Management Committee Meeting Notes
Thursday, July 15, 2021
Meeting conducted remotely due to COVID-19

Attendees:

Mark Tedesco, EPA LISO
Nikki Tachiki, EPA LISO
Cayla Sullivan, EPA LISO
Esther Nelson, EPA LISO
Alex Huddell, EPA LISO
Jordan Welnetz, EPA LISO
Mel Coté, EPA R1
Leah O'Neill, EPA R1
Bessie Wright, EPA R1
Casey Abel, EPA R1
Jim Hagy, EPA ORD
Nancy Seligson, CAC/NY
Holly Drinkuth, CAC/CT
Erik Bedan, CT DEEP
Brian Thompson, CT DEEP
Jennifer Perry, CT DEEP
Kathleen Knight, CT DEEP
Mark Parker, CT DEEP
Harry Yamalis, CT DEEP
Christopher Bellucci, CT DEEP
Kevin O'Brien, CT DEEP
Paul Stacey, Footprints in the Water LLC
Evelyn Powers, IEC
Cassandra Bauer, NYSDEC
Sue Van Patten, NYSDEC
Dawn McReynolds, NYSDEC
Victoria O'Neill, NYSDEC/NEIWPCC
Kristin Kraseski, NYSDEC/NEIWPCC
Richard Friesner, NEIWPCC
Jordan Bishop, NEIWPCC
Jim Ammerman, LISS/NEIWPCC
Robert Burg, NEWIPCC
Gary Wikfors, NOAA
Rebecca Shuford, NYSG
Jimena Perez-Viscasillas, LISS/NYSG
Sylvain De Guise, CTSG
Judy Preston, LISS/CTSG
Tracy Brown, Save the Sound
Darcy Lonsdale, STAC/SBU
Penny Vlahos, STAC/UConn
Suzanne Paton, USFWS
Audrey Mayer, USFWS
Nancy Ferlow, USDA-NRCS
Thomas Morgart, USDA-NRCS

Introduction:
Mark Tedesco called the meeting to order at approximately 9:00am in the Microsoft Teams Meeting. He gave an update on personnel: Penny Vlahos as the new Connecticut co-chair of STAC, Jim Hagy as a new EPA ORD representative on the Management Committee, Alex Huddell as the new EPA ORISE Fellow, Jordan Welnetz as the new EPA Sumer Intern, and Esther Nelson's detail extension in the LISO. He then turned to Mel Coté to introduce Casey Abel (EPA Region 1), Sue Van Patten to introduce Mary Arnold (NYSDEC DOW), and Richard Friesner to introduce Jordan Bishop (NEIWPCC). He outlined the meeting agenda to review the FY2021 work plan and budget and further discuss the development of the FY2022 work plan, which included administration's proposed FY2022 funding ($40 million level, which is a $10 million increase from FY2021), estimated base program funding, and discussions on work group priorities and needs (i.e., development of an ad-hoc federal work group). He also introduced the two presenters: Kristin Kraseski, who presented on the bioextraction initiative updates, and Gregory Lampman, who presented on the offshore wind undersea cable coordination and planning process in New York. There were no changes to the agenda or April 15 meeting notes.

- Mark Parker: Noted that Chris Bellucci is the new Assistant Division Director for CT DEEP.
- Dawn McReynolds: Noted that Cassandra Bauer will assume some Management Committee roles, but she will remain present in an oversight manner; and hopeful to submit a waiver request for NYSDEC LISS Coordinator in the next 4-5 months
- Brian Thompson: Noted that Dave Kozak has officially announced his retirement effective October 1.
- Evelyn Powers: Noted that IEC hired Kimarie Yap to coordinate Long Island Sound activities (i.e., Unified Waters Study).
- Suzanne Paton: Introduced Audrey Mayer as the new project leader for the New England USFWS office.

Science and Technical Advisory Committee (STAC) Update provided by Jim Ammerman:

- Jim Ammerman: STAC met online on June 18 , 2021, in which presentations included FY2021 budget and workplan by Mark Tedesco, an update on the Beacon wind energy project, NYSDEC LINAP modeling overview by Michele Golder (talk was postponed from February meeting), an update on Tetra Tech's, in collaboration with CT DEEP, invertebrate index for biological integrity in Long Island Sound by Anna Hamilton, and an overview of open science and application in the LISS by Alex Huddell. He mentioned

that Penny Vlahos is taking over as CT co-chair, and new members including Cassie Bauer, Chris Conway, Jim Hagy, Brad Peterson, Jim Turek, and Mike Whitney.

Citizens Advisory Committee (CAC) Update provided by Nancy Seligson and Holly Drinkuth:

- Holly Drinkuth: CAC met online on June 10, 2021, in which presentations included FY2021 budget and workplan with a linkages to the CAC recommendation by Mark Tedesco, updates on LISS Environmental Justice (EJ) work group activities by Jimena Perez-Viscasillas, and an overview of LISFF and Chesapeake Bay's efforts to develop project pipelines by Lynn Dwyer and Amanda Basso. The CAC discussed priority areas that were to be discussed at the Long Island Education Day with federal leaders (i.e., Plum Island efforts to identify management, and key actions occuring in states – passing of the Blue Plan, and Bottle Act in CT and the Bond Act in NY)
- Nancy Seligson: Provided an overview on the virtual Long Island Sound Education Day held on June 29, in which Nancy and Holly met with Senator Blumenthal (CT) to discuss a number of topics including budget requests, hypoxia reductions, septic system issues, and Plum Island. Senator Blumenthal requested to hear from CAC about water infrastructure needs, and therefore the CAC updated their letter of support to highlight the need for water infrastructure funding in the infrastructure bill. They also met with Long Island Sound congressional caucus chairs, Congressmen Zeldin and Suozzi (NY), to discuss specific projects including the reconciliation deal, which will have environmental impacts. She noted that in response to caucus issues, Congressman Suozzi will reach out to all Long Island Sound congressional leaders to join the caucus to reconstitute it as a more structured and inclusive group. More specifically, the Congressmen will invite Representative Courtney to join as a co-chair. She noted that Congresswoman DeLauro wants to remain chair of caucus.
    - Tracy Brown**:** Requested any identified bylaws be sent to her. She mentioned that the Long Island Sound Restoration and Stewardship act is up for reauthorization in 2023, and the CAC will be recommending that the federal match requirement be reduced as similar estuary programs (i.e., Chesapeake Bay) have lower requirements.

Recap of FY21 Work Plan and Budget – Leah O'Neill

- Leah O'Neill: EPA is processing awards from the April 15 Management Committee recommendations and could not proceed with other awards until overmatch awards are in; but emphasized that all of the awards will be made on time. She mentioned that the FY2021 National Estuary Program Work Plan will be submitted to HQ within the next few days, and recommended for Management Committee to review it as it shows how each dollar was spent (specifically attachments). She highlighted that since the program has two different appropriations, there were three different match calculation amounts. She emphasized reducing the federal match requirement would help alleviate aggregate match requirements as there was a struggle with match commitments this year, and with increased funding for next year will require further planning as to how to better meet overmatch (specifically from the states).

FY22 Work Plan Development – Mark Tedesco

- Mark Tedesco: Noted that FY2021 Enhancement Package reviewal (44 proposals) was not ideal, and there is a need to identify gaps beforehand to better develop proposals.
- Leah O'Neill: Introduced the estimated FY2022 base budget, where EPA is projecting $21 million in base activities (ongoing tasks), including $3 million for research and $7 million for LISFF. The continuing resolution puts LISS at a $31 million level and could go higher to $40 million. Noted that EPA did not reach out to partners for this total so the base budget amount will change. She briefly went over a timeline, in which finish the FY2021 budget this summer, discuss FY2022 budget at the I-Team Meeting in September and the MC Meeting in October, and then will request a draft for base budget and any

enhancement projects at discussed at I-Team and MC meetings. Highlighted that to implement the base budget, LISS will need $4.7 million in overmatch.

- Cayla Sullivan: Presented on the request to work groups, sent by Mark Tedesco on June 7, to identify key priorities that will help develop specific proposals for FY2022 (see attached letter for details).
    - Nancy Seligson: Emphasized the importance of highlighting gaps in the work plans.
    - Paul Stacey**:** Suggested to think beyond Comprehensive Conservation and Management Plan's (CCMP) implementation actions, and then create linkages to the implementation actions.
    - Mark Tedesco: Responded that LISS needs to follow legislation requirements and the CCMP. However, encouraged that if there is anything missing from the CCMP to note it for the next revision in 2025.
- Jim Ammerman: Presented the request to work groups to identify science needs, while developing work plans, in a prioritized manner as the current science needs document is more of a wish list. He is working with Alex Huddell to collect more information and develop priorities to improve presentation. Jim spoke with EJ Work Group to discuss potentially developing social science needs.
    - Bessie Wright: Noted that the EJ inward-facing subgroup meeting on August 9 will be dedicated to science needs to further discuss and develop.
    - Sylvain DeGuise: Supported the idea for prioritization as vetting/narrowing of list will help when reviewing Long Island Sound Research Program proposals. Suggested that a strategic effort to focus on certain priorities of the long list within the next few years.
    - Sue Van Patten: Suggested to develop a prioritization scheme to ensure consistency (i.e., timeline, frequency, etc.).
    - Nikki Tachiki: Highlighted that research priorities should align with identified gaps in FY2022 work plans; and asked if science should drive decision making or implementation.
    - Mark Tedesco: Responded that science should drive implementation that the work group is aligned around; however there will be an opportunity to open it up to go through competitive review process. However, if LISS is going to fund science work through an enhancement proposal, then need should be identified up front in one area that LISS can benefit from.
    - Paul Stacey: Noted that this warrants a good facilitated discussion to identify about short, mid and long term priorities that should be inclusive and categorized, however time is limited to go through this analysis.
    - Jim Hagy: Mentioned that EPA ORD tries to link implementation and science needs, and there are challenges as there are different perspectives based on policy makers vs. scientists. Highlighted that there needs to be a better system to match the two perspectives and priorities together; and suggested to determine the priority implementation actions that need to happen and build from that determination.
    - Gary Wikfors: Suggested to categorize science as "Responsive" or "Proactive".
- Esther Nelson: Presented on an update on the Long Island Sound Federal Coordinating Group to share opportunities on collaboration and shared needs. Noted that the group includes several federal agencies: EPA, USFWS, USGS, NOAA, NRCS, USACE, and USFS (see presentation for details).
- Nikki Tachiki: Presented on an update of the EJ RFA, in which EPA is currently reviewing and revising. She noted that the RFA includes $1.5 million award to accomplish two objectives: 1) select an entity to develop and administer a subaward grant program that will fund projects that implement LISS CCMP goals in underserved and underrepresented communities, and 2) Ensure the selected entity can provide technical support and build the capacity of subaward applicants and recipient. She highlighted two main challenges: 1) Statutory requirement for matching funds, and 2) timing of congressional budget introduces uncertainty to the timeline for releasing the RFA. Nikki discussed next steps of the RFA

distribution, and noted that more time will be allocated at the October MC meeting to cover EJ Work Group progress, including updates from the subgroups and the direction/requests of the work group moving forward (see presentation for details).

- Bessie Wright: Encouraged MC attendees to attend the inward and outward-facing work group meetings to help develop priorities and RFA.
- Penny Vlahos: Asked if work group will be identifying areas that are underrepresented or guidelines to proposer as to what is underrepresented. She suggested to give as many details possibly in RFA guidelines to help in process.
- Nikki Tachiki: Responded that the RFA does not specify as the applicant will be relied upon to demonstrate their expertise in that area/topic.
- Bessie Wright: Added that relying on FY2021 funded Needs Assessment to better understand locations of underrepresented communities; and noted that the EJ Mapping Tool, currently being develop by Jordan Welnetz, will help in the interim of the needs assessment.
- Jim Hagy: Mentioned that asking the applicants to develop their own proposals may be too much of an ask, and suggested to have a few specified items/priorities to better provide guidance to applicants. Suggested to talk with EPA ORD to help with prioritization details.
- Paul Stacey: Highlighted the CAC recommendations to guide the work group.

- Bessie Wright: Presented on the 2022 LISFF focus areas and NFWF Chesapeake Bay Stewardship as an example for allocating money to focus on a specific topic (i.e., planning, implementation, innovative nutrient and sediment reduction, etc.) (see presentation for details).

Stretch Break at 10:35am

Continue FY2022 Work Plan Development

- Mark Tedesco: Highlighted that for FY2022, LISS will look to expand LISFF, EJ RFA, and federal coordination initiatives, and focus on clearer identification of science needs and work group priorities. The MC was polled with 4 questions:
  1. How well do you think the FY21 funded projects reflect the current LISS priorities/needs?
  2. Do you have any specific suggestions to improve the work plan and budget development process?
  3. Would you be interested in joining the ad-hoc work plan/budget development group?
  4. Which program activities would you like to see investments increased in FY22?

Presentation: Bioextraction Initiative Updates – Kristin Kraseski

- Kristin Kraseski: Presented on the Bioextraction Initiative Updates, in which included an overview of earlier (2011-2017) bioextraction projects in Long Island Sound and highlights of current bioextraction initiative (developed in 2018). The mission of the initiative is to improve water quality in NY and CT marine and coastal waters by removing excess nitrogen through cultivation and harvest of seaweed and shellfish. She provided an update on the current ongoing projects: 1) 2 pilot projects (a. sugar kelp – cultivation and fertilizer application and b. ribbed mussel), 2) economic study, and 3) seaweed symposium. Highlighted LISFF projects funded in 2018 (SoundWaters Bioextraction Seaweed Farm (CT)), 2019 (Oyster Planting to Improve Water Quality in Long Island Sound (NY)), and 2020 (Bioextraction of "Gold Coast" Kelp in the Oyster Bay Complex (NY)); and the LIS Research Program (Quantifying the ability of seaweed aquaculture in LIS to remove nitrogen, combat OA, improve water quality and benefit bivalves). She noted some future directions including pilot work related to the recommendations of the economic study, establishing proven uses foe bioextracted products, potential for wild harvest,

resources to help businesses start up, and development of plans to deal with uncertainty (see presentation for more details).

- Jim Hagy: Asked if harvested kelp contains salts that would be a problem for crops.
- Kristin Kraseski: Responded that kelp is rinsed and there have been no issues, but Cornell Cooperative Extension is conducting a side project to investigate this further as it is a definite concern.
- Jim Hagy: Asked how beneficial winter nutrient removal for water quality problems that manifest in the summer.
- Kristin Kraseski: Responded that the kelp is growing into early summer, so there is a benefit of winter removal until then but there are patterns when concentrations are highest.
- Mark Parker: Asked why ribbed mussels have not naturally filled the ecosystem to draw down nutrients; or in other words if the species is not harvested, why have they not spread out more, why require human intervention to help seed them.
- Kristin Kraseski: Responded the purpose of bioextraction is to not rely on wild populations, and have a specific focus operations to use them for a purpose to close the circle. She noted that she could not respond in regard to wild populations, but the purpose of this initiative is to grow them and remove nitrogen from the water.
- Gary Wikfors: Noted that the ribbed mussel is a salt marsh habitat species which provides substrate, and the mussels have not filled the Sound as they need a suitable attachment in which aquaculture can expand that opportunity. Highlighted that NOAA Milford is conducting an evaluation of all kinds of shellfish in bioextraction efficiency, and are submitting a paper on aquaculture sugar kelps regarding their potential and kelp health as it is the southern end of the range.
- Paul Stacey: Asked if anyone has looked at the explosion of hydrilla in CT rivers and ways to harvest that species before entering Long Island Sound, and the feasibility of Hydrilla bioextraction at sewage treatment plants.
- Kristin Kraseski: Responded that Hydrilla has not been investigated yet for bioextraction purposes.

Presentation: Offshore wind undersea cable coordination and planning process in NY – Gregory Lampman

- Gregory Lampman: Presented on the New York Offshore Wind Cable Coordination including the power grid study which resulted that integrating 9 GW of offshore wind generation by 2035 is achievable, but need to overcome transmission cable routing limitations will require planning and coordination. Highlighted some next steps regarding the BOEM Proposed Sale Notice, 8 Lease Areas and development of a Generic Environmental Impact Study (see presentation for more details).
  - Mel Cote: Mentioned that he represents EPA R1 on the Northeast Regional Council's Oceans Planning Committee, which has an Offshore Wind Transmission work group, in which hosted a series of 3 webinars (January – February 2021) related to this topic. Suggested to get involved with MARCO's counterpart as it is an opportunity to coordinate with other federal agencies and a venue for stakeholder engagement. Commented that in Long Island Sound there are 3 active dredged disposal sites and more than 20 historical site, and should be considered when selecting routes.
  - Gregory Lampman: Responded that they are currently in the process of aggregating data, and have been working with CT and NJ to acquire datasets; and will be engaging more with MARCO and NYSDOS.
  - Sylvain DeGuise: Mentioned the Long Island Sound Blue Plan as a resource.

- Gregory Lampman: Noted that CT is also interested in running cables into the Sound, and need to further investigate cumulative impacts from both states.
- Jim Hagy: Mentioned the Louisiana Offshore Oil Port as a comparison example and asked what the potential is for a collective offshore infrastructure point.
- Gregory Lampman: Responded that there are three distinct pieces of the project: 1) offshore projects, 2) onshore stations, and 3) cables to connect – therefore need to have a series of smaller cables (800-1600 MW range) rather than a 9 GW, so suggested to think of this more of trenches to bring energy to shore. Need to determine if there should be connections between onshore or offshore stations to support the grid.
- Richard Friesner: Asked if Gregory could discuss more with timing and long-term goals.
- Gregory Lampman: Responded that federal regulations are in place which affects timing, but each state approaches this different and is based off the way the grid is designed in which Long Island Sound is complicated.
- Paul Stacey: Highlighted that recovery time for cable burial is fairly quick compared to permanent damage of land cables; and asked if the plan includes minimizing the new land cable crossings rather than minimizing offshore cables due to the environmental impacts.
- Gregory Lampman: Responded that they are currently determining what works best.

Updates

- Bessie Wright: Shared that the 2021 LISFF had 63 proposals submitted totaling at $11 million (see presentation for more details regarding CCMP theme and state breakdowns). Reviews of submitted proposals are due in easygrants.gov by July 26.
- Alex Huddell: Shared some updates regarding the open science initiative including open science principles, framework, and future products (i.e., workflows, reports, visualizations). She provided the Shiny App, developed by Tampa Bay Estuary Program, as an example of what LISS could implement.
    - Jim Hagy: Asked what role LISS can play in bringing the community up to speed in the open science initiative.
    - Mark Tedesco: Responded that Alex is identifying partners to complete this objective; and highlighted that updates in data flows will be more accessible and digestible in terms of trends and statuses of water quality.
    - Chris Bellucci: Suggested that the tools being developed should reference WQX data to enhance collaboration.
    - Alex Huddell: Responded that there have been discussions using WQX in relation to the hypoxia data, however not uploaded yet (it is in the works but will take a while).
    - Tracy Brown: Mentioned that Save the Sound, Harbor Watch, and Professor Jamie Vaudrey are also developing an open source data platform for water quality data on the Sound targeting community groups and academics in particular but not exclusively. Data from that tool will be pushed to the EPA WQX database and will have an API so other platforms can pull from the database into other tools, including any developed by LISS.
    - Sue Van Patten: Mentioned that NYS is requiring all small data generators to put their data into WQX if they want us to consider it for assessments that we do on waterbodies. Also, any monitoring the state pays for has to be entered into WQX.
    - Jim Hagy: Asked if there are there better tools available to access the data from a specific monitoring site.
    - Mark Tedesco: Responded that need to focus on that suggestion in the future development process.

    - Tracy Brown: Responded that tagging may help this issue.
- Robert Burg: Shared an update on the Long Island Sound Communications Plan, in which Communications Team hired a consulting firm (Martel Bay), who will begin work next week and will reach out to partners soon to learn what priorities/interests are to help draft this plan. Mentioned that as part of this effort, the Communications Team wants to know opinions as to how to communicate the best way to the public.
- Mark Tedesco: Mentioned that EPA will follow up soon regarding the location of the October 21 LISS MC meeting.

Next Meeting & Adjournment – Mark Tedesco

- Meeting was adjourned at 12:30pm.
- Next meeting: October 21, 2021

June 7, 2021

MEMORANDUM

SUBJECT: FY2022 LISS Work Group Priorities & Work Plans

FROM: Mark Tedesco, Director / *Mark Tedesco*
EPA Long Island Sound Office

TO: Climate Change & Sentinel Monitoring Work Group (M. Parker)
Environmental Justice Work Group (N. Tachiki/B. Wright/J. Perez-Viscasillas)
Habitat Restoration & Stewardship Work Group (H. Yamalis/V. O'Neill/ D. Kozak)
Nitrogen Coordination Work Group (R. Friesner)
Public Involvement & Education Work Group (R. Burg/J. Perez-Viscasillas/J. Preston)
Sustainable & Resilient Communities Work Group (S. DeGuise/R. Schuford)
Watersheds & Embayments Work Group (M. Parker)
Water Quality Monitoring Work Group (J. Ammerman)

DUE DATE: Friday, October 1, 2021

As you know, the Long Island Sound Study (LISS) Management Committee made its FY2021 funding decisions at its Thursday, April 15 meeting. In planning for the FY22 cycle the Management Committee emphasized the importance of having work build upon and reflect the results of detailed discussions by LISS technical work groups. This memorandum transmits a request for each LISS work group to develop an annual work plan that identifies the type of support needed to advance the work group's priorities and desired outcomes in the upcoming FY2022 funding cycle (October 1, 2022 - September 30, 2023).

Your work plans, highlighting your work group's funding priority recommendations, will be discussed at the October 21, 2021 Management Committee meeting. These discussions will help inform the development of program implementation needs and focus areas in the upcoming FY2022 funding cycle, and therefore will influence the Requests for Proposals (RFPs) for the Long Island Sound Futures Fund and the Long Island Sound Research Grants Program. These work plans will also help evaluate any enhancements to the LISS Base Program funding.

The attached guidance provides the format for the work group work plans. Please provide your work group work plans and priority recommendations to the Long Island Sound Office by Friday, October 1, 2021. Please do not hesitate to contact me if you have any questions on the priority-setting process.

Attachment

cc: Implementation Team

Guidance to LISS Work Groups on Preparation of FY2022 Work Plans

Charge to Work Groups

The LISS is requesting each work group to develop a work plan that identifies key priorities and desired outcomes, and highlights any recommended topic areas, activities, or products to be addressed in FY2022 funding cycle (October 1, 2022 - September 30, 2023). When developing these priorities and funding recommendations, please take into consideration the program's recent accomplishments and activities underway with existing or approved funding and staffing so that we can continue to build and advance program implementation. To view the list of members for each of the work groups, please see our website.

Purpose of Work Plans

The work plans will be provided to the Management Committee in advance of its October 21, 2021 meeting. The work plans will help the Management Committee build upon work group efforts to identify priority needs to support implementation of the LISS CCMP. The information on work needed to accomplish work groups' priorities and outcomes will be used to support development of the LISS FY2022 technical needs and funding priorities. The inventory of needs and priorities will guide requests for proposals and the development of the LISS 2022 work plan and budget.

Format for Work Plans

I. Mission statement: Identify the overall goal or mission of the work group. The mission statement should be consistent with the CCMP and related policy initiatives.

II. Background: Provide a brief background statement on the issues addressed by the Work Group, including any direction or charges by the Management Committee to the Work Group.

III. Desired Outcomes: Taking into consideration the program's recent accomplishments and activities underway with existing or approved funding and staffing, identify the work group's desired outcomes for the upcoming funding cycle.

IV. Implementation Actions: Identify the CCMP 2020-2024 Implementation Actions that the work group hopes to advance through technical discussion and proposed activities.

V. FY2022 Priorities/Needs: Identify any support, needs, or activities that would assist in accomplishing the work group's desired outcomes and priority implementation actions in the upcoming FY2022 funding cycle (October 1, 2022 - September 30, 2023).

Long Island Sound
Federal Coordinating Group

To help fulfill the Comprehensive Conservation and Management Plan (CCMP) vision of a restored and protected Long Island Sound, the Federal agencies of the Long Island Sound Study have come together to share opportunities for collaboration.

As a first step each organization will consider some areas of opportunity for collaboration.

Long Island Sound Federal Coordinating Group

The group will meet to coordinate and collaborate on mutual Long Island Sound priorities. Initial participating agencies, which can be expanded, include:

- Environmental Protection Agency
- Fish and Wildlife Service
- Geological Survey (New England and New York)
- National Oceanic and Atmospheric Administration
    - Fisheries, Coastal Ocean Science and Restoration
- Natural Resources Conservation Service
- Army Corps of Engineers
- Forest Service (recently added)

Long Island Sound Federal Coordinating Group

Potential topics for collaboration include:

- Habitat Restoration
- Water Quality
- Resilient coastal communities
- Science and Management

For all topics will consider Climate Resilience and Environmental Justice elements in developing activities.

RFA proposes a $1.5 million award to accomplish two main objectives:

1. **Select an entity to develop and administer a subaward grant program that will fund projects that implement LISS CCMP goals in underserved and underrepresented communities.**

2. **Ensure the selected entity can provide technical support and build the capacity of subaward applicants and recipients.**
    - Identify long-term, sustainable funding sources
    - Provide broadly accessible trainings and workshops on grant administration, facilitation, environmental data collection, QAPP development and compliance, etc.

Challenges

- **Statutory requirement for matching funds**
  - No award can be made until match has been identified for the total budget of the Long Island Sound Program (proposed FY22 budget at $40 million)

- **Timing of Congressional budget introduces uncertainty to the timeline for releasing the RFA**

Status and Next Steps

- **LISO continuing to review and refine the RFA**
- **Feedback will be solicited from the LISS EJ Work Group omitting all entities who may wish to apply**
- **Final publication of the RFA will likely depend on when we can identify matching funds for the project and timing of the FY22 budget**

Growing the LISFF Now and into the Future?

- Keep an open door to planning
- Foster a “Project Pipeline”
- Build capacity to apply for, manage and deliver projects
- Technical assistance and networking
- Work with federal & state agencies
- Business and Investment Planning
- Program-level tools
- Targeting by geography and threat

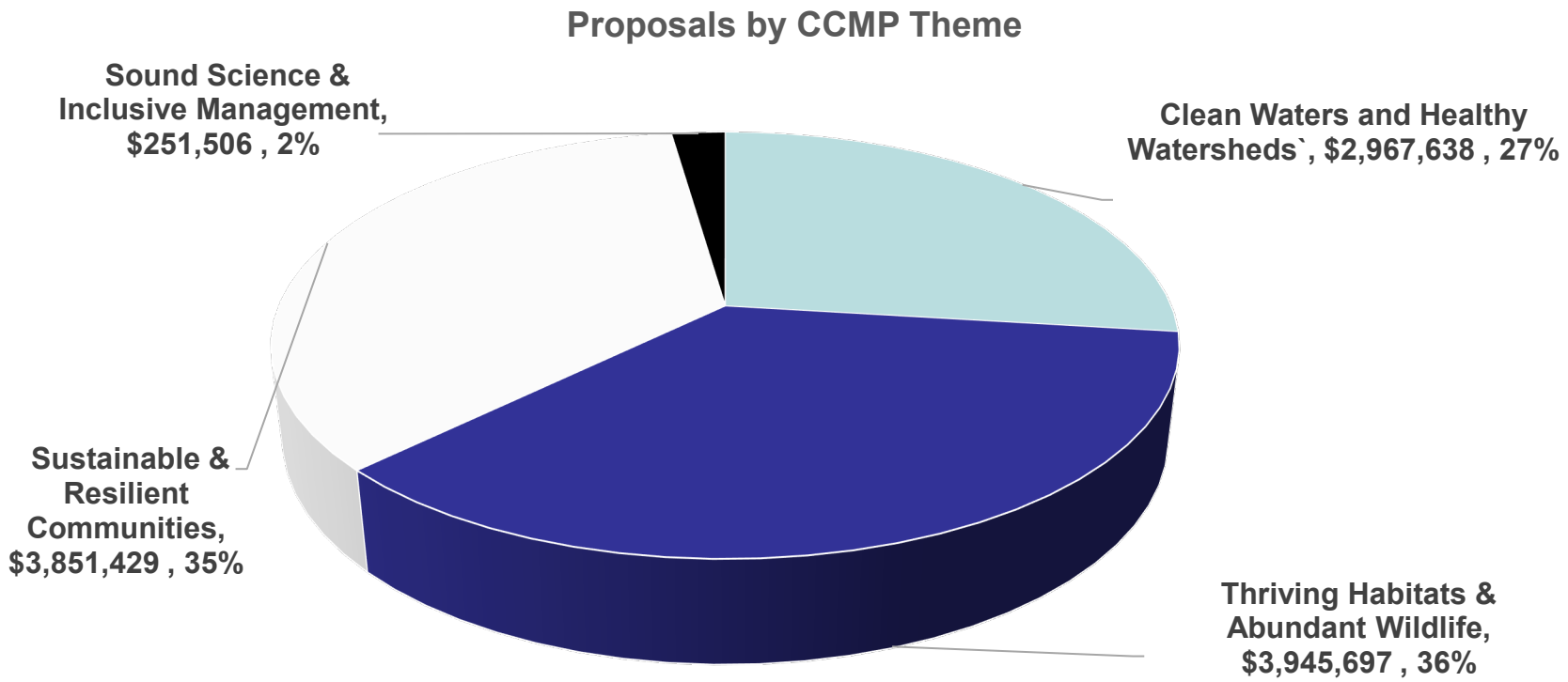
NFWF Chesapeake Bay Stewardship Fund Cheat Sheet

Focus	Chesapeake Bay Small Watershed Grants – Planning	Chesapeake Bay Small Watershed Grants – Implementation	Chesapeake Bay Innovative Nutrient and Sediment Reduction	Pennsylvania Most Effective Basins
Project Focus	Enhancing local capacity through **assessment, planning, design, and other technical assistance**-oriented activities	**On-the-ground actions** to protect and restore water quality, species, and habitats in the Bay watershed	**Regional-scale programs, partnerships, and collaboratives** capable of scaling up water quality improvements	Rapid implementation of the 20 most **cost-effective agricultural practices for reducing nutrient loads** to the Chesapeake Bay
Award Size	Up to $50,000	$50,000 – 500,000	$500,000 – 1,000,000	Up to $250,000
Match Requirements	None	One-third of grant request	1:1	None
Eligible Applicants	Local governments, nonprofits, tribes	Local governments, nonprofits, tribes	State agencies, post-secondary institutions, local governments, nonprofits, tribes	Conservation districts, technical service providers, state-certified county planners
Geographic Focus	Chesapeake Bay Watershed and priority subwatersheds	Chesapeake Bay Watershed and priority subwatersheds	Chesapeake Bay Watershed and priority subwatersheds	Only designated "Pennsylvania Most Effective Basins" https://gis.chesapeakebay.net/wip/pamosteffectivebasins/
Annual Program Timeline (est.)	Feb. – RFP released Apr. – Proposals due Aug. – Awards announced	Feb. – RFP released Apr. – Proposals due Aug. – Awards announced	Jan. – RFP released Feb. – Pre-proposals due Mar. – Full proposals invited May – Full proposals due Aug. – Awards announced	June – RFP released Aug. – Proposals due Sept. – Awards announced

NFWF Chesapeake Bay Stewardship Fund

Chesapeake Bay Program
Science. Restoration. Partnership.

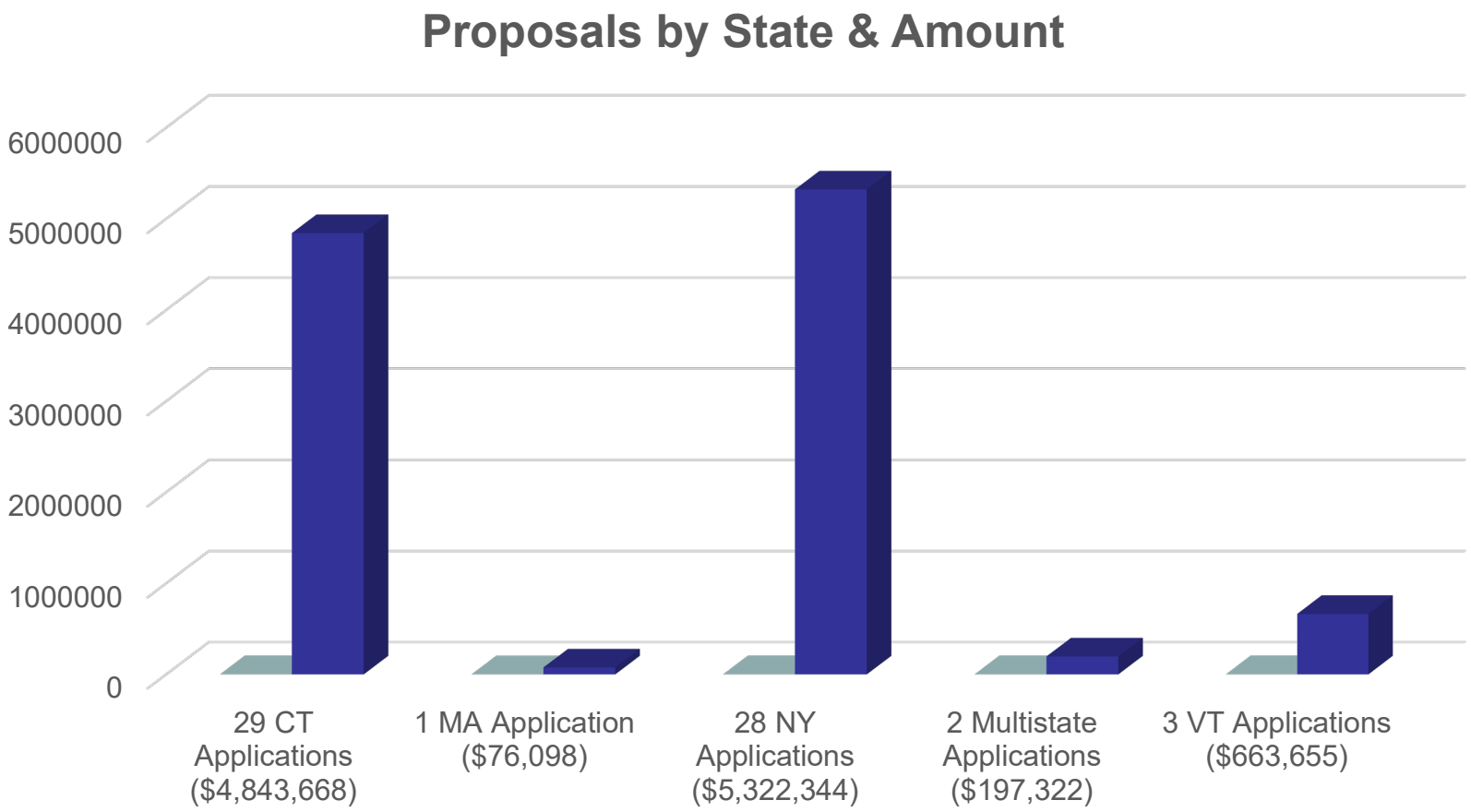
A Snapshot: Long Island Sound Futures Fund 2021



63 proposals, $11,103,087 requested

NFWF

A Snapshot: Long Island Sound Futures Fund 2021



Average request $162, 953 -- $300k> proposals 8 -- DEI-EJ 19 proposals, $3.8M

NFWF

Bioextraction Initiative Update

Kristin Kraseski
Bioextraction Coordinator

Presentation to the Long Island Sound Study Management Committee

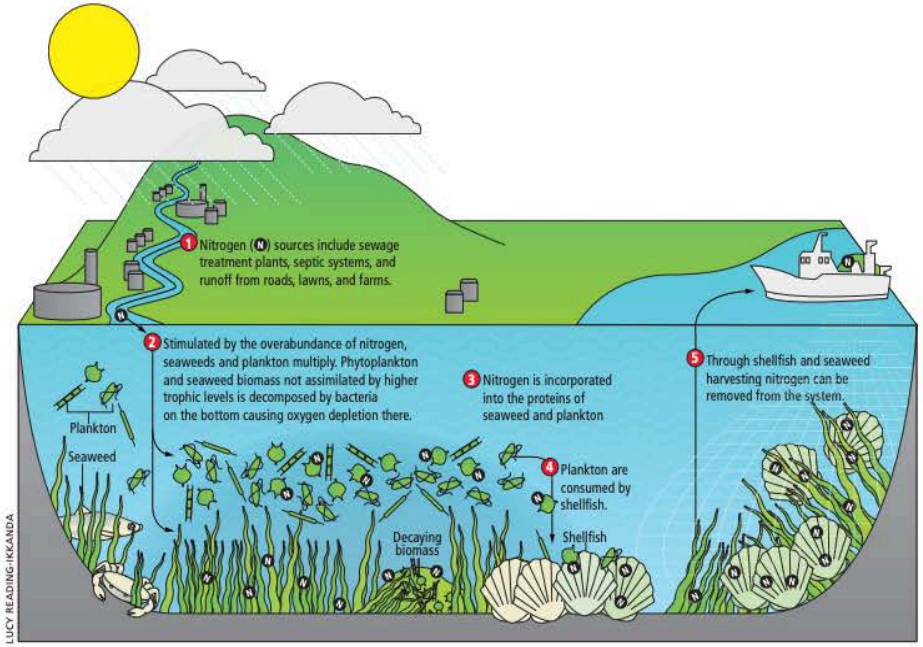
July 15, 2021

What is Nutrient Bioextraction?

- Growth and harvest of shellfish and seaweed to remove nitrogen and other nutrients from coastal waters
- An effective nonpoint nutrient management strategy in addition to existing land-based nutrient management efforts
- An ecosystem service

Bioextraction in the Long Island Sound

Since 2009, starting with "International Workshop on Bioextractive Technologies for Nutrient Remediation," the Long Island Sound Study has promoted efforts to bring nutrient bioextraction to Long Island Sound



Earlier Projects in the Long Island Sound

- Ribbed mussel nutrient bioextraction in the Bronx River Estuary, New York City
  - 2011-2017
  - NFWF, Maine Shellfish R&D, Rocking the Boat, NOAA, LISS, Gaia Institute
- Use of sugar kelp aquaculture in Long Island Sound and the Bronx River Estuary for nutrient extraction
  - 2012-2013
  - Jang K. Kim, George P. Kraemer, and Charles Yarish
- Field scale evaluation of seaweed aquaculture as a nutrient bioextraction strategy in Long Island Sound and the Bronx River Estuary
  - 2011-2012
  - Jang K. Kim, George P. Kraemer, and Charles Yarish

Photo by NOAA Milford/Mark Dixon

Current Bioextraction Initiative

- *Mission: To improve water quality in NY and CT marine and coastal waters by removing excess nitrogen through the cultivation and harvest of seaweed and shellfish.*

Bioextraction Coordinator hired in 2018

The initiative will provide information to help decision makers with the guidelines needed to facilitate public and private seaweed and shellfish farming and harvest operations in their coastal waters.

NE IW PCC

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Program sponsored by Long Island Sound Study
Restore and Protect the Sound

Bioextraction Initiative Projects

Pilot Projects

- Sugar Kelp Project
- Ribbed Mussel Project

Economic Study

Seaweed Symposium

Photo Source: Chesapeake Bay Program

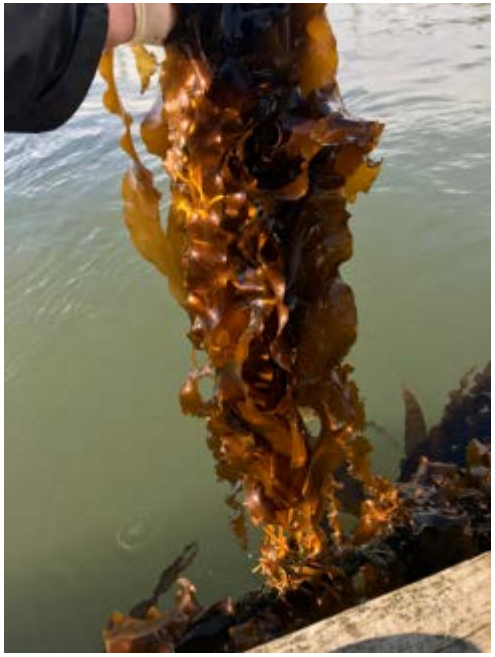
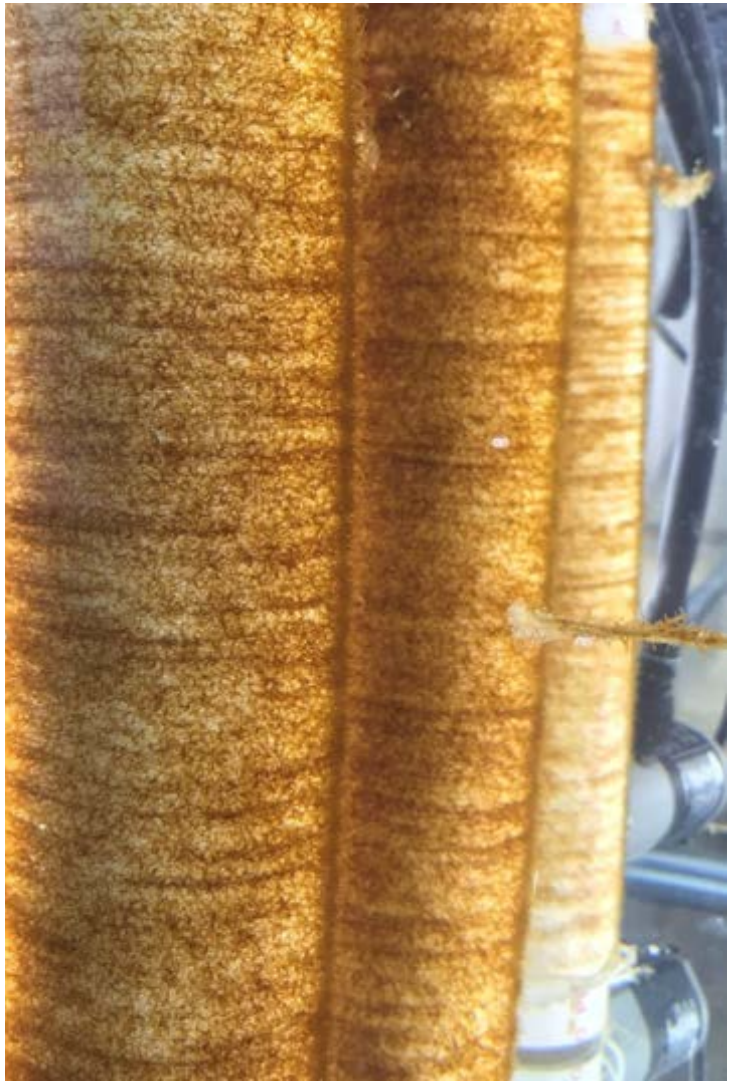


Photo Credit: Aaren Freeman, Nelle D'Aversa



Sugar Kelp (*Saccharina latissima*)

March 2021

April 2021

May 2021

June 2021

East River, Throggs Neck, NY

Fertilizer Pilot Project

Photo Credits: Cornell Cooperative Extension

Ribbed Mussel Pilot Project

- Ribbed mussels (*Geukensia demissa*) are a robust species that can grow in many conditions

- Cornell Cooperative Extension of Suffolk County, Marine Division
  - Aquaculture
  - Grow-out
  - Appropriateness for animal feed

Photo Source: Chesapeake Bay Program

Economic Study

Bioextraction work plan calls for study to Identify markets for, and cultivation costs of potential bioextraction species and evaluation of overall economic viability of bioextractive activities

https://www.wur.nl/


Photo Credit: Nelle D’Aversa

Seaweed Symposium

Opportunity for aquaculturists, researchers, and regulators gather to discuss seaweed opportunities and challenges

Long Island Sound Futures Fund Projects

2018

- **SoundWaters Bioextraction Seaweed Farm (CT)**
  SoundWaters
  Project Area: Greenwich and Stamford Harbors, Connecticut

SoundWaters
Protecting Long Island Sound through Education

Long Island Sound Futures Fund Projects

2019

- **Oyster Planting to Improve Water Quality in Long Island Sound (NY)**
  Town of Brookhaven
  Project Area: Port Jefferson Harbor, New York

Town workboat transporting 100,000 oysters from Mt Sinai Harbor shellfish facility to Port Jefferson Harbor. Transporting took two days due to the large number of cages and oysters. (Photo source: brookhavenny.gov

Long Island Sound Futures Fund Projects

2020

- **Bioextraction of "Gold Coast" Kelp in the Oyster Bay Complex (NY)**
  Adelphi University
  Project Area: Oyster Bay Complex: Town of Oyster Bay Marina, Laurel Hollow and West Harbor Beach, and Bayville, New York

Photo Credit: Dave Gugerty

ADELPHI UNIVERSITY®

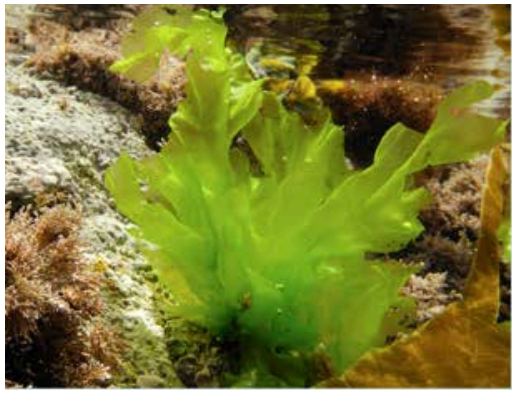
LISS Research Fund Project

Quantifying the Ability of Seaweed Aquaculture in Long Island Sound to Remove Nitrogen, Combat Ocean Acidification, Improve Water Quality and Benefit Bivalves

Investigators: Christopher Gobler and Michael Doall, Stony Brook University: Kendall Barbery, GreenWave

Stony Brook University

GreenWave



Seaweed.ie

Future Directions

- Pilot work related to the recommendations of the economic study
- Establishing proven uses for bioextracted products
- Potential for wild harvest
- Resources to help businesses start up
- Development of plans to deal with uncertainty

2020

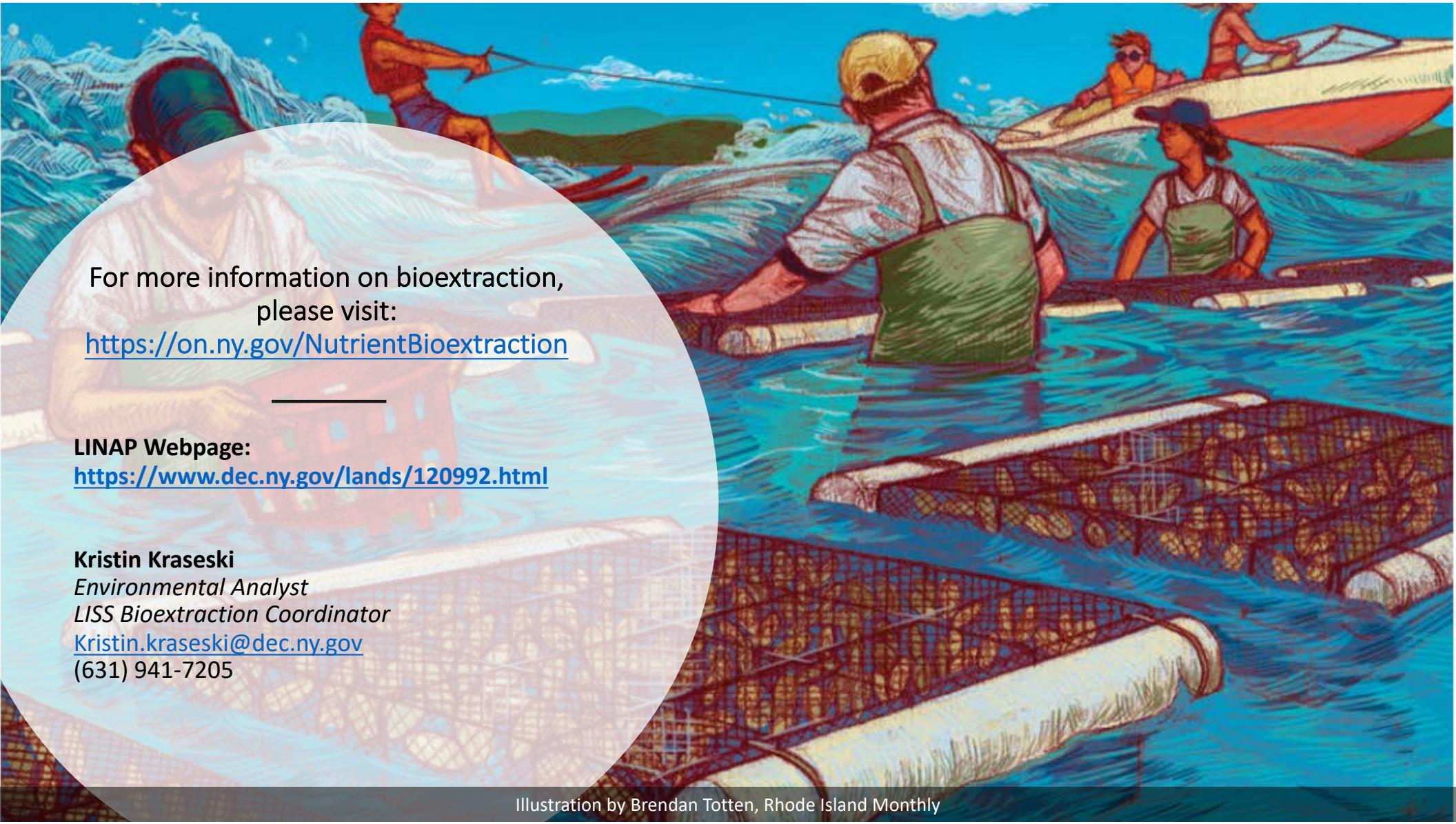
2021

Photo Source: Cornell Cooperative Extension

Co-Benefits Beyond Nitrogen

- Benefits to local economies from a more well-established domestic seaweed industry
- Environmental benefits, including local effects on carbon removal and ocean acidification

https://sitn.hms.harvard.edu/



For more information on bioextraction, please visit:
https://on.ny.gov/NutrientBioextraction

LINAP Webpage:
https://www.dec.ny.gov/lands/120992.html

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LISS Bioextraction Coordinator
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Illustration by Brendan Totten, Rhode Island Monthly

New York Offshore Wind Cable Coordination

for Long Island Sound Study

NEW YORK STATE OF OPPORTUNITY. | NYSERDA

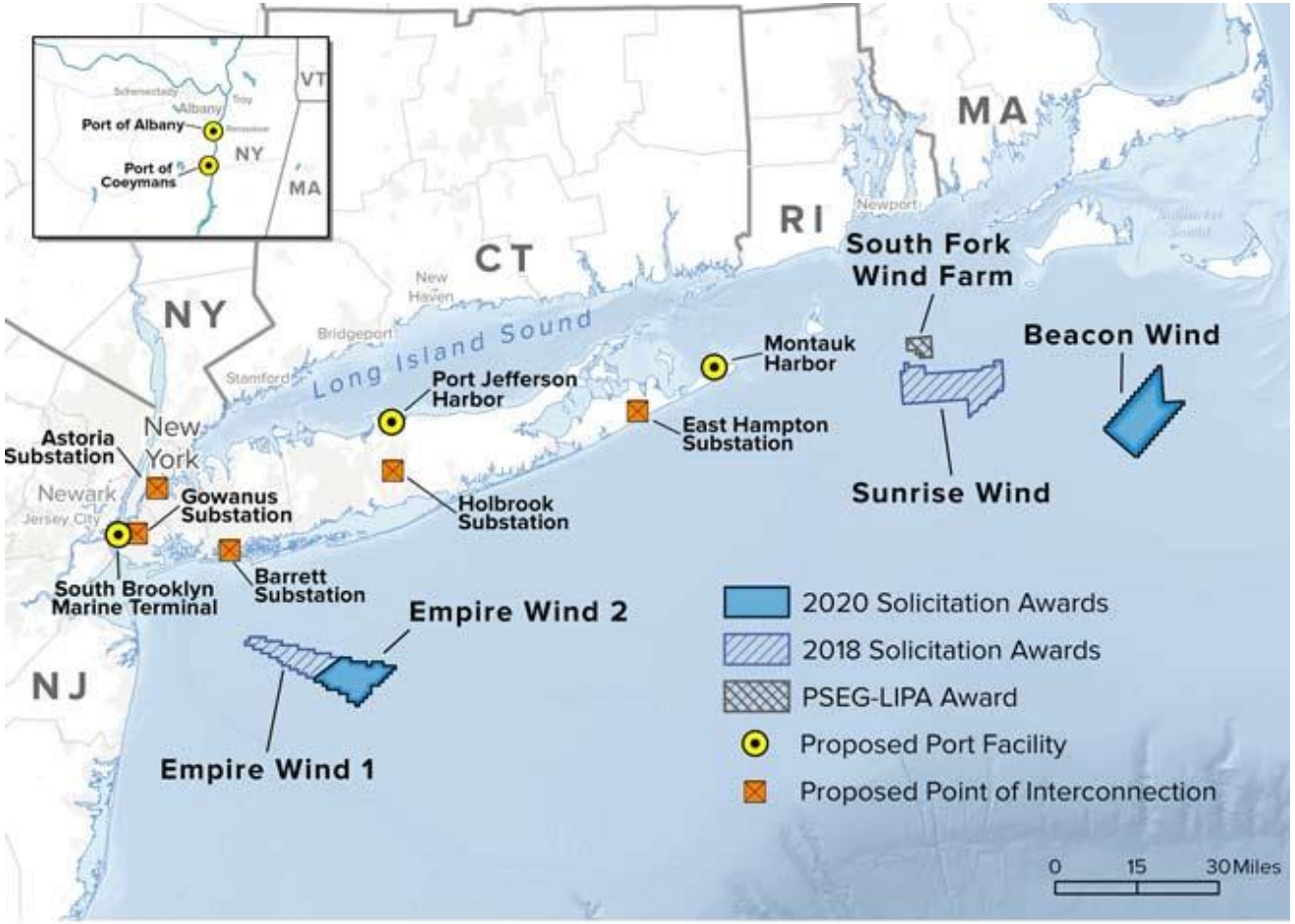
July 15, 2021

New York State Offshore Wind (9GW by 2035):
5 projects / 4,316 MW / 6,800 jobs / $12.1B Economic Activity

Port of Albany:
Marmen/Welcon Tower Factory

Port of Coeymans:
Gravity Based Foundation Manufacturing

South Brooklyn Marine Terminal
Staging and Assembly, Operations & Maintenance (O&M)



SUNY Stonybrook & Farmingdale:
$20M Offshore Wind Training Institute (OWTI)

Port Jefferson:
Operations & Maintenance (O&M)

East Setauket:
$10M National Offshore Wind Training Center (Ørsted & Suffolk County Community College)

Power Grid Study

Background: As part of the 2020-2021 enacted State Budget, New York State announced passage of the Accelerated Renewable Energy Growth and Community Benefit Act (Act)

> The Act instructed the State to conduct a **Power Grid Study** to inform transmission systems investments that will be necessary to achieve the clean energy goals of the Climate Act

DPS prepared an **initial report of findings and recommendations, published 1/19/2021**
(DPS Matter Master: 20-00905/20-E-0197)

New York Power Grid Study

Power Grid Study concluded that integrating 9 GW of offshore wind generation by 2035 is achievable, but:

> overcoming transmission cable routing limitations will require continued **planning and coordination** with agencies and other stakeholders.

> **6 of the 9MW should go to New York City to maximize deliverability**

Distribution and Local Transmission Capital Plans ("Local Upgrade Plans")

Bulk Transmission System Investment Plan ("Investment Plan")

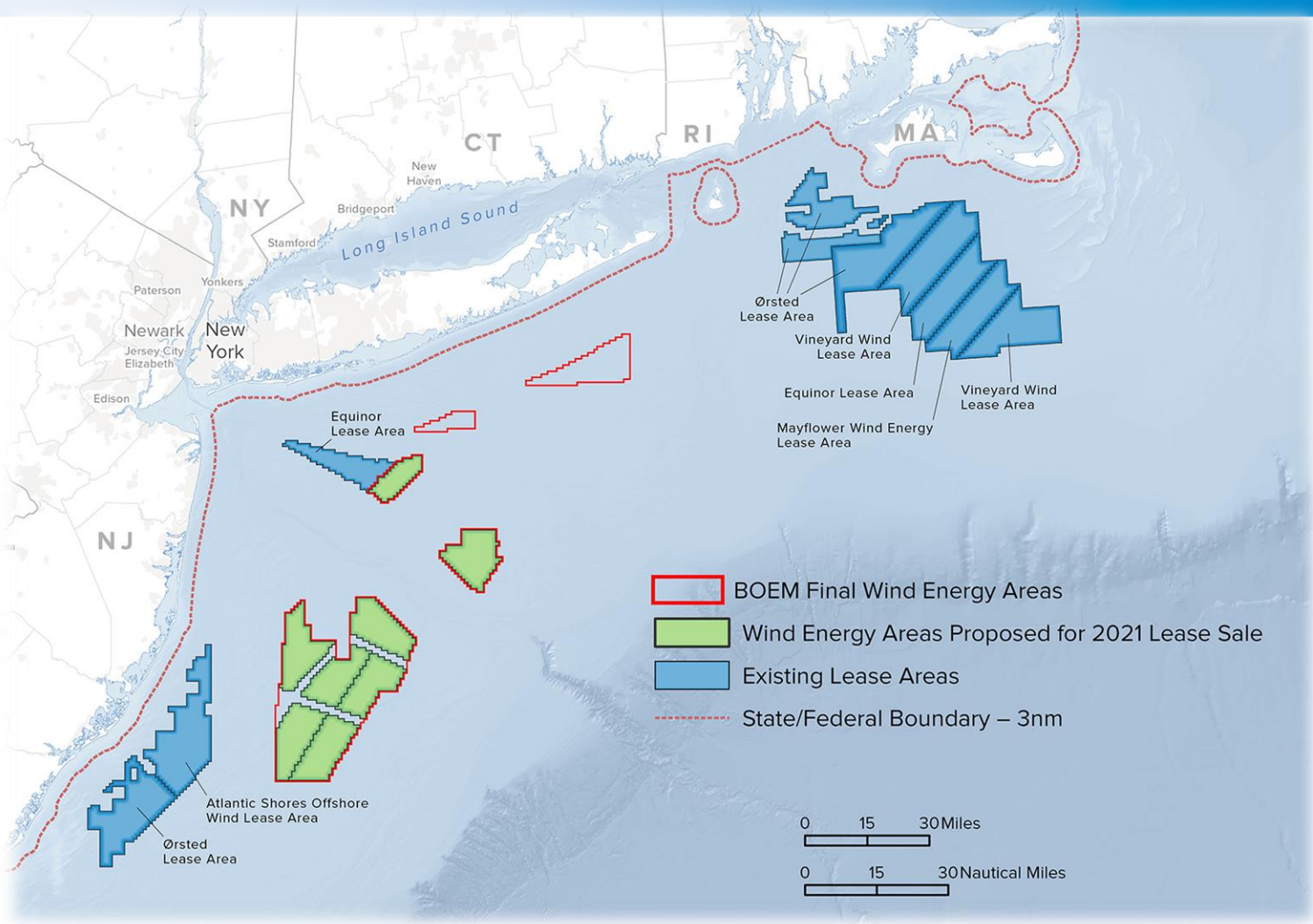
BOEM Proposed Sale Notice, 8 Lease Areas

Next Steps

> 60-day public comment period (initiated June 14, 2021)

> Virtual Meetings during comment period (not yet scheduled)

> Visit: https://www.boem.gov/renewable-energy/state-activities/new-york-bight



Supplement GEIS for Cable Corridors

NYSERDA will lead the development of a Generic Environmental Impact Study (GEIS) associated with the routing, and potentially the installation and maintenance of offshore wind related undersea cables in certain coastal waters of the State, including through the Long Island Sound, along the south shore of Long Island, in New York Harbor and related portions of the Hudson and East Rivers

> **Objectives:**

- Systematically consider environmental, technical and stakeholder factors early in the process to understand the constraints, concerns and relative risks associated with offshore wind undersea cables;
- Inform individual offshore wind transmission projects submitted to the Public Service Commission under Article VII of the New York Public Service Law;
- Provide agencies with a coordinated platform for the potential adoption of policies or the approval of actions that might rely upon the findings of the Study.

The GEIS will not displace any offshore wind developer responsibilities under the Public Service Commission's Article VII process.

SEQRA GEIS for Cable Corridors

Next Steps:

> NYSERDA will develop the draft GEIS Scope for public review and comment (Aug/Sept)

The Scope will include (not limited to):

> Biological Resources – benthic/coastal habitats; marine mammals and sea turtles; fish; and birds.
> Marine Commercial and Recreational Uses and Vessel Traffic – anchorages/moorings, shipping channels, recreational activities; vessel traffic/safety; and commercial and recreational fishing.
> Landfall/Overland Routes
> Physical Resources – air quality and water quality.
> Physical constraints
> Existing Infrastructure
> Cultural Resources
> Disadvantaged Communities
> Socioeconomic Impacts
> Visual and Aesthetic Resources
> Cumulative Impacts
> Alternatives Analysis

Thank you

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Project Manager, Environmental Research

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Open Science in the Long Island Sound Study

Alex Huddell

ORISE Fellow|Long Island Sound Office

Open Science Principles

1. **Open Data**
    - Publicly available with metadata

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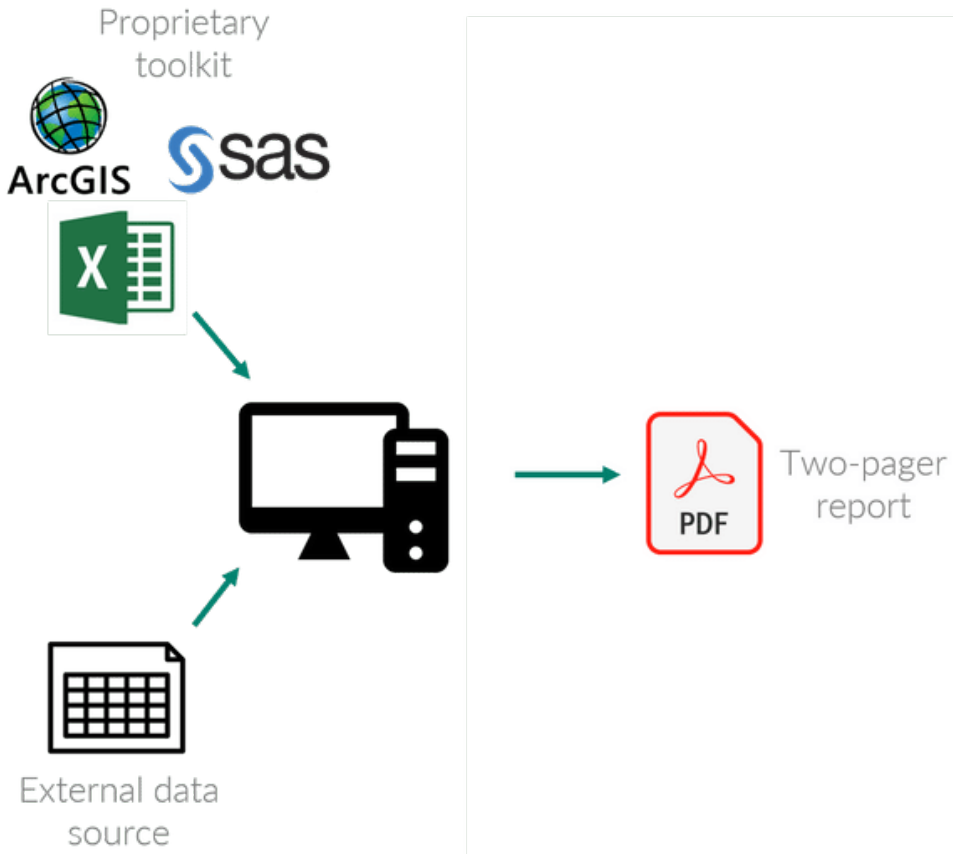
2. **Open Process**
   - Reproducible + transparent workflows
   - Open-source applications

1. **Open Data**
   - Publicly available with metadata

2. **Open Process**
   - Reproductible + transparent workflows
   - Open-source applications

3. **Open Products**
   - Publicly-available interactive data products
   - Dynamic documents
   - Source code posted with dashboard

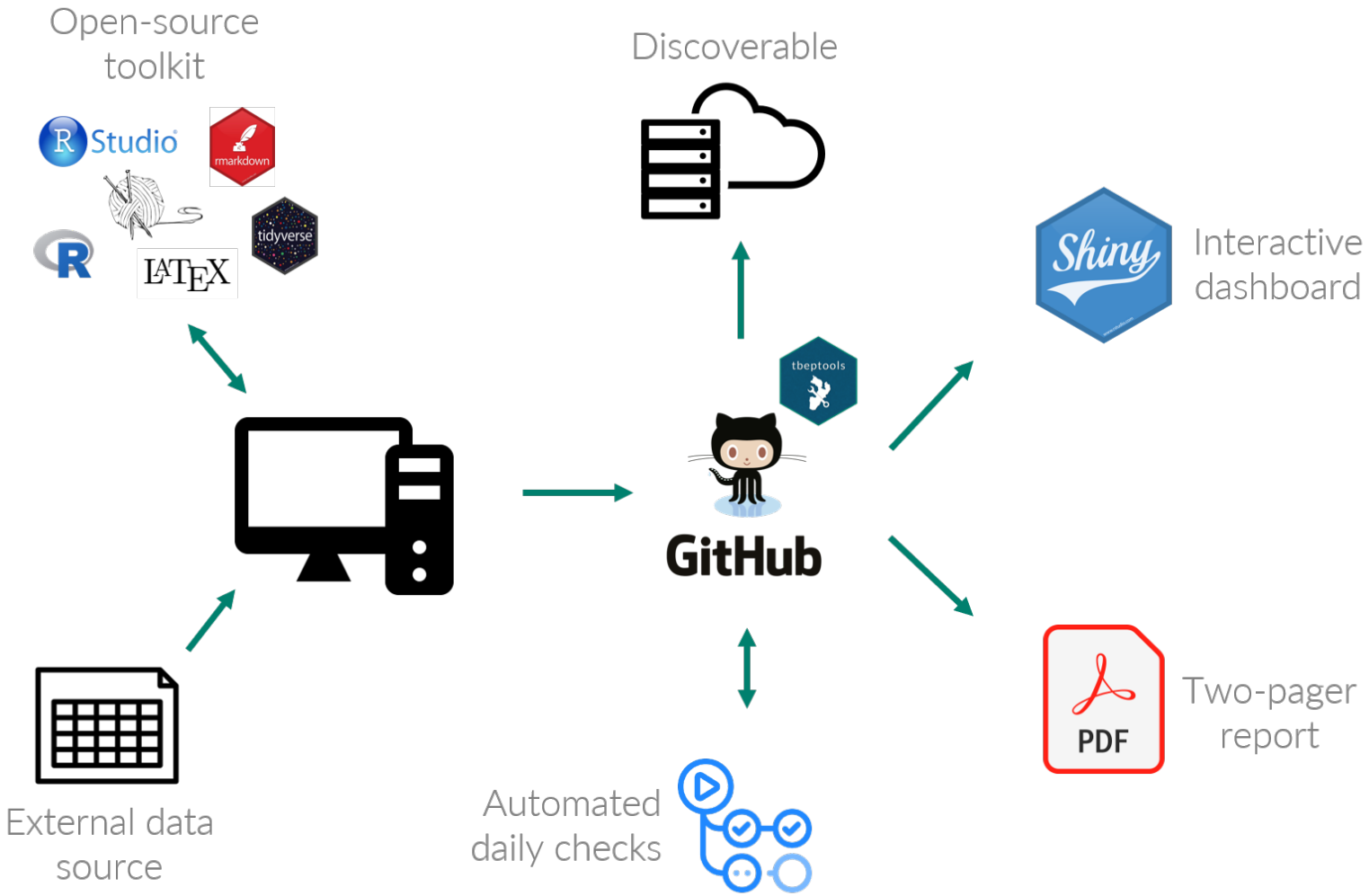
Applied Science Bottleneck



- Relies on institutional knowledge
- Opaque workflow
- Expensive license fees
- Irreproducible results that are prone to error and inefficient

Slide credit: Marcus Beck

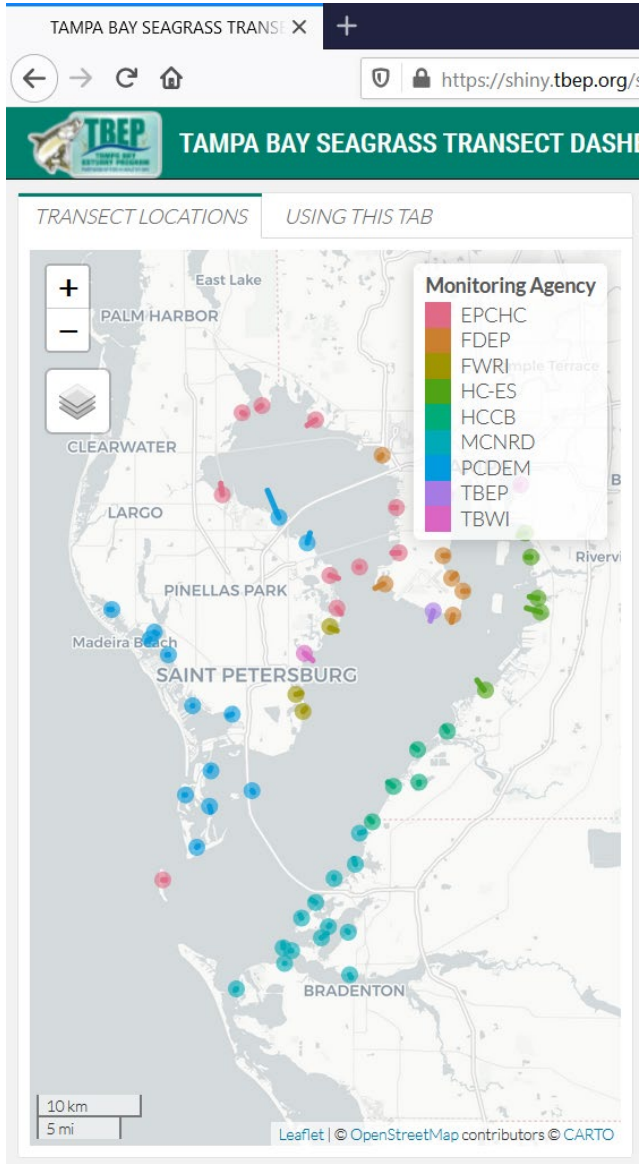
Open Science Framework



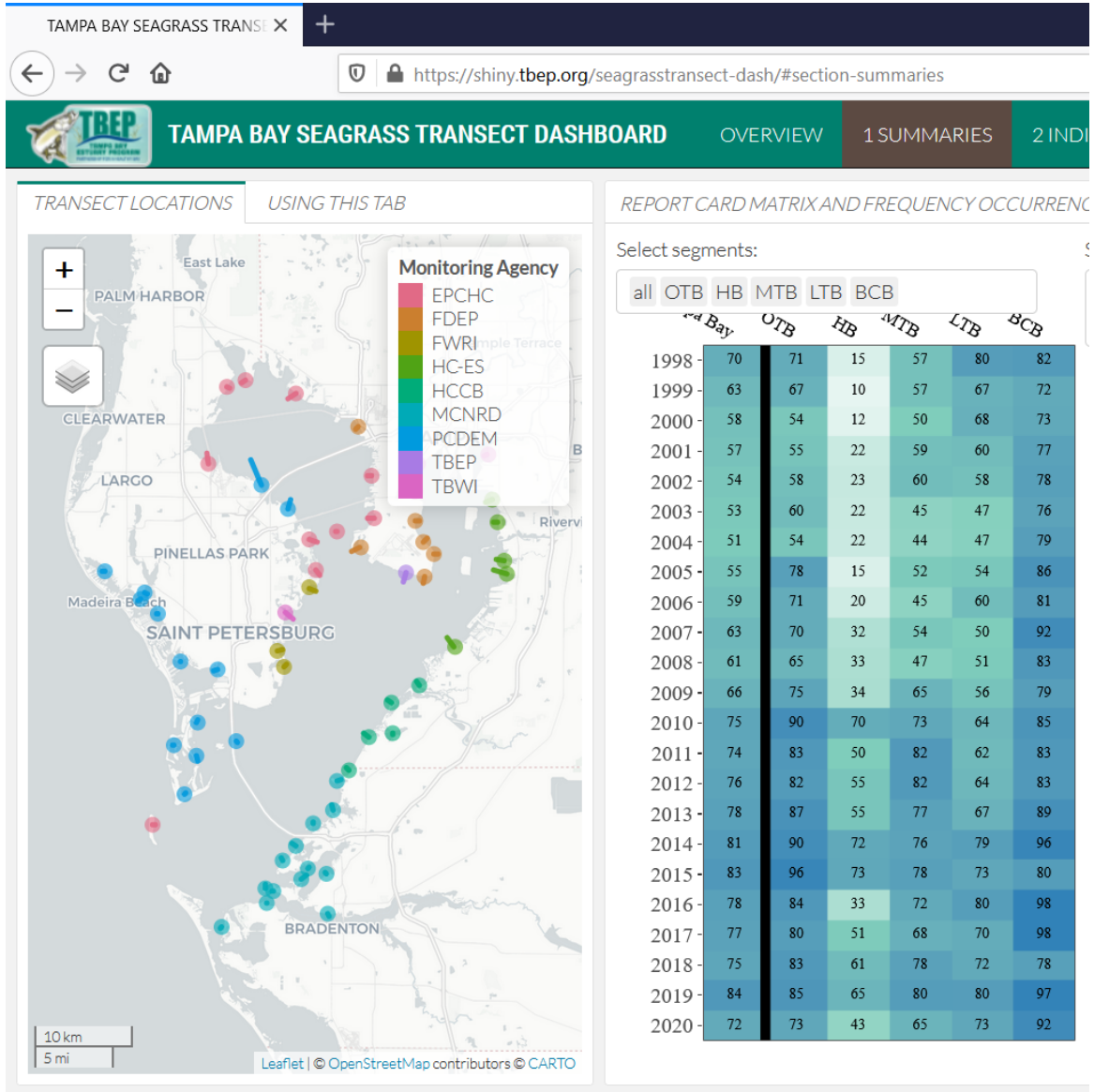
- Seamless link between data and product
- Automated workflows
- Create new reporting tools

Slide credit: Marcus Beck

Shiny app data exploration dashboard

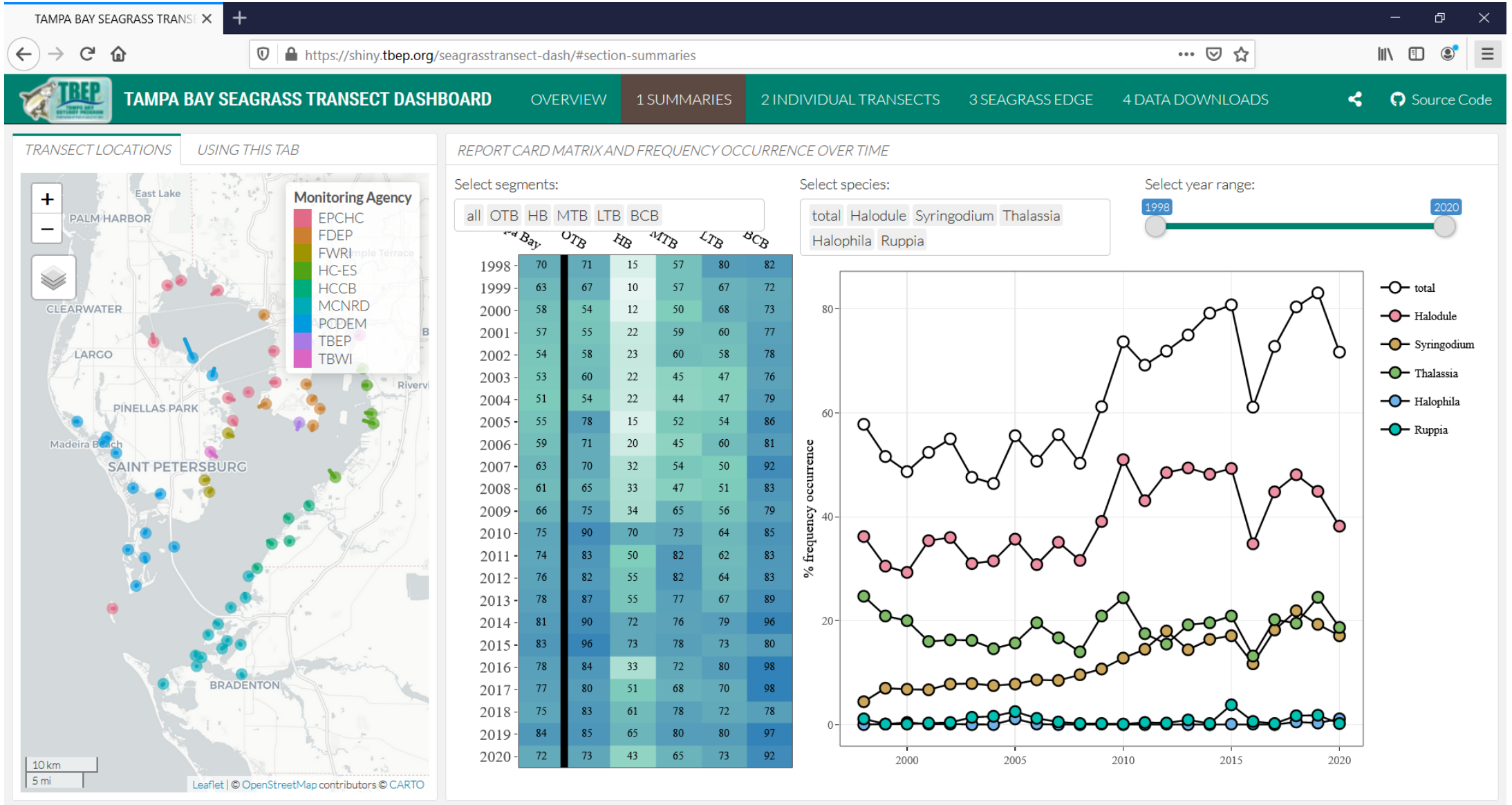


Shiny app data exploration dashboard



	OTB	HB	MTB	LTB	BCB
1998	71	15	57	80	82
1999	67	10	57	67	72
2000	54	12	50	68	73
2001	55	22	59	60	77
2002	58	23	60	58	78
2003	60	22	45	47	76
2004	54	22	44	47	79
2005	78	15	52	54	86
2006	71	20	45	60	81
2007	70	32	54	50	92
2008	65	33	47	51	83
2009	75	34	65	56	79
2010	90	70	73	64	85
2011	83	50	82	62	83
2012	82	55	82	64	83
2013	87	55	77	67	89
2014	90	72	76	79	96
2015	96	73	78	73	80
2016	84	33	72	80	98
2017	80	51	68	70	98
2018	83	61	78	72	78
2019	85	65	80	80	97
2020	73	43	65	73	92

Shiny app data exploration dashboard



Open science → better science in less time

Questions? Comments?

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