# Herring River Stakeholder Group

*DRAFT Summary for Meeting #5*

November 6, 2019 | 4:30 PM to 6:30 PM
Wellfleet Council on Aging
715 Old Kings Hwy, Wellfleet, MA 02667

**Meeting in Brief**

The Herring River Stakeholder Group (HRSG) met on November 6, 2019, from 4:30 to 6:30 PM in Wellfleet. The Meeting included a discussion of member term renewal, review of project updates, an approval of a new video recording policy, an overview of restoration and shellfishing, a presentation on fecal coliform in the Herring River, an update on the project's engagement with shellfishing stakeholders, and a presentation on the monitoring and adaptive management plan for shellfishing.

A poll will be re-circulated to representatives in November to determine the date of the upcoming January meeting. Additionally, representatives will be invited to participate in a webinar with the social factors team earlier in January to learn more about the ongoing efforts to design the social factors portion of the adaptive management plan. The January Meeting will then focus on discussion of social factors and the adaptive management plan. HRSG representatives will also be asked to report about their engagement with constituents with regards to the project.

**Action Items**

| Who | What |
|---|---|
| HRSG Members | • Respond to poll for January HRSG meeting dates and Adaptive Management webinar (November)<br>• Respond to survey to indicate desired amount of time to re-up status as representative<br>• Provide a short bio to CBI & the Chair if you have not already<br>• Send comments / corrections for this (November 2019) meeting summary |
| Planning Team | • Create and circulate draft meeting summary<br>• Collect and post publications and presentations about the history of the dike, shellfishing, sediment and shellfish monitoring, and other related resources.<br>• Design and coordinate webinar for HRSG representatives on adaptative management in preparation for the next HRSG meeting. |

***Find details on upcoming HRSG meetings, as well as prior agendas and materials at http://www.herringriver.org/Herring-River-Stakeholder-Group***

**HRSG Members in Attendance**

Bill Biewenga (Chair)
Moe Baracas
Barbara Carey
Zack Dixon
Fred Gaechter

Jake Ketchum
Alfred Kraft
Bob Prescott
Laura Runkel
Gabrielle Sakolsky
Judith Stiles

*Project team members Tim Smith (Cape Cod National Seashore [CCNS]), Carole Ridley (Herring River Restoration Project), John Portnoy (retired ecologist from CCNS) Martha Craig (Friends of Herring River[FHR]), Nancy Civetta (Wellfleet Shellfish Constable), Mia Baumgarten (Wellfleet Media Operations Manager), Stacie Smith (The Consensus Building Institute [CBI]), Maggie Osthues (CBI), were also in attendance, as were many members of the public.*

## Meeting Opening

### *Welcome and Introductions, Agenda Review, Minutes*

Bill Biewenga, HRSG Chair, began the meeting and introduced Stacie Smith, CBI facilitator, to review the agenda and objectives of the meeting. In addition to brief project updates, the primary purpose of the meeting was to delve deeper into how restoration will impact Wellfleet's shellfishing community and build additional familiarity with the Adaptive Management and Decision Analysis model using shellfish as an example. The meeting concluded with a public comment and question period.

The motion to pass the June 2019 minutes passed unanimously. Minutes can be found here on the project website.

## Restoration and Fecal Coliform – *Presentation by John Portnoy*[1]

John Portnoy, retired ecologist from Cape Cod National Seashore, presented to the HRSG about fecal coliform in the Herring River and expected impacts from restoration. John has presented this information previously to various bodies relevant to the project including a public meeting co-sponsored by Friends of Herring River and the Wellfleet Shellfish Advisory Board in March 2017 (video here), and another public presentation co-sponsored by the Wellfleet Shellfish Advisory Board and Friends of the Herring River in March 2018 (video here). John's presentation from this meeting is available here. The following is a summary of the key points from the presentation.

- Fecal coliform (FC) is an ongoing problem in the Herring River and has led to permanent closures for shellfishing above and below the dike, and other areas seasonally closed in fall and winter. (Please see here for a map of the above areas.) The Massachusetts Division of Marine Fisheries has designated the existing CNR dike as a point source of bacterial (FC) contamination threatening downstream shellfish resources.
- Officials became aware of FC as a problem in the 1980s, when the state first started testing for the indicator. The most likely source of FC is wildlife, compounded by stormwater runoff.
- FC is the standard indicator of fecal contamination for shellfish water quality. The concentration of FC correlates most closely with people contracting gastric intestinal (GI)

[1] *In addition to John's work on FC, he completed a range of studies over the course of his tenure with NPS. A list of more than 60 peer-reviewed papers authored by John is available upon request.*

illness after eating affected shellfish. The standard of allowable FC presence is set very low because shellfish are filter feeders by nature.

- In 2005, the National Park Service (NPS) commissioned an observational study to understand how tidal restoration would affect shellfish water quality, particularly FC. The study gathered samples from 9 locations, from High Toss Rd to Egg Island, on 8 sampling dates and found that FC was most concentrated at low tide and areas with the lowest salinity. The interpretation of these findings was that the diked river leads to high FC levels in the Herring River, creating various environmental factors that extend FC survival (low salinity, high acidity, low dissolved oxygen, and high sediment organic content). Tidal restoration will dilute high-FC river water and counter the environmental factors that allow FC to survive for longer amounts of time.
- This finding was supported by data from other Outer Cape dike systems that found that those with restriction have the highest levels of FC, and those that are partially restored or fully restored have lower levels.
- The State currently does high tide monitoring for FC. In the summer prior to construction, the project will conduct low tide sampling once per month from May through September at three stations along the river (High Toss, Landing, and Egg Island channel) to augment existing baseline data for adaptive management. Monitoring will then continue throughout the restoration.

***HRSG members raised the following questions and comments. Responses and discussion are listed in bullets below:***

- *Has the study been updated since 2005, and if not, wouldn't that be helpful to do now, rather than waiting until the project will begin?*
    - *The Massachusetts' Division of Marine Fisheries conducts monitoring regularly at high tide. Friends of Herring River (FHR) and NPS plan to conduct sampling at low tide six months prior to the start of construction to bolster baseline data for the adaptive management plan. John shared that It would not be difficult to collect samples at low tide now, if someone would like to do that.*
    - *There is no reason to think that the underlying factors related to high FC levels have changed. That is why John has not pushed for more sampling in these interim years.*
- *Are there predictions or modeling about how long it would take to resolve the FC issue during tidal restoration? When fresh seawater is added to the environment, is it a rapid process to disperse the bacteria?*
    - *While salt does negatively impact FC, the main factor in lowering the level of bacteria is dilution. The speed of resolution depends on how fast the structure is opened. The project will be able to predict the speed of impact based on the amount of seawater entering the system. During heavy rain in Egg Island, FC stayed high for four days afterwards due to lack of dilution.*
- *What can we assume in terms of new shellfishing grants that would be available after this process?*
    - *[Nancy Civetta, Wellfleet Shellfish Constable] The area downstream of Herring River is a wild productive area, so if the area were reopened, there would not be new grants there.*

***Members of the public also offered questions and comments in response to John's presentation. Comments and any resulting HRSG discussions are listed in bullets below:***

- *A question about septic systems and FC: When conducting this study, why were Title 5 Septic Systems discounted as notable source of FC contamination?*
    - *John's study found that the highest FC concentration in the Herring River is within 3,000 feet of the dike structure, rather than in the areas where development – and Title 5 systems – are located. Near the developed areas, FC concentration is decreased. If the Title 5 systems were the cause, we would expect to see higher FC concentration near them.*
- *A question about shellfishing areas: Does the NPS have any plans for relocating leases after the Egg Island control point? Is there a place that shellfishermen can go if they get polluted?*
    - *John pointed out that the existing management of the dike creates a threat of FC contamination to the Egg Island area*
- *A question about possible current fixes: Is there anything that can be done now to lower the FC levels in the river?*
    - *It is not clear how to address that now. The problem is systemic: primary FC watershed sources are wildlife and run-off and extend across the entire wetland. The dike acts as a point source (unlike other, straight-forward point source pollutants), acting as a conduit of FC downstream. Opening the existing structure would not help the problem because data shows that opening the existing structure increases stagnation, as opposed to increasing flow.*

**Overview of Restoration and Shellfishing - *Martha Craig***

Martha Craig, FHR, gave a brief presentation providing a high-level review of tidal restoration and shellfishing in the Herring River. The following is a summary of the key points from the presentation. The slides can be viewed here.

- Project objectives: The project seeks to restore more than 1,000 acres of the Herring River Estuary (the largest coastal wetlands restoration in the Northeast) by removing restrictions in the river to return to the natural tidal flow. The reasoning behind this project is to prevent ongoing degradation of the estuary, achieve ecological and social benefits, and eliminate risk from current tidal gates, which are in poor condition. The project also aims to improve water quality coming out of the river and into Wellfleet Harbor.
- Current problems: The Herring River is classified as an "Impaired Water" in violation of the EPA Clean Water Act due to high FC, low PH (the river has the acidity level of a lemon in places), and high levels of aluminum leaching from peat soil from diked conditions. The existing structure is a point source for bacterial contamination, leading to shellfish closures. There is subsidence in the marsh, a cause of concern when it comes to resiliency to climate change; acid sulfate soils, leaching aluminum; sustained low dissolved oxygen; degraded river herring habitat and invasive species; and lost salt marsh, decreasing carbon storage capacity and releasing a lot of methane.
- Dike breach in 1960s and 70s: Following the dike breach in the 1960s-70s, the Herring River was temporarily partially restored. It was observed that oysters and shellfish resettled above the dike, mosquito production dropped, and salt marsh vegetation began to

reestablish. It was remarked that "fishing had never been better." The shellfish community and Cape Code Mosquito Control petitioned for a bridge to replace the damaged dike structure, but the dike was rebuilt instead, after lengthy debate. As a result, the upstream shellfish perished, sediment collected downstream of the dike, Phragmites invaded, fish and eel ills occurred due to acidity and aluminum, and downstream shellfish beds were eventually closed.

- Projected improvements: Through removing restrictions to the river and returning to the natural tidal flow, the project is expected to improve river water quality, recover the salt marsh and other wetlands, enhance and/or re-open shellfish beds, recover the herring habitat, reclaim habitat for native marine species, and reconnect the Gulf of Maine (serving as an engine of productivity for near- and off-shore marine habitats). Opening the current structure will not have the same effect, as the resulting flow pattern would back water up into the system.

*HRSG members raised no questions or comments.*

**Engagement with Shellfishing Stakeholders** - ***Martha Craig and Constable Nancy Civetta***
Martha Craig highlighted that FHR is working with property owners, HRSG, the Wellfleet Shellfish Advisory Board, Shellfish Promotion and Tasting, Inc (SPAT), and the Wellfleet Shellfish Department, to share information and address concerns about the project. Outreach is always ongoing to receive feedback from the shellfish community. The Shellfish Advisory Board recently provided a unanimous, renewed letter of support for the project, available here.

Nancy Civetta, Wellfleet Shellfish Constable, gave a brief overview of the importance of the project to the Wellfleet shellfishing community and the ongoing outreach with her department. The following is a summary of key points from her remarks.

- Importance of shellfishing: It is Wellfleet's top year-round industry. 25% of the working age population derives income from shellfishing, amounting to 400-450 people in town. Wellfleet is ranked first in the state for the value of its shellfish landings. The state found that shellfishing in Wellfleet brought in $7.2M in shellfish sales last year. 30% of Wellfleet's year-round population over the age of 20 has recreational shellfishing permits. Shellfishing is both an industry and an activity that touches year-round residents and visitors.
- History: The current permanently closed and seasonally closed areas from FC were identified by the MA Division of Marine Fisheries in a 1972 report as the most productive and valuable shellfish areas in the town. It was documented in 1968 that the town did cultching in the harbor, and the area was already very actively managed. The major effect of the dike in 1909 was the loss of the upper Herring River as oyster-producing ground as well as the eventually closed areas.
- Ongoing monitoring: In the short-term, Wellfleet is working with the state to do monitoring 5 times per year at high tide for any areas classified as "open." The town wants to add monitoring around closed and open areas on the map to see if they could reopen any areas or prolong the seasonal openings in the fall.
- Support of project: In the long-term, the Wellfleet Shellfishing Department believes that the most beneficial move for the shellfishing community is restoration. The Wellfleet Shellfishing Department supports this restoration project. The project team has

encouraged open-door collaboration with the shellfishing community, with active community meetings and the project team taking time to respond to shellfishing concerns.

- The shellfishing community has decades and generations of experience on the water that can help inform the project and share valuable information with project partners. Any concerns about negative effects from restoration can be addressed by working together prior to implementation.
- John Portnoy and Barbara Brennessel will conduct some pre-project deployment on spat collecting around the harbor to provide a baseline to understand spat recruitment over time and help the Department with its cultching efforts. After the project is completed, the Department will be continuing this study to identify any detrimental effects and work within the adaptive management plan to mitigate. Saltwater will kill phragmites, and there might be a benefit of harvesting phragmites before opening because there might be a nitrogen exodus.
- The Department believes this project will be very positive for the industry, community, and environment and looks forward to working together.

***HRSG members and members of the public raised the following questions and comments. Responses and discussion are listed in bullets below:***

- *A common question raised to me by shellfishermen is: in the event of a closure of beds during the project due to an unforeseen circumstance, what is the plan to help shellfishermen? One specific inquiry was: has the town counsel commented on whether the town is liable for a bed closure?*
    - *It was highlighted that the positive and ongoing communication between the project and the shellfishing community indicates confidence in the project's management and the adaptive management plan. Maintaining open channels of communication as the project moves forward with deliberate, planned steps informed by data and communication is one concrete way to lessen any fear of uncertainty.*
- *Through the research presented at this meeting, it has been established that the FC problem will be improved with restoration project. Another issue caused by the dike is sedimentation. Would harbor dredging cause a problem for shellfishing?*
    - *Public comment: Dredging has been done before, and therefore is a process with which the shellfishing community is familiar. It is included in plans to maintain the overall health of the Harbor, which benefits the industry. The dredging process has a relatively short-term impact, and the overall benefit outweighs the short-term setback.*

***Members of the public made comments in response to John's presentation. Comments and any resulting HRSG discussions are listed in bullets below:***

- *<u>A question about shellfishing grants:</u> Roughly 50% of Wellfleet's quahogs are produced on the west end of Egg Island. If there is a failure in production caused by this project, is there a place that shellfishermen can stand business while it resolves?*
    - *Nancy could not currently validate that data on quahogs, as the state only shares aggregate data from its audit. A shellfishing grant is a lease to farm raised shellfish.*

*To issue a new grant, the Department would need to find bottom that is not naturally productive, which does not exist in the area.*
    - *Nancy highlighted that the shellfishing community has yet to see the adaptive management plan because it is still being constructed, so there is some understandable concern about their livelihoods and businesses. FC is an ongoing problem that should be resolved through this project. It may be worth discussing any unintended consequences of the project and hearing feedback.*
- *A question about the shellfishing map: What part of the map is controlled by NPS, and what part is the responsibility of Wellfleet? Does NPS own any property on the Egg Island side? For the area above the current dike, who has the regulatory responsibility?*
    - *Wellfleet holds the regulatory responsibility through an agreement with the NPS. The town manages its own resources and collaborates with NPS. There is an established format for this collaboration - the Department submits a proposal to NPS, participates in a site visit, and then reports out for cultching activities.*

**Monitoring and Adaptive Management for Shellfishing - *Tim Smith***

Tim Smith, NPS, provided a brief presentation answering the question: how will monitoring data be used for the Herring River Restoration project? This presentation was derived from a larger presentation that Tim gave to HRSG in March 2018 (video available here). The following is a summary of the key points from the presentation. The slides can be viewed here.

- What is the Adaptive Management Plan: The Herring River Adaptive Management Plan is a systematic plan for incremental openings at the new Chequessett Neck Road and Mill Creek water control structures (which have yet to be constructed). The Plan informs a strategy for how to operate the new structures to achieve best the project's objectives.
- Project goals: The project has identified roughly 40 objectives, including ecological and socioeconomic topics, and the Plan is tasked with thinking of ways to identify impacts and the best methods for monitoring them. Currently, work is being done to establish a baseline condition in all objective areas, which models will use to predict future outcomes and against which future impacts will be measured.
- Shellfishing goals: Project objectives related most to shellfishing include preventing adverse impacts to harbor shellfish beds (including preventing increased nitrogen loading and preventing increased sediment loading and monitoring deposition at shellfish areas) and improving closed shellfishing habitat (including improving water quality above and below the dike and reducing FC discharge).
- Predicting impacts: Modeling expresses the project's understanding of how the ecosystem will change with tidal restoration and also provides the basis for comparing actual outcomes detected through monitoring. The project will use data gathered in this pre-project phase to predict a baseline range of variation for each objective and identify a trigger for when an indicator goes outside of that range in the monitoring phase. Identifying triggers and creating strategies for avoidance requires expert advice.
- Tide Gate actions: Adjustments of the tide gates will be small and result in small changes to tidal levels, hydrology, salinity, and other effects. The frequency of gate changes will rely on the project's ability to collect all required monitoring data as well as how the system is responding to tidal exchange. Monitoring will collect data at the dike and

detect any changes before they occur farther out in the system. This data will be used to formulate management decisions.

- Risk management: In the provided handout (available here), the bottom of page 2 summarizes alternative management actions that could be taken by the project if something is triggered. These actions help answer "what if" questions and demonstrate the slow and deliberate speed of tide gate adjustments.

***HRSG members raised the following questions and comments. Responses and discussion are listed in bullets below:***

- *How might construction impact water quality?*
    - *The construction contractor will be held to performance standards, including water quality standards. The area will be separated and dried out while under construction, and it will be actively monitored for sediment. Regulatory permits will require monitoring protocols. Construction planning is expected to ramp up with final design details.*
    - *HRSG was reminded that construction management, mitigation, and construction impacts on businesses, abutters, and others is included as a future meeting topic on the draft work plan.*
- *HRSG members discussed perceptions of the adaptive management approach that they have heard from their constituents. One representative stressed that their constituents would like more information from the project about "what if" scenarios, including a detailed plan to protect businesses or an insurance policy. Another representative highlighted the general sentiment from business owners of, "Don't do it in July, and we are ok."*
    - *It was raised that doing nothing will still result in change that would be unmanaged. The project creates a way to manage change in a way that is not abrupt. The adaptive management plan is a strategy to ensure that the project is proceeding in an acceptable manner to various constituents and objectives.*
    - *Concern was also raised that the current dike could fail, and the longer that the project is postponed, the worse conditions with the current diked river could become.*
- *Martha and John's presentations mentioned the previous failing of the dike and resulting partially restored Herring River. HRSG members indicated interest in learning more about the outcomes from that partial restoration, which may help assuage the feeling of uncertainty that some are experiencing.*
    - *John Portnoy's book, Tidal Water: A History of Wellfleet's Herring River, contains a chapter focused on what happened when the dike failed previously. It features observations from the shellfishing community, which did not include comments on negative effects on downstream beds. There were observations made of hundreds of bushels of increased production.*
    - *Additionally, there are affidavits at NPS in the lab that members of the Wellfleet community sent to the Massachusetts Office of Coastal Zone Management. Most affidavits were focused on sediment settling below the dike because it was being blocked.*
    - *There is also a report from the Massachusetts Attorney General's office from the 1970s with interviews with community members.*

- *Another possible resource is the summary of the history of the dike that was published previously in the Massachusetts Audubon magazine.*

**Project Updates** - ***Carole Ridley***

Permitting update:

The project is still in the process of engineering design and permit application development. Permit-level design plans are nearing completion, and the project is working diligently to prepare the first application that will be submitted to the Cape Cod Commission sometime this quarter. Subsequent permit applications will follow in the early part of next year. There will be a public process after filing the application with the Commission. The project will file as an Ecological Restoration Limited Project under the state Wetlands Protection Act, and it will have to meet those standards as well as other applicable federal, state, county and local regulations.

Memorandum of Understanding update:

When the HRSG last met in June 2019, the new MOU had not yet been executed. MOU 4 was executed in early July 2019 and now serves as the governing document for the project and reconstituting HREC. After the MOU was executed, the project circulated a one-pager (here) and the MOU itself (here) to HRSG representatives. HREC met for the first time under the new MOU in October 2019 and took a fresh look at operating procedures and heard a report from Bill as Chair of HRSG. HREC's next meeting is January 16, 2020, at the Wellfleet Council on Aging.

**Chair Updates** - ***Bill Biewenga***

The Chair informed representatives that the Herring River Executive Council (HREC) voted to extend HRSG representatives' term limits through the end of 2019, and they will be extended once more. HRSG representatives will receive a link to a survey to indicate if they would prefer that their membership is renewed for one year or two years beginning January 1, 2020, in order to stagger representatives' term lengths to ensure a measure of coherency across transitions. The Chairmanship will follow the same procedure as the representatives.

The Chair also shared that he provided an update at the October 2019 HREC meeting that HRSG has gone back to meetings every few months, although the frequency may need to increase. The Chair would like to set aside more time in meetings for representatives to ask questions and give opinions based on what their constituents think. The Chair believes that all HRSG representatives are in favor of the project to varying degrees, but he would like more interaction within the HRSG and between representatives and their constituents to better inform his actions.

Stacie highlighted that the purpose of the HRSG is to represent the views of various constituencies and serve as a forum to raise and address concerns. The role of the Chair is to serve as HRSG's direct liaison to HREC, and these meetings should move through a variety of relevant topics to gather any concerns to share with HREC. It was suggested that more interactive check-ins around the table at meetings may be a good way to increase communication. The question of how to take questions from the public on technical presentations needs to be ironed out as well.

**Video Policy** - ***Mia Baumgarten***

Mia Baumgerten, Wellfleet Media Operations Manager, presented the option for HRSG to videotape their meetings for sharing on the public access TV channel as well as YouTube. Mia highlighted that part of HRSG's stated purpose is to communicate with the community, and with

tides, work schedules, and childcare challenges, many members of the public are not able to attend meetings in person. Not providing video access could be viewed, in effect, as prohibition of public access. The recording is funded by Comcast cable receipts and follows very specific guidelines where the recording features the start of meeting through the end without editing (with the exception of shortening if there is a break in the session). This effort would not require changing venue, and the Chair would have the right to stop videotaping, if desired. Videos would be posted, along with links to the presentations.

*The motion to allow videotaping by Wellfleet moving forward was seconded and passed.*

**Public Comment**

Members of the public provided comments, varying from specific questions related to technical presentations, clarifications on the new MOU, questions about how to be further involved, or questions about available project resources. Specific comments are summarized below:

**A question on Tim Smith's presentation on shellfish and monitoring:** The timing of the project was not clear from the graphs shown in the presentation slides. Can NPS provide a clearer idea on the project's timing and the time between increments of the tidal gate openings?

- That specific timing has not yet been determined, as the project team is still going through their analysis. It could take some amount of years. The time between increments could vary from months to years. HREC could design a system of approving an envelope of incremental work within a certain time frame to cut down on back and forth, if desired.

**A question to clarify the new MOU:** It seems as though the Herring River Restoration Committee, which was once the primary scientific advisor to HREC, has been disbanded or renamed. Is that correct? The timeline for the project has been said to be years, but there does not appear to be a defined group of scientific advisors for HREC.

- The new MOU specifies that HREC can take input from various sources, including consultants, the HRSG, and technical advisors. A group of existing technical advisors was identified, comprised of individuals that represent partner agencies. Attendees were encouraged to review the new MOU to understand better the new arrangement (available here).
- HREC cannot make a decision about changing the new tide gates without receiving a recommendation from technical advisors, working with a group of scientists and others as needed.

**A comment about previous sediment presentations:** At the first joint meeting between FHR and the Wellfleet Shellfish Advisory Board (March 2017), there was a presentation and discussion of sediment. The link is posted here on FHR's website.

- There was also another presentation on sediment given in 2018, available here.

**A comment about concerns for shellfishing:** What would feel good for the shellfishing community would be an agreement in writing clearly communicating risk and liability, including possible insurance, for shellfishermen. Shellfishing is not just a business in Wellfleet, it is a part of the town and community. The comparison to dredging is not the most fitting since the community knows what to expect from dredging, and this restoration project is unknown. In response to Tim's

presentation on monitoring, in addition to the issues identified, there could also be new species, such as boring sponge, introduced into the habitat. How would the project reach out to the shellfishing community to bolster monitoring and highlight possible gaps? How can the shellfishing community help the project?

- Tim had just discussed boring sponge recently in a talk with HRSG shellfishing representative Zack Dixon. That kind of communication between the stakeholder representative of the shellfishing community and the project team is important to help understand issues. The shellfishing community was encouraged to read the handout for specific points from the project team about habitat for growing condition and reach out with any questions or potential gaps.
- Stacie highlighted that there are two identified pathways for engagement with the project: (1) through your stakeholder representative and (2) through additional outreach directly with the Shellfish Advisory Board and Wellfleet's Shellfish Department.
- Bill said that Zack Dixon, HRSG shellfishing representative, raised the possibility of a small oysterman working group to help inform his actions as a representative and encouraged those interested to reach out to Zack.

**A question about actions the community can take right now:** Currently, baby herring are going back to the sea through the river, but nobody is taking care of the river, and it is clogged with debris. Is there anything that we can do now to ameliorate this issue?

**A comment about clarifying the terminology around "nutrients":** In November of 2016, the project sent a letter to the shellfish license holders about FC and that restoration would greatly increase the flow of nutrients into Wellfleet Harbor. That seems like it would be a disaster.

- To clarify, while "nutrients" is usually used in connection with nitrogen and phosphorous, the project is referring to small bits of organic matter that feed marine life.

**A comment about the importance of understanding current risks:** While a big discrete change like this project grabs focus, it is important to remember that the system is not static, and freshwater drainage is getting slower and slower. The longer water stays in the diked system, the more it encourages FC. If increased FC levels result in more bed closures, the shellfishing community will not have insurance for that. When the dike structure failed in the 1960s, the structure was about 60 years old. The current structure is now about 50 years old. If and when this structure fails, the town will be in the same regulatory maelstrom as last time.

**Next Steps - *Stacie Smith***

Sharing Information: Members of HSRG expressed interest in reading more about what happened in the 1970s when the river was partially restored after the dike collapsed as well as the previous information that had already been presented on shellfish.

- Martha to look into John Portnoy's book to see if there is a relevant passage to share as well as affidavits sent from members of the community to CZM stored at the CCNS .
- Tim to coordinate with Bob Prescott to dig up a summary of the history of the dike published in MA Audubon magazine. Tim also to share the report from the MA Attorney General's office from the 1970s with community interviews.

- CBI to include the links to former recorded presentations on sediment and shellfish monitoring in the meeting summary. (March 23, 2017 to Wellfleet SAB, March 5, 2018 at Wellfleet Preservation Hall)

Meeting design: This meeting highlighted the need to think through how the HRSG will take community questions on technical presentations in a way that doesn't overrun the meeting.

- CBI and the Planning Team will need to think through the most conducive design. One suggestion is that Bill and Stacie ask HRSG members as they are putting together agendas about concerns they are hearing in the community, which could help the Planning Team save time on the agenda to have those discussions as well as allow them to bring expert information in to address concerns in the room.

Adaptive Management Webinar: In early January 2019, there will be a webinar with HRSG representatives and the team working on the adaptative management plan to delve further into social factors included in the plan. There is a planning call set for November, and CBI will be responsible for scheduling a time for this webinar outside of the normal HRSG meeting schedule.

Next Meeting Topic: The group discussed addressing Wildlife as the next topic. *Note: after the meeting, the planning team determined that it would be better to focus the next meeting on Adaptive Management, in order to further orient the HRSG on the issue and elicit their input on social factors in a timely manner to integrate into the permit applications.*

Housekeeping:

- CBI to send complete meeting summary the week of November 18, 2019.
- CBI to resend link to January meeting Doodle to HRSG members who have yet to respond.
- CBI to create and share a survey form for HRSG members to indicate if they would rather re-up their membership for 1 or 2 years.

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**Appendix: Map of Current Shellfishing Areas around Herring River and Wellfleet Harbor**