

Mid-Atlantic Panel on Aquatic Invasive Species  **Mid-Atlantic Panel on Aquatic Invasive Species**  
**Fall Meeting**  
 December 14 and 15, 2022  
 AGENDA

**MAPAIS Fall 2022 Meeting** – Hybrid Meeting  
**December 14 -15, 2022**

U.S. Fish and Wildlife Service – Chesapeake Bay Field Office  
 177 Admiral Cochrane Dr., Annapolis MD 21401

**Day 1 – Wednesday, December 14**

[Microsoft Teams](#)

**Meeting ID:** 279 132 428 614; **Meeting password:** hUTgew

[Day 1 virtual meeting link](#)

**Join by phone:** +1 202-991-0477; **Access code:** 130 476 143#

Time	Topic	Speaker
9:00am	<b>Call to Order</b> <ul style="list-style-type: none"> <li>• Coffee</li> <li>• Welcome</li> <li>• Hybrid format</li> <li>• Housekeeping</li> <li>• Introductions and new members</li> </ul>	<i>Edna Stetzar, Panel Chair</i> <i>Katlyn Fuentes, Panel Coordinator</i> <i>Ashleigh Altizer, USFWS</i>
9:15am	<b>Old Business</b> <ul style="list-style-type: none"> <li>• Approval of agenda and spring meeting minutes</li> <li>• Spring 2022 Action Items</li> <li>• Int'l Conf. Marine Bio-Invasions</li> <li>• Annual Reports</li> <li>• Mid-Atlantic Field Guide</li> </ul>	<i>Edna Stetzar</i>
9:45am	<b>Budget and funded project updates</b> <ul style="list-style-type: none"> <li>• MAPAIS Projects</li> <li>• RFP 2023 – any changes needed?</li> <li>• Panel Finance Leadership</li> </ul>	<i>Mike Allen, Panel Fiscal Agent</i>
10:00am	<b>New Business - Discussions</b> <ul style="list-style-type: none"> <li>• Genetic Bio-control</li> <li>• Hydrilla Research</li> <li>• Outreach/Education</li> <li>• By-Laws</li> <li>• Recommendations to ANSTF?</li> </ul>	<i>Edna Stetzar</i>
10:30am	Break	
10:45am	<b>Update from Regional Research Priority Sub-Committee</b>	<i>Steve Pearson, Panel Vice Chair</i>
11:00am	<b>Mid-Atlantic Region AIS introductions and NAS program updates</b>	<i>Ian Pfingsten, USGS</i>
11:20 am	<b>ANSTF update</b>	<i>Susan Pasko, Exec Secretary, ANSTF</i>
11:45am	Break/Lunch – provided by MAPAIS	



**Mid-Atlantic Panel on Aquatic Invasive Species**  
**Fall Meeting**  
 December 14 and 15, 2022  
 AGENDA

1:00pm	<b>"Flathead Catfish survey and outreach in the Susquehanna River Basin"</b>	Meghan Kepler Schall, Penn State
1:20pm	<b>"Northern Snakehead Control and Management Plan for the Chesapeake Bay Watershed"</b>	Andrew Furness, USFWS
2:20pm	<b>"Dominion Cove Point LNG export facility ballast mediated invasions in the Chesapeake Bay"</b>	Jenny Carney, SERC
2:40pm	Break	
2:50pm	<b>"The Use of Salinity and Ionic Tolerance Data to Predict Zebra Mussel Distribution in Saline Waters"</b>	John Magee, NH Fish and Game (virtual recorded presentation)
3:10pm	<b>"Don't Let it Loose"</b>	Jennifer Riddle, ISAN
3:20pm	Items from the floor, wrap up	
3:30pm	Adjourn	Edna Stetzar

**MAPAIS Fall 2022 Meeting**

**December 14 -15, 2022**

U.S. Fish and Wildlife Service – Chesapeake Bay Field Office  
 177 Admiral Cochrane Dr., Annapolis MD 21401

**Day 2 – Thursday, December 15**

[Microsoft Teams](#)

**Meeting ID:** 263 427 354 015; **Meeting password:** guFxFb

[Day 2 virtual meeting link](#)

**Join by phone:** +1 202-991-0477; **Access code:** 572 229 127#

Time	Topic	Speaker
9:00am	<b>Call to Order</b> <ul style="list-style-type: none"> <li>Welcome/Introductions</li> <li>Follow up from Day 1</li> </ul>	<i>Edna Stetzar, Panel Chair</i>
9:10am	<b>Nominations</b>	<i>Edna Stetzar</i>
9:30am	<b>Spring 2022 Meeting Planning</b>	<i>Edna Stetzar/New Chair</i>
10:00am	<b>"North Carolina's second run with Giant Salvinia: Gapway Swamp"</b>	<i>Rob Emens, NC DEQ</i>
10:20am	<b>Member and Interested Party Updates</b>	<i>Katlyn Fuentes</i>
11:50am	Public questions/comments; wrap up	
<b>12:00</b>	<b>Adjourn</b>	

**MAPAIS Fall 2022 Meeting**

*U.S. Fish and Wildlife Service – Chesapeake Bay Field Office  
177 Admiral Cochrane Dr., Annapolis MD 21401*

**Day 1, December 14<sup>th</sup>; Hybrid Meeting – ATTENDEES**

<b>Aaron Henning,</b> SRBC	<b>Andrew Furness,</b> USFWS	<b>Christine Densmore,</b> USGS	<b>Christopher Smith,</b> NJ DEP
<b>Don MacLean,</b> USFWS	<b>Edna Stetzar,</b> DNREC	<b>Ellyn Campbell,</b> SRBC	<b>Geoffrey Smith,</b> PFBC
<b>Heather Desko,</b> NJ WSA	<b>Ian Pfingsten,</b> USGS	<b>Jay Kilian,</b> MDNR	<b>Jennifer Riddle,</b> ISAN
<b>Jonathan McKnight,</b> MDNR	<b>Joseph Bilinski,</b> NJ DEP	<b>Julie Lockwood,</b> Rutgers University	<b>Katie Zipfel,</b> WV DNR
<b>Katlyn Fuentes,</b> Chesapeake Research Consortium	<b>Kenneth Klipstein,</b> NJ WSA	<b>Kerry Wixted,</b> WV DNR	<b>Kristopher Abell,</b> PDA
<b>Mark Lewandowski,</b> CBP	<b>Matthew Shank,</b> PA DEP	<b>Megan Kepler Schall,</b> Penn State	<b>Michael Steiger,</b> DNREC
<b>Mike Allen,</b> MD Sea Grant	<b>Nancy Rybicki,</b> USGS	<b>Rob Emens,</b> NC DEQ	<b>Sara Mirabilio,</b> NC Sea Grant
<b>Sara Stahlman,</b> PA Sea Grant	<b>Sarah Niles Whitney,</b> Penn State University	<b>Sean Hartzell,</b> PFBC	<b>Steve Minkinen,</b> USFWS
<b>Steven Pearson,</b> NY DEC	<b>Susan Pasko,</b> USFWS	<b>Sydney Stark,</b> Penn State	<b>Tara Whitsel,</b> USACE
<b>Tim Campbell,</b> WI Sea Grant		<b>Tyler Grabowski,</b> PA Fish & Boat Commission	

**09:00 CALL TO ORDER**

*Presenters: Edna Stetzar (Panel Chair), Katlyn Fuentes (Panel Coordinator)*

- Roll call and technological reminders about virtual meetings.
- **NEW MEMBER INTRODUCTIONS:**
  - **Kristopher Abell** (PDA) is replacing **Gary Walters** (retired) as the Pennsylvania Representative
  - **Julie Lockwood** is the new Academic Representative for New Jersey
  - **Michael (Mike) Steiger** is the new Delaware Alternate Representative
- **CHANGES IN PANEL LEADERSHIP:** **Edna Stetzar** has completed her term as Panel Chair and **Steven Pearson** has been voted as the new Panel Chair. **Rob Emens** has been approved as the Panel Vice-Chair and **Christine Densmore** will be the Member at Large.
  - *Thank you for your years of service to the Panel, Edna! While you may be stepping down as Chair, we are thrilled that you will continue to participate in the panel as a member.*

#### 09:15 OLD BUSINESS

*Presenter: Edna Stetzar (Panel Chair)*

- **SPRING 2022 MEETING:**
  - No follow-up action items from the Spring 2022 meeting
  - **APPROVAL OF MEETING MINUTES:**
    - **Motion made:** Mike Allen
    - **Seconded:** Jonathan McKnight
    - **ACTION: Meeting Minutes will be posted to the MAPAIS website.**
- **INTERNATIONAL CONFERENCE ON MARINE BIOINVASIONS (ICMB XI):** At the MAPAIS Fall 2021 Meeting, the Panel agreed to sponsor two Student Achievement Awards.
  - ICMB was originally scheduled for May 2022. The conference date was postponed, and **the meeting will now be held May 15-19, 2023, in Baltimore (MD).**
- **ANNUAL REPORTS:**
  - At this time, **Edna Stetzar** has not received any reports from states with existing State Management Plans. Previously, Panel Members expressed the desire for these reports to be made publicly accessible and be posted to the MAPAIS website. The Panel agreed to keep this action item on the Spring 2023 agenda.
  - **Steven Pearson** has discussed with the NY authors of the report and plans to follow-up with them to acquire last year's final report.
  - **Sean Hartzell** and **Sarah Whitney** will look into the PA reports.
  - **ACTION: NY, PA, and VA representatives will investigate acquiring these reports for distribution and will report back to Panel Leadership.**
- **MID-ATLANTIC FIELD GUIDE:** ([Link to .pdf of the Field Guide](#))
  - A reprint of the field guide is not needed at this time.
  - **Steven Pearson** requested 10 to 20 copies to share with each of the AIS programs across the state of New York
  - **ACTION: Field guides will be sent to Steven Pearson to distribute to NY AIS programs.**

#### 09:45 BUDGET AND FUNDED PROJECT UPDATES

*Presenter: Mike Allen (Panel Fiscal Agent)*

- **BUDGET STATUS:**
  - Current award period September 2018-2023
  - Only expenses in 2022 have been the ICMB sponsorship, the Fall 2022 in-person meeting, and the associated website costs.
  - Lots of available funding remaining due to lack of travel: \$6,400 remaining in travel (ANSTF) and meeting costs, \$100 remains in web maintenance
  - \$116,580 remains outstanding in allocated awards
  - Indirect costs are 26%
- **CLOSED MAPAIS PROJECTS:**
  - Amy Fowler; ended in 2019; *Impacts of two functionally distinct invaders on facilitation and community succession*
  - George Merovich; ended 2020; *Quantifying multiple ecosystem-level threats to the upper Juniata River system from the invasion and occupation of rusty crayfish*



- Kate Fleming; ended February 2021; *Promoting tidal and marine invasive species awareness and response in DE among diverse stakeholders*
- Keryn Gedan; ended 8/2022; *Early detection of invasive Phragmites australis at the tidal marsh-forest ecotone with airborne LiDAR*
- Jenny Carney; ended 5/2022; *Assessing the potential impact of Dominion Cove Point LNG export facility on ballast mediated invasions in Chesapeake Bay*
- Roger Mann; ended February 2022; *Revisiting Rapana vinosa in Hampton Roads as TBT abates*
- Megan Kepler Schall; ended August 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*
- **ONGOING MAPAIS PROJECTS:**
  - Amy Fowler; ends August 2023; *Marine Bioinvasions of the Mid-Atlantic Coast: Rapid Assessment Survey for Introduced Marine Organisms from NJ to VA*
  - Stephanie Coster; ends August 2023; *Test an environmental DNA assay to detect nutria in the Mid-Atlantic and explore how activity patterns impact detection*
  - Michael Stangl; ends January 2023; *Development of an Aquatic Invasive Species Management Plan for Delaware*
  - Jennifer Wanat; ends August 2023; *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*
- **NEW MAPAIS PROJECTS:**
  - Noah Bressman; ends August 2023; *Investigating the feeding ecology of two invasive predators in the Nanticoke River, USA using stomach content and stable isotope analyses*
  - Joseph Bilinski; ends August 2023; *Development of an aquatic invasive species management plan for New Jersey*
  - Erik Silldorf; ends August 2023; *Ecosystem experiment to evaluate the return of American Eels for controlling invasive crayfish & restoring ecological structure in streams and rivers*
- **REQUEST FOR PROPOSALS FOR THE MAPAIS 2023 SMALL GRANTS COMPETITION:**
  - No updates needed to the RFP
  - RFP is anticipated to be released in February 2023, with a submission deadline in April 2023.
  - More information can be found here: <https://www.midatlanticpanel.org/grant-and-funding-sources/>
- **PANEL FINANCE LEADERSHIP:**
  - MD Sea Grant has been the Fiscal Oversight Team for the past 11 years, and MD DNR served in this role prior to that.
  - At this time, **we are looking for a new fiscal oversight team and Panel Fiscal Agent** (currently **Mike Allen**), as Maryland Sea Grant will be stepping down from this position effective at the end of the current grant date in August 2023.
    - The new grant will begin in September 2023 and needs to be written in May 2023.
    - The Panel is currently doing 2-3 sub awards per year, and the total grant award is \$50,000. Over the course of the 5-year grant, the panel does 12 sub-awards, each ranging from \$5k-\$20k.
  - **Edna Stetzar** suggested forming an ad hoc committee that will coordinate the search for a replacement fiscal team.



- The following personnel will be on this ad hoc committee: Edna Stetzar, Mike Allen, Susan Pasko, and Steven Pearson.
- **If you are interested in serving in this role, or if you would like to request additional information regarding this opportunity, please contact the Panel Fiscal Agent, Mike Allen ([mallen@mdsg.umd.edu](mailto:mallen@mdsg.umd.edu)), Panel Chair, Steven Pearson ([Steven.Pearson@dec.ny.gov](mailto:Steven.Pearson@dec.ny.gov)), and Panel Vice-Chair, Rob Emens ([rob.emens@ncdenr.gov](mailto:rob.emens@ncdenr.gov)).**
  - **ACTION: Sara Whitney will discuss this opportunity with PA Sea Grant.**
- **QUESTIONS/COMMENTS:**
  - **Steven Pearson:** What qualifications would a new Fiscal Agent need?
    - **Mike Allen:** Need to have a group that can manage a grant and have the knowledge of federal regulations regarding grants (what you can spend, etc.). Additionally, they must have the ability to distribute research awards, reimburse panel expenses, and have an accounting structure in place to manage the funds.
  - **Edna Stetzar:** Does a different person handling the accounting vs. managing the reporting, etc.?
    - **Mike Allen:** Yes. I handle the reporting and there is a business manager that handles the invoices, etc. It would be helpful if the new fiscal team has a similar structure.
  - **Ian Pfingsten:** Here is an example of the Northeast ANS Panel's contractor agency run by Michele Tremblay: <https://naturesource.net/>

## 10:00 NEW BUSINESS

*Presenter: Edna Stetzar (Panel Chair)*

- **GENETIC BIOCONTROL:**
  - At a recent meeting, the [Great Lakes Panel](#) requested that the Regional Panel Chairs provide information on any genetic biocontrol methods, research, etc. that is going on in their respective regions. In this case, “genetic biocontrol” refers to genetically modified organisms.
  - At this time, **we are requesting any information on biocontrol methods and/or research occurring in the mid-atlantic be reported to Edna Stetzar.** Edna will report this information back to the Great Lakes Panel.
    - **ACTION: Please send any information pertaining to this to Edna Stetzar ([edna.Stetzar@delaware.gov](mailto:edna.Stetzar@delaware.gov)) as soon as possible.**
  - **QUESTIONS/COMMENTS:**
    - DE, PA, and NY all have triploid grass carp permits.
    - **Steven Pearson:** Ongoing biocontrol research in New York isn’t based on genetics but instead focuses on species-specific solutions (e.g., insects).
    - **Sean Hartzell:** There is some ongoing research into Trojan-Y, a genetic technique that would result in reduced breeding success in targeted non-native species, ultimately resulting a population decline. In the Western US, this method has been used to reduce non-native brook trout populations.
      - [Link to a USGS page with more information on Trojan-Y](#)



- **HYDRILLA RESEARCH: Mike Steiger** described a recent USACE request for hydrilla samples. USACE is conducting a genetics project, studying the 3<sup>rd</sup> genetic phenotype present in the Connecticut River Basin. Results will help to determine hydrilla introductions.
  - **Tara Whitsel** is involved in this project and the genetics work is being done in collaboration with USACE's Engineer Research Development Center and Texas University.
  - **Heather Desko**: NJ participated in this study in 2021, and the results were presented by **Dean Williams** at the Northeast Aquatic Plant Management Society Conference in January 2022.
    - A recording of Dean's presentation can be found here: <https://www.neapms.org/2022-conference-archives-posters-videos>
  - DNREC collected in situ samples of hydrilla from various ponds and sent them to USACE. Additional samples have been collected in PA, NY, CT, OH. Results will be available in 2023
- **OUTREACH/EDUCATION:**
  - **Christine Densmore** (Panel Member at Large) reached out to Edna Stetzar to request if there exists a poster, display, or other materials that can be used to present AIS and Panel information at meetings.
  - **Heather Desko** suggested reaching out to other Regional Panels to see if they have materials, and if they'd be willing to send us copies as examples of what we can make.
  - **ACTION: Panel Leadership will explore creating materials for use at outreach events.**
- **BY-LAWS:** The bylaws were last updated in July 2018. They can be found on the website here: [LINK](#)
  - Amendments require 2/3 majority present at a regularly scheduled Panel meeting. Any pending procedural amendments must be announced and submitted to the Panel's voting members at least 30 days before said Panel meeting.
  - **ACTION: The Ad Hoc Committee's recommendations on the new panel fiscal agent must be submitted to the panel one month prior to the Spring Meeting**
- **RECOMMENDATIONS TO ANSTF:**
  - Upcoming ANSTF meeting is January 11<sup>th</sup> & 12<sup>th</sup>, 2023.
  - **The Panel voted to put forth a recommendation for continued action and additional funding for nutria eradication/control.**
    - **Motion made:** Jonathan McKnight
    - **Seconded:** Jay Killian
  - **QUESTIONS/COMMENTS:**
    - **Jonathan McKnight** requested an update to our recommendation to the panel based upon funding and action for nutria control in the states, as this is a critical, high-priority issue and needs to remain at the forefront of these Task Force conversations.
      - **Kerry Wixted:** I can send out this recommendation to the Invasive Species Committee with AFWA, and we can explore bringing it to the committee meeting in March at the North American conference.

#### 10:45 UPDATE FROM REGIONAL RESEARCH PRIORITY SUB-COMMITTEE

Presenter: Steve Pearson (Panel Vice-Chair)

- Steven Pearson presented the updated Panel Research Priorities document for review. Several edits were made regarding taxonomic nomenclature and ensuring that the most updated common names were included into this document
- Changes made:



- Removing geographic common names (e.g., Peruvian primrose), to updated common names
- *E. crassipes* has been reclassified as ***Pontederia crassipes***
- Taxonomic website: <https://itis.gov/>
- **APPROVAL OF CHANGES MADE:**
  - **Motion Made:** Steve Minkkinen
  - **Seconded:** Jonathan McKnight
- **QUESTIONS/COMMENTS:**
  - **Jonathan McKnight** prefers keeping this as a species list - not broken further into sub-species.
- **ACTION: Katlyn will send out this species list to the Panel and request edits/comments by COB Friday 01/06.**

#### 11:00 MID-ATLANTIC REGION AIS INTRODUCTIONS AND NAS PROGRAM UPDATES

*Presenter: Ian Pfinstgen (USGS)*

- **NONINDIGENOUS AQUATIC SPECIES (NAS) ALERT SYSTEM:** Alerts public of new species occurrences at the country/state/county/watershed (HUC8) levels. Link to database: <https://nas.er.usgs.gov/>
- 47 NAS Alerts in Mid-Atlantic Region since April 2022. Of these 47: 26 were plants, 10 fishes, 5 mollusks, 4 herps, 1 crustacean, and 1 cnidarian. Examples Include:
  - **Silver Carp (*Hypophthalmichthys molitrix*)** – found at Racine Lock & Dam on the Ohio River in Mason County, WV. Farthest upstream occurrence on the Ohio River.
  - **Northern Snakehead (*Channa argus*)** – *multiple sightings*
    - Dam No. 4 in the Potomac River in Washington County, MD. Farthest north on the Potomac R. that this species has been found since it was first discovered in MD.
    - Herr's Island, Allegheny River, in Allegheny County, PA
    - Mouth of Caledonia Creek in the Delaware River in Monroe County, PA
  - **Flathead Catfish (*Pylodictis olivaris*)** – found at Jayne Bend, Susquehanna River in Wyoming County, PA
  - **Round Goby (*Neogobius melanostomus*)** – *multiple sightings*
    - Observed at the old barge canal aqueducts at the Schoharie Crossing Boat Launch in Schoharie Cr., Montgomery County, NY
    - Collected at Roseton Generating Station in the Hudson River, Orange County, NY
  - **Zebra Mussel (*Dreissena polymorpha*)** – found in Mariaville Lake, south Chuctanunda Creek in Schenectady County, NY
  - **Chinese Mystery Snail (*Cipangopaludina chinensis*)** – *multiple sightings*
    - Six snails collected in Harris Pond off Hunlock Creek in Luzerne County, PA
    - Individuals found in three different ponds of Cedar Creek-Little Lehigh Creek in Lehigh County, PA
  - **Decollate Snail (*Rumina decollate*)** – found at Caswell Beach in Montgomery Slough, Brunswick County, NC
  - **Flowering Rush (*Butomus umbellatus*)** – *several sightings*
    - Elizabeth Township Community Park off Hammer Creek in Lancaster County, PA. Possibly the furthest southeastern record.
    - At Lower Twomile Run off Allegheny River in Venango County, PA.
  - **Brazilian elodea (*Egeria densa*)** – found off Bandy Rd. in Back Creek, Roanoke County, VA.
  - **Hydrilla (*Hydrilla verticillata*)** – *multiple sightings throughout NJ, NY, PA, VA, WV*





- NY and PA sightings are new to those drainages
- **Euro Frogbit (*Hydrocharis morsus-ranae*)** – *multiple sightings*
  - Dense clumps/mats along the shoreline in a private pond in Natural Heritage Area off Little Wapwallopen Creek in Luzerne County, PA
  - Drakes Brook in Sandra Park, Morris County, NJ
  - Wallkill River in Yogi Bear’s Jellystone Park, Ulster County, NY
- **Amazonian Frogbit (*Limnobium laevigatum*)** – found at Van Cortlandt Lake off Sparkill Creek/Hudson River in Bronx County, NY
- **Two-horn Waterchestnut (*Trapa bispinosa*)** – *multiple sightings*
  - Several sightings at Buddy Attick (Greenbelt) Lake off Northeast Branch Anacostia River in Prince George’s County, MD
  - Private pond (>5 acres) in Cullen, Charlotte County, VA
- **Cuban Treefrog (*Osteopilus septentrionalis*)** – *multiple sightings*
  - Durham County, NC
  - Chester County, PA
  - Middlesex County, NJ
- **FUTURE AQUATIC INVADERS – NEXT STEPS:** The final species and variable lists will be shared in early 2023. The next quarterly meeting is January 26, 2023.
  - **If you are interested in joining the Community of Practice and participating in quarterly updates, contact Ian Pfingsten ([ipfingsten@usgs.gov](mailto:ipfingsten@usgs.gov))**
  - **If you have questions and/or data to share, contact Peder Engelstad ([pendelstad@usgs.gov](mailto:pendelstad@usgs.gov))**
- **FLOOD AND STORM TRACKER (FaST) MAPS:** Finalized FaST map for northern extent of Hurricane Ida from 2021. Maps contain locations of NAS taxa and connection points across HUC10 drainages
- **HORIZON SCANS:**
  - **COMPLETED SCANS:** Global Aquatic and Terrestrial Vertebrates in Trade, All Taxa Florida, Marine and Estuarine Gulf of Mexico, and Regional Transportation
  - **NEW SCANS:** Global Aquatic and Terrestrial Plant, All Taxa Puerto Rico, Global Aquatic and Terrestrial Invertebrates, and Regional Transportation
- **QUESTIONS/COMMENTS:**
  - **Kerry Wixted:** Cuban Treefrogs can be infected with *Batrachochytrium salamandrivorans* (Bsal) and could be a carrier if Bsal is found in the US. More information on this here: <https://pubmed.ncbi.nlm.nih.gov/34516643/>
  - **Nancy Rybicki:** *Trapa bispinosa* Roxb. is native to Taiwan, China, Korea, and Japan (Hsieh 1994), so the temperature range is probably wide. The *Trapa bispinosa* Roxb. samples we had for our DNA study were from Yilan County, Taiwan, Shuanglian Reservoir Wetland where the temperature is 55 F to 100 F.
    - **More on this DNA study can be found here:** <https://doi.org/10.1016/j.aquabot.2019.02.006>

## 1:00 FLATHEAD CATFISH SURVEY AND OUTREACH IN THE SUSQUEHANNA RIVER BASIN

*Presenter: Meghan Kepler Schall (Penn State)*

- Invasive Flathead Catfish in the Susquehanna River Basin:
  - Recent invader (early 2000s)
  - Prominent AIS in the US



- Major concern for established species
- **ANGLER PERCEPTION:** recreational appeal, guide industry/marketing; large bodied-fish appealing
  - **Current regulations:** no size restrictions, 50 fish per day limit with combined species
- **PROJECT GOALS/OVERVIEW:** to develop a project that intertwines the public including anglers with invasive Flathead Catfish research efforts in PA
- **SURVEY:**
  - **DESIGN:**
    - Qualtrics Survey Tool – online only
    - Partnered with PA Fish & Boat Commission (PFBC) for survey distribution
    - Pilot survey sent to AIS experts, biologists, and researchers
  - **TOOL:** survey took approx. 14 minutes long to complete
    - Main components: general/fishing background, invasive species, and flathead specific questions
    - Demographic questions
  - **OBJECTIVES:**
    1. Evaluate current knowledge of invasive species within the community in PA along with level of concern
    2. Identify what sources and methods of information dissemination are best
    3. Quantify angler behavior when fishing for flathead catfish
    4. Evaluate current attitudes PA anglers have towards flathead catfish
  - **DISTRIBUTION & RESPONSES:** released to PBFC general license holder database in Sept. 2022 and closed Oct. 2022. Sent to 450,457 email addresses and 18,666 responses received.
- **SURVEY FINDINGS:**
  - **GENERAL INFORMATION:**
    - 90% of survey respondents identified as male
    - 71% between the age of 45 and 74 years old
    - Most indicated that they had been fishing over 20 years
    - Preferred target fish species included black basses (*Micropterus spp.*) and trout
  - **INVASIVE SPECIES INFORMATION:**
    - 87% respondents familiar with AIS
    - Top sources of information at AIS: flyers at boat launches, word of mouth, and magazine/print periodicals
    - Top AIS prevention measures practiced: cleaning/checking gear before leaving water access, draining water from boat/live wells before leaving water, not releasing aquarium plants/pets, etc.
  - **FLATHEAD CATFISH FINDINGS:**
    - Out of 15,593 respondents, 4,687 targeted or caught flathead catfish as bycatch
    - Fishing habits for Flathead Catfish:
      - Top reason to fish for flathead catfish = large size
      - Up to 12% of respondents harvested flathead catfish in PA with the largest proportion in the Susquehanna River Basin
      - Catch and release fishing = top fishing habit
- **FUTURE DIRECTION:** scenario-based survey questions, management considerations
- **FUTURE RESEARCH:**



- Community level impacts of invasion
- Contaminant accumulation and emerging contaminants
- Continuing to work with/incorporate the public (outreach)
- Management implications
- **QUESTIONS/COMMENTS:**
  - **Edna Stetzar:** There are a lot of fish consumption advisories in DE waterways. Have you noticed an overlap with where you see this harvesting and the advisories?
    - **Megan Keppler Schall:** Fish have been sent in for testing and there are some consumption advisories for the larger fishes.
    - **Geoffrey Smith:** There are restrictions on flathead catfish throughout most of the Susquehanna River.

### **1:20 NORHTERN SNAKEHEAD CONTROL & MANAGEMENT PLAN FOR THE CHESAPEAKE BAY WATERSHED**

*Presenter: Andrew Furness (USFWS)*

- **NORTHERN SNAKEHEAD (*Channa argus*):**
  - **Size:** Maximum size ~36 in and 20 lbs; growth rates can exceed 8 inches per year in young fish
  - Emersion & terrestrial locomotion
  - **Reproduction:** Sexually mature at 1-2 years old; reproduce in late spring through summer; females average 50,000; multiple spawns per year; aggressive nest guarders; nest can contain over 1,000 individuals
  - **Diet:** Adults primarily piscivorous; fish is preferred food but will consume what is present
    - Majority of diet in fish found in Lower Potomac R. and Virginia lakes are in the Centrarchidae (sunfish) family
  - **Ecology:** prefer shallow, freshwater, muddy-bottomed habitats with SAV or other cover; tolerant of brackish conditions; obligate air-breathers; diurnal; small home ranges but some travel long distances
  - **Distribution:** Native to Asia but introduced to US; First found in Maryland in 2002 and subsequently listed as injurious wildlife by USFWS under the Lacey Act; Have since spread beyond the Potomac
- **POTENTIAL IMPACTS:**
  - Competition over forage with other top predators
  - Concerns with restoration of native fishes (migratory, threatened/endangered species, etc.)
  - Unknown how snakeheads will respond in new environments:
    - Continuing to spread (natural dispersal and human transport)
    - Potential for lag times before negative ecological impacts become apparent
- **OVERALL PLAN GOAL:** within Chesapeake Bay Watershed, use the best-available science and management practices to prevent new introductions, limit spread within connected waterways, and control and manage population size so there are no discernable negative effects on aquatic communities.
- **LEGAL & REGULATORY FRAMEWORK:** all species of snakehead added to the list of injurious wildlife by USFWS in October 2002, thereby prohibiting their live importation under the Lacey Act (Federal Register: 67 FR 62193; 18 U.S.C. 42). All states within the Chesapeake Bay Watershed legally manage snakehead to some extent but violation penalties vary from state to state.
- **OBJECTIVES:**

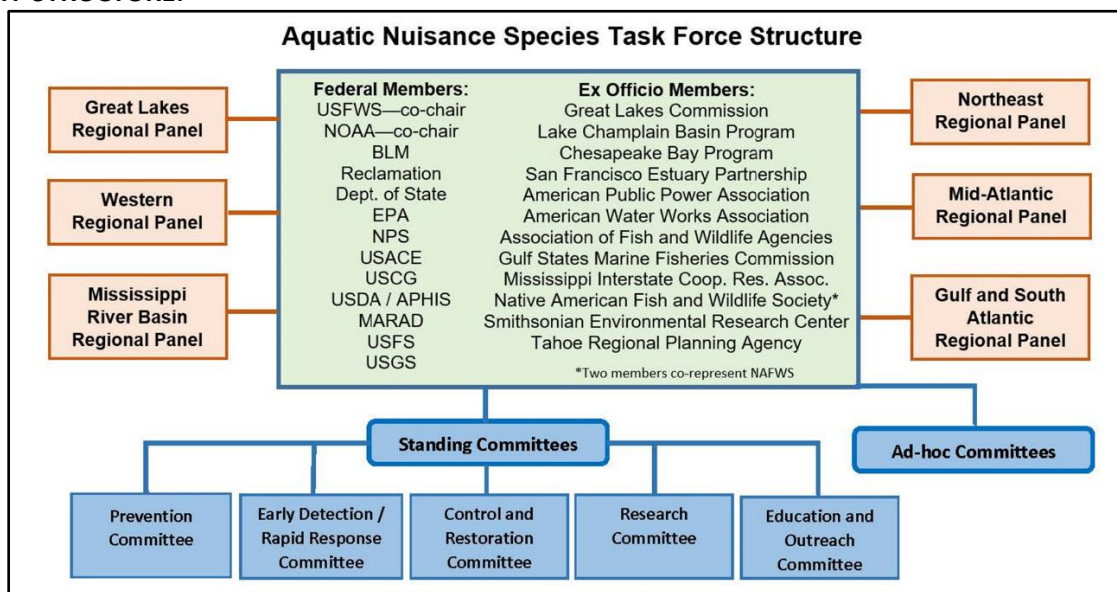


1. Prevent new northern snakehead introductions into waterbodies within the Chesapeake Bay Watershed, and into adjacent watersheds.
    - Early detection & rapid response:
    - Detection methods = public observations, angler reports, commercial fishery capture, eDNA presence, etc.
    - Eradication attempts:
      - Newly discovered reproducing populations have been successfully eradicated from small open waterbodies and small closed waterbodies
      - Eradication attempts of newly discovered reproducing large populations were not successful from large open waterbodies and large closed waterbodies
  2. Detect new (distinct) northern snakehead populations at an early stage.
  3. Limit the spread of northern snakehead within the connected waterways of the Chesapeake Bay watershed.
  4. In established areas, minimize northern snakehead population size through control and management actions.
  5. Conduct research to better understand northern snakehead biology, population dynamics, and impacts, and develop more effective detection, surveillance, and control methods.
  6. Implement public outreach to prevent additional introductions of northern snakehead, limit spread, and aid control efforts.
- **NEXT STEPS AND TIMELINE OF THE CHESAPEAKE BAY WATERSHED NORTHERN SNAKEHEAD PLAN** (*currently in progress*):
    - Completed first draft late summer 2022
    - Held meeting on October 5<sup>th</sup> discussed draft plan and seek comments/feedback and incorporated comments/feedback into revised draft for further review after the meeting
    - Give presentation on plan at annual MAPAIS meeting (today!)
    - Get additional comments and feedback on revised draft (ongoing)
    - Eventually submit final version to MAPAIS
  - **QUESTIONS/COMMENTS: if you have additional questions or feedback, please contact Andrews Furness ([Andrew.furness@fws.gov](mailto:Andrew.furness@fws.gov)).**
    - **Edna Stetzar:** Regarding angler harvest, have you come across any research on what size anglers tend to keep?
      - **Andrew Furness:** Presently, there are no minimum size restrictions in any of these states. Based on the literature I've read most anglers start keeping them at 16" in length.
    - **Steven Pearson:** Do dams of intermediate size (e.g., a beaver dam) work as a dispersal barrier for this species?
      - **Andrew Furness:** Not much is known regarding their capabilities of going through dams of different sizes. I don't expect beaver dams to be a barrier to their dispersal.
    - Are there any meal allowance restrictions on snakehead?
      - **Andrew Furness:** In the Upper Potomac and Upper Anacostia, the restriction is three meals per month.

*Presenter: Susan Pasko (ANSTF Executive Secretary, USFWS)*

- **AQUATIC NUISANCE SPECIES TASK FORCE (ANSTF):** the only federally mandated intergovernmental organization solely dedicated to preventing and controlling aquatic invasive species.
  - **ESTABLISHED:** by Congress with the passage of NANPCA in 1990; reauthorized with the 1996 passage of NISA
  - **MISSION:** Develop and implement a program for waters of the United States to prevent the introduction and dispersal of ANS; to monitor, control and study such species; and to disseminate related information.

• **ANSTF STRUCTURE:**



• **ANSTF MAY 2022:**

- **Decisional items:** The ANS Task Force approved the revised “Minnesota Aquatic Nuisance Species Management Plan.”
- **Completed Action items:**
  - FWS, USGS, and DOI will consider recording a webinar presentation on the National Early Detection Rapid Response Framework that can be shared with the regional panels and other interested audiences.
  - Distribute the Framework for Determining the Need for an Aquatic Invasive Species Control and Management Plan to ANSTF members and regional panels. Comments on the were due by July 15.
- **Incomplete Action items:**
  - Provide an update on activities related to stony coral tissue loss disease. A session on this topic will be included on the agenda for the Fall 2022 ANSTF meeting. → **Speakers identified**
  - The Prevention Subcommittee will facilitate a discussion to encourage the use and adoption of the guidelines to prevent AIS transport by wildland fire operations.
  - Discuss with regional panels and industry the evolution of boat design to determine if the Boating Ad-Hoc Committee should be reestablished.

• **ANSTF PREVENTION SUBCOMMITTEE:**



- 2022 Priority Work Elements:
  - Assess new ANS introductions to determine where prevention measures may have been lacking or ineffective, or resulted from gaps in authority
  - Evaluate seaplanes as a potential pathway for ANS, identify mitigation measures
  - Established the Organisms in Trade (OIT) Hitchhikers Workgroup.
- Upcoming Work Elements:
  - Determine if the Boating Ad-Hoc Committee should be reestablished to the Boating Partnership Subcommittee in response to evolution of boat designs and their ability to transfer AIS
  - Facilitate a discussion to encourage the use and adoption of the guidelines to prevent AIS transport by wildland fire operations.
- **ANSTF EDRR SUBCOMMITTEE 2022 PRIORITY WORK ELEMENTS:**
  - Facilitate monitoring efforts to detect and report new sightings of ANS
  - Facilitate the development of capacities to respond rapidly to new invasions
- **ANSTF CONTROL SUBCOMMITTEE 2022 PRIORITY WORK ELEMENTS:**
  - Coordinate the development and implementation of ANS Management and Control Plans
  - Identify gaps in available control and restoration measures and encourage innovation
- **ANSTF RESEARCH SUBCOMMITTEE 2022 PRIORITY WORK ELEMENTS:**
  - Establish ANSTF research priorities and identify prospective partners
  - Facilitate activities that support priority ANS research needs
  - Track and disseminate study results to incorporate into ANS management decisions and activities
- **ANSTF OUTREACH SUBCOMMITTEE 2022 PRIORITY WORK ELEMENTS:**
  - Evaluate ANS communication, education, and outreach efforts to ensure they are consistent and effective
  - Develop processes to share information and consistently implement ANS outreach strategies
- More information can be found on the ANS Task Force website: <http://www.anstaskforce.gov/>
- **If you have additional questions, please contact Susan Pasko, ANS Task Force Executive Secretary, [susan\\_pasko@fws.gov](mailto:susan_pasko@fws.gov)**

## **2:50 THE USE OF SALINITY AND IONIC TOLERANCE DATA TO PREDICT ZEBRA MUSSEL DISTRIBUTION IN SALINE WATERS**

*Presenter: John Maqee (NH Fish & Game)*

- John provided a recorded video presentation on a 30+ year old project focused on zebra mussel distribution in the Chesapeake Bay Watershed.
- **HYPOTHESIS:** Zebra Mussel larvae are salt tolerant.
- **METHODOLOGY:** survival rate and shell length were recorded for mussel larvae subjected to various salinity tanks over 13 months
  - Experiments were conducted in a lab using 112-day old larvae that had previously been growing in freshwater tanks.
  - Water temperatures maintained to match recorded ambient water temperatures of Chesapeake Bay.
  - Larvae were reared in 2, 4, 6, 8, and 10 ppt salinity tanks



- **DATA COLLECTED:** % Survival and shell-size were recorded throughout the study. Salinity tolerance experiments were conducted at 14 months of age and spawning experiments were conducted at 15 months old.
- **RESULTS – % SURVIVAL:**
  - 0-13 months:
    - Those in freshwater up to 8 ppt did very well and had nearly 100% survival at 13 months
    - Mussels subjected to 10 ppt had only a 53% survival after 13 months
  - At 18 months old, the zebra mussels were exposed to 14 ppt salinity.
    - Individuals reared in the freshwater tanks (0ppt) had a 79.8% survival rate at the 12-day exposure mark, but all of them died by the 21-day exposure mark. This is due to the majority of these individuals not using their siphons after being subjected to high salinity.
    - Those reared in higher salinity tanks (i.e., 4-8 ppt) survived longer than those in the 0 or 2 ppt tanks, when tested at 12-, 21-days post-exposure. After 55 days, only 1.8% remained from the 6 ppt tank, all other individuals from different tanks did not survive.
- **RESULTS – SHELL SIZE:** Mussels grew larger in freshwater (0 ppt salinity) than in any other salinity measurement. As salinity increased, shell length decreased.
- **RESULTS – SPAWNING:** The higher the rearing salinity, the higher likelihood of successful spawns
- **CONCLUSION:** Zebra Mussels have colonized the Chesapeake Bay in areas that annually experience around 2-5 ppt salinity.
- **If you have additional questions or comments, please contact John Magee ([john.a.magee@wildlife.nh.gov](mailto:john.a.magee@wildlife.nh.gov)).**

### 3:10 “DON’T LET IT LOOSE” – WORKING TOGETHER TO PREVENT PET RELEASES

*Presenter: Jennifer Riddle (ISAN)*

- **INVASIVE SPECIES ACTION NETWORK (ISAN):** [www.stopais.org](http://www.stopais.org)
  - Established as a 501 c 3 in 2008 and funded through grants/contracts
  - **Mission:** To reduce the human-caused spread of invasive species by promoting voluntary behavior change
- **THE PROBLEM:** if released, a pet may become an invasive species that causes harm to the environment and economy. Pet owners are often unaware of the impacts of released pets and are unsure where to find alternative options.
- **Don’t Let It Loose (DLIL) Campaign:** [www.dontletitloose.com](http://www.dontletitloose.com)
- Focused *Don’t Let It Loose* campaign efforts on independent pet stores nationwide:
  - Created pet care sheets
  - Press releases
  - Rehoming flyers with sales
  - Created signage hotspots for popular aquarium dumping sights
  - Educational resources for youth ([Link to Bullfrog YouTube Video](#))
- **INTERNATIONAL PARTICIPATION:**
  - 16 states with pet store/state agency partnership
  - 4 states partnering with outreach

- 2 Canadian provinces using DLIL
- 1 state is the epicenter of pet rehoming
- **QUESTIONS/COMMENTS:** For additional questions, please contact Jennifer Riddle ([jennifer@stopais.org](mailto:jennifer@stopais.org); 406-222-7270).
  - **Tim Campbell:** What kind of resources have you been able to help states develop? How does that process work?
    - **Jennifer Riddle:** When developing a rehoming network in a new state, we work closely with the state’s Invasive Species Coordinator. Additionally, we work to build a partnership between these pet stores and their related state agency.

**3:20 ITEMS FROM THE FLOOR, WRAP UP**

- Due to the weather advisory tomorrow (snow/rain/ice), it was decided that Day 2 of the Panel meeting will be hosted solely virtually, rather than hybrid.
- **MOTION MADE TO ADJOURN DAY 1 OF THE MEETING:**
  - **Motion Made:** Jonathan McKnight
  - **Seconded:** Steve Minkkinen

**DAY 1 OF MEETING ADJOURNED.**

**Day 2 – December 15<sup>th</sup>, Virtual Meeting – ATTENDEES**

<b>Aaron Henning,</b> SRBC	<b>Andrew Furness,</b> USFWS	<b>Christine Densmore,</b> USFWS	<b>Christopher Smith,</b> NJ DEP
<b>Don MacLean,</b> USFWS	<b>Edna Stetzar,</b> DNREC	<b>Heather Desko,</b> NJ WSA	<b>Ian Pfingsten,</b> USGS
<b>Jonathan McKnight,</b> MDNR	<b>Julie Lockwood,</b> Rutgers University	<b>Katie Zipfel,</b> WVDNR	<b>Katlyn Fuentes,</b> Chesapeake Research Consortium
<b>Kerry Wixted,</b> AFWA	<b>Kristopher Abell,</b> PDA	<b>Matthew Shank,</b> PA DEP	<b>Michael Steiger,</b> DNREC
<b>Mike Allen,</b> MD Sea Grant	<b>Nancy Rybicki,</b> USGS	<b>Rob Emens,</b> NC DEQ	<b>Sara Mirabilio,</b> NC Sea Grant
<b>Sara Stahlman,</b> Penn State	<b>Sarah Niles Whitney,</b> Penn State	<b>Sean Hartzell,</b> PFBC	<b>Steve Minkkinen,</b> USFWS
<b>Steven Pearson,</b> NY DEC	<b>Susan Pasko,</b> USFWS	<b>Tara Whitsel,</b> USACE	<b>Tim Campbell,</b> WI Sea Grant

**09:00 CALL TO ORDER**

*Presenter: Edna Stetzar (Panel Chair)*

- Roll call and technological reminders about virtual meetings.
- Jay Killian not in attendance, Jonathan McKnight voting on his behalf.





#### 09:10 NOMINATIONS:

Presenter: Edna Stetzar (Panel Chair)

- Members can vote for nominees but interested parties cannot vote.
- Consensus was reached and the following nominations were approved for the next panel cycle:
  - *Steve Pearson, Chair*
  - *Rob Emens, Vice Chair*
  - *Christine Densmore, Member at Large*

#### 09:30 SPRING 2022 MEETING PLANNING

- Preference for another hybrid meeting
- **The decision was made to host the Spring Meeting in Annapolis (MD)**
  - **DATE:** two-day meeting hosted the week of April 17<sup>th</sup>
  - **LOCATION:**
    - **Katlyn Fuentes** suggested the following potential locations for Spring 2023: [SERC](#) (in Edgewater) and the [Chesapeake Bay Program Office](#) (in Annapolis).
    - **ACTION: Panel Leadership will pursue hosting the meeting at SERC and if not available, will reserve a conference space at the CBP office.**
- **FALL 2023 MEETING: the decision was made to host the Fall Meeting in WV or NC.**
  - Possible meeting locations include but are not limited to the following:
    - **West Virginia:** USGS Eastern ecological science center
      - **Christine Densmore** is no longer with USGS (she is now working for USFWS), but she can reach out to USGS about using this conference space.
    - **North Carolina:**
      - **Rob Emens** mentioned that Raleigh has several government offices and conference rooms we could use
      - **Sara Mirabilio** works at the ECU's Outer Banks Campus/Coastal Studies Institute on the coast. There is a nice meeting space but is not conveniently located to local airports. If we do a meeting in NC, Sara also suggested possibly doing a joint meeting with GSARP with a hydrilla fieldtrip in Albemarle.
  - **Edna Stetzar** mentioned that the Gulf & South Atlantic Panel has mentioned that they would be interested in a joint meeting with MAPAIS. Suggested that for this Fall 2023.
    - **ACTION: Rob Emens is also a Panel Members on this group and offered to act as point of contact for initial communications with them, when it comes time to plan the Fall 2023 Meeting.**

#### 10:00 NORTH CAROLINA'S SECOND RUN WITH GIANT SALVINIA: GAPWAY SWAMP

Presenter: Rob Emens (NC DEQ)

- Gapway Swamp Watershed flows SW in North Carolina into Buffkin Pond then turns NW into Richardson Pond and slows along the state boundary line and ultimately into the Lumber River in South Carolina
- **STUDY SITE:** <1 mi from the NC/SC state line; ponds are ~250 acres combined and heavily vegetated
  - **Richardson Pond:** ~210 acres; Cypress dominated; significant areas occupied by tussocks in the upper end.



- **Buffkin Pond:** ~40 acres; tussock dominated in the lower half; dominated by mixed woody plants in the upper half. Access is a major challenge as the site does not contain a boat ramp and the dam has breached/is in disrepair.
- **JULY 29, 2020:** initial site visit by NCDEQ responding to a report that came from a pond management company. Both ponds found to be heavily infested
- **2021:** herbicide applied at lower end of Richardson Pond to control the lower reach of the infestation and mitigate the downstream movement of Giant Salvinia
- **2021 & 2022 BIOCONTROL:** Salvinia weevil (*Cyrtobagous salviniae*)
  - Release events: August 2021 (approx. 17,400 adults released) and July 2022 (approx. 50,000 adults released)
  - Monitoring throughout 2021 and 2022
- **2022:** NCDEQ contracts SePRO to coordinate herbicide applications to both Richardson and Buffkin Ponds to begin sitewide management with the ultimate goal of eradication
- **QUESTIONS/COMMENTS:** **If you have additional questions, please contact Rob Emens ([rob.emens@ncdenr.gov](mailto:rob.emens@ncdenr.gov)).**
  - **Heather Desko:** What were the Fluridone herbicide concentrations you were trying to maintain to kill the salvinia?
    - **Rob Emens:** We used Sonar Q Granular pellets at a concentration of 30 ppb.
  - **Edna Stetzar:** What type of herbicide is Penoxsulam?
    - **Rob Emens:** This is a liquid herbicide that can be used as an in-water treatment or a foliar spray.
    - **Link to a Penoxsulam Fact sheet:**  
<https://dnr.wi.gov/lakes/plants/factsheets/PenoxsulamFactsheet.pdf>
  - **Steven Pearson:** What do you expect to happen over time salvinia seed longevity or reproduction?
    - **Rob Emens:** Salvinia is an aquatic fern and has no seeds. The benefit to this project is that there is no concern for spores if you can get rid of the plant altogether. Physical removal is always an option.

#### 10:20 MEMBER AND INTERESTED PARTY UPDATES

*Facilitator: Katlyn Fuentes (Panel Coordinator)*

- **DELAWARE:** *Updates from Michael Steiger (new AIS biologist for DE)*
  - **DEVELOPMENT OF MANAGEMENT PLAN:** Received FY2021 MAPAIS funding to develop a management plan. This funding was supposed to run Sept. 2021-Aug. 2022; however, an invasive species biologist was not hired until March 2022, which cut six months off the timeline. The new grant extension ends Jan 1<sup>st</sup>, 2023.
    - Mike is currently the sole author and worked on the plan from June-August, until field sampling started up again in September.
    - Biggest hurdle has been making the list. Everyone wants to include every IS species, which resulted in a list of over 400+ species. After revisiting this list and discussing with program administrators, the species list is being reduced.
    - Aquatic species were removed from the list because they are covered in a Senate Bill. Also removed any organisms covered by FWS & DA, etc.



- Will create a separate list of alert species – those that should be focused on in the future.
- Draft will be completed by January 31<sup>st</sup>, 2023.
- **FLATHEAD CATFISH:** found in a couple river systems and have recently been recorded in one of the most fished public ponds. There is concern because it is a closed system. **Edna Stetzar** has been doing research that centrarchid populations have been reducing in the past several years and is likely due to flathead catfish presence. Low-frequency electrofishing surveys were conducted this summer, removing 31 fish varying from 154-950mm in length. Due to having fishes in several size classes, it is *not* a new introduction and that this is an established population that likely started as an angler introduction.
  - Next year: More targeted removals with low-frequency electrofishing for removal. Will also estimate population using models.
- **BLUE CATFISH:** Known population in Nanticoke River (in Chesapeake Bay Watershed). Starting to see them more frequently in the Delaware River. Concern b/c comingling with sturgeon.
- **MARYLAND:** *Updates from Jonathan McKnight (MDNR Wildlife & Heritage Service)*
  - **ANS PLAN:** Maryland has completed and approved their ANS plan and received money from USFWS for implementation. Had a two-day meeting in VA with agency folks to start the plan and begin consensus building with the Coalition.
  - There is concern due to there not being a VA Representative on board. Kevin Heffernan is still the coordinator for the plan.
    - **Jonathan McKnight requested that the Panel ask for a representative from the Commonwealth of Virginia to participate in the Panel.**
    - **ACTION: Steven Pearson agreed to reach out to VA to seek their participation.**
- **NEW JERSEY:** *Updates from Heather Desko and Julie Lockwood*
  - Finally working on the development of an ANS plan through MAPAIS funding. Currently in the final steps of contract development.
  - NJ Water Monitoring Council's Decontamination Protocols Workgroup is finalizing their protocol recommendations for water quality professionals
    - **ACTION: If you are familiar with decontamination procedures and would like to review this draft document prior to finalization, please reach out to Heather Desko ([hdesko@raritanbasin.org](mailto:hdesko@raritanbasin.org)).**
  - **HYDRILLA MANAGEMENT:**
    - Delaware and Raritan Canal Project: completed 6<sup>th</sup> year of hydrilla monitoring. No plants or tubers have been found since 2020, and the plan is to continue extensive monitoring, but no more treatment (unless more hydrilla is found).
    - Manasquan Reservoir Project: currently in its 4<sup>th</sup> year of pilot herbicide application. The hydrilla infestation is causing increased intensity and duration of harmful algal blooms.
  - **NEW ZEALAND MUD SNAIL:** Musconetcong Watershed Association is taking the lead on this project. They have installed boat cleaning stations along every public access along the Musconetcong River.
  - **BOAT LAUNCH PROGRAMS:** NJ Water Supply Authority financially supplies two boat steward programs within NJ. Over 2,000 inspections in 2022 and has just been awarded \$90k to install waterless boat cleaning stations at two boat launches.



- **CHINESE POND MUSSEL:** Two years ago, Rutgers was contracted by the National Conservation Foundation to develop an eDNA survey tool for this species. eDNA monitoring in several ponds have been consistent since previous eradication efforts, and new data suggests that there are remanent populations of mussels left in this area that still need to be eradicated. Efforts are underway for a second round of eradication.
  - **A request was made for the NJ Invasive Species Coordinators to provide a status update on the Chinese Pond Mussel at the upcoming Spring 2023 MAPAIS meeting.**
- **SNAKEHEADS:** have been conducting more electrofishing surveys in ponds with known presence of snakeheads.
- **NEW YORK:** *updates provided by Steven Pearson*
  - **HYDRILLA:**
    - The six-year management project of the Croton River closed this year with successful hydrilla eradication. This river is a tributary to Hudson River. The New Croton Reservoir is under large-scale treatment under NYDEP.
    - New find of hydrilla in Sebago Lake
    - Hydrilla management occurring in two locations in the Susquehanna River drainage
  - **ROUND GOBY:**
    - eDNA and monitoring surveys completed between the junction of the Hudson and Mohawk Rivers. This species was detected the full sampling distance.
    - Extensive monitoring to track any movement upstream of Hudson River
  - **NORTHERN SNAKEHEAD:** Both angler captures and eDNA surveys indication presence throughout Delaware Basin in the East and West Junction. Electrofishing surveys have not been successful in collection.
  - **EUROPEAN FROG-BIT & LUDWIGIA:** first year of a large-scale treatment in the Peconic River
- **NORTH CAROLINA:** *updates provided by Sara Mirabilio, Rob Emens, and Nancy Rybicki*
  - Delays citizen science/community outreach due to COVID.
  - **ZEBRA MUSSELS:** Regarding the incident with moss balls contaminated with zebra mussels in the aquarium trade, there have been no further developments.
  - **WATER CHESTNUT:** Water Chestnut has recently moved into the southern part of VA and is now in the Roanoke Watershed.
  - **QUESTIONS/COMMENTS:**
    - **Sara Mirabilio:** Is there a limit to the number of state representatives? Tim Ellis from the Albemarle-Pamlico National Estuary Partnership (APNEP) should be part of these conversations, as he's been taking point on the state plan. If only two people can be State Representatives, then I will step down and Tim can take my place.
      - **Steven Pearson:** While multiple people from each state can participate in the Panel, there can only be one State Representative and one Alternate.
      - **Edna Stetzar:** There are also primary and alternate state academic representatives. To add a new person to the panel, a request must be submitted in writing.
      - **ACTION: Sara Mirabilio will reach out to Rob Emens to discuss these membership changes further.**
- **PENNSYLVANIA:** *updates provided by Sean Hartzell, Matt Shank, and Sarah Whitney*



- **NEW ZEALAND MUD SNAILS:** Detected New Zealand Mud Snails in two state hatcheries: Benner Springs State Fish Hatchery and Pleasant Gap State Fish Hatchery. Action is being taken to determine extent of infestation in facility, eradicate found snails, and determine prevalence in other state hatcheries. Fishes were quarantined/isolated to ensure that they were not carriers of these snails.
  - [Link to Press Release](#)
- **SILVER CARP:** USFWS' eDNA monitoring efforts detected silver carp in Presque Isle Bay.
- **STARRY STONEWORT:** being found in Presque Isle Bay. Currently being evaluated as a Class A Noxious Weed in PA (this would ban its possession and sale).
- **FRESHWATER DRUM:** a few adult individuals have been found in the lower Delaware (Philadelphia area)
- **NEW ZEALAND MUD SNAILS:** First year of detection in Falling Springs Branch. This is the first observation anywhere in the Potomac River Basin.
- **AIS BOAT DISPOSAL STATIONS:** PFBC is installing several AIS disposal stations at some of the state agency's boat launches.
- **AIS CONTROL PLAN:** educational and broad-brush management plans. The following plans were updated/completed this year: Didymo, New Zealand Mud Snail, the Red-eared slider/Yellow-Bellied slider, red swamp crayfish, white river crayfish, rusty crawfish, zebra mussel, quahog, and quagga mussel.
  - PFBC is working on an AIS Communications and Outreach Plan. A fulltime social media coordinator position was hired last year.
- **ROUND GOBY:** Species is continuing to spread around the state, primarily by larval drift. Research has indicated that these fish consume juvenile freshwater mussels.
- **AIS REGULATIONS:** PFBC still working on revisions of 58 PA Code Chapter 71 & 73 regulations with respect to AIS. Proposal includes legal requirements for boat clean off, fish health requirements/certifications, regulations on fish stocking, etc.
- **GREAT LAKES PANEL:** The Panel is having a focus session on European frog-bit, didymo, water soldier, and hydrilla on January 24, 2023. They have solicited input from experts in these species to look at gaps in knowledge in both management and natural history.
- **AIS FIELD GUIDE:** There is now an Android version of the PA AIS Field Guide (in addition to the Apple IOS version).
- **WEST VIRGINIA:** *updates provided by Katie Zipfel (Ohio River State Fisheries Biologist)*
  - Still don't have an AIS position on staff. Plan on writing/working on a state plan in 2023 and getting it approved.
  - USFWS created a new workgroup to help WV, OH, and PA in learning and working to manage invasive carp.
  - **SILVER CARP:** most upstream record of Silver Carp caught by staff during a routine sampling event. Additional silver carp have been found in 2022. Hope for greater efforts for collecting/removing this fish.
  - Recently gained data that invasive carp are spawning one pool up than previously recorded.
  - **Nancy Rybicki:** Who is heading the hydrilla genetics study?
    - Mike Greer (USACE) and Dean Williams (Texas Christian University)
- **USFWS:** *updates provided by Steve Minkkinen*
  - Recently hired three new biologists

# Mid-Atlantic Panel on Aquatic Invasive Species



Mid-Atlantic Panel on Aquatic Invasive Species  
Fall Meeting  
December 14 and 15, 2022  
*Meeting Minutes*

---

- Newly acquired electrofishing backpack and boat
- Andrew Furness will be sending out a draft of the snakehead management and control plan to the Panel.
  - **Please send any edits/comments on this document back to Andrew.**
- **USGS:** *updated provided by Ian Pflingsten*
  - USGS is funding a project with the University of Georgia to collect hydrilla samples from all the states to determine the prevalence of the neurotoxin aetokthonotoxin (AETX) which is associated with a cyanobacteria that causes vacuolar myelopathy in birds, amphibians, reptiles, and fishes.
    - Dr. Susan Wild (University of GA) is the PI on this project. Work is being done in collaboration with the USGS Kansas Water Science Center.
    - A notification will go out next field season regarding hydrilla collection.
- **ASSOCIATION OF FISH & WILDLIFE AGENCIES (AFWA):** *update provided by Kerry Wixted (Program Manager for Amphibians, Reptiles, & Invasive Species)*
  - **RECOVERING AMERICA'S WILDLIFE ACT (RAWA):** Has \$1.4 billion annually for states to manage Species of Greatest Conservation Need (SGCN). For most of these species, invasive species are one of the top threats to SGCN. Passed the House this summer and now up to 47 co-sponsors on the senate side - hoping it gets in the omnibus on the table.
    - Sign up for the AFWA newsletter here: <https://lp.constantcontactpages.com/su/8CaFmM/InvasiveSpecies>
  - **Sarah Tangren** (DC DOEE): looking to see if states have educational requirements related to invasive species attached to fishing license registrations, boating registrations, etc.
  - **CHYTRID FUNGUS:** *Batrachochytrium salamandrivorans* (Bsal) is a big concern for salamanders. Has not hit North America yet, but work is being done to help mitigate this issue before it arrives in the US. Currently working with researchers to put together contact lists for each state for folks that want to be provided with more information on pathogens in the amphibian trade, esp. in concern to Bsal.
- **USACE:** *update provided by Tara Whitsel*
  - Continuing to report invasive costs through the National Invasive Species Council (NISC). Projection in FY22 to spend \$270M related to invasive species work, and 39% of that was going to be related to control efforts.

## 12:00 MOTION TO ADJOURN MEETING:

- **Motion Made:** Jonathan McKnight
- **Seconded:** Rob Emens