



Scarborough Marsh Restoration Project Fact Sheet

Libby River Project Area

Overview

The Friends of Scarborough Marsh and restoration partners have developed designs and found funding to respond to problems in the 150 acre Libby River site where a significant tidal restriction exists due to an undersized road culvert on the Black Point Road (Route 207). Additional site features include many natural tidal pannes and pools, several hundred feet of old road berms, and more than twenty seven acres of invasive plant species *Phragmites sp.*. Agricultural lands, forested uplands and wetlands, and residential developed land adjacent to this area convey freshwater runoff to tidal areas, further altering salinity levels upstream and resulting in a significant loss of high tidal value habitat characteristics.

The Libby River tidal marsh once supported a suite of species – plants, invertebrates, fish, shorebirds, wading birds and waterfowl – that depend on this high marsh habitat. The decline of the Libby River tidal marsh clearly has many natural and manmade causes. The resulting negative cumulative impacts to the tidal habitat creates ideal conditions for the spread of non-indigenous plant species, such as *Phragmites sp.*. This plant spe-

cies reduces plant and animal biodiversity and can dominate large areas of marsh such as the twenty seven acres already found upstream of Black Point Road.

Purpose of Restoration at Libby River (Upstream)

To eradicate phragmites and restore the ecological function of the saltmarsh, project partners will improve the hydrologic conditions to what may have been historically found at this site area. Two additional culverts will be installed (fall 2004) and a new channel connection will be excavated in order to restore tidal flow and increase salinity upstream. Consideration will also be given to the need for additional *Phragmites sp.* control measures as necessary to remove persistent stands of phragmites upstream. The restoration effort will also include pre- and post-restoration assessments, a close review of tidal hydrology model data analysis to ascertain potential private property impacts, benchmark tide data collection, design alternative analysis, cost effectiveness and will emphasize community outreach (media coverage, newsletter articles, field trips and local involvement).

Libby River (Upstream) Partners

- USDA Natural Resources Conservation Service
- Maine Department of Transportation
- Scarborough Sanitary District
- Portland Water District
- Maine Inland Fisheries & Wildlife
- U.S. Fish & Wildlife Service, Gulf of Maine Program
- Ducks Unlimited
- Maine Audubon
- Friends of Scarborough Marsh

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Questions & Answers



What is Phragmites?

Non-native Phragmites, also known as common reed, is a perennial and aggressive wetland grass. Growing in dense stands of reeds over 10 feet tall, it is easily recognized by its height and distinctive fronds of fluffy seed heads, which turn from purplish in July, to brown, then gray by October.

Where does Phragmites grow?

Found in marshes and swamps, along streams, lakes, ponds, and ditches, Phragmites is most commonly associated with coastal brackish water, as well as disturbed, moist sites. Often found alongside roads, stands of the reed are easy to spot—even by motorists traveling quickly. More and more prevalent in Scarborough, Phragmites has become so common, many mistakenly believe it is “the marsh.”

How does Phragmites spread?

Often very difficult to eradicate, Phragmites can be an aggressive species that rapidly colonizes new areas. In addition to distribution of the seeds in the seedhead that can be seen at the top of the plant, shoots and rhizomes grow from the nodes, spreading the plant far beyond its original bounds. Rhizomes may reach 10 meters or more in length, and in sparse stands, shoots that fall over become horizontal runners.

Why is Phragmites a problem?

Phragmites can be an indicator that a wetland ecosystem is out of balance. Disturbances or stresses such as pollution, alteration of the natural hydrologic regime, and increased sedimentation favor invasion and continued spread of Phragmites. According to the best available scientific information, there may be a strain of Phragmites, native to the US, which is non-invasive and relatively rare. The non-native Phragmites, which tends to grow in monospecific (one species) stands, out-competes other plant species. In contrast to beneficial wetland species, Phragmites provides little or no food or shelter value to saltmarsh dependant wildlife, and contributes to the loss of biodiversity of the associated native fish and wildlife species typically found in a healthy saltmarsh. Phragmites itself becomes a greater and greater problem as the quality of our wetlands deteriorates.

Why is Restoration Needed?

Challenges facing the Marsh today are largely the result of human activities occurring over a long period of time. Since colonial times, barriers to tidal flow, undersized culverts, invasive plants, fill material and ditching have harmed the ecological integrity of the saltmarsh.

Because of local and regional protection efforts, and the removal of tide gates, the marsh is many ways a healthier ecosystem now than 100 years ago. However, the effects of tidal flow restrictions, past fill, networks of ditches, farming, upland fringe fragmentation and habitat loss due to development, and polluted run off linger and compromise the biological vitality of the marsh.

The Marsh remains at risk still, as these harmful impacts have caused lowered salinity levels and reduced the amount of sediment available for marsh surface deposits or accretion, altering the conditions required for a flourishing ecosystem. Where once a full suite of plant species grew, now invasive plant species such as Common Reed (*Phragmites australis*) and purple loosestrife (*Lythrum salicaria*) have gained a foothold and continue to spread, dominating the landscape in several areas.

In addition a network of grid ditches excessively drained the high marsh and destroyed some of the permanent pool habitat that once supported a suite of species — aquatic plants, invertebrates, fish, shorebirds, wading birds, and waterfowl.

Yet many of these impacts can be corrected through restoration. Re-establishing permanent pools of water and restoring water flow to the marsh benefits fish and wildlife and restores plant communities.

What is the Scarborough Marsh?

A resource to be treasured! The 3,100 acre Scarborough Marsh Wildlife Management Area is owned and managed by Maine Department of Inland Fisheries and Wildlife (IF&W) and includes nearly all 2,700 acres of Scarborough Marsh. The marsh provides both suitable habitat for a diverse suite of wildlife species, supports commercial fishing and tourism-based businesses, and is enjoyed by hunters, anglers, paddlers, wildlife watchers, and other people seeking outdoor recreation.

The Scarborough Marsh is Maine’s largest and most renowned saltmarsh. Recognized for high biological productivity and diversity, the marsh provides habitat for estuarine and catadromous fish species, such as the mosquito-eating mummichogs, sticklebacks, striped bass and shad, as well as waterbirds and furbearers. The Scarborough Marsh also supports state and federally listed threatened or endangered species, such as the piping plover, least tern, roseate tern, brown snake, Blanding’s turtle, peregrine falcon and bald eagle.

To learn more, visit www.scarboroughmaine.com/marsh