Chesapeake Bay Program
Science. Restoration. Partnership.

Plastic Pollution Action Team: Meeting #9
Meeting Summary
09/23/2022

Attendance:

- *Matt Robinson (DOEE - Chair)*
- *Kelly Somers (EPA - Vice Chair)*
- *Justin Shapiro (CRC/NOAA - Staffer)*
- *Claire Buchanan (ICPRB)*
- *Clare Gooch (DNREC)*
- *Rebecca Whiteash (PADEP)*
- *Tish Robertson (VADEQ)*
- *Michael Gonsior (UMCES)*
- *Bob Murphy (Tetra Tech)*
- *Christine Knauss (UMCES)*
- *Jamie Pierson (UMCES)*
- *Julie Lawson (CAC)*
- *Doug Austin (CBP TCW)*
- *Marty Gary (PRFC)*
- *William Nardin (UMCES)*
- *Mark Trice (MDNR)*
- *Fredrika Moser (MD Sea Grant)*
- *Ryan Woodland (UMCES)*
- *Donna Morrow (MDNR)*
- *Barba Balestra (AU)*
- *Phong Trieu (MWCG)*
- *Jesse Meiller (AU)*
- *Christin Conn (MDNR)*
- *Katie Register (CVW)*
- *Jennifer Starr (LGAC)*
- *Sonia Saini (DOEE)*
- *Shawn Fisher (USGS-NY)*

Meeting Action Items:

- **Comments on the updated ERA are due by no later than September 30th.**
- **Comments on the monitoring spreadsheet matrix are due no later than October 7th. Matt Robinson will share the monitoring goals/objectives matrix and allow members to put comments and suggestions.**
- **The PPAT leadership team will follow up with an online poll to 1) prioritize collected principles on the source reduction strategy Jambord and 2) gather feedback on the need and best venue/format for a PPAT source reduction workshop.**

10:00 – 10:05 Introductions and Announcements *(Matt Robinson, DOEE)*

- Matt Robinson (DOEE): Announces that NOAA has released its draft report on microfiber pollution for public comment. Notes that comments will be accepted until October 17th, 2022

10:05 – 10:20 Proposed GIT Funded Project *(Kelly Somers, EPA Region III)*
(Link to Presentation)

Summary: As part of the Chesapeake Bay Program's annual GIT-funding process, the PPAT (in collaboration with the Water Quality Goal Team) has submitted a project proposal to be considered for funding. If funded, the project would assess the biological effects of plastic pollution exposure on young-of-year striped bass in the bay and major tributaries. The scope of work would include field studies, followed by exposure studies, and finally analysis and reporting. This work would provide key data on microplastic contamination in striped bass and could potentially highlight physiological impacts. The proposed work would go out for bid at $100,000. If the PPAT approves of this proposed scope, the concept will be presented at a CBP scoring meeting in mid-October.

Discussion:

- Fredrika Moser (MD Sea Grant): Asks who would complete this proposed work?
    - Kelly Somers (EPA): Clarifies that this would go out for competition.
- No additional comments were provided, but there seemed to be group consensus that this proposed work should be submitted for possible funding.

10:20 – 10:35 PlasticAccel Net Proposal *(Christine Knauss, UMCES)*
(Link to Presentation)

Summary: There are a number of global approaches to tracking microplastic data/research, so working to better collaborate and to be more economical with limited resources is a necessary step in the microplastic research sector. AccelNet aims to accelerate research through network-to-network collaborations by sharing sources/research. This proposed collaboration would span the entire country and other regions of the word, and is looking for PPAT involvement. The four major focuses of the program are; facilitating standardization of methods, materials, and monitoring, supporting pathways for open sharing of data and database and integration, elucidating mechanisms of toxicity in plastics, and broadening diversity of research and young researchers in the microplastic field. This group would host annual workshops to pursue these major goals and to translate science into actionable policy. This concept is currently seeking funding, and will hope to be operational soon.

Discussion:

- Bob Murphy (Tetra Tech): Is this the first international effort for microplastic information sharing of its kind?
    - Christine Knauss (UMCES): Yes, the first to focus specifically on microplastic research.
- Matt Robinson (DOEE): This is modeled off of a successful regional effort in Oregon, correct?
    - Christine Knauss (UMCES): This proposal is loosely following Suzanne Brander's consortium of Pacific-Northwest information sharing. Taking this model national and organizing US scientists to interact with international community is a huge undertaking
- Donna Morrow (MDNR): Is Asia, as a region, participating in this effort?
    - Christine Knauss (UMCES): There is a group coordinated out of the Philippines trying to connect Southeast Asia to this effort. We are also hoping for some participation from scientists out of Korea and Japan.
- Christine Knauss (UMCES): A final note that this invitation to collaborate extends beyond the academic community.
- Michael Gonsior (UMCES): Offers up connection to the extensive network of researchers at PlasticOceans.org. He and Christine will coordinate.

10:35 – 11:00 Update from Monitoring Workgroup *(Matt Robinson, DOEE)*
(Link to Shared Monitoring Matrix)

Summary: Matt reviewed questions and corresponding goals, objectives, and needs that were identified by the PPAT sub-group focused on development of a plastics monitoring plan. The full draft matrix can be reviewed by clicking on the above link. Discussion about each major goal is captured below.

Discussion:

- Goal 1: Establish a baseline for plastic pollution in the Chesapeake Bay and its watershed.
    - Michael Gonsior (UMCES): Asks if USGS is looking at land use at the gauging stations?
        - Matt Robinson (DOEE): Believes that they are and will check with Shawn Fisher form USGS
- Goal 2: Source identification, assessment, and control for plastic pollution.
    - Kelly Somers (EPA): Mentions that an EPA ROAR proposal has been approved and contracted out for award. This project will be a pilot for source tracking at 18 sites across the Potomac river (at different land use types). Samples will be sorted by size class and go through RAMEN analysis.
- Other general comments:
    - Matt Robinson (DOEE): Offers to put this matrix into a google spreadsheet and give members time to comment on identified goals/objectives.
    - Kelly Somers (EPA): Also mentions obtained Water Division funding to develop a plastics monitoring framework. This matrix (goals/objectives) will serve as the backbone for this upcoming framework development.
    - Jamie Pierson (UMCES): On the topic of fate and transport, notes ongoing work on a study in the Choptank. Data on fate and transport (and attenuation from marshes) can be used as results are collected in the coming years.

11:00 – 11:30 Update on Potomac River Ecological Risk Assessment *(Bob Murphy, Tetra Tech)*
(Link to Presentation and to the Updated Ecological Risk Assessment)

Summary: New to the updated risk assessment are considerations surrounding plankton regime shifts, incorporation of contemporary striped bass diet studies, and a specific focus on mysids, amphipods, and bay anchovy (including research on similar taxa from around the globe). New figures were added to the assessment utilizing the new literature to show a range of consumption scenarios for different prey that will later be consumed by juvenile striped bass. Next steps will include a combination of field and lab studies to start exploring microplastic uptake in striped bass and studying behavior/fitness of prey that will be consumed by these striped bass (ex. Do striped bass select for prey that have reduced fitness due to plastic uptake?). A final key step will be assessing trophic transfer. Bob also mentions an ongoing gut analysis study that, through limited stomach analysis, has found that 26% of Potomac YOY striped bass contained plastics in their guts.

Discussion:

- Matt Robinson (DOEE): There seems to be a lack of recent data on zooplankton (mysids) and this ERA/gut analysis work highlights the importance of this need.
    - Claire Buchanan (ICPRB): Unfortunately EPA and bay states had to make a tough decision to cancel long-term monitoring programs. But by the time it ended (early 2000s), data was starting to show significant declines in plankton abundance.
    - Jamie Pierson (UMCES): Notes that Forage Action Team has been attempting to fill this regional data gap through monitoring funding.
        - Justin Shapiro (CRC/NOAA): Confirms that the Forage Team is currently

prioritizing projects examining plankton abundance in striped bass nursery areas.

- Ryan Woodland (UMCES): Notes that even when plankton monitoring did occur, it was never particularly successful at collecting mysids. Mentions new flow-through technology to capture plankton images, but reviewing is labor intensive.
  - Matt Robinson (DOEE): Mentions a Virginia Tech lab that uses sonar to identify individual plastic particles.
- Marty Gary (PRFC): Confirms plankton monitoring interest at Fish GIT as well as at ASMFC. There are specific regional concerns in the context of striped bass recruitment.
- Claire Buchanan (ICPRB): Just to add- the mesozooplankton and microzooplankton data collected by MD and VA between 1984 and 2002 are still available on the CBP website (https://www.chesapeakebay.net/what/downloads/baywide-cbp-plankton-database). I agree the methods used were not designed to accurately represent mysid densities. FYI, there is also a report here: https://www.potomacriver.org/wp-content/uploads/2022/01/Heimbuch_et_al_2003_StripedBassLarvHabitatIndex.pdf that presents a model for the Potomac and other MD tribs for the relationship between the striped bass juvenile index and several spawning period factors, including spring mesozooplankton density.

11:30 – 12:00 Presentation on VA Marine Debris Reduction Plan *(Katie Register, Clean Virginia Waterways)*
(Link to Presentation)

Summary: The Virginia Coastal Zone Management Program wanted a strategy for marine debris reduction (published in 2014). For plan development the team prioritized engaging stakeholders, looking at similar actions taken in other states, and determining priorities specific to Virginia. The term "feasibility" was important to implementation - considering politically, socially, and economically viable options. Relatedly, it was Important to note that VA is a Dillon rule state, meaning state-level government drives policy power. Virginia's underlying goals driving the plan were to lead, prevent, intercept, innovate, remove and clean up plastic pollution. The team has learned to organize their updated plans around sources of plastics. So as an example, a section of the plan may be titled "derelict gear." Within this section would be subsections on prevention, interception, and the other underlying reduction plan goals. CVW also makes a point of coordinating with the greater regional NOAA marinade debris plan. The plan's actions go as far to identify alignment with the regional NOAA plan, which can highlight how proposed actions support regional data/science needs. It also noted that the plan prioritizes collaboration, engagement, social surveys, and summits, with the goal of supporting behavior change efforts.

Discussion:

- Julie Lawson (CAC): Curious about the public survey and the questions that your team put forward? Julie is currently exploring a survey for the Stewardship GIT.
  - Katie Register (CVW): A full report, with all of the survey questions and responses, will be available in the near future.

12:00 – 12:50 Discussion on principles for developing a plastic pollution source reduction strategy for the Chesapeake Bay *(Matt Robinson, DOEE)*
(Link to Jamboard)

Summary: The PPAT agreed that a key first step to approaching a reduction strategy would be identifying principles for said strategy. A jamboard is attached (above) for a brainstorming session. Initial thoughts, comments, and feedback can be found on the "living" Jamboard.

Discussion:

- Next steps:
    - With so much great initial feedback, the PPAT leadership team will follow up with an online poll to 1) prioritize collected principles on the source reduction strategy Jambord and 2) gather feedback on the best venue/format for a PPAT source reduction workshop.

12:50 – 1:00 Next Steps and Adjourn *(Matt Robinson, DOEE)*

- Near-term deadline: Comments on the updated ERA are due by no later than September 30th
- Near-term deadline: Comments on the monitoring spreadsheet matrix (mentioned above) are due no later than October 7th.