

This is the third Harbor Management Plan (HMP), after those of 1995 and 2006. We are encouraged by the progress in the past nearly 25 years.

In 1995, the key issue was harbor cleanliness. This was addressed in years following by a nearly universal adoption of Title V septic systems.

The 2006 report also had a focus on harbor water quality, due then to excess nitrogen. A second key issue was tidal restoration of marshes that were isolated by diking.

Work on several of the issues from 1995 and 2006 is on-going. We recommend as priorities that these projects be supported to completion:

- > Nitrogen. The Comprehensive Waste Water Planning Committee is working on a plan.
- > Herring River restoration. The project is in the midst of the permitting process.
- > Mayo Creek restoration. A draft plan needs implementation.
- > Harbor dredging. Not a priority in 2006 but became one due to cost and scheduling issues. A good plan is in place which needs to be fully implemented.

I. There are four chapters in the 2020 HMP:

i. Climate Change and its effect of the harbor – especially sea level rise and temperature increase. We note that this key issue was not even mentioned in 1995 or 2006.

ii. Survey of harbor life. This is an update of the 1975 “Curley” report. The goal is to provide a useful basis for tracking harbor changes.

iii. Dredging. This is perhaps better known as “after-dredging”. The goal is to find ways to minimize future dredging and to make better use of dredge “spoils”.

iv. Shellfishing. A review of steps that might be considered to enable the wild shellfish populations in the harbor to flourish, as an environmental and commercial benefit.

Finally, we are of course aware of possible social consequences of climate change. For example increased tidal flooding of road and uplands, for example east Commercial Street, Mayo Beach and Lieutenant Island is likely. These concerns are outside the scope of this report: we note that adequate Town planning is needed to minimize damages.

Climate change is a new issue for the Town. As consequence of both warmer sea waters and glacial melting, sea levels are rising globally. In addition, Cape Cod has been geologically sinking, which augments the effect.

Sea level rise is perhaps the most dramatic new issue facing the Town. Some NOAA predictions are shown in the following graph. There is a wide range of long term predictions. Recently, the more dramatic of these seem more likely.

(need graph showing local data)

We note that, for all the models, the main rise in sea level is predicted for 2030 and beyond.

The good news is that we thus have some time to plan and take steps to limit local consequences of climate change. The bad news is that the consequences can be severe, depending on the extent of sea level rise. (see CCC plots).

The Town of Wellfleet is already a participant in a lower Cape Shoreline Resiliency Program, through the efforts of the Town Conservation Agent. This deserves our full support.

Longer term, a broad-based Town "Climate Change" committee is warranted. It will not be possible to separate conservation issues from shellfishing issues from health issues from shoreline structures issues. A broad view is needed.

There are many references and people who have provided ideas and results. for this plan. We wish to especially acknowledge the report by Dr. Seth Tuler, working with an ad hoc town committee. Though focused on shellfishing, the report has broad harbor applicability. The report is still timely, even if dated 2015. The report can be found on the NRAB web-page or from the link:

https://www.wellfleet-ma.gov/sites/g/files/vyhlf5166/f/file/file/climate_change_-_potential_impacts_on_shellfish.pdf