word "promoted" means developed above present usage. I would like very little altered at Kingsland Bay - cannot really be sure about Button Bay. I would like to walk or x-c ski at Kingsland Bay 12 months of the year. Have avoided going there off-season because of the parking situation. The suggestion that access be developed to the San Bar area on Hawkins Bay is an excellent one.

Less intense use desirable at Kingsland Bay. Explore option w/ Kingsland Bay Stone House. Keeps 2 parks distinct, K-Bay as is. No pool, no camping. No developing Hurlbutt property.

Since Kingsland Bay SP now has two distinct areas there is the opportunity for 2 general objectives, one - more people - intensive, one less. I strongly support efforts to continue the Champlain Valley Festival.

We wish to preserve and strengthen both state parks for the recreation/educational use of Vermont for all citizens.

Keeping Kingsland Bay as natural as possible would be my preference. Please don't develop it. Please keep these places wild.

Keep them both just as they are. Maybe use the house at Kingsland Bay for Nature Study.

Button Bay is a beautiful, pleaceful, well maintained park. We are grateful to be able to use it.

To keep it as it is now. Kingsland Bay - I would hope it will not be expanded beyond what it is now. A daytime recreational park with emphasis to keep flora and lake in its present state.

We would like to see the continued use of Kingsland Bay SP, leaving it in its pristine, natural setting without any further expansion on building developments nor of public events such as large concerts and other large social events. Kingsland Bay Park's prime mission should be to provide the Vermont public free access and enjoyment of the shores and waters of Lake Champlain. I am slso interested in finding out the Department's plans regarding a new access road.

Have a nine golf course and you will have more people. There is history and more should be given of each park. Kingsland Bay - more flowers and upkeep of grounds make a camping spot and cut some grass. The Ferrisburg Grange will try to make it pretty. You give us the things to do it and my group will plant and keep it watered.

MINUTES OF MEETING

KINGSLAND BAY STEERING COMMITTEE
June 25, 1980
St. Paul's Cathedral Burlington, Vermont

Present: Allen, Barber, Cole, Incerpi, Shaw, Fisher, Reigelman, and Koenemann.

Also present: Nancy Hartman from Shelburne, an interested citizen.

The meeting was called to order by Chairman Koenemann. A brief review of the deliberations of the previous meetings was given. The Chairman outlined the similarities and the differences between the various development proposals which had been reviewed. There was some discussion regarding the flow chart which Barber had agreed to prepare at a previous meeting. It was agreed that this flow chart was not essential to the deliberations of the committee. It was however agreed that it was still needed for project development.

The task of the committee at this meeting is to develop a draft of recommendations to be presented to Secretary Whittaker. The draft of the recommendations from this meeting will be mailed to each of the committee members for their comments. When the comments are incorporated into the final recommendations they will be forwarded to the Secretary, for his review and consideration. The Steering Committee makes the following recommendations:

Recommendation A:

Swimming - It was agreed that swimming should be de-emphasized. It should be limited and developed in a informal way on

the North Shore if possible. The Committee rejected the proposal for creation of an artificial swimming pool by the construction of a large berm in Kingsland Bay. This would be very expensive and would destroy the aesthetics of Kingsland Bay.

Recommendation B:

Boating - The Committee recommends that development be only for small crafts. There should be no launching facilities. The existing concrete dock in the Kingsland Bay area near the stone house should be utilized for tying up. There should be no moorings. There was some discussion regarding the impact upon the day use area if no moorings were provided. The Committee recommends that consideration be given to a beaching area where people can have access by boat to the facility for day use. This should involve a minor expenditure. The potential area for consideration would be on the Kingsland Bay side of the peninsula. There was some discussion regarding a pump-out station. The committee agrees in principle with the States role in providing such facilities. However, there was some discussion as to whether it was appropriate at this site and whether or not it was in competition with a private facility which is very close by around the Kingsland Bay area. This is an issue which should be studied carefully. The committee is very reluctant to recommend a pumpout station at this location.

Recommendation C:

McDonough Point - The Committee recommends that McDonough Point be kept in its present undeveloped condition with the exception of some Natural trail improvement. The University of Vermont Environmental Studies Program and Charles Johnson, the State Naturalis

in the Department of Forests/ Parks and Recreation have studied the area and have recommendations for walking trails and nature studies. The Audubon Society has also offered to evaluate the area and make recommendations for Nature Studies. The representatives from the Audubon Society will be asked to contact Charles Johnson regarding this project. Alternate routes should be considered in the trail system to eliminate impact upon the resource and also to enhance the educational value.

Recommendation D:

The Stone "Hawley" House - The Committee recommends that the house be restored and preserved. The Champlain Maritime Society and the local Historical Society and State Historical Advisory Board should be consulted as to the appropriate period for restoration and an appropriate use. The Champlain Maritime Society is interested in using the building as a Maritime Museum. The Committee agreed that the porches should be replaced around the building. This is a restoration measure in addition to providing a place for park visitors to gather in rainy weather. The Committee appears to agree that the tower structure should be removed, if feasible. This is a project which should be studied as part of the restoration and preservation considerations.

Recommendation E:

Fish Hatchery - The Committee concurs that the potential site for the construction of a fish hatchery on Lake Champlain, dependent upon additional study, is still appropriate for the Kingsland Bay Property. The Committee recommends that adequate space be held in the plan at the proposed site for the construction

of a hatchery. Should the hatchery not be constructed this area would provide additional open space park use. There was considerable discussion about the construction of the ponds and whether or not these were essential to the operation of the hatchery. These ponds would take up considerable amount of open space which could be dedicated to park use. The construction of the fishing ponds may be determined by the Heritage Conservation and Recreation Service as a condition for permission to construct the hatchery on this property.

Recommendation F:

Additional Contiguous Acquisition - The Committee recommends that additional land contiguous to the existing property be acquired The purpose for acquisition should be to relieve the congestion and over crowding of users and the concentrated impact upon the resource. It was pointed out that there was need for additional service space for the hatchery and for the park. The additional land would free up the design and provide growing room and buffer zones for the adjacent properties. In addition there was educational potential as well as potential for the development of an alternate swimming site. This would also provide additional land for the requirements of staff residences for the fish hatchery and the park. There was, however, considerable concern expressed over the cost of relocation of any residence or businesses on contiguous property This is an issue which should be explored in great detail and very carefully. The contiguous land is presently for sale.

Recommendation G:

Existing Buildings - It was agreed that the Hawley House should be restored and preserved at its present location. There

was considerable discussion regarding the utilization and the location of the present buildings. Part of the Committee feels very strongly that the existing buildings should be utilized remaining at their present locations. There is some potential for their utilization for interpretive programs and for the headquarters of the park facilities in addition to other activities such as theater. It was generally agreed however, that the existing buildings should be utilized and should remain at the present locations if feasible.

Receommendation H:

Parking - The Committee recommends that the planned parking on the site be dispersed and match the needs of the low key development. The Committee emphasized that it is not in favor of intensive development of this site. The parking which was recommended in the consultants plan done for the Department of Forests/Parks and Recreation is about twice the amount of parking which most of the Committee feels is appropriate.

Recommendation I:

Entrance and Road System - The location of the existing road system is not acceptable to the adjacent property owner, and would dominate the lake front. At one point in the park the road system must come through a cut in the ledge in order to reduce the cost of development. The Committee pointed out that one of the proposed entrances to the site was not appropriate because it would create a safety hazard because of a small knoll on the main road. The Committee recommends that there be a limited road system which would be one way in nature in order to cut down on the amount of

surface area utilized for this purpose. The road system should take into account the plan and location of the proposed fish hatchery.

Recommendation J:

General Recommendations - The Committee wished to emphasize that it recommends a low key development which would be less intensive in nature and appropriate to the resource which exists. The Committee also recommends that it continue to function beyond the presentation of this report to the Secretary to review and monitor the development of a site plan for the Kingsland Bay Property.

No future meeting was scheduled for the Kingsland Bay Steering Committee. If a meeting should be necessary as a result of the Committee Members' review of this draft it will be called by the Chariman. The meeting was adjourned at 3:30 p.m.

7-2-80

Inventory by: David Brynn, July 1990

TABLE 1. Tree species identified on the Hurlbut property at Kingsland Bay State Park in Ferrisburg, Vermont.

COMMON NAME	SCIENTIFIC NAME	BASAL AREA (%)
Northern white-cedar	Thuja occidentalis	31
Eastern white pine	Pinus strobus	26
Eastern hemlock	Tsuga canadensis	15
Shagbark hickory	Carya ovata	7
Sugar maple	Acer saccharum	6
White birch	Betula papyrifera	3
Bitternut hickory	Carya cordiformis	2
Hardhack	Ostrya virginiana	2
Green ash	Fraxinus pennsylvanica	<1
White ash	Fraxinum americana	<1
Red oak	Quercus rubra	<1
Butternut	Juglans cinerea	<1
Basswood	Tilia americana	<1
Red pine	Pinus resinosa	<1
Quaking aspen	Populus tremuloides	<1
Bigtooth aspen	Populus grandidentata	<1
American elm	Ulmus americana	<1
Black locust	Robinia pseudoacacia	<1
White oak	Quercus alba	<1
Eastern redcedar	Juniperus virginiana	<1

TABLE 2. Shrub species identified on the Hurlbut property at Kingsland Bay State Park in Ferrisburg, Vermont.

COMMON NAME	SCIENTIFIC NAME
False indigo	Amorpha fructicosa
Hawthorn	Crataegus spp.
Choke cherry	Prunus virginiana
Staghorn sumac	Rhus typhina
Fly honeysuckle	Lonicera canadensis
Raspberry	Rubus spp.
Common barberry	Barbaris vulgaris
Common lilac	Syringa vulgaris
Witch hazel	Hamamelis virginiana
Common buckthorn	Rhamnus cathartica
American yew	Taxus canadensis
Ground juniper	Juniperus communis var. depressa

Vermont Nongame & Natural Heritage Program
Department of Fish and Wildlife
Explanation of Ranks

State Status As per the Vermont Endangered Species Law (10 V.S.A. Chap. 123)

E: Endangered: in immediate danger of becoming extirpated in the state
T: Threatened: with high possibility of becoming endangered in the near future

Information categories only; not established by this law

SC: Special Concern: rare; status should be watched
PE: Proposed for endangered
PT: Proposed for threatened
M: Missing (not seen in the last 25 years, but still may occur)
X: Presumed extirpated

Federal Status As per the Federal Endangered Species Law (P.L. 93-205)

LE: Listed endangered
LT: Listed threatened
C2: Category C2: currently under review
3B: Category 3B: no longer under review because of taxonomic question
3C: Category 3C: no longer under review because no threat demonstrated

State Rank Information categories only; not established by law

State ranks are assigned by the Nongame & Natural Heritage Program based on the best available information. Ranks are reviewed annually. For bird species the ranks refer to breeding sites only.

S1: Very rare: generally 1-5 believed to be extant or some factor(s) making it especially vulnerable to extirpation from the state; highest inventory and protection priority
S2: Approximately 6-20 occurrences believed to be extant or some factor(s) making it very vulnerable to extirpation in the state
S3: Uncommon in the state; believed to be more than 20 occurrences, or there is some threat to it in the state
S4: Apparently secure in state, with many occurrences
S5: Demonstrably secure in state and essentially ineradicable under present conditions
SA: Accidental in state
SE: An exotic established in state
SH: Known from historical records only
SN: Regularly occurring, usually migratory and typically nonbreeding species
SR: Reported from the state, but without persuasive documentation
SRF: Reported in error but this error persisted in the literature
SP: Possible in the state but no reported or documented records
SX: Extirpated from the state
SU: Status uncertain
?: Denotes provisional rank

Global Rank Information categories only; not established by law

Global Ranks are assigned by the international network of Natural Heritage Data Centers. The ranks are tracked by the Nature Conservancy and by the Natural Heritage Programs. They reflect the rarity and endangerment of the species worldwide.

G1: Critically imperiled globally (on the order of 1-5 occurrences worldwide)
G2: Endangered globally (ca. 6-20 occurrences worldwide)
G3: Threatened globally: rare and/or local
G4: Apparently secure globally, though perhaps locally rare
G5: Demonstrably secure globally
T: Subrank for subspecies and varieties; 1-5 ranking similar to G ranks
Q: Questionable taxonomic assignment
?: Denotes provisional rank
NE: Exotic established in nation
GU: Status uncertain

Rare and Uncommon Plants and Animals *
Kingsland Bay State Park
Ferrisburg, Vermont
Vermont Nongame and Natural Heritage Program
July 1992

Scientific Name	Common Name	Grank	Srank	State Status	Federal Status	Last Seen +
Comment						

RARE - only those species listed as threatened or endangered are protected by Vermont Law

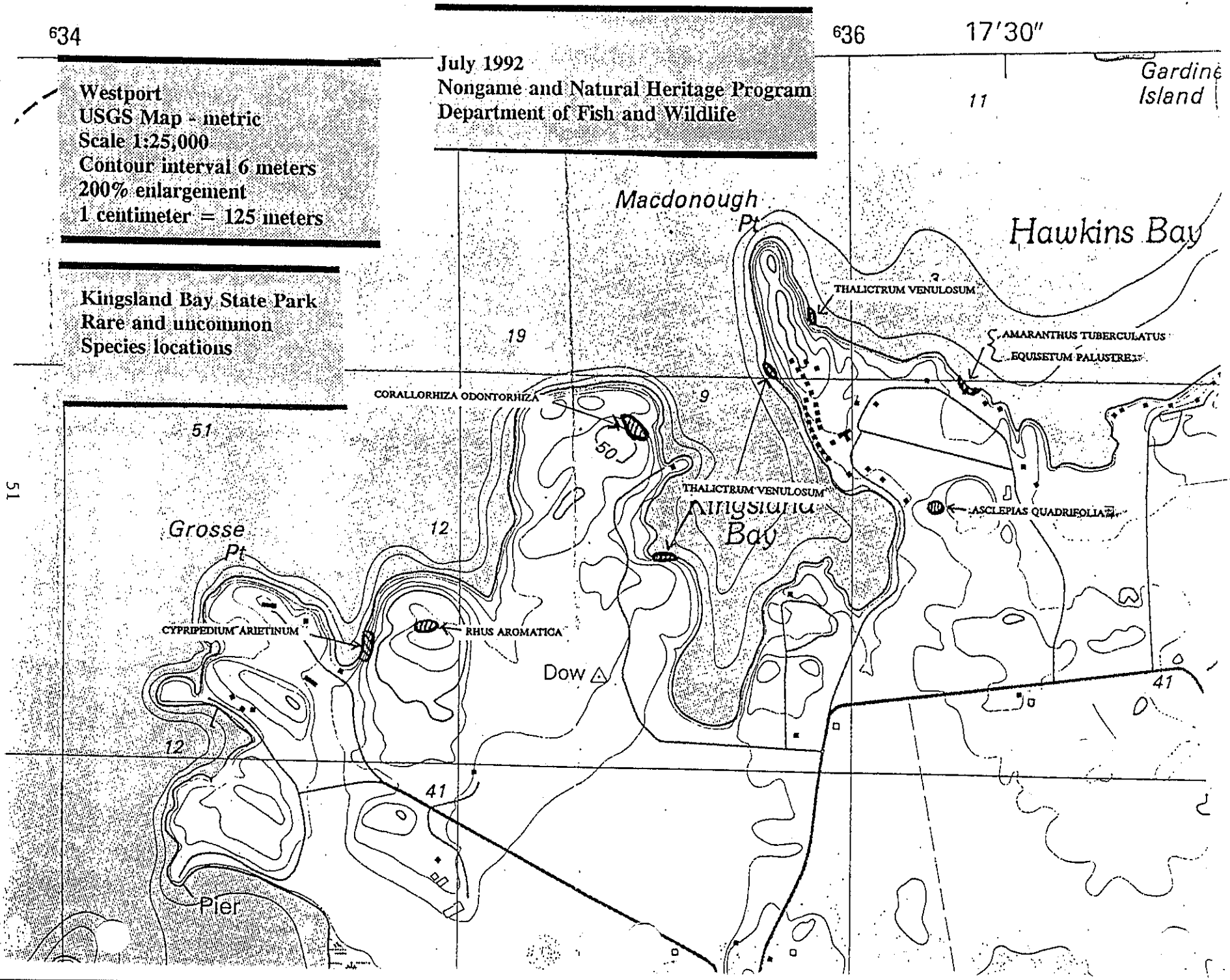
AMARANTHUS TUBERCULATUS	WATER HEMP	G4G5	S2			1982
Along the shore of .4 miles east of MacDonough Point (from a written description)						
CORALLORHIZA CODNTORHIZA	AUTUMN CORAL-ROOT	G5	S2	T		1979
In rocky forest (location was transcribed from a 15' USGS map);						
CYPRIPEDIUM ARIETINUM	RAM'S HEAD LADY'S SLIPPER	G3G4	S2	T	3C	1992
In forested lake bluff (discovered in 1992);						
EQUISETUM PALUSTRE	MARSH HORSETAIL	G5	S1	T		1982
Same location as Amaranthus tuberculatus above;						

UNCOMMON - informational category only

ASCLEPIAS QUADRIFOLIA	FOUR-LEAVED MILKWEED	G5	S3			1986
In forest;						
RHUS AROMATICA	FRAGRANT SUMAC	G5	S3			1988
In rocky woods;						
SHEPHERDIA CANADENSIS	BUFFALOBERRY	G5	S3	SC		1982
Not mapped; found on two different locations along the lake bluff on MacDonough Point; and						
THALICTRUM VENULOSUM	BORDER MEADOW-RUE	G4G5	S3			1987
In three locations on cobble shores.						

* See map for approximate locations

\+ See attached explanation of ranks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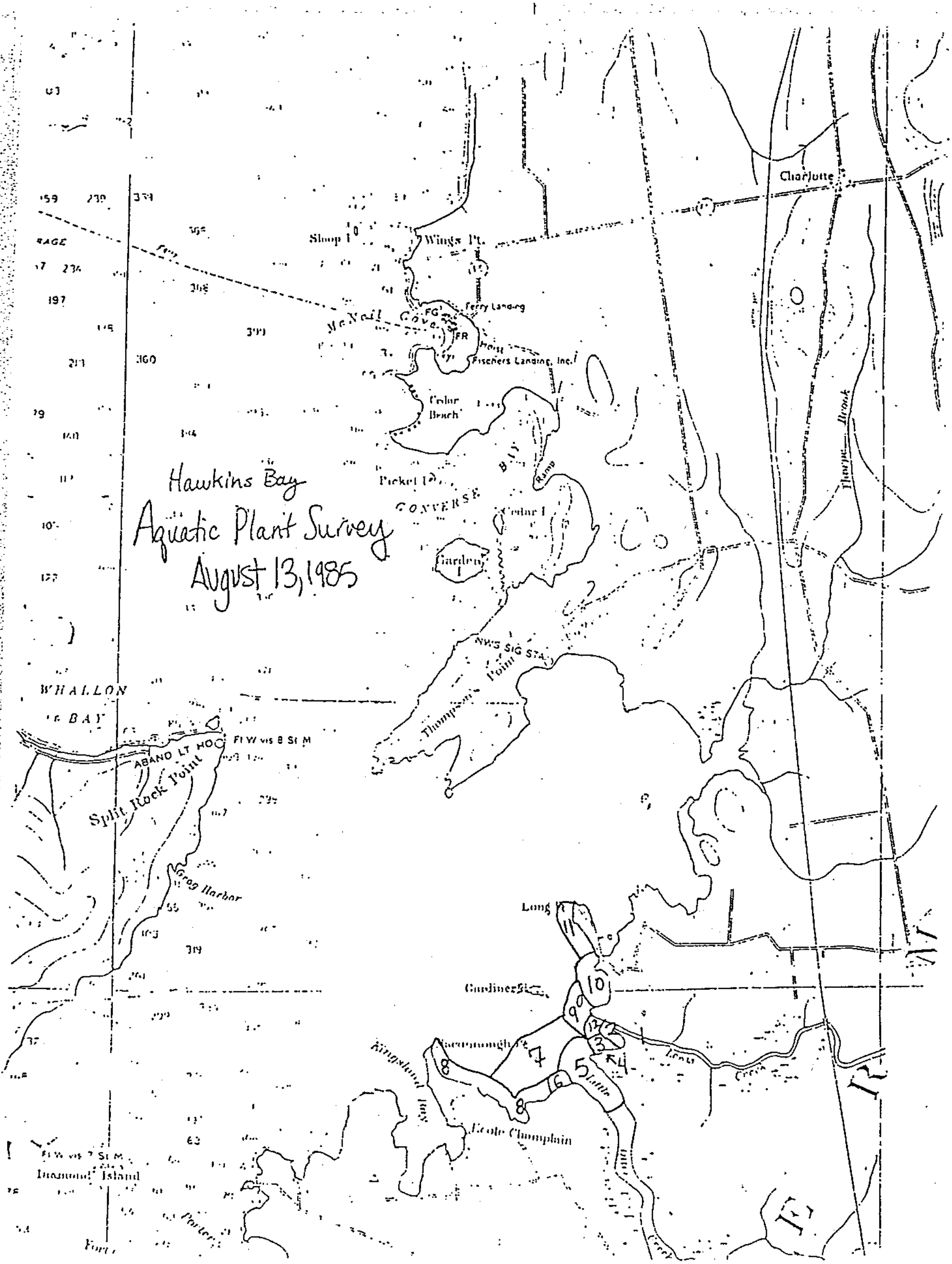
6°36
17'30"
Westport
USGS Map - metric
Scale 1:25,000
Contour interval 6 meters
200% enlargement
1 centimeter = 125 meters
July 1992
Nongame and Natural Heritage Program
Department of Fish and Wildlife
Kingsland Bay State Park
Rare and uncommon
Species locations
Gardine
Island
11
Macdonough
Pt
Hawkins Bay
THALICTRUM VENULOSUM
AMARANTHUS TUBERCULATUS
EQUISETUM PALUSTRE
19
CORALLORHIZA ODONTORHIZA
9
51
50
THALICTRUM VENULOSUM
Kingsland
Bay
ASCLEPIAS QUADRIFOLIA
Grosse
Pt
12
CYPRIPEDIUM ARIETINUM
RHUS AROMATICA
Dow
41
12
41
Pier
51


Hawkins Bay
Aquatic Plant Survey
August 13, 1985
Charlotte
Sloop I
Wings Pt.
Ferry Landing
McNeil Cove
Fischers Landing, Inc.
Cedar Beach
Picket I
CONVERSE BAY
Ramp
Cedar I
Garden I
NWS SIG STA
Thompsons Point
WHALLON BAY
ABAND LT HO
Fl W vis 8 St M
Split Rock Point
Grog Harbor
Long Pt
Kingsland Bay
Ecole Champlain
Diamond Island
Thorp Brook
Little Otter Creek
1
2
3
4
5
6
7
8
9
10
11

Aquatic Plant Survey

Hawkins Bay 8/13/85

Area 4 Along edge of rush and sedge mat - water clearing up significantly
- M. spicatum - very abundant in 2-3' of water
- Vallisneria americana - scattered to common in some areas
- Heteranthera dubia - scattered
- E. canadensis - scattered
- Nymphaea sp. - uncommon, small leaves, no flowers
- Sponge 4" in diameter found around on M. spicatum plant

Area 5 Water very turbid again - 2' d. visibility
- M. spicatum - very abundant patches
- Vallisneria americana - very abundant patches } bordering the channel on either side
- Heteranthera dubia - common to scattered
- rushes - emergent patches scattered out from main mat
- periphyton growth common

In mid-channel area:
- no growth to surface
- Scattered growth of above plants in Area 5
- E. canadensis - present
- Lemna minor - uncommon
- Ceratophyllum sp. - one piece
- Alisma gramineum - one flowering plant seen, but leaves are easily confused with Vallisneria, so there may have been many more plants } found in bay, not up the channel
- Also large areas of surface algae bloom in close to rushes

Up Little Otter Creek channel along edge, in addition to all other species found in this area:
- Lemna trisulca - scattered
- Nymphaea sp.

Aquatic Plant Survey

Hawkins Bay 8/13/85

Area 5 →

E. canadensis - scattered
Ceratophyllum sp. - more common
Ranunculus sp. -

Area 6 M. spicatum - very abundant - covered with periphyton - common at 3' d. - scattered out to about 5' then disappears
Heteranthera dubia - occasional
Vallisneria americana - scattered in some places, becoming common away from inlet
E. canadensis - seen a few times - apparently uncommon
In patches, the silty bottom is clear of plants!

Area 7 At 10' d. water: water visibility good
P. zosteriformes - one plant pulled up
E. canadensis - most common plant raked up - hard to see deep enough to measure density
Ranunculus sp. - one plant pulled up
P. richardsonii - one plant pulled up
Najas sp.
Chara sp.
Lemna trisulca
Ceratophyllum demersum
} pulled up on rake
Could see plants growing along bottom, but hard to distinguish different species and densities
Beyond Little Otter inlet at 9' depth:
P. richardsonii - common to abundant
E. canadensis - growing densely in with P. richardsonii

Hawkins Bay 8/13/85

Area 7

As approach shallower water toward shore: more turbid water
M. spicatum - becomes common

Area 8 P. perfoliatus - uncommon
Heteranthera dubia - scattered
M. spicatum - scattered to occasional } alternate in being most common plant seen
Vallisneria americana - common }
Ranunculus sp. - one plant seen
Sandy bottom with much periphyton - visibility good towards shore, becoming turbid past 3'd
Rocky along shoreline past inlet with camps appearing
Towards Macdonough Point:
M. spicatum
Heteranthera dubia } scattered - growing in patches with some bare spots
Vallisneria americana
Closer to the point, no growth along rocky shore in spots
E. canadensis - pulled up on rake along with periphyton
Some low growth out between rocks deeper - visibility good
Rocks covered with algae - many floating plant pieces (large schools of fish in among rocks)

In a patch 4' out from shore:
M. spicatum - common, becoming scattered
Heteranthera dubia - seen along bottom

Area 9 P. richardsonii - common
M. spicatum - common band of plants mixed in with P. richardsonii - becoming scattered in deeper water

Aquatic Plant Survey

Hawkins Bay 8/15/25

Area 9 → P. pusillus var. pusillus - in patches growing very tall
P. zosteriformes } pulled up on rake
E. canadensis }
Ceratophyllum sp. }
P. crispus - possibly 1 plant seen

Nearer point of land: Turbid, deeper water
P. zosteriformes - more common
M. spicatum - becomes scattered

Area 10 Shallow, very turbid water
Patches of sandy bottom with no growth
P. perfoliatus - uncommon
M. spicatum - scattered, with one occasional patch near rock point
Heteranthera dubia - } scattered as in Area 8
Vallisneria americana - }
Cove with grasses and rushes along shore and cottages, boats
lots of periphyton
P. pusillus, var. pusillus } pulled up on rake
E. canadensis }
plants seen with scope but hard to identify

Overall, plant growth is abundant, but found in patches, and Heteranthera and Vallisneria alternate in being most common plant seen.

Aquatic Plant Survey

Hawkins Bay 8/13/85

Area 11 rocky shoreline with many cottages
low-growing plants in fairly low density
Heteranthera dubia seen

Area 12: no growth except for algae and some E. canadensis
very turbid water

Aquatic Plant Survey - Species List

Hawkins Bay 8/13/85

Potamogeton natans L. floating lvd.
Nymphaea odorata Ait. waterlily
Heteranthera dubia (Jacq.) MacM. high nutrient - submersed
Nuphar variegata Durand yellow cow lily
Lemna minor L. duckweed
Myriophyllum spicatum L. non native nuisance
Elodea canadensis Michx. high nutrient submersed
Vallisneria americana Michx.
P. perfoliatus L. submersed
Alisma gramineum Lej. emergent
Lemna trisulca L. related to duckweed
P. zosteriformes Fernald submersed
P. richardsonii (Benn.) submersed
Ceratophyllum demersum L. high nutrient submersed
P. crispus L. high nutrient - submersed
rush
sedge
Najas sp. (I believe this to be Najas guadalupensis R - SW)
Potamogeton pusillus L. var pusillus submersed

Aquatic Plant Survey

Hawkins Bay 8/13/85

Overall, aquatic plant growth in Hawkins Bay is abundant. Throughout the bay dense patches of plants are consistently found, with very few areas of no growth. The areas closest to Lewis and Little Otter Creeks have the most abundant growth. Rush mats line the edges of the creeks, with a variety of species growing in dense bands alongside the mats. In Little Otter Creek thick surface algal blooms also line the channel. In the middle of the channels, plant growth is low enough to allow a clear path for motorists. To either side of the mouths of the creeks along the shore in shallow water, Eurasian milfoil grows in very abundant patches. It is difficult for boaters to drive through these large patches, but the water is shallow and there are large areas of open water as well. Even in the middle of the bay, off of the inlets, a variety of plants are found growing in moderate abundance. The water is deep enough so the plants are in no way interfering with people using the bay. Towards Long Point and Macdonough Point the shoreline becomes rocky and aquatic plant growth diminishes.

FPR POLICY #7

NATURAL AREAS DESIGNATION

Philosophy:

Under Vermont law (10 V.S.A. §2607 -- see Attachment 1) the Department recognizes, designates, protects, and manages "Natural Areas" on properties under its jurisdiction. These generally are important natural communities, sites for rare plants and animals, or areas of geologic interest. Though protected, they are open to compatible uses by the public, including but not limited to recreation of various forms, educational activities, research, and nature study.

Policy:

The Commissioner, with the approval of the Governor, may designate areas in state forests and parks as Natural Areas. Proposed areas must meet the criteria established in 10 V.S.A. §2607. Definitions and interpretaions of terms in the law are given in Attachment 2.

Existing Natual Areas may be removed from such designation only with the approval of the Governor, following public notice and hearing.

Procedure for Implementation:

Initial Notification: A potential Natural Area is proposed for designation by any party.

Preliminary Field-Checking: The party reporting the site, State Naturalist, Forestry District Manager and/or Parks Regional Manager, and any appropriate resource person (e.g., wildlife biologist, botanist, etc.) shall conduct a general inspection of the site to determine feasibility of the proposal. They shall decide upon either further study or no further action.

Research: If the decision is for further study, the State Naturalist shall conduct or coordinate thorough research of the site, including literature review, consultation with appropriate scientific experts, and site analysis. He/she shall develop a written report and recommendation based on the findings.

Review: The department staff shall review and comment on the report, in order:

(1) Forestry District Manager and Parks Regional Manager in whose district or region the site occurs. At this point, if it is agreed that the site be proposed for designation as a Natural Area, the district/region would so present it at a public involvement meeting, as an amendment to the parcel's

long range management plan (LRMP). Following the discussion and consideration of comments, a recommendation would accompany the report and be processed in the same manner as all LRMP's, by going to:

(2) Division Directors.

(3) Commissioner.

Designation: If the review results in recommendation of the site as a Natural Area, the Commissioner shall seek approval of the Governor for such designation.

If an existing Natural Area is proposed for removal from designation, the above procedure shall be followed.

Conrad M. Motyka, Acting Commissioner

May 15, 1991
Effective Date

Attachments - 2

Attachment 1

NATURAL AREAS LAW -- TITLE 10 V.S.A. CHAPTER 83, §2607

§2607. Natural Areas; Designation.

(a) The commissioner, with the approval of the governor, may designate and set aside areas in the state forests and state parks as natural areas.

(b) "Natural areas" means limited areas of land which have retained their wilderness character, although not necessarily completely natural and undisturbed, or have rare or vanishing species of plant or animal life or similar features of interest which are worthy of preservation for the use of present and future residents of the state and may include unique ecological, geological, scenic and contemplative recreational areas on state lands.

(c) Land uses and practices in natural areas shall be subject to regulations of the department to carry out the purposes of this chapter to manage or maintain the areas for the preservation of their natural condition. Areas so designated may be removed from such designation only by approval of the governor following public notice and hearing. - Added 1977, No. 253 (Adj. Sess.), §1.

Attachment 2

10 V.S.A. §2607: DEFINITIONS AND INTERPRETATIONS OF TERMS

"Limited Areas of Land": Size shall be such as to provide protection for the feature(s) that warrant an area's designation as a Natural Area (including buffer zones, if needed). Determination of the feature(s) shall be based on scientific documentation. Examples:

- o If a discrete biological community, such as a bog, its size shall be such to include the entire community and any adjacent land (buffer) that is deemed necessary to afford direct protection.

- o If an area is designated because it has a colony of a rare species of plant, size shall be enough to include what is considered habitat essential for the survival of the colony. Buffer zones may be needed.

- o If an area is a more extensive landscape system, such as an alpine boreal forest or cliff formation, boundaries shall be specified insofar as possible by natural features (e.g., height of land, drainages, changes in forest type, elevations, etc.).

"Wilderness Character": This refers to areas that have the appearance of being unaffected by, and/or impart a feeling of remoteness from, past or present human activities. "Wilderness character" and size are considerations in designating Natural Areas, but not the only factors. This quality is not to be equated with that of the U.S. Forest Service's Wilderness Areas, nor shall USFS criteria be applied to Department-owned Natural Areas.

"Similar Features": These are biologically, ecologically, or geologically significant entities, as recognized by the Agency of Natural Resources (Nongame and Natural Heritage Program, State Geologist, State Naturalist, etc.).

"For the Use of...": Appropriate and/or prohibited uses shall be prescribed in the long range management plans for each area.

"Scenic and Contemplative Recreational Areas": An area shall not be designated as a Natural Area solely on the basis of scenic and/or contemplative recreational qualities, since both require subjective judgements and most undeveloped areas in Vermont possess some of these qualities. Rather, these qualities shall be considered as supporting evidence for "wilderness character."