

MONITORING INVENTORY AND ASSESSMENT FOR THE DELAWARE ESTUARY SUMMARY REPORT

MARCH 2019

The Revised Comprehensive Conservation & Management Plan (CCMP) for the Delaware Estuary is a 10-year plan created to guide the work of partners across the region for watershed improvements. The Monitoring Approach section of the Revised CCMP outlines activities that facilitate coordination of monitoring of diverse natural resources, such as water quantity, water quality, living resources, and habitats. Tracking of monitoring programs helps to assess CCMP implementation and supports periodic State of the Estuary indicator reporting.

One of the strategies in the Monitoring Approach is to inventory monitoring activities every 5 years, providing an opportunity to identify gaps or redundancies in regional monitoring. In September 2018, 300 regional scientists and monitoring experts were invited to provide information on past and present monitoring efforts to be incorporated into a baseline draft of a new monitoring inventory. The geographic focus was the Delaware River Basin, especially the lower half that comprises the Delaware Estuary study area. Special attention was given to monitoring programs that were geospatially broad and conducted for longer time periods. A draft inventory compiled information on metric type, temporal and spatial coverage, sampling method, data availability and access, and general project information.

This report provides the results of two critical steps in the monitoring inventory process:

- 1) Results of a monitoring workshop that took place in October 2018 to review programs listed in a draft monitoring inventory, identified gaps, and gathered input on future monitoring priorities
- 2) Results compiled from an online survey to vet and prioritize information gathered from the monitoring workshop

Together, the monitoring inventory and this summary report serve as a baseline for tracking regional monitoring, help to promote monitoring efforts, and provides an opportunity to explore connections among ecosystem features.

To download the Delaware Estuary Monitoring Inventory as a Microsoft Excel Worksheet, please click [HERE](#). This inventory is also available for online viewing in Google Sheets [HERE](#).

The Delaware Estuary Monitoring Inventory has been added as a layer on NOAA's Environmental Response Management Application (ERMA), a web-based Geographic Information System (GIS) tool that assists both emergency responders and environmental resource managers in dealing with incidents that may adversely impact the environment. You can view the monitoring inventory layer on ERMA [HERE](#).

MONITORING WORKSHOP FOR THE REVISED CCMP FOR THE DELAWARE ESTUARY

NOVEMBER 2018

This report provides a summary of the notes compiled from the October 30, 2018 Monitoring Workshop and recommends follow-up actions. This document was created by RK&K to inform the Monitoring Assessment process being led by the Partnership for the Delaware Estuary.

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INTRODUCTION

As part of the revised Comprehensive Conservation and Management Plan (CCMP) for the Delaware Estuary, a Monitoring Approach was created to help track strategy implementation and progress on CCMP goals. The vision established by the Monitoring Approach involves convening a monitoring workshop every five years to assess critical monitoring projects in the region. The Monitoring Assessment would provide a baseline for regional monitoring programs and data infrastructure, help to link related monitoring efforts, and provide the opportunity to explore new connections among ecosystem features.

THE DRAFT MONITORING INVENTORY

On September 17, 2018, RK&K invited nearly 300 scientists and experts to provide information about their organization's past and present monitoring efforts for a draft monitoring inventory. Experts were invited via email and were asked to fill out a worksheet attached to the email. The email explained that the information collected from the worksheets would be reviewed at an upcoming monitoring workshop, in service of creating a Monitoring Assessment Report. Email text can be found in **Appendix A**.

The worksheet consisted of three tabs. The first tab, labeled "Instructions," provided information about how to use the worksheet, as well as more information the Monitoring Framework process and the geographic area of interest. The second tab, labeled "Definitions," provided color-coded definitions for each of the fields requested in the worksheet.

The third tab, labeled "Program Entries," invited experts to add information about their monitoring programs. The "Program Entries" tab included six topical areas: general information, temporal data, spatial data, project/sampling notes, data availability/access, and additional information. Within the General Project Information section, participants were asked to enter the parameter being monitored by their program, and to select a "characteristic group" for that parameter from a drop-down menu. The intent of adding a prescriptive field was to be able to more reliably sort monitoring programs if filtering by parameter did not prove useful for categorization purposes. Experts were provided with four example entries for reference.

By the time of the workshop, over 30 organizations and partnerships had contributed information on over 400 monitoring programs for the inventory. At time of writing, the draft inventory contained 533 monitoring programs provided by 33 organizations and partnerships. The draft inventory can be found in **Appendix B**.

THE MONITORING WORKSHOP

PDE worked with RK&K to hold a monitoring workshop at the John Heinz National Wildlife Refuge at Tinicum on Tuesday, October 30th from 9:00 to 3:00 pm. The workshop objectives were to review the draft inventory of monitoring programs, identify gaps in data collection, and gather input to help prioritize future monitoring efforts. One week prior to the workshop, participants were provided with the workshop agenda and the full draft monitoring inventory. At the workshop, participants were provided with agendas, feedback forms, and copies of the draft inventory broken into four thematic pieces. The agenda can be found in **Appendix C**, and full notes from the day can be found in **Appendix D**.

FRAMING THE DAY: WORKSHOP GOALS AND BIG QUESTIONS

Jim Eisenhardt from RK&K began the day by welcoming participants and introducing Dr. Danielle Kreeger. Dr. Kreeger thanked participants and provided an overview of the monitoring framework and how the workshop fit into a larger process. Dr. Kreeger also provided additional information about the study area for the inventory, which includes the full extent of the Delaware River Basin (which is the Delaware Estuary's watershed). The revised CCMP also has an Estuary Focus Area, which includes the Delaware Bay and the tidal Delaware River up to the falls at Trenton and up to the headwaters of the Schuylkill River. The monitoring inventory will center on the Estuary Focus area but is open to including projects in the Delaware River Basin as well. Jim Eisenhardt then led the group in a discussion regarding the most important resources, parameters, and trend data to collect over the next ten years.

Question 1: What will be among the most important resources and/or parameters to monitor over the next ten years?

Participants identified four main categories of resources to be monitored over the next ten years: water quality, habitat, species, and human-related parameters. First, participants identified water quality monitoring for basic parameters (dissolved oxygen, temperature, electrical conductivity/salinity, pH, and turbidity) and toxics and chemicals including PCBs, PFAS, chlorinated pesticides, mercury, microplastics, and emerging contaminants. With respect to water quality monitoring, participants also discussed toxicity of mixtures, and biological endpoints for parameters such as ammonia. Second, participants identified a need for habitat monitoring, specifically related to land use/land cover change, ecosystem services of habitat, and sea level rise. Third, participants identified a need for monitoring collective species richness, as well as monitoring the health and populations of sturgeon and mussels. Fourth, participants identified the need for monitoring human-related parameters, including behavioral changes, number of environmental events, funding, and trash/litter/dumping grounds.

Question 2: What type of trend data will be most important to have ten years from now?

Generally, the group responded with four categories of trend data: habitat, water quality, climate change, and human behavior/actions. Trends in habitat that were of interest to the group included rate of change in acreage of wetlands (especially coastal wetlands), forest cover, and SAV. The group was also interested in benthic indicators including freshwater and saltwater shellfish and changes in bathymetry. Water quality trends of interest included TMDLs, DO, nutrients, light attenuation, turbidity, Cyanobacterial HABs, and beach/shellfish closures. Climate change-related trends of interest included salinity change, shoreline change, and ocean acidification. Mostly, however, the group dwelled on trends in human behaviors, actions, and practices. Trend data of interest included fish consumption/aquaculture consumption trends, intakes for water dischargers, entrapment and impingement, sustainability practices/green infrastructure employed or installed (including green roofs), economic activity, effect of legislation and regulation on point sources and nonpoint sources, and general trends in human population.

Mapping the draft inventory?

Following the directed group discussion, participants opened a new dialogue regarding next steps for the inventory. There was energy and interest around the draft inventory, though it was clear from discussion that many participants had not reviewed the full inventory provided in advance of the workshop, due to recommendations that organizers include information about program latitude and longitude, HUCs, and

data access. (These fields are included in the full inventory, but due to space limitations, were not included in the thematic inventory printouts provided at the workshop.) Beyond recommendations for collecting additional data, participants also vocalized a strong interest in seeing the monitoring programs represented geographically in some type of application. Participants recommended that, once mapped, geographic gaps in information would become more apparent. If latitude/longitude and/or HUCs are already included in the data being gathered, mapping programs would provide a clear picture of what is or what is not occurring in a given watershed. The topic of mapping the inventory was revisited throughout the workshop.

GROUP DISCUSSIONS

Following the introductory talks and group discussion, the group was provided with an orientation to the draft monitoring inventory and how, for the purpose of the workshop, it had been broken into four thematic groups for easier discussion. For each thematic section of the inventory, the group was asked to respond to four questions:

1. Are there long-term monitoring programs taking place in our region not currently reflected in this draft database?
2. Are there critical parameters not being collected?
3. Are there obvious geographic gaps in the data?
4. What new efforts should be prioritized for the future?

DISCUSSION 1: NON-PLANT LIVING RESOURCES

The first thematic inventory provided for the group to explore was non-plant living resources. The group was provided with information about the characteristic groups that were selected to comprise this thematic portion of the inventory, and then were engaged in a group discussion.

Question 1: Are there long-term monitoring programs taking place in our region not currently reflected in this draft database?

Participants identified long-term monitoring programs with and without the organizations that they believed were undertaking them.

Datasets Associated with Named Organizations

- Stroud Water Research Center
- PA DEP's benthic macroinvertebrate data through the Instream Comprehensive Evaluation (ICE) program
- PA Fish and Boat Commission has a number of resources, including a reptile/amphibian survey and long-term striped bass monitoring program
- DNREC Fish & Wildlife tracks migratory shorebirds
- DRBC biomonitoring
- University of Delaware tracks marsh bird habitat
- University of Delaware monitors zooplankton
- Wetlands Institute for turtles
- PA iMap for invasive species
- NOAA spatial portal, NOAA mammal information in relation to spills (DNREC involved, speak with Ben Anderson)
- Cornell citizen science birding program
- Western PA Conservancy
- PWD shad monitoring program
- USACE and Rutgers monitoring the effects of dredging on sturgeon and oysters
- Delaware State University and Academy of Natural Sciences of Drexel University (ANSO) have eel data
- Rutgers Haskin Shellfish Research Laboratory has shellfish monitoring information

- State Agricultural Departments monitor pollinators
- Delaware River Watershed Initiative
- EPA Coastal Assessments macroinvertebrate information
- US Fish & Wildlife
- Fishery Cooperatives

Datasets that Exist (no named organization supplied)

- Horseshoe crabs
- Shad (tidal and nontidal)
- Sharks
- Invasive species
- Amphibians
- Reptiles
- Regional climate change
- Bacterial monitoring
- Nest watch program
- Oysters
- Young of year
- Fish ladder information

Question 2: Are there critical parameters not being collected?

Four parameters/data trends were discussed: freshwater bivalves, invasive species, marine mammals and sea turtles, and population-level analysis. Freshwater bivalve monitoring, including a comprehensive survey and maps of populations/mussel beds was recommended as a critical need (the last comprehensive survey was 1919). Monitoring for invasive species was discussed, specifically in regard to zebra mussels moving down the C&D canal from the Susquehanna River. There was also a need voiced for invasive species DNA analysis. Marine mammals and sea turtles were recommended as a missing critical parameter. Finally, there was also a recommendation that there should be more population level analysis in order to track the health of populations over time.

Question 3: Are there obvious geographic gaps in the data?

Participants were surprised not to see more monitoring information in the Schuylkill River, but there was uncertainty about whether it wasn't being collected, or if it had not yet made it into the draft inventory.

Question 4: What new efforts should be prioritized for the future?

For this question, the group largely referred back to the four parameters/items discussed under Question 2: freshwater bivalves, invasive species, marine mammals and sea turtles, and population-level analysis.

DISCUSSION 2: PLANTS AND HABITAT

The second thematic inventory provided for the group to explore was plants and habitat. The group was provided with information about the characteristic groups that were selected to comprise this thematic portion of the inventory, and then were engaged in a group discussion.

Question 1: Are there long-term monitoring programs taking place in our region not currently reflected in this draft database?

Participants identified long-term monitoring programs with and without the organizations that they believed were undertaking them.

Datasets Associated with Named Organizations

- EPA has data on SAV and aquatic resources
- EPA and PDE have Delaware Estuary Benthic Inventory data
- PDE, BBP, and ANSD have MACWA data to provide
- St. Jones Reserve can provide data from the Ameriflux network (ecosystem carbon, water, and energy fluxes) and Phenocam network (ecosystem phenology)
- US Forest Service, National land cover datasets (National Vegetation Classification System) and canopy inventory through i-Tree
- Chester County pond datasets
- State forestry departments for forest information
- NJ Water Supply Coordinating Council
- US Fish & Wildlife Service collects sediment and vegetation data
- National Dam Inventory/Database for dam location and removals
- USDA South Jersey Levee Inventory
- North Atlantic Aquatic Connectivity Collaborative (NAACC)
- ANSD marsh accretion data
- International Stormwater BMP database
- Michael Kearney with the University of Maryland Dept. of Environmental Science and Technology has marsh condition data (using remote sensing)
- DNREC has phragmites community mapping
- National Atmospheric deposition program
- National Wetlands Inventory
- National Park Service
- Coast Guard publishes information for first responders
- Environmental Sensitivity Index (ESI) maps from local area committees

Datasets that Exist (no named organization supplied)

- Fish passage and hydrology
- LiDAR and DEMs
- Storm frequency and intensity
- Meteorological conditions
- Locations of restoration projects

Question 2: Are there critical parameters not being collected?

Four parameters were highlighted as not being collected: sediment stratification, transition zone data, submerged habitat information, and forest data. Stratification of sediment, including information about sediment deposition and grain size, was identified during the conversation. So too was the need to monitor transition zones between coastal wetlands and upland areas (and marsh retreat). Submerged habitat information for both freshwater and saltwater environments was identified. Finally, the group touched back on the need for forest monitoring.

Question 3: Are there obvious geographic gaps in the data?

Participants identified state and county-level geographic gaps as well as habitat-related geographic gaps. In terms of state-level gaps, gaps in NJ wetland conditions were acknowledged, as well as gaps in PA temporal information. One participant reminded the group that there are eight square miles of the estuary watershed within the state of Maryland, and that there were no monitoring programs identified there. There was also a call to include more county-specific data. In terms of habitat-related geographic gaps, there was discussion about freshwater and saltwater environments, with the concern that freshwater environments were not emphasized. Additionally, there was interest in better monitoring the

transition zones between coastal areas and upland areas to better understand shoreline condition information and landward margin and seaward edge.

Question 4: What new efforts should be prioritized for the future?

When the group circled back to which efforts should be prioritized for the future, the concept of monitoring cumulative impacts to habitat was discussed. The concern is that while some losses are being catalogued, no one is considering the larger picture of “death by a thousand slices.” This includes considering a cumulative assessment of spills. Other concepts that came up were dredging monitoring work and buffer monitoring/tracking.

DISCUSSION 3: WATER MONITORING - DELAWARE RIVER AND BAY

For the next two topics, participants were broken into five groups to discuss the questions among themselves. Results were reported out to the larger group. Raw information and full results can be found in **Appendix D** (Workshop Notes), and **Appendix E** (Group notes from workshop activity).

Question 1: Are there long-term monitoring programs taking place in our region not currently reflected in this draft database?

Groups were asked not to spend time brainstorming which groups’ data had not been included, and instead to focus on analyzing the information already in the database.

Question 2: Are there critical parameters not being collected?

Roughly 30 parameters were identified. Six of these parameters were echoed by more than one group: pharmaceuticals, microplastics, endocrine disruptors/EDCs, Harmful Algal Bloom toxins (phytotoxins, cyanotoxins), fish tissue analysis for bioaccumulating compounds, and PCBs.

Question 3: Are there obvious geographic gaps in the data?

Groups advised that there was data missing for the upper reaches of the Delaware, there seemed to be less monitoring for toxins in the nontidal portion of the river, and there should be more buoys (and more spatial density of monitoring stations in general). Two groups agreed that, while DRBC takes measurements of the center channel, there should also be measurements/samples taken along the banks. There was also discussion of taking measurements at different depths.

Question 4: What new efforts should be prioritized for the future?

Groups recommended that there should be modeling to support multi-scale monitoring, more monitoring for bacteria associated with CSOs in water quality, more spatial/temporal monitoring of the top five parameters, and more real time and continuous monitoring overall. Multiple groups agreed that endocrine disruptors, microplastics, and nuisance algal blooms/cyanotoxins should be prioritized for monitoring in the future.

DISCUSSION 4: WATER MONITORING – TRIBUTARIES

As stated previously, participants were broken into five groups to discuss the questions among themselves. Results were reported out to the larger group. One of the five groups participating opted to use their full time to review only the Delaware River and Bay monitoring programs and did not provide information regarding tributary programs.

Question 1: Are there long-term monitoring programs taking place in our region not currently reflected in this draft database?

Groups were asked not to spend time brainstorming which groups' data had not been included, and instead to focus on analyzing the information already in the database. However, one group recommended that there should be more citizen science information added to the database to help cover efforts in the tributaries. Two groups recommended that data from STORET and state water quality data be added.

Question 2: Are there critical parameters not being collected?

Groups stated that PCBs, wet weather sampling for bacteria, flow measurements from gages other than those managed by USGS, pharmaceuticals, fish tissue, cyanotoxins, and temperatures at shorter intervals seemed to be missing from the monitoring programs listed for the tributaries. Two groups indicated that they believed groundwater monitoring was critical and missing.

Question 3: Are there obvious geographic gaps in the data?

Groups recommended that there seems to be a need for more discharge stations where the mainstem meets the tributaries. In Pennsylvania, participants noted that the Lehigh, Neshaminy, and Brandywine Valley seemed to be missing. In Delaware, participants called out Red Clay Creek and Red Lion data as missing. In New Jersey, participants were concerned about a lack of information, especially for the Maurice and Cohansey Rivers.

Question 4: What new efforts should be prioritized for the future?

Participants recommended not only monitoring efforts, but also analysis and modeling efforts for the future. Monitoring efforts discussed included monitoring for microplastics, nuisance algal blooms, and wastewater effluent for EDCs. Analysis recommendations included comparing stream miles impaired to contribution in flow and linking water quality monitoring with safe drinking water standards. Modeling recommendations were for sediments and nutrients.

During this conversation, participants also recommended edits to the monitoring inventory database for the future. First, they recommended that a column for "program objective" be added. This field would provide important information that would allow those reviewing the inventory to better draw conclusions regarding the type of monitoring being undertaken. Second, they recommended that a column for "Quality Assurance Project Plan (QAPP)" or similar be added. While a methodology field currently exists, this addition would allow for a clearer understanding of the type of effort being undertaken.

ACTIVITY: MONITORING PROGRAMS AND THE CCMP

Participants were asked to review posters situated around the room which contained the goal statements and strategies listed for Clean Waters, Healthy Habitats, and Strong Communities within the CCMP. They were then instructed to consider monitoring programs undertaken by their organization that could help to monitor progress on any of the goals or strategies. Once participants had one or two of their programs in mind, they were asked to write them on a blue sticky note and add them to the appropriate goal or strategy on the appropriate poster. Next, participants were instructed to conceive of an entirely new monitoring program that they believed could help to monitor progress on any of the goals or strategies. Participants were asked to write these new programs on a yellow sticky note and add them to the appropriate goal or strategy on the appropriate poster.

The purpose of the activity was to begin to link the Monitoring Assessment work with the CCMP, to help participants see how their monitoring activities could fit into the larger effort, and to see if any of the goals or strategies might generate more interest or excitement in the monitoring community as represented at the workshop. Detailed results of the activity are included in **Appendix D**. Summarized results follow. Please note that some workshop participants listed projects, activities, or tracking exercises rather than monitoring programs as both existing and new programs.

Participants added the greatest number of sticky notes to the Clean Waters poster. Almost every goal and strategy had an existing program listed next to it. The exceptions were “Conduct and coordinate (where appropriate) education, research, monitoring, and communication about fish and shellfish consumption to protect human health,” and “improve, sustain, and enhance spill communication response with Delaware Estuary partners.” Both of these topics had been discussed by workshop participants earlier in the day. Presumably, there were no existing or future programs associated with them because the organizations or staff members focused on these topics were not present at the workshop; alternatively, the participants that discussed the topics earlier were focusing on other monitoring programs at that time. The strategy that collected the most existing programs was “Coordinate and promote research and monitoring efforts (chemical, physical, biological) associated with the causes of water quality impacts throughout the Delaware Estuary.” The strategies that collected the most number of new programs (with three each) were “Promote land use planning by local municipalities that prevents, reduces, and/or more efficiently manages stormwater runoff to prevent pollution,” and “Conduct research and monitoring on nutrient impacts in the Estuary for biological and ecological endpoints.”

The Strong Communities poster attracted the second greatest number of sticky notes. However, it also attracted the greatest number of sticky notes related to projects, activities, or tracking exercises rather than monitoring programs. The strategy with the greatest number of existing programs was “Publish and share outreach materials and scientific results,” and the strategy with the greatest number of new programs was “Connect people to natural areas and waterfronts in the Delaware Estuary.”

Healthy Habitats, with the fewest number of sticky notes, had at least one existing monitoring program identified for each strategy or goal, with the exception of “Promote stewardship practices by local partners for the health and sustainability of forests for water quality,” and “Protect and restore horseshoe crabs and their environment.” As was the case with certain strategies under the Clean Water poster, these gaps likely point to people missing in the room/in the process rather than lack of monitoring in these areas. A similar conclusion could be drawn from the fact that there were very few new programs proposed for Healthy Habitats in general.

REVIEW AND NEXT STEPS

Following the poster activity, the facilitator reviewed next steps in the Monitoring Assessment timeline, and asked participants for additional questions and thoughts. Participants reiterated interest in seeing the programs in the inventory displayed in interactive map form. Participants also reiterated that PDE should reach out again to groups like Stroud Water Resources Center that would likely be able to contribute a number of programs to the inventory.

SUMMARY AND NEXT STEPS

Based on the information gleaned from this workshop, PDE should consider undertaking the following actions:

- *While not within the scope of this undertaking, PDE should internally evaluate the level of effort required to map programs in the inventory.* Participants raised the prospect of a geographical representation at several points during the workshop (and on feedback forms afterward) and underscored the value of such a tool by indicating its ability to help researchers see obvious gaps in efforts.
- *Reach out to the organizations identified by participants in response to Question 1 (“Are there long-term monitoring programs taking place in our region not currently reflected in this draft database?”) and find the correct contacts for the parameters with unnamed collecting organizations in order to request that they participate in the inventory. The more complete the inventory, the better the analysis that can result from it.*
- *Ensure that there are sufficient habitat and wildlife representatives involved in or contributing to the process, and that the lack of representation at the workshop was not the result of these representatives missing from the larger list of experts. Based on recommendations by workshop participants, consider prioritizing outreach to forestry experts and scientists involved with oysters, horseshoe crabs, freshwater mussels, amphibians, and reptiles.*
- *Update the inventory database to include two additional columns for “QAPP” and “Objective.”*
- *For future efforts and in future reports, provide a statement distinguishing between tracking and monitoring, especially regarding topics like behavior change. Similarly, distinguish between first-hand monitoring (i.e., water testing that a Delaware Estuary Watershed group is undertaking) and secondary (downloading Census data).*

Information from this summary will be used to develop questions for a follow-up survey to further vet findings from the workshop. The follow-up survey will be sent to the CCMP expert list, and the results of the survey will inform the Monitoring Assessment Report.

APPENDIX A: TEXT OF EMAILS SENT TO EXPERTS

TEXT OF EMAIL SENT TO EXPERTS, 9/17/2018

Dear Experts,

Thank you for your participation in the Comprehensive Conservation and Management Plan (CCMP) for the Delaware Estuary revision process! As part of the revised CCMP, the Partnership for the Delaware Estuary (PDE) is undertaking a monitoring assessment for the Delaware Estuary, which includes compiling a regional monitoring program inventory. Please note that the purpose of this inventory is not to be a repository for the data itself, but to direct users to sources where they can access a variety of data in the region.

Will you take action to help us keep moving forward? Here's how you can help:

- **STEP 1:** Review the draft inventory (by clicking here) to determine if your organization's information has been included.
- **STEP 2:** Add your organization's information to the attached spreadsheet.
- **STEP 3:** Email your spreadsheet to Sari Rothrock at SRothrock@rkk.com by October 1, 2018.

And please save the date for the upcoming monitoring workshop on **October 30th**! Click here to register. The goal of the workshop will be to review the inventory, identify gaps, and gather input to help prioritize future monitoring efforts. Your participation will ensure that your monitoring efforts and datasets receive greater exposure and will provide you with an opportunity to influence regional monitoring priorities.

Thank you for your ongoing support of PDE's CCMP Process!
Sari

More information about the Delaware Estuary Monitoring Inventory

As part of the revised CCMP, PDE will be including a framework for a monitoring approach that will be used to track progress on monitoring efforts across the region. This includes all monitoring programs—not only water quality, but also subjects like living resources and habitat restoration. The approach includes convening a monitoring workshop every five years to inventory critical monitoring projects in the region. A monitoring assessment report will be produced describing data needs and gaps as identified at the workshop. The report will act as a baseline for subsequent monitoring assessments, help to link monitoring programs, and provide the opportunity to explore new linkages among ecosystem features.

TEXT OF EMAIL SENT TO EXPERTS, 10/1/2018

Dear Experts,

Thanks to those of you who provided information about your programs to the Delaware Estuary Monitoring Inventory! You have helped us add almost 250 monitoring programs so far.

For those who have not yet been able to contribute, **the deadline for submissions has been extended to October 15th**. Please consider adding your monitoring programs to the Monitoring Inventory Program Worksheet. Having an inventory that shows the collective wealth of data being gathered will help to inform discussions about the future of monitoring in the region.

Will you help us by adding your programs? It's easy- just fill out the attached spreadsheet and send it back to SRothrock@rkk.com.

Thank you and have a great week!
Sari

APPENDIX B: DRAFT MONITORING INVENTORY

Please visit

https://s3.amazonaws.com/delawareestuary/MASTER_DelEst_MonitoringInventory_NewProgramWorksheet_11.08.2018.xlsx to download the draft monitoring inventory as it existed at the time of the publication of this report.

APPENDIX C: WORKSHOP AGENDA

DELAWARE ESTUARY MONITORING WORKSHOP

John Heinz National Wildlife Refuge at Tinicum

Tuesday, October 30, 2018; 9:00 am – 3:00 pm

Workshop Objectives: To review the draft inventory of monitoring programs, identify gaps in data collection, and gather input to help prioritize future monitoring efforts.

- 9:00 am **Welcome, Introductions, and the Monitoring Framework**
Jim Eisenhardt, RK&K and Dr. Danielle Kreeger, Partnership for the Delaware Estuary
- 9:30 am **Framing the Day: Workshop Goals and Big Questions**
Facilitator will provide a review of the workshop agenda and goals, and will engage participants in a discussion on the following questions: What will be among the most important resources and/or parameters to monitor over the next ten years? What type of trend data will be most important to have ten years from now?
- 10:15 am **Draft Inventory: Group Discussion Overview**
Facilitator will provide an orientation to the draft monitoring inventory and introduce the goals of group discussions. For each topic, the group will explore:
- *Are there long-term monitoring programs taking place in our region not currently reflected in this draft database?*
 - *Are there critical parameters not being collected?*
 - *Are there obvious geographic gaps in the data?*
 - *What new efforts should be prioritized for the future?*
- 10:45 am **Draft Inventory: Group Discussion**
Topics include: Non-Plant Living Resources; Plants, Communities, and Habitat
- 12:15 pm **Lunch**
Lunch will be provided for registered participants.
- 12:45 pm **Draft Inventory: Group Discussion Continued**
Topics include: Water Quality Monitoring by Water Body
- 1:45 pm **Activity: Monitoring Programs and the CCMP**
Participants will be provided with post-it notes and asked to visit the posters around the room that contain goals from the Delaware Estuary Comprehensive Conservation Management Plan (CCMP).
- *Blue sticky notes should be used to add existing monitoring programs that could help track progress on one of the goals or strategies.*
 - *Yellow sticky notes should be used to add ideas for new monitoring programs that could help track progress on one of the goals or strategies.*
- 2:30 pm **Review and Next Steps**
Facilitator will review major outcomes of the day and next steps.
- 3:00 pm **Adjourn**

APPENDIX D: WORKSHOP PARTICIPANTS

First Name	Last Name	Organization/Agency
Jordan	Allison	PA Fish & Boat Commission
Drew	Budelis	Versar
Lance	Butler	Philadelphia Water Department
Lisa	Carper	US Geological Survey
Jack	Carr	Center for Aquatic Sciences
Kathryn	Christopher	Academy of Natural Sciences of Drexel University
Tom	Clark	Lower Merion Conservancy
Erin	Dorset	Delaware Department of Natural Resources and Environmental Control
Joe	Duris	USGS Pennsylvania Water Science Center
Ann	Faulds	Penn State University, PA Sea Grant
Shawn	Fisher	U.S. Geological Survey
Kathleen	Foley	USEPA - Region 2
Matthew	Fritch	Philadelphia Water Department
Michael	Griffith	Berks Nature
Simeon	Hahn	NOAA
Heather	Heckathorn	U.S. Geological Survey
Kevin	Hess	PA DEP
Danielle	Kreeger	Partnership for the Delaware Estuary
Gregory	Lech	PA Fish and Boat Commission
Kimberly	Long	Exelon Corporation
Ron	MacGillivray	Delaware River Basin Commission
Megan	Mackey	USEPA - Region 3
Kenneth	Najjar	Delaware River Basin Commission
Mark	Nardi	U.S. Geological Survey
Kirk	Raper	Academy of Natural Sciences of Drexel University
Alison	Rogerson	Delaware DNREC
Mayci	Shimon	Independence Seaport Museum
Brennan	Smith	Versar
Kaitie	Sniffen	Independence Seaport Museum
Kelly	Somers	USEPA - Region 3
Kari	St.Laurent	DNREC/DNERR
Namsoo	Suk	Delaware River Basin Commission
Mohammed	Wessan	Villanova University
David	Wolanski	Delaware DNREC
Robb	Wright	NOAA
John	Yagecic	Delaware River Basin Commission

MONITORING SURVEY RESULTS

FOR THE REVISED CCMP FOR THE DELAWARE ESTUARY

JANUARY 2019

This document provides a summary of the results compiled from an online survey administered between November 29, 2018 and December 14, 2018. The survey was created to help vet and prioritize information gathered at the October 30, 2018 Monitoring Workshop. This document was created by RK&K to inform the Monitoring Assessment process being led by the Partnership for the Delaware Estuary.

INTRODUCTION

As part of the revised Comprehensive Conservation and Management Plan (CCMP) for the Delaware Estuary, a Monitoring Approach was created to help track strategy implementation and progress on CCMP goals. The vision established by the Monitoring Approach involves convening a monitoring workshop every five years to assess critical monitoring projects in the region. The Monitoring Assessment would provide a baseline for regional monitoring programs and data infrastructure, help to link related monitoring efforts, and provide the opportunity to explore new connections among ecosystem features.

In the fall of 2018, PDE worked with RK&K to undertake two efforts. First, to compile an inventory of monitoring activities being undertaken in the Delaware Estuary region. Second, to hold a monitoring workshop at the John Heinz National Wildlife Refuge at Tinicum on Tuesday, October 30th, with the objectives of reviewing the draft inventory of monitoring programs, identifying gaps in data collection, and gathering input to help prioritize future monitoring efforts. Information gathered at the workshop was summarized and distilled to create questions for a follow-up survey.

THE MONITORING SURVEY

The purpose of the survey was to vet results from the workshop, aid in prioritizing and ranking results from the workshop, and gather additional information. RK&K sent a request to participate in the survey to PDE's list of nearly 300 experts (including those who took part in the monitoring workshop). The survey was structured to reflect the same thematic discussions that took place at the workshop, wherein the monitoring inventory was broken into four sets of parameters: non-plant living resources, plants and habitat, water quality in the Delaware River and Bay, and water quality in the tributaries. For each of these four main sections of the survey, respondents were asked to rank the importance of various parameters in a list; indicate high, medium, or low priority of that same set of parameters; provide information on whether additional parameters within that category should be considered; and provide information on any geographic data gaps in data collected within that category. Aside from the four main sections of the survey, participants were also asked to provide identifying information, give information about volunteer monitoring groups whose information should be included in the monitoring inventory, and provide information about the general security of their organization's monitoring funds.

Fifty-five people from 34 organizations, companies, and universities began the survey; of that number, 39 pursued the survey to completion and 16 responded to some but not all of the questions. All information,

including summary data and answers from each respondent, are included in the attached SurveyMonkey documents.

SURVEY TEXT AND SUMMARY RESULTS

Thank you for participating in the Delaware Estuary Monitoring Survey. The goals of this survey are to vet the results from the October 30th Monitoring Workshop, to aid in prioritizing/ranking results of the workshop, and to gather additional information. Please refer to the list of all Delaware Estuary Monitoring programs (as collected during this process) here [LINK], and leave it open while completing the survey.

IDENTIFYING INFORMATION

1. Please enter your contact information. [Fifty-five people provided their information.](#)
2. Select your area(s) of expertise (please select all that apply). [Fifty-five people provided their information. Of the 21 options provided \(including "other"\), most respondents selected "water quality" \(34 respondents\), followed by "coastal ecology/function" \(22 respondents\).](#)

WORKSHOP RESULTS: NON-PLANT LIVING RESOURCES

3. Here is a list of non-plant living resources identified at the workshop as not yet being robustly monitored in the study area. From 1-4, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.
 - a. Freshwater bivalves ([Score: 2.89; Rank: 2](#))
 - b. Invasive species ([Score: 2.98; Rank: 1](#))
 - c. Marine mammals and sea turtles ([Score: 1.59; Rank: 4](#))
 - d. Population-level monitoring ([Score: 2.69; Rank: 3](#))
4. Here is a list of non-plant living resource parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each resource, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.
 - a. Freshwater bivalves ([Weighted Average: 2.40; 24/45 recommended high priority](#))
 - b. Invasive species ([Weighted Average: 2.51; 25/45 recommended high priority](#))
 - c. Marine mammals and sea turtles ([Weighted Average: 1.71; 7/45 recommended high priority](#))
 - d. Population-level monitoring ([Weighted Average: 2.36; 19/45 recommended high priority](#))
5. Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any non-plant living resource parameters that you believe are not indicated above that should be elevated for monitoring in the future? [Twenty respondents provided information. Please see SurveyMonkey documents for information.](#)
6. Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts in the future? [Twenty-one respondents provided information. Please see SurveyMonkey documents for information.](#)

WORKSHOP RESULTS: PLANTS AND HABITAT

7. Here is a list of plant and habitat parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-7, with 1 being “most important,” rank the importance of these missing or not-yet robust monitoring programs.
 - a. Buffer data (Score: 3.42; Rank: 6)
 - b. Cumulative impacts (Score: 5.47; Rank: 1)
 - c. Dredging data (Score: 4.03; Rank: 3)
 - d. Forest health (Score: 3.83; Rank: 5)
 - e. Sediment stratification (Score: 3.00; Rank 7)
 - f. Submerged habitat (Score: 4.57; Rank: 2)
 - g. Transition zone monitoring (Score: 4.00; Rank: 4)
8. Here is a list of plant and habitat parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each parameter, indicate whether you think it is a low priority, a moderate priority, or a high priority.
 - a. Buffer data (Weighted Average: 2.00; 11/37 recommended high priority)
 - b. Cumulative impacts (Weighted Average: 2.69; 29/39 recommended high priority)
 - c. Dredging data (Weighted Average: 2.08; 13/39 recommended high priority)
 - d. Forest health (Weighted Average: 2.13; 11/38 recommended high priority)
 - e. Sediment stratification (Weighted Average: 1.81; 6/36 recommended high priority)
 - f. Submerged habitat (Weighted Average: 2.38; 18/39 recommended high priority)
 - g. Transition zone monitoring (Weighted Average: 2.19; 14/37 recommended high priority)
9. Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any plant and habitat parameters that you believe are not indicated above that should be elevated for monitoring in the future? [Seventeen respondents provided information. Please see SurveyMonkey documents for more information.](#)
10. Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts in the future? [Sixteen respondents provided information. Please see SurveyMonkey documents for more information.](#)

WORKSHOP RESULTS: WATER MONITORING — DELAWARE RIVER AND BAY

11. Here is a list of Delaware River and Bay water monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. From 1-7, with 1 being “most important,” rank the importance of these missing parameters or not-yet robust monitoring parameters.
 - a. Endocrine Disruptors (Score: 4.51; Rank: 2)
 - b. Fish tissue analysis for bioaccumulating compounds (Score: 4.89; Rank: 1)
 - c. Microplastics (Score: 4.08; Rank: 4/5)
 - d. Monitoring conducted on the center channel replicated for the banks and at additional depths (Score: 3.05; Rank: 7)
 - e. PCBs (Score: 3.51; Rank: 6)
 - f. Pharmaceuticals (Score: 4.36; Rank: 3)
 - g. Phytotoxins, Cyanotoxins, Harmful Algal Bloom Toxins (Score: 4.08; Rank: 4/5)

12. Here is a list of Delaware River and Bay water monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each parameter, indicate whether you think it is a low priority, a moderate priority, or a high priority.

- a. Endocrine Disruptors (Weighted Average: 2.48; 20/40 recommended high priority)
- b. Fish tissue analysis for bioaccumulating compounds (Weighted Average: 2.62; 26/39 recommended high priority)
- c. Microplastics (Weighted Average: 2.27; 19/40 recommended high priority)
- d. Monitoring conducted on the center channel replicated for the banks and at additional depths (Weighted Average: 2.10; 15/39 recommended high priority)
- e. PCBs (Weighted Average: 2.21; 13/39 recommended high priority)
- f. Pharmaceuticals (Weighted Average: 2.56; 23/39 recommended high priority)
- g. Phytotoxins, Cyanotoxins, Harmful Algal Bloom Toxins (Weighted Average: 2.42; 21/40 recommended high priority)

13. Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any Delaware River and Bay monitoring parameters that you believe are not indicated above that should be elevated for monitoring in the future? [Fourteen respondents provided information. Please see SurveyMonkey documents for more information.](#)

14. Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts in the future? [Fourteen respondents provided information. Please see SurveyMonkey documents for more information.](#)

WORKSHOP RESULTS: WATER MONITORING — TRIBUTARIES

15. Here is a list of tributary monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. From 1-8, with 1 being “most important,” rank the importance of these missing or not-yet robust monitoring programs.

- a. Endocrine disruptors (Score: 4.51; Rank 5)
- b. Fish tissue analysis (Score: 5.29; Rank 3)
- c. Flow measurements (Score: 5.36; Rank 2)
- d. Groundwater (Score: 5.03; Rank 4)
- e. Nuisance algal blooms (Score: 3.56; Rank 7)
- f. Pharmaceuticals (Score: 4.08; Rank 6)
- g. Temperatures at short intervals (Score: 3.14; Rank 8)
- h. Wet weather (storm flow) monitoring (Score: 5.51; Rank 1)

16. Here is a list of tributary monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each parameter, indicate whether you think it is a low priority, a moderate priority, or a high priority.

- a. Endocrine disruptors (Weighted Average: 2.25; 17/36 recommended high priority)
- b. Fish tissue analysis (Weighted Average: 2.47; 19/36 recommended high priority)
- c. Flow measurements (Weighted Average: 2.50; 19/36 recommended high priority)
- d. Groundwater (Weighted Average: 2.46; 20/35 recommended high priority)

- e. Nuisance algal blooms (Weighted Average: 2.11; 12/36 recommended high priority)
 - f. Pharmaceuticals (Weighted Average: 2.20; 14/35 recommended high priority)
 - g. Temperatures at short intervals (Weighted Average: 1.86; 22/36 recommended high priority)
 - h. Wet weather (storm flow) monitoring (Weighted Average: 2.61; 22/36 recommended high priority)
17. Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any tributary monitoring parameters that you believe are not indicated above that should be elevated for monitoring in the future? [Eleven respondents provided information. Please see SurveyMonkey documents for more information.](#)
18. Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts in the future? [Eleven respondents provided information. Please see SurveyMonkey documents for more information.](#)

ADDITIONAL MONITORING PROGRAMS AND FUNDING

19. Are you aware of volunteer organizations that could be included in the Delaware Estuary monitoring assessment?
- a. Yes (10)
 - b. No (27)
20. If you answered “yes” for Question 19, what is/are the name(s) of the volunteer organization(s)? [Nine respondents provided information. Please see the SurveyMonkey documents for more information.](#)
21. Does your organization anticipate having sufficient funding over the next ten years to carry out existing monitoring programs and activities within the Delaware Estuary?
- a. Yes (9)
 - b. No (8)
 - c. Uncertain (21)
22. If you answered “no” for Question 21, what level of funding is needed for which program? [Nine respondents provided information. Please see the SurveyMonkey documents for more information.](#)

If you have not yet contributed a list of your past or current monitoring programs to the inventory, it's not too late! Please email Sari Rothrock at SRothrock@rkk.com to request a worksheet for submission.

Thank you for your time.

APPENDIX A

SURVEYMONKEY SUMMARY OF ALL SURVEY RESPONSES

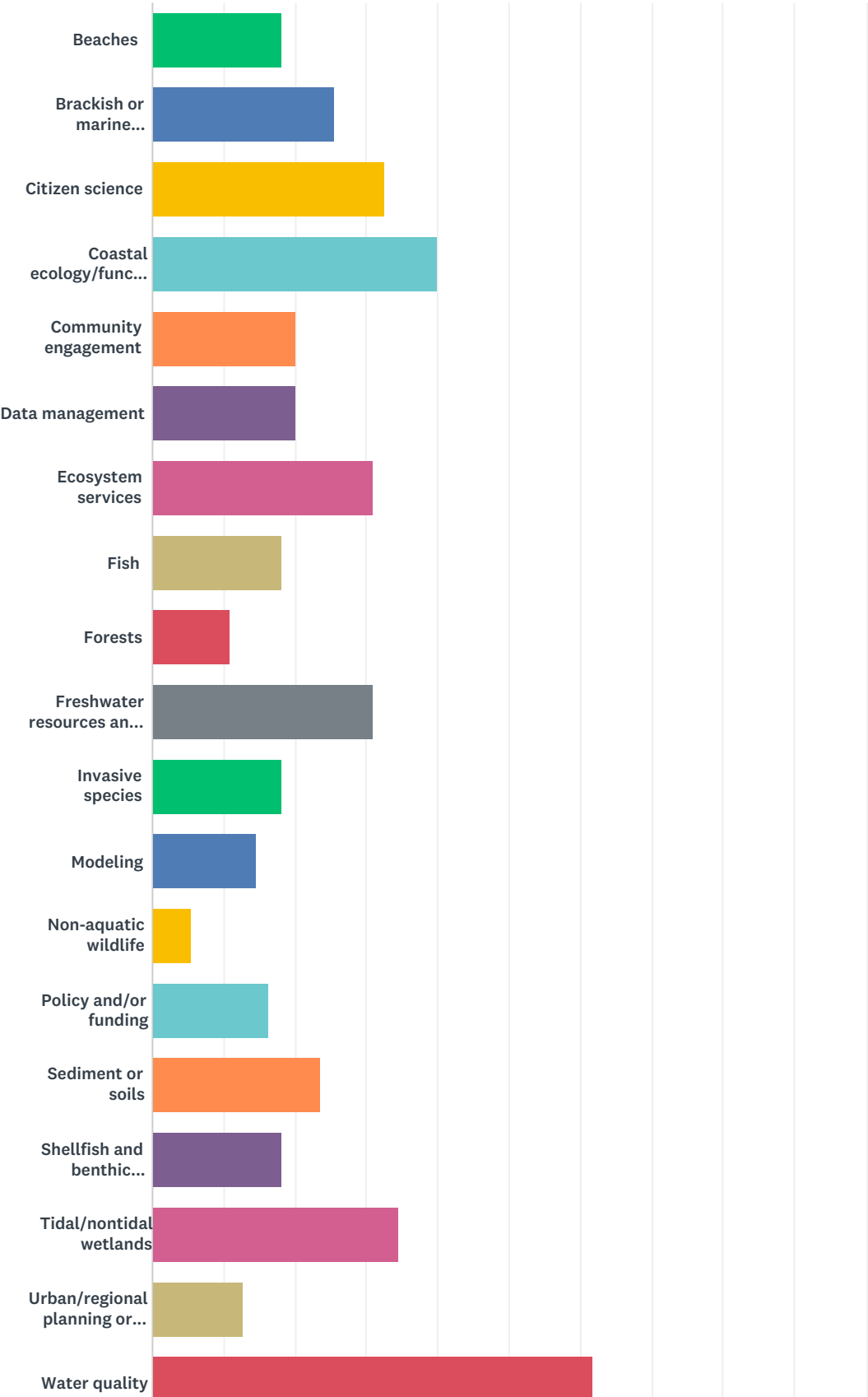
Q1 Please enter your contact information.

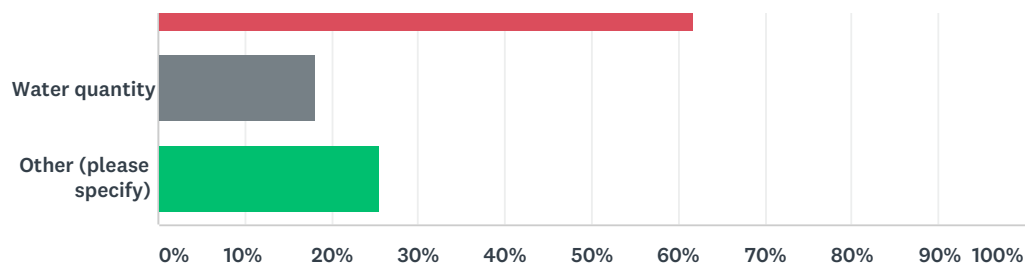
Answered: 55 Skipped: 0

ANSWER CHOICES	RESPONSES	
Name	100.00%	55
Organization	100.00%	55
Address	0.00%	0
Address 2	0.00%	0
City / Town	0.00%	0
State/Province	0.00%	0
ZIP/Postal Code	0.00%	0
Country	0.00%	0
Email Address	100.00%	55
Phone Number	0.00%	0

Q2 Select your area(s) of expertise (please select all that apply)

Answered: 55 Skipped: 0

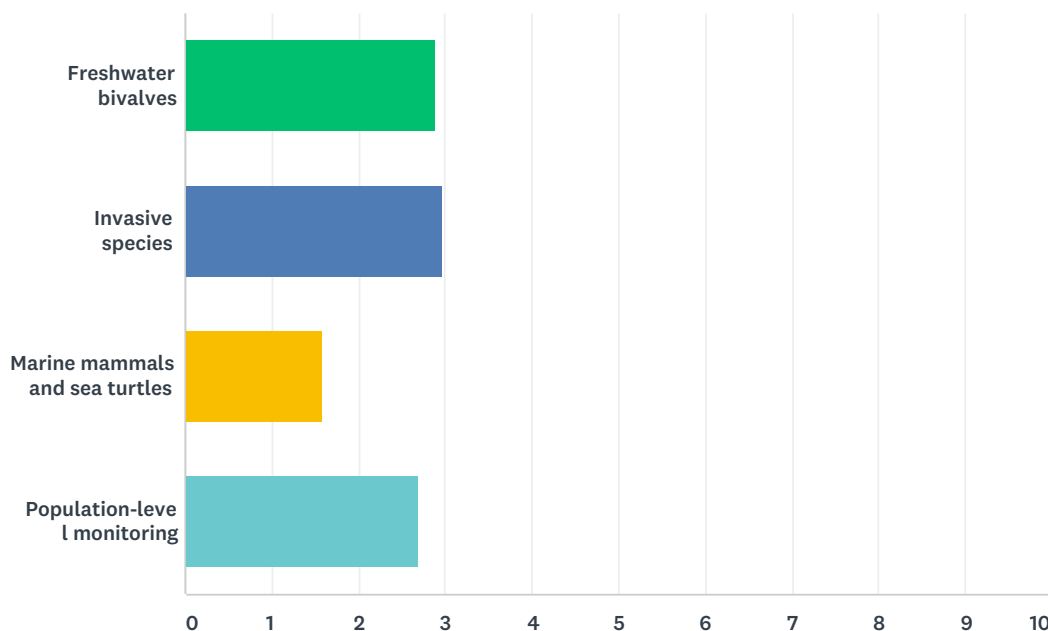




ANSWER CHOICES	RESPONSES	
Beaches	18.18%	10
Brackish or marine resources and organisms	25.45%	14
Citizen science	32.73%	18
Coastal ecology/function	40.00%	22
Community engagement	20.00%	11
Data management	20.00%	11
Ecosystem services	30.91%	17
Fish	18.18%	10
Forests	10.91%	6
Freshwater resources and organisms	30.91%	17
Invasive species	18.18%	10
Modeling	14.55%	8
Non-aquatic wildlife	5.45%	3
Policy and/or funding	16.36%	9
Sediment or soils	23.64%	13
Shellfish and benthic resources	18.18%	10
Tidal/nontidal wetlands	34.55%	19
Urban/regional planning or land use	12.73%	7
Water quality	61.82%	34
Water quantity	18.18%	10
Other (please specify)	25.45%	14
Total Respondents: 55		

Q3 Here is a list of non-plant living resources identified at the workshop as not yet being robustly monitored in the study area. From 1-4, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

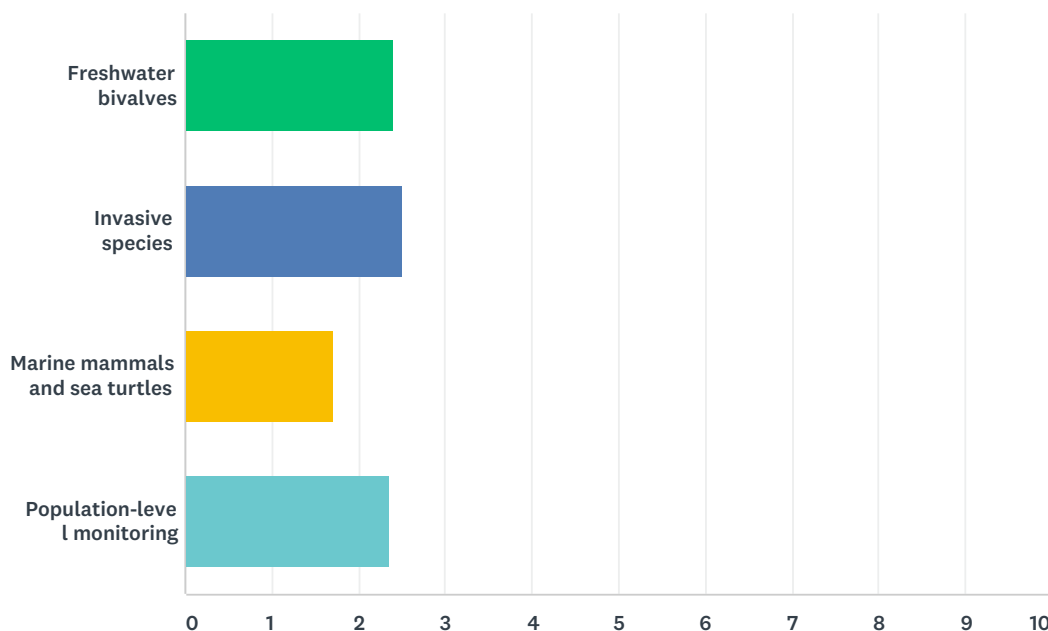
Answered: 47 Skipped: 8



	1	2	3	4	TOTAL	SCORE
Freshwater bivalves	31.82% 14	31.82% 14	29.55% 13	6.82% 3	44	2.89
Invasive species	39.53% 17	27.91% 12	23.26% 10	9.30% 4	43	2.98
Marine mammals and sea turtles	9.09% 4	9.09% 4	13.64% 6	68.18% 30	44	1.59
Population-level monitoring	26.67% 12	28.89% 13	31.11% 14	13.33% 6	45	2.69

Q4 Here is a list of non-plant living resources that were identified at the workshop as not yet being robustly monitored in the study area. For each resource, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Answered: 45 Skipped: 10



	LOW PRIORITY	MODERATE PRIORITY	HIGH PRIORITY	TOTAL	WEIGHTED AVERAGE
Freshwater bivalves	13.33% 6	33.33% 15	53.33% 24	45	2.40
Invasive species	4.44% 2	40.00% 18	55.56% 25	45	2.51
Marine mammals and sea turtles	44.44% 20	40.00% 18	15.56% 7	45	1.71
Population-level monitoring	6.67% 3	51.11% 23	42.22% 19	45	2.36

Q5 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any non-plant living resource parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Answered: 20 Skipped: 35

Human and animal pathogens

I am not qualified.

We need to develop a bioassay for freshwater tidal systems in the Delaware River.

Benthic macroinvertebrates for estuarine IBI development to assess aquatic life use

horseshoe crabs, tubeworms, recreational fisheries

freshwater tidal wetlands

No

horseshoe crabs

None

Yes

N/A

no

Non-marine mammals that utilize riparian areas

Anti degradation water quality - Spectial Protection waters. SPW

American eel,

Commercial fish like salmon and tuna

shallow water bentic botton-subtidal non-vegetated

NA

not at this time

Atlantic and Shortnose Sturgeon- currently neither species is being monitored by the States of PA an NJ. In the case of Shortnose nobody in the estuary is looking at them. In the case of Atlantic Sturgeon the State of DE has a juvenile monitoring project but that is limited to scope and scale.

Q6 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for non-plant living resources in the future?

Answered: 21 Skipped: 34

Nor qualified.

mid-Delaware, head of tide region

tidal Schuylkill River

Delaware Bay

Suburban Philadelphia has strong citizen science programs but no set monitoring protocols for bivalves or invasive species.

HSC spawning and red knot foraging beaches

Areas outside of DRWI clusters, e.g., Tohickon Creek, Neshaminy Creek and other

Delaware direct basins

tidal freshwater areas

waterbirds

hard to say without knowing exactly whats covered now

Yes

N/A

subestuaries of Delaware Bay

City of Philadelphia Delaware River waterfront

Delaware River tidewaters - Trenton to the ocean

Non-tidal / Tidal Interface

urban waters

no

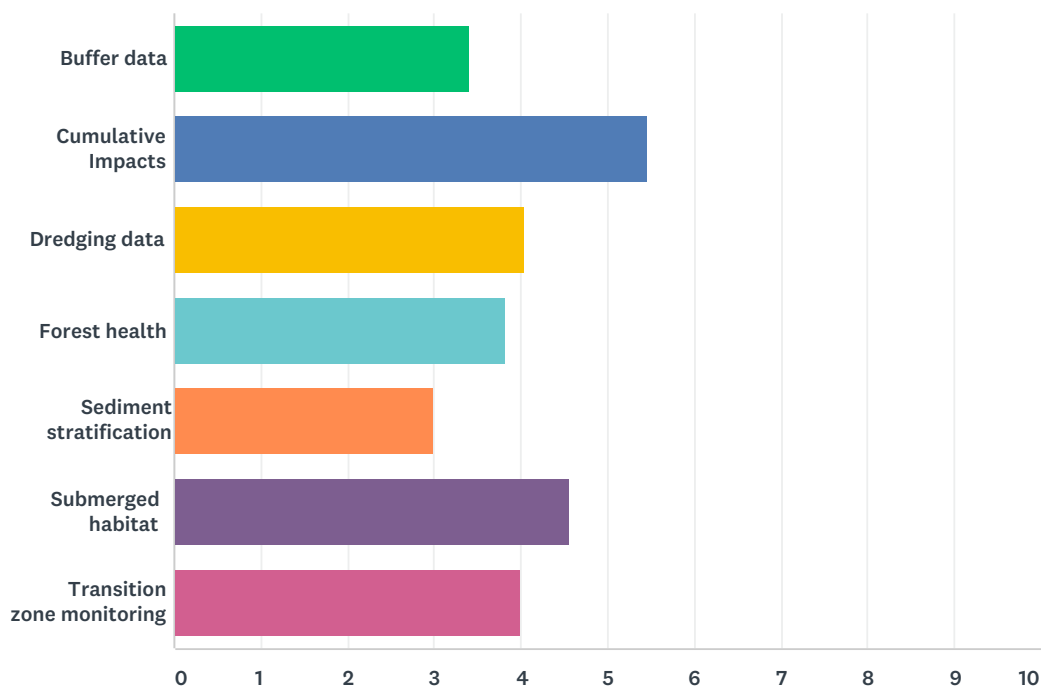
NA

hard to say without GIS coverage

Yes- upper watershed above CD Canal

Q7 Here is a list of plant and habitat parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-7, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

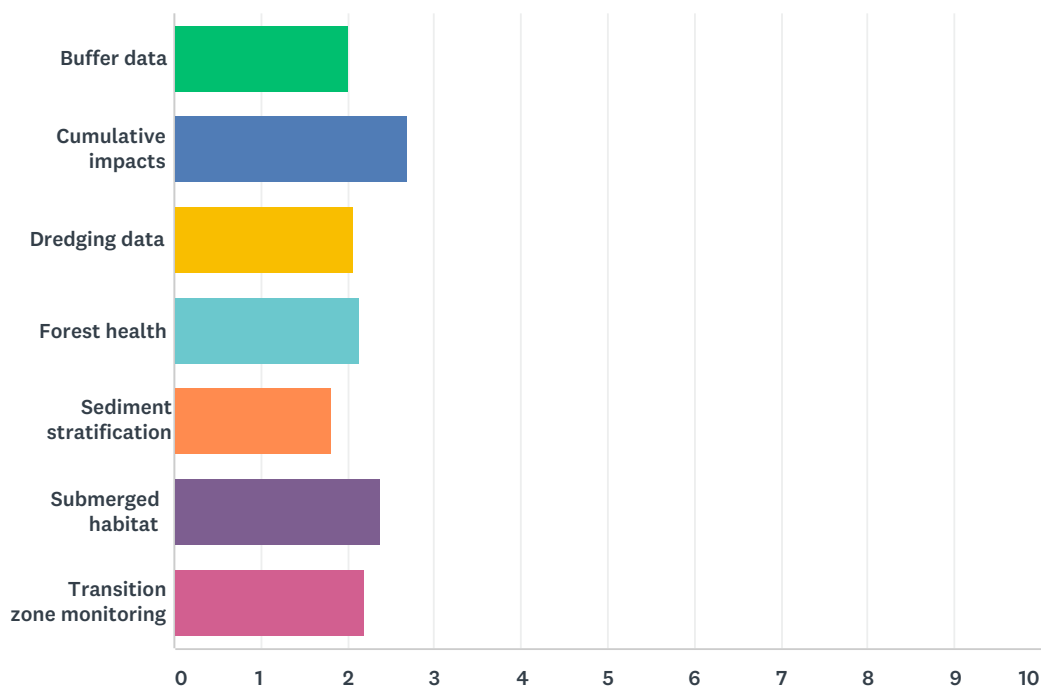
Answered: 40 Skipped: 15



	1	2	3	4	5	6	7	TOTAL	SCORE
Buffer data	8.33% 3	13.89% 5	8.33% 3	13.89% 5	11.11% 4	25.00% 9	19.44% 7	36	3.42
Cumulative Impacts	42.11% 16	13.16% 5	15.79% 6	15.79% 6	7.89% 3	2.63% 1	2.63% 1	38	5.47
Dredging data	13.51% 5	13.51% 5	21.62% 8	8.11% 3	18.92% 7	5.41% 2	18.92% 7	37	4.03
Forest health	11.11% 4	22.22% 8	8.33% 3	11.11% 4	11.11% 4	16.67% 6	19.44% 7	36	3.83
Sediment stratification	0.00% 0	13.89% 5	0.00% 0	22.22% 8	22.22% 8	19.44% 7	22.22% 8	36	3.00
Submerged habitat	21.62% 8	5.41% 2	27.03% 10	16.22% 6	16.22% 6	10.81% 4	2.70% 1	37	4.57
Transition zone monitoring	10.26% 4	17.95% 7	17.95% 7	12.82% 5	10.26% 4	17.95% 7	12.82% 5	39	4.00

Q8 Here is a list of plant and habitat parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each resource, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Answered: 39 Skipped: 16



	LOW PRIORITY	MODERATE PRIORITY	HIGH PRIORITY	TOTAL	WEIGHTED AVERAGE
Buffer data	29.73% 11	40.54% 15	29.73% 11	37	2.00
Cumulative impacts	5.13% 2	20.51% 8	74.36% 29	39	2.69
Dredging data	25.64% 10	41.03% 16	33.33% 13	39	2.08
Forest health	15.79% 6	55.26% 21	28.95% 11	38	2.13
Sediment stratification	36.11% 13	47.22% 17	16.67% 6	36	1.81
Submerged habitat	7.69% 3	46.15% 18	46.15% 18	39	2.38
Transition zone monitoring	18.92% 7	43.24% 16	37.84% 14	37	2.19

Q9 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any plant and habitat parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Answered: 17 Skipped: 38

shoreline habitat quality and change

habitat changes, e.g., high marsh to low marsh

no

salt marshes

subwatershed land use, elevation

No

tidal wetlands and sea level rise - what will be lost based on current sea level rise predictions

None

Yes

N/A

no

Non degradation water policy by law

Invasive species

Phragmites invasion and horseshoe crabs

shallow unvegetated bottn

NA

not really qualified to answer

Q10 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for plant and habitat parameters in the future?

Answered: 16 Skipped: 39

Most monitoring data was identified in the main stem and bay as well as the larger inputs, but there isn't much data on the small tribs and watersheds

tidal Schuylkill

Delaware Bay

suburbia could have a much better understanding of buffer and forest health/status

sediment loading for tidal wetlands - will it be enough given sea level rise predictions

tidal Freshwater areas

None

Yes

N/A

sub-estuaries of Delaware Bay

Delaware River waterfront Philadelphia

Trenton to the ocean

tributaries of estuaries and urban brackish water setting

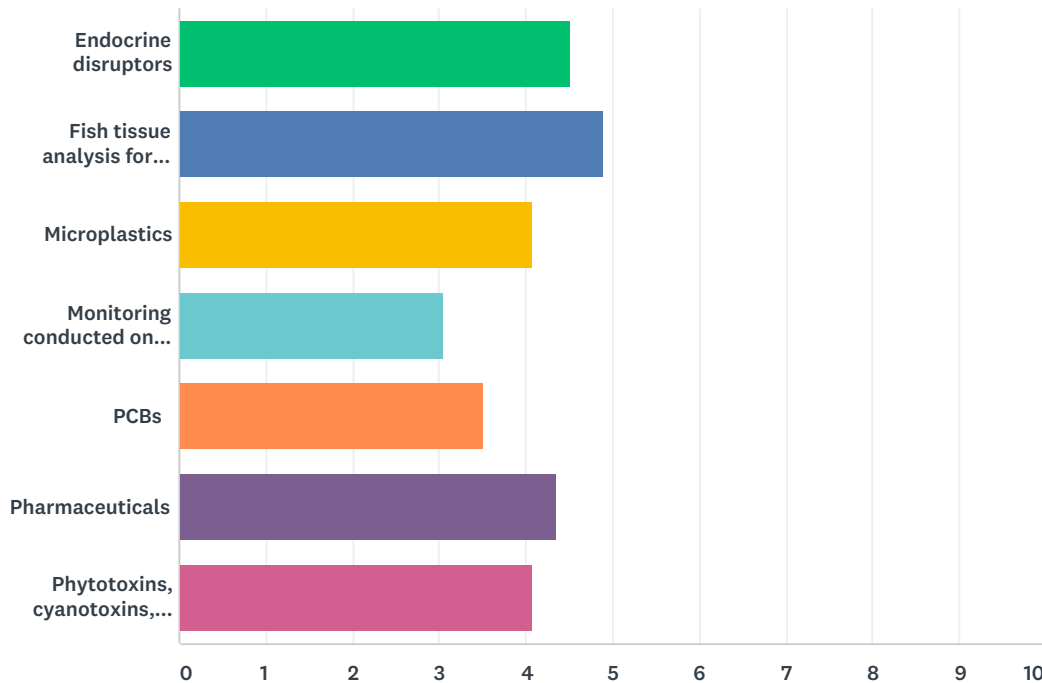
no

NA

not really qualified to answer

Q11 Here is a list of Delaware River and Bay monitoring parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-7, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring parameters.

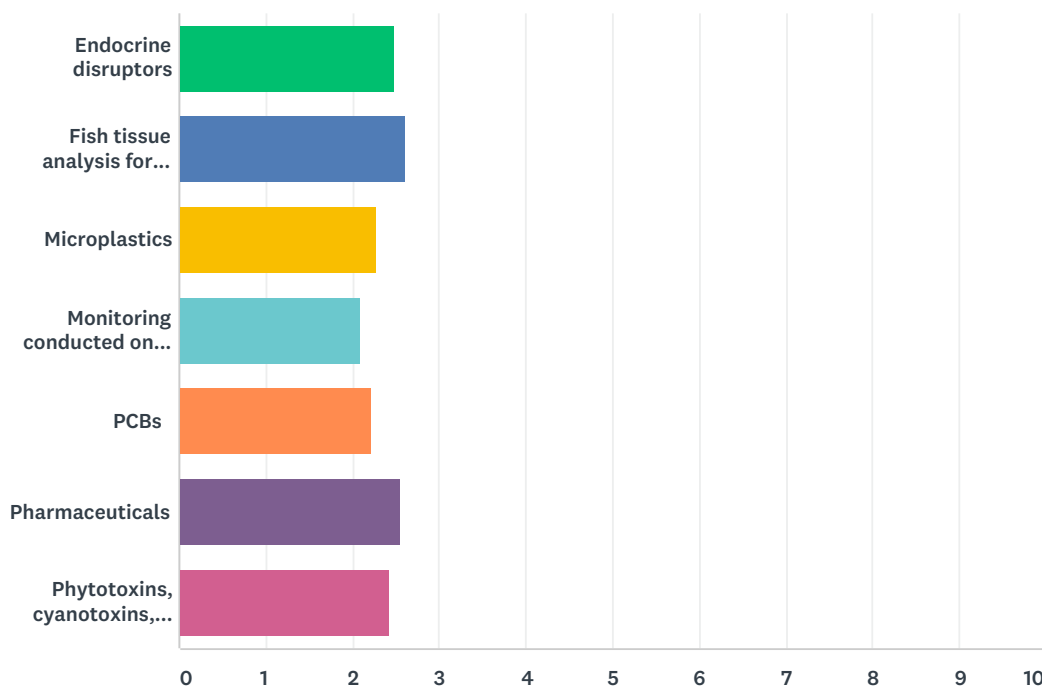
Answered: 40 Skipped: 15



	1	2	3	4	5	6	7	TOTAL	SCORE
Endocrine disruptors	10.81% 4	21.62% 8	18.92% 7	24.32% 9	10.81% 4	8.11% 3	5.41% 2	37	4.51
Fish tissue analysis for bioaccumulating compounds	16.67% 6	33.33% 12	16.67% 6	5.56% 2	13.89% 5	11.11% 4	2.78% 1	36	4.89
Microplastics	15.79% 6	15.79% 6	10.53% 4	18.42% 7	13.16% 5	10.53% 4	15.79% 6	38	4.08
Monitoring conducted on the center channel replicated for the banks and at additional depths	21.05% 8	2.63% 1	7.89% 3	0.00% 0	13.16% 5	7.89% 3	47.37% 18	38	3.05
PCBs	10.81% 4	5.41% 2	16.22% 6	13.51% 5	10.81% 4	32.43% 12	10.81% 4	37	3.51
Pharmaceuticals	11.11% 4	11.11% 4	25.00% 9	25.00% 9	13.89% 5	11.11% 4	2.78% 1	36	4.36
Phytotoxins, cyanotoxins, Harmful Algal Bloom toxins	17.50% 7	15.00% 6	7.50% 3	12.50% 5	22.50% 9	15.00% 6	10.00% 4	40	4.08

Q12 Here is a list of Delaware River and Bay monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each parameter, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Answered: 40 Skipped: 15



	LOW PRIORITY	MODERATE PRIORITY	HIGH PRIORITY	TOTAL	WEIGHTED AVERAGE
Endocrine disruptors	2.50% 1	47.50% 19	50.00% 20	40	2.48
Fish tissue analysis for bioaccumulating compounds	5.13% 2	28.21% 11	66.67% 26	39	2.62
Microplastics	20.00% 8	32.50% 13	47.50% 19	40	2.27
Monitoring conducted on the center channel replicated for the banks and at additional depths	28.21% 11	33.33% 13	38.46% 15	39	2.10
PCBs	12.82% 5	53.85% 21	33.33% 13	39	2.21
Pharmaceuticals	2.56% 1	38.46% 15	58.97% 23	39	2.56
Phytotoxins, cyanotoxins, Harmful Algal Bloom toxins	10.00% 4	37.50% 15	52.50% 21	40	2.42

Q13 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any Delaware River and Bay monitoring parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Answered: 14 Skipped: 41

Changes in plant species distribution; extirpation of plant speces.

bacteria

no

No

synergystic effects on fish eating birds when multiple compounds are found in fish

None

Yes

no

The draft monitoring inventory did not open for this survey

Anti degradation water policy implemented by federal law

new/invasive plants merging

no

NA

no

Q14 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for Delaware River and Bay monitoring parameters in the future?

Answered: 14 Skipped: 41

Changes and extirpation of rare species.

urban

tidal Schuylkill

Unsure. Recently heard about the ubiquity of microplastics in our water - would be curious to see what waterways they're found in.

TMDLs for the Philadelphia Trenton area of the DE river

None

Yes

subestuaries of Delaware Bay

Delaware River shoreline in Philadelphia

Trento to the ocean forever by law

urban settings and transitional areas

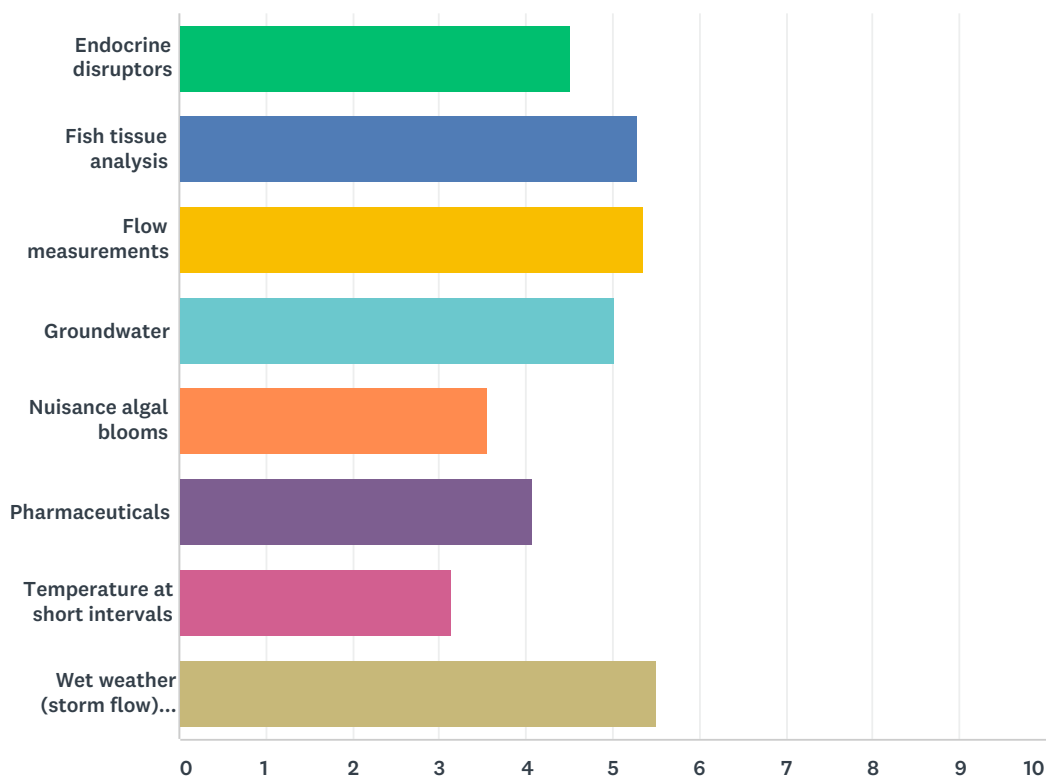
none

NA

without GIS... hard to say

Q15 Here is a list of tributary monitoring parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-8, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

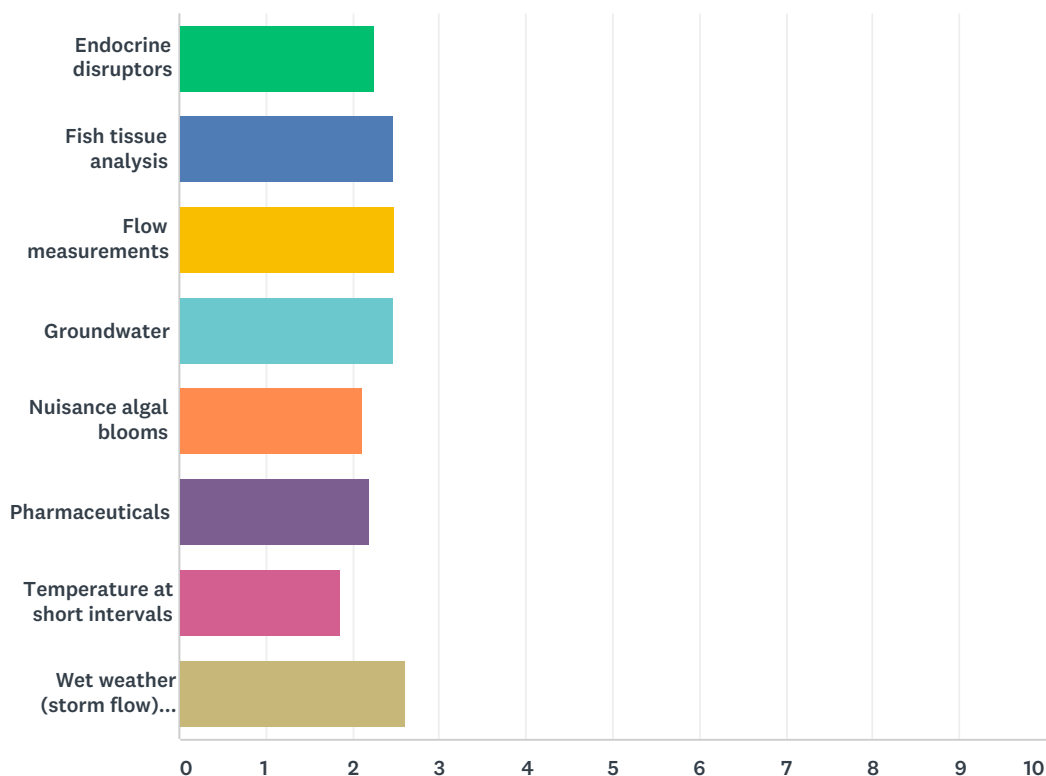
Answered: 37 Skipped: 18



	1	2	3	4	5	6	7	8	TOTAL	SCORE
Endocrine disruptors	17.14% 6	5.71% 2	14.29% 5	17.14% 6	8.57% 3	11.43% 4	8.57% 3	17.14% 6	35	4.51
Fish tissue analysis	14.29% 5	22.86% 8	17.14% 6	5.71% 2	17.14% 6	11.43% 4	8.57% 3	2.86% 1	35	5.29
Flow measurements	19.44% 7	8.33% 3	22.22% 8	16.67% 6	16.67% 6	8.33% 3	5.56% 2	2.78% 1	36	5.36
Groundwater	11.43% 4	17.14% 6	14.29% 5	17.14% 6	20.00% 7	5.71% 2	8.57% 3	5.71% 2	35	5.03
Nuisance algal blooms	11.11% 4	2.78% 1	2.78% 1	13.89% 5	8.33% 3	19.44% 7	27.78% 10	13.89% 5	36	3.56
Pharmaceuticals	8.11% 3	2.70% 1	13.51% 5	16.22% 6	16.22% 6	18.92% 7	16.22% 6	8.11% 3	37	4.08
Temperature at short intervals	2.70% 1	10.81% 4	8.11% 3	5.41% 2	8.11% 3	13.51% 5	16.22% 6	35.14% 13	37	3.14
Wet weather (storm flow) monitoring	18.92% 7	32.43% 12	10.81% 4	8.11% 3	5.41% 2	8.11% 3	5.41% 2	10.81% 4	37	5.51

Q16 Here is a list of tributary monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each parameter, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Answered: 36 Skipped: 19



	LOW PRIORITY	MODERATE PRIORITY	HIGH PRIORITY	TOTAL	WEIGHTED AVERAGE
Endocrine disruptors	22.22% 8	30.56% 11	47.22% 17	36	2.25
Fish tissue analysis	5.56% 2	41.67% 15	52.78% 19	36	2.47
Flow measurements	2.78% 1	44.44% 16	52.78% 19	36	2.50
Groundwater	11.43% 4	31.43% 11	57.14% 20	35	2.46
Nuisance algal blooms	22.22% 8	44.44% 16	33.33% 12	36	2.11
Pharmaceuticals	20.00% 7	40.00% 14	40.00% 14	35	2.20
Temperature at short intervals	27.78% 10	58.33% 21	13.89% 5	36	1.86
Wet weather (storm flow) monitoring	0.00% 0	38.89% 14	61.11% 22	36	2.61

Q17 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any tributary monitoring parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Answered: 11 Skipped: 44

biological community monitoring - macro-invertebrates and fish

riparian habitat, watershed land use

No

None

Yes

no

Anti degradation water policy federally implemented

Sedimentation and particle transport

no

NA

no

Q18 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for tributary monitoring parameters in the future?

Answered: 11 Skipped: 44

no

Everywhere!

None

Yes

subestuaries of Delaware Bay

Poquessing Creek, Tacony/Frankford Creek, Pennypack Creek, Buried creeks in Philadelphia

Trenton to the ocean

little creeks and where freshwater mixes with salt water

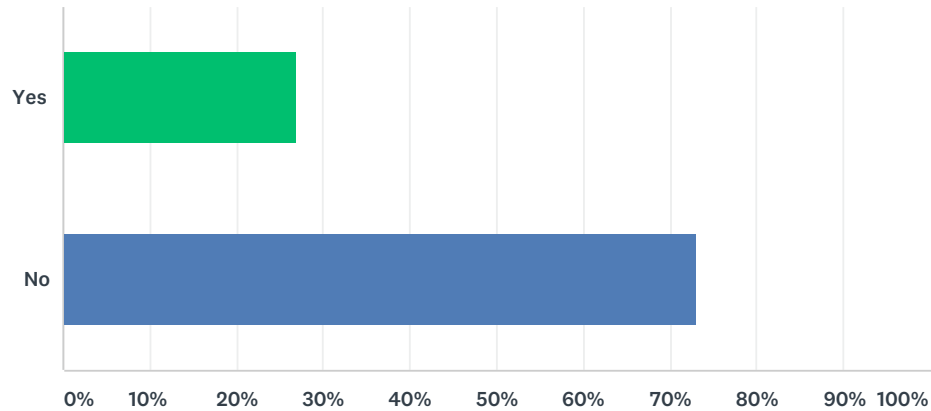
none

NA

without GIS... no way to say

Q19 Are you aware of volunteer organizations that could be included in the Delaware Estuary monitoring assessment?

Answered: 37 Skipped: 18



ANSWER CHOICES		RESPONSES	
Yes		27.03%	10
No		72.97%	27
TOTAL			37

Q20 If you answered "yes" for Question 19, what is/are the name(s) of the volunteer organization(s)?

Answered: 9 Skipped: 46

Bayshore Council

Wetlands institute, Maurice River and Tributaries Friends Group, Bayshre Recovery Project

Primrose Creek Watershed Association, Aquetong Watershed Association, Cooks Creek

Watershed Association, Carversville Farm Foundation (in Paunacussing Creek watershed)

Horseshoe Crab Bay-wide Monitoring

William Penn Cluster groups

Delaware Nature Society; Nature Conservancy

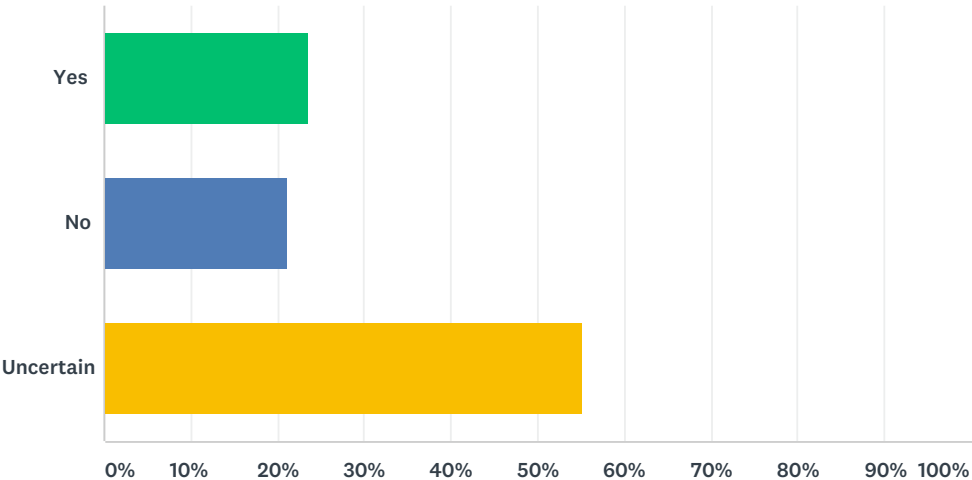
Youth Volunteer Corps

Nature Conservancy

Center in the Park - Philadelphia, volunteer WQ monitoring group; other similar watershed organizations

Q21 Does your organization anticipate having sufficient funding over the next ten years to carry out existing monitoring programs within the Delaware Estuary?

Answered: 38 Skipped: 17



ANSWER CHOICES		RESPONSES	
Yes		23.68%	9
No		21.05%	8
Uncertain		55.26%	21
TOTAL			38

Q22 If you answered "no" for Question 21, what level of funding is needed for which program?

Answered: 9 Skipped: 46

My organization is directly concerned with monitoring
20k/year

Studying the effects on the aquatic environment including changing habitats due to sea level
rise

approximately \$100k per year

\$150,000 per sampling year

\$

uncertain that EPA/DNREC funds will be available over ten years for our long-term
groundwater-level monitoring planbut the Delaware Water Supply Coordinating Council has
been very helpful in making our case of importance. Our stream flow discharge and tide gage
cooperative program with USGS and others has been stable recently but through the years
there have been budget cuts that created holes in long-term data sets. Our earthquake
monitoring program funding is stable but need to create partnership with other entities beyond
DEMA. Anticipate work with UD CEMA and DEOS (meteorological stations, coastal flood
monitoring system to continue to be supported over next 10 yrs.

Need continues monitoring for HABs & nutrients

If asking for a dollar amount difficult to come up with at this point but on the order of \$200K/year
to "monitor".

APPENDIX B

SURVEYMONKEY COMPILATION OF ALL SURVEY RESPONSES

#1

COMPLETE

Collector: Web Link 1 (Web Link)
Started: Thursday, November 29, 2018 11:54:28 AM
Last Modified: Thursday, November 29, 2018 12:02:01 PM
Time Spent: 00:07:33
IP Address: 216.228.143.180

Page 2: Identifying Information

Q1 Please enter your contact information.

Name	Dewayne Fox
Organization	Delaware State University
Email Address	dfox@desu.edu

Q2 Select your area(s) of expertise (please select all that apply)

Brackish or marine resources and organisms	,
Coastal ecology/function,	
Fish,	
Freshwater resources and organisms	,
Invasive species	

Page 3: Workshop Results: Non-Plant Living Resources

Q3 Here is a list of non-plant living resources identified at the workshop as not yet being robustly monitored in the study area. From 1-4, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Freshwater bivalves	4
Invasive species	1
Marine mammals and sea turtles	3
Population-level monitoring	2

Q4 Here is a list of non-plant living resources that were identified at the workshop as not yet being robustly monitored in the study area. For each resource, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Freshwater bivalves	Low Priority
Invasive species	High Priority
Marine mammals and sea turtles	Low Priority
Population-level monitoring	Moderate Priority

Q5 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any non-plant living resource parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Atlantic and Shortnose Sturgeon- currently neither species is being monitored by the States of PA and NJ. In the case of Shortnose nobody in the estuary is looking at them. In the case of Atlantic Sturgeon the State of DE has a juvenile monitoring project but that is limited to scope and scale.

Q6 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for non-plant living resources in the future?

Yes- upper watershed above CD Canal

Page 4: Workshop Results: Plants and Habitat

Q7 Here is a list of plant and habitat parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-7, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Buffer data	7
Cumulative Impacts	2
Dredging data	1
Forest health	4
Sediment stratification	5
Submerged habitat	3
Transition zone monitoring	6

Q8 Here is a list of plant and habitat parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each resource, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Buffer data	Low Priority
Cumulative impacts	High Priority
Dredging data	High Priority
Forest health	Moderate Priority
Sediment stratification	Moderate Priority
Submerged habitat	Moderate Priority
Transition zone monitoring	Moderate Priority

Q9 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any plant and habitat parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q10 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for plant and habitat parameters in the future?

Respondent skipped this question

Page 5: Workshop Results: Water Monitoring - Delaware River and Bay

Q11 Here is a list of Delaware River and Bay monitoring parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-7, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring parameters.

Endocrine disruptors	1
Fish tissue analysis for bioaccumulating compounds	2
Microplastics	5
Monitoring conducted on the center channel replicated for the banks and at additional depths	7
PCBs	3
Pharmaceuticals	4
Phytotoxins, cyanotoxins, Harmful Algal Bloom toxins	6

Q12 Here is a list of Delaware River and Bay monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each parameter, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Endocrine disruptors	High Priority
Fish tissue analysis for bioaccumulating compounds	High Priority
Microplastics	Moderate Priority
Monitoring conducted on the center channel replicated for the banks and at additional depths	Low Priority
PCBs	Moderate Priority
Pharmaceuticals	Moderate Priority
Phytotoxins, cyanotoxins, Harmful Algal Bloom toxins	Low Priority

Q13 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any Delaware River and Bay monitoring parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q14 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for Delaware River and Bay monitoring parameters in the future?

Respondent skipped this question

Page 6: Workshop Results: Water Monitoring - Tributaries

Q15 Here is a list of tributary monitoring parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-8, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Endocrine disruptors	1
Fish tissue analysis	2
Flow measurements	3
Groundwater	5
Nuisance algal blooms	7
Pharmaceuticals	4
Temperature at short intervals	6
Wet weather (storm flow) monitoring	8

Q16 Here is a list of tributary monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each parameter, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Endocrine disruptors	High Priority
Fish tissue analysis	High Priority
Flow measurements	Moderate Priority
Groundwater	Moderate Priority
Nuisance algal blooms	Low Priority
Pharmaceuticals	Moderate Priority
Temperature at short intervals	Low Priority
Wet weather (storm flow) monitoring	Moderate Priority

Q17 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any tributary monitoring parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q18 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for tributary monitoring parameters in the future?

Respondent skipped this question

Page 7: Additional Monitoring Programs and Funding

Q19 Are you aware of volunteer organizations that could be included in the Delaware Estuary monitoring assessment?

No

Q20 If you answered "yes" for Question 19, what is/are the name(s) of the volunteer organization(s)?

Respondent skipped this question

Q21 Does your organization anticipate having sufficient funding over the next ten years to carry out existing monitoring programs within the Delaware Estuary?

No

Q22 If you answered "no" for Question 21, what level of funding is needed for which program?

If asking for a dollar amount difficult to come up with at this point but on the order of \$200K/year to "monitor".

#2

COMPLETE

Collector: Web Link 1 (Web Link)
Started: Thursday, November 29, 2018 12:29:47 PM
Last Modified: Thursday, November 29, 2018 12:39:33 PM
Time Spent: 00:09:46
IP Address: 167.21.41.14

Page 2: Identifying Information

Q1 Please enter your contact information.

Name	David Wolanski
Organization	Delaware DNREC
Email Address	david.wolanski@state.de.us

Q2 Select your area(s) of expertise (please select all that apply)

Data management,
Water quality

Page 3: Workshop Results: Non-Plant Living Resources

Q3 Here is a list of non-plant living resources identified at the workshop as not yet being robustly monitored in the study area. From 1-4, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Freshwater bivalves	3
Invasive species	2
Marine mammals and sea turtles	4
Population-level monitoring	1

Q4 Here is a list of non-plant living resources that were identified at the workshop as not yet being robustly monitored in the study area. For each resource, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Freshwater bivalves	Low Priority
Invasive species	Moderate Priority
Marine mammals and sea turtles	Low Priority
Population-level monitoring	Moderate Priority

Q5 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any non-plant living resource parameters that you believe are not indicated above that should be elevated for monitoring in the future?

not at this time

Q6 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for non-plant living resources in the future?

hard to say without GIS coverage

Page 4: Workshop Results: Plants and Habitat

Q7 Here is a list of plant and habitat parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-7, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Respondent skipped this question

Q8 Here is a list of plant and habitat parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each resource, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Respondent skipped this question

Q9 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any plant and habitat parameters that you believe are not indicated above that should be elevated for monitoring in the future?

not really qualified to answer

Q10 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for plant and habitat parameters in the future?

not really qualified to answer

Page 5: Workshop Results: Water Monitoring - Delaware River and Bay

Q11 Here is a list of Delaware River and Bay monitoring parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-7, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring parameters.

Endocrine disruptors	6
Fish tissue analysis for bioaccumulating compounds	2
Microplastics	7
Monitoring conducted on the center channel replicated for the banks and at additional depths	1
PCBs	4
Pharmaceuticals	5
Phytotoxins, cyanotoxins, Harmful Algal Bloom toxins	3

Q12 Here is a list of Delaware River and Bay monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each parameter, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Endocrine disruptors	Moderate Priority
Fish tissue analysis for bioaccumulating compounds	High Priority
Microplastics	Low Priority
Monitoring conducted on the center channel replicated for the banks and at additional depths	High Priority
PCBs	Moderate Priority
Pharmaceuticals	Low Priority
Phytotoxins, cyanotoxins, Harmful Algal Bloom toxins	Moderate Priority

Q13 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any Delaware River and Bay monitoring parameters that you believe are not indicated above that should be elevated for monitoring in the future?

no

Q14 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for Delaware River and Bay monitoring parameters in the future?

without GIS... hard to say

Q15 Here is a list of tributary monitoring parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-8, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Endocrine disruptors	8
Fish tissue analysis	3
Flow measurements	1
Groundwater	7
Nuisance algal blooms	6
Pharmaceuticals	5
Temperature at short intervals	4
Wet weather (storm flow) monitoring	2

Q16 Here is a list of tributary monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each parameter, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Endocrine disruptors	Low Priority
Fish tissue analysis	High Priority
Flow measurements	High Priority
Groundwater	Low Priority
Nuisance algal blooms	Moderate Priority
Pharmaceuticals	Low Priority
Temperature at short intervals	Moderate Priority
Wet weather (storm flow) monitoring	High Priority

Q17 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any tributary monitoring parameters that you believe are not indicated above that should be elevated for monitoring in the future?

no

Q18 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for tributary monitoring parameters in the future?

without GIS... no way to say

Q19 Are you aware of volunteer organizations that could be included in the Delaware Estuary monitoring assessment? **No**

Q20 If you answered "yes" for Question 19, what is/are the name(s) of the volunteer organization(s)? **Respondent skipped this question**

Q21 Does your organization anticipate having sufficient funding over the next ten years to carry out existing monitoring programs within the Delaware Estuary? **Uncertain**

Q22 If you answered "no" for Question 21, what level of funding is needed for which program? **Respondent skipped this question**

#3

COMPLETE

Collector: Web Link 1 (Web Link)
Started: Thursday, November 29, 2018 1:15:24 PM
Last Modified: Thursday, November 29, 2018 1:27:42 PM
Time Spent: 00:12:18
IP Address: 216.99.180.227

Page 2: Identifying Information

Q1 Please enter your contact information.

Name	Kimberly Long
Organization	Exelon Corporation
Email Address	kimberly.long@exeloncorp.com

Q2 Select your area(s) of expertise (please select all that apply)

Coastal ecology/function,
Data management,
Ecosystem services,
Fish,
Forests,
Freshwater resources and organisms,
Invasive species,
Tidal/nontidal wetlands,
Urban/regional planning or land use,
Water quality,
Water quantity

Page 3: Workshop Results: Non-Plant Living Resources

Q3 Here is a list of non-plant living resources identified at the workshop as not yet being robustly monitored in the study area. From 1-4, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Freshwater bivalves	2
Invasive species	3
Marine mammals and sea turtles	4
Population-level monitoring	1

Q4 Here is a list of non-plant living resources that were identified at the workshop as not yet being robustly monitored in the study area. For each resource, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Freshwater bivalves	Moderate Priority
Invasive species	Moderate Priority
Marine mammals and sea turtles	Low Priority
Population-level monitoring	High Priority

Q5 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any non-plant living resource parameters that you believe are not indicated above that should be elevated for monitoring in the future?

NA

Q6 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for non-plant living resources in the future?

NA

Page 4: Workshop Results: Plants and Habitat

Q7 Here is a list of plant and habitat parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-7, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Buffer data	2
Cumulative Impacts	4
Dredging data	5
Forest health	1
Sediment stratification	7
Submerged habitat	3
Transition zone monitoring	6

Q8 Here is a list of plant and habitat parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each resource, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Buffer data	High Priority
Cumulative impacts	High Priority
Dredging data	Moderate Priority
Forest health	High Priority
Sediment stratification	Low Priority
Submerged habitat	High Priority
Transition zone monitoring	Moderate Priority

Q9 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any plant and habitat parameters that you believe are not indicated above that should be elevated for monitoring in the future?

NA

Q10 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for plant and habitat parameters in the future?

NA

Page 5: Workshop Results: Water Monitoring - Delaware River and Bay

Q11 Here is a list of Delaware River and Bay monitoring parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-7, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring parameters.

Endocrine disruptors	2
Fish tissue analysis for bioaccumulating compounds	1
Microplastics	4
Monitoring conducted on the center channel replicated for the banks and at additional depths	7
PCBs	6
Pharmaceuticals	3
Phytotoxins, cyanotoxins, Harmful Algal Bloom toxins	5

Q12 Here is a list of Delaware River and Bay monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each parameter, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Endocrine disruptors	High Priority
Fish tissue analysis for bioaccumulating compounds	High Priority
Microplastics	High Priority
Monitoring conducted on the center channel replicated for the banks and at additional depths	Low Priority
PCBs	Moderate Priority
Pharmaceuticals	High Priority
Phytotoxins, cyanotoxins, Harmful Algal Bloom toxins	High Priority

Q13 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any Delaware River and Bay monitoring parameters that you believe are not indicated above that should be elevated for monitoring in the future?

NA

Q14 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for Delaware River and Bay monitoring parameters in the future?

NA

Page 6: Workshop Results: Water Monitoring - Tributaries

Q15 Here is a list of tributary monitoring parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-8, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Endocrine disruptors	2
Fish tissue analysis	1
Flow measurements	3
Groundwater	4
Nuisance algal blooms	6
Pharmaceuticals	5
Temperature at short intervals	8
Wet weather (storm flow) monitoring	7

Q16 Here is a list of tributary monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each parameter, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Endocrine disruptors	High Priority
Fish tissue analysis	High Priority
Flow measurements	Moderate Priority
Groundwater	Moderate Priority
Nuisance algal blooms	High Priority
Pharmaceuticals	High Priority
Temperature at short intervals	Low Priority
Wet weather (storm flow) monitoring	Moderate Priority

Q17 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any tributary monitoring parameters that you believe are not indicated above that should be elevated for monitoring in the future?

NA

Q18 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for tributary monitoring parameters in the future?

NA

Page 7: Additional Monitoring Programs and Funding

Q19 Are you aware of volunteer organizations that could be included in the Delaware Estuary monitoring assessment? **Yes**

Q20 If you answered "yes" for Question 19, what is/are the name(s) of the volunteer organization(s)?

Center in the Park - Philadelphia, volunteer WQ monitoring group; other similar watershed organizations

Q21 Does your organization anticipate having sufficient funding over the next ten years to carry out existing monitoring programs within the Delaware Estuary? **Yes**

Q22 If you answered "no" for Question 21, what level of funding is needed for which program? **Respondent skipped this question**

#4

INCOMPLETE

Collector: Web Link 1 (Web Link)
Started: Thursday, November 29, 2018 2:06:49 PM
Last Modified: Thursday, November 29, 2018 2:20:56 PM
Time Spent: 00:14:06
IP Address: 204.46.141.164

Page 2: Identifying Information

Q1 Please enter your contact information.

Name	Rachael Graham
Organization	US EPA Region 2
Email Address	graham.rachael@epa.gov

Q2 Select your area(s) of expertise (please select all that apply)

Citizen science,
Water quality,
Other (please specify):
Superfund, sampling

Page 3: Workshop Results: Non-Plant Living Resources

Q3 Here is a list of non-plant living resources identified at the workshop as not yet being robustly monitored in the study area. From 1-4, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Freshwater bivalves	2
Invasive species	1
Marine mammals and sea turtles	4
Population-level monitoring	3

Q4 Here is a list of non-plant living resources that were identified at the workshop as not yet being robustly monitored in the study area. For each resource, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Freshwater bivalves	High Priority
Invasive species	High Priority
Marine mammals and sea turtles	Moderate Priority
Population-level monitoring	Moderate Priority

Q5 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any non-plant living resource parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q6 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for non-plant living resources in the future?

Respondent skipped this question

Page 4: Workshop Results: Plants and Habitat

Q7 Here is a list of plant and habitat parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-7, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Respondent skipped this question

Q8 Here is a list of plant and habitat parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each resource, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Respondent skipped this question

Q9 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any plant and habitat parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q10 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for plant and habitat parameters in the future?

Respondent skipped this question

Page 5: Workshop Results: Water Monitoring - Delaware River and Bay

Q11 Here is a list of Delaware River and Bay monitoring parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-7, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring parameters.

Endocrine disruptors	4
Fish tissue analysis for bioaccumulating compounds	1
Microplastics	2
Monitoring conducted on the center channel replicated for the banks and at additional depths	7
PCBs	6
Pharmaceuticals	3
Phytotoxins, cyanotoxins, Harmful Algal Bloom toxins	5

Q12 Here is a list of Delaware River and Bay monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each parameter, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Endocrine disruptors	Moderate Priority
Fish tissue analysis for bioaccumulating compounds	High Priority
Microplastics	High Priority
Monitoring conducted on the center channel replicated for the banks and at additional depths	Low Priority
PCBs	Moderate Priority
Pharmaceuticals	High Priority
Phytotoxins, cyanotoxins, Harmful Algal Bloom toxins	Moderate Priority

Q13 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any Delaware River and Bay monitoring parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q14 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for Delaware River and Bay monitoring parameters in the future?

Respondent skipped this question

Q15 Here is a list of tributary monitoring parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-8, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Respondent skipped this question

Q16 Here is a list of tributary monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each parameter, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Respondent skipped this question

Q17 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any tributary monitoring parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q18 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for tributary monitoring parameters in the future?

Respondent skipped this question

Page 7: Additional Monitoring Programs and Funding

Q19 Are you aware of volunteer organizations that could be included in the Delaware Estuary monitoring assessment?

Respondent skipped this question

Q20 If you answered "yes" for Question 19, what is/are the name(s) of the volunteer organization(s)?

Respondent skipped this question

Q21 Does your organization anticipate having sufficient funding over the next ten years to carry out existing monitoring programs within the Delaware Estuary?

Respondent skipped this question

Q22 If you answered "no" for Question 21, what level of funding is needed for which program?

Respondent skipped this question

#5

COMPLETE

Collector: Web Link 1 (Web Link)
Started: Thursday, November 29, 2018 2:02:02 PM
Last Modified: Thursday, November 29, 2018 2:24:13 PM
Time Spent: 00:22:11
IP Address: 204.46.134.119

Page 2: Identifying Information

Q1 Please enter your contact information.

Name	Ralph Spagnolo
Organization	USEPA
Email Address	spagnolo.ralph@epa.gov

Q2 Select your area(s) of expertise (please select all that apply)

Brackish or marine resources and organisms	,
Coastal ecology/function	

Page 3: Workshop Results: Non-Plant Living Resources

Q3 Here is a list of non-plant living resources identified at the workshop as not yet being robustly monitored in the study area. From 1-4, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Freshwater bivalves	3
Invasive species	1
Marine mammals and sea turtles	2
Population-level monitoring	4

Q4 Here is a list of non-plant living resources that were identified at the workshop as not yet being robustly monitored in the study area. For each resource, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Freshwater bivalves	Moderate Priority
Invasive species	High Priority
Marine mammals and sea turtles	High Priority
Population-level monitoring	Moderate Priority

Q5 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any non-plant living resource parameters that you believe are not indicated above that should be elevated for monitoring in the future?

shallow water benthic bottom-subtidal non-vegetated

Q6 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for non-plant living resources in the future?

no

Page 4: Workshop Results: Plants and Habitat

Q7 Here is a list of plant and habitat parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-7, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Buffer data	7
Cumulative Impacts	3
Dredging data	4
Forest health	6
Sediment stratification	5
Submerged habitat	1
Transition zone monitoring	2

Q8 Here is a list of plant and habitat parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each resource, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Buffer data	Moderate Priority
Cumulative impacts	High Priority
Dredging data	Moderate Priority
Forest health	Moderate Priority
Sediment stratification	High Priority
Submerged habitat	High Priority
Transition zone monitoring	Moderate Priority

Q9 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any plant and habitat parameters that you believe are not indicated above that should be elevated for monitoring in the future?

shallow unvegetated bottom

Q10 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for plant and habitat parameters in the future?

no

Page 5: Workshop Results: Water Monitoring - Delaware River and Bay

Q11 Here is a list of Delaware River and Bay monitoring parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-7, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring parameters.

Endocrine disruptors	4
Fish tissue analysis for bioaccumulating compounds	2
Microplastics	1
Monitoring conducted on the center channel replicated for the banks and at additional depths	3
PCBs	6
Pharmaceuticals	5
Phytotoxins, cyanotoxins, Harmful Algal Bloom toxins	7

Q12 Here is a list of Delaware River and Bay monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each parameter, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Endocrine disruptors	Moderate Priority
Fish tissue analysis for bioaccumulating compounds	High Priority
Microplastics	High Priority
Monitoring conducted on the center channel replicated for the banks and at additional depths	High Priority
PCBs	Moderate Priority
Pharmaceuticals	Moderate Priority
Phytotoxins, cyanotoxins, Harmful Algal Bloom toxins	Moderate Priority

Q13 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any Delaware River and Bay monitoring parameters that you believe are not indicated above that should be elevated for monitoring in the future?

no

Q14 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for Delaware River and Bay monitoring parameters in the future?

none

Page 6: Workshop Results: Water Monitoring - Tributaries

Q15 Here is a list of tributary monitoring parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-8, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Endocrine disruptors	3
Fish tissue analysis	6
Flow measurements	5
Groundwater	4
Nuisance algal blooms	7
Pharmaceuticals	8
Temperature at short intervals	1
Wet weather (storm flow) monitoring	2

Q16 Here is a list of tributary monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each parameter, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Endocrine disruptors	High Priority
Fish tissue analysis	Moderate Priority
Flow measurements	Moderate Priority
Groundwater	High Priority
Nuisance algal blooms	Moderate Priority
Pharmaceuticals	Moderate Priority
Temperature at short intervals	High Priority
Wet weather (storm flow) monitoring	High Priority

Q17 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any tributary monitoring parameters that you believe are not indicated above that should be elevated for monitoring in the future?

no

Q18 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for tributary monitoring parameters in the future?

none

Page 7: Additional Monitoring Programs and Funding

Q19 Are you aware of volunteer organizations that could be included in the Delaware Estuary monitoring assessment? **No**

Q20 If you answered "yes" for Question 19, what is/are the name(s) of the volunteer organization(s)? **Respondent skipped this question**

Q21 Does your organization anticipate having sufficient funding over the next ten years to carry out existing monitoring programs within the Delaware Estuary? **Uncertain**

Q22 If you answered "no" for Question 21, what level of funding is needed for which program? **Respondent skipped this question**

#6

INCOMPLETE

Collector: Web Link 1 (Web Link)
Started: Thursday, November 29, 2018 2:59:28 PM
Last Modified: Thursday, November 29, 2018 3:09:32 PM
Time Spent: 00:10:04
IP Address: 128.118.175.206

Page 2: Identifying Information

Q1 Please enter your contact information.

Name	Raymond Najjar
Organization	The Pennsylvania State University
Email Address	rgn1@psu.edu

Q2 Select your area(s) of expertise (please select all that apply)

Modeling,
Tidal/nontidal wetlands,
Water quality

Page 3: Workshop Results: Non-Plant Living Resources

Q3 Here is a list of non-plant living resources identified at the workshop as not yet being robustly monitored in the study area. From 1-4, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Population-level monitoring	1
-----------------------------	---

Q4 Here is a list of non-plant living resources that were identified at the workshop as not yet being robustly monitored in the study area. For each resource, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Respondent skipped this question

Q5 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any non-plant living resource parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q6 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for non-plant living resources in the future?

Respondent skipped this question

Page 4: Workshop Results: Plants and Habitat

Q7 Here is a list of plant and habitat parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-7, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Respondent skipped this question

Q8 Here is a list of plant and habitat parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each resource, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Respondent skipped this question

Q9 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any plant and habitat parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q10 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for plant and habitat parameters in the future?

Respondent skipped this question

Page 5: Workshop Results: Water Monitoring - Delaware River and Bay

Q11 Here is a list of Delaware River and Bay monitoring parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-7, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring parameters.

Respondent skipped this question

Q12 Here is a list of Delaware River and Bay monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each parameter, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Respondent skipped this question

Q13 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any Delaware River and Bay monitoring parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q14 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for Delaware River and Bay monitoring parameters in the future?

Respondent skipped this question

Page 6: Workshop Results: Water Monitoring - Tributaries

Q15 Here is a list of tributary monitoring parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-8, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Respondent skipped this question

Q16 Here is a list of tributary monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each parameter, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Respondent skipped this question

Q17 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any tributary monitoring parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q18 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for tributary monitoring parameters in the future?

Respondent skipped this question

Page 7: Additional Monitoring Programs and Funding

Q19 Are you aware of volunteer organizations that could be included in the Delaware Estuary monitoring assessment?

Respondent skipped this question

Q20 If you answered "yes" for Question 19, what is/are the name(s) of the volunteer organization(s)?

Respondent skipped this question

Q21 Does your organization anticipate having sufficient funding over the next ten years to carry out existing monitoring programs within the Delaware Estuary?

Respondent skipped this question

Q22 If you answered "no" for Question 21, what level of funding is needed for which program?

Respondent skipped this question

#7

COMPLETE

Collector: Web Link 1 (Web Link)
Started: Thursday, November 29, 2018 3:27:57 PM
Last Modified: Thursday, November 29, 2018 3:37:03 PM
Time Spent: 00:09:06
IP Address: 74.92.68.6

Page 2: Identifying Information

Q1 Please enter your contact information.

Name	Ryan Rebozo
Organization	Pinelands Preservation Alliance
Email Address	ryan@pinelandsalliance.org

Q2 Select your area(s) of expertise (please select all that apply)

Beaches,
Coastal ecology/function,
Forests,
Invasive species

Page 3: Workshop Results: Non-Plant Living Resources

Q3 Here is a list of non-plant living resources identified at the workshop as not yet being robustly monitored in the study area. From 1-4, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Freshwater bivalves	3
Invasive species	2
Marine mammals and sea turtles	4
Population-level monitoring	1

Q4 Here is a list of non-plant living resources that were identified at the workshop as not yet being robustly monitored in the study area. For each resource, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Freshwater bivalves	Moderate Priority
Invasive species	High Priority
Marine mammals and sea turtles	Moderate Priority
Population-level monitoring	High Priority

Q5 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any non-plant living resource parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q6 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for non-plant living resources in the future?

Respondent skipped this question

Page 4: Workshop Results: Plants and Habitat

Q7 Here is a list of plant and habitat parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-7, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Buffer data	7
Cumulative Impacts	1
Dredging data	5
Forest health	4
Sediment stratification	2
Submerged habitat	3
Transition zone monitoring	6

Q8 Here is a list of plant and habitat parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each resource, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Buffer data	Moderate Priority
Cumulative impacts	High Priority
Dredging data	Moderate Priority
Forest health	High Priority
Sediment stratification	High Priority
Submerged habitat	High Priority
Transition zone monitoring	Moderate Priority

Q9 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any plant and habitat parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q10 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for plant and habitat parameters in the future?

Respondent skipped this question

Page 5: Workshop Results: Water Monitoring - Delaware River and Bay

Q11 Here is a list of Delaware River and Bay monitoring parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-7, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring parameters.

Endocrine disruptors	2
Fish tissue analysis for bioaccumulating compounds	1
Microplastics	3
Monitoring conducted on the center channel replicated for the banks and at additional depths	7
PCBs	5
Pharmaceuticals	4
Phytotoxins, cyanotoxins, Harmful Algal Bloom toxins	6

Q12 Here is a list of Delaware River and Bay monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each parameter, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Endocrine disruptors	High Priority
Fish tissue analysis for bioaccumulating compounds	High Priority
Microplastics	High Priority
Monitoring conducted on the center channel replicated for the banks and at additional depths	High Priority
PCBs	High Priority
Pharmaceuticals	High Priority
Phytotoxins, cyanotoxins, Harmful Algal Bloom toxins	High Priority

Q13 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any Delaware River and Bay monitoring parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q14 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for Delaware River and Bay monitoring parameters in the future?

Respondent skipped this question

Page 6: Workshop Results: Water Monitoring - Tributaries

Q15 Here is a list of tributary monitoring parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-8, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Endocrine disruptors	6
Fish tissue analysis	1
Flow measurements	5
Groundwater	2
Nuisance algal blooms	7
Pharmaceuticals	3
Temperature at short intervals	8
Wet weather (storm flow) monitoring	4

Q16 Here is a list of tributary monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each parameter, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Endocrine disruptors	High Priority
Fish tissue analysis	High Priority
Flow measurements	High Priority
Groundwater	High Priority
Nuisance algal blooms	Moderate Priority
Pharmaceuticals	Moderate Priority
Temperature at short intervals	Moderate Priority
Wet weather (storm flow) monitoring	High Priority

Q17 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any tributary monitoring parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q18 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for tributary monitoring parameters in the future?

Respondent skipped this question

Page 7: Additional Monitoring Programs and Funding

Q19 Are you aware of volunteer organizations that could be included in the Delaware Estuary monitoring assessment?

No

Q20 If you answered "yes" for Question 19, what is/are the name(s) of the volunteer organization(s)?

Respondent skipped this question

Q21 Does your organization anticipate having sufficient funding over the next ten years to carry out existing monitoring programs within the Delaware Estuary?

Uncertain

Q22 If you answered "no" for Question 21, what level of funding is needed for which program?

Respondent skipped this question

#8

INCOMPLETE

Collector: Web Link 1 (Web Link)
Started: Thursday, November 29, 2018 3:59:41 PM
Last Modified: Thursday, November 29, 2018 4:00:24 PM
Time Spent: 00:00:42
IP Address: 144.118.96.214

Page 2: Identifying Information

Q1 Please enter your contact information.

Name	Stefanie Kroll
Organization	ANS
Email Address	sak345@drexel.edu

Q2 Select your area(s) of expertise (please select all that apply)

Citizen science,
Freshwater resources and organisms,
Water quality

Page 3: Workshop Results: Non-Plant Living Resources

Q3 Here is a list of non-plant living resources identified at the workshop as not yet being robustly monitored in the study area. From 1-4, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Respondent skipped this question

Q4 Here is a list of non-plant living resources that were identified at the workshop as not yet being robustly monitored in the study area. For each resource, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Respondent skipped this question

Q5 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any non-plant living resource parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q6 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for non-plant living resources in the future?

Respondent skipped this question

Page 4: Workshop Results: Plants and Habitat

Q7 Here is a list of plant and habitat parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-7, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Respondent skipped this question

Q8 Here is a list of plant and habitat parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each resource, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Respondent skipped this question

Q9 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any plant and habitat parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q10 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for plant and habitat parameters in the future?

Respondent skipped this question

Page 5: Workshop Results: Water Monitoring - Delaware River and Bay

Q11 Here is a list of Delaware River and Bay monitoring parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-7, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring parameters.

Respondent skipped this question

Q12 Here is a list of Delaware River and Bay monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each parameter, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Respondent skipped this question

Q13 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any Delaware River and Bay monitoring parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q14 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for Delaware River and Bay monitoring parameters in the future?

Respondent skipped this question

Page 6: Workshop Results: Water Monitoring - Tributaries

Q15 Here is a list of tributary monitoring parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-8, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Respondent skipped this question

Q16 Here is a list of tributary monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each parameter, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Respondent skipped this question

Q17 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any tributary monitoring parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q18 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for tributary monitoring parameters in the future?

Respondent skipped this question

Page 7: Additional Monitoring Programs and Funding

Q19 Are you aware of volunteer organizations that could be included in the Delaware Estuary monitoring assessment?

Respondent skipped this question

Q20 If you answered "yes" for Question 19, what is/are the name(s) of the volunteer organization(s)?

Respondent skipped this question

Q21 Does your organization anticipate having sufficient funding over the next ten years to carry out existing monitoring programs within the Delaware Estuary?

Respondent skipped this question

Q22 If you answered "no" for Question 21, what level of funding is needed for which program?

Respondent skipped this question

#9

COMPLETE

Collector: Web Link 1 (Web Link)
Started: Thursday, November 29, 2018 3:58:11 PM
Last Modified: Thursday, November 29, 2018 4:33:59 PM
Time Spent: 00:35:48
IP Address: 50.248.133.13

Page 2: Identifying Information

Q1 Please enter your contact information.

Name	Laura Crane
Organization	The Nature Conservancy, NJ
Email Address	laura.moritzen@tnc.org

Q2 Select your area(s) of expertise (please select all that apply)

Brackish or marine resources and organisms	,
Coastal ecology/function,	
Shellfish and benthic resources	,
Tidal/nontidal wetlands	

Page 3: Workshop Results: Non-Plant Living Resources

Q3 Here is a list of non-plant living resources identified at the workshop as not yet being robustly monitored in the study area. From 1-4, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Freshwater bivalves	2
Invasive species	3
Marine mammals and sea turtles	4
Population-level monitoring	1

Q4 Here is a list of non-plant living resources that were identified at the workshop as not yet being robustly monitored in the study area. For each resource, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Freshwater bivalves	Moderate Priority
Invasive species	Moderate Priority
Marine mammals and sea turtles	Low Priority
Population-level monitoring	High Priority

Q5 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any non-plant living resource parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q6 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for non-plant living resources in the future?

Respondent skipped this question

Page 4: Workshop Results: Plants and Habitat

Q7 Here is a list of plant and habitat parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-7, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Buffer data	4
Cumulative Impacts	5
Dredging data	1
Forest health	7
Sediment stratification	2
Submerged habitat	6
Transition zone monitoring	3

Q8 Here is a list of plant and habitat parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each resource, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Buffer data	Moderate Priority
Cumulative impacts	Moderate Priority
Dredging data	High Priority
Forest health	Moderate Priority
Sediment stratification	High Priority
Submerged habitat	Moderate Priority
Transition zone monitoring	High Priority

Q9 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any plant and habitat parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q10 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for plant and habitat parameters in the future?

Respondent skipped this question

Page 5: Workshop Results: Water Monitoring - Delaware River and Bay

Q11 Here is a list of Delaware River and Bay monitoring parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-7, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring parameters.

Endocrine disruptors	7
Fish tissue analysis for bioaccumulating compounds	5
Microplastics	4
Monitoring conducted on the center channel replicated for the banks and at additional depths	6
PCBs	3
Pharmaceuticals	2
Phytotoxins, cyanotoxins, Harmful Algal Bloom toxins	1

Q12 Here is a list of Delaware River and Bay monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each parameter, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Endocrine disruptors	Moderate Priority
Fish tissue analysis for bioaccumulating compounds	High Priority
Microplastics	High Priority
Monitoring conducted on the center channel replicated for the banks and at additional depths	High Priority
PCBs	High Priority
Pharmaceuticals	High Priority
Phytotoxins, cyanotoxins, Harmful Algal Bloom toxins	High Priority

Q13 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any Delaware River and Bay monitoring parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q14 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for Delaware River and Bay monitoring parameters in the future?

Respondent skipped this question

Page 6: Workshop Results: Water Monitoring - Tributaries

Q15 Here is a list of tributary monitoring parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-8, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Endocrine disruptors	4
Fish tissue analysis	2
Flow measurements	6
Groundwater	3
Nuisance algal blooms	7
Pharmaceuticals	1
Temperature at short intervals	8
Wet weather (storm flow) monitoring	5

Q16 Here is a list of tributary monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each parameter, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Endocrine disruptors	Moderate Priority
Fish tissue analysis	High Priority
Flow measurements	Moderate Priority
Groundwater	High Priority
Nuisance algal blooms	Moderate Priority
Pharmaceuticals	High Priority
Temperature at short intervals	Low Priority
Wet weather (storm flow) monitoring	Moderate Priority

Q17 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any tributary monitoring parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q18 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for tributary monitoring parameters in the future?

Respondent skipped this question

Page 7: Additional Monitoring Programs and Funding

Q19 Are you aware of volunteer organizations that could be included in the Delaware Estuary monitoring assessment?

No

Q20 If you answered "yes" for Question 19, what is/are the name(s) of the volunteer organization(s)?

Respondent skipped this question

Q21 Does your organization anticipate having sufficient funding over the next ten years to carry out existing monitoring programs within the Delaware Estuary?

Uncertain

Q22 If you answered "no" for Question 21, what level of funding is needed for which program?

Respondent skipped this question

#10

COMPLETE

Collector: Web Link 1 (Web Link)
Started: Thursday, November 29, 2018 4:22:27 PM
Last Modified: Thursday, November 29, 2018 4:38:37 PM
Time Spent: 00:16:09
IP Address: 216.228.143.180

Page 2: Identifying Information

Q1 Please enter your contact information.

Name	Gulnihal Ozbay
Organization	Delaware State University
Email Address	gozbay@desu.edu

Q2 Select your area(s) of expertise (please select all that apply)

Brackish or marine resources and organisms	,
Citizen science,	
Coastal ecology/function,	
Ecosystem services,	
Fish,	
Sediment or soils	,
Shellfish and benthic resources	,
Water quality,	
Water quantity	

Page 3: Workshop Results: Non-Plant Living Resources

Q3 Here is a list of non-plant living resources identified at the workshop as not yet being robustly monitored in the study area. From 1-4, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Freshwater bivalves	2
Invasive species	3
Marine mammals and sea turtles	1
Population-level monitoring	4

Q4 Here is a list of non-plant living resources that were identified at the workshop as not yet being robustly monitored in the study area. For each resource, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Freshwater bivalves	High Priority
Invasive species	High Priority
Marine mammals and sea turtles	High Priority
Population-level monitoring	Moderate Priority

Q5 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any non-plant living resource parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Commercial fish like salmon and tuna

Q6 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for non-plant living resources in the future?

urban waters

Page 4: Workshop Results: Plants and Habitat

Q7 Here is a list of plant and habitat parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-7, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Buffer data	7
Cumulative Impacts	4
Dredging data	3
Forest health	2
Sediment stratification	5
Submerged habitat	1
Transition zone monitoring	6

Q8 Here is a list of plant and habitat parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each resource, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Buffer data	Moderate Priority
Cumulative impacts	High Priority
Dredging data	High Priority
Forest health	High Priority
Sediment stratification	Moderate Priority
Submerged habitat	High Priority
Transition zone monitoring	High Priority

Q9 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any plant and habitat parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Phragmites invasion and horseshoe crabs

Q10 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for plant and habitat parameters in the future?

tributaries of estuaries and urban brackish water setting

Page 5: Workshop Results: Water Monitoring - Delaware River and Bay

Q11 Here is a list of Delaware River and Bay monitoring parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-7, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring parameters.

Endocrine disruptors	6
Fish tissue analysis for bioaccumulating compounds	5
Microplastics	4
Monitoring conducted on the center channel replicated for the banks and at additional depths	7
PCBs	3
Pharmaceuticals	2
Phytotoxins, cyanotoxins, Harmful Algal Bloom toxins	1

Q12 Here is a list of Delaware River and Bay monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each parameter, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Endocrine disruptors	Moderate Priority
Fish tissue analysis for bioaccumulating compounds	Moderate Priority
Microplastics	High Priority
Monitoring conducted on the center channel replicated for the banks and at additional depths	Moderate Priority
PCBs	High Priority
Pharmaceuticals	High Priority
Phytotoxins, cyanotoxins, Harmful Algal Bloom toxins	High Priority

Q13 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any Delaware River and Bay monitoring parameters that you believe are not indicated above that should be elevated for monitoring in the future?

new/invasive plants merging

Q14 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for Delaware River and Bay monitoring parameters in the future?

urban settings and transitional areas

Page 6: Workshop Results: Water Monitoring - Tributaries

Q15 Here is a list of tributary monitoring parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-8, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Endocrine disruptors	5
Fish tissue analysis	2
Flow measurements	4
Groundwater	6
Nuisance algal blooms	1
Pharmaceuticals	3
Temperature at short intervals	7
Wet weather (storm flow) monitoring	8

Q16 Here is a list of tributary monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each parameter, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Endocrine disruptors	High Priority
Fish tissue analysis	High Priority
Flow measurements	Moderate Priority
Groundwater	High Priority
Nuisance algal blooms	High Priority
Pharmaceuticals	High Priority
Temperature at short intervals	Moderate Priority
Wet weather (storm flow) monitoring	Moderate Priority

Q17 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any tributary monitoring parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Sedimentation and particle transport

Q18 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for tributary monitoring parameters in the future?

little creeks and where freshwater mixes with salt water

Page 7: Additional Monitoring Programs and Funding

Q19 Are you aware of volunteer organizations that could be included in the Delaware Estuary monitoring assessment? **Yes**

Q20 If you answered "yes" for Question 19, what is/are the name(s) of the volunteer organization(s)?

Nature Conservancy

Q21 Does your organization anticipate having sufficient funding over the next ten years to carry out existing monitoring programs within the Delaware Estuary? **No**

Q22 If you answered "no" for Question 21, what level of funding is needed for which program?

Need continues monitoring for HABs & nutrients

#11

COMPLETE

Collector: Web Link 1 (Web Link)
Started: Thursday, November 29, 2018 4:51:42 PM
Last Modified: Thursday, November 29, 2018 5:23:35 PM
Time Spent: 00:31:53
IP Address: 50.246.115.161

Page 2: Identifying Information

Q1 Please enter your contact information.

Name	Drew Budelis
Organization	Versar
Email Address	dbudelis@versar.com

Q2 Select your area(s) of expertise (please select all that apply)

Beaches,
Brackish or marine resources and organisms ,
Coastal ecology/function,
Data management,
Ecosystem services,
Fish,
Freshwater resources and organisms ,
Invasive species,
Modeling,
Sediment or soils ,
Shellfish and benthic resources ,
Water quality,
Water quantity,
Other (please specify):
The expertise noted above represent those of the team that I manage. I don't necessarily have those expertise as an individual.

Page 3: Workshop Results: Non-Plant Living Resources

Q3 Here is a list of non-plant living resources identified at the workshop as not yet being robustly monitored in the study area. From 1-4, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Freshwater bivalves	4
Invasive species	1
Marine mammals and sea turtles	2
Population-level monitoring	3

Q4 Here is a list of non-plant living resources that were identified at the workshop as not yet being robustly monitored in the study area. For each resource, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Freshwater bivalves	High Priority
Invasive species	Moderate Priority
Marine mammals and sea turtles	Moderate Priority
Population-level monitoring	Moderate Priority

Q5 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any non-plant living resource parameters that you believe are not indicated above that should be elevated for monitoring in the future?

American eel,

Q6 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for non-plant living resources in the future?

Non-tidal / Tidal Interface

Page 4: Workshop Results: Plants and Habitat

Q7 Here is a list of plant and habitat parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-7, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Buffer data	4
Cumulative Impacts	1
Dredging data	5
Forest health	7
Sediment stratification	6
Submerged habitat	3
Transition zone monitoring	2

Q8 Here is a list of plant and habitat parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each resource, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Buffer data	Low Priority
Cumulative impacts	High Priority
Dredging data	Low Priority
Forest health	Moderate Priority
Sediment stratification	Low Priority
Submerged habitat	High Priority
Transition zone monitoring	High Priority

Q9 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any plant and habitat parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Invasive species

Q10 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for plant and habitat parameters in the future?

Respondent skipped this question

Page 5: Workshop Results: Water Monitoring - Delaware River and Bay

Q11 Here is a list of Delaware River and Bay monitoring parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-7, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring parameters.

Respondent skipped this question

Q12 Here is a list of Delaware River and Bay monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each parameter, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Respondent skipped this question

Q13 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any Delaware River and Bay monitoring parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q14 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for Delaware River and Bay monitoring parameters in the future?

Respondent skipped this question

Page 6: Workshop Results: Water Monitoring - Tributaries

Q15 Here is a list of tributary monitoring parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-8, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Endocrine disruptors	4
Fish tissue analysis	1
Flow measurements	3
Groundwater	7
Nuisance algal blooms	6
Pharmaceuticals	8
Temperature at short intervals	5
Wet weather (storm flow) monitoring	2

Q16 Here is a list of tributary monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each parameter, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Respondent skipped this question

Q17 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any tributary monitoring parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q18 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for tributary monitoring parameters in the future?

Respondent skipped this question

Page 7: Additional Monitoring Programs and Funding

Q19 Are you aware of volunteer organizations that could be included in the Delaware Estuary monitoring assessment? **No**

Q20 If you answered "yes" for Question 19, what is/are the name(s) of the volunteer organization(s)?	Respondent skipped this question
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Q21 Does your organization anticipate having sufficient funding over the next ten years to carry out existing monitoring programs within the Delaware Estuary?	Respondent skipped this question
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Q22 If you answered "no" for Question 21, what level of funding is needed for which program?	Respondent skipped this question
---	---

#12

COMPLETE

Collector:

Started:

Last Modified:

Time Spent:

IP Address:

Web Link 1 (Web Link)

Thursday, November 29, 2018 8:36:23 PM

Thursday, November 29, 2018 8:53:04 PM

00:16:40

71.175.10.220

Page 2: Identifying Information

Q1 Please enter your contact information.

Name

Organization

Email Address

Richard Hunt McNutt McNutt

President

tidewatersgp@gmail.com

Beaches,

Brackish or marine resources and organisms

Citizen science,

Coastal ecology/function,

Community engagement,

Data management,

Ecosystem services,

Fish,

Forests,

Freshwater resources and organisms

Invasive species,

Modeling,

Non-aquatic wildlife,

Policy and/or funding,

Sediment or soils

Shellfish and benthic resources

Tidal/nontidal wetlands

Urban/regional planning or land use,

Water quality,

Water quantity,

Other (please specify):

All earth water is connected

Page 3: Workshop Results: Non-Plant Living Resources

Q3 Here is a list of non-plant living resources identified at the workshop as not yet being robustly monitored in the study area. From 1-4, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

1

Q4 Here is a list of non-plant living resources that were identified at the workshop as not yet being robustly monitored in the study area. For each resource, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Freshwater bivalves	High Priority
Invasive species	High Priority
Marine mammals and sea turtles	High Priority
Population-level monitoring	High Priority

Q5 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any non-plant living resource parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Anti degradation water quality - Special Protection waters. SPW

Q6 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for non-plant living resources in the future?

Delaware River tidewaters - Trenton to the ocean

Page 4: Workshop Results: Plants and Habitat

Q7 Here is a list of plant and habitat parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-7, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Transition zone monitoring	1
----------------------------	---

Q8 Here is a list of plant and habitat parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each resource, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Buffer data	High Priority
Cumulative impacts	High Priority
Dredging data	High Priority
Forest health	High Priority
Sediment stratification	High Priority
Submerged habitat	High Priority
Transition zone monitoring	High Priority

Q9 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any plant and habitat parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Non degradation water policy by law

Q10 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for plant and habitat parameters in the future?

Trenton to the ocean

Page 5: Workshop Results: Water Monitoring - Delaware River and Bay

Q11 Here is a list of Delaware River and Bay monitoring parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-7, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring parameters.

Phytotoxins, cyanotoxins, Harmful Algal Bloom toxins	1
--	---

Q12 Here is a list of Delaware River and Bay monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each parameter, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Endocrine disruptors	High Priority
Fish tissue analysis for bioaccumulating compounds	High Priority
Microplastics	High Priority
Monitoring conducted on the center channel replicated for the banks and at additional depths	High Priority
PCBs	High Priority
Pharmaceuticals	High Priority
Phytotoxins, cyanotoxins, Harmful Algal Bloom toxins	High Priority

Q13 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any Delaware River and Bay monitoring parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Anti degradation water policy implemented by federal law

Q14 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for Delaware River and Bay monitoring parameters in the future?

Trento to the ocean forever by law

Page 6: Workshop Results: Water Monitoring - Tributaries

Q15 Here is a list of tributary monitoring parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-8, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Endocrine disruptors	1
Fish tissue analysis	2
Flow measurements	4
Groundwater	3
Nuisance algal blooms	5
Pharmaceuticals	6
Temperature at short intervals	7
Wet weather (storm flow) monitoring	8

Q16 Here is a list of tributary monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each parameter, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Endocrine disruptors	High Priority
Fish tissue analysis	High Priority
Flow measurements	High Priority
Groundwater	High Priority
Nuisance algal blooms	High Priority
Pharmaceuticals	High Priority
Temperature at short intervals	High Priority
Wet weather (storm flow) monitoring	High Priority

Q17 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any tributary monitoring parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Anti degradation water policy federally implemented

Q18 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for tributary monitoring parameters in the future?

Trenton to the ocean

Page 7: Additional Monitoring Programs and Funding

Q19 Are you aware of volunteer organizations that could be included in the Delaware Estuary monitoring assessment? **No**

Q20 If you answered "yes" for Question 19, what is/are the name(s) of the volunteer organization(s)? **Respondent skipped this question**

Q21 Does your organization anticipate having sufficient funding over the next ten years to carry out existing monitoring programs within the Delaware Estuary? **Uncertain**

Q22 If you answered "no" for Question 21, what level of funding is needed for which program? **Respondent skipped this question**

#13

INCOMPLETE

Collector: Web Link 1 (Web Link)
Started: Friday, November 30, 2018 7:52:23 AM
Last Modified: Friday, November 30, 2018 8:02:47 AM
Time Spent: 00:10:24
IP Address: 167.21.41.12

Page 2: Identifying Information

Q1 Please enter your contact information.

Name	Todd Keyser
Organization	DE DNREC DWHS
Email Address	todd.keyser@state.de.us

Q2 Select your area(s) of expertise (please select all that apply)

Sediment or soils ,

Water quality,

Other (please specify):

Toxics How did this not make the list?

Page 3: Workshop Results: Non-Plant Living Resources

Q3 Here is a list of non-plant living resources identified at the workshop as not yet being robustly monitored in the study area. From 1-4, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Freshwater bivalves	1
Invasive species	3
Marine mammals and sea turtles	4
Population-level monitoring	2

Q4 Here is a list of non-plant living resources that were identified at the workshop as not yet being robustly monitored in the study area. For each resource, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Freshwater bivalves	High Priority
Invasive species	Moderate Priority
Marine mammals and sea turtles	Moderate Priority
Population-level monitoring	High Priority

Q5 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any non-plant living resource parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q6 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for non-plant living resources in the future?

Respondent skipped this question

Page 4: Workshop Results: Plants and Habitat

Q7 Here is a list of plant and habitat parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-7, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Buffer data	6
Cumulative Impacts	2
Dredging data	1
Forest health	7
Sediment stratification	4
Submerged habitat	5
Transition zone monitoring	3

Q8 Here is a list of plant and habitat parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each resource, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Buffer data	High Priority
Cumulative impacts	High Priority
Dredging data	High Priority
Forest health	Moderate Priority
Sediment stratification	Moderate Priority
Submerged habitat	Moderate Priority
Transition zone monitoring	Moderate Priority

Q9 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any plant and habitat parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q10 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for plant and habitat parameters in the future?

Respondent skipped this question

Page 5: Workshop Results: Water Monitoring - Delaware River and Bay

Q11 Here is a list of Delaware River and Bay monitoring parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-7, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring parameters.

Endocrine disruptors	3
Fish tissue analysis for bioaccumulating compounds	2
Microplastics	5
Monitoring conducted on the center channel replicated for the banks and at additional depths	7
PCBs	1
Pharmaceuticals	6
Phytotoxins, cyanotoxins, Harmful Algal Bloom toxins	4

Q12 Here is a list of Delaware River and Bay monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each parameter, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Endocrine disruptors	Moderate Priority
Fish tissue analysis for bioaccumulating compounds	High Priority
Microplastics	Moderate Priority
Monitoring conducted on the center channel replicated for the banks and at additional depths	Low Priority
PCBs	High Priority
Pharmaceuticals	Moderate Priority
Phytotoxins, cyanotoxins, Harmful Algal Bloom toxins	High Priority

Q13 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any Delaware River and Bay monitoring parameters that you believe are not indicated above that should be elevated for monitoring in the future?

The draft monitoring inventory did not open for this survey

Q14 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for Delaware River and Bay monitoring parameters in the future?

Respondent skipped this question

Page 6: Workshop Results: Water Monitoring - Tributaries

Q15 Here is a list of tributary monitoring parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-8, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Endocrine disruptors	3
Fish tissue analysis	1
Flow measurements	5
Groundwater	2
Nuisance algal blooms	7
Pharmaceuticals	4
Temperature at short intervals	6
Wet weather (storm flow) monitoring	8

Q16 Here is a list of tributary monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each parameter, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Endocrine disruptors	High Priority
Fish tissue analysis	High Priority
Flow measurements	Moderate Priority
Groundwater	High Priority
Nuisance algal blooms	Moderate Priority
Pharmaceuticals	High Priority
Temperature at short intervals	Moderate Priority
Wet weather (storm flow) monitoring	Moderate Priority

Q17 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any tributary monitoring parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q18 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for tributary monitoring parameters in the future?

Respondent skipped this question

Page 7: Additional Monitoring Programs and Funding

Q19 Are you aware of volunteer organizations that could be included in the Delaware Estuary monitoring assessment?

Respondent skipped this question

Q20 If you answered "yes" for Question 19, what is/are the name(s) of the volunteer organization(s)?

Respondent skipped this question

Q21 Does your organization anticipate having sufficient funding over the next ten years to carry out existing monitoring programs within the Delaware Estuary?

Respondent skipped this question

Q22 If you answered "no" for Question 21, what level of funding is needed for which program?

Respondent skipped this question

#14

INCOMPLETE

Collector: Web Link 1 (Web Link)
Started: Friday, November 30, 2018 8:28:02 AM
Last Modified: Friday, November 30, 2018 8:30:29 AM
Time Spent: 00:02:26
IP Address: 71.226.224.19

Page 2: Identifying Information

Q1 Please enter your contact information.

Name	Namsoo Suk
Organization	Delaware River Basin Commission
Email Address	namsoo.suk@drbc.gov

Q2 Select your area(s) of expertise (please select all that apply)

Modeling,
Water quality,
Water quantity

Page 3: Workshop Results: Non-Plant Living Resources

Q3 Here is a list of non-plant living resources identified at the workshop as not yet being robustly monitored in the study area. From 1-4, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Respondent skipped this question

Q4 Here is a list of non-plant living resources that were identified at the workshop as not yet being robustly monitored in the study area. For each resource, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Respondent skipped this question

Q5 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any non-plant living resource parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q6 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for non-plant living resources in the future?

Respondent skipped this question

Page 4: Workshop Results: Plants and Habitat

Q7 Here is a list of plant and habitat parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-7, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Respondent skipped this question

Q8 Here is a list of plant and habitat parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each resource, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Respondent skipped this question

Q9 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any plant and habitat parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q10 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for plant and habitat parameters in the future?

Respondent skipped this question

Page 5: Workshop Results: Water Monitoring - Delaware River and Bay

Q11 Here is a list of Delaware River and Bay monitoring parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-7, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring parameters.

Respondent skipped this question

Q12 Here is a list of Delaware River and Bay monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each parameter, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Respondent skipped this question

Q13 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any Delaware River and Bay monitoring parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q14 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for Delaware River and Bay monitoring parameters in the future?

Respondent skipped this question

Page 6: Workshop Results: Water Monitoring - Tributaries

Q15 Here is a list of tributary monitoring parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-8, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Respondent skipped this question

Q16 Here is a list of tributary monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each parameter, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Respondent skipped this question

Q17 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any tributary monitoring parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q18 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for tributary monitoring parameters in the future?

Respondent skipped this question

Page 7: Additional Monitoring Programs and Funding

Q19 Are you aware of volunteer organizations that could be included in the Delaware Estuary monitoring assessment?

Respondent skipped this question

Q20 If you answered "yes" for Question 19, what is/are the name(s) of the volunteer organization(s)?

Respondent skipped this question

Q21 Does your organization anticipate having sufficient funding over the next ten years to carry out existing monitoring programs within the Delaware Estuary?

Respondent skipped this question

Q22 If you answered "no" for Question 21, what level of funding is needed for which program?

Respondent skipped this question

#15

COMPLETE

Collector: Web Link 1 (Web Link)
Started: Friday, November 30, 2018 8:25:36 AM
Last Modified: Friday, November 30, 2018 8:45:42 AM
Time Spent: 00:20:06
IP Address: 167.21.41.14

Page 2: Identifying Information

Q1 Please enter your contact information.

Name	Erin Dorset
Organization	DNREC
Email Address	erin.dorset@state.de.us

Q2 Select your area(s) of expertise (please select all that apply)

Brackish or marine resources and organisms	<input checked="" type="checkbox"/>
Coastal ecology/function,	<input checked="" type="checkbox"/>
Ecosystem services,	<input checked="" type="checkbox"/>
Tidal/nontidal wetlands	<input checked="" type="checkbox"/>

Page 3: Workshop Results: Non-Plant Living Resources

Q3 Here is a list of non-plant living resources identified at the workshop as not yet being robustly monitored in the study area. From 1-4, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Freshwater bivalves	3
Invasive species	1
Marine mammals and sea turtles	4
Population-level monitoring	2

Q4 Here is a list of non-plant living resources that were identified at the workshop as not yet being robustly monitored in the study area. For each resource, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Freshwater bivalves	High Priority
Invasive species	High Priority
Marine mammals and sea turtles	Moderate Priority
Population-level monitoring	High Priority

Q5 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any non-plant living resource parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q6 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for non-plant living resources in the future?

Respondent skipped this question

Page 4: Workshop Results: Plants and Habitat

Q7 Here is a list of plant and habitat parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-7, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Buffer data	2
Cumulative Impacts	1
Dredging data	6
Forest health	4
Sediment stratification	7
Submerged habitat	5
Transition zone monitoring	3

Q8 Here is a list of plant and habitat parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each resource, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Buffer data	High Priority
Cumulative impacts	High Priority
Dredging data	Moderate Priority
Forest health	High Priority
Sediment stratification	Moderate Priority
Submerged habitat	High Priority
Transition zone monitoring	High Priority

Q9 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any plant and habitat parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q10 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for plant and habitat parameters in the future?

Respondent skipped this question

Page 5: Workshop Results: Water Monitoring - Delaware River and Bay

Q11 Here is a list of Delaware River and Bay monitoring parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-7, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring parameters.

Endocrine disruptors	1
Fish tissue analysis for bioaccumulating compounds	3
Microplastics	5
Monitoring conducted on the center channel replicated for the banks and at additional depths	7
PCBs	4
Pharmaceuticals	6
Phytotoxins, cyanotoxins, Harmful Algal Bloom toxins	2

Q12 Here is a list of Delaware River and Bay monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each parameter, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Endocrine disruptors	High Priority
Fish tissue analysis for bioaccumulating compounds	High Priority
Microplastics	High Priority
Monitoring conducted on the center channel replicated for the banks and at additional depths	Moderate Priority
PCBs	High Priority
Pharmaceuticals	Moderate Priority
Phytotoxins, cyanotoxins, Harmful Algal Bloom toxins	High Priority

Q13 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any Delaware River and Bay monitoring parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q14 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for Delaware River and Bay monitoring parameters in the future?

Respondent skipped this question

Page 6: Workshop Results: Water Monitoring - Tributaries

Q15 Here is a list of tributary monitoring parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-8, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Endocrine disruptors	1
Fish tissue analysis	3
Flow measurements	4
Groundwater	5
Nuisance algal blooms	6
Pharmaceuticals	7
Temperature at short intervals	8
Wet weather (storm flow) monitoring	2

Q16 Here is a list of tributary monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each parameter, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Endocrine disruptors	High Priority
Fish tissue analysis	High Priority
Flow measurements	High Priority
Groundwater	High Priority
Nuisance algal blooms	Moderate Priority
Pharmaceuticals	Moderate Priority
Temperature at short intervals	Moderate Priority
Wet weather (storm flow) monitoring	High Priority

Q17 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any tributary monitoring parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q18 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for tributary monitoring parameters in the future?

Respondent skipped this question

Page 7: Additional Monitoring Programs and Funding

Q19 Are you aware of volunteer organizations that could be included in the Delaware Estuary monitoring assessment?

No

Q20 If you answered "yes" for Question 19, what is/are the name(s) of the volunteer organization(s)?

Respondent skipped this question

Q21 Does your organization anticipate having sufficient funding over the next ten years to carry out existing monitoring programs within the Delaware Estuary?

Yes

Q22 If you answered "no" for Question 21, what level of funding is needed for which program?

Respondent skipped this question

#16

COMPLETE

Collector: Web Link 1 (Web Link)
Started: Friday, November 30, 2018 10:05:08 AM
Last Modified: Friday, November 30, 2018 10:20:30 AM
Time Spent: 00:15:22
IP Address: 71.225.136.232

Page 2: Identifying Information

Q1 Please enter your contact information.

Name	Jim Fries
Organization	Riverfront North Partnership
Email Address	jim@riverfrontnorth.org

Q2 Select your area(s) of expertise (please select all that apply)

Invasive species,
Tidal/nontidal wetlands ,
Urban/regional planning or land use

Page 3: Workshop Results: Non-Plant Living Resources

Q3 Here is a list of non-plant living resources identified at the workshop as not yet being robustly monitored in the study area. From 1-4, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Freshwater bivalves	2
Invasive species	1
Marine mammals and sea turtles	4
Population-level monitoring	3

Q4 Here is a list of non-plant living resources that were identified at the workshop as not yet being robustly monitored in the study area. For each resource, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Freshwater bivalves	High Priority
Invasive species	High Priority
Marine mammals and sea turtles	Moderate Priority
Population-level monitoring	Moderate Priority

Q5 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any non-plant living resource parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Non-marine mammals that utilize riparian areas

Q6 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for non-plant living resources in the future?

City of Philadelphia Delaware River waterfront

Page 4: Workshop Results: Plants and Habitat

Q7 Here is a list of plant and habitat parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-7, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Buffer data	3
Cumulative Impacts	1
Dredging data	7
Forest health	2
Sediment stratification	5
Submerged habitat	4
Transition zone monitoring	6

Q8 Here is a list of plant and habitat parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each resource, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Buffer data	Moderate Priority
Cumulative impacts	High Priority
Dredging data	Moderate Priority
Forest health	High Priority
Sediment stratification	Moderate Priority
Submerged habitat	High Priority
Transition zone monitoring	Moderate Priority

Q9 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any plant and habitat parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q10 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for plant and habitat parameters in the future?

Delaware River waterfront Philadelphia

Page 5: Workshop Results: Water Monitoring - Delaware River and Bay

Q11 Here is a list of Delaware River and Bay monitoring parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-7, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring parameters.

Endocrine disruptors	4
Fish tissue analysis for bioaccumulating compounds	3
Microplastics	5
Monitoring conducted on the center channel replicated for the banks and at additional depths	1
PCBs	6
Pharmaceuticals	7
Phytotoxins, cyanotoxins, Harmful Algal Bloom toxins	2

Q12 Here is a list of Delaware River and Bay monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each parameter, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Endocrine disruptors	Moderate Priority
Fish tissue analysis for bioaccumulating compounds	High Priority
Microplastics	Moderate Priority
Monitoring conducted on the center channel replicated for the banks and at additional depths	High Priority
PCBs	Moderate Priority
Pharmaceuticals	Moderate Priority
Phytotoxins, cyanotoxins, Harmful Algal Bloom toxins	High Priority

Q13 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any Delaware River and Bay monitoring parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q14 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for Delaware River and Bay monitoring parameters in the future?

Delaware River shoreline in Philadelphia

Page 6: Workshop Results: Water Monitoring - Tributaries

Q15 Here is a list of tributary monitoring parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-8, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Endocrine disruptors	8
Fish tissue analysis	7
Flow measurements	1
Groundwater	2
Nuisance algal blooms	3
Pharmaceuticals	4
Temperature at short intervals	5
Wet weather (storm flow) monitoring	6

Q16 Here is a list of tributary monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each parameter, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Endocrine disruptors	Moderate Priority
Fish tissue analysis	Moderate Priority
Flow measurements	High Priority
Groundwater	High Priority
Nuisance algal blooms	High Priority
Pharmaceuticals	Moderate Priority
Temperature at short intervals	Moderate Priority
Wet weather (storm flow) monitoring	Moderate Priority

Q17 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any tributary monitoring parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q18 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for tributary monitoring parameters in the future?

Poquessing Creek, Tacony/Frankford Creek, Pennypack Creek, Buried creeks in Philadelphia

Page 7: Additional Monitoring Programs and Funding

Q19 Are you aware of volunteer organizations that could be included in the Delaware Estuary monitoring assessment? **Yes**

Q20 If you answered "yes" for Question 19, what is/are the name(s) of the volunteer organization(s)?

Youth Volunteer Corps

Q21 Does your organization anticipate having sufficient funding over the next ten years to carry out existing monitoring programs within the Delaware Estuary? **Uncertain**

Q22 If you answered "no" for Question 21, what level of funding is needed for which program? **Respondent skipped this question**

#17

COMPLETE

Collector: Web Link 1 (Web Link)
Started: Friday, November 30, 2018 10:58:43 AM
Last Modified: Friday, November 30, 2018 11:18:06 AM
Time Spent: 00:19:22
IP Address: 128.175.90.60

Page 2: Identifying Information

Q1 Please enter your contact information.

Name	Thomas E. McKenna
Organization	University of Delaware
Email Address	mckennat@udel.edu

Q2 Select your area(s) of expertise (please select all that apply)

Freshwater resources and organisms	
Sediment or soils	
Tidal/nontidal wetlands	
Water quality,	
Water quantity	

Page 3: Workshop Results: Non-Plant Living Resources

Q3 Here is a list of non-plant living resources identified at the workshop as not yet being robustly monitored in the study area. From 1-4, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Freshwater bivalves	2
Invasive species	3
Marine mammals and sea turtles	4
Population-level monitoring	1

Q4 Here is a list of non-plant living resources that were identified at the workshop as not yet being robustly monitored in the study area. For each resource, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Freshwater bivalves	Moderate Priority
Invasive species	Moderate Priority
Marine mammals and sea turtles	Low Priority
Population-level monitoring	High Priority

Q5 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any non-plant living resource parameters that you believe are not indicated above that should be elevated for monitoring in the future?

no

Q6 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for non-plant living resources in the future?

subestuaries of Delaware Bay

Page 4: Workshop Results: Plants and Habitat

Q7 Here is a list of plant and habitat parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-7, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Buffer data	5
Cumulative Impacts	4
Dredging data	3
Forest health	7
Sediment stratification	6
Submerged habitat	1
Transition zone monitoring	2

Q8 Here is a list of plant and habitat parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each resource, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Buffer data	High Priority
Cumulative impacts	High Priority
Dredging data	High Priority
Forest health	Moderate Priority
Sediment stratification	Moderate Priority
Submerged habitat	High Priority
Transition zone monitoring	High Priority

Q9 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any plant and habitat parameters that you believe are not indicated above that should be elevated for monitoring in the future?

no

Q10 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for plant and habitat parameters in the future?

subestuaries of Delaware Bay

Page 5: Workshop Results: Water Monitoring - Delaware River and Bay

Q11 Here is a list of Delaware River and Bay monitoring parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-7, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring parameters.

Endocrine disruptors	5
Fish tissue analysis for bioaccumulating compounds	2
Microplastics	4
Monitoring conducted on the center channel replicated for the banks and at additional depths	1
PCBs	6
Pharmaceuticals	3
Phytotoxins, cyanotoxins, Harmful Algal Bloom toxins	7

Q12 Here is a list of Delaware River and Bay monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each parameter, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Endocrine disruptors	Moderate Priority
Fish tissue analysis for bioaccumulating compounds	High Priority
Microplastics	Moderate Priority
Monitoring conducted on the center channel replicated for the banks and at additional depths	High Priority
PCBs	Low Priority
Pharmaceuticals	High Priority
Phytotoxins, cyanotoxins, Harmful Algal Bloom toxins	Low Priority

Q13 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any Delaware River and Bay monitoring parameters that you believe are not indicated above that should be elevated for monitoring in the future?

no

Q14 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for Delaware River and Bay monitoring parameters in the future?

subestuaries of Delaware Bay

Page 6: Workshop Results: Water Monitoring - Tributaries

Q15 Here is a list of tributary monitoring parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-8, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Endocrine disruptors	6
Fish tissue analysis	3
Flow measurements	7
Groundwater	1
Nuisance algal blooms	8
Pharmaceuticals	5
Temperature at short intervals	2
Wet weather (storm flow) monitoring	4

Q16 Here is a list of tributary monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each parameter, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Endocrine disruptors	Low Priority
Fish tissue analysis	High Priority
Flow measurements	Low Priority
Groundwater	High Priority
Nuisance algal blooms	Low Priority
Pharmaceuticals	Moderate Priority
Temperature at short intervals	High Priority
Wet weather (storm flow) monitoring	Moderate Priority

Q17 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any tributary monitoring parameters that you believe are not indicated above that should be elevated for monitoring in the future?

no

Q18 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for tributary monitoring parameters in the future?

subestuaries of Delaware Bay

Page 7: Additional Monitoring Programs and Funding

Q19 Are you aware of volunteer organizations that could be included in the Delaware Estuary monitoring assessment? **Yes**

Q20 If you answered "yes" for Question 19, what is/are the name(s) of the volunteer organization(s)?

Delaware Nature Society; Nature Conservancy

Q21 Does your organization anticipate having sufficient funding over the next ten years to carry out existing monitoring programs within the Delaware Estuary? **Uncertain**

Q22 If you answered "no" for Question 21, what level of funding is needed for which program?

uncertain that EPA/DNREC funds will be available over ten years for our long-term groundwater-level monitoring planbut the Delaware Water Supply Coordinating Council has been very helpful in making our case of importance. Our streamflow discharge and tide gage cooperative program with USGS and others has been stable recently but through the years there have been budget cuts that created holes in long-term data sets. Our earthquake monitoring program funding is stable but need to create partnership with other entities beyond DEMA. Anticipate work with UD CEMA and DEOS (meterological stations, coastal flood monitoring system to continue to be supported over next 10 yrs.

#18

COMPLETE

Collector: Web Link 1 (Web Link)
Started: Friday, November 30, 2018 2:17:39 PM
Last Modified: Friday, November 30, 2018 2:31:46 PM
Time Spent: 00:14:06
IP Address: 160.93.63.1

Page 2: Identifying Information

Q1 Please enter your contact information.

Name	John Yagecic
Organization	Delaware River Basin Commission
Email Address	John.Yagecic@drbc.gov

Q2 Select your area(s) of expertise (please select all that apply)

Data management,
Modeling,
Water quality,
Water quantity

Page 3: Workshop Results: Non-Plant Living Resources

Q3 Here is a list of non-plant living resources identified at the workshop as not yet being robustly monitored in the study area. From 1-4, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Freshwater bivalves	2
Invasive species	1
Marine mammals and sea turtles	3
Population-level monitoring	4

Q4 Here is a list of non-plant living resources that were identified at the workshop as not yet being robustly monitored in the study area. For each resource, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Freshwater bivalves	Moderate Priority
Invasive species	Moderate Priority
Marine mammals and sea turtles	Low Priority
Population-level monitoring	Low Priority

Q5 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any non-plant living resource parameters that you believe are not indicated above that should be elevated for monitoring in the future?

N/A

Q6 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for non-plant living resources in the future?

N/A

Page 4: Workshop Results: Plants and Habitat

Q7 Here is a list of plant and habitat parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-7, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Buffer data	6
Cumulative Impacts	4
Dredging data	2
Forest health	3
Sediment stratification	7
Submerged habitat	1
Transition zone monitoring	5

Q8 Here is a list of plant and habitat parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each resource, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Buffer data	Low Priority
Cumulative impacts	Moderate Priority
Dredging data	Moderate Priority
Forest health	Moderate Priority
Sediment stratification	Low Priority
Submerged habitat	Moderate Priority
Transition zone monitoring	Low Priority

Q9 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any plant and habitat parameters that you believe are not indicated above that should be elevated for monitoring in the future?

N/A

Q10 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for plant and habitat parameters in the future?

N/A

Page 5: Workshop Results: Water Monitoring - Delaware River and Bay

Q11 Here is a list of Delaware River and Bay monitoring parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-7, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring parameters.

Endocrine disruptors	2
Microplastics	3
Phytotoxins, cyanotoxins, Harmful Algal Bloom toxins	1

Q12 Here is a list of Delaware River and Bay monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each parameter, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Endocrine disruptors	Moderate Priority
Microplastics	Moderate Priority
Phytotoxins, cyanotoxins, Harmful Algal Bloom toxins	High Priority

Q13 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any Delaware River and Bay monitoring parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q14 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for Delaware River and Bay monitoring parameters in the future?

Respondent skipped this question

Page 6: Workshop Results: Water Monitoring - Tributaries

Q15 Here is a list of tributary monitoring parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-8, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Respondent skipped this question

Q16 Here is a list of tributary monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each parameter, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Respondent skipped this question

Q17 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any tributary monitoring parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q18 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for tributary monitoring parameters in the future?

Respondent skipped this question

Page 7: Additional Monitoring Programs and Funding

Q19 Are you aware of volunteer organizations that could be included in the Delaware Estuary monitoring assessment?

Yes

Q20 If you answered "yes" for Question 19, what is/are the name(s) of the volunteer organization(s)?

William Penn Cluster groups

Q21 Does your organization anticipate having sufficient funding over the next ten years to carry out existing monitoring programs within the Delaware Estuary?

Uncertain

Q22 If you answered "no" for Question 21, what level of funding is needed for which program?

Respondent skipped this question

#19

COMPLETE

Collector: Web Link 1 (Web Link)
Started: Friday, November 30, 2018 5:08:07 PM
Last Modified: Friday, November 30, 2018 5:28:22 PM
Time Spent: 00:20:15
IP Address: 68.83.107.234

Page 2: Identifying Information

Q1 Please enter your contact information.

Name	Kuo-Liang Lai
Organization	EPA Region 3
Email Address	lai.kuo-liang@epa.gov

Q2 Select your area(s) of expertise (please select all that apply)

Beaches,
Citizen science,
Coastal ecology/function,
Data management,
Ecosystem services,
Freshwater resources and organisms ,
Modeling,
Policy and/or funding,
Sediment or ,
soils
Shellfish and benthic ,
resources
Urban/regional planning or land use,
Water quality,
Water quantity

Page 3: Workshop Results: Non-Plant Living Resources

Q3 Here is a list of non-plant living resources identified at the workshop as not yet being robustly monitored in the study area. From 1-4, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Freshwater bivalves	1
Invasive species	4
Marine mammals and sea turtles	3
Population-level monitoring	2

Q4 Here is a list of non-plant living resources that were identified at the workshop as not yet being robustly monitored in the study area. For each resource, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Freshwater bivalves	High Priority
Invasive species	Low Priority
Marine mammals and sea turtles	Moderate Priority
Population-level monitoring	Moderate Priority

Q5 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any non-plant living resource parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q6 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for non-plant living resources in the future?

Respondent skipped this question

Page 4: Workshop Results: Plants and Habitat

Q7 Here is a list of plant and habitat parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-7, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Buffer data	6
Cumulative Impacts	1
Dredging data	2
Forest health	7
Sediment stratification	4
Submerged habitat	3
Transition zone monitoring	5

Q8 Here is a list of plant and habitat parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each resource, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Buffer data	Moderate Priority
Cumulative impacts	High Priority
Dredging data	High Priority
Forest health	Low Priority
Sediment stratification	High Priority
Submerged habitat	High Priority
Transition zone monitoring	Moderate Priority

Q9 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any plant and habitat parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q10 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for plant and habitat parameters in the future?

Respondent skipped this question

Page 5: Workshop Results: Water Monitoring - Delaware River and Bay

Q11 Here is a list of Delaware River and Bay monitoring parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-7, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring parameters.

Endocrine disruptors	4
Fish tissue analysis for bioaccumulating compounds	3
Microplastics	7
Monitoring conducted on the center channel replicated for the banks and at additional depths	2
PCBs	6
Pharmaceuticals	5
Phytotoxins, cyanotoxins, Harmful Algal Bloom toxins	1

Q12 Here is a list of Delaware River and Bay monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each parameter, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Endocrine disruptors	Moderate Priority
Fish tissue analysis for bioaccumulating compounds	High Priority
Microplastics	Low Priority
Monitoring conducted on the center channel replicated for the banks and at additional depths	High Priority
PCBs	Moderate Priority
Pharmaceuticals	Moderate Priority
Phytotoxins, cyanotoxins, Harmful Algal Bloom toxins	High Priority

Q13 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any Delaware River and Bay monitoring parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q14 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for Delaware River and Bay monitoring parameters in the future?

Respondent skipped this question

Page 6: Workshop Results: Water Monitoring - Tributaries

Q15 Here is a list of tributary monitoring parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-8, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Endocrine disruptors	7
Fish tissue analysis	6
Flow measurements	1
Groundwater	4
Nuisance algal blooms	5
Pharmaceuticals	8
Temperature at short intervals	3
Wet weather (storm flow) monitoring	2

Q16 Here is a list of tributary monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each parameter, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Endocrine disruptors	Low Priority
Fish tissue analysis	Moderate Priority
Flow measurements	High Priority
Groundwater	High Priority
Nuisance algal blooms	Moderate Priority
Pharmaceuticals	Low Priority
Temperature at short intervals	Moderate Priority
Wet weather (storm flow) monitoring	High Priority

Q17 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any tributary monitoring parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q18 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for tributary monitoring parameters in the future?

Respondent skipped this question

Page 7: Additional Monitoring Programs and Funding

Q19 Are you aware of volunteer organizations that could be included in the Delaware Estuary monitoring assessment?

No

Q20 If you answered "yes" for Question 19, what is/are the name(s) of the volunteer organization(s)?

Respondent skipped this question

Q21 Does your organization anticipate having sufficient funding over the next ten years to carry out existing monitoring programs within the Delaware Estuary?

Uncertain

Q22 If you answered "no" for Question 21, what level of funding is needed for which program?

Respondent skipped this question

#20

COMPLETE

Collector: Web Link 1 (Web Link)
Started: Monday, December 03, 2018 8:52:37 AM
Last Modified: Monday, December 03, 2018 9:13:54 AM
Time Spent: 00:21:17
IP Address: 164.159.59.2

Page 2: Identifying Information

Q1 Please enter your contact information.

Name	Gregory Breese
Organization	US Fish and Wildlife Service
Email Address	gregory_breese@fws.gov

Q2 Select your area(s) of expertise (please select all that apply)

Beaches,
Brackish or marine resources and organisms ,
Citizen science,
Coastal ecology/function,
Forests,
Freshwater resources and organisms ,
Invasive species,
Non-aquatic wildlife,
Shellfish and benthic resources ,
Tidal/nontidal wetlands ,
Urban/regional planning or land use

Page 3: Workshop Results: Non-Plant Living Resources

Q3 Here is a list of non-plant living resources identified at the workshop as not yet being robustly monitored in the study area. From 1-4, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Freshwater bivalves	3
Invasive species	2
Marine mammals and sea turtles	4
Population-level monitoring	1

Q4 Here is a list of non-plant living resources that were identified at the workshop as not yet being robustly monitored in the study area. For each resource, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Freshwater bivalves	Moderate Priority
Invasive species	High Priority
Marine mammals and sea turtles	Low Priority
Population-level monitoring	High Priority

Q5 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any non-plant living resource parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Yes

Q6 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for non-plant living resources in the future?

Yes

Page 4: Workshop Results: Plants and Habitat

Q7 Here is a list of plant and habitat parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-7, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Buffer data	7
Cumulative Impacts	1
Dredging data	6
Forest health	2
Sediment stratification	5
Submerged habitat	3
Transition zone monitoring	4

Q8 Here is a list of plant and habitat parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each resource, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Buffer data	Low Priority
Cumulative impacts	High Priority
Dredging data	Moderate Priority
Forest health	High Priority
Sediment stratification	Low Priority
Submerged habitat	High Priority
Transition zone monitoring	Low Priority

Q9 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any plant and habitat parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Yes

Q10 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for plant and habitat parameters in the future?

Yes

Page 5: Workshop Results: Water Monitoring - Delaware River and Bay

Q11 Here is a list of Delaware River and Bay monitoring parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-7, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring parameters.

Endocrine disruptors	4
Fish tissue analysis for bioaccumulating compounds	5
Microplastics	2
Monitoring conducted on the center channel replicated for the banks and at additional depths	3
PCBs	6
Pharmaceuticals	1
Phytotoxins, cyanotoxins, Harmful Algal Bloom toxins	7

Q12 Here is a list of Delaware River and Bay monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each parameter, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Endocrine disruptors	Moderate Priority
Fish tissue analysis for bioaccumulating compounds	High Priority
Microplastics	Moderate Priority
Monitoring conducted on the center channel replicated for the banks and at additional depths	High Priority
PCBs	Moderate Priority
Pharmaceuticals	High Priority
Phytotoxins, cyanotoxins, Harmful Algal Bloom toxins	Moderate Priority

Q13 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any Delaware River and Bay monitoring parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Yes

Q14 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for Delaware River and Bay monitoring parameters in the future?

Yes

Page 6: Workshop Results: Water Monitoring - Tributaries

Q15 Here is a list of tributary monitoring parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-8, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Endocrine disruptors	6
Fish tissue analysis	5
Flow measurements	1
Groundwater	4
Nuisance algal blooms	7
Pharmaceuticals	3
Temperature at short intervals	8
Wet weather (storm flow) monitoring	2

Q16 Here is a list of tributary monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each parameter, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Endocrine disruptors	Moderate Priority
Fish tissue analysis	Moderate Priority
Flow measurements	High Priority
Groundwater	High Priority
Nuisance algal blooms	Moderate Priority
Pharmaceuticals	High Priority
Temperature at short intervals	Low Priority
Wet weather (storm flow) monitoring	High Priority

Q17 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any tributary monitoring parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Yes

Q18 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for tributary monitoring parameters in the future?

Yes

Page 7: Additional Monitoring Programs and Funding

Q19 Are you aware of volunteer organizations that could be included in the Delaware Estuary monitoring assessment? **Yes**

Q20 If you answered "yes" for Question 19, what is/are the name(s) of the volunteer organization(s)?

Horseshoe Crab Bay-wide Monitoring

Q21 Does your organization anticipate having sufficient funding over the next ten years to carry out existing monitoring programs within the Delaware Estuary? **Uncertain**

Q22 If you answered "no" for Question 21, what level of funding is needed for which program? **Respondent skipped this question**

#21

INCOMPLETE

Collector: Web Link 1 (Web Link)
Started: Monday, December 03, 2018 10:21:42 AM
Last Modified: Monday, December 03, 2018 10:23:40 AM
Time Spent: 00:01:58
IP Address: 8.20.65.4

Page 2: Identifying Information

Q1 Please enter your contact information.

Name	Nicholas Lylo
Organization	PA DCNR Bureau of Forestry
Email Address	nlylo@pa.gov

Q2 Select your area(s) of expertise (please select all that apply) **Forests**

Page 3: Workshop Results: Non-Plant Living Resources

Q3 Here is a list of non-plant living resources identified at the workshop as not yet being robustly monitored in the study area. From 1-4, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Freshwater bivalves	3
Invasive species	1
Marine mammals and sea turtles	2
Population-level monitoring	4

Q4 Here is a list of non-plant living resources that were identified at the workshop as not yet being robustly monitored in the study area. For each resource, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Freshwater bivalves	Low Priority
Invasive species	High Priority
Marine mammals and sea turtles	Moderate Priority
Population-level monitoring	Low Priority

Q5 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any non-plant living resource parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q6 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for non-plant living resources in the future?

Respondent skipped this question

Page 4: Workshop Results: Plants and Habitat

Q7 Here is a list of plant and habitat parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-7, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Respondent skipped this question

Q8 Here is a list of plant and habitat parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each resource, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Respondent skipped this question

Q9 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any plant and habitat parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q10 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for plant and habitat parameters in the future?

Respondent skipped this question

Page 5: Workshop Results: Water Monitoring - Delaware River and Bay

Q11 Here is a list of Delaware River and Bay monitoring parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-7, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring parameters.

Respondent skipped this question

Q12 Here is a list of Delaware River and Bay monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each parameter, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Respondent skipped this question

Q13 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any Delaware River and Bay monitoring parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q14 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for Delaware River and Bay monitoring parameters in the future?

Respondent skipped this question

Page 6: Workshop Results: Water Monitoring - Tributaries

Q15 Here is a list of tributary monitoring parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-8, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Respondent skipped this question

Q16 Here is a list of tributary monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each parameter, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Respondent skipped this question

Q17 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any tributary monitoring parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q18 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for tributary monitoring parameters in the future?

Respondent skipped this question

Page 7: Additional Monitoring Programs and Funding

Q19 Are you aware of volunteer organizations that could be included in the Delaware Estuary monitoring assessment?

Respondent skipped this question

Q20 If you answered "yes" for Question 19, what is/are the name(s) of the volunteer organization(s)?

Respondent skipped this question

Q21 Does your organization anticipate having sufficient funding over the next ten years to carry out existing monitoring programs within the Delaware Estuary?

Respondent skipped this question

Q22 If you answered "no" for Question 21, what level of funding is needed for which program?

Respondent skipped this question

#22

INCOMPLETE

Collector: Web Link 1 (Web Link)
Started: Monday, December 03, 2018 1:27:47 PM
Last Modified: Monday, December 03, 2018 1:31:44 PM
Time Spent: 00:03:56
IP Address: 75.97.126.106

Page 2: Identifying Information

Q1 Please enter your contact information.

Name	ryan neuman
Organization	Tookany Tacony Frankford Watershed Partnership
Email Address	ryan@tffwatershed.org

Q2 Select your area(s) of expertise (please select all that apply) **Water quality**

Page 3: Workshop Results: Non-Plant Living Resources

Q3 Here is a list of non-plant living resources identified at the workshop as not yet being robustly monitored in the study area. From 1-4, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.	Respondent skipped this question
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Q4 Here is a list of non-plant living resources that were identified at the workshop as not yet being robustly monitored in the study area. For each resource, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.	Respondent skipped this question
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Q5 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any non-plant living resource parameters that you believe are not indicated above that should be elevated for monitoring in the future?	Respondent skipped this question
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Q6 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for non-plant living resources in the future?	Respondent skipped this question
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Page 4: Workshop Results: Plants and Habitat

Q7 Here is a list of plant and habitat parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-7, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Respondent skipped this question

Q8 Here is a list of plant and habitat parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each resource, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Respondent skipped this question

Q9 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any plant and habitat parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q10 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for plant and habitat parameters in the future?

Respondent skipped this question

Page 5: Workshop Results: Water Monitoring - Delaware River and Bay

Q11 Here is a list of Delaware River and Bay monitoring parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-7, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring parameters.

Respondent skipped this question

Q12 Here is a list of Delaware River and Bay monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each parameter, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Respondent skipped this question

Q13 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any Delaware River and Bay monitoring parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q14 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for Delaware River and Bay monitoring parameters in the future?

Respondent skipped this question

Page 6: Workshop Results: Water Monitoring - Tributaries

Q15 Here is a list of tributary monitoring parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-8, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Respondent skipped this question

Q16 Here is a list of tributary monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each parameter, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Respondent skipped this question

Q17 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any tributary monitoring parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q18 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for tributary monitoring parameters in the future?

Respondent skipped this question

Page 7: Additional Monitoring Programs and Funding

Q19 Are you aware of volunteer organizations that could be included in the Delaware Estuary monitoring assessment?

Respondent skipped this question

Q20 If you answered "yes" for Question 19, what is/are the name(s) of the volunteer organization(s)?

Respondent skipped this question

Q21 Does your organization anticipate having sufficient funding over the next ten years to carry out existing monitoring programs within the Delaware Estuary?

Respondent skipped this question

Q22 If you answered "no" for Question 21, what level of funding is needed for which program?

Respondent skipped this question

#23

COMPLETE

Collector: Web Link 1 (Web Link)
Started: Monday, December 03, 2018 2:13:28 PM
Last Modified: Monday, December 03, 2018 2:28:05 PM
Time Spent: 00:14:36
IP Address: 128.175.126.111

Page 2: Identifying Information

Q1 Please enter your contact information.

Name	Anastasia E. M. Chirnside
Organization	University of DE
Email Address	aemc@udel.edu

Q2 Select your area(s) of expertise (please select all that apply)

Ecosystem services,
Sediment or soils,
Tidal/nontidal wetlands,
Water quality

Page 3: Workshop Results: Non-Plant Living Resources

Q3 Here is a list of non-plant living resources identified at the workshop as not yet being robustly monitored in the study area. From 1-4, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Freshwater bivalves	1
Invasive species	3
Marine mammals and sea turtles	4
Population-level monitoring	2

Q4 Here is a list of non-plant living resources that were identified at the workshop as not yet being robustly monitored in the study area. For each resource, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Freshwater bivalves	High Priority
Invasive species	Moderate Priority
Marine mammals and sea turtles	Moderate Priority
Population-level monitoring	Moderate Priority

Q5 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any non-plant living resource parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q6 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for non-plant living resources in the future?

Respondent skipped this question

Page 4: Workshop Results: Plants and Habitat

Q7 Here is a list of plant and habitat parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-7, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Buffer data	5
Cumulative Impacts	1
Dredging data	3
Forest health	6
Sediment stratification	7
Submerged habitat	4
Transition zone monitoring	2

Q8 Here is a list of plant and habitat parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each resource, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Buffer data	Moderate Priority
Cumulative impacts	High Priority
Dredging data	High Priority
Forest health	Moderate Priority
Sediment stratification	Low Priority
Submerged habitat	Moderate Priority
Transition zone monitoring	Moderate Priority

Q9 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any plant and habitat parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q10 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for plant and habitat parameters in the future?

Respondent skipped this question

Page 5: Workshop Results: Water Monitoring - Delaware River and Bay

Q11 Here is a list of Delaware River and Bay monitoring parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-7, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring parameters.

Endocrine disruptors	4
Fish tissue analysis for bioaccumulating compounds	6
Microplastics	2
Monitoring conducted on the center channel replicated for the banks and at additional depths	1
PCBs	7
Pharmaceuticals	3
Phytotoxins, cyanotoxins, Harmful Algal Bloom toxins	5

Q12 Here is a list of Delaware River and Bay monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each parameter, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Endocrine disruptors	Moderate Priority
Fish tissue analysis for bioaccumulating compounds	Low Priority
Microplastics	High Priority
Monitoring conducted on the center channel replicated for the banks and at additional depths	High Priority
PCBs	Low Priority
Pharmaceuticals	Moderate Priority
Phytotoxins, cyanotoxins, Harmful Algal Bloom toxins	Moderate Priority

Q13 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any Delaware River and Bay monitoring parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q14 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for Delaware River and Bay monitoring parameters in the future?

Respondent skipped this question

Page 6: Workshop Results: Water Monitoring - Tributaries

Q15 Here is a list of tributary monitoring parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-8, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Endocrine disruptors	7
Fish tissue analysis	8
Flow measurements	2
Groundwater	3
Nuisance algal blooms	4
Pharmaceuticals	5
Temperature at short intervals	6
Wet weather (storm flow) monitoring	1

Q16 Here is a list of tributary monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each parameter, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Endocrine disruptors	Moderate Priority
Fish tissue analysis	Moderate Priority
Flow measurements	High Priority
Groundwater	Moderate Priority
Nuisance algal blooms	Moderate Priority
Pharmaceuticals	High Priority
Temperature at short intervals	Moderate Priority
Wet weather (storm flow) monitoring	High Priority

Q17 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any tributary monitoring parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q18 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for tributary monitoring parameters in the future?

Respondent skipped this question

Page 7: Additional Monitoring Programs and Funding

Q19 Are you aware of volunteer organizations that could be included in the Delaware Estuary monitoring assessment?

No

Q20 If you answered "yes" for Question 19, what is/are the name(s) of the volunteer organization(s)?

Respondent skipped this question

Q21 Does your organization anticipate having sufficient funding over the next ten years to carry out existing monitoring programs within the Delaware Estuary?

Uncertain

Q22 If you answered "no" for Question 21, what level of funding is needed for which program?

Respondent skipped this question

#24

COMPLETE

Collector: Web Link 1 (Web Link)
Started: Monday, December 03, 2018 3:53:47 PM
Last Modified: Monday, December 03, 2018 4:02:56 PM
Time Spent: 00:09:09
IP Address: 167.21.41.14

Page 2: Identifying Information

Q1 Please enter your contact information.

Name	Alison Rogerson
Organization	DNREC
Email Address	alison.rogerson@state.de.us

Q2 Select your area(s) of expertise (please select all that apply)

Tidal/nontidal wetlands

Page 3: Workshop Results: Non-Plant Living Resources

Q3 Here is a list of non-plant living resources identified at the workshop as not yet being robustly monitored in the study area. From 1-4, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Freshwater bivalves	2
Invasive species	1
Marine mammals and sea turtles	4
Population-level monitoring	3

Q4 Here is a list of non-plant living resources that were identified at the workshop as not yet being robustly monitored in the study area. For each resource, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Freshwater bivalves	High Priority
Invasive species	High Priority
Marine mammals and sea turtles	Low Priority
Population-level monitoring	Moderate Priority

Q5 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any non-plant living resource parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q6 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for non-plant living resources in the future?

Respondent skipped this question

Page 4: Workshop Results: Plants and Habitat

Q7 Here is a list of plant and habitat parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-7, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Buffer data	6
Cumulative Impacts	1
Dredging data	3
Forest health	5
Sediment stratification	7
Submerged habitat	4
Transition zone monitoring	2

Q8 Here is a list of plant and habitat parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each resource, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Buffer data	Low Priority
Cumulative impacts	High Priority
Dredging data	Moderate Priority
Forest health	Moderate Priority
Sediment stratification	Low Priority
Submerged habitat	Moderate Priority
Transition zone monitoring	High Priority

Q9 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any plant and habitat parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q10 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for plant and habitat parameters in the future?

Respondent skipped this question

Page 5: Workshop Results: Water Monitoring - Delaware River and Bay

Q11 Here is a list of Delaware River and Bay monitoring parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-7, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring parameters.

Endocrine disruptors	3
Fish tissue analysis for bioaccumulating compounds	4
Microplastics	1
Monitoring conducted on the center channel replicated for the banks and at additional depths	7
PCBs	5
Pharmaceuticals	2
Phytotoxins, cyanotoxins, Harmful Algal Bloom toxins	6

Q12 Here is a list of Delaware River and Bay monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each parameter, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Endocrine disruptors	High Priority
Fish tissue analysis for bioaccumulating compounds	Moderate Priority
Microplastics	High Priority
Monitoring conducted on the center channel replicated for the banks and at additional depths	Moderate Priority
PCBs	Moderate Priority
Pharmaceuticals	High Priority
Phytotoxins, cyanotoxins, Harmful Algal Bloom toxins	Moderate Priority

Q13 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any Delaware River and Bay monitoring parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q14 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for Delaware River and Bay monitoring parameters in the future?

Respondent skipped this question

Page 6: Workshop Results: Water Monitoring - Tributaries

Q15 Here is a list of tributary monitoring parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-8, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Respondent skipped this question

Q16 Here is a list of tributary monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each parameter, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Respondent skipped this question

Q17 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any tributary monitoring parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q18 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for tributary monitoring parameters in the future?

Respondent skipped this question

Page 7: Additional Monitoring Programs and Funding

Q19 Are you aware of volunteer organizations that could be included in the Delaware Estuary monitoring assessment?

Respondent skipped this question

Q20 If you answered "yes" for Question 19, what is/are the name(s) of the volunteer organization(s)?

Respondent skipped this question

Q21 Does your organization anticipate having sufficient funding over the next ten years to carry out existing monitoring programs within the Delaware Estuary?

Uncertain

Q22 If you answered "no" for Question 21, what level of funding is needed for which program?

\$

#25

INCOMPLETE

Collector: Web Link 1 (Web Link)
Started: Monday, December 03, 2018 3:58:25 PM
Last Modified: Monday, December 03, 2018 4:09:13 PM
Time Spent: 00:10:47
IP Address: 96.93.49.4

Page 2: Identifying Information

Q1 Please enter your contact information.

Name	Lisa Ferguson
Organization	The Wetlands Institute
Email Address	lferguson@wetlandsinstitute.org

Q2 Select your area(s) of expertise (please select all that apply)

Beaches,
Brackish or marine resources and organisms ,
Citizen science,
Coastal ecology/function,
Community engagement,
Non-aquatic wildlife,
Tidal/nontidal wetlands ,
Water quality

Page 3: Workshop Results: Non-Plant Living Resources

Q3 Here is a list of non-plant living resources identified at the workshop as not yet being robustly monitored in the study area. From 1-4, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Freshwater bivalves	1
Invasive species	2
Marine mammals and sea turtles	4
Population-level monitoring	3

Q4 Here is a list of non-plant living resources that were identified at the workshop as not yet being robustly monitored in the study area. For each resource, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Freshwater bivalves	High Priority
Invasive species	High Priority
Marine mammals and sea turtles	Moderate Priority
Population-level monitoring	Moderate Priority

Q5 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any non-plant living resource parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q6 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for non-plant living resources in the future?

Respondent skipped this question

Page 4: Workshop Results: Plants and Habitat

Q7 Here is a list of plant and habitat parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-7, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Respondent skipped this question

Q8 Here is a list of plant and habitat parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each resource, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Respondent skipped this question

Q9 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any plant and habitat parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q10 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for plant and habitat parameters in the future?

Respondent skipped this question

Page 5: Workshop Results: Water Monitoring - Delaware River and Bay

Q11 Here is a list of Delaware River and Bay monitoring parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-7, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring parameters.

Respondent skipped this question

Q12 Here is a list of Delaware River and Bay monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each parameter, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Respondent skipped this question

Q13 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any Delaware River and Bay monitoring parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q14 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for Delaware River and Bay monitoring parameters in the future?

Respondent skipped this question

Page 6: Workshop Results: Water Monitoring - Tributaries

Q15 Here is a list of tributary monitoring parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-8, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Respondent skipped this question

Q16 Here is a list of tributary monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each parameter, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Respondent skipped this question

Q17 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any tributary monitoring parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q18 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for tributary monitoring parameters in the future?

Respondent skipped this question

Page 7: Additional Monitoring Programs and Funding

Q19 Are you aware of volunteer organizations that could be included in the Delaware Estuary monitoring assessment?

Respondent skipped this question

Q20 If you answered "yes" for Question 19, what is/are the name(s) of the volunteer organization(s)?

Respondent skipped this question

Q21 Does your organization anticipate having sufficient funding over the next ten years to carry out existing monitoring programs within the Delaware Estuary?

Respondent skipped this question

Q22 If you answered "no" for Question 21, what level of funding is needed for which program?

Respondent skipped this question

#26

COMPLETE

Collector: Web Link 1 (Web Link)
Started: Wednesday, December 05, 2018 2:56:41 PM
Last Modified: Wednesday, December 05, 2018 3:10:51 PM
Time Spent: 00:14:09
IP Address: 153.104.209.214

Page 2: Identifying Information

Q1 Please enter your contact information.

Name	Nathaniel Weston
Organization	Villanova University
Email Address	nathaniel.weston@villanova.edu

Q2 Select your area(s) of expertise (please select all that apply)

Coastal ecology/function,
Ecosystem services,
Sediment or soils,
Tidal/nontidal wetlands,
Water quality

Page 3: Workshop Results: Non-Plant Living Resources

Q3 Here is a list of non-plant living resources identified at the workshop as not yet being robustly monitored in the study area. From 1-4, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Freshwater bivalves	3
Invasive species	2
Marine mammals and sea turtles	4
Population-level monitoring	1

Q4 Here is a list of non-plant living resources that were identified at the workshop as not yet being robustly monitored in the study area. For each resource, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Freshwater bivalves	Moderate Priority
Invasive species	Moderate Priority
Marine mammals and sea turtles	Low Priority
Population-level monitoring	High Priority

Q5 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any non-plant living resource parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q6 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for non-plant living resources in the future?

Respondent skipped this question

Page 4: Workshop Results: Plants and Habitat

Q7 Here is a list of plant and habitat parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-7, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Buffer data	6
Cumulative Impacts	1
Dredging data	5
Forest health	2
Sediment stratification	7
Submerged habitat	3
Transition zone monitoring	4

Q8 Here is a list of plant and habitat parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each resource, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Buffer data	Moderate Priority
Cumulative impacts	High Priority
Dredging data	Moderate Priority
Forest health	Moderate Priority
Sediment stratification	Low Priority
Submerged habitat	Moderate Priority
Transition zone monitoring	Moderate Priority

Q9 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any plant and habitat parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q10 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for plant and habitat parameters in the future?

Respondent skipped this question

Page 5: Workshop Results: Water Monitoring - Delaware River and Bay

Q11 Here is a list of Delaware River and Bay monitoring parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-7, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring parameters.

Endocrine disruptors	3
Fish tissue analysis for bioaccumulating compounds	2
Microplastics	4
Monitoring conducted on the center channel replicated for the banks and at additional depths	7
PCBs	5
Pharmaceuticals	1
Phytotoxins, cyanotoxins, Harmful Algal Bloom toxins	6

Q12 Here is a list of Delaware River and Bay monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each parameter, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Endocrine disruptors	Moderate Priority
Fish tissue analysis for bioaccumulating compounds	High Priority
Microplastics	Moderate Priority
Monitoring conducted on the center channel replicated for the banks and at additional depths	Moderate Priority
PCBs	Moderate Priority
Pharmaceuticals	High Priority
Phytotoxins, cyanotoxins, Harmful Algal Bloom toxins	Moderate Priority

Q13 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any Delaware River and Bay monitoring parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q14 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for Delaware River and Bay monitoring parameters in the future?

Respondent skipped this question

Page 6: Workshop Results: Water Monitoring - Tributaries

Q15 Here is a list of tributary monitoring parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-8, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Endocrine disruptors	5
Fish tissue analysis	4
Flow measurements	6
Groundwater	3
Nuisance algal blooms	7
Pharmaceuticals	2
Temperature at short intervals	8
Wet weather (storm flow) monitoring	1

Q16 Here is a list of tributary monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each parameter, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Endocrine disruptors	Moderate Priority
Fish tissue analysis	Moderate Priority
Flow measurements	Moderate Priority
Groundwater	Moderate Priority
Nuisance algal blooms	Moderate Priority
Pharmaceuticals	High Priority
Temperature at short intervals	Low Priority
Wet weather (storm flow) monitoring	High Priority

Q17 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any tributary monitoring parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q18 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for tributary monitoring parameters in the future?

Respondent skipped this question

Page 7: Additional Monitoring Programs and Funding

Q19 Are you aware of volunteer organizations that could be included in the Delaware Estuary monitoring assessment?

No

Q20 If you answered "yes" for Question 19, what is/are the name(s) of the volunteer organization(s)?

Respondent skipped this question

Q21 Does your organization anticipate having sufficient funding over the next ten years to carry out existing monitoring programs within the Delaware Estuary?

Uncertain

Q22 If you answered "no" for Question 21, what level of funding is needed for which program?

Respondent skipped this question

#27

COMPLETE

Collector: Web Link 1 (Web Link)
Started: Wednesday, December 05, 2018 3:54:18 PM
Last Modified: Wednesday, December 05, 2018 4:18:20 PM
Time Spent: 00:24:01
IP Address: 72.44.165.18

Page 2: Identifying Information

Q1 Please enter your contact information.

Name	Kaitie Sniffen
Organization	Seaport Museum
Email Address	ksniffen@phillyseaport.org

Q2 Select your area(s) of expertise (please select all that apply)

Citizen science,
Community engagement,
Ecosystem services,
Water quality

Page 3: Workshop Results: Non-Plant Living Resources

Q3 Here is a list of non-plant living resources identified at the workshop as not yet being robustly monitored in the study area. From 1-4, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Freshwater bivalves	2
Invasive species	1
Marine mammals and sea turtles	4
Population-level monitoring	3

Q4 Here is a list of non-plant living resources that were identified at the workshop as not yet being robustly monitored in the study area. For each resource, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Freshwater bivalves	High Priority
Invasive species	High Priority
Marine mammals and sea turtles	Moderate Priority
Population-level monitoring	Moderate Priority

Q5 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any non-plant living resource parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q6 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for non-plant living resources in the future?

hard to say without knowing exactly whats covered now

Page 4: Workshop Results: Plants and Habitat

Q7 Here is a list of plant and habitat parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-7, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Buffer data	6
Cumulative Impacts	1
Dredging data	4
Forest health	3
Sediment stratification	5
Submerged habitat	2
Transition zone monitoring	7

Q8 Here is a list of plant and habitat parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each resource, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Buffer data	Low Priority
Cumulative impacts	High Priority
Dredging data	Moderate Priority
Forest health	Moderate Priority
Sediment stratification	Moderate Priority
Submerged habitat	Moderate Priority
Transition zone monitoring	Low Priority

Q9 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any plant and habitat parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q10 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for plant and habitat parameters in the future?

Respondent skipped this question

Page 5: Workshop Results: Water Monitoring - Delaware River and Bay

Q11 Here is a list of Delaware River and Bay monitoring parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-7, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring parameters.

Endocrine disruptors	3
Fish tissue analysis for bioaccumulating compounds	2
Microplastics	1
Monitoring conducted on the center channel replicated for the banks and at additional depths	6
PCBs	7
Pharmaceuticals	4
Phytotoxins, cyanotoxins, Harmful Algal Bloom toxins	5

Q12 Here is a list of Delaware River and Bay monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each parameter, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Endocrine disruptors	High Priority
Fish tissue analysis for bioaccumulating compounds	High Priority
Microplastics	High Priority
Monitoring conducted on the center channel replicated for the banks and at additional depths	Low Priority
PCBs	High Priority
Pharmaceuticals	High Priority
Phytotoxins, cyanotoxins, Harmful Algal Bloom toxins	High Priority

Q13 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any Delaware River and Bay monitoring parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q14 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for Delaware River and Bay monitoring parameters in the future?

Respondent skipped this question

Page 6: Workshop Results: Water Monitoring - Tributaries

Q15 Here is a list of tributary monitoring parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-8, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Endocrine disruptors	3
Fish tissue analysis	2
Flow measurements	4
Groundwater	5
Nuisance algal blooms	8
Pharmaceuticals	6
Temperature at short intervals	7
Wet weather (storm flow) monitoring	1

Q16 Here is a list of tributary monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each parameter, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Endocrine disruptors	High Priority
Fish tissue analysis	High Priority
Flow measurements	High Priority
Groundwater	High Priority
Nuisance algal blooms	Low Priority
Pharmaceuticals	Moderate Priority
Temperature at short intervals	Low Priority
Wet weather (storm flow) monitoring	High Priority

Q17 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any tributary monitoring parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q18 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for tributary monitoring parameters in the future?

Respondent skipped this question

Page 7: Additional Monitoring Programs and Funding

Q19 Are you aware of volunteer organizations that could be included in the Delaware Estuary monitoring assessment?

No

Q20 If you answered "yes" for Question 19, what is/are the name(s) of the volunteer organization(s)?

Respondent skipped this question

Q21 Does your organization anticipate having sufficient funding over the next ten years to carry out existing monitoring programs within the Delaware Estuary?

Uncertain

Q22 If you answered "no" for Question 21, what level of funding is needed for which program?

Respondent skipped this question

#28

COMPLETE

Collector: Web Link 1 (Web Link)
Started: Monday, December 10, 2018 7:52:07 AM
Last Modified: Monday, December 10, 2018 8:09:34 AM
Time Spent: 00:17:27
IP Address: 12.200.34.76

Page 2: Identifying Information

Q1 Please enter your contact information.

Name	Barnett Rattner
Organization	USGS, DOI
Email Address	brattner@usgs.gov

Q2 Select your area(s) of expertise (please select all that apply)

Other (please specify):
wildlife ecotoxicology

Page 3: Workshop Results: Non-Plant Living Resources

Q3 Here is a list of non-plant living resources identified at the workshop as not yet being robustly monitored in the study area. From 1-4, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Freshwater bivalves	4
Invasive species	3
Marine mammals and sea turtles	1
Population-level monitoring	2

Q4 Here is a list of non-plant living resources that were identified at the workshop as not yet being robustly monitored in the study area. For each resource, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Freshwater bivalves	Moderate Priority
Invasive species	High Priority
Marine mammals and sea turtles	High Priority
Population-level monitoring	High Priority

Q5 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any non-plant living resource parameters that you believe are not indicated above that should be elevated for monitoring in the future?

None

Q6 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for non-plant living resources in the future?

waterbirds

Page 4: Workshop Results: Plants and Habitat

Q7 Here is a list of plant and habitat parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-7, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Buffer data	5
Cumulative Impacts	4
Dredging data	3
Forest health	2
Sediment stratification	6
Submerged habitat	1
Transition zone monitoring	7

Q8 Here is a list of plant and habitat parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each resource, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Buffer data	Moderate Priority
Cumulative impacts	Moderate Priority
Dredging data	Moderate Priority
Forest health	High Priority
Sediment stratification	Moderate Priority
Submerged habitat	High Priority
Transition zone monitoring	Moderate Priority

Q9 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any plant and habitat parameters that you believe are not indicated above that should be elevated for monitoring in the future?

None

Q10 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for plant and habitat parameters in the future?

None

Page 5: Workshop Results: Water Monitoring - Delaware River and Bay

Q11 Here is a list of Delaware River and Bay monitoring parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-7, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring parameters.

Endocrine disruptors	3
Fish tissue analysis for bioaccumulating compounds	5
Microplastics	6
Monitoring conducted on the center channel replicated for the banks and at additional depths	7
PCBs	4
Pharmaceuticals	1
Phytotoxins, cyanotoxins, Harmful Algal Bloom toxins	2

Q12 Here is a list of Delaware River and Bay monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each parameter, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Endocrine disruptors	High Priority
Fish tissue analysis for bioaccumulating compounds	Moderate Priority
Microplastics	Moderate Priority
Monitoring conducted on the center channel replicated for the banks and at additional depths	Moderate Priority
PCBs	High Priority
Pharmaceuticals	High Priority
Phytotoxins, cyanotoxins, Harmful Algal Bloom toxins	High Priority

Q13 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any Delaware River and Bay monitoring parameters that you believe are not indicated above that should be elevated for monitoring in the future?

None

Q14 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for Delaware River and Bay monitoring parameters in the future?

None

Page 6: Workshop Results: Water Monitoring - Tributaries

Q15 Here is a list of tributary monitoring parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-8, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Endocrine disruptors	2
Fish tissue analysis	3
Flow measurements	6
Groundwater	5
Nuisance algal blooms	4
Pharmaceuticals	1
Temperature at short intervals	8
Wet weather (storm flow) monitoring	7

Q16 Here is a list of tributary monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each parameter, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Endocrine disruptors	High Priority
Fish tissue analysis	High Priority
Flow measurements	Moderate Priority
Groundwater	Moderate Priority
Nuisance algal blooms	High Priority
Pharmaceuticals	High Priority
Temperature at short intervals	Moderate Priority
Wet weather (storm flow) monitoring	Moderate Priority

Q17 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any tributary monitoring parameters that you believe are not indicated above that should be elevated for monitoring in the future?

None

Q18 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for tributary monitoring parameters in the future?

None

Page 7: Additional Monitoring Programs and Funding

Q19 Are you aware of volunteer organizations that could be included in the Delaware Estuary monitoring assessment? **Yes**

Q20 If you answered "yes" for Question 19, what is/are the name(s) of the volunteer organization(s)? **Respondent skipped this question**

Q21 Does your organization anticipate having sufficient funding over the next ten years to carry out existing monitoring programs within the Delaware Estuary? **No**

Q22 If you answered "no" for Question 21, what level of funding is needed for which program?

\$150,000 per sampling year

#29

COMPLETE

Collector: Web Link 1 (Web Link)
Started: Monday, December 10, 2018 12:38:03 PM
Last Modified: Monday, December 10, 2018 12:45:13 PM
Time Spent: 00:07:10
IP Address: 160.93.0.202

Page 2: Identifying Information

Q1 Please enter your contact information.

Name	Cari Wild
Organization	NJ Natural Lands Trust
Email Address	cari.wild@dep.nj.gov

Q2 Select your area(s) of expertise (please select all that apply)

Policy and/or funding,

Other (please specify):

conservation of habitat for threatened and endangered species

Page 3: Workshop Results: Non-Plant Living Resources

Q3 Here is a list of non-plant living resources identified at the workshop as not yet being robustly monitored in the study area. From 1-4, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Freshwater bivalves	3
Invasive species	1
Marine mammals and sea turtles	4
Population-level monitoring	2

Q4 Here is a list of non-plant living resources that were identified at the workshop as not yet being robustly monitored in the study area. For each resource, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Freshwater bivalves	High Priority
Invasive species	High Priority
Marine mammals and sea turtles	High Priority
Population-level monitoring	High Priority

Q5 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any non-plant living resource parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q6 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for non-plant living resources in the future?

Respondent skipped this question

Page 4: Workshop Results: Plants and Habitat

Q7 Here is a list of plant and habitat parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-7, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Buffer data	7
Cumulative Impacts	1
Dredging data	5
Forest health	6
Sediment stratification	4
Submerged habitat	3
Transition zone monitoring	2

Q8 Here is a list of plant and habitat parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each resource, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Buffer data	Low Priority
Cumulative impacts	High Priority
Dredging data	Moderate Priority
Forest health	Low Priority
Sediment stratification	High Priority
Submerged habitat	High Priority
Transition zone monitoring	High Priority

Q9 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any plant and habitat parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q10 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for plant and habitat parameters in the future?

Respondent skipped this question

Page 5: Workshop Results: Water Monitoring - Delaware River and Bay

Q11 Here is a list of Delaware River and Bay monitoring parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-7, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring parameters.

Endocrine disruptors	2
Fish tissue analysis for bioaccumulating compounds	4
Microplastics	1
Monitoring conducted on the center channel replicated for the banks and at additional depths	7
PCBs	6
Pharmaceuticals	3
Phytotoxins, cyanotoxins, Harmful Algal Bloom toxins	5

Q12 Here is a list of Delaware River and Bay monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each parameter, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Endocrine disruptors	High Priority
Fish tissue analysis for bioaccumulating compounds	High Priority
Microplastics	High Priority
Monitoring conducted on the center channel replicated for the banks and at additional depths	Moderate Priority
PCBs	Moderate Priority
Pharmaceuticals	High Priority
Phytotoxins, cyanotoxins, Harmful Algal Bloom toxins	Moderate Priority

Q13 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any Delaware River and Bay monitoring parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q14 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for Delaware River and Bay monitoring parameters in the future?

Respondent skipped this question

Page 6: Workshop Results: Water Monitoring - Tributaries

Q15 Here is a list of tributary monitoring parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-8, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Endocrine disruptors	1
Fish tissue analysis	2
Flow measurements	8
Groundwater	5
Nuisance algal blooms	4
Pharmaceuticals	3
Temperature at short intervals	7
Wet weather (storm flow) monitoring	6

Q16 Here is a list of tributary monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each parameter, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Endocrine disruptors	High Priority
Fish tissue analysis	High Priority
Flow measurements	Moderate Priority
Groundwater	Moderate Priority
Nuisance algal blooms	High Priority
Pharmaceuticals	High Priority
Temperature at short intervals	Moderate Priority
Wet weather (storm flow) monitoring	Moderate Priority

Q17 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any tributary monitoring parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q18 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for tributary monitoring parameters in the future?

Respondent skipped this question

Page 7: Additional Monitoring Programs and Funding

Q19 Are you aware of volunteer organizations that could be included in the Delaware Estuary monitoring assessment?

No

Q20 If you answered "yes" for Question 19, what is/are the name(s) of the volunteer organization(s)?

Respondent skipped this question

Q21 Does your organization anticipate having sufficient funding over the next ten years to carry out existing monitoring programs within the Delaware Estuary?

Uncertain

Q22 If you answered "no" for Question 21, what level of funding is needed for which program?

Respondent skipped this question

#30

INCOMPLETE

Collector: Web Link 1 (Web Link)
Started: Monday, December 10, 2018 12:54:57 PM
Last Modified: Monday, December 10, 2018 1:00:08 PM
Time Spent: 00:05:11
IP Address: 160.93.0.208

Page 2: Identifying Information

Q1 Please enter your contact information.

Name	Biswarup Guha
Organization	NJDEP
Email Address	biswarup.guha@dep.nj.gov

Q2 Select your area(s) of expertise (please select all that apply)

Beaches,
Data management,
Freshwater resources and organisms ,
Modeling,
Policy and/or funding,
Shellfish and benthic resources ,
Water quality,
Other (please specify):
Surface Water Quality Standards

Page 3: Workshop Results: Non-Plant Living Resources

Q3 Here is a list of non-plant living resources identified at the workshop as not yet being robustly monitored in the study area. From 1-4, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Respondent skipped this question

Q4 Here is a list of non-plant living resources that were identified at the workshop as not yet being robustly monitored in the study area. For each resource, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Respondent skipped this question

Q5 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any non-plant living resource parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q6 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for non-plant living resources in the future?

Respondent skipped this question

Page 4: Workshop Results: Plants and Habitat

Q7 Here is a list of plant and habitat parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-7, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Respondent skipped this question

Q8 Here is a list of plant and habitat parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each resource, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Respondent skipped this question

Q9 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any plant and habitat parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q10 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for plant and habitat parameters in the future?

Respondent skipped this question

Page 5: Workshop Results: Water Monitoring - Delaware River and Bay

Q11 Here is a list of Delaware River and Bay monitoring parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-7, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring parameters.

Respondent skipped this question

Q12 Here is a list of Delaware River and Bay monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each parameter, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Respondent skipped this question

Q13 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any Delaware River and Bay monitoring parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q14 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for Delaware River and Bay monitoring parameters in the future?

Respondent skipped this question

Page 6: Workshop Results: Water Monitoring - Tributaries

Q15 Here is a list of tributary monitoring parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-8, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Respondent skipped this question

Q16 Here is a list of tributary monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each parameter, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Respondent skipped this question

Q17 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any tributary monitoring parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q18 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for tributary monitoring parameters in the future?

Respondent skipped this question

Page 7: Additional Monitoring Programs and Funding

Q19 Are you aware of volunteer organizations that could be included in the Delaware Estuary monitoring assessment?

Respondent skipped this question

Q20 If you answered "yes" for Question 19, what is/are the name(s) of the volunteer organization(s)?

Respondent skipped this question

Q21 Does your organization anticipate having sufficient funding over the next ten years to carry out existing monitoring programs within the Delaware Estuary?

Respondent skipped this question

Q22 If you answered "no" for Question 21, what level of funding is needed for which program?

Respondent skipped this question

#31

COMPLETE

Collector: Web Link 1 (Web Link)
Started: Monday, December 10, 2018 1:13:32 PM
Last Modified: Monday, December 10, 2018 1:46:42 PM
Time Spent: 00:33:10
IP Address: 204.46.140.104

Page 2: Identifying Information

Q1 Please enter your contact information.

Name	Kathleen Foley
Organization	USEPA Region 2
Email Address	savino.kathleen@epa.gov

Q2 Select your area(s) of expertise (please select all that apply)

Community engagement,
Water quality,
Other (please specify):
Data Quality

Page 3: Workshop Results: Non-Plant Living Resources

Q3 Here is a list of non-plant living resources identified at the workshop as not yet being robustly monitored in the study area. From 1-4, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Freshwater bivalves	1
Invasive species	3
Marine mammals and sea turtles	4
Population-level monitoring	2

Q4 Here is a list of non-plant living resources that were identified at the workshop as not yet being robustly monitored in the study area. For each resource, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Freshwater bivalves	High Priority
Invasive species	Moderate Priority
Marine mammals and sea turtles	Low Priority
Population-level monitoring	High Priority

Q5 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any non-plant living resource parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q6 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for non-plant living resources in the future?

Respondent skipped this question

Page 4: Workshop Results: Plants and Habitat

Q7 Here is a list of plant and habitat parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-7, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Buffer data	4
Cumulative Impacts	7
Dredging data	2
Forest health	5
Sediment stratification	6
Submerged habitat	1
Transition zone monitoring	3

Q8 Here is a list of plant and habitat parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each resource, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Buffer data	High Priority
Cumulative impacts	Low Priority
Dredging data	Moderate Priority
Forest health	Moderate Priority
Sediment stratification	Low Priority
Submerged habitat	High Priority
Transition zone monitoring	High Priority

Q9 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any plant and habitat parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q10 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for plant and habitat parameters in the future?

Respondent skipped this question

Page 5: Workshop Results: Water Monitoring - Delaware River and Bay

Q11 Here is a list of Delaware River and Bay monitoring parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-7, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring parameters.

Endocrine disruptors	2
Fish tissue analysis for bioaccumulating compounds	3
Microplastics	7
Monitoring conducted on the center channel replicated for the banks and at additional depths	5
PCBs	6
Pharmaceuticals	4
Phytotoxins, cyanotoxins, Harmful Algal Bloom toxins	1

Q12 Here is a list of Delaware River and Bay monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each parameter, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Endocrine disruptors	High Priority
Fish tissue analysis for bioaccumulating compounds	Moderate Priority
Microplastics	Low Priority
Monitoring conducted on the center channel replicated for the banks and at additional depths	Low Priority
PCBs	Low Priority
Pharmaceuticals	High Priority
Phytotoxins, cyanotoxins, Harmful Algal Bloom toxins	High Priority

Q13 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any Delaware River and Bay monitoring parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q14 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for Delaware River and Bay monitoring parameters in the future?

Respondent skipped this question

Page 6: Workshop Results: Water Monitoring - Tributaries

Q15 Here is a list of tributary monitoring parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-8, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Endocrine disruptors	4
Fish tissue analysis	7
Flow measurements	3
Groundwater	5
Nuisance algal blooms	1
Pharmaceuticals	6
Temperature at short intervals	8
Wet weather (storm flow) monitoring	2

Q16 Here is a list of tributary monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each parameter, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Endocrine disruptors	High Priority
Fish tissue analysis	Moderate Priority
Flow measurements	High Priority
Groundwater	High Priority
Nuisance algal blooms	High Priority
Pharmaceuticals	Moderate Priority
Temperature at short intervals	Moderate Priority
Wet weather (storm flow) monitoring	High Priority

Q17 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any tributary monitoring parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q18 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for tributary monitoring parameters in the future?

Respondent skipped this question

Page 7: Additional Monitoring Programs and Funding

Q19 Are you aware of volunteer organizations that could be included in the Delaware Estuary monitoring assessment?

No

Q20 If you answered "yes" for Question 19, what is/are the name(s) of the volunteer organization(s)?

Respondent skipped this question

Q21 Does your organization anticipate having sufficient funding over the next ten years to carry out existing monitoring programs within the Delaware Estuary?

Yes

Q22 If you answered "no" for Question 21, what level of funding is needed for which program?

Respondent skipped this question

#32

COMPLETE

Collector: Web Link 1 (Web Link)
Started: Monday, December 10, 2018 2:39:33 PM
Last Modified: Monday, December 10, 2018 2:49:11 PM
Time Spent: 00:09:37
IP Address: 129.25.251.100

Page 2: Identifying Information

Q1 Please enter your contact information.

Name	David Velinsky
Organization	Academy of Natural Sciences of Drexel Univesity
Email Address	djv23@drexel.edu

Q2 Select your area(s) of expertise (please select all that apply)

Coastal ecology/function,
Ecosystem services,
Sediment or , soils
Tidal/nontidal , wetlands
Water quality

Page 3: Workshop Results: Non-Plant Living Resources

Q3 Here is a list of non-plant living resources identified at the workshop as not yet being robustly monitored in the study area. From 1-4, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Freshwater bivalves	2
Invasive species	1
Marine mammals and sea turtles	4
Population-level monitoring	3

Q4 Here is a list of non-plant living resources that were identified at the workshop as not yet being robustly monitored in the study area. For each resource, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Freshwater bivalves	Moderate Priority
Invasive species	High Priority
Marine mammals and sea turtles	Low Priority
Population-level monitoring	Moderate Priority

Q5 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any non-plant living resource parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q6 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for non-plant living resources in the future?

tidal freshwater areas

Page 4: Workshop Results: Plants and Habitat

Q7 Here is a list of plant and habitat parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-7, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Buffer data	6
Cumulative Impacts	2
Dredging data	1
Forest health	5
Sediment stratification	7
Submerged habitat	4
Transition zone monitoring	3

Q8 Here is a list of plant and habitat parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each resource, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Buffer data	Moderate Priority
Cumulative impacts	Moderate Priority
Dredging data	High Priority
Forest health	Moderate Priority
Sediment stratification	Low Priority
Submerged habitat	Moderate Priority
Transition zone monitoring	Moderate Priority

Q9 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any plant and habitat parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q10 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for plant and habitat parameters in the future?

tidal Freshwater areas

Page 5: Workshop Results: Water Monitoring - Delaware River and Bay

Q11 Here is a list of Delaware River and Bay monitoring parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-7, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring parameters.

Endocrine disruptors	3
Fish tissue analysis for bioaccumulating compounds	2
Microplastics	1
Monitoring conducted on the center channel replicated for the banks and at additional depths	5
PCBs	7
Pharmaceuticals	4
Phytotoxins, cyanotoxins, Harmful Algal Bloom toxins	6

Q12 Here is a list of Delaware River and Bay monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each parameter, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Endocrine disruptors	High Priority
Fish tissue analysis for bioaccumulating compounds	High Priority
Microplastics	High Priority
Monitoring conducted on the center channel replicated for the banks and at additional depths	Moderate Priority
PCBs	Moderate Priority
Pharmaceuticals	High Priority
Phytotoxins, cyanotoxins, Harmful Algal Bloom toxins	High Priority

Q13 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any Delaware River and Bay monitoring parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q14 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for Delaware River and Bay monitoring parameters in the future?

Respondent skipped this question

Page 6: Workshop Results: Water Monitoring - Tributaries

Q15 Here is a list of tributary monitoring parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-8, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Endocrine disruptors	4
Fish tissue analysis	5
Flow measurements	3
Groundwater	1
Nuisance algal blooms	7
Pharmaceuticals	6
Temperature at short intervals	8
Wet weather (storm flow) monitoring	2

Q16 Here is a list of tributary monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each parameter, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Endocrine disruptors	Moderate Priority
Fish tissue analysis	Moderate Priority
Flow measurements	High Priority
Groundwater	High Priority
Nuisance algal blooms	Moderate Priority
Pharmaceuticals	Moderate Priority
Temperature at short intervals	Moderate Priority
Wet weather (storm flow) monitoring	High Priority

Q17 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any tributary monitoring parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q18 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for tributary monitoring parameters in the future?

Respondent skipped this question

Page 7: Additional Monitoring Programs and Funding

Q19 Are you aware of volunteer organizations that could be included in the Delaware Estuary monitoring assessment?

No

Q20 If you answered "yes" for Question 19, what is/are the name(s) of the volunteer organization(s)?

Respondent skipped this question

Q21 Does your organization anticipate having sufficient funding over the next ten years to carry out existing monitoring programs within the Delaware Estuary?

Uncertain

Q22 If you answered "no" for Question 21, what level of funding is needed for which program?

approximately \$100k per year

#33

COMPLETE

Collector: Web Link 1 (Web Link)
Started: Monday, December 10, 2018 2:41:18 PM
Last Modified: Monday, December 10, 2018 2:56:49 PM
Time Spent: 00:15:30
IP Address: 50.199.86.61

Page 2: Identifying Information

Q1 Please enter your contact information.

Name	Meghan Rogalus
Organization	Bucks County Conservation District
Email Address	mrogalus@bucksccd.org

Q2 Select your area(s) of expertise (please select all that apply)

Citizen science,
Data management,
Freshwater resources and organisms,
Water quality

Page 3: Workshop Results: Non-Plant Living Resources

Q3 Here is a list of non-plant living resources identified at the workshop as not yet being robustly monitored in the study area. From 1-4, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Freshwater bivalves	3
Invasive species	1
Marine mammals and sea turtles	2
Population-level monitoring	4

Q4 Here is a list of non-plant living resources that were identified at the workshop as not yet being robustly monitored in the study area. For each resource, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Freshwater bivalves	Moderate Priority
Invasive species	High Priority
Marine mammals and sea turtles	Moderate Priority
Population-level monitoring	Moderate Priority

Q5 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any non-plant living resource parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q6 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for non-plant living resources in the future?

Areas outside of DRWI clusters, e.g., Tohickon Creek, Neshaminy Creek and other Delaware direct basins

Page 4: Workshop Results: Plants and Habitat

Q7 Here is a list of plant and habitat parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-7, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Buffer data	3
Cumulative Impacts	2
Dredging data	7
Forest health	4
Sediment stratification	6
Submerged habitat	5
Transition zone monitoring	1

Q8 Here is a list of plant and habitat parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each resource, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Buffer data	High Priority
Cumulative impacts	High Priority
Dredging data	Low Priority
Forest health	Moderate Priority
Sediment stratification	Low Priority
Submerged habitat	Moderate Priority
Transition zone monitoring	High Priority

Q9 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any plant and habitat parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q10 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for plant and habitat parameters in the future?

Respondent skipped this question

Page 5: Workshop Results: Water Monitoring - Delaware River and Bay

Q11 Here is a list of Delaware River and Bay monitoring parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-7, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring parameters.

Endocrine disruptors	1
Fish tissue analysis for bioaccumulating compounds	2
Microplastics	6
Monitoring conducted on the center channel replicated for the banks and at additional depths	7
PCBs	4
Pharmaceuticals	3
Phytotoxins, cyanotoxins, Harmful Algal Bloom toxins	5

Q12 Here is a list of Delaware River and Bay monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each parameter, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Endocrine disruptors	High Priority
Fish tissue analysis for bioaccumulating compounds	High Priority
Microplastics	Moderate Priority
Monitoring conducted on the center channel replicated for the banks and at additional depths	Low Priority
PCBs	Moderate Priority
Pharmaceuticals	High Priority
Phytotoxins, cyanotoxins, Harmful Algal Bloom toxins	High Priority

Q13 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any Delaware River and Bay monitoring parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q14 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for Delaware River and Bay monitoring parameters in the future?

Respondent skipped this question

Page 6: Workshop Results: Water Monitoring - Tributaries

Q15 Here is a list of tributary monitoring parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-8, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Endocrine disruptors	3
Fish tissue analysis	4
Flow measurements	2
Groundwater	5
Nuisance algal blooms	8
Pharmaceuticals	6
Temperature at short intervals	7
Wet weather (storm flow) monitoring	1

Q16 Here is a list of tributary monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each parameter, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Endocrine disruptors	High Priority
Fish tissue analysis	High Priority
Flow measurements	High Priority
Groundwater	Moderate Priority
Nuisance algal blooms	Low Priority
Pharmaceuticals	Moderate Priority
Temperature at short intervals	Low Priority
Wet weather (storm flow) monitoring	High Priority

Q17 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any tributary monitoring parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q18 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for tributary monitoring parameters in the future?

Respondent skipped this question

Page 7: Additional Monitoring Programs and Funding

Q19 Are you aware of volunteer organizations that could be included in the Delaware Estuary monitoring assessment?

Yes

Q20 If you answered "yes" for Question 19, what is/are the name(s) of the volunteer organization(s)?

Primrose Creek Watershed Association, Aquetong Watershed Association, Cooks Creek Watershed Association, Carversville Farm Foundation (in Paunacussing Creek watershed)

Q21 Does your organization anticipate having sufficient funding over the next ten years to carry out existing monitoring programs within the Delaware Estuary?

Uncertain

Q22 If you answered "no" for Question 21, what level of funding is needed for which program?

Respondent skipped this question

#34

INCOMPLETE

Collector: Web Link 1 (Web Link)
Started: Monday, December 10, 2018 3:23:12 PM
Last Modified: Monday, December 10, 2018 3:24:10 PM
Time Spent: 00:00:58
IP Address: 69.242.37.154

Page 2: Identifying Information

Q1 Please enter your contact information.

Name	Ryan Neuman
Organization	Tookany/Tacony-Frankford Watershed Partnership
Email Address	ryan@ttfwatershed.org

Q2 Select your area(s) of expertise (please select all that apply)

Citizen science,
Water quality

Page 3: Workshop Results: Non-Plant Living Resources

Q3 Here is a list of non-plant living resources identified at the workshop as not yet being robustly monitored in the study area. From 1-4, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Respondent skipped this question

Q4 Here is a list of non-plant living resources that were identified at the workshop as not yet being robustly monitored in the study area. For each resource, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Respondent skipped this question

Q5 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any non-plant living resource parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q6 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for non-plant living resources in the future?

Respondent skipped this question

Page 4: Workshop Results: Plants and Habitat

Q7 Here is a list of plant and habitat parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-7, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Respondent skipped this question

Q8 Here is a list of plant and habitat parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each resource, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Respondent skipped this question

Q9 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any plant and habitat parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q10 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for plant and habitat parameters in the future?

Respondent skipped this question

Page 5: Workshop Results: Water Monitoring - Delaware River and Bay

Q11 Here is a list of Delaware River and Bay monitoring parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-7, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring parameters.

Respondent skipped this question

Q12 Here is a list of Delaware River and Bay monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each parameter, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Respondent skipped this question

Q13 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any Delaware River and Bay monitoring parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q14 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for Delaware River and Bay monitoring parameters in the future?

Respondent skipped this question

Page 6: Workshop Results: Water Monitoring - Tributaries

Q15 Here is a list of tributary monitoring parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-8, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Respondent skipped this question

Q16 Here is a list of tributary monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each parameter, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Respondent skipped this question

Q17 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any tributary monitoring parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q18 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for tributary monitoring parameters in the future?

Respondent skipped this question

Page 7: Additional Monitoring Programs and Funding

Q19 Are you aware of volunteer organizations that could be included in the Delaware Estuary monitoring assessment?

Respondent skipped this question

Q20 If you answered "yes" for Question 19, what is/are the name(s) of the volunteer organization(s)?

Respondent skipped this question

Q21 Does your organization anticipate having sufficient funding over the next ten years to carry out existing monitoring programs within the Delaware Estuary?

Respondent skipped this question

Q22 If you answered "no" for Question 21, what level of funding is needed for which program?

Respondent skipped this question

#35

COMPLETE

Collector: Web Link 1 (Web Link)
Started: Monday, December 10, 2018 3:19:33 PM
Last Modified: Monday, December 10, 2018 3:31:12 PM
Time Spent: 00:11:38
IP Address: 164.159.59.2

Page 2: Identifying Information

Q1 Please enter your contact information.

Name	steve mars
Organization	USFWS - NJFO
Email Address	steve_mars@fws.gov

Q2 Select your area(s) of expertise (please select all that apply)

Beaches,
Brackish or marine resources and organisms,
Coastal ecology/function,
Ecosystem services,
Fish,
Policy and/or funding,
Other (please specify):
horseshoe crabs, red knots, habitat restoration

Page 3: Workshop Results: Non-Plant Living Resources

Q3 Here is a list of non-plant living resources identified at the workshop as not yet being robustly monitored in the study area. From 1-4, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Freshwater bivalves	1
Invasive species	4
Marine mammals and sea turtles	3
Population-level monitoring	2

Q4 Here is a list of non-plant living resources that were identified at the workshop as not yet being robustly monitored in the study area. For each resource, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Freshwater bivalves	Low Priority
Invasive species	Low Priority
Marine mammals and sea turtles	Low Priority
Population-level monitoring	High Priority

Q5 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any non-plant living resource parameters that you believe are not indicated above that should be elevated for monitoring in the future?

horseshoe crabs

Q6 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for non-plant living resources in the future?

HSC spawning and red knot foraging beaches

Page 4: Workshop Results: Plants and Habitat

Q7 Here is a list of plant and habitat parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-7, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Buffer data	4
Cumulative Impacts	3
Dredging data	1
Forest health	7
Sediment stratification	2
Submerged habitat	6
Transition zone monitoring	5

Q8 Here is a list of plant and habitat parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each resource, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Buffer data	Low Priority
Cumulative impacts	Low Priority
Dredging data	High Priority
Forest health	Low Priority
Sediment stratification	Moderate Priority
Submerged habitat	Moderate Priority
Transition zone monitoring	Low Priority

Q9 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any plant and habitat parameters that you believe are not indicated above that should be elevated for monitoring in the future?

tidal wetlands and sea level rise - what will be lost based on current sea level rise predictions

Q10 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for plant and habitat parameters in the future?

sediment loading for tidal wetlands - will it be enough given sea level rise predictions

Page 5: Workshop Results: Water Monitoring - Delaware River and Bay

Q11 Here is a list of Delaware River and Bay monitoring parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-7, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring parameters.

Endocrine disruptors	4
Fish tissue analysis for bioaccumulating compounds	2
Microplastics	6
Monitoring conducted on the center channel replicated for the banks and at additional depths	7
PCBs	5
Pharmaceuticals	1
Phytotoxins, cyanotoxins, Harmful Algal Bloom toxins	3

Q12 Here is a list of Delaware River and Bay monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each parameter, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Endocrine disruptors	Moderate Priority
Fish tissue analysis for bioaccumulating compounds	Moderate Priority
Microplastics	Low Priority
Monitoring conducted on the center channel replicated for the banks and at additional depths	Low Priority
PCBs	Moderate Priority
Pharmaceuticals	Moderate Priority
Phytotoxins, cyanotoxins, Harmful Algal Bloom toxins	Moderate Priority

Q13 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any Delaware River and Bay monitoring parameters that you believe are not indicated above that should be elevated for monitoring in the future?

synergistic effects on fish eating birds when multiple compounds are found in fish

Q14 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for Delaware River and Bay monitoring parameters in the future?

TMDLs for the Philadelphia Trenton area of the DE river

Page 6: Workshop Results: Water Monitoring - Tributaries

Q15 Here is a list of tributary monitoring parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-8, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Respondent skipped this question

Q16 Here is a list of tributary monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each parameter, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Respondent skipped this question

Q17 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any tributary monitoring parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q18 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for tributary monitoring parameters in the future?

Respondent skipped this question

Page 7: Additional Monitoring Programs and Funding

Q19 Are you aware of volunteer organizations that could be included in the Delaware Estuary monitoring assessment?

Yes

Q20 If you answered "yes" for Question 19, what is/are the name(s) of the volunteer organization(s)?

Wetlands institute, Maurice River and Tributaries Friends Group, Bayshore Recovery Project

Q21 Does your organization anticipate having sufficient funding over the next ten years to carry out existing monitoring programs within the Delaware Estuary?

No

Q22 If you answered "no" for Question 21, what level of funding is needed for which program?

Studying the effects on the aquatic environment including changing habitats due to sea level rise

#36

COMPLETE

Collector: Web Link 1 (Web Link)
Started: Monday, December 10, 2018 3:30:14 PM
Last Modified: Monday, December 10, 2018 3:50:22 PM
Time Spent: 00:20:08
IP Address: 8.20.65.4

Page 2: Identifying Information

Q1 Please enter your contact information.

Name	Gregory Lech
Organization	PA Fish and Boat Commission
Email Address	glech@pa.gov

Q2 Select your area(s) of expertise (please select all that apply) **Fish**

Page 3: Workshop Results: Non-Plant Living Resources

Q3 Here is a list of non-plant living resources identified at the workshop as not yet being robustly monitored in the study area. From 1-4, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Freshwater bivalves	1
Invasive species	2
Marine mammals and sea turtles	4
Population-level monitoring	3

Q4 Here is a list of non-plant living resources that were identified at the workshop as not yet being robustly monitored in the study area. For each resource, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Freshwater bivalves	High Priority
Invasive species	High Priority
Marine mammals and sea turtles	Low Priority
Population-level monitoring	High Priority

Q5 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any non-plant living resource parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q6 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for non-plant living resources in the future?

Respondent skipped this question

Page 4: Workshop Results: Plants and Habitat

Q7 Here is a list of plant and habitat parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-7, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Buffer data	4
Cumulative Impacts	2
Dredging data	5
Forest health	1
Sediment stratification	6
Submerged habitat	7
Transition zone monitoring	3

Q8 Here is a list of plant and habitat parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each resource, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Buffer data	Low Priority
Cumulative impacts	High Priority
Dredging data	Low Priority
Forest health	High Priority
Sediment stratification	Low Priority
Submerged habitat	Low Priority
Transition zone monitoring	High Priority

Q9 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any plant and habitat parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q10 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for plant and habitat parameters in the future?

Respondent skipped this question

Page 5: Workshop Results: Water Monitoring - Delaware River and Bay

Q11 Here is a list of Delaware River and Bay monitoring parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-7, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring parameters.

Endocrine disruptors	2
Fish tissue analysis for bioaccumulating compounds	7
Microplastics	4
Monitoring conducted on the center channel replicated for the banks and at additional depths	1
PCBs	6
Pharmaceuticals	3
Phytotoxins, cyanotoxins, Harmful Algal Bloom toxins	5

Q12 Here is a list of Delaware River and Bay monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each parameter, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Endocrine disruptors	High Priority
Fish tissue analysis for bioaccumulating compounds	Low Priority
Microplastics	Low Priority
Monitoring conducted on the center channel replicated for the banks and at additional depths	High Priority
PCBs	Low Priority
Pharmaceuticals	High Priority
Phytotoxins, cyanotoxins, Harmful Algal Bloom toxins	Low Priority

Q13 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any Delaware River and Bay monitoring parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q14 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for Delaware River and Bay monitoring parameters in the future?

Respondent skipped this question

Page 6: Workshop Results: Water Monitoring - Tributaries

Q15 Here is a list of tributary monitoring parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-8, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Endocrine disruptors	4
Fish tissue analysis	5
Flow measurements	1
Groundwater	3
Nuisance algal blooms	8
Pharmaceuticals	7
Temperature at short intervals	6
Wet weather (storm flow) monitoring	2

Q16 Here is a list of tributary monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each parameter, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Endocrine disruptors	Low Priority
Fish tissue analysis	Low Priority
Flow measurements	High Priority
Groundwater	High Priority
Nuisance algal blooms	Low Priority
Pharmaceuticals	Low Priority
Temperature at short intervals	Low Priority
Wet weather (storm flow) monitoring	High Priority

Q17 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any tributary monitoring parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q18 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for tributary monitoring parameters in the future?

Respondent skipped this question

Page 7: Additional Monitoring Programs and Funding

Q19 Are you aware of volunteer organizations that could be included in the Delaware Estuary monitoring assessment?

No

Q20 If you answered "yes" for Question 19, what is/are the name(s) of the volunteer organization(s)?

Respondent skipped this question

Q21 Does your organization anticipate having sufficient funding over the next ten years to carry out existing monitoring programs within the Delaware Estuary?

Uncertain

Q22 If you answered "no" for Question 21, what level of funding is needed for which program?

Respondent skipped this question

#37

INCOMPLETE

Collector: Web Link 1 (Web Link)
Started: Monday, December 10, 2018 3:27:33 PM
Last Modified: Monday, December 10, 2018 4:47:38 PM
Time Spent: 01:20:05
IP Address: 200.178.116.82

Page 2: Identifying Information

Q1 Please enter your contact information.

Name	David Mizrahi
Organization	NJ Audubon
Email Address	david.mizrahi@njudubon.org

Q2 Select your area(s) of expertise (please select all that apply)

Coastal ecology/function,
Tidal/nontidal wetlands ,
Other (please specify):
Avian ecology

Page 3: Workshop Results: Non-Plant Living Resources

Q3 Here is a list of non-plant living resources identified at the workshop as not yet being robustly monitored in the study area. From 1-4, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Respondent skipped this question

Q4 Here is a list of non-plant living resources that were identified at the workshop as not yet being robustly monitored in the study area. For each resource, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Respondent skipped this question

Q5 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any non-plant living resource parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q6 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for non-plant living resources in the future?

Respondent skipped this question

Page 4: Workshop Results: Plants and Habitat

Q7 Here is a list of plant and habitat parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-7, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Respondent skipped this question

Q8 Here is a list of plant and habitat parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each resource, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Respondent skipped this question

Q9 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any plant and habitat parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q10 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for plant and habitat parameters in the future?

Respondent skipped this question

Page 5: Workshop Results: Water Monitoring - Delaware River and Bay

Q11 Here is a list of Delaware River and Bay monitoring parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-7, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring parameters.

Respondent skipped this question

Q12 Here is a list of Delaware River and Bay monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each parameter, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Respondent skipped this question

Q13 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any Delaware River and Bay monitoring parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q14 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for Delaware River and Bay monitoring parameters in the future?

Respondent skipped this question

Page 6: Workshop Results: Water Monitoring - Tributaries

Q15 Here is a list of tributary monitoring parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-8, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Respondent skipped this question

Q16 Here is a list of tributary monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each parameter, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Respondent skipped this question

Q17 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any tributary monitoring parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q18 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for tributary monitoring parameters in the future?

Respondent skipped this question

Page 7: Additional Monitoring Programs and Funding

Q19 Are you aware of volunteer organizations that could be included in the Delaware Estuary monitoring assessment?

Respondent skipped this question

Q20 If you answered "yes" for Question 19, what is/are the name(s) of the volunteer organization(s)?

Respondent skipped this question

Q21 Does your organization anticipate having sufficient funding over the next ten years to carry out existing monitoring programs within the Delaware Estuary?	Respondent skipped this question
<hr/>	
Q22 If you answered "no" for Question 21, what level of funding is needed for which program?	Respondent skipped this question
<hr/>	

#38

INCOMPLETE

Collector: Web Link 1 (Web Link)
Started: Monday, December 10, 2018 5:04:24 PM
Last Modified: Monday, December 10, 2018 5:06:29 PM
Time Spent: 00:02:04
IP Address: 76.117.59.88

Page 2: Identifying Information

Q1 Please enter your contact information.

Name	Dianne Daly
Organization	Consultant
Email Address	power45@comcast.net

Q2 Select your area(s) of expertise (please select all that apply)

Beaches,
Citizen science,
Coastal ecology/function,
Ecosystem services,
Other (please specify):
Coastal restoration

Page 3: Workshop Results: Non-Plant Living Resources

Q3 Here is a list of non-plant living resources identified at the workshop as not yet being robustly monitored in the study area. From 1-4, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.	Respondent skipped this question
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Q4 Here is a list of non-plant living resources that were identified at the workshop as not yet being robustly monitored in the study area. For each resource, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.	Respondent skipped this question
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Q5 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any non-plant living resource parameters that you believe are not indicated above that should be elevated for monitoring in the future?	Respondent skipped this question
--	----------------------------------

Q6 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for non-plant living resources in the future?

Respondent skipped this question

Page 4: Workshop Results: Plants and Habitat

Q7 Here is a list of plant and habitat parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-7, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Respondent skipped this question

Q8 Here is a list of plant and habitat parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each resource, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Respondent skipped this question

Q9 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any plant and habitat parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q10 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for plant and habitat parameters in the future?

Respondent skipped this question

Page 5: Workshop Results: Water Monitoring - Delaware River and Bay

Q11 Here is a list of Delaware River and Bay monitoring parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-7, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring parameters.

Respondent skipped this question

Q12 Here is a list of Delaware River and Bay monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each parameter, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Respondent skipped this question

Q13 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any Delaware River and Bay monitoring parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q14 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for Delaware River and Bay monitoring parameters in the future?

Respondent skipped this question

Page 6: Workshop Results: Water Monitoring - Tributaries

Q15 Here is a list of tributary monitoring parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-8, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Respondent skipped this question

Q16 Here is a list of tributary monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each parameter, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Respondent skipped this question

Q17 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any tributary monitoring parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q18 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for tributary monitoring parameters in the future?

Respondent skipped this question

Page 7: Additional Monitoring Programs and Funding

Q19 Are you aware of volunteer organizations that could be included in the Delaware Estuary monitoring assessment?

Respondent skipped this question

Q20 If you answered "yes" for Question 19, what is/are the name(s) of the volunteer organization(s)?

Respondent skipped this question

Q21 Does your organization anticipate having sufficient funding over the next ten years to carry out existing monitoring programs within the Delaware Estuary?

Respondent skipped this question

Q22 If you answered "no" for Question 21, what level of funding is needed for which program?

Respondent skipped this question

#39

COMPLETE

Collector: Web Link 1 (Web Link)
Started: Monday, December 10, 2018 7:38:13 PM
Last Modified: Monday, December 10, 2018 8:03:20 PM
Time Spent: 00:25:06
IP Address: 100.34.201.158

Page 2: Identifying Information

Q1 Please enter your contact information.

Name	Lindsay Blanton
Organization	Wissahickon Valley Watershed Association
Email Address	lindsay@wvwa.org

Q2 Select your area(s) of expertise (please select all that apply)

Citizen science,
Community engagement,
Water quality

Page 3: Workshop Results: Non-Plant Living Resources

Q3 Here is a list of non-plant living resources identified at the workshop as not yet being robustly monitored in the study area. From 1-4, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Freshwater bivalves	1
Invasive species	2
Marine mammals and sea turtles	4
Population-level monitoring	3

Q4 Here is a list of non-plant living resources that were identified at the workshop as not yet being robustly monitored in the study area. For each resource, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Freshwater bivalves	Moderate Priority
Invasive species	Moderate Priority
Marine mammals and sea turtles	Low Priority
Population-level monitoring	Low Priority

Q5 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any non-plant living resource parameters that you believe are not indicated above that should be elevated for monitoring in the future?

No

Q6 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for non-plant living resources in the future?

Suburban Philadelphia has strong citizen science programs but no set monitoring protocols for bivalves or invasive species.

Page 4: Workshop Results: Plants and Habitat

Q7 Here is a list of plant and habitat parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-7, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Buffer data	1
Cumulative Impacts	3
Dredging data	7
Forest health	2
Sediment stratification	4
Submerged habitat	5
Transition zone monitoring	6

Q8 Here is a list of plant and habitat parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each resource, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Buffer data	High Priority
Cumulative impacts	Moderate Priority
Dredging data	Low Priority
Forest health	Moderate Priority
Sediment stratification	Moderate Priority
Submerged habitat	Low Priority
Transition zone monitoring	Low Priority

Q9 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any plant and habitat parameters that you believe are not indicated above that should be elevated for monitoring in the future?

No

Q10 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for plant and habitat parameters in the future?

suburbia could have a much better understanding of buffer and forest health/status

Page 5: Workshop Results: Water Monitoring - Delaware River and Bay

Q11 Here is a list of Delaware River and Bay monitoring parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-7, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring parameters.

Endocrine disruptors	5
Fish tissue analysis for bioaccumulating compounds	3
Microplastics	2
Monitoring conducted on the center channel replicated for the banks and at additional depths	7
PCBs	1
Pharmaceuticals	6
Phytotoxins, cyanotoxins, Harmful Algal Bloom toxins	4

Q12 Here is a list of Delaware River and Bay monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each parameter, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Endocrine disruptors	Moderate Priority
Fish tissue analysis for bioaccumulating compounds	Moderate Priority
Microplastics	Moderate Priority
Monitoring conducted on the center channel replicated for the banks and at additional depths	Low Priority
PCBs	Moderate Priority
Pharmaceuticals	Moderate Priority
Phytotoxins, cyanotoxins, Harmful Algal Bloom toxins	Moderate Priority

Q13 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any Delaware River and Bay monitoring parameters that you believe are not indicated above that should be elevated for monitoring in the future?

No

Q14 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for Delaware River and Bay monitoring parameters in the future?

Unsure. Recently heard about the ubiquity of microplastics in our water - would be curious to see what waterways they're found in.

Page 6: Workshop Results: Water Monitoring - Tributaries

Q15 Here is a list of tributary monitoring parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-8, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Endocrine disruptors	8
Fish tissue analysis	6
Flow measurements	5
Groundwater	4
Nuisance algal blooms	2
Pharmaceuticals	7
Temperature at short intervals	3
Wet weather (storm flow) monitoring	1

Q16 Here is a list of tributary monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each parameter, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Endocrine disruptors	Low Priority
Fish tissue analysis	Low Priority
Flow measurements	Moderate Priority
Groundwater	Moderate Priority
Nuisance algal blooms	Moderate Priority
Pharmaceuticals	Low Priority
Temperature at short intervals	Moderate Priority
Wet weather (storm flow) monitoring	High Priority

Q17 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any tributary monitoring parameters that you believe are not indicated above that should be elevated for monitoring in the future?

No

Q18 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for tributary monitoring parameters in the future?

Everywhere!

Page 7: Additional Monitoring Programs and Funding

Q19 Are you aware of volunteer organizations that could be included in the Delaware Estuary monitoring assessment? **No**

Q20 If you answered "yes" for Question 19, what is/are the name(s) of the volunteer organization(s)? **Respondent skipped this question**

Q21 Does your organization anticipate having sufficient funding over the next ten years to carry out existing monitoring programs within the Delaware Estuary? **Yes**

Q22 If you answered "no" for Question 21, what level of funding is needed for which program? **Respondent skipped this question**

#40

COMPLETE

Collector: Web Link 1 (Web Link)
Started: Tuesday, December 11, 2018 8:23:10 AM
Last Modified: Tuesday, December 11, 2018 8:41:47 AM
Time Spent: 00:18:37
IP Address: 129.25.250.85

Page 2: Identifying Information

Q1 Please enter your contact information.

Name	Roger Thomas
Organization	The Academy of Natural Sciences
Email Address	thomas@ansp.org

Q2 Select your area(s) of expertise (please select all that apply)

Citizen science,
Community engagement,
Ecosystem services,
Fish,
Shellfish and benthic resources,
Water quality

Page 3: Workshop Results: Non-Plant Living Resources

Q3 Here is a list of non-plant living resources identified at the workshop as not yet being robustly monitored in the study area. From 1-4, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Freshwater bivalves	1
Invasive species	3
Marine mammals and sea turtles	4
Population-level monitoring	2

Q4 Here is a list of non-plant living resources that were identified at the workshop as not yet being robustly monitored in the study area. For each resource, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Freshwater bivalves	High Priority
Invasive species	Moderate Priority
Marine mammals and sea turtles	Moderate Priority
Population-level monitoring	High Priority

Q5 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any non-plant living resource parameters that you believe are not indicated above that should be elevated for monitoring in the future?

freshwater tidal wetlands

Q6 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for non-plant living resources in the future?	Respondent skipped this question
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Page 4: Workshop Results: Plants and Habitat

Q7 Here is a list of plant and habitat parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-7, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Buffer data	2
Cumulative Impacts	3
Dredging data	7
Forest health	6
Sediment stratification	5
Submerged habitat	4
Transition zone monitoring	1

Q8 Here is a list of plant and habitat parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each resource, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Buffer data	High Priority
Cumulative impacts	High Priority
Dredging data	Low Priority
Forest health	Low Priority
Sediment stratification	Moderate Priority
Submerged habitat	Moderate Priority
Transition zone monitoring	High Priority

Q9 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any plant and habitat parameters that you believe are not indicated above that should be elevated for monitoring in the future?

subwatershed land use, elevation

Q10 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for plant and habitat parameters in the future?

Respondent skipped this question

Page 5: Workshop Results: Water Monitoring - Delaware River and Bay

Q11 Here is a list of Delaware River and Bay monitoring parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-7, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring parameters.

Endocrine disruptors	2
Fish tissue analysis for bioaccumulating compounds	1
Microplastics	6
Monitoring conducted on the center channel replicated for the banks and at additional depths	5
PCBs	3
Pharmaceuticals	4
Phytotoxins, cyanotoxins, Harmful Algal Bloom toxins	7

Q12 Here is a list of Delaware River and Bay monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each parameter, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Endocrine disruptors	High Priority
Fish tissue analysis for bioaccumulating compounds	High Priority
Microplastics	Low Priority
Monitoring conducted on the center channel replicated for the banks and at additional depths	Low Priority
PCBs	Moderate Priority
Pharmaceuticals	Moderate Priority
Phytotoxins, cyanotoxins, Harmful Algal Bloom toxins	Low Priority

Q13 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any Delaware River and Bay monitoring parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q14 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for Delaware River and Bay monitoring parameters in the future?

Respondent skipped this question

Page 6: Workshop Results: Water Monitoring - Tributaries

Q15 Here is a list of tributary monitoring parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-8, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Endocrine disruptors	3
Fish tissue analysis	1
Flow measurements	2
Groundwater	7
Nuisance algal blooms	8
Pharmaceuticals	4
Temperature at short intervals	6
Wet weather (storm flow) monitoring	5

Q16 Here is a list of tributary monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each parameter, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Endocrine disruptors	High Priority
Fish tissue analysis	High Priority
Flow measurements	High Priority
Groundwater	Low Priority
Nuisance algal blooms	Low Priority
Pharmaceuticals	High Priority
Temperature at short intervals	Moderate Priority
Wet weather (storm flow) monitoring	Moderate Priority

Q17 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any tributary monitoring parameters that you believe are not indicated above that should be elevated for monitoring in the future?

riparian habitat, watershed land use

Q18 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for tributary monitoring parameters in the future?

Respondent skipped this question

Page 7: Additional Monitoring Programs and Funding

Q19 Are you aware of volunteer organizations that could be included in the Delaware Estuary monitoring assessment?

Respondent skipped this question

Q20 If you answered "yes" for Question 19, what is/are the name(s) of the volunteer organization(s)?

Respondent skipped this question

Q21 Does your organization anticipate having sufficient funding over the next ten years to carry out existing monitoring programs within the Delaware Estuary?

No

Q22 If you answered "no" for Question 21, what level of funding is needed for which program?

20k/year

#41

COMPLETE

Collector: Web Link 1 (Web Link)
Started: Tuesday, December 11, 2018 8:36:23 AM
Last Modified: Tuesday, December 11, 2018 8:51:02 AM
Time Spent: 00:14:39
IP Address: 137.161.255.59

Page 2: Identifying Information

Q1 Please enter your contact information.

Name	Barbara Conlin
Organization	US Army Corps of Engineers
Email Address	Barbara.E.Conlin@usace.army.mil

Q2 Select your area(s) of expertise (please select all that apply)

Beaches,
Brackish or marine resources and organisms,
Coastal ecology/function,
Policy and/or funding,
Tidal/nontidal wetlands

Page 3: Workshop Results: Non-Plant Living Resources

Q3 Here is a list of non-plant living resources identified at the workshop as not yet being robustly monitored in the study area. From 1-4, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Freshwater bivalves	2
Marine mammals and sea turtles	1

Q4 Here is a list of non-plant living resources that were identified at the workshop as not yet being robustly monitored in the study area. For each resource, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Freshwater bivalves	High Priority
Invasive species	Moderate Priority
Marine mammals and sea turtles	High Priority
Population-level monitoring	High Priority

Q5 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any non-plant living resource parameters that you believe are not indicated above that should be elevated for monitoring in the future?

horseshoe crabs, tubeworms, recreational fisheries

Q6 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for non-plant living resources in the future?

Delaware Bay

Page 4: Workshop Results: Plants and Habitat

Q7 Here is a list of plant and habitat parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-7, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Cumulative Impacts	1
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Q8 Here is a list of plant and habitat parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each resource, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Cumulative impacts	High Priority
Dredging data	High Priority
Forest health	Moderate Priority
Submerged habitat	High Priority

Q9 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any plant and habitat parameters that you believe are not indicated above that should be elevated for monitoring in the future?

salt marshes

Q10 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for plant and habitat parameters in the future?

Delaware Bay

Page 5: Workshop Results: Water Monitoring - Delaware River and Bay

Q11 Here is a list of Delaware River and Bay monitoring parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-7, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring parameters.

Monitoring conducted on the center channel replicated for the banks and at additional depths	3
PCBs	2
Phytotoxins, cyanotoxins, Harmful Algal Bloom toxins	1

Q12 Here is a list of Delaware River and Bay monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each parameter, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Endocrine disruptors	Moderate Priority
Fish tissue analysis for bioaccumulating compounds	High Priority
Microplastics	High Priority
Monitoring conducted on the center channel replicated for the banks and at additional depths	Moderate Priority
PCBs	Moderate Priority
Pharmaceuticals	High Priority
Phytotoxins, cyanotoxins, Harmful Algal Bloom toxins	High Priority

Q13 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any Delaware River and Bay monitoring parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q14 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for Delaware River and Bay monitoring parameters in the future?

Respondent skipped this question

Page 6: Workshop Results: Water Monitoring - Tributaries

Q15 Here is a list of tributary monitoring parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-8, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Flow measurements	5
Pharmaceuticals	1
Temperature at short intervals	2
Wet weather (storm flow) monitoring	3

Q16 Here is a list of tributary monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each parameter, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Endocrine disruptors	Moderate Priority
Fish tissue analysis	High Priority
Flow measurements	Moderate Priority
Groundwater	Moderate Priority
Nuisance algal blooms	High Priority
Pharmaceuticals	High Priority
Temperature at short intervals	Moderate Priority
Wet weather (storm flow) monitoring	Moderate Priority

Q17 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any tributary monitoring parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q18 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for tributary monitoring parameters in the future?

Respondent skipped this question

Page 7: Additional Monitoring Programs and Funding

Q19 Are you aware of volunteer organizations that could be included in the Delaware Estuary monitoring assessment?

No

Q20 If you answered "yes" for Question 19, what is/are the name(s) of the volunteer organization(s)?

Respondent skipped this question

Q21 Does your organization anticipate having sufficient funding over the next ten years to carry out existing monitoring programs within the Delaware Estuary?

Uncertain

Q22 If you answered "no" for Question 21, what level of funding is needed for which program?

Respondent skipped this question

#42

COMPLETE

Collector: Web Link 1 (Web Link)
Started: Tuesday, December 11, 2018 9:04:05 AM
Last Modified: Tuesday, December 11, 2018 9:44:18 AM
Time Spent: 00:40:13
IP Address: 161.80.1.9

Page 2: Identifying Information

Q1 Please enter your contact information.

Name	Bill Richardson
Organization	EPA Region 3
Email Address	richardson.william@epa.gov

Q2 Select your area(s) of expertise (please select all that apply)

Freshwater resources and organisms	<input checked="" type="checkbox"/>
Policy and/or funding,	<input checked="" type="checkbox"/>
Water quality	<input checked="" type="checkbox"/>

Page 3: Workshop Results: Non-Plant Living Resources

Q3 Here is a list of non-plant living resources identified at the workshop as not yet being robustly monitored in the study area. From 1-4, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Freshwater bivalves	2
Invasive species	3
Marine mammals and sea turtles	4
Population-level monitoring	1

Q4 Here is a list of non-plant living resources that were identified at the workshop as not yet being robustly monitored in the study area. For each resource, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Freshwater bivalves	Moderate Priority
Invasive species	Moderate Priority
Marine mammals and sea turtles	Low Priority
Population-level monitoring	High Priority

Q5 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any non-plant living resource parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Benthic macroinvertebrates for estuarine IBI development to assess aquatic life use

Q6 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for non-plant living resources in the future?

tidal Schuylkill River

Page 4: Workshop Results: Plants and Habitat

Q7 Here is a list of plant and habitat parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-7, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Buffer data	5
Cumulative Impacts	1
Dredging data	7
Forest health	6
Sediment stratification	2
Submerged habitat	3
Transition zone monitoring	4

Q8 Here is a list of plant and habitat parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each resource, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Buffer data	Low Priority
Cumulative impacts	High Priority
Dredging data	Low Priority
Forest health	Low Priority
Sediment stratification	Moderate Priority
Submerged habitat	Moderate Priority
Transition zone monitoring	Moderate Priority

Q9 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any plant and habitat parameters that you believe are not indicated above that should be elevated for monitoring in the future?

no

Q10 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for plant and habitat parameters in the future?

tidal Schuylkill

Page 5: Workshop Results: Water Monitoring - Delaware River and Bay

Q11 Here is a list of Delaware River and Bay monitoring parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-7, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring parameters.

Endocrine disruptors	5
Fish tissue analysis for bioaccumulating compounds	3
Microplastics	7
Monitoring conducted on the center channel replicated for the banks and at additional depths	1
PCBs	4
Pharmaceuticals	6
Phytotoxins, cyanotoxins, Harmful Algal Bloom toxins	2

Q12 Here is a list of Delaware River and Bay monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each parameter, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Endocrine disruptors	Low Priority
Fish tissue analysis for bioaccumulating compounds	High Priority
Microplastics	Low Priority
Monitoring conducted on the center channel replicated for the banks and at additional depths	High Priority
PCBs	Moderate Priority
Pharmaceuticals	Moderate Priority
Phytotoxins, cyanotoxins, Harmful Algal Bloom toxins	High Priority

Q13 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any Delaware River and Bay monitoring parameters that you believe are not indicated above that should be elevated for monitoring in the future?

no

Q14 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for Delaware River and Bay monitoring parameters in the future?

tidal Schuylkill

Page 6: Workshop Results: Water Monitoring - Tributaries

Q15 Here is a list of tributary monitoring parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-8, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Endocrine disruptors	7
Fish tissue analysis	3
Flow measurements	4
Groundwater	8
Nuisance algal blooms	1
Pharmaceuticals	6
Temperature at short intervals	5
Wet weather (storm flow) monitoring	2

Q16 Here is a list of tributary monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each parameter, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Endocrine disruptors	Low Priority
Fish tissue analysis	Moderate Priority
Flow measurements	Moderate Priority
Groundwater	Low Priority
Nuisance algal blooms	High Priority
Pharmaceuticals	Low Priority
Temperature at short intervals	Moderate Priority
Wet weather (storm flow) monitoring	High Priority

Q17 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any tributary monitoring parameters that you believe are not indicated above that should be elevated for monitoring in the future?

biological community monitoring - macroinvertebrates and fish

Q18 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for tributary monitoring parameters in the future?

no

Page 7: Additional Monitoring Programs and Funding

Q19 Are you aware of volunteer organizations that could be included in the Delaware Estuary monitoring assessment? **No**

Q20 If you answered "yes" for Question 19, what is/are the name(s) of the volunteer organization(s)? **Respondent skipped this question**

Q21 Does your organization anticipate having sufficient funding over the next ten years to carry out existing monitoring programs within the Delaware Estuary? **Uncertain**

Q22 If you answered "no" for Question 21, what level of funding is needed for which program? **Respondent skipped this question**

#43

INCOMPLETE

Collector: Web Link 1 (Web Link)
Started: Tuesday, December 11, 2018 9:45:59 AM
Last Modified: Tuesday, December 11, 2018 9:47:28 AM
Time Spent: 00:01:28
IP Address: 155.247.96.228

Page 2: Identifying Information

Q1 Please enter your contact information.

Name	Laura Toran
Organization	Temple University
Email Address	ltoran@temple.edu

Q2 Select your area(s) of expertise (please select all that apply)

Citizen science,
Data management,
Modeling,
Sediment or soils ,
Urban/regional planning or land use,
Water quality,
Water quantity

Page 3: Workshop Results: Non-Plant Living Resources

Q3 Here is a list of non-plant living resources identified at the workshop as not yet being robustly monitored in the study area. From 1-4, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.	Respondent skipped this question
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Q4 Here is a list of non-plant living resources that were identified at the workshop as not yet being robustly monitored in the study area. For each resource, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.	Respondent skipped this question
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Q5 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any non-plant living resource parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q6 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for non-plant living resources in the future?

Respondent skipped this question

Page 4: Workshop Results: Plants and Habitat

Q7 Here is a list of plant and habitat parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-7, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Respondent skipped this question

Q8 Here is a list of plant and habitat parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each resource, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Respondent skipped this question

Q9 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any plant and habitat parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q10 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for plant and habitat parameters in the future?

Respondent skipped this question

Page 5: Workshop Results: Water Monitoring - Delaware River and Bay

Q11 Here is a list of Delaware River and Bay monitoring parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-7, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring parameters.

Respondent skipped this question

Q12 Here is a list of Delaware River and Bay monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each parameter, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Respondent skipped this question

Q13 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any Delaware River and Bay monitoring parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q14 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for Delaware River and Bay monitoring parameters in the future?

Respondent skipped this question

Page 6: Workshop Results: Water Monitoring - Tributaries

Q15 Here is a list of tributary monitoring parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-8, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Respondent skipped this question

Q16 Here is a list of tributary monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each parameter, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Respondent skipped this question

Q17 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any tributary monitoring parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q18 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for tributary monitoring parameters in the future?

Respondent skipped this question

Page 7: Additional Monitoring Programs and Funding

Q19 Are you aware of volunteer organizations that could be included in the Delaware Estuary monitoring assessment?

Respondent skipped this question

Q20 If you answered "yes" for Question 19, what is/are the name(s) of the volunteer organization(s)?

Respondent skipped this question

Q21 Does your organization anticipate having sufficient funding over the next ten years to carry out existing monitoring programs within the Delaware Estuary?

Respondent skipped this question

Q22 If you answered "no" for Question 21, what level of funding is needed for which program?

Respondent skipped this question

#44

COMPLETE

Collector: Web Link 1 (Web Link)
Started: Tuesday, December 11, 2018 9:51:31 AM
Last Modified: Tuesday, December 11, 2018 9:57:32 AM
Time Spent: 00:06:01
IP Address: 72.44.165.18

Page 2: Identifying Information

Q1 Please enter your contact information.

Name	Mayci Shimon
Organization	Independence Seaport Museum
Email Address	mshimon@phillyseaport.org

Q2 Select your area(s) of expertise (please select all that apply)

Citizen science,
Community engagement,
Freshwater resources and organisms,
Water quality

Page 3: Workshop Results: Non-Plant Living Resources

Q3 Here is a list of non-plant living resources identified at the workshop as not yet being robustly monitored in the study area. From 1-4, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Freshwater bivalves	1
Marine mammals and sea turtles	4
Population-level monitoring	3

Q4 Here is a list of non-plant living resources that were identified at the workshop as not yet being robustly monitored in the study area. For each resource, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Freshwater bivalves	High Priority
Invasive species	High Priority
Marine mammals and sea turtles	Moderate Priority
Population-level monitoring	Moderate Priority

Q5 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any non-plant living resource parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q6 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for non-plant living resources in the future?

Respondent skipped this question

Page 4: Workshop Results: Plants and Habitat

Q7 Here is a list of plant and habitat parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-7, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Buffer data	2
Cumulative Impacts	5
Dredging data	3
Forest health	1
Sediment stratification	7
Submerged habitat	4
Transition zone monitoring	6

Q8 Here is a list of plant and habitat parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each resource, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Buffer data	Moderate Priority
Cumulative impacts	High Priority
Dredging data	High Priority
Forest health	High Priority
Sediment stratification	Low Priority
Submerged habitat	High Priority
Transition zone monitoring	Moderate Priority

Q9 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any plant and habitat parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q10 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for plant and habitat parameters in the future?

Respondent skipped this question

Page 5: Workshop Results: Water Monitoring - Delaware River and Bay

Q11 Here is a list of Delaware River and Bay monitoring parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-7, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring parameters.

Endocrine disruptors	6
Fish tissue analysis for bioaccumulating compounds	1
Microplastics	2
Monitoring conducted on the center channel replicated for the banks and at additional depths	7
PCBs	3
Pharmaceuticals	4
Phytotoxins, cyanotoxins, Harmful Algal Bloom toxins	5

Q12 Here is a list of Delaware River and Bay monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each parameter, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Endocrine disruptors	High Priority
Fish tissue analysis for bioaccumulating compounds	High Priority
Microplastics	High Priority
Monitoring conducted on the center channel replicated for the banks and at additional depths	Moderate Priority
PCBs	High Priority
Pharmaceuticals	High Priority
Phytotoxins, cyanotoxins, Harmful Algal Bloom toxins	High Priority

Q13 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any Delaware River and Bay monitoring parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q14 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for Delaware River and Bay monitoring parameters in the future?

Respondent skipped this question

Page 6: Workshop Results: Water Monitoring - Tributaries

Q15 Here is a list of tributary monitoring parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-8, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Endocrine disruptors	5
Fish tissue analysis	3
Flow measurements	7
Groundwater	2
Nuisance algal blooms	4
Pharmaceuticals	6
Temperature at short intervals	8
Wet weather (storm flow) monitoring	1

Q16 Here is a list of tributary monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each parameter, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Endocrine disruptors	High Priority
Fish tissue analysis	High Priority
Flow measurements	Moderate Priority
Groundwater	High Priority
Nuisance algal blooms	High Priority
Temperature at short intervals	Low Priority
Wet weather (storm flow) monitoring	High Priority

Q17 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any tributary monitoring parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q18 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for tributary monitoring parameters in the future?

Respondent skipped this question

Page 7: Additional Monitoring Programs and Funding

Q19 Are you aware of volunteer organizations that could be included in the Delaware Estuary monitoring assessment?

No

Q20 If you answered "yes" for Question 19, what is/are the name(s) of the volunteer organization(s)?

Respondent skipped this question

Q21 Does your organization anticipate having sufficient funding over the next ten years to carry out existing monitoring programs within the Delaware Estuary?

Yes

Q22 If you answered "no" for Question 21, what level of funding is needed for which program?

Respondent skipped this question

#45

COMPLETE

Collector: Web Link 1 (Web Link)
Started: Tuesday, December 11, 2018 9:49:59 AM
Last Modified: Tuesday, December 11, 2018 10:03:27 AM
Time Spent: 00:13:28
IP Address: 160.93.63.4

Page 2: Identifying Information

Q1 Please enter your contact information.

Name	Ron MacGillivray
Organization	DRBC
Email Address	ron.macgillivray@drbc.gov

Q2 Select your area(s) of expertise (please select all that apply) **Water quality**

Page 3: Workshop Results: Non-Plant Living Resources

Q3 Here is a list of non-plant living resources identified at the workshop as not yet being robustly monitored in the study area. From 1-4, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Freshwater bivalves	3
Invasive species	2
Marine mammals and sea turtles	4
Population-level monitoring	1

Q4 Here is a list of non-plant living resources that were identified at the workshop as not yet being robustly monitored in the study area. For each resource, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Freshwater bivalves	Low Priority
Invasive species	Moderate Priority
Marine mammals and sea turtles	Low Priority
Population-level monitoring	High Priority

Q5 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any non-plant living resource parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q6 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for non-plant living resources in the future?

Respondent skipped this question

Page 4: Workshop Results: Plants and Habitat

Q7 Here is a list of plant and habitat parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-7, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Cumulative Impacts	1
Dredging data	2
Submerged habitat	3
Transition zone monitoring	4

Q8 Here is a list of plant and habitat parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each resource, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Cumulative impacts	High Priority
Dredging data	Moderate Priority
Submerged habitat	Moderate Priority

Q9 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any plant and habitat parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q10 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for plant and habitat parameters in the future?

Respondent skipped this question

Page 5: Workshop Results: Water Monitoring - Delaware River and Bay

Q11 Here is a list of Delaware River and Bay monitoring parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-7, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring parameters.

Endocrine disruptors	2
Fish tissue analysis for bioaccumulating compounds	1
Microplastics	3
Monitoring conducted on the center channel replicated for the banks and at additional depths	7
PCBs	6
Pharmaceuticals	4
Phytotoxins, cyanotoxins, Harmful Algal Bloom toxins	5

Q12 Here is a list of Delaware River and Bay monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each parameter, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Endocrine disruptors	High Priority
Fish tissue analysis for bioaccumulating compounds	High Priority
Microplastics	Moderate Priority
Monitoring conducted on the center channel replicated for the banks and at additional depths	Moderate Priority
PCBs	Moderate Priority
Pharmaceuticals	Moderate Priority
Phytotoxins, cyanotoxins, Harmful Algal Bloom toxins	Moderate Priority

Q13 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any Delaware River and Bay monitoring parameters that you believe are not indicated above that should be elevated for monitoring in the future?

bacteria

Q14 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for Delaware River and Bay monitoring parameters in the future?

urban

Q15 Here is a list of tributary monitoring parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-8, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Endocrine disruptors	1
Fish tissue analysis	2
Flow measurements	5
Groundwater	8
Nuisance algal blooms	4
Pharmaceuticals	3
Temperature at short intervals	7
Wet weather (storm flow) monitoring	6

Q16 Here is a list of tributary monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each parameter, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Endocrine disruptors	High Priority
Fish tissue analysis	High Priority
Flow measurements	Moderate Priority
Groundwater	Low Priority
Nuisance algal blooms	Moderate Priority
Pharmaceuticals	High Priority
Temperature at short intervals	Moderate Priority
Wet weather (storm flow) monitoring	Moderate Priority

Q17 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any tributary monitoring parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q18 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for tributary monitoring parameters in the future?

Respondent skipped this question

Q19 Are you aware of volunteer organizations that could be included in the Delaware Estuary monitoring assessment? **No**

Q20 If you answered "yes" for Question 19, what is/are the name(s) of the volunteer organization(s)? **Respondent skipped this question**

Q21 Does your organization anticipate having sufficient funding over the next ten years to carry out existing monitoring programs within the Delaware Estuary? **No**

Q22 If you answered "no" for Question 21, what level of funding is needed for which program? **Respondent skipped this question**

#46

COMPLETE

Collector: Web Link 1 (Web Link)
Started: Tuesday, December 11, 2018 10:21:55 AM
Last Modified: Tuesday, December 11, 2018 10:46:26 AM
Time Spent: 00:24:30
IP Address: 69.253.237.20

Page 2: Identifying Information

Q1 Please enter your contact information.

Name	Kurt Philipp
Organization	Wetlands Research Services
Email Address	WetlandsResearchServices@gmail.com

Q2 Select your area(s) of expertise (please select all that apply)

Coastal ecology/function,
Ecosystem services,
Invasive species,
Sediment or soils ,
Tidal/nontidal wetlands

Page 3: Workshop Results: Non-Plant Living Resources

Q3 Here is a list of non-plant living resources identified at the workshop as not yet being robustly monitored in the study area. From 1-4, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Freshwater bivalves	1
Invasive species	2
Marine mammals and sea turtles	4
Population-level monitoring	3

Q4 Here is a list of non-plant living resources that were identified at the workshop as not yet being robustly monitored in the study area. For each resource, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Freshwater bivalves	High Priority
Invasive species	Moderate Priority
Marine mammals and sea turtles	Moderate Priority
Population-level monitoring	Moderate Priority

Q5 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any non-plant living resource parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q6 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for non-plant living resources in the future?

Respondent skipped this question

Page 4: Workshop Results: Plants and Habitat

Q7 Here is a list of plant and habitat parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-7, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Buffer data	3
Cumulative Impacts	1
Dredging data	7
Forest health	5
Sediment stratification	4
Submerged habitat	6
Transition zone monitoring	2

Q8 Here is a list of plant and habitat parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each resource, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Buffer data	Moderate Priority
Cumulative impacts	High Priority
Dredging data	Low Priority
Forest health	Moderate Priority
Sediment stratification	Moderate Priority
Submerged habitat	Moderate Priority
Transition zone monitoring	Moderate Priority

Q9 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any plant and habitat parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q10 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for plant and habitat parameters in the future?

Respondent skipped this question

Page 5: Workshop Results: Water Monitoring - Delaware River and Bay

Q11 Here is a list of Delaware River and Bay monitoring parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-7, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring parameters.

Endocrine disruptors	1
Fish tissue analysis for bioaccumulating compounds	2
Microplastics	5
Monitoring conducted on the center channel replicated for the banks and at additional depths	6
PCBs	7
Pharmaceuticals	3
Phytotoxins, cyanotoxins, Harmful Algal Bloom toxins	4

Q12 Here is a list of Delaware River and Bay monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each parameter, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Endocrine disruptors	High Priority
Fish tissue analysis for bioaccumulating compounds	High Priority
Microplastics	Moderate Priority
Monitoring conducted on the center channel replicated for the banks and at additional depths	Moderate Priority
PCBs	Moderate Priority
Pharmaceuticals	High Priority
Phytotoxins, cyanotoxins, Harmful Algal Bloom toxins	Moderate Priority

Q13 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any Delaware River and Bay monitoring parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q14 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for Delaware River and Bay monitoring parameters in the future?

Respondent skipped this question

Page 6: Workshop Results: Water Monitoring - Tributaries

Q15 Here is a list of tributary monitoring parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-8, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Endocrine disruptors	1
Fish tissue analysis	2
Flow measurements	3
Groundwater	6
Nuisance algal blooms	7
Pharmaceuticals	5
Temperature at short intervals	8
Wet weather (storm flow) monitoring	4

Q16 Here is a list of tributary monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each parameter, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Endocrine disruptors	High Priority
Fish tissue analysis	High Priority
Flow measurements	High Priority
Groundwater	Moderate Priority
Nuisance algal blooms	Low Priority
Pharmaceuticals	Moderate Priority
Temperature at short intervals	Low Priority
Wet weather (storm flow) monitoring	High Priority

Q17 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any tributary monitoring parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q18 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for tributary monitoring parameters in the future?

Respondent skipped this question

Page 7: Additional Monitoring Programs and Funding

Q19 Are you aware of volunteer organizations that could be included in the Delaware Estuary monitoring assessment?

No

Q20 If you answered "yes" for Question 19, what is/are the name(s) of the volunteer organization(s)?

Respondent skipped this question

Q21 Does your organization anticipate having sufficient funding over the next ten years to carry out existing monitoring programs within the Delaware Estuary?

No

Q22 If you answered "no" for Question 21, what level of funding is needed for which program?

Respondent skipped this question

#47

COMPLETE

Collector: Web Link 1 (Web Link)
Started: Tuesday, December 11, 2018 10:49:45 AM
Last Modified: Tuesday, December 11, 2018 11:00:56 AM
Time Spent: 00:11:11
IP Address: 170.115.248.23

Page 2: Identifying Information

Q1 Please enter your contact information.

Name	Matthew Fritch
Organization	Philadelphia Water Department
Email Address	matthew.fritch@phila.gov

Q2 Select your area(s) of expertise (please select all that apply)

Citizen science,
Community engagement,
Data management,
Freshwater resources and organisms,
Sediment or soils,
Water quality,
Water quantity

Page 3: Workshop Results: Non-Plant Living Resources

Q3 Here is a list of non-plant living resources identified at the workshop as not yet being robustly monitored in the study area. From 1-4, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Freshwater bivalves	2
Invasive species	4
Marine mammals and sea turtles	3
Population-level monitoring	1

Q4 Here is a list of non-plant living resources that were identified at the workshop as not yet being robustly monitored in the study area. For each resource, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Freshwater bivalves	High Priority
Invasive species	Moderate Priority
Marine mammals and sea turtles	Moderate Priority
Population-level monitoring	High Priority

Q5 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any non-plant living resource parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q6 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for non-plant living resources in the future?

Respondent skipped this question

Page 4: Workshop Results: Plants and Habitat

Q7 Here is a list of plant and habitat parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-7, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Buffer data	1
Cumulative Impacts	3
Dredging data	4
Forest health	2
Sediment stratification	6
Submerged habitat	5
Transition zone monitoring	7

Q8 Here is a list of plant and habitat parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each resource, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Buffer data	High Priority
Cumulative impacts	High Priority
Dredging data	Moderate Priority
Forest health	Moderate Priority
Sediment stratification	Low Priority
Submerged habitat	Low Priority
Transition zone monitoring	Low Priority

Q9 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any plant and habitat parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q10 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for plant and habitat parameters in the future?

Respondent skipped this question

Page 5: Workshop Results: Water Monitoring - Delaware River and Bay

Q11 Here is a list of Delaware River and Bay monitoring parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-7, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring parameters.

Endocrine disruptors	4
Fish tissue analysis for bioaccumulating compounds	2
Microplastics	7
Monitoring conducted on the center channel replicated for the banks and at additional depths	1
PCBs	6
Pharmaceuticals	5
Phytotoxins, cyanotoxins, Harmful Algal Bloom toxins	3

Q12 Here is a list of Delaware River and Bay monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each parameter, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Endocrine disruptors	Moderate Priority
Fish tissue analysis for bioaccumulating compounds	Moderate Priority
Microplastics	Low Priority
Monitoring conducted on the center channel replicated for the banks and at additional depths	High Priority
PCBs	Low Priority
Pharmaceuticals	Moderate Priority
Phytotoxins, cyanotoxins, Harmful Algal Bloom toxins	Moderate Priority

Q13 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any Delaware River and Bay monitoring parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q14 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for Delaware River and Bay monitoring parameters in the future?

Respondent skipped this question

Page 6: Workshop Results: Water Monitoring - Tributaries

Q15 Here is a list of tributary monitoring parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-8, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Endocrine disruptors	8
Fish tissue analysis	5
Flow measurements	3
Groundwater	4
Nuisance algal blooms	6
Pharmaceuticals	7
Temperature at short intervals	2
Wet weather (storm flow) monitoring	1

Q16 Here is a list of tributary monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each parameter, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Endocrine disruptors	Low Priority
Fish tissue analysis	Moderate Priority
Flow measurements	Moderate Priority
Groundwater	Moderate Priority
Nuisance algal blooms	Low Priority
Pharmaceuticals	Low Priority
Temperature at short intervals	Moderate Priority
Wet weather (storm flow) monitoring	High Priority

Q17 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any tributary monitoring parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q18 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for tributary monitoring parameters in the future?

Respondent skipped this question

Page 7: Additional Monitoring Programs and Funding

Q19 Are you aware of volunteer organizations that could be included in the Delaware Estuary monitoring assessment?

No

Q20 If you answered "yes" for Question 19, what is/are the name(s) of the volunteer organization(s)?

Respondent skipped this question

Q21 Does your organization anticipate having sufficient funding over the next ten years to carry out existing monitoring programs within the Delaware Estuary?

Yes

Q22 If you answered "no" for Question 21, what level of funding is needed for which program?

Respondent skipped this question

#48

COMPLETE

Collector: Web Link 1 (Web Link)
Started: Monday, December 03, 2018 10:44:58 AM
Last Modified: Tuesday, December 11, 2018 11:13:49 AM
Time Spent: Over a week
IP Address: 204.46.133.181

Page 2: Identifying Information

Q1 Please enter your contact information.

Name	Mike Mansolino
Organization	US EPA Region 3
Email Address	mansolino.michael@epa.gov

Q2 Select your area(s) of expertise (please select all that apply)

Coastal ecology/function,
Ecosystem services,
Forests,
Freshwater resources and organisms ,
Invasive species,
Policy and/or funding,
Sediment or ,
soils
Shellfish and benthic resources ,
Tidal/nontidal ,
wetlands
Water quality

Page 3: Workshop Results: Non-Plant Living Resources

Q3 Here is a list of non-plant living resources identified at the workshop as not yet being robustly monitored in the study area. From 1-4, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Freshwater bivalves	1
Invasive species	2
Marine mammals and sea turtles	3
Population-level monitoring	4

Q4 Here is a list of non-plant living resources that were identified at the workshop as not yet being robustly monitored in the study area. For each resource, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Freshwater bivalves	High Priority
Invasive species	High Priority
Marine mammals and sea turtles	Moderate Priority
Population-level monitoring	Moderate Priority

Q5 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any non-plant living resource parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q6 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for non-plant living resources in the future?

Respondent skipped this question

Page 4: Workshop Results: Plants and Habitat

Q7 Here is a list of plant and habitat parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-7, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Buffer data	6
Cumulative Impacts	5
Dredging data	2
Forest health	3
Sediment stratification	4
Submerged habitat	1
Transition zone monitoring	7

Q8 Here is a list of plant and habitat parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each resource, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Buffer data	Moderate Priority
Cumulative impacts	High Priority
Dredging data	Moderate Priority
Forest health	Moderate Priority
Submerged habitat	High Priority
Transition zone monitoring	Moderate Priority

Q9 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any plant and habitat parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q10 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for plant and habitat parameters in the future?

Respondent skipped this question

Page 5: Workshop Results: Water Monitoring - Delaware River and Bay

Q11 Here is a list of Delaware River and Bay monitoring parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-7, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring parameters.

Endocrine disruptors	7
Fish tissue analysis for bioaccumulating compounds	6
Microplastics	1
Monitoring conducted on the center channel replicated for the banks and at additional depths	5
PCBs	2
Pharmaceuticals	3
Phytotoxins, cyanotoxins, Harmful Algal Bloom toxins	4

Q12 Here is a list of Delaware River and Bay monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each parameter, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Endocrine disruptors	Moderate Priority
Fish tissue analysis for bioaccumulating compounds	Moderate Priority
Microplastics	High Priority
Monitoring conducted on the center channel replicated for the banks and at additional depths	Moderate Priority
PCBs	High Priority
Pharmaceuticals	High Priority
Phytotoxins, cyanotoxins, Harmful Algal Bloom toxins	High Priority

Q13 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any Delaware River and Bay monitoring parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q14 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for Delaware River and Bay monitoring parameters in the future?

Respondent skipped this question

Page 6: Workshop Results: Water Monitoring - Tributaries

Q15 Here is a list of tributary monitoring parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-8, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Endocrine disruptors	8
Fish tissue analysis	7
Flow measurements	4
Groundwater	1
Nuisance algal blooms	6
Pharmaceuticals	5
Temperature at short intervals	2
Wet weather (storm flow) monitoring	3

Q16 Here is a list of tributary monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each parameter, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Endocrine disruptors	Moderate Priority
Fish tissue analysis	Moderate Priority
Flow measurements	High Priority
Groundwater	High Priority
Nuisance algal blooms	High Priority
Pharmaceuticals	High Priority
Temperature at short intervals	High Priority
Wet weather (storm flow) monitoring	High Priority

Q17 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any tributary monitoring parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q18 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for tributary monitoring parameters in the future?

Respondent skipped this question

Page 7: Additional Monitoring Programs and Funding

Q19 Are you aware of volunteer organizations that could be included in the Delaware Estuary monitoring assessment?

No

Q20 If you answered "yes" for Question 19, what is/are the name(s) of the volunteer organization(s)?

Respondent skipped this question

Q21 Does your organization anticipate having sufficient funding over the next ten years to carry out existing monitoring programs within the Delaware Estuary?

Yes

Q22 If you answered "no" for Question 21, what level of funding is needed for which program?

Respondent skipped this question

#49

COMPLETE

Collector: Web Link 1 (Web Link)
Started: Monday, December 03, 2018 2:53:53 PM
Last Modified: Tuesday, December 11, 2018 4:00:14 PM
Time Spent: Over a week
IP Address: 129.25.250.108

Page 2: Identifying Information

Q1 Please enter your contact information.

Name	Kathryn Christopher
Organization	Academy of Natural Sciences
Email Address	kac388@drexel.edu

Q2 Select your area(s) of expertise (please select all that apply)

Freshwater resources and organisms	
Water quality,	
Other (please specify):	
Science communication	

Page 3: Workshop Results: Non-Plant Living Resources

Q3 Here is a list of non-plant living resources identified at the workshop as not yet being robustly monitored in the study area. From 1-4, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Freshwater bivalves	2
Invasive species	1
Marine mammals and sea turtles	4
Population-level monitoring	3

Q4 Here is a list of non-plant living resources that were identified at the workshop as not yet being robustly monitored in the study area. For each resource, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Freshwater bivalves	Moderate Priority
Invasive species	High Priority
Marine mammals and sea turtles	Low Priority
Population-level monitoring	Moderate Priority

Q5 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any non-plant living resource parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q6 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for non-plant living resources in the future?

Respondent skipped this question

Page 4: Workshop Results: Plants and Habitat

Q7 Here is a list of plant and habitat parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-7, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Buffer data	6
Cumulative Impacts	1
Dredging data	7
Forest health	2
Sediment stratification	4
Submerged habitat	5
Transition zone monitoring	3

Q8 Here is a list of plant and habitat parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each resource, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Buffer data	Moderate Priority
Cumulative impacts	High Priority
Dredging data	Low Priority
Forest health	High Priority
Sediment stratification	Moderate Priority
Submerged habitat	Moderate Priority
Transition zone monitoring	Moderate Priority

Q9 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any plant and habitat parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q10 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for plant and habitat parameters in the future?

Respondent skipped this question

Page 5: Workshop Results: Water Monitoring - Delaware River and Bay

Q11 Here is a list of Delaware River and Bay monitoring parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-7, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring parameters.

Endocrine disruptors	3
Fish tissue analysis for bioaccumulating compounds	5
Microplastics	4
Monitoring conducted on the center channel replicated for the banks and at additional depths	7
PCBs	1
Pharmaceuticals	2
Phytotoxins, cyanotoxins, Harmful Algal Bloom toxins	6

Q12 Here is a list of Delaware River and Bay monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each parameter, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Endocrine disruptors	High Priority
Fish tissue analysis for bioaccumulating compounds	Moderate Priority
Microplastics	High Priority
Monitoring conducted on the center channel replicated for the banks and at additional depths	Low Priority
PCBs	High Priority
Pharmaceuticals	High Priority
Phytotoxins, cyanotoxins, Harmful Algal Bloom toxins	Moderate Priority

Q13 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any Delaware River and Bay monitoring parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q14 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for Delaware River and Bay monitoring parameters in the future?

Respondent skipped this question

Page 6: Workshop Results: Water Monitoring - Tributaries

Q15 Here is a list of tributary monitoring parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-8, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Endocrine disruptors	6
Fish tissue analysis	5
Flow measurements	3
Groundwater	1
Nuisance algal blooms	7
Pharmaceuticals	4
Temperature at short intervals	8
Wet weather (storm flow) monitoring	2

Q16 Here is a list of tributary monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each parameter, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Endocrine disruptors	Moderate Priority
Fish tissue analysis	Moderate Priority
Flow measurements	High Priority
Groundwater	High Priority
Nuisance algal blooms	Moderate Priority
Pharmaceuticals	Moderate Priority
Temperature at short intervals	Moderate Priority
Wet weather (storm flow) monitoring	High Priority

Q17 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any tributary monitoring parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q18 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for tributary monitoring parameters in the future?

Respondent skipped this question

Page 7: Additional Monitoring Programs and Funding

Q19 Are you aware of volunteer organizations that could be included in the Delaware Estuary monitoring assessment?

No

Q20 If you answered "yes" for Question 19, what is/are the name(s) of the volunteer organization(s)?

Respondent skipped this question

Q21 Does your organization anticipate having sufficient funding over the next ten years to carry out existing monitoring programs within the Delaware Estuary?

Uncertain

Q22 If you answered "no" for Question 21, what level of funding is needed for which program?

Respondent skipped this question

#50

INCOMPLETE

Collector: Web Link 1 (Web Link)
Started: Tuesday, December 11, 2018 4:20:33 PM
Last Modified: Tuesday, December 11, 2018 4:26:25 PM
Time Spent: 00:05:52
IP Address: 96.235.132.2

Page 2: Identifying Information

Q1 Please enter your contact information.

Name	Kelly Rypkema
Organization	Tulpehaking Nature Center
Email Address	krypkema@mercercounty.org

Q2 Select your area(s) of expertise (please select all that apply) **Community engagement**

Page 3: Workshop Results: Non-Plant Living Resources

Q3 Here is a list of non-plant living resources identified at the workshop as not yet being robustly monitored in the study area. From 1-4, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Freshwater bivalves	3
Invasive species	1
Marine mammals and sea turtles	4
Population-level monitoring	2

Q4 Here is a list of non-plant living resources that were identified at the workshop as not yet being robustly monitored in the study area. For each resource, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Freshwater bivalves	Moderate Priority
Invasive species	High Priority
Marine mammals and sea turtles	Low Priority
Population-level monitoring	Moderate Priority

Q5 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any non-plant living resource parameters that you believe are not indicated above that should be elevated for monitoring in the future?

We need to develop a bioassay for freshwater tidal systems in the Delaware River.

Q6 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for non-plant living resources in the future?

mid-Delaware, head of tide region

Page 4: Workshop Results: Plants and Habitat

Q7 Here is a list of plant and habitat parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-7, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Respondent skipped this question

Q8 Here is a list of plant and habitat parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each resource, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Respondent skipped this question

Q9 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any plant and habitat parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q10 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for plant and habitat parameters in the future?

Respondent skipped this question

Page 5: Workshop Results: Water Monitoring - Delaware River and Bay

Q11 Here is a list of Delaware River and Bay monitoring parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-7, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring parameters.

Respondent skipped this question

Q12 Here is a list of Delaware River and Bay monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each parameter, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Respondent skipped this question

Q13 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any Delaware River and Bay monitoring parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q14 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for Delaware River and Bay monitoring parameters in the future?

Respondent skipped this question

Page 6: Workshop Results: Water Monitoring - Tributaries

Q15 Here is a list of tributary monitoring parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-8, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Respondent skipped this question

Q16 Here is a list of tributary monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each parameter, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Respondent skipped this question

Q17 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any tributary monitoring parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q18 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for tributary monitoring parameters in the future?

Respondent skipped this question

Page 7: Additional Monitoring Programs and Funding

Q19 Are you aware of volunteer organizations that could be included in the Delaware Estuary monitoring assessment?

Respondent skipped this question

Q20 If you answered "yes" for Question 19, what is/are the name(s) of the volunteer organization(s)?

Respondent skipped this question

Q21 Does your organization anticipate having sufficient funding over the next ten years to carry out existing monitoring programs within the Delaware Estuary?

Respondent skipped this question

Q22 If you answered "no" for Question 21, what level of funding is needed for which program?

Respondent skipped this question

#51

COMPLETE

Collector: Web Link 1 (Web Link)
Started: Tuesday, December 11, 2018 4:35:42 PM
Last Modified: Tuesday, December 11, 2018 4:57:14 PM
Time Spent: 00:21:32
IP Address: 108.35.10.169

Page 2: Identifying Information

Q1 Please enter your contact information.

Name	Mary Alessio Leck
Organization	Friends for the Abbott Marshlands
Email Address	leck@rider.edu

Q2 Select your area(s) of expertise (please select all that apply)

Tidal/nontidal wetlands	,
Other (please specify):	
tidal freshwater plants and seedlings	

Page 3: Workshop Results: Non-Plant Living Resources

Q3 Here is a list of non-plant living resources identified at the workshop as not yet being robustly monitored in the study area. From 1-4, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Invasive species	1
------------------	---

Q4 Here is a list of non-plant living resources that were identified at the workshop as not yet being robustly monitored in the study area. For each resource, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Freshwater bivalves	High Priority
Invasive species	High Priority
Marine mammals and sea turtles	High Priority
Population-level monitoring	Moderate Priority

Q5 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any non-plant living resource parameters that you believe are not indicated above that should be elevated for monitoring in the future?

I am not qualified.

Q6 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for non-plant living resources in the future?

Nor qualified.

Page 4: Workshop Results: Plants and Habitat

Q7 Here is a list of plant and habitat parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-7, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Transition zone monitoring	1
----------------------------	---

Q8 Here is a list of plant and habitat parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each resource, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Buffer data	Moderate Priority
Cumulative impacts	Moderate Priority
Dredging data	Low Priority
Forest health	Moderate Priority
Sediment stratification	Moderate Priority
Submerged habitat	Moderate Priority
Transition zone monitoring	High Priority

Q9 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any plant and habitat parameters that you believe are not indicated above that should be elevated for monitoring in the future?

habitat changes, e.g., high marsh to low marsh

Q10 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for plant and habitat parameters in the future?

Respondent skipped this question

Page 5: Workshop Results: Water Monitoring - Delaware River and Bay

Q11 Here is a list of Delaware River and Bay monitoring parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-7, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring parameters.

Microplastics	2
Monitoring conducted on the center channel replicated for the banks and at additional depths	5
Phytotoxins, cyanotoxins, Harmful Algal Bloom toxins	4

Q12 Here is a list of Delaware River and Bay monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each parameter, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Endocrine disruptors	High Priority
Fish tissue analysis for bioaccumulating compounds	High Priority
Microplastics	High Priority
Monitoring conducted on the center channel replicated for the banks and at additional depths	High Priority
PCBs	High Priority
Pharmaceuticals	High Priority
Phytotoxins, cyanotoxins, Harmful Algal Bloom toxins	High Priority

Q13 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any Delaware River and Bay monitoring parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Changes in plant species distribution; extirpation of plant species.

Q14 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for Delaware River and Bay monitoring parameters in the future?

Changes and extirpation of rare species.

Q15 Here is a list of tributary monitoring parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-8, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Nuisance algal blooms	1
Pharmaceuticals	4
Temperature at short intervals	3
Wet weather (storm flow) monitoring	2

Q16 Here is a list of tributary monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each parameter, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Endocrine disruptors	Moderate Priority
Fish tissue analysis	Moderate Priority
Flow measurements	Moderate Priority
Nuisance algal blooms	High Priority
Pharmaceuticals	Moderate Priority
Temperature at short intervals	High Priority
Wet weather (storm flow) monitoring	Moderate Priority

Q17 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any tributary monitoring parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q18 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for tributary monitoring parameters in the future?

Respondent skipped this question

Page 7: Additional Monitoring Programs and Funding

Q19 Are you aware of volunteer organizations that could be included in the Delaware Estuary monitoring assessment?

No

Q20 If you answered "yes" for Question 19, what is/are the name(s) of the volunteer organization(s)?

Respondent skipped this question

Q21 Does your organization anticipate having sufficient funding over the next ten years to carry out existing monitoring programs within the Delaware Estuary? **No**

Q22 If you answered "no" for Question 21, what level of funding is needed for which program?

My organization is directly concerned with monitoring

#52

INCOMPLETE

Collector: Web Link 1 (Web Link)
Started: Wednesday, December 12, 2018 9:01:57 AM
Last Modified: Wednesday, December 12, 2018 9:10:31 AM
Time Spent: 00:08:34
IP Address: 129.25.250.73

Page 2: Identifying Information

Q1 Please enter your contact information.

Name	David Keller
Organization	Academy of Natural Sciences
Email Address	dhk44@drexel.edu

Q2 Select your area(s) of expertise (please select all that apply)

Brackish or marine resources and organisms	<input checked="" type="checkbox"/>
Fish,	<input checked="" type="checkbox"/>
Freshwater resources and organisms	<input checked="" type="checkbox"/>
Invasive species,	<input checked="" type="checkbox"/>
Water quality	<input checked="" type="checkbox"/>

Page 3: Workshop Results: Non-Plant Living Resources

Q3 Here is a list of non-plant living resources identified at the workshop as not yet being robustly monitored in the study area. From 1-4, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Freshwater bivalves	3
Invasive species	4
Marine mammals and sea turtles	1
Population-level monitoring	2

Q4 Here is a list of non-plant living resources that were identified at the workshop as not yet being robustly monitored in the study area. For each resource, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Respondent skipped this question

Q5 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any non-plant living resource parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q6 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for non-plant living resources in the future?

Respondent skipped this question

Page 4: Workshop Results: Plants and Habitat

Q7 Here is a list of plant and habitat parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-7, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Respondent skipped this question

Q8 Here is a list of plant and habitat parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each resource, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Respondent skipped this question

Q9 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any plant and habitat parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q10 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for plant and habitat parameters in the future?

Respondent skipped this question

Page 5: Workshop Results: Water Monitoring - Delaware River and Bay

Q11 Here is a list of Delaware River and Bay monitoring parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-7, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring parameters.

Respondent skipped this question

Q12 Here is a list of Delaware River and Bay monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each parameter, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Respondent skipped this question

Q13 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any Delaware River and Bay monitoring parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q14 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for Delaware River and Bay monitoring parameters in the future?

Respondent skipped this question

Page 6: Workshop Results: Water Monitoring - Tributaries

Q15 Here is a list of tributary monitoring parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-8, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Respondent skipped this question

Q16 Here is a list of tributary monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each parameter, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Respondent skipped this question

Q17 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any tributary monitoring parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q18 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for tributary monitoring parameters in the future?

Respondent skipped this question

Page 7: Additional Monitoring Programs and Funding

Q19 Are you aware of volunteer organizations that could be included in the Delaware Estuary monitoring assessment?

Respondent skipped this question

Q20 If you answered "yes" for Question 19, what is/are the name(s) of the volunteer organization(s)?

Respondent skipped this question

Q21 Does your organization anticipate having sufficient funding over the next ten years to carry out existing monitoring programs within the Delaware Estuary?

Respondent skipped this question

Q22 If you answered "no" for Question 21, what level of funding is needed for which program?

Respondent skipped this question

#53

COMPLETE

Collector: Web Link 1 (Web Link)
Started: Wednesday, December 12, 2018 4:22:13 PM
Last Modified: Wednesday, December 12, 2018 4:38:07 PM
Time Spent: 00:15:53
IP Address: 73.226.50.109

Page 2: Identifying Information

Q1 Please enter your contact information.

Name	David Bushek
Organization	Rutgers University Haskin Shellfish Research Laboratory
Email Address	bushek@hsrl.rutgers.edu

Q2 Select your area(s) of expertise (please select all that apply)

Brackish or marine resources and organisms ,
Coastal ecology/function,
Ecosystem services,
Fish,
Shellfish and benthic resources ,
Other (please specify):
Shellfish pathology

Page 3: Workshop Results: Non-Plant Living Resources

Q3 Here is a list of non-plant living resources identified at the workshop as not yet being robustly monitored in the study area. From 1-4, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Freshwater bivalves	1
Invasive species	2
Marine mammals and sea turtles	4
Population-level monitoring	3

Q4 Here is a list of non-plant living resources that were identified at the workshop as not yet being robustly monitored in the study area. For each resource, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Freshwater bivalves	High Priority
Invasive species	Moderate Priority
Marine mammals and sea turtles	Low Priority
Population-level monitoring	Moderate Priority

Q5 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any non-plant living resource parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Human and animal pathogens

Q6 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for non-plant living resources in the future?

Respondent skipped this question

Page 4: Workshop Results: Plants and Habitat

Q7 Here is a list of plant and habitat parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-7, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Buffer data	7
Cumulative Impacts	4
Dredging data	3
Forest health	6
Sediment stratification	2
Submerged habitat	1
Transition zone monitoring	5

Q8 Here is a list of plant and habitat parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each resource, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Buffer data	Low Priority
Cumulative impacts	Moderate Priority
Dredging data	Low Priority
Forest health	Low Priority
Sediment stratification	Moderate Priority
Submerged habitat	Moderate Priority
Transition zone monitoring	Low Priority

Q9 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any plant and habitat parameters that you believe are not indicated above that should be elevated for monitoring in the future?

shoreline habitat quality and change

Q10 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for plant and habitat parameters in the future?

Respondent skipped this question

Page 5: Workshop Results: Water Monitoring - Delaware River and Bay

Q11 Here is a list of Delaware River and Bay monitoring parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-7, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring parameters.

Endocrine disruptors	5
Fish tissue analysis for bioaccumulating compounds	6
Microplastics	7
Monitoring conducted on the center channel replicated for the banks and at additional depths	1
PCBs	3
Pharmaceuticals	4
Phytotoxins, cyanotoxins, Harmful Algal Bloom toxins	2

Q12 Here is a list of Delaware River and Bay monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each parameter, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Endocrine disruptors	Moderate Priority
Fish tissue analysis for bioaccumulating compounds	Moderate Priority
Microplastics	Moderate Priority
Monitoring conducted on the center channel replicated for the banks and at additional depths	High Priority
PCBs	Moderate Priority
Pharmaceuticals	Moderate Priority
Phytotoxins, cyanotoxins, Harmful Algal Bloom toxins	Moderate Priority

Q13 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any Delaware River and Bay monitoring parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q14 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for Delaware River and Bay monitoring parameters in the future?

Respondent skipped this question

Page 6: Workshop Results: Water Monitoring - Tributaries

Q15 Here is a list of tributary monitoring parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-8, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Endocrine disruptors	8
Fish tissue analysis	5
Flow measurements	1
Groundwater	2
Nuisance algal blooms	6
Pharmaceuticals	7
Temperature at short intervals	4
Wet weather (storm flow) monitoring	3

Q16 Here is a list of tributary monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each parameter, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Endocrine disruptors	Low Priority
Fish tissue analysis	Moderate Priority
Flow measurements	High Priority
Groundwater	High Priority
Nuisance algal blooms	Moderate Priority
Pharmaceuticals	Low Priority
Temperature at short intervals	Moderate Priority
Wet weather (storm flow) monitoring	High Priority

Q17 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any tributary monitoring parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q18 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for tributary monitoring parameters in the future?

Respondent skipped this question

Page 7: Additional Monitoring Programs and Funding

Q19 Are you aware of volunteer organizations that could be included in the Delaware Estuary monitoring assessment?

Yes

Q20 If you answered "yes" for Question 19, what is/are the name(s) of the volunteer organization(s)?

Bayshore Council

Q21 Does your organization anticipate having sufficient funding over the next ten years to carry out existing monitoring programs within the Delaware Estuary?

Yes

Q22 If you answered "no" for Question 21, what level of funding is needed for which program?

Respondent skipped this question

#54

COMPLETE

Collector: Web Link 1 (Web Link)
Started: Thursday, December 06, 2018 2:49:26 PM
Last Modified: Thursday, December 13, 2018 12:56:49 PM
Time Spent: Over a day
IP Address: 134.67.29.84

Page 2: Identifying Information

Q1 Please enter your contact information.

Name	Kelly Somers
Organization	US EPA R3
Email Address	somers.kelly@epa.gov

Q2 Select your area(s) of expertise (please select all that apply)

Brackish or marine resources and organisms	,
Citizen science,	
Coastal ecology/function,	
Community engagement,	
Data management,	
Ecosystem services,	
Freshwater resources and organisms	,
Tidal/nontidal wetlands	

Page 3: Workshop Results: Non-Plant Living Resources

Q3 Here is a list of non-plant living resources identified at the workshop as not yet being robustly monitored in the study area. From 1-4, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Freshwater bivalves	1
Invasive species	2
Marine mammals and sea turtles	4
Population-level monitoring	3

Q4 Here is a list of non-plant living resources that were identified at the workshop as not yet being robustly monitored in the study area. For each resource, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Freshwater bivalves	High Priority
Invasive species	High Priority
Marine mammals and sea turtles	Moderate Priority
Population-level monitoring	Moderate Priority

Q5 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any non-plant living resource parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q6 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for non-plant living resources in the future?

Respondent skipped this question

Page 4: Workshop Results: Plants and Habitat

Q7 Here is a list of plant and habitat parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-7, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Buffer data	1
Cumulative Impacts	6
Dredging data	3
Forest health	7
Sediment stratification	5
Submerged habitat	2
Transition zone monitoring	4

Q8 Here is a list of plant and habitat parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each resource, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Buffer data	High Priority
Cumulative impacts	Moderate Priority
Dredging data	High Priority
Forest health	Moderate Priority
Sediment stratification	Moderate Priority
Submerged habitat	High Priority
Transition zone monitoring	High Priority

Q9 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any plant and habitat parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q10 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for plant and habitat parameters in the future?

Most monitoring data was identified in the main stem and bay as well as the larger inputs, but there isn't much data on the small tribs and watersheds

Page 5: Workshop Results: Water Monitoring - Delaware River and Bay

Q11 Here is a list of Delaware River and Bay monitoring parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-7, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring parameters.

Endocrine disruptors	4
Fish tissue analysis for bioaccumulating compounds	6
Microplastics	3
Monitoring conducted on the center channel replicated for the banks and at additional depths	7
PCBs	1
Pharmaceuticals	5
Phytotoxins, cyanotoxins, Harmful Algal Bloom toxins	2

Q12 Here is a list of Delaware River and Bay monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each parameter, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Endocrine disruptors	High Priority
Fish tissue analysis for bioaccumulating compounds	Moderate Priority
Microplastics	High Priority
Monitoring conducted on the center channel replicated for the banks and at additional depths	Moderate Priority
PCBs	High Priority
Pharmaceuticals	Moderate Priority
Phytotoxins, cyanotoxins, Harmful Algal Bloom toxins	High Priority

Q13 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any Delaware River and Bay monitoring parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q14 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for Delaware River and Bay monitoring parameters in the future?

Respondent skipped this question

Page 6: Workshop Results: Water Monitoring - Tributaries

Q15 Here is a list of tributary monitoring parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-8, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Endocrine disruptors	4
Fish tissue analysis	6
Flow measurements	1
Groundwater	2
Nuisance algal blooms	5
Pharmaceuticals	7
Temperature at short intervals	8
Wet weather (storm flow) monitoring	3

Q16 Here is a list of tributary monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each parameter, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Endocrine disruptors	Moderate Priority
Fish tissue analysis	Moderate Priority
Flow measurements	High Priority
Groundwater	High Priority
Nuisance algal blooms	Moderate Priority
Pharmaceuticals	Moderate Priority
Temperature at short intervals	Moderate Priority
Wet weather (storm flow) monitoring	Moderate Priority

Q17 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any tributary monitoring parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q18 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for tributary monitoring parameters in the future?

Respondent skipped this question

Page 7: Additional Monitoring Programs and Funding

Q19 Are you aware of volunteer organizations that could be included in the Delaware Estuary monitoring assessment?

No

Q20 If you answered "yes" for Question 19, what is/are the name(s) of the volunteer organization(s)?

Respondent skipped this question

Q21 Does your organization anticipate having sufficient funding over the next ten years to carry out existing monitoring programs within the Delaware Estuary?

Yes

Q22 If you answered "no" for Question 21, what level of funding is needed for which program?

Respondent skipped this question

#55

INCOMPLETE

Collector: Web Link 1 (Web Link)
Started: Friday, December 14, 2018 10:24:15 AM
Last Modified: Friday, December 14, 2018 10:30:13 AM
Time Spent: 00:05:58
IP Address: 173.15.169.165

Page 2: Identifying Information

Q1 Please enter your contact information.

Name	maria dziembowska
Organization	The Nature Conservancy
Email Address	mdziembowska@tnc.org

Q2 Select your area(s) of expertise (please select all that apply)

Citizen science,
Community engagement,
Policy and/or funding,
Urban/regional planning or land use,
Water quality

Page 3: Workshop Results: Non-Plant Living Resources

Q3 Here is a list of non-plant living resources identified at the workshop as not yet being robustly monitored in the study area. From 1-4, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Freshwater bivalves	3
Invasive species	1
Marine mammals and sea turtles	4
Population-level monitoring	2

Q4 Here is a list of non-plant living resources that were identified at the workshop as not yet being robustly monitored in the study area. For each resource, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Freshwater bivalves	Low Priority
Invasive species	High Priority
Marine mammals and sea turtles	Low Priority
Population-level monitoring	Moderate Priority

Q5 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any non-plant living resource parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q6 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for non-plant living resources in the future?

Respondent skipped this question

Page 4: Workshop Results: Plants and Habitat

Q7 Here is a list of plant and habitat parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-7, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Buffer data	2
Cumulative Impacts	3
Dredging data	5
Forest health	1
Sediment stratification	4
Submerged habitat	6
Transition zone monitoring	7

Q8 Here is a list of plant and habitat parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each resource, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Respondent skipped this question

Q9 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any plant and habitat parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q10 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for plant and habitat parameters in the future?

Respondent skipped this question

Page 5: Workshop Results: Water Monitoring - Delaware River and Bay

Q11 Here is a list of Delaware River and Bay monitoring parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-7, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring parameters.

Respondent skipped this question

Q12 Here is a list of Delaware River and Bay monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each parameter, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Respondent skipped this question

Q13 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any Delaware River and Bay monitoring parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q14 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for Delaware River and Bay monitoring parameters in the future?

Respondent skipped this question

Page 6: Workshop Results: Water Monitoring - Tributaries

Q15 Here is a list of tributary monitoring parameters identified at the workshop as not yet being robustly monitored in the study area. From 1-8, with 1 being "most important," rank the importance of these missing or not-yet robust monitoring programs.

Respondent skipped this question

Q16 Here is a list of tributary monitoring parameters that were identified at the workshop as not yet being robustly monitored in the study area. For each parameter, indicate whether you think monitoring it is a low priority, a moderate priority, or a high priority.

Respondent skipped this question

Q17 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any tributary monitoring parameters that you believe are not indicated above that should be elevated for monitoring in the future?

Respondent skipped this question

Q18 Based on a review of the draft monitoring inventory and your knowledge of other existing programs, are there any geographies that you believe would benefit from more robust monitoring efforts for tributary monitoring parameters in the future?

Respondent skipped this question

Page 7: Additional Monitoring Programs and Funding

Q19 Are you aware of volunteer organizations that could be included in the Delaware Estuary monitoring assessment?

Respondent skipped this question

Q20 If you answered "yes" for Question 19, what is/are the name(s) of the volunteer organization(s)?

Respondent skipped this question

Q21 Does your organization anticipate having sufficient funding over the next ten years to carry out existing monitoring programs within the Delaware Estuary?

Respondent skipped this question

Q22 If you answered "no" for Question 21, what level of funding is needed for which program?

Respondent skipped this question