

Shellfish Advisory Board Meeting
Wed, Jan, 06 2021 06:30 PM
Zoom Meeting

Attended:, John Duane, Jake Puffer, Tom Siggia, Zack Dixon, Rebecca Taylor, Damian Parkington

Absent: Chip Benton

Others in attendance: Nancy Civetta, Kirk Bosma, Ginny Parker, Ryan Curley

Jake Puffer called the meeting to order at 6:32 p.m.

Minutes of last meeting

John Duane made a motion to approve minutes from Dec 09, 2020. Tom Siggia seconded. Motion passed, 4-0.

Expanded Particle results in Herring River, Existing and restored conditions – Kirk Bosma

Kirk gave a presentation of the expanded model of sediment transport in the Herring River and Wellfleet Harbor (Attachment 1)

Herring River Sediment transport study – Center for Coastal Studies

Martha Craig introduced the team - Stephen Spear, Mark Borelli, Tim Smith, Francesco and Katie

Castagno

They each spoke to SAB to explained their roles in the study.

Harbor Management Plan Update – John Duane

John Duane gave an update that NRAB has sent a draft plan to BOS for approval and it should be on their agenda next week.

Plastics in Harbor grant update – Tom Siggia

Tom reported that he met with SPAT (as a non-profit sponsor for the Barnstable

County Grant), but they were interested in doing something bigger.

The Recycling Committee called Tom and volunteered to sponsor the grant. The grant application was submitted and SAB should hear back in 2 weeks.

Grant application (attachment 2)

2020 Annual report vote

Tom Siggia made a motion to approve the annual report. John Duane, seconded. Motion passed, 6-0.

Shellfish Department update – Nancy Civetta

Discussion of the Shellfishermen's Farmers Market and ideas for participation moving forward

Increase shellfish permit fees by \$5.00 vote

Discussion of increase to cover credit card fees with regard to hardship on fishermen vs. loss for WSD because of fees.

John Duane made a motion to support an increase of \$5.00 for shellfish permit fees, beginning February 1, 2021. Tom Siggia seconded. Motion passed, 6-0

Review tax insert promoting sale of recreational shellfish permits

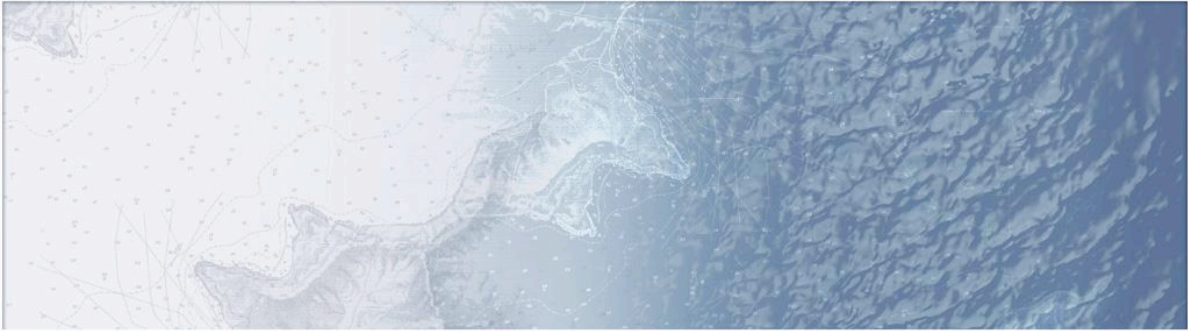
Discussion as related to Covid and WSD staffing

Jake made a motion to support the insertion of a tax insert promoting sale of recreational shellfish permits. Tom Siggia seconded. Passed, 6-0.

Next meeting Wed Feb 3 at 6:30 p.m.

Meeting adjourned at 8:09 p.m.

Attachment 1



Expanded Particle Tracking Results in Herring River

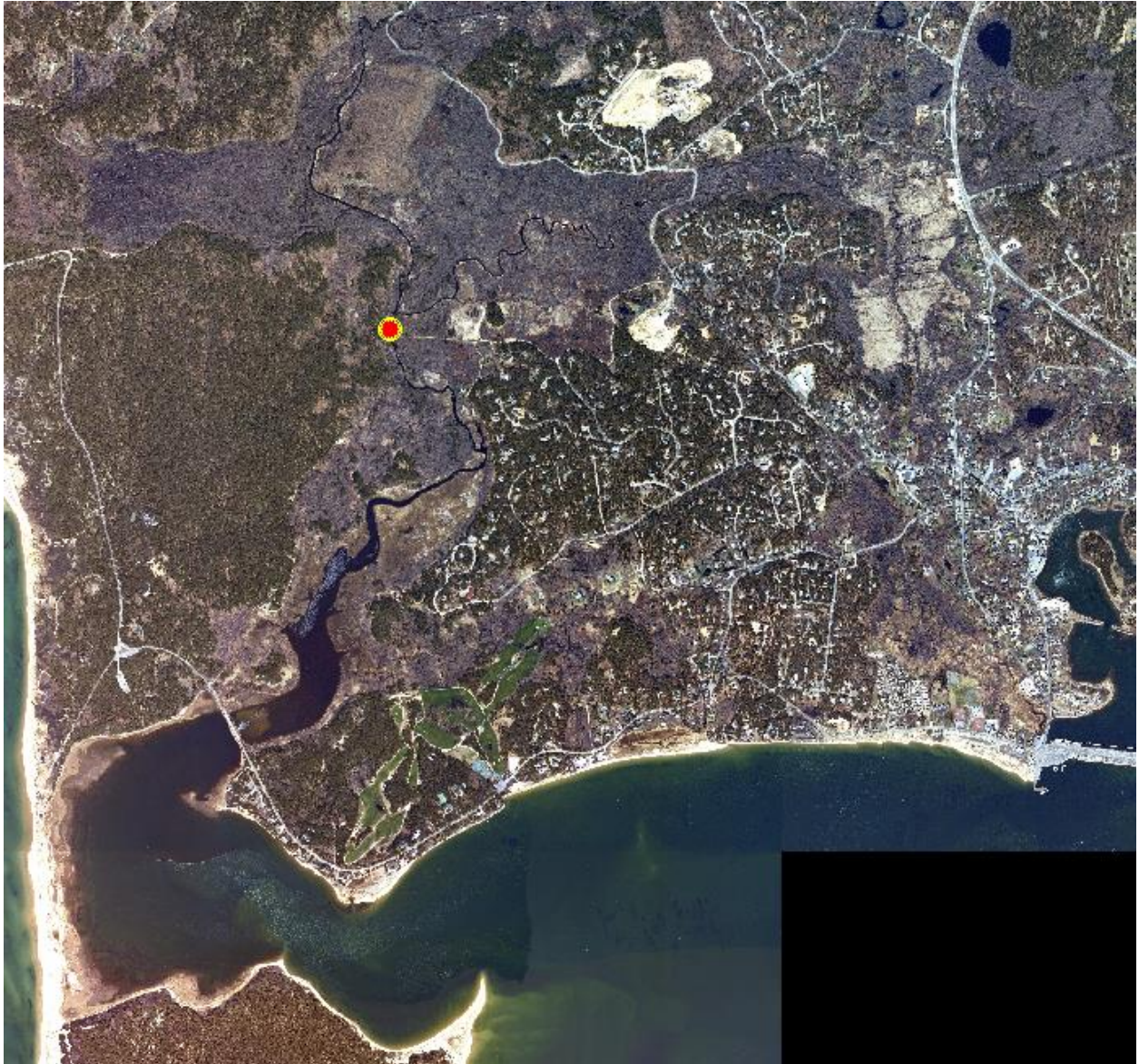
Existing and Restored Conditions





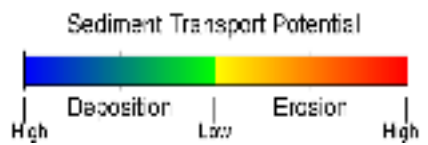
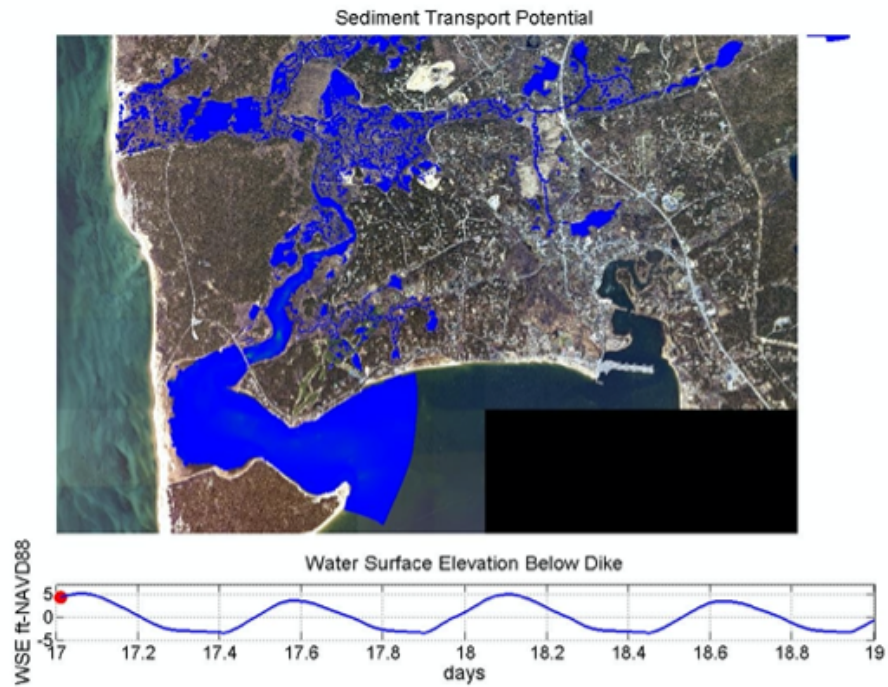


Herring River Particle Transport

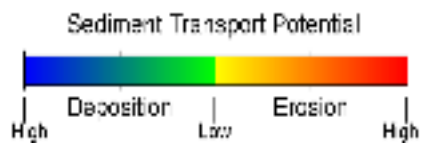
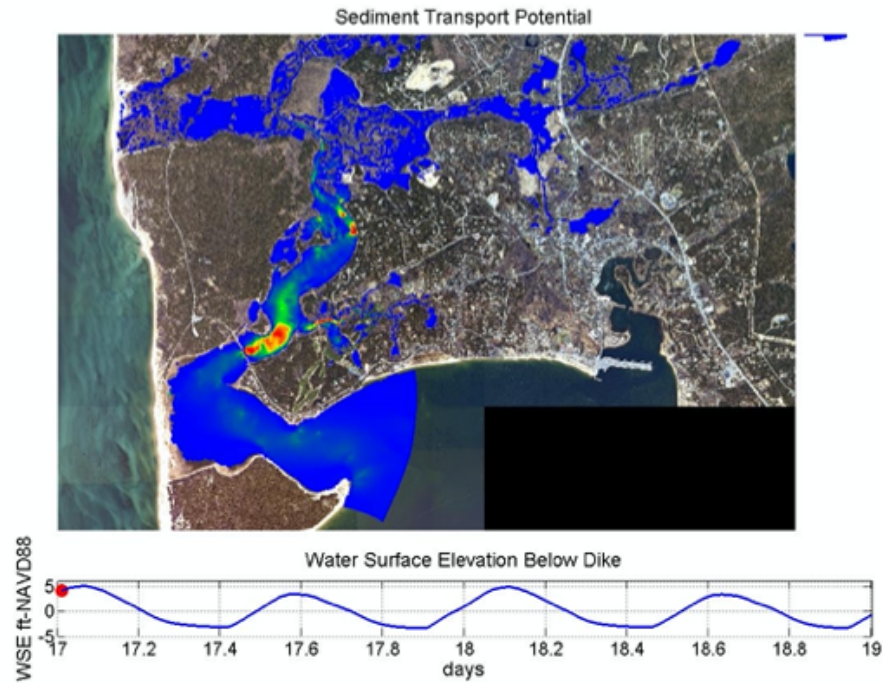




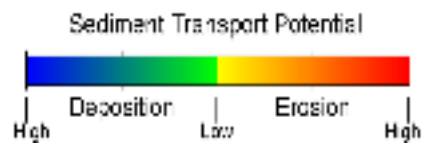
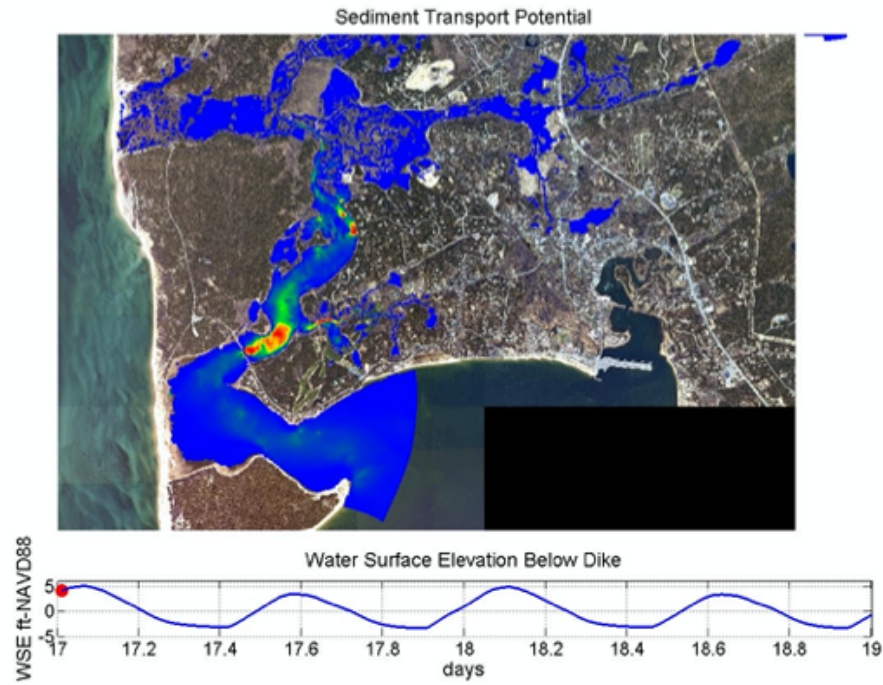
Existing Hydrodynamics



Sediment Transport



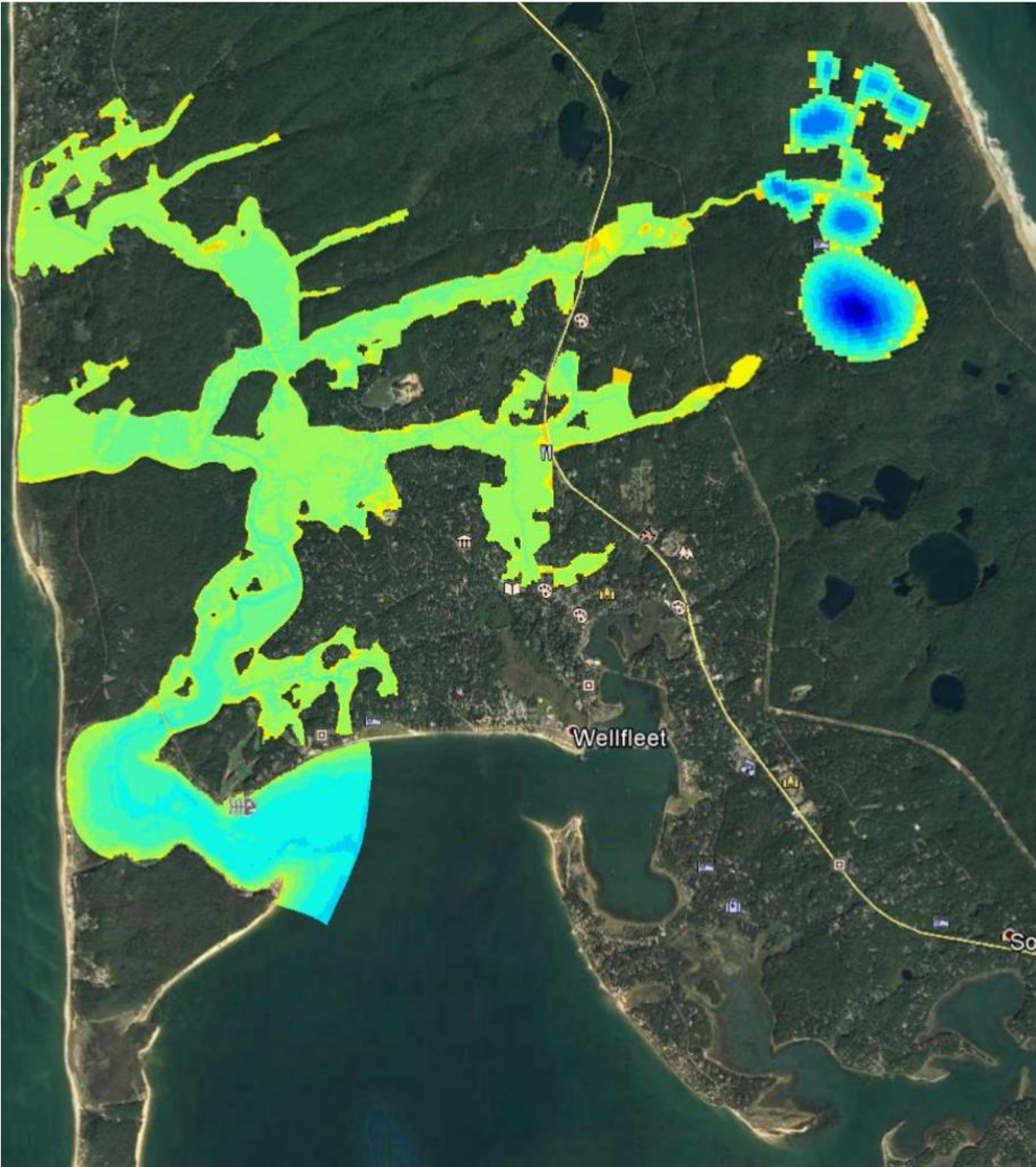
Sediment Transport

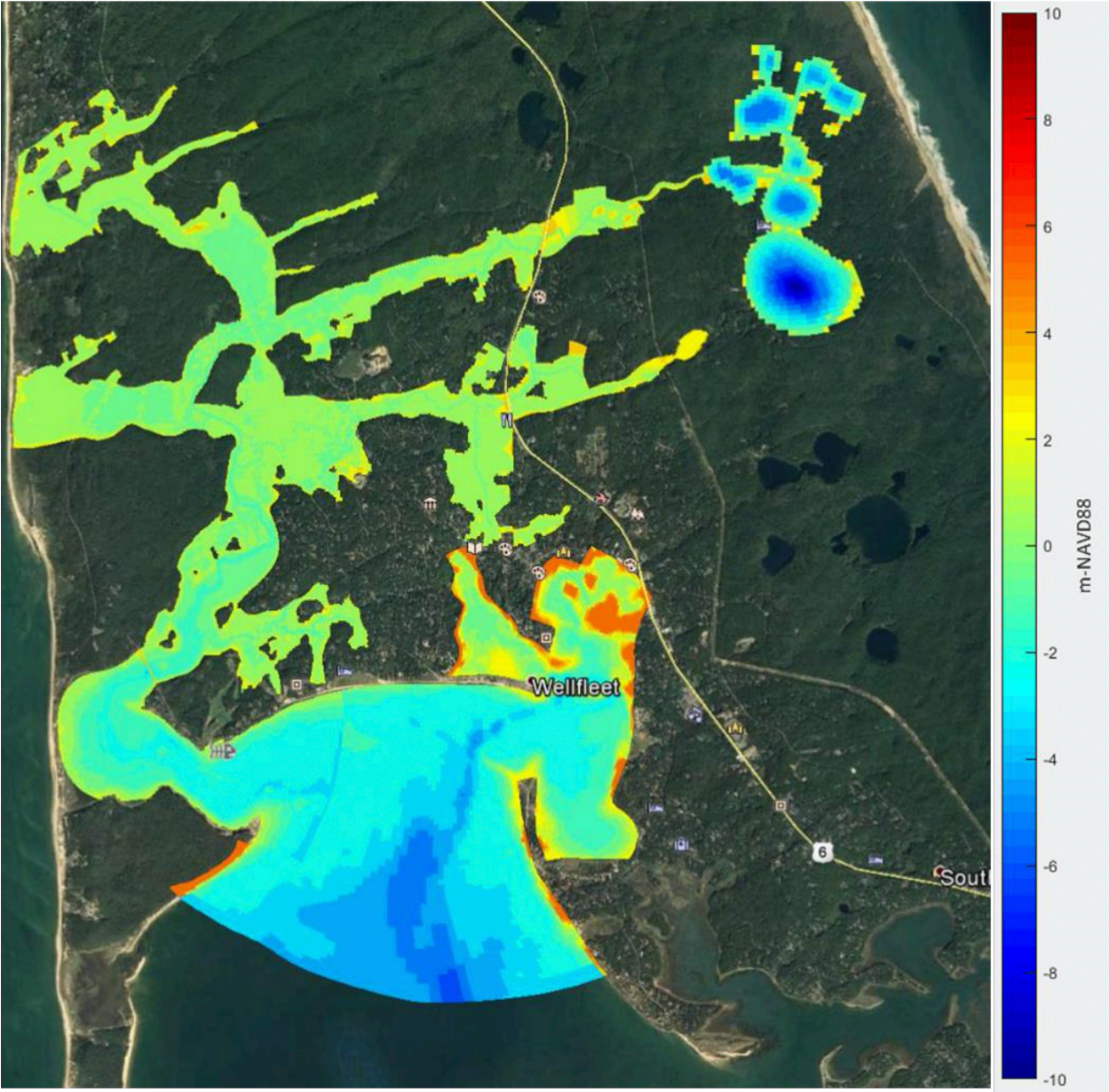


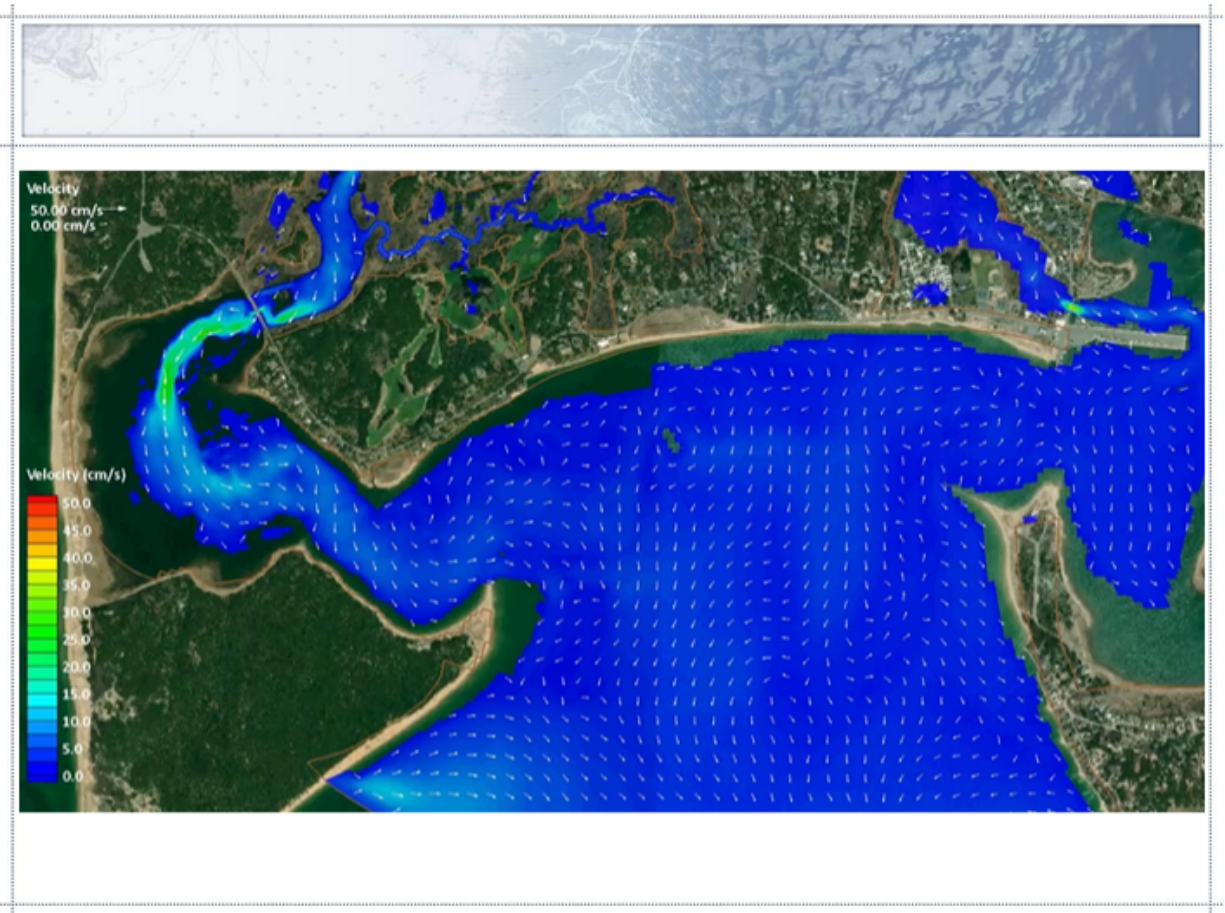
Sediment Transport



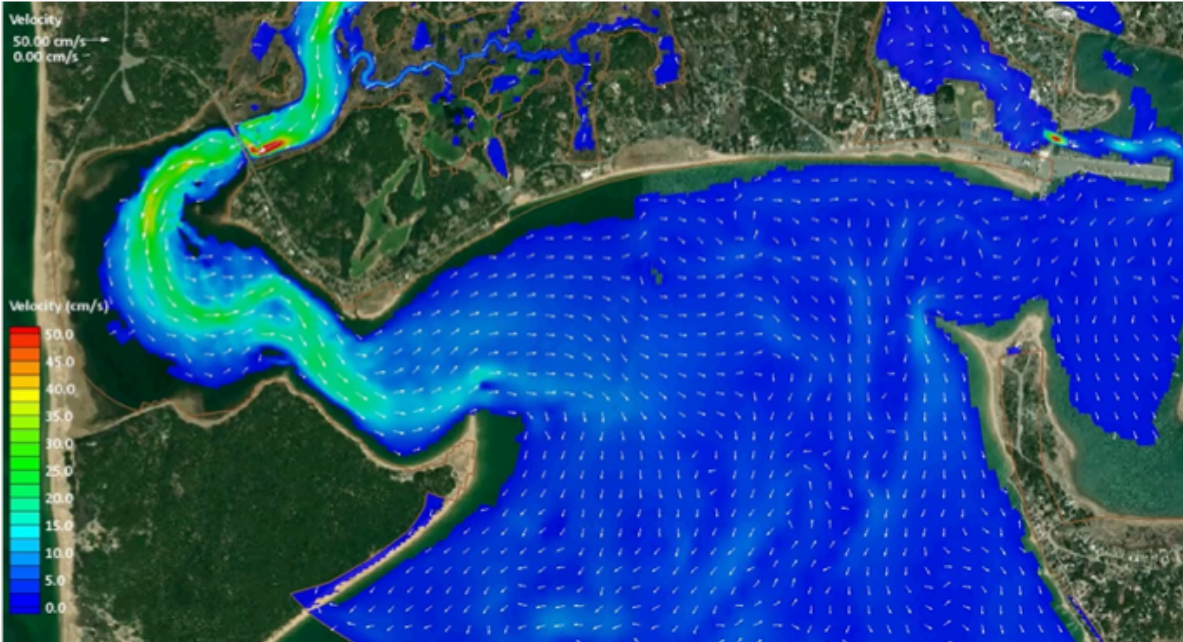
Model Expansion



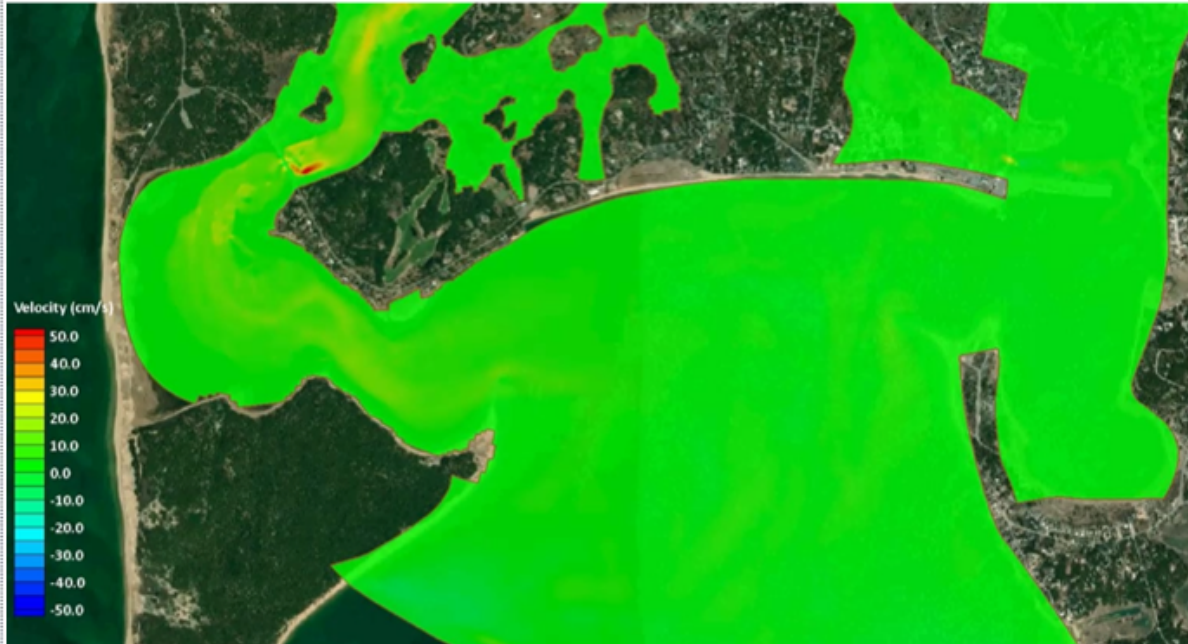




Model Expansion



Model Expansion

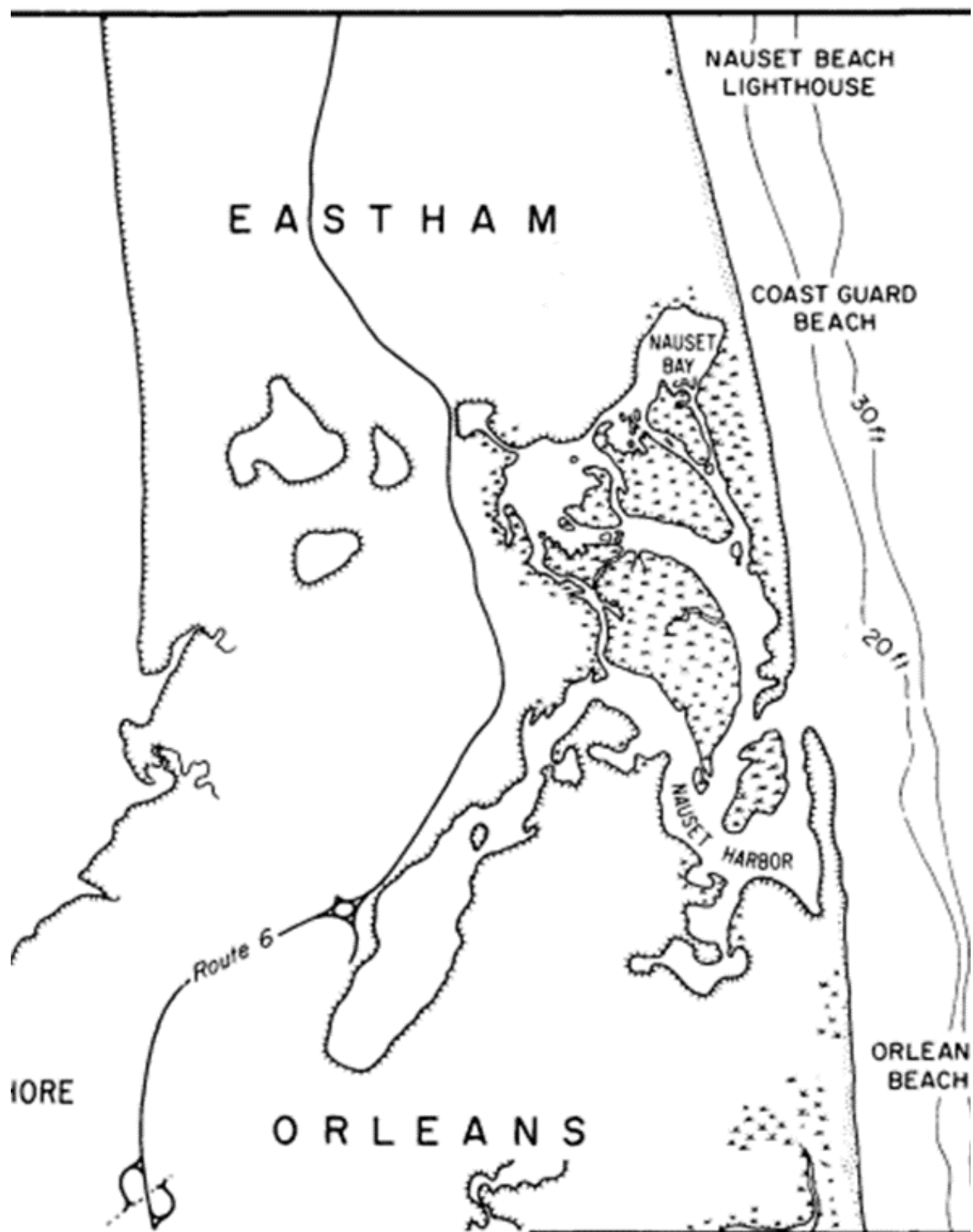


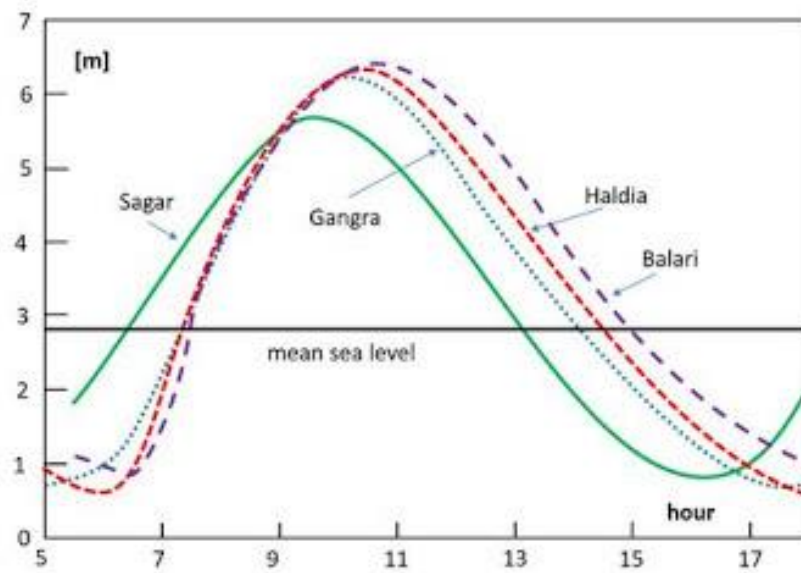
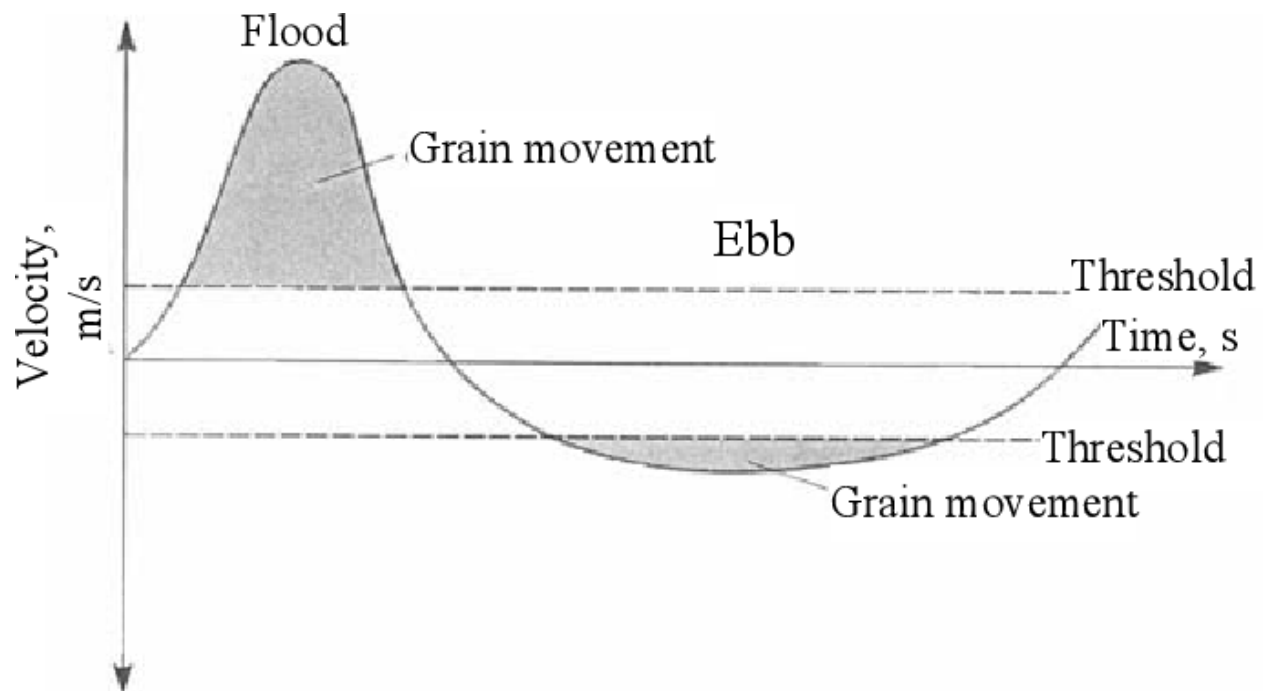
Model Expansion



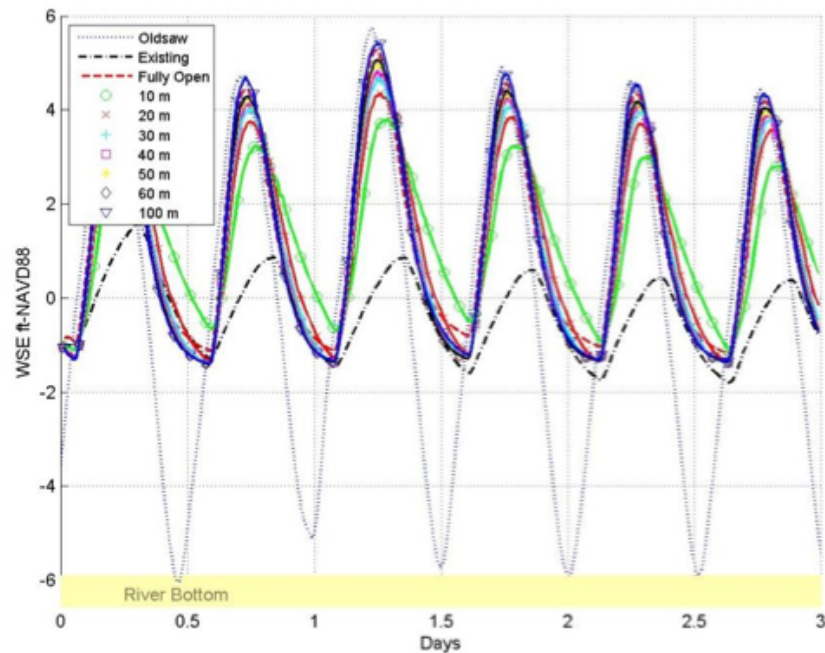
Flood Dominance in Estuaries

*Flood dominance - Longer falling
tides and stronger flood currents*



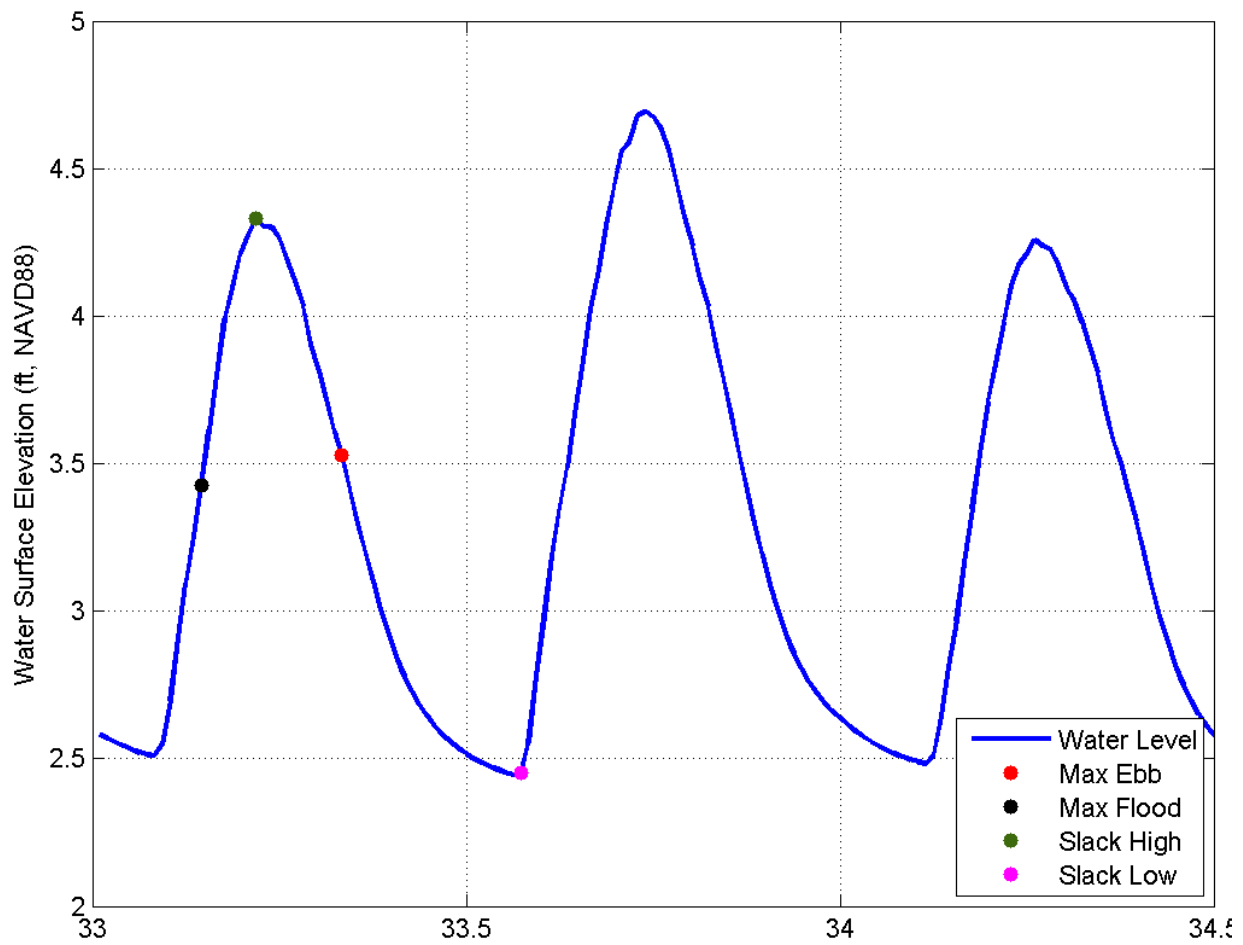


Hooghly River, India



Flood Dominance in Estuaries



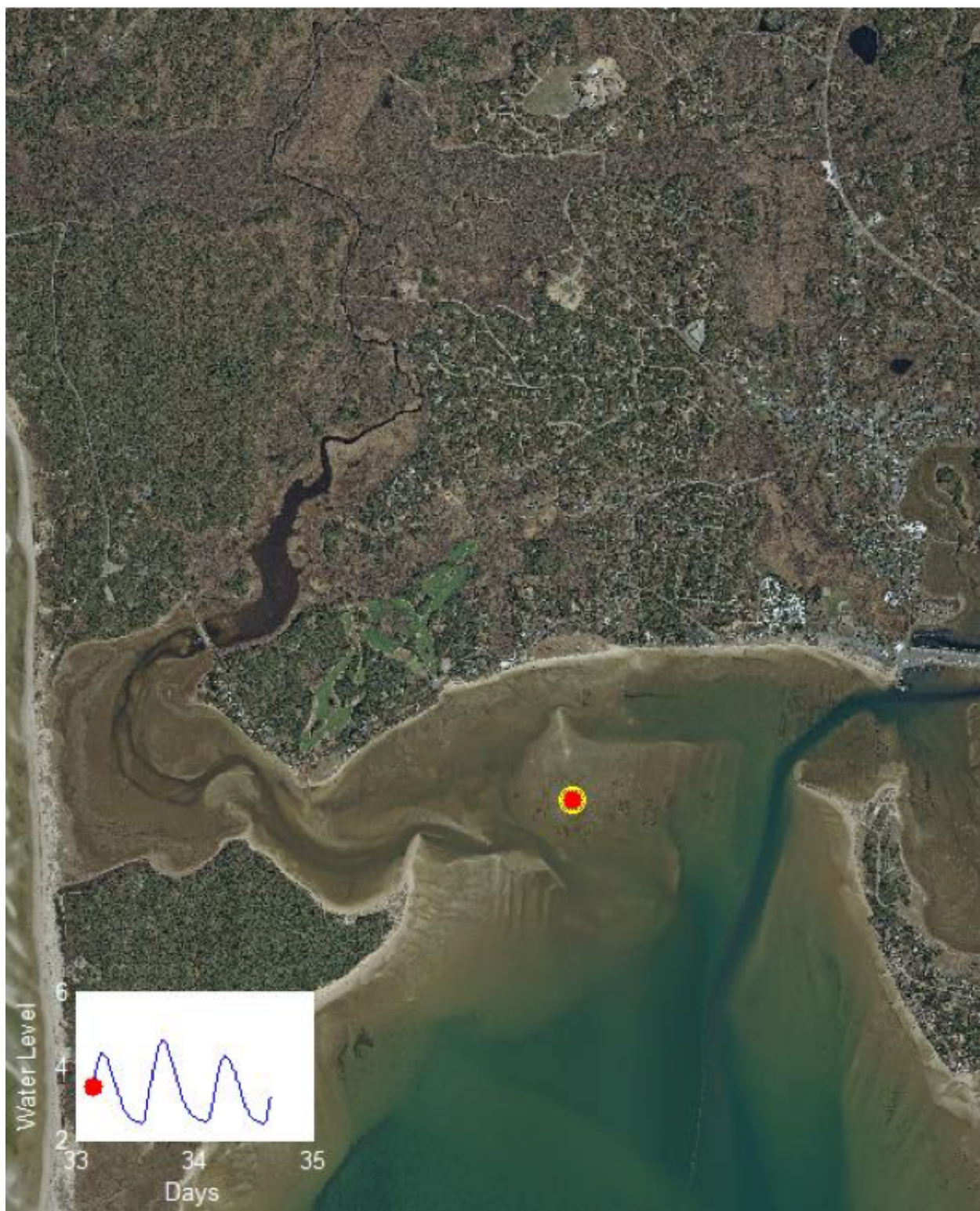


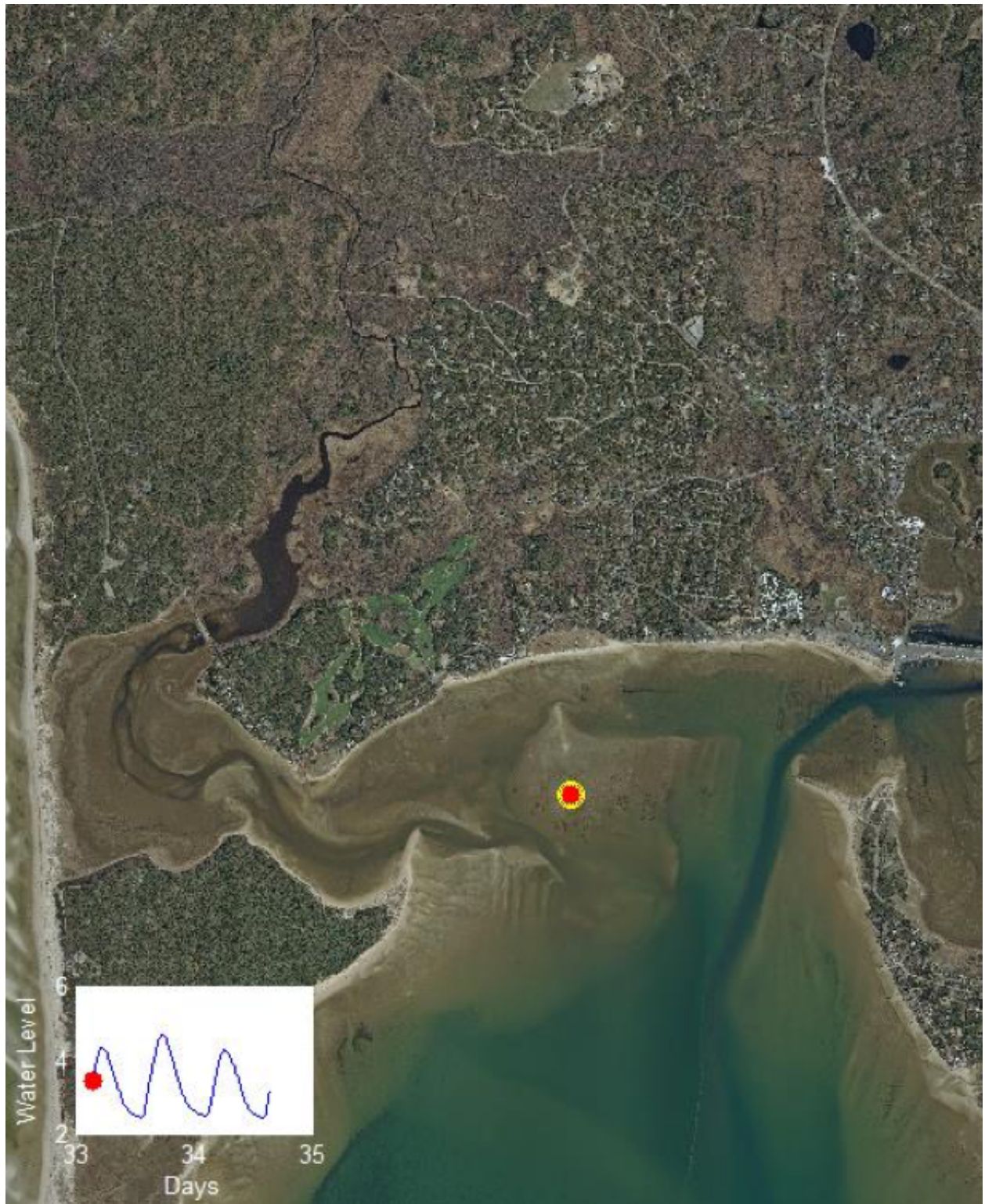
- 7 initiation locations
- 4 initiation times
- Release and tracking of individual particles under existing and restored tidal

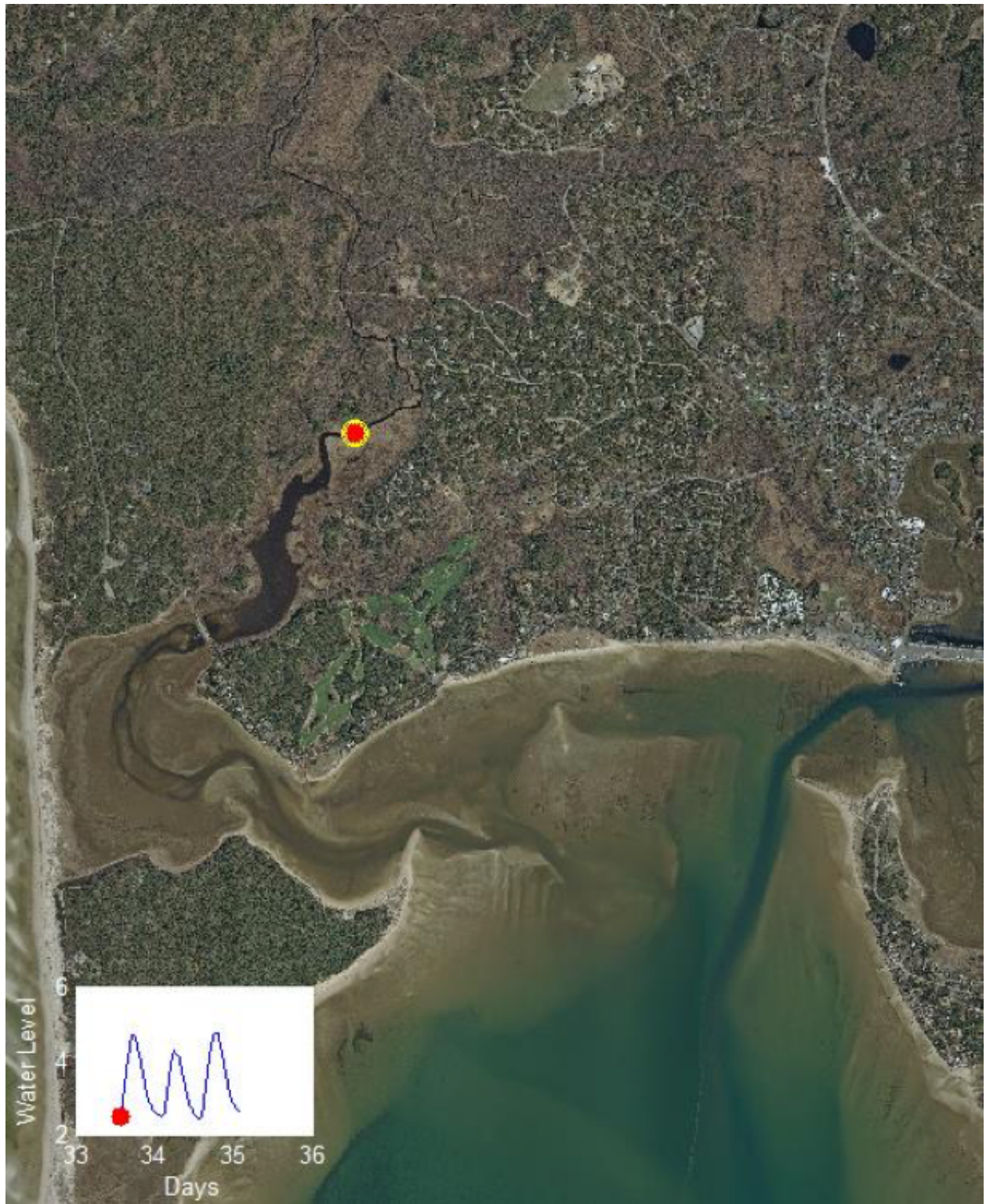
hydrodynamics within Herring River and Wellfleet Harbor

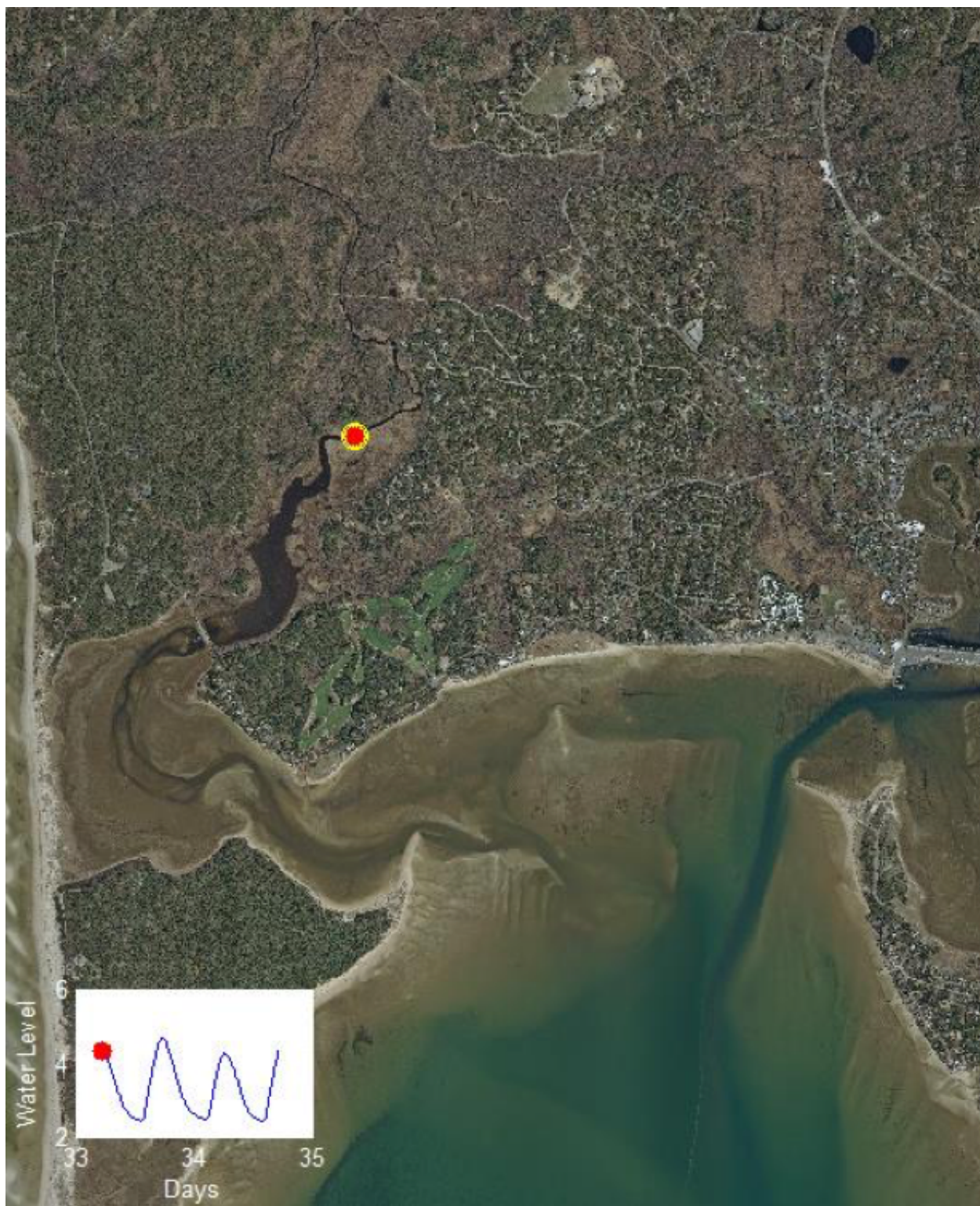
- Normal conditions only = net overall transport trends. Did not evaluate storm conditions

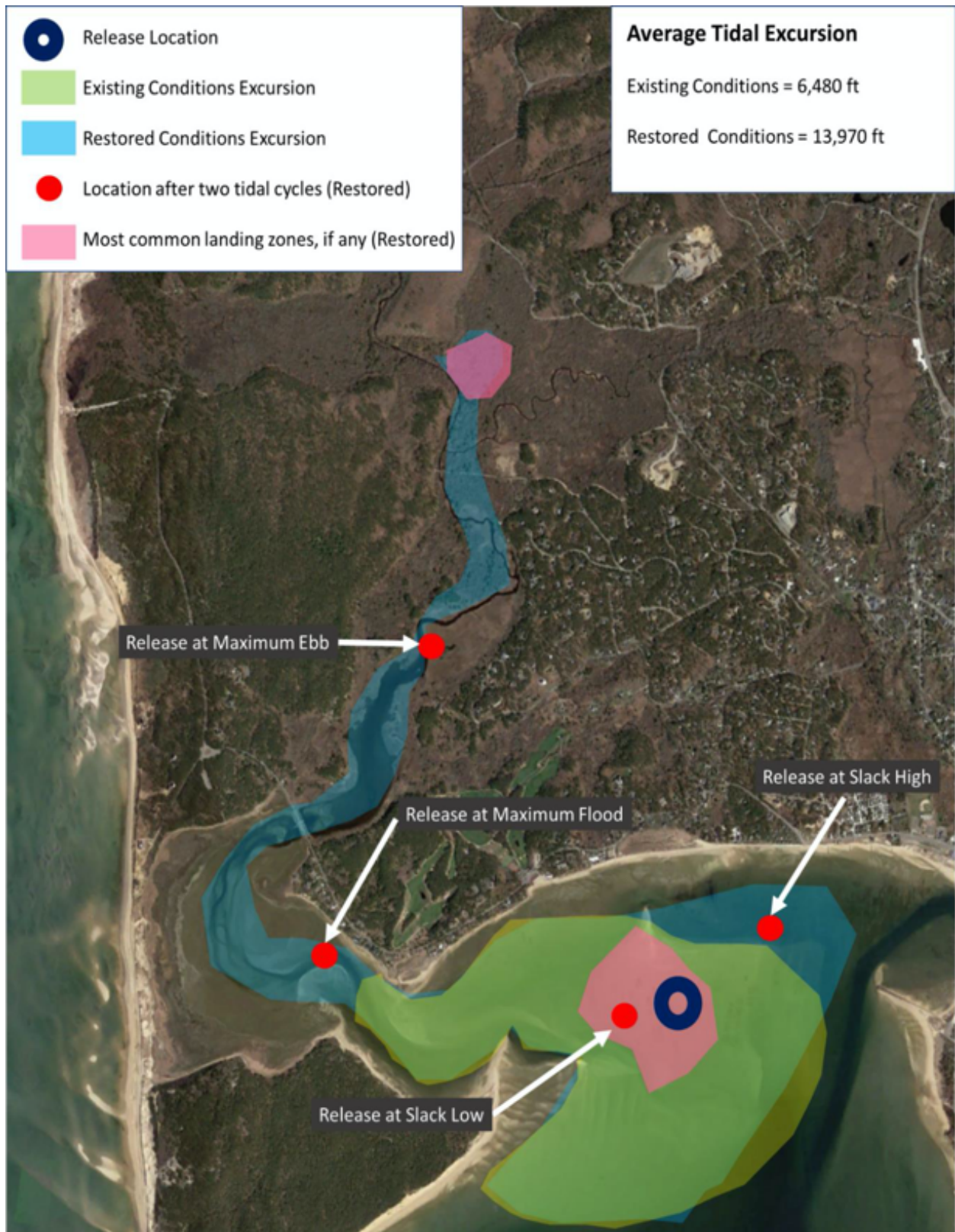


























Key Findings

Release Location	Average Tidal Excursion (feet)	
	Existing Conditions	Restored Conditions
1: Upper Wellfleet Harbor	6,480	13,970
2: Downstream Channel	3,300	14,480
3: Upstream of Chequessett Neck Road	890	13,220

4: Upstream Channel	1,200	12,860
5: Upstream of High Toss Road	890	13,230
6: Upstream of Pole Dike Road	890	3,995
7: Upstream of Bound Brook Island Road	430	11,410

- **Restored conditions increase particle transport irrespective of release location (longer distances and larger areas)**
- **Phase 1 endpoint, results represent the greatest tidal restoration and particle transport potential in the Phase 1 portion of the project.**
- **Two locations upstream of CNR were transported slightly into Wellfleet Harbor, but they were not transported as far as the shellfish lease bed areas.**
- **Under restored conditions, particles released upstream of CNR were dominated by excur-**

sions and landing points upstream = flood dominant system.

- **Particles released upstream of Pole Dike Road stayed in Pole Dike Creek**
- **Tidal excursion shows maximum extent a particle can move within the system**

Attachment 2

Reduce, Reuse, Repair Micro-Grant

The Reduce, Reuse, Repair Micro-Grant provides small amounts of funding (up to \$5,000) for non-profit and for-profit organizations, and eligible municipalities for short term waste reduction projects. Projects must focus on promoting source reduction, reuse, or repair in Massachusetts. This grant is designed to complement the Waste Reduction and Organics Capacity Project grant that provides funding for larger (>\$10,000), longer-term (up to two years) waste reduction projects. Note: Recycling and composting initiatives are not eligible under this grant program. Organizations interested in recycling or composting project funding should consider other waste & recycling grants, loans, and technical assistance available from MassDEP. This form works best in Firefox on PC and Mac. Asterisks (*) are required fields. You may save this form and return to it later. More information and instructions are available at <https://www.mass.gov/doc/reduce-reuse-repair-micro-grant-guidelines/download>. If you have any questions, contact Erin Victor: email Erin.Victor@mass.gov phone 617-292-5624.

Read though the grant guidelines in their entirety before applying. Applications will be accepted on a rolling basis until all funds are obligated. Award decisions will be made quarterly and based on eligibility and evaluation criteria as spelled out in the grant guidelines. Applicants should expect award decisions within three months of application submission and project proposals should build in at least 3-4 months of time for the grant evaluation and award process into their project timelines.

Wellfleet Recycling Committee Lydia Vivante
co-Chair

300 Main Street Town Hall
Wellfleet, MA 02667

(508) 237-3133 wellfleetrecycles@gmail.com wellfleet-ma.gov

Applicant Information Organization name

Contact person Title

Mailing address

Phone Email Website

Indicate the type of activity(ies) in your grant proposal

Organization type

Project Proposal Project title

Summary of project and goals

Amount requested (maximum \$5,000)

Does your organization require start-up funding in order to complete this project?

Description Area

Please provide an explanation for why you need the funds up front in order to implement this project. Note: If your project is awarded, only 50% of the grant funds (up to \$2,500) will be available up front upon demonstration of significant need.

Is this a Regional Project?

Will you provide matching funds (financial or in-kind) towards this project?

Source Reduction

Municipality

Plastic Reduction in Aquaculture

To reduce the amount of single-use plastic equipment used in Wellfleet's shellfish aquaculture industry.

5000.00 yes

Grant funding will be distributed in one lump sum upon completion of the project and submission and approval of a final report. The option to receive 50% of the grant funds at the beginning of the project will be considered on a case-by-case basis if significant need for project start-up funds is demonstrated.

We request start-up funding up front in order to purchase and distribute reusable aquaculture equipment, namely fasteners/ties that will take the place of the single-use plastic 'zip ties' currently in use.

no yes

Project justification/need - What problem are you trying to address? What are the unmet needs/gaps in services? What is the demand for these services? How will the project meet these needs?

Wellfleet's historic shellfish aquaculture industry offers sustainable seafood and provides a good living to the hardworking men and women who work 'on the tide.'

NEED:

The shellfishing community looks to either replace or find less impactful plastic materials in these common aquaculture products: zip ties, grow bags, plastic trays, tags, clam netting, market onion bags, any single-use plastic.?

Bungee balls have been evaluated by a grant holder with great success. He has recommended them for wider use. This grant will support a pilot project for greater use of bungee ball and metal clips/fasteners as described in the Wellfleet Shellfish Advisory Board interns report 'Pathways to Plastic Reduction in Aquaculture' by Ross Scherma and Zeno Schwebel, 2020.

PROBLEM: The 'Rack-&-Bag' oyster growing system in Wellfleet creates the need for 'tie-down' materials to secure oyster grow bags to racks. Across the board, single-use plastic zip ties are the tie-down of choice for shellfish farmers. The plastic ties are cut during the sorting of oysters and though some ties are retained and disposed of on land, many are lost in the wind and water.

"For many shellfish farmers, the costs associated with investing in new equipment can be a barrier to change. Aquaculture as an industry uses a lot of plastics. From clam nets, to oyster bags, to zip ties. The properties of plastics are well suited to be used in the marine environment, however, the degradation of these plastic products and the limited reusability of some of the items make it so that the environmental impact of using plastic is significant.

The primary economic concerns for the town of Wellfleet and its shellfishing industry are that the brand of Wellfleet Oysters will be damaged based on increasing microplastic and larger plastic pollution. The inverse would be true if Wellfleet became a leader in reducing plastic use and the brand of Wellfleet oysters could be aided. Regardless of the precise economic impacts, there is

the moral argument that as a relatively affluent part of the global community, we should do all we can to reduce our environmental impacts whether those are the direct or otherwise.

Certain farmers may use between 2 and 4 single-use plastic ties to secure a single bag to a rack with an additional 2+ ties to close the bag. In a given season, through the processes of culling, re-subbing, seeding, splitting seed and re-racking a given oyster bag can consume upwards of 10

single-use plastic ties. The result of these practices is hundreds of thousands of single-use plastic ties being used in Wellfleet on an annual basis."

(ref. Scherma and Schwebel, 2020)

More and more farmers are aware of the environmental impact of plastic pollution and would like to see change. We will select 10 leaders and well-respected grant owners and provide them with alternatives to single-use plastic ties. If successful, we are confident that other shellfish farmers will follow.

Our pilot project focus in 2021 is on replacing single-use plastic zip ties with an environmentally-friendly reusable alternatives. In addition, we will explore sustainable options for other commonly used plastic aquaculture equipment.

How will you evaluate or measure the success of the proposed project?

Evaluations will be conducted after in-person interviews by project staff.

Evaluation criteria include durability, affordability, labor efficiency and ease of use.

[Siggia and Scherma NOTES: A large grant has 2000 bags of growing oysters at peak season. August/ September...Medium grant has 1000-1500 bags... that makes up the majority of our harbor. We have 90 grants....on average say each grant has 1200 bags. Using 6 ties per bag times 1200 bags times 90 grants is 648k ties out in harbor. Oysters go to market weekly, so the change in ties is easily in the millions.]

Needs will be met when a majority of farmers recommend broad use of the equipment and are motivated to replace other plastic equipment on their grant.

Identify the key people that will be involved in this project and the role that each will play

Shellfish Advisory Board (SAB): Thomas Siggia, Member, SAB, Town of Wellfleet.

Role: Identify leaders and grant-holders to participate in the pilot. Reach out to additional shellfish farmers, liaise with equipment providers, gather input from Wellfleet Shellfishermen's Association. Offer reports to SAB Chair Rebecca Taylor and SAB members at monthly public meetings. Share information with Wellfleet Recycling Committee at monthly public meetings.

Ross Scherma, Wellfleet Shellfish Dept. intern and co-author of Pathways to Plastic Reduction in Aquaculture, 2020.

Role: Hands-on research, farmer interviews, monitoring and reporting.

Zeno Schwebel, Wellfleet ShellfishDept. intern and co-author of Pathways to Plastic Reduction in Aquaculture, 2020.

Role: Hands-on research, farmer interviews, monitoring and reporting.

Nancy Civetta, Shellfish Constable, Town of Wellfleet.

Role: The Shellfish Constable interacts directly with shellfish farmers during random site visits, annual inspections, and through weekly conversations and correspondence. She also attends monthly SAB meetings.

Recycling Committee (RC): Lydia Vivante and Christine Shreves, co-Chairs, Recycling Committee, Town of Wellfleet

Role: provide assistance as needed, identify additional funding sources and write grants, liaise with Kari Parcell, Municipal Assistance Coordinator, Barnstable County Cooperative Extension/MassDEP, liaise with scientists at the Center for Coastal Studies, 5Gyres.org, Association to Preserve Cape Cod, Woods Hole Oceanographic Institute, and others.

We plan to work with the Shellfish Department and Shellfish Advisory Board to add single-use plastic reduction measures to shellfishing regulations. We plan to work on incentives for farmers to convert to environmentally-preferred equipment.

We plan to continue researching environmentally-preferred equipment as new products become available.

How do you plan to sustain the project after the initial grant funding?

Describe how this project could be

Early in 2020, Wellfleet's Shellfish Advisory Board invited two interns to do a study on plastics in Wellfleet harbor.

As a result, our findings and recommendations can easily be shared with towns in the Commonwealth. The grant pilot will allow us to catalog actual results and changes in use of plastics which we can share with others.

Wellfleet's Shellfish Constable best practices, innovations, and plastic reduction initiatives.

Work plan and timeline Identify the major tasks or milestones for your project (including planning, outreach, purchases, workshops, etc), and the estimated timeframe for completion. Note: projects must be completed within one year of receiving the final grant agreement.

Identify and connect with initial pilot project participants. Prepare marketing message and education package.

Feb 01, 2021

Announce grant award. Educate project participants regarding sustainable equipment replacement initiative, equipment to evaluate, evaluation criteria, and interview schedule. Order and distribute reusable ties (bungee balls and metal clips).

Mar 31, 2021

Design and install project signage and conduct outreach to local papers and the public.

Apr 01, 2021

Conduct first set of interviews with project participants. Jun 01, 2021
yes

Research other environmentally-preferred equipment options and conduct initial field testing.

Jul 01, 2021 yes

Conduct the second set of interviews with project participants after Wellfleet OctoberFest.

replicated to increase source reuse, and repair throughout Massachusetts?

Description Area

Task/Milestone 1

Approximate implementation Task/Milestone 2

Approximate implementation Task/Milestone 3

Approximate implementation

Task/Milestone 4

Approximate implementation

Do you have additional tasks/milestones?

Task/Milestone 5

Approximate implementation

Do you have additional tasks/milestones?

Task/Milestone 6

reduction,

date

date

date

date

date

Approximate implementation

Oct 31, 2021

Do you have additional tasks/milestones?

Approximate implementation date

Project Budget Description Area

Item(s) description 1

Total 1

Item(s) description 2

Total 2

Item(s) description 3

Total 3

Item(s) description 4

yes

Compile interview results and write project report in November. Review project report at the December Shellfish Advisory Board meeting. Share final report

with the shellfish community, Town departments, boards and committees, and submit to MassDEP in late December.

Nov 15, 2021

Include an itemized budget below, accounting for how requested grant funds will be used. Include any matching funds for the project (include both "hard matches" (cash or equipment) and "soft matches" (in-kind services, existing staff). See Grant Guidelines for eligible program expenses.

Equipment cost to purchase Bungee Balls and other environmentally preferable equipment. The pilot project will include a minimum of 10 grant holders.

2000

0

2000

Publicity cost for signage and outreach to promote the Plastic Reduction in Aquaculture project funded by MassDEP.

300

0

300

Labor costs for 25 hours @ \$20/hour to conduct pilot project education, monitor project, conduct interview, analysis data, and write the final report.

500 0 500

Labor costs for 25 hours @ \$20/hour to research other environmentally-preferred equipment options, conduct initial testing in the field, and write the final report.

Grant funds 4

Match 4

Total 4

Do you have additional item(s) descriptions?

Item(s) description 5

Grant funds 5

Match 5

Total 5

Do you have additional item(s) descriptions?

Item(s) description 6

Grant funds 6 Total 6

Do you have additional item(s) descriptions?

	Total grant funds	Total matches	All totals
2019	1,000,000	1,000,000	2,000,000
2020	1,000,000	1,000,000	2,000,000
2021	1,000,000	1,000,000	2,000,000
2022	1,000,000	1,000,000	2,000,000
2023	1,000,000	1,000,000	2,000,000
2024	1,000,000	1,000,000	2,000,000
2025	1,000,000	1,000,000	2,000,000
2026	1,000,000	1,000,000	2,000,000
2027	1,000,000	1,000,000	2,000,000
2028	1,000,000	1,000,000	2,000,000
2029	1,000,000	1,000,000	2,000,000
2030	1,000,000	1,000,000	2,000,000
2031	1,000,000	1,000,000	2,000,000
2032	1,000,000	1,000,000	2,000,000
2033	1,000,000	1,000,000	2,000,000
2034	1,000,000	1,000,000	2,000,000
2035	1,000,000	1,000,000	2,000,000
2036	1,000,000	1,000,000	2,000,000
2037	1,000,000	1,000,000	2,000,000
2038	1,000,000	1,000,000	2,000,000
2039	1,000,000	1,000,000	2,000,000
2040	1,000,000	1,000,000	2,000,000
2041	1,000,000	1,000,000	2,000,000
2042	1,000,000	1,000,000	2,000,000
2043	1,000,000	1,000,000	2,000,000
2044	1,000,000	1,000,000	2,000,000
2045	1,000,000	1,000,000	2,000,000
2046	1,000,000	1,000,000	2,000,000
2047	1,000,000	1,000,000	2,000,000
2048	1,000,000	1,000,000	2,000,000
2049	1,000,000	1,000,000	2,000,000
2050	1,000,000	1,000,000	2,000,000
2051	1,000,000	1,000,000	2,000,000
2052	1,000,000	1,000,000	2,000,000
2053	1,000,000	1,000,000	2,000,000
2054	1,000,000	1,000,000	2,000,000
2055	1,000,000	1,000,000	2,000,000
2056	1,000,000	1,000,000	2,000,000
2057	1,000,000	1,000,000	2,000,000
2058	1,000,000	1,000,000	2,000,000
2059	1,000,000	1,000,000	2,000,000
2060	1,000,000	1,000,000	2,000,000
2061	1,000,000	1,000,000	2,000,000
2062	1,000,000	1,000,000	2,000,000
2063	1,000,000	1,000,000	2,000,000
2064	1,000,000	1,000,000	2,000,000
2065	1,000,000	1,000,000	2,000,000
2066	1,000,000	1,000,000	2,000,000
2067	1,000,000	1,000,000	2,000,000
2068	1,000,000	1,000,000	2,000,000
2069	1,000,000	1,000,000	2,000,000
2070	1,000,000	1,000,000	2,000,000
2071	1,000,000	1,000,000	2,000,000
2072	1,000,000	1,000,000	2,000,000
2073	1,000,000	1,000,000	2,000,000
2074	1,000,000	1,000,000	2,000,000
2075	1,000,000	1,000,000	2,000,000
2076	1,000,000	1,000,000	2,000,000
2077	1,000,000	1,000,000	2,000,000
2078	1,000,000	1,000,000	2,000,000
2079	1,000,000	1,000,000	2,000,000
2080	1,000,000	1,000,000	2,000,000
2081	1,000,000	1,000,000	2,000,000
2082	1,000,000	1,000,000	2,000,000
2083	1,000,000	1,000,000	2,000,000
2084	1		

Certified Signature Print Name

Title Signature

500 0 500 yes

Equipment cost to provide Bungee Balls to other grant holders, and to evaluate other environmentally-preferred equipment options.

In-Kind services provided by Thomas Siggia, Shellfish Advisory Board; Lydia Vivante and Christine Shreves, Wellfleet Recycling Committee.

Lydia Vivante co-Chair

Hydra Vivante



Are you looking for a fun family activity? Do you love oysters and clams? Come harvest your own! The Town of Wellfleet sells recreational shellfish-ing permits so people who love to eat local shellfish can experience gathering their own. Residents and taxpayers (proof required) get reduced rates on permits: Annual Resident: \$60.00, Annual Senior Resident: \$20.00, Seasonal Resident: \$40.00 (June 1-Sept. 30). From June 1 to Sept. 30, Indian Neck's three access points boast lots of oysters and quahog clams. Before June 1 and starting again Oct. 1, many more areas in Wellfleet are open to recreational harvest, with Chip-man's Cove being a hot spot. Apply online here: <https://wellfleetstickers.townhall247.com:8090/>

You'll need your license plate number and car information, email address, cell phone number and copies of proof of residency or taxpayer status. Call 508-349-0325 to learn more.