



P.O. Box 1243
Harwich MA 02645

March 2015

Dear Friend of Pleasant Bay,

These are exciting times for Pleasant Bay and **we need your help**. In this our 30th year, we are undertaking an ambitious research program to better understand the physical processes and biological diversity within Pleasant Bay, the largest estuary on Cape Cod. Through its generous members, the Friends of Pleasant Bay has a long history of funding projects that have positively impacted the Bay, from land protection, to local educational support to environmental research grants covering horseshoe crabs to coastal changes.

The FOPB Board of Directors has initiated three new studies being carried out by the Center for Coastal Studies in Provincetown, MA. Outlined on the following pages, the studies were developed in cooperation with the Pleasant Bay Alliance and the Massachusetts Department of Fisheries & Wildlife. The Cape Cod National Seashore and IFAW (International Fund for Animal Welfare) are also participating.

Taken together with the recently completed Lobster Nursery Study, the four studies will provide a long overdue picture of how our Estuary is faring during this period of changing climate and population growth. Comparisons with the 1967 *Study of the Marine Resources of Pleasant Bay* will make it possible to identify changes over time.

In order to move forward with these three studies, we needed to raise an initial \$75,000. Over 200 generous Friends stepped up to contribute and we met that goal, allowing this important research to begin. Now we need **you** to join this wonderful group of donors and help fund the projects to completion. Contributions of any amount will be appreciated and are tax deductible. All contributors will be recognized and those who contribute \$500 or more will be honored as *Bay Researchers*.

Thank you for your continued support of Pleasant Bay.

Be a Bay Researcher!

Add your name to the growing list of 49!

Sincerely,

Herb Heidt,
President, The Friends of Pleasant Bay

Comprehensive Study of Pleasant Bay

Pleasant Bay is the largest marine estuary on Cape Cod, and one of the largest in the Northeast. Beyond its sheer size is the extraordinary diversity of its eco-system: its marine and fresh water bodies, its wetlands and vegetation, and its marine and terrestrial animal life.

Establishment of The Friends of Pleasant Bay (FOPB) in 1985 as a private, non-profit organization was triggered by citizen concern over the declining health of this eco-system and a desire to protect its unique character. Advocacy by that fledgling group led in 1987 to the designation of Pleasant Bay as *an Area of Critical Environmental Concern* (ACEC) by the Commonwealth of Massachusetts. This designation requires that any activities within 100 feet of the ACEC undergo an extra level of scrutiny before permission to proceed can be granted by any of the four towns located within ACEC borders.

When the ACEC was established, the primary source of scientific information about the Bay was a comprehensive study of the estuary (*A Study of the Marine Resources of Pleasant Bay*) conducted by the MA Division of Marine fisheries during 1965-66 and published in 1967. No comprehensive study of Pleasant Bay has been conducted in the almost half century that has passed since then, despite the fact that the four towns abutting the Bay have undergone unprecedented growth during that period of time. (Several narrowly focused studies have been completed since 1967, including water quality monitoring and research on horseshoe crabs.)

The 2015-2016 Comprehensive Study of the Pleasant Bay Estuary

The Friends of Pleasant Bay with The Center for Coastal Studies in Provincetown (CCS) is set to remedy this paucity of research-based, system-focused information with a multi-pronged study of Pleasant Bay during 2015-2016. We have taken on the Studies with CCS because The Friends of Pleasant Bay believe that up-to-date scientific information about the Bay is critical to maintaining a healthy ecosystem. We are seeking your financial support in funding the several components of this important endeavor.

The Comprehensive Study Proposed by the Center for Coastal Studies consists of the following three elements:

1. High Resolution Seafloor/Benthic Mapping (with Bathymetry) of the Entire Pleasant Bay Estuary, with Bottom Sampling. Products from this mapping project will include high-resolution habitat maps that delineate shellfish habitat, eelgrass, and other submerged aquatic vegetation, and analysis of sediment types and larger invertebrates from bottom grab samples. This project will provide important data to all four towns that will assist them in understanding where the Bay bottom is degrading due to in-flows from its watershed, and in regulating shell fishing based on current distribution of scallops and quahogs. Care is being taken to sample some of the locations previously used in the 1967 study in order to take maximum advantage of the baseline established at that time. This project has a budget of \$69,800 and FOPB has started initial funding of this research. Your contributions are needed to complete it.

2. Shellfish and Finfish Inventory of the Bay. Extensive field surveys, beginning in spring 2015, will permit analysis of the distribution and relative abundance of individual fish and shellfish species in the Bay. This study will have special significance for all of the recreational fishermen that frequent our estuary and those who harvest shellfish for recreational and commercial purposes. The budget for this inventory is \$64,600 and fundraising is just beginning.

3. Seal survey of the Bay. The seal population in Pleasant Bay has increased dramatically since the 1960s and 70s, when the bounty on seals was lifted. No systematic study of the seal population in Pleasant Bay has occurred since then. This study will include monthly counts conducted through aerial surveillance, and research into what the seals are eating through analysis of seal scat gathered systematically at the seal haul-

out sites. The seal study has particular significance for fishermen, who think that the seal population has contributed to the decline in fish stocks within and around Pleasant Bay. Seals have also become a major attraction for human visitors to Pleasant Bay and for the great white sharks that are visiting Cape Cod waters with increased frequency. The seal study has a budget of \$45,700 and fundraising is just beginning.

Taken together, these four studies (the three plus the Lobster Nursery Study) will provide the many friends of Pleasant Bay with a long overdue picture of how our estuary is faring during this period of changing climate and population growth. The findings from the 1967 study will make it possible to identify changes over time. Account can also be taken of the changes in the cuts through the Outer Beach that have occurred since the 1960s. Because water sampling has been conducted in the Bay since the year 2000, changes in the Bay between 1967 and the present can also be correlated with water quality changes.

The Friends of Pleasant Bay see this comprehensive study as the first step in a long-term eco-system monitoring program that would be carried out in concert with the water quality monitoring effort now in its 14th year. This longitudinal perspective is needed to fully understand the complex relationships among habitat, humans and natural processes in the Pleasant Bay Estuary.

We hope that you will contribute to this effort with a tax-deductible financial donation.

Be a Bay Researcher!

In addition to your Annual Membership Contribution, please use this form to contribute to the studies.

Yes, I support FOPB's Pleasant Bay Environmental Research Projects

Name(s): _____

Address: _____

Phone: _____ Email: _____

Research Contribution Amount:

Bay Researcher \$500 or more: \$ _____

Contributor: \$ _____

Make payable to: The Friends of Pleasant Bay

Send to: FOPB PO Box 1243 Harwich MA 02645

The Friends of Pleasant Bay is a nonprofit organization

Your contribution is tax deductible