

Wellfleet is built around its harbor, covering a span of 5 miles north-south and 2 miles east-west. The harbor is a critical to the Town's economy, for shellfishing, fishing, boating and with a shoreline offering a multitude of opportunities.

The last survey of the biological health of the harbor was undertaken in 1972, by the Division of Marine Fisheries, under the leadership of J.R. Curley :

https://www.wellfleet-ma.gov/sites/g/files/vyhlif5166/f/uploads/study_of_the_marine_resources_of_wellfleet_harbor_curley_report.pdf

Many changes have happened since then: increased population, growth of shellfish aquaculture, and global warming as examples. Two critical projects – the Herring River restoration and waste-water control (for nitrogen reduction) are nearing implementation.

It is timely to undertake a new harbor survey. This would provide a baseline to evaluate benefits of on-growing projects and to uncover any existing concerns that might require action.

We seek proposals that would update the 1972 project, using modern technology and science.

There are five components to our request, with suggested sampling sites. An alternative plan would be considered, within the broad purpose and scale of this proposal.

> "Bait" fish. These are smaller species – such as Mummichog and Silversides that are key food sources for larger fish. They also play a key role in control of mosquito larvae.

Surveys are required over two summers, twice per summer, following the basic site plan of the original report. Survey dates are mid-July and Labor Day. Ebb tides are strongly preferred, as these will include fish carried into the harbor off salt marsh breeding & foraging Sites.

The sites are all at mouths of key estuaries & marshes:

- > Duck Creek
- > Middle Meadow
- > Herring River/the Gut ... for Herring River restoration.
- > Blackfish Creek
- > Fresh Brook.

> Finfish. By this we mean the larger fish which feed in the harbor, such as Striped Bass, Bluefish, Winter Flounder, etc.

Surveys are required over two years, with three tests each year, including one in late Fall. Flood tides are needed to include species carried into the harbor at that time,

The surveys should follow the basic plan of the original report, with stations:

> the Gut,

> mouth of Loagy Bay.

> open harbor: north, mid and south(north harbor); the late summer survey should also include a drag as part of the shellfish survey (see below).

We recommend consulting with the Wellfleet Harbor Master before a plan is finalized.

> Shellfish. There have been many developments in shellfishing since 1975, with the development of aquaculture and an aggressive program of “clutching” to provide growth sites for young oysters. The Wellfleet Shellfish Department has excellent data concerning the harvest of all shellfish, either wild or cultured.

Our concern is rather to survey shellfish habitat, to create a baseline to monitor future harbor changes.

Field survey sites should be chosen to broadly cover the harbor. These include:

> Inside Jeremy Point – a likely site for Bay Scallops and (possibly) eel grass

> west side of the harbor south-east of Indian Neck

> the Gut

> Chipman’s Cove, both the west side and a location near clutching.

> south-west of Indian Neck

> inside Silver Springs Basin.

As with the 1972 survey, quadrat samplers should be used, one square foot for clams one square yard for oysters

Once in late Summer over two summers should be sufficient. Obviously, the timing should be at full ebb tides.

The key target species are Oysters and Quahogs. Three species whose populations in Wellfleet Harbor may be increasing with climate change are Blood Clams, Blue Claw Crabs and Bay Scallops. Bay Scallops are known to spawn in Eel Grasses, so a search for these two fauna can be carried out conjunctly.

It is important that each survey site include a core of the substrate, for characterization of the basic habitat.

We recommend consulting with the Wellfleet Shellfish Constable before a plan is finalized.

> Phyto-plankton. These small (plant) organisms are the key food source for shellfish. They are a key marker for basic harbor productivity. Some sampling work has been carried out and reported by the CCS.

We ask for surveys to update this information, in conjunction with the fin-fish trawler operations. The survey should include an identification of species.

> Harbor vegetation. We have no information about sub-tidal vegetation in Wellfleet harbor. Broad surveys are required, once in late Spring once in the Fall, again concurrent with harbor trawling operations.. Any records of eelgrass would be especially helpful, as these are habitat for scallops.

The work as executed and interpreted should be designed to lead to future actions, guided by the results. As examples:

- > possibility to encourage eelgrass beds inside Wellfleet Harbor;
- > following over the next 10-20 years of the effect of Herring River restoration on harbor resources in The Gut;
- > prediction of further climate change effects on harbor life and productivity.

By no means is this to be consider as a final list.

Terms and Conditions

All responses to the RFP are due by January 30 2022. These will be treated as confidential by the Town of Wellfleet as Wellfleet property. RFP will be judged based on technical competence and costs. An upper limit of \$50K will be enforced, consulting with NRAB if adjustments in the outlined program are needed.

Responses will be communicated by xxx, subject to a final approval by the Wellfleet ATM in late April.