Maryland Interagency Oyster Restoration Oyster Restoration Workgroup

Meeting Notes

Nov 21 2022, 10:00 am– 12:30pm

Agenda and Notes

Agenda and Notes:
-Welcome, and note that this is a public meeting.

-Quickly revisit the monitoring plan we drafted regarding how to integrate the Rapid Assessment Protocol into fall 2022 monitoring (pasted below, blue highlights). Is this still a good way forward? Group agrees this is a good way forward; note that the research agenda might be ambitious- we may not answer all those questions with this round of RAP. ORP will do the RAP work on Tred, with training/ input from NOAA and SERC. Still need to discuss how to process the RAP data, once collected.

-Structural monitoring discussion: See the rough plan Stephanie and Jay drafted below- yellow highlights. Seeking input from the group on this.
Major thoughts from discussion:

- Prioritize 2 sampling/mapping times - need to monitor change to determine whether reefs meet structural.
    - One of these should be the 6 year mapping, first mapping year can vary (year 0 or 3)
- Need to map the entire reef perimeter at year 6 to capture entire reef footprint and to map change in footprint - still under discussion
- Group is OK with subsampling (transect) within reef footprint
    - Recommend thinking about taking more transects on SO reef (to capture patchiness)
    - Goal is to get an estimate of reef height/ change in reef height at year 6 vs. baseline
- Time 1 = full coverage (re: needed for nautical charts)
- Time 2 = perimeter and transects
- Time 3 = perimeter and transects

-Post-restoration biological monitoring update:
Completed: 170 acres in 2 Tribs

- PT: 78 acres (236 samples) complete in Harris Creek and Little Choptank

- Dive: 92 acres (150 samples) complete in Little Choptank

In progress: 91 acres in 3 Tribs

- PT: 65 acres (318 samples) to do in Little Choptank and Tred Avon
- Dive: 12 acres (15 samples) to do in Tred Avon and Harris Creek - scheduled for Nov. 28- Dec. 2

Manokin Ground Truthing:

Completed: 106 acres (716 samples) - high priority SS sites
In progress: 49 acres (327 samples) - low priority SS and control sites
This will complete ground truthing for all of the planned restoration reefs on Manokin.

-Reviewed how Manokin reefs sites would change based on the last round of ground truthing. Laurinda will send these changes to Paco to update the GIS geodatabase.

-Manokin construction update- timeframe for completion? Construction is ongoing; will build through Feb 14 due to time of year restriction in permit; then, under the same contract, construction will resume again when the permit allows (approx June 2023). Will also need a MDE permit 3 year extension. It may be possible to get an exemption on the construction time of year restrictions, on a reef-by-reef basis, to allow for construction later/ earlier. All pending Jan 25 hearing.

-Discussion for 2022 Annual Update: final 2022 planting numbers-- when will they be available? ORP is waiting on just one site; will send info to Paco soon, then will correct the one final site. Approx 511 M spat on Big 5 MD tribs. Anything in particular to highlight as we begin drafting this? Blurb about St Marys completion event-- put in MD intro, since it was for three tribs. Assume we will need to wait until early Jan to know which Manokin reef will have been constructed, since construction is ongoing- is that correct? Yes- correct-- also for 2022 costs- these will reflect construction but not completion (seeding).

Seeding Season totals

Tributary	Initial/Reseed	Acres planted	SOS planted (mil)
Little Choptank	Reseed	40.92	133.36
Tred Avon	Reseed	28.69	131.38
Tred Avon	Initial	0.61	6.28 - this site needs confirmation with hatchery
St. Mary's	Initial	10.67	68.46
Manokin	Initial	29.91	171.82
Total			511.30

-March 2023 National Shellfisheries Association conference-- anyone presenting? Attending? ORP will present; DNR will attend- poster on DNR 5-year oyster report (oyster management review report). No others planning to present. ORP is leading a BMP session.
https://shellfish.memberclicks.net/annual-meeting---program

-Harris retrospective document discussion: Jay offered a revised format; Stephanie had some questions about purpose, audience, main take homes, content, what happens to the document when we finish it, what is our time frame, etc. Need to determine what we are doing here. Doc:

2022 monitoring plan re: testing/ integrating Rapid Assessment Protocol:

-don't go to STM this year, re: all sentinel reefs are year 0, which we've never monitored before; DNR fall survey will pick up mortality if it happens this year.
-Focus the capacity that would have gone into STM on a RAP-to-traditional comparison on Tred; do the 2022 3 and 6 year cohort with both types of monitoring (dive and patent tong). Why? We can look at RAP on 3 and 6 year reefs (SERC work was mostly on older reefs), in a low spat set scenario, potentially a high box area- we can learn how or if that skews the RAP; can also try to figure out if RAP can be used to determine need for second seedings. All this can inform how we use RAP in future years.

Research questions from testing in TA (note that these may be ambitious-- we may or may not

be able to actually answer these on this round of RAP testing):

- Can determine whether a 2nd seeding is required?
- Can determine whether scores persist even if most oysters are dead?
- Can we identify whether spat are present in video images?
- Can we identify high substrate (i.e. loose shells) with low live density video images and how does RAP rank these?
- What does a 3 year old reef look like vs. a 6 year old reef?

Goals: Use these data to help inform which scenario (1 or 2) is most appropriate

DRAFT structural monitoring plan for fall 2022:

- First priority is to survey any reefs that have not yet have had any survey work, to inform charts (ie, 'as builts', even if they are several years late)
- Next priority are the 2022 3 and 6 year check ins. For these, we may go to a sampling approach rather than our current census approach (ex: survey several lines across the reef, rather than surveying the whole reef). Justification: we've sampled a LOT of reefs with a census approach, and we are not finding any reefs that don't meet the structural metrics. This indicates it would be reasonable to adapt to a sampling approach. (Do we need any kind of analysis around this?)
    - Min of 4 transects, at 90 degree angles. And/ or, for long skinny reefs: one long transect and, ex, 3 short transects;
- For the 'Covid years' (2020 and 2021), how much value is there in going back and getting these? Re: we can't go back in time and determine what these reefs looked like at the 3 or 6 year intervals. Also, per above, none of the reefs we surveyed prior to Covid failed the structural metrics, so it is unlikely that any of the reefs that needed monitoring

in those two years would have failed. If we do go back and get these reefs, it would be a sampling approach (not census).
- (for 3-and 6 year check ins, eventually): Ultimately, we are working toward replacing some/ all structural monitoring sonar surveys with RAP anyway. Given that we've seen no failures relative to structural metrics, it seems logical to adapt from the early, proof-of-concept, full census surveys to sampling surveys (with some Covid years data gaps), to RAP. The storyline is: we started with an incredibly heavy 'burden of proof' mindset, then, onced that was 'proven', we got leaner as we learned more, adapted, and developed new, leaner methodologies.
- Note that reef footprint might not be possible to discern using RAP.
- Still need two sonar data sets to compare to determine success of the footprint metric. Need to look at the universe of 'missing' 3 and 6 year sites, to make sure we will have at least two data sets on each reefs. These might be minimal, ex: two transects across each. Jay/ Stephanie need to determine which 3 and 6 year reefs we need additional data on to ensure we eventually have two data sets to compare.
- Also, we always need to get a 6 (or later) year sonar data set on all 6-year old reefs; this can be transect survey;
- On some seed-only reefs, it might make sense to do additional transects, to get a sense of patchiness. This would be beyond the scope of the metrics, but might be useful
- New protocol:
    - **Time 1 = full coverage (ideally at year 0, or earliest data set)**
    - **Time 2 = perimeter and transects (typically year 3, but may be a different year due to covid)**
    - **Time 3 = perimeter and transects (ideally at year 6; however, may be different if there are only two data sets)**
- **For backlog: we will address it as much as we need to to ensure that there are at least two data sets by year 6.**

Major thoughts from discussion:
- Prioritize 2 sampling/mapping times - need to monitor change to determine whether meet metrics
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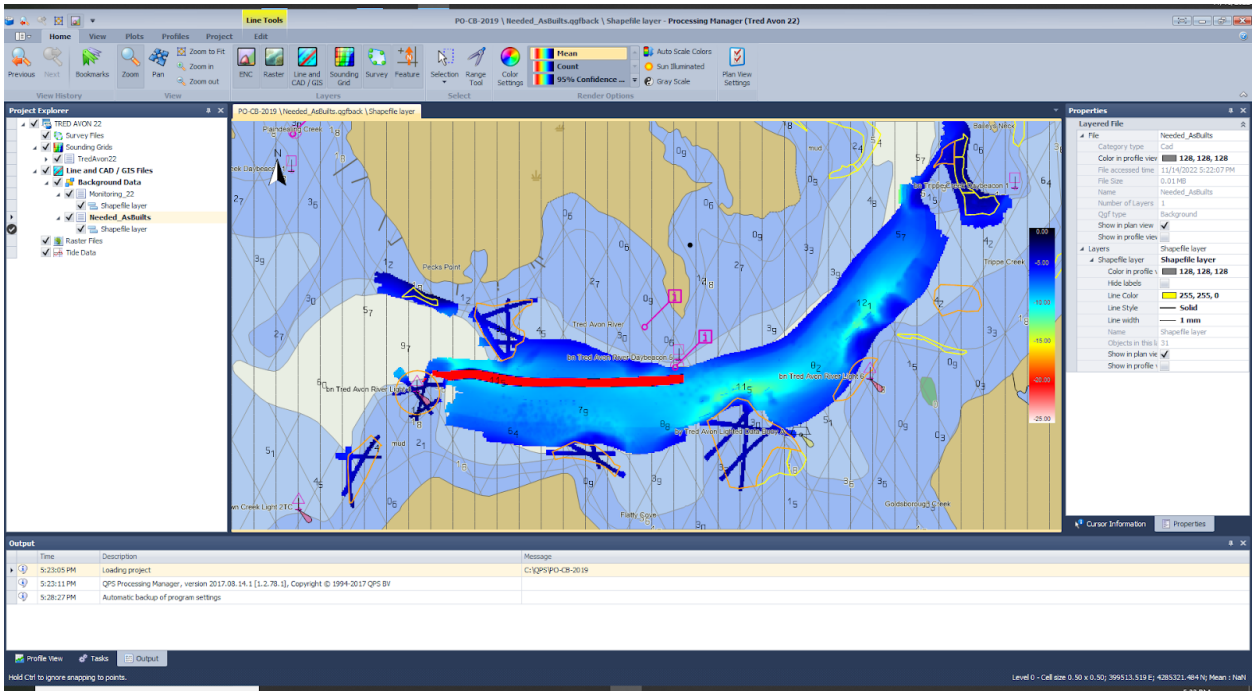
- Need to map the entire reef perimeter at year 6 to capture entire reef footprint and to map change in footprint - still under discussion
- Group is OK with subsampling within reef footprint
    - Recommend thinking about taking more transects on SO reef (to capture patchiness)
    - Goal is to get an estimate of reef height/ change in reef height at year 6 vs. baseline
    - **Time 1 = full coverage**
    - **Time 2 = perimeter and transects**
    - **Time 3) = perimeter and transects**
    - Prioritize:

1. Time 1 for new reefs
2. 2022 3/6 year check-in
3. Backlog from COVID years: try to get 2 sample points so they can be compared to test for reef footprint and reef height metric.

*The plan above gives a general prioritization of acquiring backlogged data. However, practicality might dictate that we collect data on reefs in close proximity to each other at the same time. This might override the priority order on occasion.

Example of what a transect approach (subsampling) for structural metrics looks like on Tred Avon.



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