

CHAPTER 9: WATERWAYS SAFETY & NAVIGATION

IMPLEMENTATION SUMMARY

RECOMMENDATION	STATUS
12.2.1 Enhance waterways regulations	<ul style="list-style-type: none"> ➤ Evaluate public education measures and changes in regulations to promote safety regarding recreational activities including but not limited to: kayaking, canoeing, para-sailing, kite-boarding, tubing, water skiing, and swimming.
12.2.2 No Discharge Area designation	<ul style="list-style-type: none"> ✓ An application to EPA has been developed to designate the Bay a NDA. ✓ Options for enhancing pump out capacity in the Bay are being evaluated. ➤ Submit the application pending development of additional pump out capacity in the Bay.
12.2.3 Assess boating impacts on environment 12.2.4 Boat operation and maintenance	<ul style="list-style-type: none"> ✓ Support the application of best management practices for boat operation, and maintenance outlined in the Massachusetts Clean Marina Guide. ➤ Conduct a study to quantify the number and size of boats using the Bay.
12.4.1 Bay-wide patrol 12.4.2 Enhance navigational aids 12.4.3 Boater education campaign	<ul style="list-style-type: none"> ✓ A coordinated bay-wide patrol was established in 1997. ✓ Navigational aids have increased in number in many areas. ➤ Address the need for speed controls at the entrance to Bassing Harbor and the inappropriate placement of lobster pots in or near navigational channels.
12.6.1 Prohibit Personal Watercraft (PWC) rentals 12.6.2 PWC management program	<ul style="list-style-type: none"> ✓ Alliance communities approved bylaws to prohibit the operation of PWC in waters adjacent to the Cape Cod National Seashore, including the Bay.
12.8.2 Mooring program	<ul style="list-style-type: none"> ➤ Encourage Harbormasters to promote mooring practices and equipment that reduce impacts on resources, and evaluate the potential for a demonstration project using alternate mooring technologies or techniques.

12.8.1 Mooring free areas	✓ The number of permits is limited at all existing mooring fields.
12.10.2 Maintenance dredging	➤ Allow maintenance dredging to continue provided it meets local, state and federal permitting requirements.
12.10.3 Dredged materials disposal	➤ Conduct a study of the potential need for, impacts from, and feasibility of improvement dredging in areas where shoaling is limiting access through areas that traditionally have served as important public navigable waterways.
12.10.1 Improvement dredging	➤ Identify and prioritize locations for the disposal of dredge material in the ACEC consistent with Chapter 91 regulations
➤ CONTINUED ⊕ NEW RECOMMENDATION ✓ COMPLETED	

OVERVIEW

The plan acknowledges the important role commercial and recreational boating plays in the history and character of Pleasant Bay. The plan also cites a number of issues related to boating that the plan seeks to address:

- Environmental impacts from motorized vessels, which will increase as boating activity intensifies;
- Boating congestion, and conflicts between different types of vessels;
- Threats to public safety and natural resources from growing use of personal watercraft (PWC) and other high performance craft;
- Growing demand for moorings, and the associated impacts on resources and boating congestion; and
- Anticipated needs for dredging projects to maintain existing channels, or to restore or create channels for navigation or Bay flushing.

In response the plan calls for stronger and more coordinated management of the bay's waterways, and other measures to balance boating with natural resource protection. As described below, the Alliance has implemented or supported implementation of a number of actions recommended in the plan. Over the coming years, the Alliance will continue to implement the recommendations outlined in the original plan. Additional focus will be placed on evaluating the need for, impacts from and feasibility of improvement dredging in specified areas.

WATERWAYS REGULATIONS, ENFORCEMENT & NAVIGATION

Strengthened and coordinated enforcement of waterways regulations was recommended primarily to enhance public safety and reduce the negative impacts on natural resources from wave-induced bank erosion, turbidity, prop dredging, and noise impacts. The following steps were taken to implement the recommendations.

BAY-WIDE PATROL

A direct outgrowth of the plan was the formation of a coordinated bay-wide patrol. The coordinated patrol was established in 1997 and has been operational every boating season since that time. Features of the bay-wide patrol include:

- Each town added patrol staff time to the Bay;
- Patrol schedules are coordinated to ensure adequate patrol coverage at all times;
- Patrol staff are cross deputized to facilitate quick response to transgressions regardless of town boundaries; and
- Radio and telecommunications have been improved to facilitate direct communication between the different town patrols in the Bay to report situations and request support.

UPDATE RECOMMENDATION:

The coordinated bay-wide patrol should be continued. The towns should fund additional patrol personnel hours if Harbormasters find such an increase necessary to maintain adequate patrol coverage.

NAVIGATION AIDS AND REGULATION

The enhanced use of navigational aids was recommended in the plan to introduce speed controls in certain areas, improve the marking of channels and highlight rocks and other obstructions. Changes and improvements to navigational aids undertaken by the harbormasters include:

- Continuous numbering of markers from the inlet to Meetinghouse Pond;
- Addition of parallel channel markers and no wake buoys in The River;
- Addition of *Slow No Wake* buoys in the Narrows, and Cow Yard; and
- Addition of rock buoys throughout the Bay.

Harbormasters also have cited an increase in the following activities occurring in marked navigational channels:

- lobster pots are often being found in narrow navigational channels; and
- kayaking, canoeing, para-sailing, kite-boarding, tubing, water skiing, and swimming.

UPDATE RECOMMENDATIONS

Deployment of navigational aids should be increased or continued, as needed, in congested areas, or where necessary to protect resources or guard against excessive speeds. One area identified for additional aids is the area at Fox Hill and Bassing Harbor near the entrance to Ryder's Cove (markers 3-6).

Relocation of lobster pots should be undertaken by appropriate town officials as necessary if pots are located in areas where channels are narrow. If such measures are not sufficient to address the problem, then regulatory steps should be considered.

Public education and changes in waterways regulation should be evaluated to promote safe and appropriate use of recreational equipment and activities, including but not limited to kayaks and canoes, para-sails, kite-boards, towed tubes and water skis, and swimming. Specifically such activities should be prohibited from operating in marked navigational channels unless crossing at a safe location.

MANAGEMENT OF PERSONAL WATERCRAFT (PWC)

The plan documents the public safety and natural resource impacts and issues associated with the operation of personal watercraft (PWC) in an area such as Pleasant Bay. The plan also demonstrates the overwhelming public sentiment that PWC operation in the Bay poses significant public safety and environmental concerns. The plan sought to manage PWC operation in the Bay through prohibition on rental concessions, and development of a PWC management plan. In 1999 the Alliance developed and distributed a publication called *Safe Operation of Personal Watercraft in Pleasant Bay*. The pamphlet outlined state and local waterways regulations regarding the operation of PWC, and included a map of the Bay with resource sensitive areas, areas of prohibition (based on regulation) and rock buoys identified.

In the course of implementing the plan's recommendations, the Cape Cod National Seashore (CCNS) announced a decision to implement a ban on the operation of PWC within the Park boundary, which extends approximately ¼ mile in to Pleasant Bay. The decision raised the concern that PWC activity, and related public safety and environmental impacts, would be concentrated in near shore areas that are congested, difficult to navigate, and heavily used by non-motorized vessels.

In 2001 Town Meetings in the Alliance communities approved bylaws to prohibit the operation of personal watercraft in waters adjacent to the CCNS, including Pleasant Bay. The bylaws were developed in response to the concerns raised by the CCNS decision. The bylaws received approval from the Massachusetts Attorney General and the Massachusetts Division of Environmental Law Enforcement, and were in effect during the 2002 boating season. Enforcement of the bylaws was coordinated with the National Park Service. Signs demarcating the area of prohibition were placed at all town landings in Pleasant Bay.

UPDATE RECOMMENDATION

Compliance with the ban should be monitored by the Harbormasters in cooperation with the CCNS. Additional public education and enforcement measures should be considered if widespread abuses of the bylaw are observed.

NO DISCHARGE AREA

The plan recommends that an application be made to the US EPA to designate Pleasant Bay as a No Discharge Area (NDA). The designation results in a prohibition of treated (macerated or chlorinated) boat sewage. The disposal of untreated sewage is already prohibited within three miles of the shoreline. The alliance, with support from the Massachusetts Coastal Management Regional Office, is developing an application. However Alliance harbormasters are recommending that a NDA application not be pursued until more pump out capacity is added in the Bay. Additional scenarios for providing pump out capacity are currently being evaluated.

UPDATE RECOMMENDATION

Additional pump out capacity should be provided in a centrally located and easy to access location. As soon as added capacity is secured, the Alliance will submit an application for the NDA designation to the U.S. Environmental Protection Agency (EPA). Until such time disposal of treated (macerated or chlorinated) wastes is strongly discouraged by the Alliance.

BOAT-RELATED POLLUTION CONTROL

OPERATION AND MAINTENANCE

The plan calls for rapid transition to cleaner four-cycle engines throughout the bay. In addition the following plan promotes the following maintenance practices to reduce boat-related pollution:

- Only products scientifically proven to be environmentally benign, should be used for hull painting;
- A drop cloth, vacuum sander or other form of recovery system should be in place for hull scraping, and all dust and scraps generated should be disposed of in accordance with all applicable laws;
- Only biodegradable, non-toxic boat cleaners should be used. To avoid spills, use of any chemical products should be restricted while a vessel is on the water;
- Boat chemicals, and cleaning materials should be disposed of in accordance with all applicable laws;
- Steam cleaning methods should be used to clean outboard motors, and use of toxic chemical cleaners should be avoided;
- Premium two-cycle oil should be used in outboards. All used motor oil from oil changes should be disposed of in accordance with all applicable laws;

- Propylene glycol mixtures should be used for anti-freeze rather than ethylene glycol mixtures. All used anti-freeze from changes should be disposed of in accordance with all applicable laws;
- A funnel should be used when filling an outboard motor with gas or oil;
- A bilge “pillow” should be used to absorb oil from bilge water before it is pumped overboard.

UPDATE RECOMMENDATION

Encourage marinas, boatyards, and individual boat owners to undertake environmentally hazardous activities away from waterways, and preferably to upland locations that have the infrastructure to properly contain polluting impacts.

The Alliance will continue to promote adherence to the best management practices outline in the *Massachusetts Clean Marina Guide* published by Massachusetts Coastal Zone Management. The Alliance will encourage marina and boat yard owners to obtain a National Pollutant Discharge Elimination Service (NPDES) permit if applicable to their operations.

PUBLIC EDUCATION AND CAMPAIGN

A public education campaign targeted to local and transient boaters should be undertaken to reinforce the recommendations of the resource management plan. The campaign should encompass informational brochures, signs at public landings, seminars, media, advertising, and public forums, and should address:

- Waterways regulations, and penalties for non-compliance;
- Environmental benefits of four stroke engines over two stroke engines and encouragement for converting to four stroke engines;
- Operating and maintenance procedures designed to reduce impacts on natural resources;
- Unregulated boating protocols;
- Procedures concerning aquaculture grant areas;
- Appropriate use of town landings; and
- Resource sensitive areas.

UPDATE RECOMMENDATION

The public education campaign, as outlined in the plan, should be undertaken.

Further research should be undertaken to characterize and quantify the impacts of boating on water quality, habitats, and other aspects of the marine environment in Pleasant Bay. This research should assess:

- Emissions from motorized vessels and, in particular, whether the impacts of two-stroke engines in the Bay will be adequately addressed by the new EPA emissions standards;
- Extent of loss of vegetation;
- Extent of bank erosion;

- Loss of habitat due to noise or loss of vegetation;
- Impacts of chemical leaching from anti-fouling paints, and from treated lumber used for shoreline structures; and
- Impacts from moorings on bottom vegetation and shellfish.

The research would be available to the towns to use as a basis for reformulating guidelines or regulations to minimize any negative impacts of boating on the natural resources of the Bay.

UPDATE RECOMMENDATION

The evaluation of boating impacts as outlined in the plan should be undertaken. A first step to the evaluation should be the completion of a boating census to provide a baseline for measuring boating activity in the Bay.

MOORING MANAGEMENT

Since the adoption of the plan Harbormasters in the Alliance towns have maintained an upward limit on the number of mooring permits at all existing town mooring fields in Pleasant Bay. However, there is an increase in recorded permits due in part to enhanced record keeping capabilities within the towns. A mooring free area continues to be in effect within Big Pleasant Bay, as outlined in the original plan.

MOORINGS IN PLEASANT BAY, 1996 AND 2001

TOWN	1996	2001
ORLEANS	634	740
CHATHAM	616	960*
HARWICH	133	165
TOTAL	1,383	1,865

*Additional 78 permits are issued with no current boat
Source: Harbormasters of Orleans, Chatham, Harwich

Use of alternate mooring technologies –such as helical screws -- that have the potential to reduce scouring – are used on a very limited basis in the Bay. This is primarily because of the increased costs associated with this type of mooring technology. However, Harbormasters have begun to experiment on a small scale with different strategies for attaching the chain to the ball, using less chain and more line to maintain the scope of the mooring in areas where there is less exposure, and use of floats to suspend the line and limit scouring.

UPDATE RECOMMENDATIONS

A continued limitation on mooring permits is necessary to prevent overcrowding of the waterways, and other boating impacts on resources. A limitation on mooring permits is also necessary to address impacts associated with overcrowding at town landings.

Use of alternative technologies that limit scouring are encouraged, but not as a means of increasing mooring capacity in the Bay. Use of alternate tackle or mooring techniques are encouraged if they can reduce the impacts of traditional mooring technologies.

The Alliance encourages local Harbormasters to explore the potential of one or more demonstration projects to test the long-term benefits of alternative technologies or mooring techniques.

DREDGING

MAINTENANCE DREDGING

Maintenance dredging is allowed within ACECs. The plan recommended that maintenance dredging be allowed to continue provided that it met all local, state, regional and federal permitting requirements and is consistent with the plan. Since the plan was adopted in 1998, maintenance dredging within the ACEC has occurred only at the Round Cove entrance channel. Dredged material from Round Cove was used to re-nourish the Bay Road Beach in Harwich. Within the Pleasant Bay study area since 1998 dredging has occurred in Chatham Harbor to allow access to Aunt Lydia's Cove, and at the Ryder's Cove bulkhead. Some dredge material from those projects has been used for beach and shoreline stabilization within the ACEC.

UPDATE RECOMMENDATION

Maintenance dredging should be allowed to continue provided it meets all applicable permitting requirements and is consistent with the resource management plan and update.

IMPROVEMENT DREDGING

Local waterways managers in the Alliance towns have identified areas that have traditionally been navigated that are experiencing shoaling. However there is no record of these areas ever having been dredged. Dredging of these channels would be considered improvement dredging. The state Waterways Regulations (Chapter 91) prohibits improvement dredging within ACECs except for the purposes of fisheries or wildlife enhancement.

UPDATE RECOMMENDATION

The Alliance will conduct a study of the potential need for, impacts from, and feasibility of improvement dredging in areas where shoaling is limiting access in areas that traditionally have served as important public navigable waterways. The study should undertake a system-wide evaluation of:

- Specific locations for improvement dredging, including desired depths;
- Historic and projected shoaling patterns in these areas;
- Impacts on navigation from dredging or not dredging;
- Impacts on water quality, eelgrass, shellfish habitat and other habitat values from dredging or not dredging; and

- Options for achieving state regulatory permissibility and approval.

DISPOSAL OF DREDGED MATERIAL

The state's Waterways (Chapter 91) Regulations prohibit the disposal of dredged materials within an ACEC, except for the purposes of beach nourishment; or stabilization with proper vegetative cover; or the enhancement of fishery or wildlife resources. (310 CMR 9.40 (1)(b)). Any proposals to dispose of materials from dredging projects within the study area should be required to demonstrate consistency with the resource management plan, and to meet all local, state and federal environmental permitting requirements.

Currently, material from dredging is disposed of within the town undertaking the dredging. Greater system-wide benefits could be achieved by locating the material where it could provide the maximum benefit for beach nourishment; or stabilization with proper vegetative cover; or the enhancement of fishery or wildlife resources, regardless of town boundary.

UPDATE RECOMMENDATION

The Alliance will identify and prioritize locations for the disposal of dredge material in the ACEC consistent with Chapter 91 regulations. Towns will be encouraged to explore the feasibility of locating dredge materials in one of the prioritized ACEC locations, even if it is located outside of the town's boundary.