Mid-Atlantic Panel on Aquatic Invasive Species

Annual Report for USFWS Grant F18AP00243

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Fiscal Agent: UMCES-Maryland Sea Grant College

Annual Report to the Aquatic Nuisance Species Task Force for 2023

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

Steven Pearson of the New York Department of Environmental Conservation is the current chairperson of the Mid-Atlantic Panel. Rob Emens of the North Carolina Department of Environmental Quality serves as vice-chair. Pearson, as chair, has participated in meetings of the Aquatic Nuisance Species Task Force and the meetings of Regional Panel Principals during 2023. Maryland Sea Grant has continued to serve as fiscal agent during this time, though Naturesource Communications will take over panel fiscal responsibilities with the new grant. Katlyn Fuentes of the Chesapeake Bay Program serves as a staffer for the Panel.

The spring panel meeting was held in Annapolis, Maryland on two consecutive days, April 19-20, 2023, and included a hybrid format. 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. We additionally discussed changing panel fiscal management from Maryland Sea Grant to an independent contractor. We received informational briefings on AIS introductions in the Mid-Atlantic (Ian Pfingsten), detections of invasive phragmites using LiDAR (Man Qi – GWU, a grantee), eDNA to detect nutria (Stephanie Coster – Randolph Macon College, a grantee), and hydrilla control in New Jersey (Heather Desko, a panel member). Many also visited the Smithsonian Environmental Research Center to learn about their invasive species work.

The second day was dedicated to review of grant proposals submitted to the MAPAIS 2023 RFP and to panel member updates. The agenda and minutes from this meeting are maintained on our website, www.midatlanticpanel.org.

The fall 2023 meeting was held in Wilmington, North Carolina in coordination with the Gulf & South Atlantic Regional Panel from November 14-16, 2023. The panel's routine business included a review of minutes and action items, project and financial updates, financial management transitions, and recommendations for the ANSTF. The panel heard updates on funded projects including the Dominion Cove LNG terminal invasions monitoring project (Jenny Carney, SERC) and ranavirus in salamanders in the Chesapeake Bay (Jen Wanat, Washington College). There as an additional presentation from Sean Hartzell (PAFBC) about range expansions in New Zealand Mudsnails. Joint panel discussions included genetic tools for invasive species monitoring, blue land crab expansion, invasive catfish management, federal updates and a slate of speakers talking about issues in North Carolina. States also provided local updates.

Funds this year were allocated for local hosting for the April and November panel meetings. Some funds were spent on web resources. Panel chair travel to ANSTF was not charged. We anticipate remaining panel funds will be used to support vice-chair travel to ANSTF in January 2024.

Small Grants Competition

The Panel conducted its annual grants competition to fund activities addressing MAPAIS's mission and regional priorities between January and April 2023. Selected projects will be funded through the new panel award to fund the MAPAIS. Several continuing projects have wrapped up or will wrap up in early 2024. These projects are outlined below. Final or 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 2023, the panel awarded $176,097 in MAPAIS funds for small grants projects across the five years of the award. A total of $4,668 has been forfeited back to the award. $149,701 has been spent. Fowler's marine bioinvasions survey had to be delayed to June 2023 due to the COVID cases and family emergencies in summer 2022; final expenditures are expected for this award by 2/28/2024. Bilinski's NJ invasive species plan project also requested an extension through 2/28/2024, so final billing is also still outstanding. Updates on the status of each project were also provided at the December 2022 panel meeting. Notes on project statuses are included below.

Current Small Grants Portfolio

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 February 2024 (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 (*Myocaster coypus*) 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 March 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 February 2024 (NCE)
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. **Annual Report:** Fowler, Marine bioinvasions of the Mid-Atlantic coast: Rapid assessment survey for introduced marine organisms from NJ to VA
2. **Final Report:** Coster, Test an environmental DNA assay to detect nutria in the Mid-Atlantic and explore how activity patterns impact detection
3. **Final Report:** Stangl, Development of an Aquatic Invasive Species Management Plan for Delaware
4. **Final Report:** Wanat, Evaluating the impact of a rural to urban land use gradient on the incidence of chytridiomycosis, ranavirus
5. **Final Report:** Bressman, Investigating the feeding ecology of two invasive predators in the Nanticoke River, USA using stomach content and stable isotope analyses
6. **Annual Report:** Bilinski, Development of an aquatic invasive species management plan for New Jersey
7. **Final Report:** Silldorf, Ecosystem experiment to evaluate the return of American Eels for controlling invasive crayfish & restoring ecological structure in streams and rivers