

Mid-Atlantic Panel on Aquatic Invasive Species



Annual Report for USFWS Grant F18AP00243

Date: 12/21/2022

Annual Report Due: 12/29/2022

Fiscal Agent: UMCES-Maryland Sea Grant College

Annual Report to the Aquatic Nuisance Species Task Force for 2022

The mission of the Mid-Atlantic Panel is to assist state and federal agencies and other stakeholders in developing and implementing strategic, coordinated, and action-oriented approaches for the prevention and control of aquatic invasive species in the mid-Atlantic region, and to coordinate and communicate these activities with the other Regional Panels, the ANSTF, and other partners.

Funding from USFWS is used to support MAPAIS business, including coordination and logistics for MAPAIS meetings, travel for MAPAIS participants at ANSTF meetings and regional panel meetings, the MAPAIS website, the MAPAIS small grants competition, and indirect recovery for the fiscal agent (Maryland Sea Grant).

Panel Coordination

Edna Stetzar of the Delaware Department of Natural Resources and Environmental Control is the current chairperson of the Mid-Atlantic Panel. Steven Pearson of the New York Department of Environmental Conservation serves as vice-chair. Stetzar, as chair, has participated in meetings of the Aquatic Nuisance Species Task Force and the meetings of Regional Panel Principals during 2022. Maryland Sea Grant has continued to serve as fiscal agent during this time. Katlyn Fuentes of the Chesapeake Bay Program serves as a staffer for the Panel.

Due to the COVID-19 pandemic, the spring panel meeting was held virtually on two consecutive days, April 25 and 26, 2022, using the Microsoft Teams platform. The Panel meeting focused on routine business items including budget and funded project updates, a report out from the ANSTF, recommendations that should be brought forth to the ANSTF, and our annual grants competition. Additionally, we received informational briefings on AIS introductions in the Mid-Atlantic (Ian Pfungsten), blue catfish in the Nanticoke river (Christine Densmore), the role of native plantins in *Phragmites australis* management (Sylvia Jacobson – a grantee), AIS efforts at Deep Creek Lake (Julie Bortz), watercraft inspection and decontamination training and data sharing (“Quagga D” Davis and Robert Walters).

The second day was dedicated to review of grant proposals submitted to the MAPAIS 2022 RFP and to panel member updates. The agenda and minutes from this meeting are maintained on our website, www.midatlanticpanel.org.

The fall 2022 meeting was held in Annapolis Maryland and on the Microsoft Teams platform on December 14 and 15, 2022. The panel's routine business included a review of minutes and action items, an information item on the upcoming ICMB event, recommendations for the ANSTF, a review of research priorities, considerations for the upcoming 2023 MAPAIS RFP, a budget and funded projects update, and nominations for a new leadership committee. The panel also discussed at length the future of financial oversight after the current grant sunsets. The panel heard updates on the ANSTF (Susan Pasko), the USGS NAS species alerts (Ian Pfingsten), northern snakehead control and management in the Chesapeake Bay (Andrew Furness), zebra mussel distribution limits (John Magee), the flathead catfish survey and outreach (Meghan Kepler Schall – grantee), a presentation from ISAN (Jennifer Riddle), and Giant Salvinia management in North Carolina (Rob Emens). Member organizations also shared state updates.

Due to the pandemic and associated travel restrictions, no funds were spent for the virtual ANSTF meeting in April. The second ANSTF meeting was pushed to January 2023. Minimal funds were spent on web resources. Funds are also being spent to sponsor the International Conference on Marine Bioinvasions. Hence, the Panel has travel and meeting support funding to continue supporting panel operations.

Small Grants Competition

The Panel conducted its annual grants competition to fund activities addressing MAPAIS's mission and regional priorities between January and April 2022. Between 2007 and 2022, the Panel awarded \$607,710 in project funding. At the spring meeting, three grantees were selected for 2022. Several continuing and these new projects are outlined below. Annual reports for projects are attached.

Maryland Sea Grant administers the subawards for all projects, including the projects in the chart below. As of December 2022, the panel awarded \$175,963 in MAPAIS funds for small grants projects across the five years of the award. A total of \$83,378 has been spent (years 1-4 projects only). Year 5 projects started September 1, 2022 and thus have not billed yet. Additionally, Fowler's marine bioinvasions survey had to be delayed to June 2023 due to the COVID cases and family emergencies in summer 2022, so limited expenses have been incurred on that award. Several projects have also been delayed due to the pandemic and so have required no cost extensions. Updates on the status of each project were also provided at the December 2022 panel meetings. Notes on project statuses are included below.

Current Small Grants Portfolio

Promoting tidal and marine invasive species awareness and response in DE among diverse stakeholders	Kate Fleming, University of Delaware	This project will increase recreational anglers' awareness of and ability to identify, handle, and respond to encounters with three priority invasive fishes in Delaware (i.e. Blue Catfish (<i>Ictalurus furcatus</i>), Flathead Catfish (<i>Pylodictis olivaris</i>), and Northern Snakehead (<i>Channa argus</i>)).	September 2019 to February 2021
Early detection of invasive <i>Phragmites australis</i> at the tidal marsh forest ecotone with airborne LiDAR	Keryn Gedan, George Washington University	This project will validate the use of LiDAR data to assess canopy understory for early <i>Phragmites</i> invasion.	September 2019 to August 2022 (NCE)
Assessing the potential impact of Dominion Cove Point LNG export facility on ballast mediated invasions in Chesapeake Bay	Jenny Carney, Smithsonian Environmental Research Center	This project will assess potential introductions following a new source of ballast water discharge coming online in Chesapeake Bay.	September 2019 to May 2022 (NCE)
Revisiting <i>Rapana venosa</i> in Hampton Roads as TBT abates	Roger Mann, Virginia Institute of Marine Science	This project will assess invasive rapa whelk populations in lower Chesapeake Bay as part of a study on the toxin TBT in sediments.	September 2020 to February 2022
An integrative approach to studying Flathead Catfish invasion in the Susquehanna River Basin: linking ecological field studies and public perception for effective outreach on aquatic invasive species	Megan Kepler Schall, Penn State University	This project will administer a human dimensions survey of angler attitudes on flathead catfish to inform improved outreach materials.	September 2020 to August 2022 (NCE)
Marine bioinvasions of the Mid-Atlantic coast: Rapid assessment survey for introduced marine organisms from NJ to VA	Amy Fowler, George Mason University	This project will conduct a rapid assessment of several marinas for aquatic invasive species along the Mid-Atlantic coast.	September 2020 to August 2023 (NCE)
Test an environmental DNA assay to detect nutria in the Mid-Atlantic and explore how activity patterns impact detection	Stephanie Coster, Randolph-Macon College	This project seeks to test a new eDNA assay for monitoring and tracking nutria (<i>Myocaster coypus</i>) in the Mid-Atlantic states. In addition to testing this assay in high density freshwater pond in Virginia, we will sample inflows and outflows of that system to see how flow conditions impact detection.	September 2021 to August 2023

Development of an Aquatic Invasive Species Management Plan for Delaware	Michael Stangl, Delaware Department of Natural Resources and Environmental Control	This project will fund a scientist to gather baseline information, engage with partner agencies, coordinate the content, and draft a comprehensive state-wide AIS plan.	September 2021 to January 2023 (NCE)
Evaluating the impact of a rural to urban land use gradient on the incidence of chytridiomycosis, ranavirus, and overall salamander health in the Chesapeake Bay Watershed	Jennifer Wanat, Washington College	This project will study change surrounding critical ephemeral wetlands impacts disease prevalence and amphibian health using a new dermal swabbing technique.	September 2021 to August 2023
Investigating the feeding ecology of two invasive predators in the Nanticoke River, USA using stomach content and stable isotope analyses	Noah Bressman, Salisbury University	This project will provide the first assessment of the feeding ecology of invasive blue catfish and northern snakehead in an Eastern Shore tributary of the Chesapeake Bay.	September 2022 to August 2023
Development of an aquatic invasive species management plan for New Jersey	Joseph Bilinski	This project will support a contractor/subject matter expert to assist New Jersey with the development of a comprehensive AISMP that identifies management priorities and needs, guides monitoring and response efforts throughout the state, and brings together multiple partners to leverage resources and expertise.	September 2022 to August 2023
Ecosystem experiment to evaluate the return of American Eels for controlling invasive crayfish & restoring ecological structure in streams and rivers	Erik Silldorf	This project will transplant native American eels into the Pickering Creek watershed to study their control of invasive crayfish.	September 2022 to August 2023

Small Grants Project Reports

1. **Final Report:** Gedan, Early detection of invasive *Phragmites australis* at the tidal marsh-forest ecotone with airborne LiDAR
2. **Final Report:** Carney, Assessing the potential impact of Dominion Cove Point LNG export facility on ballast mediated invasions in Chesapeake Bay
3. **Final Report:** Mann, Revisiting *Rapana venosa* in Hampton Roads as TBT abates
4. **Final Report:** Schall, An integrative approach to studying Flathead Catfish invasion in the Susquehanna River Basin: Linking ecological field studies and public perception for effective outreach on aquatic invasive species

5. **Annual Report:** Fowler, Marine bioinvasions of the Mid-Atlantic coast: Rapid assessment survey for introduced marine organisms from NJ to VA
6. **Annual Report:** Coster, Test an environmental DNA assay to detect nutria in the Mid-Atlantic and explore how activity patterns impact detection
7. **Annual Report:** Stangl, Development of an Aquatic Invasive Species Management Plan for Delaware
8. **Annual Report:** Wanat, Evaluating the impact of a rural to urban land use gradient on the incidence of chytridiomycosis, ranavirus