



Friends of Casco Bay
Operating Plan
FY20

April 1, 2019 – March 31, 2020

FOR INTERNAL USE ONLY



photo credit Kevin Morris

TABLE OF CONTENTS

I.	Context for FY20 (April 1, 2019 – March 31, 2020)	4
II.	Highlights from the Strategic Plan 2018 – 2022	6
III.	FY20 Operating Plan	7
A.	Programs	7
1.	Science: Water Quality and Other Environmental Monitoring	7
a.	Ongoing Monitoring Programs	7
i.	Continuous Monitoring Station (CMS)	8
ii.	Seasonal Water Quality Monitoring Across Casco Bay	8
b.	Episodic Science Efforts	9
iii.	Macroalgal Blooms	9
iv.	Microplastics	9
c.	Data Management and Analysis	9
d.	Lab Management	10
e.	Boat Operations	11
f.	Collaborations	11
2.	Advocacy: Baykeeping	11
g.	Priority Issues Identified in Strategic Plan	12
v.	Climate Change Including Sea Level Rise and Ocean and Coastal Acidification	12
vi.	Nitrogen Pollution	13
vii.	Stormwater Pollution	14
viii.	Aquaculture	14
ix.	Legislative Agenda	15
h.	Lower Priority Issues	16
x.	Marine Debris	16
xi.	Oil Spill Preparedness	16
xii.	Dredging	17
xiii.	Impaired Regions	17
i.	The “Work With” Approach	17
3.	Community Engagement	19
j.	Volunteer Programs	19
xiv.	Opportunities for Individuals	19
a)	Water Reporter	19
b)	Internships and Externships	20
c)	Other Opportunities and Organizational Needs	20
d)	Color By Numbers	20
xv.	Opportunities for Community Groups and Corporate Groups	21
e)	Storm Drain Stenciling	21
f)	Coastal Cleanups	22
k.	Casco Bay Matters Events	22
l.	BayScaping	22
xvi.	Working with Municipal Officials	22
xvii.	Working with Residents	23
m.	Casco Bay Curriculum	24
4.	Pumpout Program	25
B.	Communications and Development	27
5.	Communications	27

n.	Telling, Sharing, and Promoting our Stories.....	27
o.	Website.....	29
p.	Advancing Our Brand	29
q.	Organizing and taking part in community events	30
xviii.	Friends of Casco Bay events	30
xix.	Community events organized by other groups, invitations for speaking engagements and tabling events	31
g)	Speaking requests	31
h)	Tabling.....	31
r.	Building Relationships with News Media.....	32
6.	Development.....	32
s.	Climate Change and Casco Bay: A Fund for Technology, Monitoring, and Community Engagement	33
t.	Individual Giving	34
u.	Foundation Giving	35
v.	Corporate Donations	35
w.	Government Grants and Contracts	35
x.	Leveraging our Science, Baykeeping, and Community Engagement efforts.....	35
y.	Organizational Memory: Tracking and Reporting	36
z.	Other Fundraising Efforts.....	36
aa.	Remaining nimble	36
C.	Technology and Capital Assets.....	36
D.	Management and Administration.....	37
7.	Staff	37
8.	Office Space	38
9.	Financial Stability.....	38
10.	Board.....	38
IV.	FY20 Operating Plan Summary	39
V.	FY20 Budget Highlights	41
VI.	APPENDICES.....	43
	Appendix A – FY20 Program Matrix.....	43
	Appendix B – FY20 Volunteer Opportunities in Relation to Programs.....	44
	Appendix C – FY20 Events We Anticipate Hosting	45
	Appendix D – Our Working Relationships – Mid 2018.....	46
	Appendix E – Where We Have Been – FY19	48
	Appendix F – Pumpout Metrics 1999 – 2018.....	50
	Appendix G – New Pumpout Boat	51
	Appendix H – FY19 Media Report	52

I. Context for FY20 (April 1, 2019 – March 31, 2020)

Please Note: The Table of Contents, pages 2 – 3, is your friend.

This document is set up to use the Table of Contents as your guide to better understand the plan, and, if you are reading this document electronically, it allows you to connect to specific sections of the plan straight from the Table of Contents. In the Table of Contents, simply click on the line item that you want to view, click your Ctrl key and whoosh –the Table of Contents will put you there.

As we transition from FY19 to FY20, we enter our 30th year of operation. Our staff members collectively have 107 years of service to the health of Casco Bay. Our experience working together for a long time allows us to deepen our program and community work. We are integrating our work more effectively than ever. In addition, the engagement with our Board in guiding our work and with our Volunteers in assisting with the work are central and unifying dynamics.

This Document

This document contains our FY20 Operating Plan with a summary of the FY20 Budget highlights. These elements support our Strategic Plan 2018-2022, which describes a vision for 2022 and identifies seven strategic initiatives for advancing our mission for a healthier Bay. These strategic elements are summarized below (II). This plan and those that have preceded it over the years serve as incredible sources of history and documentation of our work with supporting rationale. They can all be found in the Board Resources section of our website.

This **Operating Plan** is for *internal use* and contains detailed narrative generated by Staff, specifically laying out the activities in which we will engage this next fiscal year, April 2019 to March 2020, to make progress on the goals outlined in the Strategic Plan. Please note, you will see references to both 2019, and FY20 itself; both refer to efforts we intend to undertake during this next fiscal year.

The Operating Plan is in four sections: Programs, Communications and Development, Technology and Capital Assets, and Management and Administration. The contents of this plan are open for discussion among Board and Staff. **The FY20 Budget and its Supplemental Schedule are separate documents and are integral to this plan.**

While the Strategic Plan is elegant in its brevity – 3 pages, the Operating Plan is the opposite; the devil, as they say, is in the details. The beauty of a plan such as this is that our intentions and rationale are clear and transparent, and we – Board and Staff – can all be on the same page in our messaging. Having a clear plan helps coordinate and prioritize our focus and use of resources, and it makes the search for resources – the details for our fundraising processes – markedly straightforward.

We engage in various assessment and planning activities throughout the year. You will “hear” the different voices of Staff echoing in their sections. Drafts are submitted to me. I identify elements that need clarification or refinement, rework those with Staff, then write additional sections, update the appendices, rework the budget details, and edit the final draft of the plan. There are always more ideas to tackle than there is time to assess and implement, so we try to limit our commitments where possible. (Staff are very ambitious!) In addition, inquiries from the public pop up every day, and responding to these takes precedence. The assessment and planning processes we undertake throughout the year help us weigh alternatives as we construct this annual work plan.

There are occasional repetitions in this document referring to different efforts or initiatives, and where we can, we try to simply steer you to some other section containing the details. Because this is for internal use only and because we have much to do, you will perhaps forgive us for imperfect editing and formatting. Arguably, the bulk of the value of this document is as much or more in all of the assessing, planning, and decision making that leads up to its creation.

Our mission is to improve and protect the environmental health of the Bay. This is supported by efforts in science, community engagement, and advocacy – the three legs of the stool, so to speak. We conduct our advocacy using a “work with” approach, based on common sense, decency, humility, and compromise, backed up by science and the law. Given the increasing occurrence of algal outbreaks, changing weather patterns, and increasing temperatures, our monitoring and community engagement efforts are as important as ever.

Much of the value of what we offer to the community lies in our ongoing programmatic work, making that work and its implications understandable and relevant to people throughout our community and our state, empowering our neighbors to engage in activities that have a positive impact on the health of the Bay, strengthening our working relationships around the Bay and across the state, and advocating for policy changes that make a difference in the health of the Bay, while we run our organization responsibly and professionally. We strive to be an organization that is both leading and learning.

In summary, in FY20, we will be tackling our goals in the following ways:

1. Bring to public attention the changes we are seeing in conditions in Casco Bay, shedding light on the ways in which climate change is impacting the region, and engaging our community in ways to share observations and explore ways to mitigate and adapt to the changes. Increasing temperatures, nitrogen pollution, and acidification are of major concern. We will be communicating and engaging in a variety of ways, from monthly updates of our water quality data on the website, to expanding our observing network using Water Reporter, hosting our Casco Bay Matters series, BayScaping socials, and other events, and using our online communications.
2. Advocate for permits, policies, and practices that protect the health of the Bay.
3. Raise funds for monitoring and community engagement through the Climate Change and Casco Bay Fund campaign.
4. Build and maintain collaborations and partnerships that advance our mission with the Board and Volunteers, colleagues and scientists, interns, members and donors, policy makers, municipal and other governmental partners, other water groups, Bay “users,” and other members of the public.
5. Maintain our operating capacity to realize our operating plan while responding to issues, threats, requests, and opportunities, as they arise, effectively and in a timely manner.
6. Grow our financial resources to enable us to better deliver our mission.

Many thanks to the Staff for continuing every day to keep our work relevant and to find ways to work together to bring our work forward to the public. Thank all of you for your dedication to considering the contents of this plan along with the budget. We look forward to the discussions that will follow in the days ahead.

Respectfully submitted,
Cathy L Ramsdell
Executive Director, Friends of Casco Bay

II. Highlights from the Strategic Plan 2018 – 2022

[For more detail, please see the Strategic Plan in its three-page entirety]

Vision for 2022:

- We have **raised awareness** that Casco Bay is essential to quality of life in the region.
- We have **engaged members of our community** by sharing the science of water quality in understandable ways that influenced them to support policies that keep Casco Bay healthy.
- We have **advanced our science** using technology and Volunteer engagement.
- We have **decreased pollution**, from nitrogen, stormwater, sewage, plastics and marine debris, pesticides, and fertilizers.
- We have shined a light on **the impacts of climate change**, as well as global policies and economic influences.
- We have **expanded our membership**.
- We are **financially strong**.
- We are in **new offices** that fit our needs.

Initiatives for 2018-2022:

- **Monitor water quality** in Casco Bay
- Translate **data, science and policy** implications into understandable formats.
 - **Communicate**, engage, influence, and deepen understanding of how conditions in the Bay are changing.
 - **Inspire** the community to champion policies and behaviors that support clean water.
- Provide meaningful, low threshold opportunities for **Volunteers** to get involved.
- Continue our **collaborative** “work with” approach to advocacy and influence.
- Identify goals for a fundraising **campaign** to support our science efforts.
- Move our **offices**.
- Manage leadership **succession** in Board and Staff.
- Advocate for standards and controls on **nitrogen and acidification**
- Advance the visibility, branding, educational outreach, political involvement, and recognition of our mission
- Apply technology and scientific methods; build credibility; communicate, and educate
- Pursue collaborations and partnerships that advance our mission
- Build capacity in Baykeeping and maintain capacity in organization and infrastructure
- Grow funding consistent with our resources

Closing summation

Casco Bay belongs to all of us. We are building connections, connecting the dots, and working with our community to improve and protect the environmental health of Casco Bay.

III. FY20 Operating Plan

A. Programs

The employees of Friends of Casco Bay meet together regularly throughout the year in various meeting formats to discuss our work, track progress, calibrate our positions, and assess opportunities. We work as an ensemble, and while we rely on each individual to expertly perform the duties for which they are employed, much of the art of running our organization efficiently and perhaps more importantly, effectively, comes from the insights and synergies of having worked together for an extended length of time. The sharing of expertise, experience, and inspiration are essential to setting direction together, whether staying the course in certain areas, sitting together to rehash a position or strategy, or shifting our focus to launch new initiatives with all of the logistical particulars to be sorted out. The team matters.

Themed meetings, sometimes involving collaborative partners from outside the organization, range from reviewing aspects of our water quality monitoring program and exploring Volunteer opportunities, to messaging, advocacy and legal positioning, relationship management, education and outreach efforts, event planning, and communications purposes and designs. The shared sense of rationale and understanding about why we are engaging in certain activities (and not others) is essential for outreach, for fundraising, and for organizational harmony; we must continue to tell stories, effectively and compellingly, about what we are doing to improve and protect the Bay and *why* this work matters.

See Appendix A for the matrix of program activities.

1. Science: Water Quality and Other Environmental Monitoring

2019 will mark our 28th year of collecting data on the water quality and environmental health of Casco Bay. We maintain and continue to add to one of the largest and most important long-term data sets on marine water quality in New England. We have made significant shifts in our water quality monitoring programs and are now well into this new era for Friends of Casco Bay data collection. In 2019, we will direct our energy primarily to refine and advance our existing ongoing water quality monitoring programs. We will focus on the Seasonal and Continuous Monitoring Programs and take the time needed to upgrade to new equipment, improve data quality, and deliver more data products in timely ways. This is the most important science/data collection work we are doing. Presenting our data and communicating what we are seeing are our primary objectives as we engage our community and advocate for the health of the Bay.

Our monitoring efforts are of two types: ongoing and episodic. The two ongoing efforts are the *Seasonal* Water Quality Monitoring program and our *Continuous* Monitoring Station program. In 2019, an *episodic* project will focus on tracking nuisance macroalgal blooms (see section below on Macroalgal Blooms and further below section in Community Engagement on Water Reporter).

a. Ongoing Monitoring Programs

The two ongoing monitoring programs together provide temporal and spatial coverage for long-term water quality monitoring in Casco Bay. These datasets are vitally important in supporting our outreach and advocacy.

i. Continuous Monitoring Station (CMS)

We launched our flagship Continuous Monitoring Station (CMS) at Cousins Island in Yarmouth in July 2016. FY20 will see the completion of its third full year of data collecting and the start of the fourth, of hourly year-round measurements at this “cage of science.” We plan to establish two additional Stations in the future (see Development section below on campaign Climate Change and Casco Bay: A Fund for Technology, Monitoring, and Community Engagement), and this year we will explore locations and telemetry.

This program has two goals: first, collect data on a frequent basis which is necessary to track changes over time in the water quality conditions in Casco Bay; and second, deepen our understanding of existing conditions, as well as the seasonal and annual trends in temperature, carbonate chemistry, and acidification in the Bay.

The Cousins Island station sits at the bottom of Casco Bay in about four meters of water at high tide and consists of a YSI data sonde and a Turner pCO₂ (partial pressure of carbon dioxide) C-Sense sensor. Measured parameters include temperature, salinity, dissolved oxygen, pH, chlorophyll, depth, and the partial pressure of carbon dioxide. This spring, we will be upgrading our chlorophyll probe, adding new sensors to measure turbidity and fDOM (fluorescent dissolved organic matter). Derived calculations include total alkalinity, dissolved inorganic carbon, calcium carbonate (omega) saturation state, and total suspended solids. Water samples will be collected to analyze levels of total nitrogen and dissolved inorganic nitrogen (nitrate and nitrite, ammonium).

Maintenance of the station takes place every two to three weeks and includes the swapping out of the deployed data sonde with a clean, calibrated sonde, the uploading of data from the pCO₂ logger, and the cleaning of the pCO₂ sensor. We also note the presence of any invasive species or unusual conditions. The deployed pCO₂ logger is swapped out every two months for a fully charged logger, and the pCO₂ sensors are calibrated annually by the manufacturer in California. These annual calibrations will occur between March and June; each takes approximately six weeks. The cage itself will be replaced, and the internal supporting structures rebuilt, every seven or eight months.

In 2019, we are very excited to be able to upgrade our data sonde technology, an opportunity made possible through our Climate Change and Casco Bay campaign. We will purchase YSI EXO2 data sondes and implement these significant upgrades to the Cousins Island station in FY20, and incorporate the new sonde technology and sensors into both of our monitoring programs. Planning for additional stations will continue, and we will identify and secure two new station locations. Methods of improved quality assurance will be investigated. Ongoing review of the current research on coastal carbonate chemistry and relationship building with others studying these parameters will also continue.

ii. Seasonal Water Quality Monitoring Across Casco Bay

This program includes Monitoring by Land and Monitoring by Sea, from early spring through late fall. Monitoring takes place at fourteen *surface* water sites and eight *water column profile* sites around Casco Bay. Profile sites include data and samples collected at the surface, at one meter, and then every two meters to the bottom. We sample approximately every three weeks, with the intent of conducting eight or nine sampling events in total. Surface sites and water column profile sites are monitored on consecutive days. Profile sites and several surface sites are monitored by boat, with the remaining surface sites monitored from floats and piers. These sites include a selection of historic former Citizen Steward Water Quality Monitoring surface stations, as well as the three Sentinel Profile stations, continuing both of those long-term datasets.

Parameters include temperature, salinity, dissolved oxygen, pH, and chlorophyll, all measured using a YSI data sonde. Secchi depth is measured, and water samples are collected to analyze levels of total nitrogen and dissolved inorganic nitrogen.

In FY20, data from two of our profile sites will be included in efforts by the Maine Department of Environmental Protection to assess the water quality of the Portland Harbor region.

b. Episodic Science Efforts

Our Episodic initiatives are essentially pilot projects and initial filters for new issues, technologies, or techniques that arise. These efforts provide us with opportunities to explore the “how” or “why” of an issue, and to better understand any potential threats to the health of the Bay. We want to ensure that we do not simply conduct science for the sake of science, but that we continue to monitor that which leads us to improving the health of the Bay and modifying the behavior of those who live, work, and play in and around it.

The array of efforts that can be described as *episodic* tends to change from year to year. These efforts are of lower priority than our Ongoing Monitoring programs, and in the interest of keeping a sharper focus on water quality monitoring, we expect to engage in very few additional efforts in 2019.

iii. Macroalgal Blooms

Nuisance macroalgal blooms are considered an indicator of nutrient pollution, and Casco Bay has seen an increase in these blooms in recent years. In addition, harmful algal blooms, of various and new types, have been occurring with greater frequency and duration than prior to 2016. In 2019, we are hoping that nuisance and harmful algal blooms will not be present, but we will be ready to document and track any episodes as they occur. (See Community Engagement section on Water Reporter).

iv. Microplastics

In 2019, we will not conduct microplastics sampling. We remain concerned about the presence of microplastics in the marine environment and will continue to track the issue. Microplastics are defined as being smaller than 5.0 mm. They may enter coastal waters through primary (manufactured at that size, such as microbeads) or secondary (by degradation of larger plastic materials) vectors. Many marine organisms ingest microplastics, and there are health implications throughout the food chain, including for humans, as toxic contaminants have been found to adsorb to the plastic. In 2017, we sampled for microplastics in four distinct regions of Casco Bay, finding microplastics in each region. In 2018, these results were more thoroughly assessed by comparing them with results from other regions in Maine and elsewhere. In 2018, new protocols were reviewed and tested. We will continue to build relationships with others studying microplastics along the coast of Maine, most notably Madelyn Woods of Maine Environmental Research Institute (MERI), and Abby Barrows of Adventure Scientists, who analyzed our first round of sampling. Our Coastal Cleanups will help remove macro plastics and prevent them from becoming microplastics (see Community Engagement section on Coastal Cleanups).

c. Data Management and Analysis

Data presentation will be a priority in 2019. Frequent updates will be generated for both *Seasonal* and *Continuous* monitoring.

Specifically, after each monitoring event, data from the Seasonal Monitoring program are uploaded to the Water Reporter app (see Community Engagement on Water Reporter), and the monthly mean for each parameter from the Continuous Monitoring Station are graphed and

displayed on our website at the conclusion of each month. These monthly online updates for both programs mark an important milestone for Friends of Casco Bay. Timely data product delivery will be an important component of our Science efforts this year.

Annually, we will prepare additional data presentations to add to the website. A new index of water quality will be produced using the Seasonal Monitoring data. A summary of the CMS data will be generated that will include basic metrics such as the lowest and highest value for each parameter; the date on which the water temperature fell below, and rose above, 5 degrees Celsius; the percent of Omega Aragonite values that fell below the critical threshold of 1.5; the percent of dissolved oxygen values that fell below State criteria; and the percent of water temperature values above the 90th percentile of historical data. In addition, the daily means of water temperature will be graphed and compared on an annual basis.

An updated data storage plan is being implemented in 2019, with preference given to the highly recommended database WRDB (water resources database), a free software download designed specifically for water quality data and widely used around the country. This software will facilitate improved metadata structure and outside requests for our data.

We will look for ways to utilize ArcGIS software (Geographic Information Systems) more efficiently and intensively. We will explore using Ocean Data View (ODV), which is a free software program, for visually displaying our water column profile data. JMP software by SAS continues to be the statistical package we use for all of our data analyses.

In 2019, we will conclude the second year of a two-year contract with the University of Maine on a Gulf of Maine ocean acidification data synthesis project. Research Associate Mike Doan will be involved with the analysis of a large OA database and will be included in a peer-reviewed publication process.

During FY19, we will continue to review data housing, quality assurance processes, and data management, to determine optimal practices, with an eye toward clear assignments of responsibility so that: data are secure and qualitative; data are being “worked up” in a timely way for our communications; requests for data are easily fulfilled and not customized; and we have good operating procedural manuals in the works. These will entail making optimal use of the talents of Mike and Design, Data and Development Associate Sara Biron. We intend to have our summer intern work on updating field and procedural manuals as they learn how we do what we do.

Mike will present at our Casco Bay Matters series, focusing on issue background, data collection, and sharing what we are learning through our monitoring programs. Mike will also attend and present at one of the large regional conferences (Northeast Association of Environmental Biologists, Northeast Estuarine Research Society, Regional Association of Research on the Gulf of Maine, Coastal and Estuarine Research Federation), as well as presenting regularly at FOCB events.

d. Lab Management

The Friends of Casco Bay lab will be reorganized in 2019. We will design a more efficient use of existing lab and storage space and improve our sensor calibration and other quality assurance measures. We will also utilize a better system for scheduling equipment maintenance and replacement and for tracking inventory of calibration buffers and purchases.

e. Boat Operations

As captain of the R/V *Payne*, Mike is responsible for scheduling routine maintenance and identifying any issues with performance or safety. The vessel will be kept clean and fueled, ready for use on short notice. The vessel is used for monitoring efforts, impromptu investigations, stakeholder meetings and outings, fundraising cruises, staff time on the Bay, and other functions. This year we decided to take the boat out of the water from December to March to relieve us of winter maintenance (removing snow and ice and keeping an eye on wind, wave, and bilge issues). With the CMS in place, we did not need to make winter trips for monitoring last winter and the boat was never used for programmatic work. Nevertheless, we worried about it, and Mike spent a lot of time tending to it. Having the boat out of the water this winter has been a huge relief, and Mike has redirected a significant amount of time to data work and preparation for presentations, a nice boost in our capacity. We will be working with Port Harbor Marine, which donates slip space to us for both the R/V *Payne* and the pumpout boat, to get new slip assignments for 2019. We need larger slips that are more easily accessible.

f. Collaborations

Internally, scientific support for the Casco Baykeeper will continue to be a priority, and Mike will also work closely with Communications Staff to develop images and stories for our website and other communications channels. We will continue to hold regular Data Meetings to prioritize and design products based on the results of our Seasonal and Continuous Monitoring programs.

Externally, we will continue to foster close working relationships with Casco Bay Estuary Partnership, Maine Department of Environmental Protection, Maine Coastal and Ocean Acidification Partnership, Maine Coastal Observing Alliance, Wells National Estuarine Research Reserve, University of New Hampshire, University of Maine, University of Southern Maine, Southern Maine Community College, University of New England, and Bigelow Laboratory for Ocean Science.

2. Advocacy: Baykeeping

The Baykeeping Program advocates for solutions to environmental challenges that threaten Casco Bay. Our Casco Baykeeper is our primary public advocate. The Baykeeper acts as the eyes, ears, and voice for the Bay. She advocates for compliance with environmental laws, responds to citizen complaints, identifies and takes action on issues that may harm the health of the Bay, and works with our Staff and community to develop appropriate remedies to address problems that threaten the health of our waters. The Casco Baykeeper is one of several hundred tenacious Waterkeepers around the world. Each keeper acts as the chief advocate for their waterbody.

Our five-year strategic plan, completed in 2018, states: Clean marine water is essential habitat and is fundamental to the quality of life in the Casco Bay region. The biggest threats to the health of the Bay are the effects of climate change, acidification, sea level rise, stormwater, pollutants, and marine debris. The below work plan outlines how Baykeeping will address these threats.

This past year we were able to increase capacity in the Baykeeping program with the addition of externs from the University of Maine School of Law. This is possible solely because our Casco Baykeeper is an attorney who continued her relationship with the law school as a guest lecturer. The program officially began in the fall of 2018; the selected student earns 3 academic credits for performing legal and policy work for Friends of Casco Bay. For example, the extern researched and collated information on fertilizer laws and ordinances that limit nitrogen. That research

helped inform comments Cathy submitted to the City of Portland and will be compiled into a white paper that we can use to assist municipalities seeking to adopt fertilizer ordinances.

This past year saw the continued need for advocacy at the federal level to support sound science and oppose rollbacks of existing environmental laws and regulations, especially the Clean Water Act. These efforts have been coordinated with organizations such as Waterkeeper Alliance (opposing rollback of environmental protections), Ocean Conservancy (supporting NOAA and EPA budgets, tracking national legislation), and Surfrider (opposing offshore oil and gas exploration and drilling).

g. Priority Issues Identified in Strategic Plan

The majority of focus in the Baykeeping Program will be on the priority issues identified in our most recent Strategic Plan. As always, time must be reserved for responding to public inquiries and to investigating unforeseen and emerging threats to the health of Casco Bay. The foreseeable workload includes the following topics.

v. Climate Change Including Sea Level Rise and Ocean and Coastal Acidification

Casco Bay is changing rapidly in response to the effects of carbon and other greenhouse gas emissions. Those changes include, but are not limited to, changes in water chemistry, increases in average ocean temperatures, increasing storm intensities, changes in weather patterns affecting salinity levels and the delivery of slugs of pollution to the Bay, ocean and coastal acidification, new species of harmful algal blooms, shifts in species composition, and sea level rise.

To protect Casco Bay from the effects of increases in greenhouse gas emissions, in FY19, Ivy wrote comments, testified, and lobbied in support of sound science and policy and against rollbacks. Examples of this work include filing comments opposing the following: the repeal of the Clean Power Plan, opening the North Atlantic to offshore oil and gas drilling, and the lack of funding for EPA and NOAA. On the positive side, she wrote testimony supporting the Regional Greenhouse Gas Initiative (RGGI) and other regional and state policies designed to reduce greenhouse gas emissions.

With respect to the impacts of climate change on marine habitat and species, Ivy continued to coordinate and shape the direction of the Maine Ocean and Coastal Acidification Partnership (MOCA), culminating in a meeting of the MOCA Advisory Committee and the Coastal Caucus in November 2018. That meeting reached a consensus for two initiatives: (1) creation of an advisory council to address the impacts of climate change on Maine's marine species, and (2) creation of a state action plan. Other staff members at Friends of Casco Bay attend to various tasks throughout the year that assist Ivy in coordinating MOCA's work.

Following the November meeting, Ivy worked with a small group to draft legislation to create the advisory council. She presented the concept bill to the Environmental Priorities Coalition (EPC, a group of about 30 environmental groups in Maine that work together to get priority environmental legislation passed), which voted in favor of selecting the bill as a priority for passage by the Maine Legislature.

In FY20, Ivy will continue leading efforts to pass the advisory council bill, LR 510. This will involve: coordination with both MOCA and the EPC; an internal communications plan and outreach to the MOCA members; further refinement of the bill's language and the tasks assigned to the council. This early in Governor Mill's tenure, it has been impossible to ascertain her position with respect to the council. Ivy has engaged with personnel at both the Department of Marine Resources (DMR) and Department of Environmental Protection (DEP). She will

continue to do so over the next fiscal year. The intended outcome is the creation of an advisory council or similar structure at the state level that more deeply commits the State to addressing the detrimental and existing threats climate change poses to our marine environment and species.

Ivy also will oversee a MOCA stakeholder process to create an action plan. Toward the end of FY19, we are working to secure grant funding to lead this process and to engage an outside contractor to facilitate a stakeholder process and draft the action plan. In this manner, the plan will develop through a neutral process, and Ivy can engage in the process as the advocate for Casco Bay rather than as the MOCA coordinator.

Ideally, the plan will inform the direction of the advisory council, and the action plan would allow for a smooth and successful transition from the voluntary MOCA partnership to a state-led advisory council. If the advisory council bill fails to pass this legislative session, the plan will shape the future direction of MOCA and allow MOCA to seek funds to carry forth its work.

Leading both of these efforts will require a significant portion of Ivy's time as Baykeeper.

vi. Nitrogen Pollution

Curbing nitrogen pollution remains a top priority. When too much nitrogen enters marine waters, the excess fertilizes nuisance and harmful algal blooms, degrades eelgrass beds, and causes secondary problems such as low dissolved oxygen and increased acidification, which further degrade the health of Casco Bay.

Nitrogen enters Casco Bay from point sources (piped conveyances) including the effluent from wastewater treatment facilities, combined sewer overflows, and municipal storm sewer systems. It also enters the Bay through stormwater that sheets off natural and manmade surfaces into tributaries that flow into Casco Bay or directly into the Bay.

Point Source: In FY19, the East End Wastewater Treatment Facility (EEWWTF) began its nitrogen reduction program in earnest, achieving an average of about 70% reduction in nitrogen load from May through October 2018. During the prior two summer/fall seasons, we had observed extensive, long-lasting blooms in Back Cove, which is an area where the effluent from the EEWWTF can circulate during tidal cycles. Though we cannot be certain of the correlation, during 2018, we observed no nuisance algal blooms in Back Cove.

As for achieving nitrogen-loading reductions from other facilities in the region, the results are mixed. Baykeeping advocacy in 2017 and 2018 led to three requirements being added to all municipal wastewater treatment facilities that discharge into or near Casco Bay. These are: seasonal, composite sampling for nitrogen; optimizing nitrogen removal with existing equipment; and submission of an annual report on optimization efforts. If a facility cannot remove nitrogen with current equipment, it does not have to invest in new technology or methods. We have opposed that optimization language in our comments, but have not prevailed. In FY20, Ivy will request and receive nitrogen optimization reports from DEP or the facilities that must submit them. Ivy will review these reports with Mike to contemplate any possible changes to our monitoring or where further advocacy may be required as permits come up for renewal.

In FY20, Ivy will continue to track the progress of the EEWWTF as operators continue to learn how to remove nitrogen from wastewater under various weather conditions. We will: look for signs that the health of the Bay near the EEWWTF discharge area is recovering; instruct our summer intern and Volunteers to track sites of historic algal blooms; continue to collect nitrogen

samples to evaluate changes in levels and track the health of impaired areas; and with the Department of Environmental Protection, track the recovery of eelgrass beds.

Nonpoint Source: In FY20, Ivy and externs will finalize work on a paper started in FY19 that compares fertilizer statutes and ordinances from other jurisdictions, regulating the use of fertilizers, focusing on nitrogen. We will put together a plan for how we will use this information to encourage and support development of municipal fertilizer ordinances to reduce or eliminate nitrogen in runoff into waterways that drain to Casco Bay. A staff team will collaborate to create a plan with include scientific, education, and advocacy components.

vii. Stormwater Pollution

Stormwater is a leading source of pollution to Casco Bay because it carries a toxic mix of nitrogen, bacteria, oil products, pesticides, and other contaminants that it collects from the landscape. Stormwater can be both a point source and nonpoint source pollutant. Nonpoint source stormwater pollution occurs when precipitation, including ice and snowmelt, flows across the landscape and directly into waterways. It is especially toxic when it flows over areas that have a high percentage of impervious cover (IC) from urban development. This type of pollution is *generally* unregulated by the Clean Water Act (CWA), because it does not flow through pipes or other manmade conveyances. Stormwater that flows through piped conveyances such as larger municipal separate storm sewer systems (MS4s, see more below) or combined sewer overflow systems (CSOs) is regulated by permit under the CWA. MS4s are covered by a general permit that renews every five years; CSOs, because they also carry sewage, are regulated under Maine Pollution Discharge Elimination System (MEPDES) permits.

Point Source: In FY19, Ivy spent time advocating for stricter permit terms in the MS4 permit. Maine issues a general MS4 permit that covers municipalities that operate MS4s in urbanized areas. As a result of Ivy's successful advocacy in FY19, the draft MS4 permit is currently undergoing a significant rewrite to include monitoring and testing protocols, more stringent and clearer terms, and better public process.

In FY20, Ivy will continue to press for MS4 permit terms that comply with stricter legal requirements set forth by the 9th Circuit Court of Appeals, including wet and dry weather monitoring and testing to eliminate illicit discharges.

Nonpoint Source: In FY20, Ivy will continue research into possible ways to implement the IC-TMDL and NPS-TMDL¹, both of which apply to a number of urban impaired streams in the Casco Bay watershed. Her research will be enhanced by teaching a course at the law school to engage students in researching how to improve water quality in impaired urban streams that feed Casco Bay.

viii. Aquaculture

In 2016, we identified aquaculture as a potential emerging issue to keep a close eye on. 2018 proved us right, and aquaculture has emerged as a hot topic. Residents of Mere Point lashed out against Mere Point Oyster Company's application for a 40 acre lease in Maquoit Bay. Residents along the New Meadows also complained about the expansion of aquaculture. In the meantime, limited purpose aquaculture (LPA) licenses, which do not go through a full-blown lease process, increased from 16 in 2007, to 195 in 2017. License sites can cover no more than a quarter acre

¹ IC stands for impervious cover, which is any surface in the landscape that cannot effectively absorb or infiltrate rainfall. TMDL stands for total maximum daily load and is a calculation of the amount of a pollutant allowed to enter a waterbody so that water quality standards will not be violated. NPS stands for nonpoint source pollution.

and seem to be popping up all around the Bay. In FY19 to better understand the process and specific proposals and their potential impact on the health of the Bay, Ivy began attending lease hearings and researching aquaculture law and regulations.

Our aquaculture advocacy focuses on two broad aspects. First, we are concerned with proper siting of aquaculture from an environmental perspective. Ivy participated in a series of stakeholder meetings convened by Representative Joyce “Jay” McCreight and Senator Eloise Vitelli. As a result of that process, Rep. McCreight introduced a bill to create a taskforce to study the future of aquaculture.

Second, we want to protect Casco Bay from marine debris, including human waste, associated with aquaculture. Aquaculture is not the sole source of marine debris but has been identified as a problem by marine resource officers in Casco Bay. In FY19, Ivy and her extern completed a memo on laws and best management practices (BMPs) in Maine and other states that address these topics. The memo includes a series of recommendations for how Maine law and BMPs should be strengthened. This memo has been shared with the Maine Aquaculture Association and was used in our comments to the Department of Marine Resources in response to its revising of aquaculture lease rules.

In FY20, we will support Rep. McCreight’s aquaculture bill, limiting our advocacy to concerns regarding the environmental health of Casco Bay. The issues that have been brought to our attention thus far include the discharge of human waste into growing areas, complaints to municipal marine resource officers regarding marine debris from LPAs, and concerns about proper siting of lease sites from an environmental perspective. We are also aware of potential issues looming, such as the use and expansion of hydraulic dredge fishing, which must be tracked and addressed. We will continue to be on the watch for other negative and unintended impacts on the Bay from the growing aquaculture sector. Conversely, research has shown that some forms of aquaculture can play a positive role in restoring water quality and buffering the effects of acidification.

In FY20, Ivy and the externs will continue to attend select lease hearings. The focus will be to learn more about the interplay of aquaculture and water quality. For example, one of the proposed leases they are tracking is for a multi-species sea farm that will include shellfish and seaweed. A farm such as this may improve our understanding of the role aquaculture can play in mitigating the localized impacts of climate change.

ix. Legislative Agenda

Our “legislative agenda” covers topics of concern to the health of Casco Bay at the federal, state, and local levels. At the federal level, we anticipate opposing the rule to weaken the definition of Waters of the US (WOTUS). We anticipate continuing to track federal legislation and interceding only on issues of priority to our mission. For example, in FY19 we became aware that the federal farm bill contained language that would eliminate the ability of towns to pass pesticide ordinances. We alerted our Congressional delegation and the attorneys at the Waterkeeper Alliance. They worked to help ensure the language was stricken from the final bill. At the state level, we continue to participate in the Environmental Priorities Coalition (EPC, see above). This year, the EPC, including our organization, identified 5 climate change-related priority bills. Four of those bills aim to reduce carbon emissions, and the fifth is our bill to address the impacts of climate change on marine species. Ivy reviewed the more than 2200 bill titles introduced by legislators. She assigned the extern to create an excel spreadsheet of over a hundred of the bills that have some bearing on our mission or involve key issues. Using this spreadsheet, we grouped the bills and identified a much smaller subset of bills that either warrant

tracking, require further research, or action by providing written and/or oral testimony, alerting members, or some other effort. The extern is largely responsible for tracking this smaller list to keep the spreadsheet updated with information as it becomes available from the Legislature, including the printed bill number, committee of assignment, hearing date, and subject matter. Cathy, Will, and Ivy review the updated excel sheet and together make policy determinations for the organization.

On the municipal level, we will be working on a couple of different fronts. First, we want to encourage the towns around the Bay to adopt ordinances restricting the use of fertilizers to reduce negative impacts on water quality. Ivy and our extern will complete materials that will help us assist municipalities in that process. Cathy and Mary will continue their work with Portland, South Portland, and other towns to encourage and assist with this process. Also, there will likely continue to be circumstances where a Baykeeper role in municipal matters is warranted. For example, in FY19, Ivy participated in public comment sessions regarding a proposal to develop the Shaw's Plaza in Falmouth into a much larger development. The proposal would have drastically increased the amount of impervious surface and drainage of polluted stormwater to Mill Brook (listed as an MS4 priority water and as threatened by development in the I-295 corridor) and Mussel Cove (listed as threatened and a Casco Bay Estuary Partnership priority water). Ivy testified neither for nor against the development, but expressed our concerns that any development not contribute to the impairment of these waters. She also expressed concern about the ability of the small municipal wastewater facility to perform its function.

h. Lower Priority Issues

Below are issues we work on from time to time.

x. Marine Debris

Marine debris is identified in our Strategic Plan as a priority concern. Our Baykeeping work in aquaculture is focused in large part on curbing marine debris through strengthening best management practices and through some of our legislative advocacy (see above). We conduct multiple coastal cleanups annually through our Community Engagement efforts (see below).

The National Oceanic and Atmospheric Administration (NOAA) defines marine debris as any persistent solid material that is manufactured or processed and directly or indirectly, intentionally or unintentionally, disposed of or abandoned in the marine environment or the Great Lakes. NOAA defines microplastics as small plastic pieces less than five millimeters long which can be harmful to our ocean and aquatic life.

In FY19, Ivy participated in meetings to further develop the NOAA northeast regional marine debris action plan.

In FY20, as time permits, Ivy will write testimony in support of state legislation to reduce plastic packaging and to address marine debris. Ivy has joined the newly formed Waterkeeper Alliance plastic pollution group, which is a list serve of Waterkeepers who share materials and support one another's efforts to address plastic pollution.

xi. Oil Spill Preparedness

Historically, the Casco Baykeeper has served on the ME/NH Area Committee² and in the Unified Command³ center in the event of a spill. The Baykeeper will continue to fulfill these two

²Formed in accordance with the Oil Pollution Act of 1990, the Maine and New Hampshire Area Committee is comprised of federal, state, and local officials and other persons/organizations who may respond in the event of a spill. The Committee must prepare an Area Contingency Plan for how the entities will respond to an oil or

duties. Although Portland Harbor sees less tanker traffic than in the past, it still receives fuel tankers at several terminals, and large vessels traveling through the Bay take on fuel while bunkered near shore. We must remain prepared to respond if another spill should occur. Petroleum products pose a host of threats to wetlands, eelgrass, clam flats, marine mammals, lobsters, birds, aquaculture operations, and more. In FY19, Ivy continued to attend ME/NH Area Committee meetings and worked with Communications Staff to complete drafts of our internal response plan and web pages. In FY20, Ivy will continue to attend area committee meetings as time permits.

xii. Dredging

At present, efforts to obtain the necessary permitting for a nonfederal dredge of Portland Harbor have stalled for lack of funds. A group of stakeholders interested in supporting the dredge are working to identify and secure funding. We will continue to track this issue in FY20.

xiii. Impaired Regions

The Clean Water Act implements a system that classifies waterbodies for intended uses. If a waterbody fails to meet those uses, it is considered impaired. Impaired waterbodies are added to a list of impaired waters (a 303(d) list) submitted to the EPA biannually. Steps must then be taken to restore water quality, including preparing a TMDL. Ivy will continue to track the biannual state Integrated Report (IR) of impaired waters, nonpoint source priority waters listings, and other state documents to determine future advocacy.

i. The “Work With” Approach

Our Baykeeping program continues its long tradition of working with others to craft solutions. The goal is to listen and consider diverse and important points of view, gather the best available science and facts, contemplate the available solutions, and find a path forward that improves and protects the health of Casco Bay. Although not strictly necessary to a work plan, below are some of the external partnerships we maintain:

- *Waterkeeper Alliance (WKA)*: Ivy will continue to work with WKA on a regional and national level to advocate for policies and funding that support sound science and regulatory oversight sufficient to protect water quality. She has joined a new plastic pollution subgroup and plans to travel to the regional North Atlantic WKA retreat this spring.
- *Casco Bay Estuary Partnership (CBEP)*: Ivy will continue to serve on the Management Committee, and we are active participants on the Nutrient Council and the Monitoring Group (Mike also attends with Ivy or in her stead). The Nutrient Council draws together scientists, regulators, municipal wastewater and stormwater managers, and nonprofit organizations such as ours, dedicated to protecting and improving water quality. The Monitoring Group includes a wide range of entities conducting research in the Casco Bay watershed.
- *Maine Ocean and Coastal Acidification (MOCA) Partnership*: Ivy continues to serve as the coordinator of MOCA and sits on the steering committee. Coordination involves organizing at least two meetings, sending updates to the listserv, producing a newsletter,

hazardous materials discharge from a vessel, offshore facility, or onshore facility. It also must hold exercises to practice and refine the plan.

³ The Unified Command is a structure that brings together the Incident Commanders of all major organizations involved in the spill to coordinate an effective response. The UC includes, but is not limited to, the USCG Captain of the Port and top officials from federal and state agencies with responsibilities related to the incident.

organizing steering committee meetings, and coordinating with the science and policy subgroups. As part of MOCA, Ivy also continues to collaborate with the North East Coastal Acidification Network (NECAN) and the International Alliance for OA. See above for more detail on creating an action plan for MOCA while working to pass legislation to move that work to the state level.

- *Environmental Priorities Coalition (EPC)*: Ivy will continue to participate in the EPC as it sets priority state legislation and coordinates coalition efforts to defeat federal regulatory and budget rollbacks. Cathy will continue to serve on the EPC's Steering Committee to help the EPC continue to mature as a coalition.
- *Integrated Planning Stakeholder Taskforce*: In FY19, Ivy was invited to serve as a stakeholder in the process of shaping the City's Integrated Plan. This work will continue into FY20.
- *Portland Water Quality Stakeholder Group*: Ivy, and often Cathy and Mary, attend quarterly meetings that include Portland Water Resources, Portland Water District, Department of Environmental Protection (DEP), CBEP, and others, as the City of Portland continues its work on stormwater and sewer separation and treatment.
- *UME Law School*: In FY19, Ivy continued to guest lecture at UME Law School. As a result of that, she started an externship program that allows one student per semester to work under Ivy on Baykeeping. This has increased the depth and breadth of research she can conduct for the benefit of the organization. Ivy will continue teaching and overseeing the externship program in FY20.
- *Waterfront Alliance*: This alliance convenes business owners and others with strong interests in a vital working Portland/South Portland harbor. It does not advocate but serves as an educational forum to discuss controversial issues concerning the Harbor. Ivy will attend these meetings as often as possible.
- *Ad Hoc*: Through the course of the year, Ivy participates in or convenes coalitions created to address particular issues. In FY19, those issues included dredge fishing, the expansion of aquaculture, offshore drilling, and eelgrass mapping. This approach will continue in FY20.

In addition to external collaboration, in FY20, Ivy and Mike will continue to work as a team to conduct by Land and Sea monitoring (see monitoring section above) and to review MEPDES permits and other water quality reports and documentation. This collaboration is essential for maintaining the connection of science and advocacy. Time on the water together provides good visibility and interaction with Bay users.

Ivy will continue working closely with Cathy and the Communications Staff to identify issues that are ready or ripe for public comment, help formulate content for various types of media releases, and develop talking points on key issues. Special attention will be paid to action alerts around our legislative agenda. We will be presenting our Casco Bay Matters series through March and April of this year, and in the fall of 2019, we will collaborate on next year's series and begin the preparation (see Community Engagement section on Casco Bay Matters).

In FY20, Ivy and Cathy will continue to meet to review recent activities, discuss upcoming priorities, and confer on our positions. These meetings will often include Will and often Mary so the team can share information, help with communications planning, discuss impacts and aspects of our positions, and strategize about advocacy matters.

3. Community Engagement

j. Volunteer Programs

Volunteers do important work for Casco Bay and are essential to the success of Friends of Casco Bay. Our Volunteers are some of the most active, outspoken, and well-spoken members of our community. The commitment of these Volunteers sends ripple effects through towns around the Bay. We work to connect Volunteers with opportunities that align their skills and interests with our organization's and the Bay's needs. Appendix B presents a schematic illustrating various Volunteer Opportunities in relation to our Programs.

It takes a community to take care of the Bay. The true strength of a Volunteer program is to connect members of our community, with one another and with Casco Bay. We provide opportunities that offer a low threshold for participation so that more people are able to Volunteer in ways that are meaningful and in ways that are easily manageable for Staff. Our goal is to expand our network of knowledgeable ambassadors for our coastal waters. To further connect folks with one another, with the Bay and our work, we will provide a variety of opportunities, from trainings and talks to appreciation events, to foster engagement.

xiv. Opportunities for Individuals

a) Water Reporter

Casco Bay needs more eyes looking out for its health because Friends of Casco Bay Staff members cannot be everywhere. We rely on people around the Bay to report changes they are seeing. Water Reporter provides an easy-to-use tool for Volunteers to share their observations.

Our Water Reporter effort asks Volunteers to take photos of the Bay to document algal blooms, sea level rise, pollution, trash, shoreline erosion, and marine wildlife sightings. We ask Volunteers to report anything exciting, interesting, or odd—from whales, osprey nests, or seals, to declines in eelgrass or mussel beds, clam die offs, jellyfish sightings, fish kills, and invasive species outbreaks. Through the Water Reporter app, photos are shared with Friends of Casco Bay, as well as with other observers. Volunteers are able to see and comment on others' posts and get insights on what is going on around the Bay. We share these observations with other scientists, which bolsters our collaborative relationships. We share these observations on social media, which informs those who are not Water Reporters and helps recruit new Volunteers. Of paramount importance, these observations strengthen our advocacy efforts because photos and reports are sent to regulators, enforcers, legislators, and other decision makers, alerting them to conditions in the Bay.

A particular focus of our Water Reporter efforts will continue to be observations of algal blooms. One of our strategic priorities is to continue to work for reductions of nitrogen inputs, and algal blooms are front row indicators of localized nitrogen pollution. In recent years, we have seen an alarming increase in the number and extent of nuisance algal blooms in Casco Bay. Excessive amounts of algae cover tidal flats, smothering animals underneath the mats, preventing juvenile clams from settling, increasing the acidity, and lowering the oxygen levels. In FY20, we will encourage our Volunteers to help observe and track nuisance outbreaks using Water Reporter. We will also be on the lookout for harmful algal blooms and may enlist our Water Reporters to document these in their area.

We have added a new focus, capturing sea level rise. We will encourage Water Reporters to take photos during extreme tides such as King Tides (perigeon spring tides). Dates for these events include: August 3 and 30, and September 29, 2019.

Should any other extreme event such as a damaging storm or significant oil spill occur, we will encourage Water Reporters to post photos and reports.

This year we will be conducting training opportunities for Water Reporter. We are working with some salty groups already to expand the number of participants (e.g. Casco Bay Lines, US Coast Guard). We will be reaching out to a variety of groups (yacht clubs, marinas, recreational companies) to recruit new participants and conduct onsite trainings. We will also explore the feasibility this year of a training opportunity open to the public. Sarah Lyman and other Staff are always available by phone or in person to assist any Volunteer in setting up and using Water Reporter.

We will encourage Water Reporters at our events to mingle with potentially interested Volunteers to share their experiences and build connections. We have designed a Water Reporter button, which will help identify them.

b) Internships and Externships

An important way we build staff capacity is to offer unpaid internships and externships. We offer internships to undergraduates and externships to graduate law students. Both provide special opportunities to experience environmental nonprofit work. Students are exposed to a professionally-run, environmental nonprofit working in the larger arena of environmental advocacy, using hands-on science and community engagement. The law student externships, in particular, provide exposure to a unique blend of legal and regulatory work in an applied setting.

Internships/Externships may be offered as often as three times a year: Spring (January - May), Summer (May - August), and Fall (September - December). We require that each intern possess a strong academic background, with course studies in environmental policy, marine sciences, and/or law. Our ideal candidates enjoy working both with Staff and independently and must have superior research and writing skills and a passion for the marine environment.

Our college level internship opportunities are shared with Southern Maine Community College, University of New England, University of Southern Maine, and Bowdoin College. We also are having success in recruiting good candidates through our website.

We have a strong track record of providing internships that teach students, engage them meaningfully in our work, and help them shape career goals.

c) Other Opportunities and Organizational Needs

Getting a large mailing, such as our Annual Fund, out the door, would not be nearly as efficient if not for the assistance of Volunteers. In addition, Volunteers assist at special events such as the Wild & Scenic Film Festival and at tabling events hosted by other organizations.

d) Color By Numbers

In FY19, we launched a pilot citizen science project to enlist Volunteers to help us measure the color of Casco Bay. We have decided to discontinue this effort, after careful assessment in conjunction with Dr. Nick Record at Bigelow Laboratory for Ocean Sciences. There was a great deal of uncertainty about how continued data collection might be useful.

For more than a century, marine scientists have used the Forel-Ule index color scale to document the color of oceans and lakes. People often consider blue water to indicate healthy oceans and dirty-brown water to indicate poor water quality. Scientists attest to color being an excellent indicator of what is happening in our oceans. We launched this initiative because our colleagues at Bigelow Laboratory for Ocean Sciences tell us that the waters of the Gulf of Maine have become increasingly yellow over the last century. We have seen heavy rains stain the surface waters of Casco Bay the color of tea. There is a lot of data on color and clarity for the Gulf of Maine, but not much had been collected in nearshore areas.

Volunteers were asked to use a smartphone with an app, Eye-On-Water, containing the Forel-Ule color index scale to photograph, measure, and report the color of the water at certain times and tides.

It seems that our Forel-Ule data did not closely match data collected from the open ocean, supporting what we already knew: Casco Bay, as an estuary, is a lot more dynamic than the Gulf of Maine and the open ocean. We have decided to discontinue our effort and encourage Volunteers who are still interested in the project to submit data directly to Eye-On-Water.

xv. Opportunities for Community Groups and Corporate Groups

During 2019, we will offer activities to community and corporate groups, from mid-May through mid-September. In April, we will reconnect with interested corporate partners to explore opportunities for this year. Using our relational database, we will invite Volunteers to assist us at these events. We plan to offer opportunities about every two weeks, allowing time for other work in between. We may develop signage to give us more visibility at these events.

e) Storm Drain Stenciling

Storm Drain Stenciling is a hands-on way for Volunteers to “take to the streets” and create greater awareness about the need to reduce pollution. We provide stenciling kits and easy-to-use instructions to help groups organize stenciling events. There are a number of benefits from this low-cost, easy-to-manage Volunteer recruitment activity: community engagement, hands-on activity that helps the health of the Bay, team building, and education. By painting “DO NOT DUMP” messages near storm drains in the neighborhood, people learn about the connection to Casco Bay and become local advocates for reducing stormwater pollution.

Storm drains connect to various kinds of sewage and stormwater pipes, some of which open directly to Casco Bay and some of which route sewage and/or stormwater to treatment facilities before being released into the Bay.

When people pour hazardous wastes, such as household cleaners, unused paint, paint thinner, used oil, and lawn care chemicals, down a storm drain, they may not realize that they may be dumping pollutants directly into the Bay. Even if these products reach the sewage treatment facility, the treatment process may not be able to remove the hazardous components.

During 2019, we will restock and maintain our five stenciling kits and nine stencils. As stencils need to be replaced, we will explore creating new, smaller stencils, and we will replace the brooms with ones that will fit more easily into the kits to make transportation easier. We will continue to work with school groups, scout troops, civic organizations, and corporations looking to do days of service with employees as team building opportunities to stencil storm drains.

f) Coastal Cleanups

Litter and marine debris that wind up on the shores of Casco Bay can pollute the water, hurt marine life, and impair the quality of life of those who live, work, and play on Casco Bay. Trash is an unsightly blight that makes it hard for everyone to enjoy a special place.

Litter and marine debris come from many sources. Careless beachgoers, boaters, fishing vessels, and other ships can leave trash behind. Stormwater washes trash from yards and parking lots into storm drains that empty into the Bay.

Coastal Cleanups are a great hands-on activity for youth groups, scout troops, and corporate Volunteer days. Our Volunteers record data about what trash they pick up, and those data are submitted to online databases to help create awareness and public policy for pollution reduction in marine waters.

We will participate in Coastweek by hosting a cleanup in the greater Portland area on September 14 or 21, 2019. We will continue to respond to requests from corporations looking for days of service with employees as team building opportunities. In the event of a significant storm, we will consider organizing additional cleanups to remove debris.

k. Casco Bay Matters Events

We host periodic presentations and panel discussions on issues of current concern through our Casco Bay Matters series, open to the public.

The purpose of Casco Bay Matters is to provide opportunities for concerned citizens and local decision makers to learn about and discuss issues affecting the health of our coastal waters, as we share our data and showcase our advocacy work.

Except for developing content, the logistics for these programs are intended to be relatively easy for Staff.

We have developed the content for our first series, *Ocean Acidification, Climate Change, and You*. We are hosting this presentation at three locations in March and April 2019. We will invite the public to help support legislation, LR 510, a bill to create a Science and Policy Advisory Council to address the impacts of climate change on Maine's marine species. The event will educate the attendees about the bill and prepare them for future action. We will evaluate these and in the fall begin planning for the series in early 2020.

We will be considering what other events we may wish to brand as Casco Bay Matters events.

l. BayScaping

xvi. Working with Municipal Officials

We have helped several Casco Bay communities draft ordinances to limit pesticide use, including South Portland, Portland, and Falmouth.

In 2016, South Portland passed a pesticide ordinance, which went into effect for public property on May 1, 2017, and for private property on May 1, 2018. South Portland has developed a robust education plan, which we helped inform. We also were one of the few nonprofits invited to participate in a city-sponsored Organic Field Day at Bug Light Park on September 29, 2018. Nearly a dozen lawn care professionals demonstrated best practices in organic lawn care at an

all-day event launching the city's Healthy South Portland program.

The City of Portland passed a pesticide ordinance in January 2018, which went into effect for city staff on July 1, 2018 and January 1, 2019 for residents. Portland is working on its public education plan. We were invited to be part of a workshop on pesticide use at the Maine Flower Show on March 26, 2019, with city staff with Portland and South Portland, a professional lawn care provider, and the new Yardscaping educator with Cumberland County Soil & Water Conservation District.

We have been and will continue to meet with Falmouth Conservation Commission and advise on the draft of the ordinance.

We will continue to be a resource for these and other communities as they tackle the other lawn chemical problem: fertilizers, which we believe is a greater threat to the environmental health of Casco Bay. In light of the increasing occurrences of nuisance and harmful algal blooms, this is becoming a priority issue. Based on the Casco Baykeeper's analysis of existing laws and ordinances around the country, we will be supporting municipalities as they grapple with limiting the use of fertilizers. Both Portland and South Portland city councils have acknowledged the need to wrestle with a fertilizer ordinance. We already are encouraging municipal officials in Portland to put a fertilizer ordinance into the 2019 work plan for the City's Environment and Sustainability Committee. Maine is fortunate to be one of only 7 states and Washington, DC that still retain the home rule power to pass local legislation restricting pesticides.

In FY20, we will work with municipalities to:

- Continue to work with municipal officials and community members to help implement or pass local ordinances to reduce pesticide use. We will keep an eye on how those ordinances are being implemented and how we can assist with education as needed.
- Push for fertilizer ordinances.
- Help the City of Portland to plan and facilitate relocation and repurposing of the Yardscaping demonstration site along Back Cove. We are also advising the City in the content of new signage in the area.
- Direct people to South Portland's excellent Healthy South Portland website for information about eliminating pesticides and share educational materials as opportunities arise.

xvii. Working with Residents

A staple of our BayScaping Program has been our neighborhood socials that include a presentation explaining the connections between lawn care practices and water quality in Casco Bay. We have done programs for more than 2,600 people over the years, not including staffing BayScaping exhibits at dozens of events. We have recently revised our BayScaping presentation, using best practices guidance, and as municipalities continue to enact or explore ordinances, we anticipate a resurgence of interest in the BayScaping socials as a way for residents to influence one another.

We have found that providing evidence of pesticide use in a particular neighborhood, in the form of detections of pesticides in stormwater runoff from pipes in the neighborhood, inspires behavioral change. Explaining that excess nitrogen and ocean acidification are critical threats to the health of Casco Bay encourages homeowners to reduce or eliminate their use of fertilizers. The social aspect encourages peer pressure and positive conformity to a different perspective on lawn care.

In FY20, we will provide BayScaping outreach to community members in a variety of ways:

- Offer at least five BayScaping neighborhood socials on request, using our revised presentation.
- We have been heartened by the interest from some members of senior living communities in switching to organic lawn care practices. We will support them by connecting them with organic lawn care providers, like-minded residents of other retirement communities, and other resources.
- Review and Revise our BayScaping papers, one for residents who “do it themselves” and another for those who hire professionals, incorporating sections on best practices to limit or eliminate the need for fertilizers and pesticides.
- Participate in community events to educate residents and municipal officials about BayScaping, such as at the Cape Elizabeth Lions’ Club and the City of Portland’s Green Neighbor Family Fest, both in April 2019. We find that interest in our yards and requests for “neighborhood socials” increase at that time of year. We would like to offer BayScaping workshops to coastal and island communities at times when we might engage the summer residents.
- Continue to spread the BayScaping ethic through seasonal emails, social media, op-eds, newsletters, and interviews.

m. Casco Bay Curriculum

The Casco Bay Curriculum has evolved since its inception in 2006. The 38 curriculum activities in the first iteration defined the character of Casco Bay (geography, history, and value), explained the dynamics and characteristics of an estuary, and used our existing water quality data.

In 2009, *Casco Bay: A Changing Estuary* offered 20 revamped classroom activities, incorporating some from that first effort. This version also focused on the impact of climate change on Casco Bay and the Gulf of Maine, including sea level rise, warming waters, the fractured ocean food web, and the changing chemistry of our oceans. It sought to answer: What is an estuary and how has it changed over time? How is climate change impacting us locally in Casco Bay and in the Gulf of Maine? What can we do to protect the environmental health of Casco Bay? It includes data collected by Friends and other scientists, PowerPoint presentations, student activity sheets, references to children’s literature, and resources such as readings from scientific and news media articles and links to relevant videos and web pages.

We geared the activities to a range of grade levels, from 4th through 8th grades. The inclusion of current articles from popular and scientific media could help teachers at the high school level meet the growing demand through Common Core Education Standards for English language arts to provide students with more nonfiction reading.

Now that we are posting monthly updates of our data on our website, we have another opportunity to engage older students, by examining, analyzing, and asking questions about current data.

In FY19, we worked to align specific curriculum activities to Education Standards with the topics and skills that teachers must cover, a limited alignment. Fully aligning the curriculum would have entailed meeting specific requirements for each group of grade levels (as, grades 1-2, 3-5, 6-8). Our limited alignment serves our original purpose, which was to reassure teachers that the material would be aligned generally with the standards. As we move forward, developing activities that use our data graphs and Water Reporter observations will resonate nicely with the

overarching principles of science standards, which entail students using/analyzing data and collecting data themselves.

In FY20, we will:

- Review all our existing curriculum activities, update those we want to continue to make available, and retire those that are no longer compelling or relevant. We may post those activities on our website in a Teacher Resources section.
- Develop inquiry-based activities that use our data. We will convene a small group of teacher advisors to help us brainstorm and develop ideas for using the data from our Continuous Monitoring Station. We will solicit their input on what water quality parameters are most useful and what questions the data could raise or answer, then generate suggestions on how educators could use this information in their classrooms.
- We will consider incorporating “curious questions” into our regular email stories about our data graphs, challenging our readers to think more deeply about what they are seeing and what the data can (or cannot) tell us, using leading questions such as what is different from a year ago and what changes we may be seeing over time.
- Focus on sea level rise. Community members have observed the rise in sea level over the years. In keeping with our focus on Climate Change, we will adapt our current curriculum activity on King Tides and incorporate Water Reporter into an activity on sea level rise, using photographs to see how coastal areas change over time. Water Reporter is an ideal platform for this activity, as it uses one of the tools that students are very familiar with—smartphones—and catalogs the posts by category via hashtags (#sealevelrise), location, and time. We will provide extensive background information on tides, to make this topic useful for a broad range of grade levels.
- Continue to provide curriculum activities that complement storm drain stenciling. We provide teachers who borrow our kits with classroom and schoolyard activities that reinforce the concept of stormwater runoff and pollution, as well as a video made especially for us that can be viewed on YouTube, Surfer Steve, which shows how and why to do storm drain stenciling.
- Limit Professional Development commitments. Each year, we have conducted workshops at Professional Development conferences (Maine Science Teachers Association, Maine Environmental Association, Island Institute’s Outer Islands Teaching and Learning Collaborative, Gulf of Maine Marine Education Association, National Marine Educators Association, and others). In 2010, 2011, and 2012, we offered three-day Summer Institutes for Teachers. In October 2016, we offered a two-evening mini-course through Southern Maine Community College. Rather than seek out opportunities for curriculum presentations this year, we will focus on developing and reviewing the curriculum activities above and ensuring that the data products we develop are ready for prime time. We will continue to respond to requests for curriculum materials and connect teachers with resources and other education colleagues.

4. Pumpout Program

Our Pumpout Program plays multiple and essential roles – the direct reduction of sewage discharges into the Bay, the education of boaters through the program’s ambassadorial function, and liaison between DEP and those marinas whose pumpout facilities are in out-of-service mode. The effectiveness of this program hinges in large part on the boating and mechanical skills, as well as the character of the person who fills this position. Our Pumpout Coordinator and Captain Jim Splude, an exceptional ambassador on the Bay, will return in 2019, his tenth season with us.

Customers and dock wranglers around the Bay respect and welcome Jim, who continues to provide excellent service and good cheer everywhere he goes on the water.

We are delighted that we will be hosting the public launch of our new pumpout vessel on June 10 at Portland Yacht Services. The new Pump Kleen Pumpout Boat is larger, safer, and more efficient. The new boat was built by Marine Boat Builders Co. of Warwick, Rhode Island: 26 feet, modified “V” hull designed to carry 650 gallons of sewage, 9 feet 11 inch beam, draft 19 inches lightship and 24 inches full load, weight 4800 pounds lightship and 9800 pounds full load, twin 250 hp Suzuki engines, bow thruster and tow/crash bar combination, and all the latest navigation equipment. This vessel has more than twice the capacity of the old one. Last fall, construction was completed and the vessel was launched and seatrialed in Rhode Island with Jim aboard. It has been stored at the Rhode Island yard for the winter and will be delivered and re-seatrialed here this spring. Federal funds funneled through the state DEP’s Pumpout Program are paying for 90% of the costs of the vessel. We are raising funds for the other 10% and will apply any proceeds from the sale of our old vessel to covering our 10%.

See Appendix G for a photo and specs of the new pumpout boat.

Through the Communications program and the Community Engagement Committee of the Board, we will conduct a boat-naming contest and ask the public to participate. A selection committee will be formed consisting of Cathy and two or three Board members.

In 2017, we went to paperless invoicing for pumpout customers. This allows customers to pay by check or pay online through our website. This has saved significant staff time and has resulted in a quicker turnaround in customer payments.

We are looking at ways to engage our pumpout customers with the Water Reporter app and observing network.

Thanks to our work with the state’s Pumpout Program, Casco Bay was awarded the first No Discharge Area status in Maine in 2006. Since then, many other regions along the coast of Maine have attained No Discharge Area status. In order to attain this, regions have to have a requisite number of pumpout stations, and, in order to meet the spirit of the law, as well as the letter, these stations need to be operational and accessible at all tides. We will continue to notify DEP when stations are nonoperational.

See Appendix F for Pumpout Metrics 1999 – 2018.

B. Communications and Development

Communication is paramount for advocating for policies and changes needed to improve and protect the environmental health of Casco Bay. To show the value of our work and engage community members, we need to tell stories that resonate with those who live, work, and play on the Bay.

We recognize that both our fundraising and outreach efforts can be described as building relationships through storytelling. Through cultivating and maintaining relationships with individual supports and with individual members of the media, we are building a stronger, more visible, and more sustainable organization.

Our Communications and Development team shares story ideas, timelines, and language for outreach materials and proposals. We work many of our ideas through the Board's Community Engagement Committee which meets monthly, year-round.

5. Communications

n. Telling, Sharing, and Promoting our Stories

One of most important new efforts in communications is our Casco Bay Matters series. (See Community Engagement section above on Casco Bay Matters Events). Developing this first season's talk *Ocean Acidification, Climate Change, and You* has been an "all hands on deck" effort, as we create an internal process of collaborating on identifying the topic, vetting and reviewing talking points and messaging, selecting images, and refining the presentation.

Stories are the most effective communications tool. Communications Staff maintain an editorial calendar to plan and track potential stories throughout the year. We will take a holistic look at our operating plan to identify topics from areas of our work, including the priority issues identified in the Baykeeping section of the plan.

We are ever aware of development deadlines (such as foundation proposal due dates and annual fund mailings) and programmatic efforts (such as a Volunteer training event or a legislative hearing). We will work to adapt the stories for use in our grant proposals—and vice versa.

An area of focus in our storytelling this year will be developing material, images, and infographics about our Continuous Monitoring Station in support of the silent phase of our Climate Change and Casco Bay Campaign to support our monitoring and community engagement efforts. (See Development section on Climate Change and Casco Bay Fund campaign).

Producing stories is only the first step; we have to push them out into the world. We continue to use a "digital first" strategy, sharing stories on our website via email and social media.

Frequency is important with today's short attention spans and with the ever-changing algorithms of social media outlets. Our goal is to produce a weekly or bi-weekly email that features one major story with an eye-catching photo and a great headline. We also promote stories, as appropriate, on Facebook, Twitter, and Instagram. We glean the most up-to-date best practices for these tools by scouring the internet, attending workshops, and participating in online webinars.

We track the metrics of the stories we share online, via email, our website, and social media. We use these data to consider the most effective stories for our printed publications, i.e., our annual report and the two print newsletters we release each year.

Our first goal is to maintain and cultivate our relationships with existing donors (2,400 households that have supported our work over the past two-year period). We also want to encourage the broader public to become more involved with our work.

We always think about our intended audiences as we consider how to serve up stories in different ways. While we have 2,400 households that have supported our work over the past two-year period, we have more than 24,000 constituents in our database. Of these, most have never donated or volunteered with us, while some are lapsed donors. For some people we have only email addresses, and for others we have only mailing addresses. Our intent is that through good communications, no matter what their preferred medium, we will recruit the support of the **Not-Yet Donors and Not-Yet Volunteered** and **Lapsed Donors and Past Volunteers** and they will move up into the **Recent Donors/Members and Volunteers Category**. Social media and traditional media stories support our communications to all these audiences.

	Just Mail	Mail and Email	Just Email	subtotals
Recent Donors/Members and Volunteers*	844	1,849	38	2,731
Lapsed Donors and Past Volunteers	1,798	1,043	1	2,842
Not-Yet Donors and Not-Yet Volunteered	13,804	4,798	2,700	18,602**

* Households or businesses that donated in 2017 or 2018, or individuals who Volunteered during those two years

** Our database houses more than 22,000 constituents. Each year, in our development efforts, we try to focus on specific regions or populations, to recruit new members/donors. This also allows us to do recruitment in manageable, affordable chunks.

In FY20, Communications and Development Staff will:

- Meet weekly to evaluate story ideas that may resonate with our audiences, prioritize what stories are going into production, and assess progress on the stories in development. We will collaborate with Program Staff to ensure accuracy and that we are creating content that helps move the needle on the issues.
- Produce four stories a month to engage our audiences.

- Work to segment our email and mailing lists based on specific audiences (e.g. donors, Volunteers, residents of a specific town or neighborhood, etc.).
- Continue to build out stories, infographics, and images about our Continuous Monitoring Station and our climate change work in support of our Climate Change and Casco Bay Campaign.
- Work to improve our presentations by scheduling practice talks with staff internally prior to public events.
- Support our Baykeeping and advocacy efforts, with special focus on LD510 and on fertilizer ordinance work (see Baykeeping section).

o. Website

Our website is the epicenter of much of our communications efforts. It is an ever-expanding storybank of content that represents our current positions on key issues and describes all of our areas of work. Staff, Board Members, Volunteers, and the general public can head to our website to learn about an issue and see images that reflect our values. Our website helps us all use consistent language and messaging across our work areas and communications channels.

Whether we are sending a newsletter, sharing an email, posting on social media, or even having buttons made, we almost always cite our website so folks can read more and dive deeper. It is a key platform for engagement and is essential to our storytelling and our branding.

In FY20, we will:

- Complete the core pages of our website, which describe our most important work areas and issues.
- Use the Operating Plan to inform any changes to the website. Periodically, we will review key pages of the website to update and revise as needed.
- Update our website with four new stories a month.
- Promote our stories through email and social media, directing our audience to our website.
- Consider completing some behind-the-scenes work to make it easier for folks to find our content when searching online.
- Continue to enhance our website. We will continue to revise the website as we garner reactions and suggestions from users.
- Work with Board Members and Volunteers to help increase our social media engagement and our visibility.
- Explore using data visualization tools, such as tables, to display our data in new engaging ways.

p. Advancing Our Brand

We will advance our visibility through cohesive visual branding in our documents, publications, buttons, website, emails, social media, presentation materials, displays, signage, and other materials. Our materials — printed, electronic, and otherwise — will reflect our organizational values.

In FY20, we will:

- Finish the branding document, started in FY19, to help Staff and others understand and highlight the characteristics and values that make Friends of Casco Bay distinct from other organizations and vital to our community.
- Develop images and infographics that reflect our organizational gestalt.

- Enhance our photograph bank by culling and organizing our sizeable collection of images. We will review our collection of print photographs and scan those photos that have historical value. We are considering cloud storage as a more effective place for storage.
- Continue to employ outstanding photographers, including Kevin Morris, to continue to evolve the quality of the visuals in our communications.
- Build on and help further develop the in-house design and artistic skills of Design, Data, and Development Associate Sara Biron.
- Call upon drone operators to Volunteer to help document and publicize changes in conditions in the Bay.
- Stay alert for infographics that we may come across that we wish to emulate. We will ask, “How could we create something similar to tell a Casco Bay story?”
- Explore hiring a graphics consultant to help us develop infographics using our data
- Explore the creation of a short film about our work (see 30th Anniversary event below).
- Continue to revise and update Bay Papers.
- Develop new Bay Papers as needed.
- Continue to develop a case statement and other materials in support of our Climate Change and Casco Bay Campaign.

q. Organizing and taking part in community events

***xviii.* Friends of Casco Bay events**

As the voice of the Bay, we are invited to participate in numerous events each year. In FY19, and continuing in FY20, we have decided to prioritize our own events over those of other organizations, in order to better engage our own long-time and new Volunteers and members. For example, we launched Casco Bay Matters events, with our first series focusing on the theme of climate change and ocean acidification (see Community Engagement section).

In FY20,

- We will assess what worked and what we learned with this first series of Casco Bay Matters events and decide on a new topic for early 2020.
- Use our events, as appropriate, to leverage support for our advocacy on legislative bills and ordinances, including LR 510 (the Climate Council and Marine Resources bill), and fertilizer ordinances.
- We will host our Friends Appreciation Event and Members’ Annual Meeting on April 30, at the Harraseeket Inn, Freeport, from 5-8 p.m.
- We will hold our new Pumpout Boat Launch Party on June 10, at Portland Yacht Services. We are holding a public boat-naming contest in advance of the event. Invited guests will include all our previous and present pumpout coordinators. Mary Herman, then First Lady of Maine, christened our first pumpout boat in 1995; we will want to consider who should do the honors for this vessel. The event has the potential to increase our visibility with the boating and working waterfront communities.
- We will organize two summer house parties, locations and dates to be determined.
- Our 12th Annual Wild & Scenic Film Festival will be on November 2, at USM, Abromson Auditorium, from 2-6 p.m. While this might receive only a brief mention in this plan, it is worth noting that we have an excellent template for producing this event, which involves months of build up, with everything from raising sponsorships to selecting films and staffing the event with Volunteers, Board and Staff, with more than 450 attendees.

- We will host our Donor Appreciation Evening on December 5, at the Cumberland Club, from 5-7 p.m.
- Dates to be determined for 2020 Casco Bay Matters events.
- We will prepare to host our 30th Anniversary Celebration at Ocean Gateway on April 29 or 30, 2020. Some of our plans include designing a special 30th anniversary logo, securing a “glossy magazine” to do a feature story about our organization, exploring sponsorship opportunities, developing print materials, displays, film, and swag, and of course putting together the program. We will explore the possibility of creating a short film about our work in honor of our 30th anniversary. Depending on the status of the Climate Change and Casco Bay Fund Campaign, we may well design elements of that into the event.
- In addition, we will organize smaller community engagement events described elsewhere in this plan, such as Water Reporter trainings, coastal cleanups, storm drain stenciling events, and BayScaping socials. Some of these events will be targeted specifically to the eastern end of the Bay and the islands, areas where we always want to expand our reach.

For a list of our FY20 events, see Appendix C.

***xix.* Community events organized by other groups, invitations for speaking engagements and tabling events**

g) Speaking requests

We are asked frequently to speak about the health of Casco Bay, at gatherings of scientific colleagues, neighborhood groups, municipal boards, and civic organizations such as Rotary Club. Speaking engagements provide an opportunity for us to bring our data and science to the community in a personal and easily understandable form. This builds knowledge about the issues, informs people about what they should and shouldn't do that can protect the health of the Bay, strengthens our relationships with attendees and sponsoring organizations, promotes a sense of shared ownership of the Bay and its health, and increases the credibility, visibility, and relevance of the organization.

If we were to accept all the requests we receive, staff members would be out several evenings and weekends each month. Consequently, we weigh how these commitments may support or further the work outlined in our operating plan. We take into account our longstanding relationships with our work partners, Board members, and like-minded organizations. We consider geography and fundraising opportunities (such as targeting communities in which we may host a house party, upscale retirement communities, or zip codes to which we may do an appeal). We envision our presentations in the community as one more facet of our donor-centered approach to fundraising.

We will assess each request in terms of time commitment, audience, effectiveness, and potential benefits, such as generating memberships or other engagement. When we accept, we shall do so strategically.

h) Tabling

When we agree to participate in tabling at community events, we use the same assessment filters as described above. We often invite a Board member or other knowledgeable Volunteer to assist. We do not assign Volunteers to cover an event without staff support until we are confident they are able to represent our positions accurately and project our “work with” attitude.

To see a list of the speaking and tabling engagements we attended in FY19, see Appendix E – Where We Have Been.

r. Building Relationships with News Media

In FY19, our work was cited more than 53 times in media stories, including the Casco Baykeeper’s work with coastal and ocean acidification, the proposed development on Route One, aquaculture, comments by Cathy on the East End Wastewater Treatment Facility spill, our Color by Numbers pilot project, and a teacher workshop with Brunswick area teachers. See Appendix H – FY19 Media Report.

In FY20, we will:

- Use our initiatives to garner stories and/or op-eds in media outlets.
- Personalize our media outreach. We will tailor specific story ideas to pitch to targeted news media outlets or to individual reporters/producers. We will consider inviting individual reporters (especially TV) to accompany us on our boat or any time we have a highly visual activity. We will generate media alerts and send invitations to individual reporters for events and conferences we sponsor.
- Cultivate a relationship with a glossy publication to produce a feature story printed in time for our 30th anniversary in 2020.
- Work with Polly Saltonstall, Editor-in-Chief of *Maine Boats, Homes and Harbors*, on a feature on the construction and launch of our new pumpout boat in conjunction with the boat launch on June 10, 2019.
- Increase our ability to get our story told more accurately by providing reporters with digital versions of images, fact sheets, and other background information.
- Work to tell our story through different media, such as video, drone footage, photos, graphs, and infographics.
- Continue to buy sponsorship time on Maine Public Radio, to promote selected events or support fundraising appeals.
- Develop and archive stories to release as appropriate in conjunction with seasons, related news reports, or events, such as stories on algal blooms, heavy rain events, East End Treatment facility nitrogen reduction, Water Reporter happenings, etc.
- Develop “evergreen” pieces, such as vignettes from Board interviews, “Why I value Friends of Casco Bay and/or Casco Bay” by Staff, Board, members, etc.

6. Development

The mission of the Development Office is to ensure Friends of Casco Bay’s long-term success through developing and sustaining diverse funding sources. Relationship building is crucial to our work. Key to this effort is being able to tell a story that highlights our effectiveness and that resonates with a donor’s understanding of the world. We will work to integrate our stories into our development work and our development work into our communications efforts.

We recognize that our organization continues to operate in a challenging economic environment. The gap in income inequality among individuals in our community and across the country continues to widen. Government support will continue to diminish as government agencies are hamstrung by partisan politics (though we are feeling more hopeful at the state level at the moment) and stagnating budgets. The new tax law will likely impact philanthropy and the role of government in ways we have yet to understand. Increasingly, corporate support is tied to quid pro quo agreements that Friends of Casco Bay does not always find agreeable. Yet, our

community values our work, and there is capacity among individual donors, foundations, local businesses, and government agencies to support it.

We have detailed plans to continue to grow our individual and foundation income—and to buttress our government and corporate line items. The plans are donor-centered and focused on building long-term relationships, keeping in close contact with our supporters, and deepening their commitment to our work.

A large focus of our work will be on our Climate Change and Casco Bay Fund Campaign. We recognize that our Executive Director and Communications and Development Director will spend significant amounts of time on this effort during this initial silent phase of the Campaign.

s. Climate Change and Casco Bay: A Fund for Technology, Monitoring, and Community Engagement

Friends of Casco Bay is creating a \$1.5 million fund to be used over the next ten years to understand how Casco Bay is being affected by climate change. The Fund will be used for equipment and staffing to:

- Deploy three Continuous Monitoring Stations collecting hourly data 365 days a year in three different regions of Casco Bay.
- Upgrade all existing data sondes and sensors and add the additional inventory of equipment needed to monitor water quality conditions both at the Stations and during other seasonal sampling and investigative work.
- Service and maintain the Stations for a decade.
- Manage and present the data, online, in print, and in public forums.
- Communicate how conditions are changing and engage our community in exploring ways we can adapt and mitigate.
- Advocate for changes in policies and behaviors to address the impacts of climate change.

We are coordinating the campaign through the Community Engagement Committee of the Board. The Board's participation, advice, wisdom, and social capital will be integral to our success.

In FY20, for the Campaign, we will:

- Refine our case statement and continue to develop materials for the Campaign, including the giving pyramid, pledge sheets, donor packets, how to give brochures, and an Anchor Society materials.
- Continue to meet with our most generous donors and high level prospects with the goal of raising 80% of the funds in the silent phase.
- Submit grant proposals to foundations as appropriate in support of the Campaign.
- Work to ensure 100% giving by Board and Staff toward the Campaign.
- Leverage our Continuous Monitoring Station and data into stories and infographics in support of the Campaign.
- Work with the Board, especially the Community Engagement Committee, to identify potential supporters of the Fund and to provide input on our materials.
- Conduct a fundraising workshop for Board and Staff to assist with the Campaign as it develops.
- Lay out the beginnings of plans for 2020 and 2021, the less quiet phases of the Campaign, including ways to integrate the Campaign with our 30th Anniversary activities.

t. Individual Giving

Even with changes to the tax laws, individual giving has the highest potential for growth and will be a key factor in our long-term success. We will reach our membership and individual giving goal through continuing to use renewal mailings, prospect lists, house parties, our Annual Fund, and through special appeals for specific programs and projects. We will expand our membership through mining our RE NXT Pro database. We will update our renewal letters and Thank You letters and continue to personalize our asks. Our Annual Fund mailings will be sent in May and late October. New members will continue to be an important part of our base building.

In FY20, we will:

- Continue to look to the Board to help our efforts through signing renewal letters, penning notes on Annual Fund letters, taking part in our Climate Change and Casco Bay Campaign, inviting friends, family, and colleagues to our events, and offering gift memberships.
- Use our membership cycle to renew existing members, re-recruit lapsed members, and encourage lower-level donors to become Calendar Islands Circle (monthly) donors. We may try an annual fund-style mailing to a specific set of donors to encourage them to become Calendar Islands Circle (monthly) donors.
- Encourage increased gifts and additional gifts through Annual Fund mailings and through Special Appeals for support.
- Gain new members through house parties and through targeted acquisition mailings. We will acquire lists through Info USA, the federal boat registration list, and assess other possible government lists.
- Present numerous opportunities to support us by giving for program work, specific restricted funds, the new pumpout boat, and other specific needs.
- Seek funds to support the purchase and operation of the new pumpout boat.
- Host two house parties. Individualized plans for each of these events will be made in conjunction with the hosts. Host committees, food, drink, etc., will be tailored for the community in which the event is being hosted.
- Launch the Anchor Society, our planned giving circle.
- Explore ways to highlight how the new tax law may benefit those who have philanthropic intent, for example, by encouraging them to give to us through Donor Advised Funds, through multi-year pledges, or through doubling up every other year and designating two-year use of funds.
- Hold our annual Donor Appreciation Evening at the Cumberland Club.
- Cultivate new and longtime members through rebranding our Annual Meeting as a Friends Appreciation Event and Members Annual Meeting.
- Encourage individual giving through the Boat Donation Program which exists in partnership with Maine Maritime Funding Association. While we cannot depend on this program for a steady stream of income, we can “make our luck” happen through distributing fliers about it, promoting our donation program on social media, our website and through our newsletter, sending at least one email to boat owners/pumpout customers about our boat donation program, and working with Maine Maritime Funding to host an educational session for marina and boatyard operators or to do a mailing to boat owners and marinas about the boat donation program.
- Cultivate and steward our donors through personal visits, boat ride visits, emails, update mailings, invitations to follow us on social media, and through inviting them to our in-person events. Donors who give \$100 or more or who are Calendar Islands Circle Donors will receive a special update about our work. Our most generous Donors will be invited to our annual Donor Appreciation event.

u. Foundation Giving

We will develop boilerplate proposals for:

- General Operating Support (unrestricted)
- Ocean Acidification and Climate Change work
- Baykeeping
- Climate Change and Casco Bay Fund for Monitoring and Community Engagement
- Continuous Monitoring Station and Water Quality Monitoring
- Water Reporter
- Capital support (cloud service or new server)
- Other endeavors as appropriate (Casco Bay Matters, Storm Drain Stenciling, Curriculum).

We will meet all applicable deadlines, including reporting requirements, giving Cathy enough time to review proposals and budgets. We will send out more than 100 foundation proposals. We will attempt to meet with trustees of foundations when possible and appropriate. We will use photos in our proposals to make them more dynamic and to better tell our stories, when possible and appropriate.

The nature of foundation fundraising is fickle. Very few foundations fund the same organizations with any regularity. Others will not consider proposals from an organization they have funded in the past year. We will review Maine Philanthropy Center's updated Foundation Directory and add new potential funders to our plans. We will meet all appropriate deadlines. When we meet deadlines, including the "long shots," we garner some unexpected grants.

v. Corporate Donations

We have a corporate ask schedule much like our foundation plan. Our prospect list will include companies mined from our database, Board connections, other nonprofits' annual reports, MaineBiz lists, and companies that use "Casco Bay" in their names. We will work to connect the health of the Bay with business interests in our region.

We will host our 12th Annual Wild & Scenic Film Festival, November 2, 2019. Through sponsorships, this event is an excellent way to leverage corporate support for Friends of Casco Bay. Because ticket sales cover most of the direct costs of with the event, 100% of sponsorships go to supporting all the ways we protect Casco Bay. This event will build on our past success.

w. Government Grants and Contracts

Our Pumpout Program supported by Maine DEP via US Fish and Wildlife Service funds, and the Casco Bay Estuary Partnership (CBEP) supported by EPA funding, are at the heart of our government support. CBEP funding has declined considerably from past fiscal years. We will continue to work to remind CBEP of the importance of supporting our work on behalf of the Bay. We will also try to raise government funds through Maine Outdoor Heritage Fund grant proposals, South Portland Water Resource Protection, Portland Water District, EPA proposals, NOAA proposals, and other government opportunities.

x. Leveraging our Science, Baykeeping, and Community Engagement efforts

Communications and Development Staff will work collaboratively with our Program staff to help leverage community support for our efforts. This includes helping redesign and organize our annual meeting (aka Friends Appreciation Event and Members Annual Meeting), helping

develop our Casco Bay Matters events, recruiting Water Reporters and other ambassadors for the Bay, and helping to develop, distribute, and utilize Bay Papers.

y. Organizational Memory: Tracking and Reporting

We are continuing to get the most out of our database, RE: NXT Pro (NXT). Our membership renewal process is heavily automated through NXT. In FY19, we began using NXT to track and manage Volunteers, improve our online giving methods, sell tickets for the film festival and other events, and to better manage our membership processes. We will continue to make our contact records thorough and reliable. We will track our contacts with donors and create accurate solicitation and results reports from NXT. We will continue to work to harness the numerous capabilities of NXT and, where appropriate, train other staff members on using the database.

z. Other Fundraising Efforts

Should we find that we have the opportunity to move into new office space during this fiscal year, we will craft a fundraising strategy to help offset costs, identify in-kind opportunities for donors, and leverage the move as a great visibility opportunity for the organization.

aa. Remaining nimble

We will take advantage of opportunities as they present themselves. We will remain open to imaginative ideas, learn from mistakes, and build upon successes. We will revisit and evaluate this plan monthly. We will revise our development strategy and tactics as needed.

C. Technology and Capital Assets

In FY19, we:

- Completed our new Strategic Plan 2018-2022, a key intangible asset.
- Replaced our photocopier.
- Continued upgrades in computer workstations, software, and other office tools.
- Maintained the *R/V Payne* and decided to take the boat out of the water for the winter 2018-2019.
- Monitored the construction of our new pumpout boat. Ninety percent of the cost is funded through the DEP's federally funded grant program.
- Upgraded our relationship management database from Raiser's Edge *i* to RE: NXT Pro.
- Created the design and elements for a fundraising campaign to support monitoring and community engagement in light of the impacts of Climate Change on Casco Bay.
- Began raising funds for the campaign.
- Visited a variety of potential office spaces, none of which seemed to fit the bill.

In FY20, we will:

- Upgrade the Continuous Monitoring Station in Yarmouth with the newest sonde technology and sensors.
- Outfit and launch our new pumpout boat.
- Upgrade 4 computers that have Windows 7 operating systems, which will no longer be supported after January 2020.
- Our computer consultants, Systems Engineering, have proposed putting a malware security patch on each workstation and the server, so we will assess the need for this.
- We will assess whether moving our server files and capacity to the cloud will save money and improve security and access. We will engage Systems Engineering, see what they say, then consult other vendors.

- We will try to sell 3 old boats: old pumpout vessel, Lund, and a small whaler that has not been in the water for a decade.
- Continue to look at available office space.

We have learned that certain donors respond very favorably to making contributions for specific “hard assets,” and so to that end, we will engage in specific campaigns designed to support our ongoing capital needs. This year, those will include support for the new pumpout boat, support for technology and community engagement through the campaign, and support (including In Kind) for a move should that become a reality this year.

D. Management and Administration

7. Staff

Here is the composition of the Staff at the beginning of FY20, showing the year each person came aboard:

Sara Biron, Design, Data, and Development Associate	2014
Mary Cerullo, Associate Director	1998
Mike Doan, Research Associate and Boat Captain	1997
Will Everitt, Communications and Development Director	2006, 2010
Jeff Fetterer, Office Manager	2007
Ivy Frignoca, Casco Baykeeper	2016
Sarah Lyman, Community Engagement Coordinator	2011
Cathy Ramsdell, CPA, CGMA, Executive Director	2003
Jim Splude, Pumpout Coordinator and Boat Captain	2010

We do not anticipate adding staff this year. We do look forward to defining the next staff position, as we raise funds through the Climate Change and Casco Bay campaign.

Staff turnover is exceptionally low and that is invaluable, as we are able to maintain momentum as we deepen our abilities to work together. Staff members continue to excel at learning, deepening their individual skills, as we all continue to find new and ever-more effective ways to learn together and work together. Sometimes this means having hard conversations, as well as inviting dissent during program and event planning meetings, as we have learned that constructive dissent as we think together inspires new ideas and makes for better decision making.

We have assembled and retained this excellent team by maintaining a good benefits package and by running a fair and flexible workplace. In return, we expect high quality engagement, exchange, and discourse, along with collaboration, appreciation of the big picture, and attention to detail. We provide professional development opportunities, such as attending classes, workshops, trainings, seminars, and conferences. Staff members also provide teaching content on various subjects in a wide variety of contexts, from classes at SMCC and UMaine Law, to seminars at Bowdoin and the Maine Association of Nonprofits.

We update our emergency succession plans annually, for use in the (we hope unlikely) event of an unplanned temporary absence of staff (the E.D. asks for updates during the annual staff review process). These plans identify the key roles and responsibilities of each staff person, which staff members would fulfill certain responsibilities in one’s absence, and identify the

activities so unique to that individual that the activity simply might not be attended to until their return.

We will continue conversations about nonemergency succession planning.

Compensation was frozen in the FY09 / FY10 / FY11 budgets, and when revenue goals were met, an accrued bonus that had been included in the budget was released and in two cases supplemented with additional funds. The FY12 budget contained a 3% increase in compensation integrated into the numbers, not accrued, and this was greatly appreciated by Staff. The FY13, FY14, and FY15 budgets each contained a 2% increase; in addition, a couple of modest adjustments were made during FY13 and FY15, for merit and for partial compensation in lieu of health insurance for those leaving the plan to join spousal coverage. The FY16 budget included a 3% increase. The FY17 and FY18 budgets contained a 2% increase, with a couple of modest base adjustments. The FY19 budget contained a 3% increase, with some small adjustments to base pay. The FY20 budget proposes a 4% increase, with a couple of small adjustments to base pay. Overall, this seems like a wise and modest investment in our intellectual capital, given the continued performance of the Staff and by extension, the organization.

8. Office Space

We continue to be on the lookout for new office space. Southern Maine Community College informed us in the fall of 2016 that our lease would not be renewed, and while they are in no hurry for us to leave, we are “at will” tenants. It was agreed at the 2/21/17 Board meeting that we would proceed with defining our needs and explore spaces.

9. Financial Stability

Friends of Casco Bay has a strong balance sheet, with plenty of working capital and no significant debt (other than Accrued Vacation Liability), along with four dedicated funds used to support operations: the Baykeeping Fund, the Emeritus Fund for Advocacy, the Boats Fund, all housed at the Maine Community Foundation, and the Climate Change and Casco Bay Fund, currently housed in money market savings and a certificate of deposit.

Monthly interim financial reports will continue to be prepared, emphasizing year-to-date budget versus actual performance, along with balance sheets and periodic invested funds updates.

10. Board

Friends of Casco Bay's Board of Directors meets monthly on the 3rd Tuesday, from September through June except for December. The Board's Community Engagement Committee meets on the 1st Monday of the month. The Executive Committee meets as needed.

The Executive Director works with the Board President, and when appropriate, the Executive Committee, to develop agendas for these meetings. Staff provide logistical support for Board meetings, including scheduling space to meet, providing snacks, arranging a/v, and taking minutes. Staff will continue to engage Board members in building and maintaining community relationships, policy issues, program efforts and accomplishments, governance, events, and connections to resources – financial and otherwise.

We continue to encourage the Board to engage in discussions and planning about Board recruitment and Board leadership succession. We will continue to meet with new friends of the organization and explore nominations and the nominating process to improve board recruitment practices.

IV. FY20 Operating Plan Summary

Monitoring:

- Continuous Monitoring Station (CMS), with data sonde with a pCO₂ sensor at Cousins Island, hourly data year round. Data sondes will be upgraded to newest sonde design with new and additional sensors.
- Seasonal Sampling, early spring to late fall
 - 13 sites to sample surface water quality, at least 10 sampling events
 - 9 sites by boat to sample water quality down through the water column, at least 10 sampling events
- Design and release of data products from both types of sampling efforts, working closely with Communications and Advocacy staff.
- Monitor and track nuisance and harmful algal blooms.
- Continue to develop internal data handling protocols for ease of storage, quality assurance, and extraction for our analyses and for other scientists.
- Continue to collaborate with DEP, PWD, EPA, Portland, and South Portland to understand conditions in Casco Bay.

Baykeeping

- Continue to promote and build a shared sense of ownership of the Bay with our community, using robust communications approaches and advocacy platforms.
- Respond to public inquiries.
- Keep climate change at the forefront of our advocacy and work to engage the public.
- Continue coordination of Maine Ocean and Coastal Acidification partnership, including the oversight of constructing a 5-year action plan with the MOCA stakeholder, while working to move the action plan to the state level.
- Continue addressing nitrogen pollution, through strengthening permits and working on fertilizer ordinance processes.
- Continue work on reducing the impacts of stormwater runoff, including ongoing work with Portland, with the MS4 permit, and exploration of ways to reduce impervious cover near urban impaired streams.
- Work with the greater aquaculture community on:
 - Siting issues
 - Marine debris controls
 - On site human waste containment
- Monitor and respond to Water Reporter posts.
- Monitor and comment on draft discharge permits.
- Track Casco Bay-related bills in the legislature, supporting improvements to the health of coastal waters and fighting rollbacks, at the local, state, and federal levels.
- Assess ways and timing for encouraging ordinances, in South Portland and Portland, to reduce, restrict or eliminate the use of fertilizers
- Utilize and promote our work with approach and our integrated approach using science and community engagement to strengthen our advocacy and effectiveness.
- Continue working closely with key partners, including Waterkeeper Alliance, Casco Bay Estuary Partnership, Maine Ocean and Coastal Acidification Partnership, Environmental Priorities Coalition, Integrated Planning Stakeholder Group of Portland, Portland Water Quality Stakeholder Group, Waterfront Alliance, and other ad hoc collaborations as they arise.

Community Engagement

- Provide quality interactions for all those who volunteer with us.
- Grow our observing network of Water Reporters
- Recruit top notch Interns and Externs to assist us with our work and provide high quality experiences for them.
- Coordinate group activities:
 - Coastal Cleanups
 - Storm Drain Stenciling projects
- Host Casco Bay Matters events to engage the public around key issues we are working on and to promote ways people can make a difference for the Bay.
- Work with officials and community groups in South Portland, Portland, Falmouth, and other municipalities to explore the fertilizer ordinance process.
- Offer our BayScaping presentation at neighborhood socials and public events, especially as South Portland and Portland roll out their pesticide ordinances and begin exploring fertilizer ordinances.
- Develop Casco Bay Curriculum activities using the Continuous Monitoring Station data we are posting on our website monthly.

Pumpout Program

- Name our new pumpout boat.
- Launch our new pumpout boat.
- Continue to offer pumpout services for 2019 season

Communications and Development

- Foster a storytelling culture.
- Promote our stories in a wide variety of ways.
- Host Friends Appreciation and Members' Annual Meeting, Pumpout Boat Launch Party, 2 house parties, our annual film festival, and annual donor appreciation event.
- Take part in community events.
- Keep or new website up to date and continue to add new sections.
- Update and add to our Bay Papers.
- Continue to develop the Climate Change and Casco Bay Fund campaign.
- Continue to grow and deepen giving from individuals.
- Advance our Anchor Society as recognition of those making planned gifts.
- Continue to garner foundation, corporate and government support.
- Take advantage of and create visibility and branding opportunities as they arise.

Technology and Capital Assets

- Upgrade our Continuous Monitoring Station with state of the art data sondes, and new and additional sensors
- Continue upgrades in computer workstations, software, and other office tools
- Assess whether we will move our server files to the cloud next year
- Continue to look at available office space

Management and Administration

- Maintain our Staff, our financial stability and resiliency
- Explore new office space
- Raise funds through the campaign

V. FY20 Budget Highlights

The Operating Plan for FY20 describes our plan for improving and protecting Casco Bay for the year April 1, 2019, through March 31, 2020.

A budget is the identification of the resources we believe it will take to accomplish this Operating Plan. The budget represents a best guess at a point in time based on reasonable assumptions. Reality will prove to be different.

We budget as conservatively as we can and hope to underestimate revenue and overestimate expenses, as realistically as possible. We strive to break even in operations; this is an essential signal to funders that we live within our means. The FY20 budget results in a very modest surplus of \$3k before depreciation, a noncash expense.

The Budget is presented as a two-page summary. It is accompanied by a 5-page Supplemental Schedule that includes historical financial data for comparative purposes. These two documents are formed from other in-depth financial information, including a 500 line-item detailed budget, compensation and benefits budgets, estimated funds release calculations, and a campaign budget with release calculations. This year, we are also including a 1-page worksheet analyzing why FY19 expenses are significantly less than budgeted.

To meet the goals of the FY20 Operating Plan, expenses are budgeted at \$954,880 which is 21% higher than this year's estimated actual operating expenses, though only 9% higher than the FY19 Budget. The reasons for the increase are many.

- A number of activities budgeted for in FY19 were postponed to FY20, including costs of a training, conference attendance, professional fees relating to making a film for our 30th anniversary, and more. We have added additional staff training opportunities.
- Campaign costs and equipment upgrades for the Continuous Monitoring Stations, thanks to the Climate Change and Casco Bay Fund, are boosting the budget by significant amounts, on both the revenue and the expense sides.
- We received special funding to help us coordinate the work of the Maine Ocean and Coastal Acidification Partnership, and half of that will cover added costs for meetings and a facilitator.
- We have been fortunate for many years that Dr. Dave Townsend's lab at UMaine Orono has analyzed our Nitrogen samples pro bono. Dave is retiring. We have added the cost of Nitrogen analyses to our budget.
- The Friends Appreciation and Members Annual Meeting event was moved from FY19 to early FY20, and the cost of that event has increased considerably.
- We will be hosting not one, but two house parties in FY20, as well as the Pumpout Boat Launch event.
- As of January 2020, Windows 7 operating system will no longer be supported, so we will be upgrading a number of workstations this year, double the usual number.
- We expect there will be more printing and mailing costs for member acquisition activities and invitations. Postal rates continue to increase.
- Health insurance costs are increasing.

As usual, budgeted expenses include a \$12,000 contingency line item.

The FY20 Budget identifies \$958,170 in operating revenue from a robust variety of sources. This is 20% higher than this year's expected revenue, estimated to total around \$796,500. Much of the

increase is due to the anticipated release of monies from the Climate Change and Casco Bay Fund, which will support campaign costs, monitoring equipment, and related operating costs. Frequently, we have considered using funds we have set aside, to supplement what we are able to raise from outside sources, to responsibly keep our organization and Staff moving forward in a wholesome way.

In the past (FY09 – FY14 and again in FY18 and FY19) the budget has contained a line item for Special Use of Funds as an Allowance Not to Exceed a certain budgeted amount. This line item has reflected the potential use of accumulated surpluses from prior years and/or additional draws from our invested funds housed at Maine Community Foundation, to avoid an operating deficit, should one occur. Please see the end section O in the Supplemental Schedule for a more detailed treatment of resource considerations.

The good news is that even though we have budgeted this “gap filler” many times, in amounts ranging from \$26k to \$58k each year, we have yet to utilize it!

One contingency we are facing is that we may have to physically move our office at some point. We have been and will continue to look at potential office space. Our hope is that we might postpone an actual move until after we have made more progress in our fundraising campaign (as of the writing of this report, we have raised \$470k, with \$250k in hand and the other \$220k in planned giving, and our case statement is in the graphic design phase).

If opportunity and/or necessity so dictate a move this year, we would ask the Board at that time to consider authorizing a Special Transfer Not to Exceed an appropriate amount to underwrite the move. As funders assess our financials, the addition of the contingent costs of moving would simply further inflate the difference between FY19’s actual numbers and FY20’s budget.

The beauty of having a fiscal year ending on March 31 is that we can experience the results of calendar year-end giving, assess where we are in relation to where we thought we might be (an ongoing process, actually), and then use the 1st quarter of the calendar year to explore options to best meet our goals of delivering on our plan, while striving to do better than break even, and while planning the next year.

The Budget to support the FY20 Operating Plan will be fodder for discussion at our upcoming March 11th Workshop, following our review of this Plan.

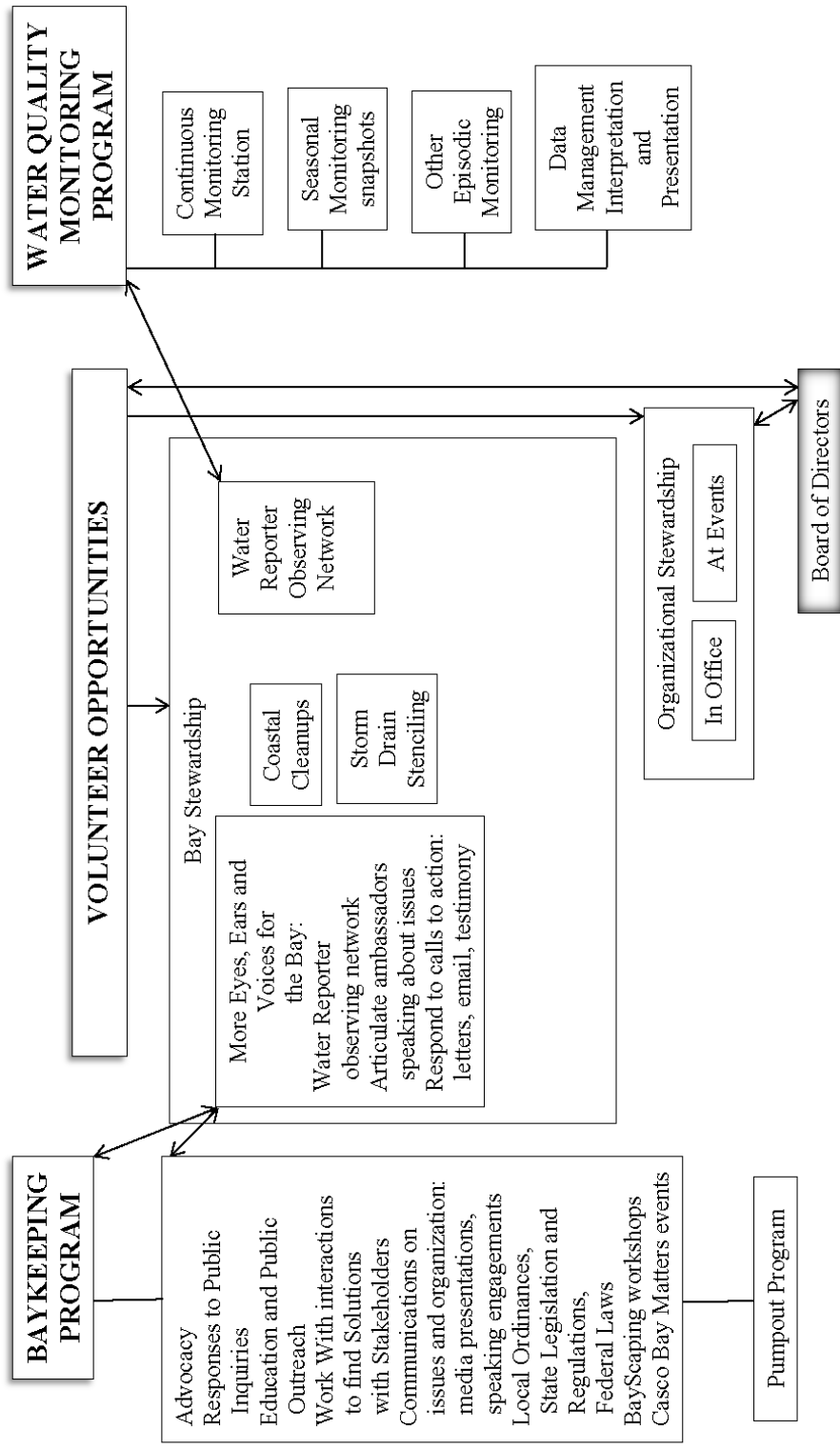
VI. APPENDICES

Appendix A – FY20 Program Matrix

Program	Science	Community Engagement	Advocacy
Water Quality & other Environmental Monitoring	Continuous Monitoring Station Seasonal Monitoring QAPP maintenance Laboratory and boat operations	Water Reporter observing network Casco Bay Matters: <i>Ocean Acidification, Climate Change, and You</i> Images, graphs, reports, etc. to the public about our science efforts	Encouraging more monitoring in CWA permits Championing monitoring by DEP Maine Ocean and Coastal Acidification Partnership, acidification and climate change monitoring efforts Nitrogen standards
Baykeeping: The eyes, ears, and voice of Casco Bay	Advocacy is grounded in science Staying on top of Climate Change science Casco Baykeeper helps staff our WQM efforts Tracking algal blooms	Water Reporter observing network Casco Bay Matters: <i>Ocean Acidification, Climate Change, and You</i> Public events Media events CBEP management committee	Addressing threats as they arise Climate Change and Acidification Policy CWA discharge permits CSO remediation Aquaculture Maine Ocean and Coastal Acidification Partnership Legislation/ ordinance tracking and testimony BayScaping ordinances Marine Debris Dredge/CAD monitoring Oil Spill Preparedness Preventing federal rollbacks
Community Engagement	Data presentations on website: translating science to the general public Bay Papers Data behind <i>Casco Bay Curriculum</i> Casco Bay Matters: <i>Ocean Acidification, Climate Change, and You</i>	Casco Bay Matters: <i>Ocean Acidification, Climate Change, and You</i> BayScaping socials Community speaking events Tabling at community events <i>Casco Bay Curriculum</i> Our special events (volunteer appreciation, house parties) Media releases Email communications Social Media Newsletter	Action alerts Bay Paper actions Casco Bay Matters: <i>Ocean Acidification, Climate Change, and You</i>
Pumpout Program	Pumpout metrics	Pumpout service Ambassadorial work Launch Party for new Pumpout Boat + naming contest	Watchdogging pumpout stations around the Bay Advocating for more pumpout stations

Appendix B – FY20 Volunteer Opportunities in Relation to Programs

Friends of Casco Bay Volunteer Opportunities in Relation to Programs - 2019



Appendix C – FY20 Events We Anticipate Hosting

- ☆ *Ocean Acidification, Climate Change, and You: A Casco Bay Matters event* Tuesday, April 9, 2019, Curtis Memorial Library Brunswick; this will be the 3rd of these, the other two are scheduled during FY19 for March 18 (Portland) and March 25 (South Portland).
- ☆ Friends Appreciation and Members Annual Meeting, Tuesday, April 30, Harraseeket Inn, Freeport, 5 – 8 PM
- ☆ Launch Party for new Pumpout Boat, Monday, June 10, Portland Yacht Services
- ☆ Summer House Party, date and to be determined (tbd), hosted by Brian and Carolyn Clement
- ☆ 2nd Summer House Party, date and location tbd
- ☆ 12th Wild & Scenic Film Festival On Tour, on Saturday, November 2, 2019
- ☆ Donor Appreciation event, Cumberland Club, Thursday, December 5, 2019

Events We Anticipate Planning

- ☆ Casco Bay Matters (subject to be determined) for early 2020 talks
- ☆ 30th Anniversary Event at Ocean Gateway, late April 2020

Appendix D – Our Working Relationships – Mid 2018

GOVERNMENTAL and QUASI GOVERNMENTAL

Casco Bay Estuary Partnership
Management Committee (Curtis Bohlen)
Nutrient Council (Curtis Bohlen)
Monitoring Committee (Matt Craig)
Public Education (Victoria Roundy)
Funding (Marti Blair)
Maine Department of Environmental Protection
Science and Regulation (Angie Brewer, Don Witherell)
Data and Continuous Monitoring (Rob Mohler, Emily)
Pumpout Program (Pam Parker)
Permitting and Regulations (Greg Wood)
Maine Outdoor Heritage Fund collaboration (Mark Margoram)
Maine Department of Marine Resources
Maine Coastal Program (Kathleen Leyden, Teresa Torrent)
Shellfish Health and Algal Outbreaks (Kohl Konwit, Bryant)
Sea Level Rise (Gail Bodge)
Maine Outdoor Heritage Fund
Wells National Estuarine Research Reserve
Portland Water District
East End Waste Water Treatment Facility, Peaks, Cape (Scott Firmin)
Funding
Environmental Protection Agency
Region 1, Boston (Commissioner, Staff)
Maine/New Hampshire Area Committee
US Geological Survey
Eelgrass (Hilary Neckles)
State Dredge Team
NOAA
Marine Debris (Demi Foxx)
Ocean Acidification
Coast Guard
Oil spill preparedness
Pollution incidents
Harbor Commissioners
Shellfish Commissions
Casco Bay Lines
City of Portland
Public Works/Water Resources (Nancy Gallinaro)

Parks and Rec – Back Cove Yardscaping site and sea level rise (Jeff Tarling)
Water Quality Stakeholder Group
Ordinances (Troy Moon)
South Portland
Water Resources Division
Stormwater management
Pesticide ordinance
Falmouth
Brunswick
Harpwell

City Councilors
Legislators
Congressionals

RESEARCH and EDUCATIONAL INSTITUTIONS

Bigelow Laboratory for Ocean Sciences
pCO₂ and pH Monitoring (Nicole Price, Brittney Honisch)
Citizen Science (Nick Record)
Color (Barney Balch)
Major Donors whom we have in common
Gulf of Maine Research Institute
Meeting space
Periodic Program Content Check In and Information Sharing (Labaree, Pershing, Sherwood)
Volunteer Initiatives (Sarah Kirn)
Sea Level Rise (Gail Bowness)
Darling Marine Center, University of Maine
Southern Maine Community College
Marine Sciences
Landlord
University of Southern Maine
Media Studies
Karen Wilson
University of Maine
Damien, David, Larry, Kathleen
University of Maine School of Law
University of New Hampshire
Joe Salisbury, Chris Hunt
Bowdoin College
Bates College
College of the Atlantic
St. Joseph's College
Mark Green
Greg Teagarden
University of New England (UNE)

Maine College of Art (MECA)
Schools - curriculum

OTHER NONPROFITS and COALITIONS

Maine Ocean and Coastal Acidification Network
Northeast PSP Group
Northeast Coastal Acidification Network
NECAN
Waterkeeper Alliance
Waterfront Alliance
Island Institute
Take Action Portland
Conservation Law Foundation (CLF)
Beyond Pesticides (DC)
Ocean Conservancy
Gulf of Maine Marine Educators Association (GOMMEA)
Maine Science Teachers
Cornerstones of Science
Surfrider
Downeast Environmental Institute
Maine Center for Coastal Fisheries
Royal River Conservation Trust and various coalitions
New Meadows – various coalitions
Presumpscot River – various groups
Friends of the Basin
Quahog Bay Conservancy
Harpwell Heritage Land Trust
Manomet
MaineShare
Maine Association of Nonprofits
 SkillBuilders (teaching)
 Advocacy Advisory Committee
 Gubernatorial Forum Steering Committee
Environmental Priorities Coalition
Kennebec Land Trust
Friends of Fort Gorges (Paul Drinan)
Friends of the Eastern Prom
Sail Maine
Maine Island Trail Association
Hurricane Island Foundation
Friends of Merrymeeting Bay
Maine Coast Observing Network
Friends of Frenchman Bay
Friends of Penobscot Bay (WKA affiliate)
Cumberland County Soil and Water Conservation District
Adventure Scientists (Abby Barrows - plastics)

Marine and Environmental Research Institute (Susan Shaw)
South Yuba River Citizens League (SYRCL) – Wild & Scenic Film Festival
Green Drinks
Social Media Breakfast
Scarborough Land Trust
Southern Maine Conservation Collaborative
Maine Conservation Alliance
Maine Conservation Voters
Yacht clubs, sailing groups

CORPORATE (clean ups, stenciling, sponsorships, science)

Aquaculturists
Harvesters
Kayak and Sailing companies
Port Harbor Marine
Other marinas and boat yards
 Pumpout facilities
 Boat maintenance
Andy's Old Port Pub
SeaTow
TD Bank
Idexx
Yelp!
Allagash
Ocean Navigator
LT's Inc
Oakhurst
RBC Wealth Management
Pumpout Customers

VOLUNTEERS and DONORS

Key Volunteers
 Board
 Cleanups
 Color by Numbers
 Water Reporter
 Stenciling
 Office work
 Photos, Videos
 Events
 Hosts
Master Gardeners
Various Foundations, Trusts, Donor Advised Funds
Donors and Members

NEWS MEDIA

Appendix E – Where We Have Been – FY19

FY19		You may have seen us at these venues...		Speaking or Leading Event	# in Audience at Speaking Event	# at Tabling Event	Volunteers and Staff in Attendance
04/01/18	Belfast	MSTA	Casco Bay Curriculum	Mary	7		
04/13/18	Portland	Brunswick radio		Ivy			
04/23/18	South Portland	Willard Beach	SMCC Students beach cleanup	Emily Daggett	18		
04/24/18	Falmouth	TDBank 2018 ECO-Fair	Tabling	Pat Ianni		25	
05/01/18	Topsham	Public Library	Climate Change - Community Toolbox		25		Cathy, Mary
05/10/19	Portland	WMPG	Community Voices for Change, Richard Rudolph interviewer	Cathy			
05/17/18	Portland	Water Stakeholder Meeting			30		Cathy
05/18/18	Portland	Ocean Gateway	Coast Guard Change of Command Ceremony				Cathy, Malcolm
06/08/18	South Portland	Bug Light Park	Cleanup with IDEXX	Sarah	15		
06/09/18	Yarmouth	March for the Oceans	Tabling	Mary		200	
06/12/18	Brunswick	Bowdoin	MOCA Conference	Ivy	58		Mike, Cathy, Mary
06/21/18	Portland	Nutrient Council mtg	Baykeeping	Ivy	20		Mike
06/21/18	Casco Bay	Tour for EPA	Baykeeping	Ivy, Mike	8		Cathy, Mary
06/25/18	Falmouth	City Council mtg	Baykeeping: Proposed development	Ivy			
07/11/18	Portland	Yelp Helps	Back Cove Cleanup	Sarah, Morigan	16		
07/17/18	Harpwell	home of Lew & Liz Incze	House party	Cathy, Mike, Ivy, Malcolm	44		Will, Sarah, Sara, Mary
07/26/18	South Portland	Bug Light Park	Plogathon	Sarah, Morigan	12		
07/31/18	Cushing Island	Home of Bill Meserve	House party	Ivy, Cathy, Will	25		
08/02/18	Portland	Back Cove	Cleanup & Stenciling with IDEXX	Sarah	22		
08/04/18	Brunswick	Connecting to Casco Bay	Teacher workshop	Mary	29		
08/15/18	Portland	Back Cove	TD Bank Cleanup	Sarah	17		
08/16/18	Portland	Water Stakeholder Meeting					Ivy, Cathy
08/29/18	South Portland	Breakwater Condos	Storm drain stenciling (18)	Mary	3		Gail and John Grossman Sandy
09/15/18	South Portland	Bug Light Park	International Coastal Cleanup	Sarah	7		
09/15/18	South Portland	ME Master Naturalist training	CB Curriculum	Mary	32		
09/19/18	Portland	City Council mtg	Straws		20		Cathy
09/23/18	Portland	Take Action Portland	Color By Numbers	Sarah, Sandy	5		
09/25/18	Augusta	Environmental Priorities Coalition	EPC meeting		20		Cathy
09/29/18	South Portland	Bug Light Organic Field Day	BayScaping tabling			200	Mary, Pat Ianni
10/03/18	Thompson's Point, Portland	Maine Conservation Voters	Evening for the Environment		350+		Will, Cathy
10/04/18	Casco Bay Lines, Portland	Commercial Street Planning Meeting			40		Cathy
10/10/18	Dept. Inland Fisheries & Wildlife, Gray	Oiled Wildlife Rehabilitation Training			20		Cathy and volunteers
10/11/18	Brunswick	Bowdoin College dedication of Roux Environmental Center			400		Cathy and Malcolm

FY19		You may have seen us at these venues...		Speaking or Leading Event	# in Audience at Speaking Event	# at Tabling Event	Volunteers and Staff in Attendance
10/26/18	Portland	Regional Association for Research in the Gulf of Maine (RARGOM)	Abromson		125		Cathy, Ivy, Mike
10/31/18	Harraseeket Inn, Freeport	Maine Association of Nonprofits	Leadership Forum, Boardroom Success		130		Cathy, Malcolm, Sandy
11/14/18	South Portland	City of South Portland	Plastics and Fertilizer Ordinance check in with Julie Rosenbach	Cathy	3		
11/15/18	Portland	Water Stakeholder Meeting			25		Ivy, Cathy
11/26/18	Augusta	EPC	Strategic Planning	Cathy	32		Ivy, Mary
11/28/18	Cumberland Club, Portland	Donor Appreciation		Cathy, Ivy, Malcolm	56		
11/29/18	State House	MOCA	Winter Meeting	Ivy	44		Cathy, Mary, Mike
12/03/18	Falmouth	Conservation Committee	pesticide discussion	Mary	14		
12/04/18	South Portland	SMCC	Turf Management	Mary	11		
12/04/18	Portland	Holiday Inn by the Bay	MANP Nonprofit Finance Conference		200		Cathy
12/11/18	Augusta	Maine Conservation Voters	EPC Pre-Priority Setting	Cathy, Ivy	20		
12/12/18	Augusta	Bangor Savings Bank	Nonprofit and Philanthropic Partners discuss working with Augusta		150		Cathy
12/14/18	Portland	Chris Akerlind	Maine USA listening session with Artists, talk about Climate Change	Cathy	13		
12/18/18	South Portland	December ME/NH Area Committee Meeting		Sarah	35		
12/19/18	Augusta	Rines Mansion	EPC Priority Setting	Cathy, Ivy	35		
12/20/18	Yarmouth	Dietel Partners	MANP Advocacy Committee meeting	Cathy	9		
01/16/19	Portland	City Council	Sustainability & Transportation Committee Fertilizer Ordinance work plan consideration	Cathy			
01/17/19	Legislature	EPC Breakfast	Climate Change Council Bill				Mary, Pat Ianni
01/31/19	Legislature		Climate Change Council Bill	Ivy	35		Josh Biermann
02/01/19	Falmouth	Maine Audubon	EPC Planning Team Retreat	Cathy	8		
02/14/19	South Portland	Centerboard Yacht Club	Portland Harbor Dredge meeting		50		Ivy, Cathy
02/21/19	Freeport	Patagonia film night	Climate Change tabling and panel	Mary	60	100	
02/14/19	Portland	Town & Shore	Volunteer Opportunities with Friends of Casco Bay	Will	13		Will Everitt

Appendix F – Pumpout Metrics 1999 – 2018

Year	Pumpout Coordinator	# of Pumpouts/ Service Calls	Gallons of Sewage Diverted	# of Pumpout Customers	# of Pumpouts in 20 Gallon Increments	# of Flushes	Total \$ Billed
2018	Splude	499	16,060	189	-	38	\$8,230
2017	Splude	485	13,700	169	685	45	\$7,525
2016	Splude	543	15,320	159	766	48	\$7,655
2015	Splude	535	13,640	105	462	44	\$5,280
2014	Splude	570	18,000	115	622	64	\$7,180
2013	Splude	637	12,740	100	448	42	\$5,110
2012	Splude	340	6,810	106	532	47	\$6,055
2011	Splude	405	10,400	122	529	37	\$6,035
2010	Splude	294	8,280	120	417	38	\$4,335
2009	Mattsson & Linnell	213	4,260	78	213	27	\$2,565
2008	Mattsson & Linnell	332	7,160	100	335	34	\$2,185
2007	Mattsson & Linnell	155	5,100	88	212	29	\$1,485
2006	Mattsson & Linnell	203	4,060	73	203	40	\$2,380
2005	Adibi	116	3,425				
2004	Saas	471	7,347				
2003	Saas	659	10,300				
2002	Saas	754	10,425				
2001	Madeira	1,126	16,125				
2000	Madeira	771	15,400				
1999	McGivern	650	13,000				
1998	McGivern	289	5,780				
1997	Bertocci	215	4,300				
1996	Hackett	160	3,200				
1995	Hackett	51	1,020				
	# service calls:	10,473	225,882	gallons			

Appendix G – New Pumpout Boat



Marine Boat Builders Co. 26' Pumpout Boat for Friends of Casco Bay

Twin 250 HP Suzuki engines
allowing us to haul more boat
sewage than ever.

Enhanced safety equipment to
help keep our pumpout captain,
our boat, and others' boats
safer.



Modified "V" hull especially designed
to carry 650 gallons of sewage — more
than twice our current capacity.

Specifications:

- Overall length: 26'
- Beam: 9'11"
- Draft: 19" lightship
24" full load
- Weight: 4,800 lbs. lightship
9,800 lbs. full load

Launch party: Monday, June 10, 2019

Portland Yacht Services
100 W. Commercial St, Portland, Maine

Appendix H – FY19 Media Report

April 3, 2018	The Forecaster(4 issues)	Royal River discussion, cites Ivy
April 15	BDN Blogs: George’s Outdoor Newsenviron. coloring storybook/cites our plastics research	
April 27	So. Yuba River Citizens League	Sarah Lyman quoted on the W&S Film Festival https://yubariver.org/2018/04/did-you-know-wild-scenic-film-festival-goes-on-tour/
May 2018	Maine Magazine	Green Grass, Blue Waters/ Ivy & Mary
May 10	WMPG Radio	Cathy on “Community Voices for Change”
May 23	Coastal Journal	Casco Bay Summer Teacher workshop https://www.coastaljournal.com/2018/05/23/sign-up-now-for-connect-to-casco-bay-teacher-workshop/
June 7	PPH: Complaints about smell drop after Portland wastewater plant upgrade, Ivy quoted	https://www.pressherald.com/2018/06/07/odor-complaints-drop-after-12-million-portland-wastewater-plant-upgrade/
June 9	PPH No discharge zone fight comes to Acadia region Cathy quoted	https://www.pressherald.com/2018/06/10/no-discharge-zone-fight-comes-to-acadia-region/
June 2018	MCF Report to the Community 2017-2018	funding for Baykeeper position
June 2018	LightHawk 2017 Annual Report	listed as a 2017 partner
July 2018	Harpswell Anchor	OA Findings: Maine Lobster/ FOCB at MOCA mtg.
July 2018	Fishermen’s Voice	What Science knows about OA & Maine’s Lobsters
July 3	The Forecasters	Residents oppose Falmouth Center, Ivy quoted http://www.theforecaster.net/we-dont-need-any-of-this-here-foreside-residents-oppose-falmouth-center-project/ Neighbors oppose Falmouth center project, Ivy quoted https://www.pressherald.com/2018/07/08/neighbors-oppose-falmouth-center-project/
July 10	CBEP <i>Casco Bay Currents</i> : Summer 2018	Color by Numbers, Boat trip w/Alex Dunn
July 21	Sentry	Plog for a Cause
July 2018	Maine Community Foundation	Great Grants: The Color of Water
July 27	Portland Press Herald (PPH)	Sewage spill, Cathy Ramsdell 1 million-gallon sewage spill closes Portland’s East End beach and trail https://www.pressherald.com/2018/07/26/sewage-overflow-washes-out-section-of-eastern-prom-trail/

July 26 WMPG radio 90.9 "Ecotones" Ocean Heath, Ivy Frignoca
<https://www.wmpg.org/show/thu1300/> (program may be archived)

July 26/27 WCSH-6 Plogging, Sarah Lyman
<https://www.newscentermaine.com/video/news/local/plog-help-your-heart-and-the-planet/97-8202076>

August 2018 Harpswell Anchor FOCB Citizen Science opportunity

August 5 Maine Public Smartphone app helping Beachgoers help Casco Bay
<http://www.mainepublic.org/post/smartphone-app-s-helping-beachgoers-help-casco-bay>

August 6 *IMPACT*, -UMaine Research newsltr Damian Brady & Slime ---and us

August 8/9 WCSH-TV Color by Numbers
<https://www.newscentermaine.com/article/news/local/this-app-is-changing-the-way-mainers-can-detect-water-pollution/97-581638282/>

August 2018 Maine Fishermen's Community Alliance Landings
 OA may affect lobster molt, reproduction (MOCA Summer mtg)
<https://mlcalliance.org/2018/08/12/ocean-acidification-may-affect-lobster-molt-reproduction/>

August 21 Bangor Daily News Seal die-off

Sept. 9 MST Society Notebook: Royal River group trusts/ Don Perkins, founder FOCB

Sept MCA Evening for the Environment FOCB is a co-sponsor

Fall 2018 *Casco Bay Currents* (CBEP) Many articles about FOCB
<https://mailchi.mp/752521f3bc3b/casco-bay-currents-fall-2018?e=ff92e14d6c>

2018 *Using a Numerical Model to Track the Discharge of a Wastewater Treatment Plant in a Tidal Estuary*, published in the Springer journal, Water Air and Soil Pollution (2018) 229:267. Ernest True, uses our data

October 28 MST/Sourcebook Wild & Scenic Film Festival

October 31 The Forecaster(4 editions) Wild & Scenic Film Festival

Nov 2018 Maine Magazine/Events calendar Wild & Scenic Film Festival

November 1 PPH/Maine Today Magazine Wild & Scenic Film Festival

November 2 PPH/editorial Use your voice and vote to protect CB
<https://www.pressherald.com/2018/11/02/maine-voices-use-your-voice-and-your-vote-to-protect-casco-bay-this-election/>

November 13 Times Record Educating students to appreciate our coastal treasures
<https://www.timesrecord.com/articles/home-and-family/intertidal-educating-students-to-appreciate-our-coastal-treasures/>

November 15 Woodard & Curran Foundation Grants to FOCB
<https://www.woodardcurranfoundation.org/friends-of-casco-bay>

November 27 Maine Community Foundation eblast 16 ways Maine nonprofits on #GivingTuesday

November 29 Obituary for Widgery Thomas Donation to FOCB

December 3 Obituary for Cynthia Ellis Donate to FOCB

December 2018 Harpswell Anchor Protectors of Quahog Bay/cites FOCB PO

December 2018 Harpswell Anchor Water Temps Changing in Casco Bay

December 2018 Maine Share Give to 44 organizations with one gift! FOCB cited

December 21 Sentry Sustainable SoPo: Env. titles for everyone on your list

Dec 23 Maine Sunday Telegram, Scene & Heard Wild & Scenic Festival photos

2019

January 10 The Forecaster (4 ed) Winter wisdom available wkly at Brunswick library, FOCB talk

January 10 Times Record Winter wisdom available wkly at Brunswick library

January 14 Times Record Letter: We shd welcome Mere Pt Oyster Co.'s proposal (FOCB mentioned)

January 21 Times Record Midcoast lawmakers playing bigger part in aquaculture dev
<https://www.timesrecord.com/articles/front-page/aquaculture-task-force/>

Feb. 12-15 The Forecaster (4 editions) Casco Bay advocates spread the word about climate threats
<http://www.theforecaster.net/casco-bay-advocates-to-spread-word-about-climate-threats/>

February 21 Portland Press Herald Armed with smartphones, Volunteers track CB king tides

February 21 Morning Sentinel Armed with smartphones, Volunteers track CB king tides

February 21 Kennebec Journal Armed with smartphones, Volunteers track CB king tides

February 22 techwarf.com Armed with smartphones, Volunteers track CB king tides
<https://www.centralmaine.com/2019/02/21/Volunteers-use-cell-app-to-record-casco-bay-king-tides-as-harbingers-of-sea-level-rise/>