

Meeting of the Pennsylvania Governor's Invasive Species Council
Tuesday, June 7, 2022 | 10:00am
(Held virtually via Microsoft Teams)

** All text in italics indicates additional information included by the minute taker except where scientific names are mentioned.*

Council Members Present: Amy Jewitt, Andrew Ernst, Andrew Rohrbaugh, Cliff Lane, Donald Eggen, Fred Strathmeyer, Jim Grazio, Jocelyn Behm, Kate Harms, Lisa Murphy, Piper Sherburne, Ruth Welliver, Sara Stahlman, Sarah Whitney, Scott Bearer, Sean Hartzell

Other Participants Present: Amber Rose Stilwell, Amy Shields, Andrea Hille, Bernadette Williams, Brenda Shambaugh, Brian Koehler, Bryon Ruhl, David Scamardella, Deb Klenotic, Destiny Zeiders, Elijah DePaulis, Emilee Boyer Euker, Erik Johnson, Eryn Spangler, Eve Adrian, Grace Wildermuth, Houping Liu, Jessica Lenker, Johan Berger, Kate Wehler, Kaylan Hubbard, Kierstin Carlson, Kris Abell, Kristen Frentzel, Lawrence Barringer, Luke Hamilton, Lydia Sigman, Maliha Hoque, Maliyah Edwards, Michael Hutchinson, Michael Parker, Michael Panuschka, Nick Decker, Norris Muth, Phillip Stober, Roger Anderson, Shane Phillips, Steve Schoeniger, Victoria Challingsworth, Zachary Newby

Welcome and Introductory Remarks

Fred Strathmeyer (PA Department of Agriculture – PDA) welcomed everyone to the meeting and gave opening remarks.

Much has happened since the last Council meeting in March. This is an indication to all the things going on for Kris Abell (Council Coordinator), the Council itself, and the topic of invasive species across the Commonwealth. The Governor has included in his budget a proposal for the PRISM program and we are anxiously awaiting the negotiations that will happen during the month of June to hopefully secure that funding. Real pleased with what the Council has done, especially over the last couple of years to expand this conversation throughout the state and the need for a program such as PRISM, and the need for all of us to be paying attention to invasives in general.

Announcements, Roll Call, Approve March Meeting Minutes

Fred Strathmeyer (PDA) conducted the roll call.

MOTION: Lisa Murphy (University of Pennsylvania) moved to approve the March 8, 2022 meeting minutes. Sean Hartzell (PA Fish and Boat Commission – PFBC) seconded the motion. **Motion approved.**

Fred thanked everyone who joined the meeting today, including participants from the public. It's another tribute to what this Council is doing and how far-reaching our efforts are.

Kris Abell (Council Coordinator, PDA) thanked Amy Jewitt from the Western PA Conservancy (WPC) for doing a great job of taking the March meeting minutes.

Kris Abell (PDA) introduced Bernadette (Bernie) Williams of the Wisconsin Department of Natural Resources (WI DNR), the guest speaker for the next part of today's meeting. She has worked at the WI DNR for 14 years. She is a Pennsylvania native and received her undergrad and graduate degrees from the University of Pittsburgh. She'll be talking about jumping worms today.

Worms and Jumping Worms and Everything You Never Thought You Wanted to Know

Guest Speaker: Bernadette Williams, Wisconsin Department of Natural Resources



Bernadette began her presentation by giving a history of worms. Charles Darwin “wrote the book” on earthworms and studied them for over 40 years. Worms are ubiquitous in all but the driest regions of the world. There are about 9,000 species of worms, both aquatic and terrestrial, although only a few species are commonly known.

Earthworm functional groups include:

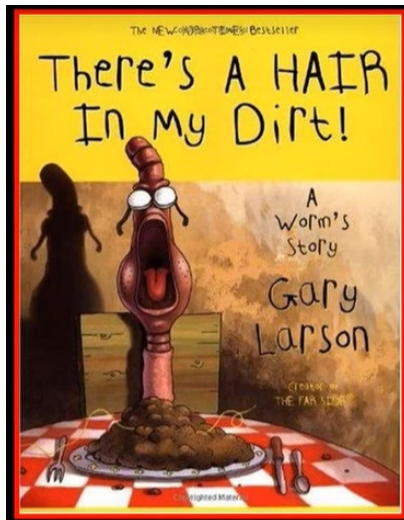
Epigeic: Litter dweller

Endogeic: Topsoil dweller

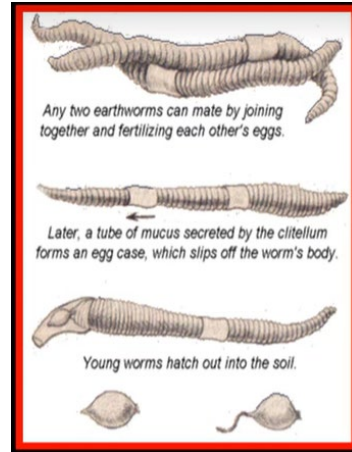
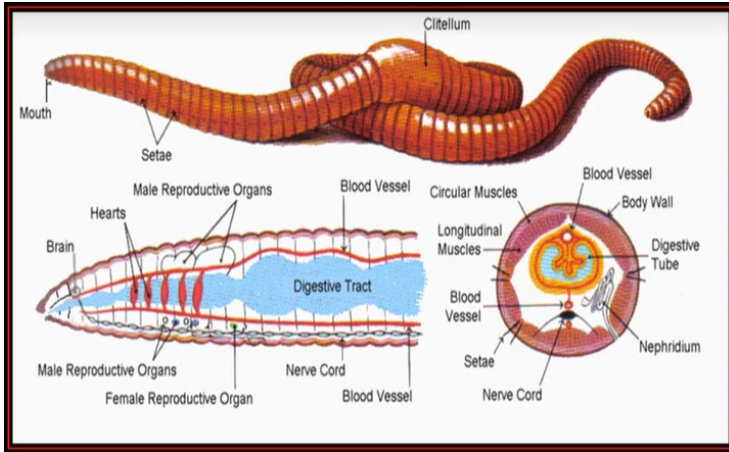
Anecic: Subsoil dweller

Generally, people start seeing earthworms moving in the springtime. We often see the epigeic worms first; these are the worms that dwell in surface litter. Then as the soil starts to thaw, you start to see the endogeic species of earthworms which are in the topsoil. This includes *Amyntas* species of worms (jumping worms). The anecic species of worms are the nightcrawlers; generally, very big in size and robust. They are located down deep in the soil.

Worms eat dirt. They are detritivorous where they feed on decaying organic matter (leaf litter) and geophageous (dirt). Worms feed mainly in the soil layers. Charles Darwin discovered that worms are very social animals and that they have preferences for their food, especially in forested areas (e.g., worms have preferences for certain trees based on the leaf litter they produce). Worms particularly like sugar maple trees because the leaves are full of carbohydrates, sugars, and potassium. In this way, worms are a lot like people – they prefer foods that are fattier and have a high sugar content.

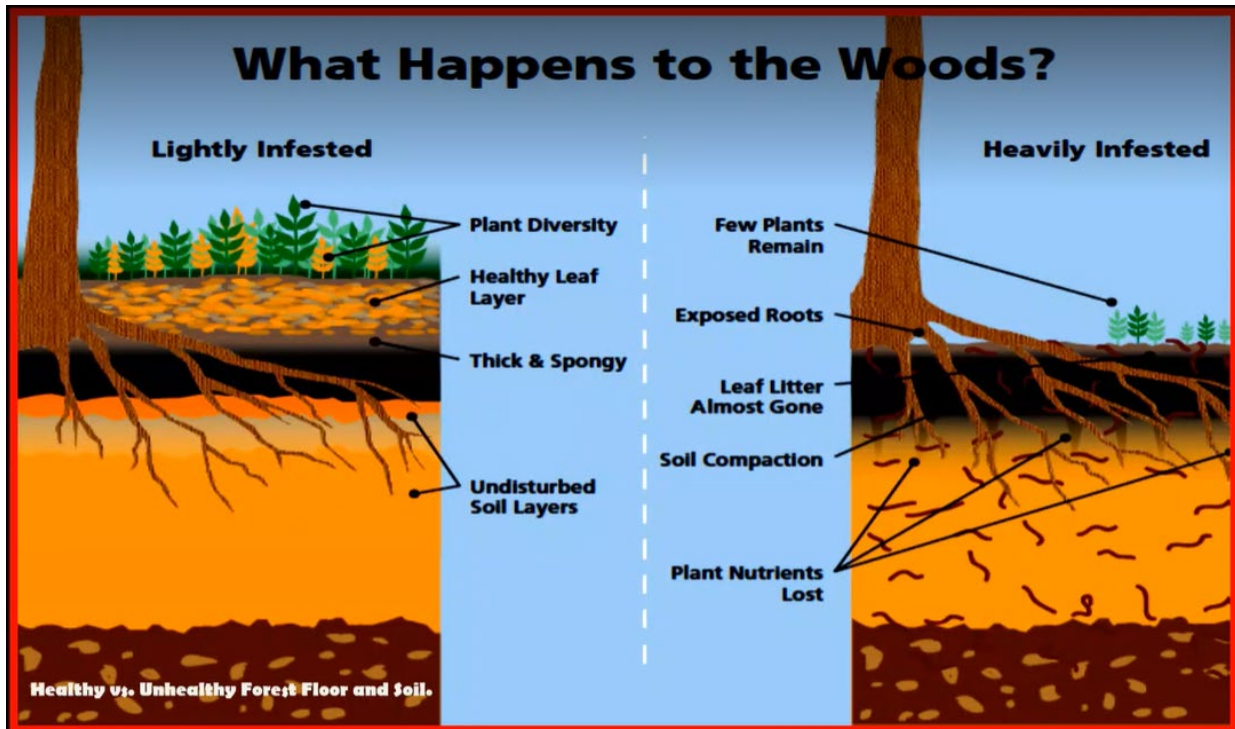


Earthworms are promiscuous, polygamous hermaphrodites, but some can reproduce [parthenogenetically](#). Earthworm cocoons can contain up to 20 eggs which are sealed up to form a cocoon that can survive extreme conditions.



Baby worms hatch from cocoons smaller than a grain of rice. Usually only one worm emerges from it. The eggs can stay dormant in soil or compost for up to 15 years, waiting for conditions like moisture and food to be good enough to support their life.

Earthworms have considerable capacity to change the nature of their environment to suit their survival (for example, old growth forests can be severely impacted by the presence of earthworms). Ecological requirements (i.e., moisture, temperature, and food supply) greatly influence their rates of reproduction and growth. Across the board, the more earthworms you have, the more invasives you have because they co-evolve together.



Most of the worms present in Pennsylvania are non-native, European species, and now we also have Asian species of earthworms. When we look at the glaciation of Pennsylvania, we know we do not have any native earthworms.

Jumping worms (*Amyntas* spp.) have many different common names including jumping worm, crazy worm, snake worm, Alabama jumper, and the dancing worm. All jumping worms are very active; also, the placement of their clitellum (located on the body of the worm) is the same for all species of jumping worms. When looking at European/North America earthworms, their clitellum always tends to be more off-center, whereas on *Amyntas* spp., their clitellum is closer to the head. The clitellum also completely encircles the body of a jumping worm (i.e., there's no break in the middle) and tends to be milky white to gray in color. The body of *Amyntas* spp. worms tends to be much darker in color than European species of earthworms.



When it comes to worms, some of the big questions asked include, “How did jumping worms get here, and where did they come from?” Jumping worms originate from the Korean peninsula, all around China, and Japan. In 2013 when populations of jumping worms were first identified in Wisconsin, experts estimated there were 30-50 species within the genus. However, that estimation was later discovered to be inaccurate, with there actually being over 160 species in the genus at present.

Jumping worms are very difficult to identify (species-wise), resulting in the need to “clump” them (*under the genus name of Amyntas spp.*). Jumping worms (in the genus *Amyntas*) are currently invading areas around the globe including North America, Central America, and Europe.

Jumping worm characteristics include:

- Darker in color – appearing almost gray

- Glossy smooth skin
- Light milky white clitellum smooth to the body
- Very active, thrashing and jumping
- Moves like a snake
- Sheds its tail when handled
- Parthenogenic – asexual reproduction, so it only takes one worm to start a family

The lifecycle between European and jumping worms is also quite different. For example, the cocoon of a European earthworm hatches after 90-120 days when it reaches full maturity. They then tunnel underground where they remain for the winter, later emerging in the spring to mate. European earthworms can live 3-4 years; some of the *Lumbricus* species can live up to 10 years.

In comparison, jumping worms only live for the season and they have a much faster life cycle. They reach maturity after 40-60 days, depending on the environmental conditions. Jumping worm cocoons can hatch all year long (microclimates, under mulch piles with warm areas).

The cocoons of jumping worms are darker in color than that of European earthworm cocoons. Jumping worm cocoons resemble the color of soil.

The winter in Wisconsin this year wasn't very cold. Right now it's early June, and here in Wisconsin, adult *Amyntas* are being noticed. Generally adult *Amyntas* are not seen until July. This shows that things shift and these worms are very adaptable their environments and the temperatures.

Why are jumping worms going to be a problem? The answer lies in their biology and ecology:


- Jumping worms reach maturity in 60 days, much faster than *Lumbricidae* species at 120 days – thus allowing for two hatches per season
- Voracious appetites
- Highly adaptive to temperature changes
- Cocoons overwinter
- Adaptive, non-particular to habitat types
- Produces a unique soil signature
- Outcompetes/pushes out, infects, poisons(?) non-native European species of earthworms

The soil signature in areas where jumping worms are present dramatically changes. As jumping worms consume leaf litter, etc., the soil begins to resemble coffee grounds or tapioca pudding pearls. It becomes very loose, coarse, and granular. Even some invasive plant species, like buckthorn, have trouble stabilizing themselves in this type of soil. When attempting to hand-pull buckthorn from soil infested by jumping worms, it comes out like a really loose weed. Anecdotal data currently exists on the impacts of this altered soil signature; however, more research is



needed and is occurring to better understand the implications to soil in the presence of jumping worms.

In areas where jumping worms are present, European earthworms tend to die off over time. It remains a mystery as to why this happens. Perhaps the jumping worms have a virus, or they have an allelopathic effect on the soil which causes the European worms to disappear or perish. When doing earthworm surveys, generally a variety of species are found, but when *Amyntas* comes into an area, you no longer have that variety of earthworms - you only have *Amyntas*.

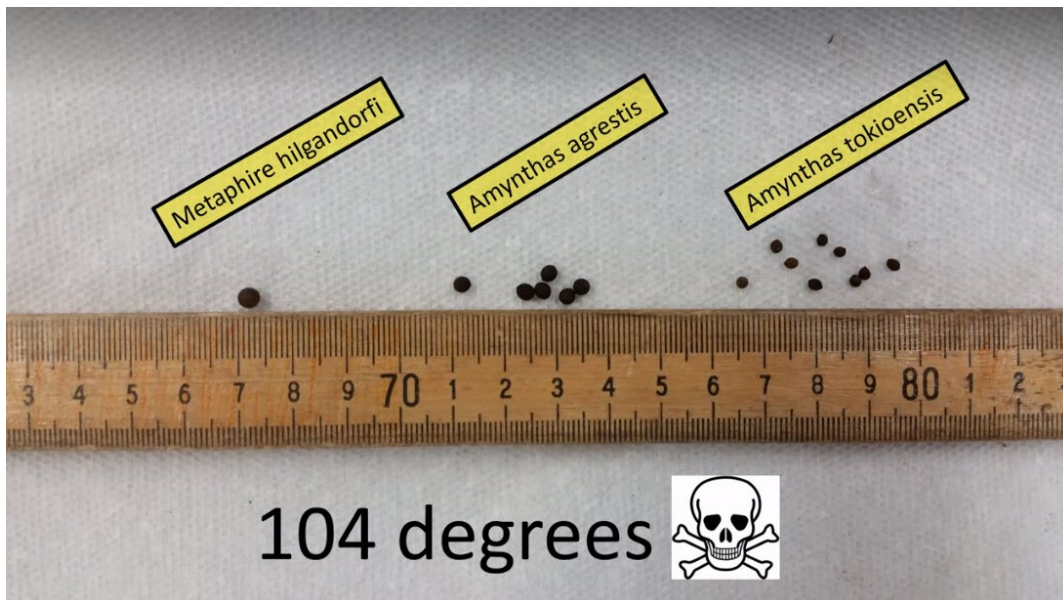
Jumping worms tend to consume everything in an area, and over time this results in the jumping worms outcompeting themselves, making for an area with no earthworms at all.



Earthworm Comparison

<i>Amyntas</i> spp.	<i>Lumbricus rubellus</i>
	
Length: 7 to 20 cm	2 to 8 cm
Life Cycle: Annual; over-winters as cocoon	Burrows into soil during winter
Skin: Darker dorsally than ventrally, slightly rigid	Reddish-brown
Clitellum: Milky white, annular, smooth	Raised, pink/red, "saddle" shape
Clitellum from segments: 14-16	Clitellum from segments: 26-32
Behavior: Very active, snake like	Less active, "wiggly"
Casts: "Coffee grounds" soil signature	Dispersed casts
Loses its tail when handled roughly	Will not drop tail

Cocoon banks are areas of soil with lots of jumping worm eggs (cocoon). In the image below, though you can't see them, there could be thousands of cocoons in this soil because the cocoons look like the soil. To figure out if there are jumping worm cocoons in the soil, put the soil in water. This allows the cocoons to float to the surface (2-3 hours later).



To eradicate jumping worm cocoons, heat the soil (containing the cocoons) to 104°F. This is a technique used by nurseries, but may not be practical for gardeners.

Research has shown a relationship between two species of jumping worms: *Amyntas agrestis* (larger jumping worm) and *Amyntas tokioensis* (smaller jumping worm). To clarify this relationship, when you isolate *A. agrestis* away from *A. tokioensis*, *A. agrestis* tends to die out really quickly. This makes it seem like these two species need to be together in order to flourish. However, if you take away *A. agrestis* from *A. tokioensis*, *A. tokioensis* will do fine on its own. Based on this observation data, *A. agrestis* seems to be a much more sensitive species of jumping worm than *A. tokioensis*, and that would explain why so many more *A. tokioensis* worms are being found.



Jumping worms likely arrived in North America from the nursery trade. In Wisconsin, it's estimated that jumping worms have been established there for well over 20 years. The spread of jumping worms is facilitated via the horticultural industry (landscaping, plant sales, etc.).

A single jumping worm or cocoon stowed away in a potted plant can go home with a customer and start a new infestation. Moving soil from one place to another, the horticultural trade can facilitate the passive spread of invasive earthworms. Consumer beware! Jumping worms move very quickly on their own and are hard to control, so the best thing WI DNR has done so far is education and outreach.

If jumping worms are found in a forested area, environmental problems will begin quickly. If found in residential area, the effects from jumping worms are not fully known, but do not seem to present the same level of environmental severity. For example, Bernadette has jumping worms on her own property, but she has not noticed any noticeable effects (so far). Unfortunately, jumping worms are well established and are one more invasive species that people will have to learn to live with. However, much more information is needed on the long-term effects of jumping worms.

To mediate large populations of jumping worms, products that are high in saponins were looked into, both over-the-counter products as well as plants that contain saponins. Jumping worms don't like to be around plants that contain large amounts of saponins. Plants that contain this organic chemical seem to suppress jumping worm populations.

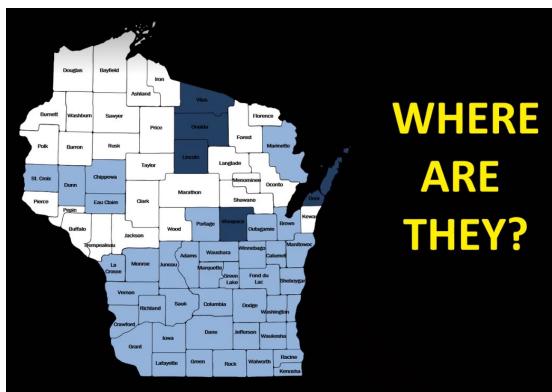
The saponin-richest plant is [common soapwort](#) (*Saponaria officinalis*). Among other saponin-rich plants are [ivy](#) (*Hedera helix*), [butcher's broom](#) (*Ruscus aculeatus*), [asparagus](#) (*Asparagus officinalis*), [sarsaparilla](#) (*Smilax aspera*), [Scarlet pimpernel](#) (*Anagallis arvensis*), and [alfalfa](#) (*Medicago sativa*).



Biochar is charcoal used as a soil amendment. Biochar is a stable solid, rich in carbon, and can endure in soil for thousands of years. Like most charcoal, biochar is made from biomass via pyrolysis. Biochar is under investigation as an approach to carbon sequestration. After conducting research on biochar's effects on earthworms, there did not appear to be any effect on earthworms in the presence of this substance (including jumping worms).

Research done using chemical means to control jumping worms was conducted using Early Bird, a natural organic chemical. Note: This product has been pulled from the market, but is still available in Europe (under the name "Castaway"). Studies were done to understand how much Early Bird was needed to have an effect on jumping worms (3%, 10%, 25%). It was found that no matter what the percentage was, the chemical caused complete mortality on the earthworms (because it completely coats the earthworm via a surfactant). Very little chemical is needed to get rid of worms; however, this and other products can also affect birds (a problem).

In southern Wisconsin, dense populations of jumping worms seem to be in areas where there is development and urbanization. However, jumping worms have not yet been found in Wisconsin's northern forests where substantial old growth stands are present, except in areas where people have brought in plants/soil from other parts of the state, or Illinois and the Chicago area.



In conclusion, Bernadette mentioned hammerhead worms ([Planaria spp.](#)) which are predatory earthworms. She's worked with worms for almost 20 years. Bernadette used to work at the Milwaukee Public Museum and would look at a lot of different worms that were vouchered. The *Planaria* were so rare that when she worked there, there was only two voucher specimens of them. For the 14 years she's been with the WI DNR, there was only one voucher specimen that was received. In total, there's only about six specimens that have been found in counties. However, in the past month, she's received five reports of them, and they're all alive, robust, and were found in the northern part of Wisconsin around Green Bay (much colder than the Madison/Milwaukee area). Some populations overwintered, surviving the harsh winter of Green Bay (which is really amazing). Interesting fact: If you cut a hammerhead worm in half, you'll get two worms.



Jim Grazio (DEP) thanked Bernadette for her presentation and asked if jumping worms are present in Pennsylvania. Sean Hartzell (PFBC) responded that yes, jumping worms are present in PA (they are in his yard), at least in eastern PA. Amy Jewitt (WPC) commented that reports are coming into iMapInvasives for jumping worms from various parts of the state. Don Eggen (DCNR) commented that DCNR is receiving reports from around the state and are hoping to get a distribution map done by species (which will take some time to do). Kaylan Hubbard (Delaware Highlands Conservancy) mentioned in the Chat: "Yes, my yard in Honesdale is infested with jumping worms."

Amy Jewitt (WPC) asked Bernadette if there are any biocontrols being researched to control jumping worms. Bernadette commented that [Brad Herrick](#), the ecologist for the [University of Wisconsin \(UW\) Arboretum](#), is working on his PhD and his research is all on jumping worms. He'll be attending a conference in Vermont later this summer and working with [Josef Görres](#) (University of Vermont) to research potential biocontrols for the species, so stay tuned!

Kris Abell (PDA) commented that several times during her presentation, Bernadette mentioned jumping worms being a potential concern, particularly for forest ecosystems. How big of a

concern might that be, and how is Wisconsin prioritizing jumping worms from a forest ecology perspective? Bernadette commented that in Wisconsin, the DNR's forestry division is very keyed into worm issues because they've seen regeneration issues, particularly in some of the sugar maple stands where there are so many European earthworms. If *Amyntas* spp. came into these areas, how would they affect all the other current issues like oak wilt, Heterobasidion root disease (HRD), and emerald ash borer? Even though jumping worms are a species of high concern, since they've been found in Wisconsin in 2013, they haven't been found in an established forest stand (which is really good!). The only forested area that jumping worms have been found (in WI) currently is within the UW Arboretum, which has quite an extensive forest. Currently, we're not seeing dramatic changes with the (*earthworm*) populations, but it's yet to be seen how everything will play out. We are seeing that jumping worms have moved tremendously fast throughout the acreage. There has been a big push within the WI DNR to get the U.S. Forest Service to recognize earthworms as a problem.

Amy Jewitt (WPC) mentioned in that Chat: "All: Feel free to report sightings of Jumping worms found in Pennsylvania to iMapInvasives via our program's public report form: <https://survey123.arcgis.com/share/5c0b312b7e7644ae88bd2bd77ff9ceea>."

Kaylan Hubbard (Delaware Highlands Conservancy) asked what the *Planaria* predatory worm eats? Does it eat other worms? Jumping worms? Bernadette responded yes, there are a variety of *Planaria* species and they are predatory earthworms. She also provided a history on the *Planaria* worms.

The worm pictured on the screen (see previous image on page 11) is [*Bipalium adventitium*](#).

In England and Ireland in the late 60s, New Zealand flatworm (a species of *Planaria*) was accidentally introduced into both of these countries. Because it's such a fast predator, it predated upon many of the native earthworms (which are a lot of our non-native, invasive earthworms here in the states), dropping the population of native earthworms quite significantly over 30 years to the point where many of the *Lumbricus* spp. (the big nightcrawlers), specifically *L. terrestris*, actually became a threatened species because of the flatworms.

Implications of PRISMs for Rural Recreation-Based Communities in PA – Research Proposal

Guest Speaker: Dr. Kate Zipp, Associate Professor of Environmental and Resource Economics at The Pennsylvania State University

Kate introduced herself (*pictured on left below*) as well as Grace Wildermuth (*pictured on right below*). Grace is a PhD candidate in Rural Sociology and Demography. Both women are involved in this research project.



Kate talked about some of the ongoing work that she and Grace have done with aquatic invasive species, including:

- Three completed surveys of anglers in 2020-2021
- Boater survey (planned for Fall 2022)

Kate also discussed some new work they are proposing, to make sure it aligns with what is most policy-relevant:

- Center for Rural PA: “Implications of Regional-Based Management of Invasive Species for Rural Recreation-Based Communities in Pennsylvania”
- Fish and Wildlife Service: Preventing the Introduction and Spread of Invasive through Strategic Landscape-Level Approaches
 - Prioritization Analysis for the Regional Management of Aquatic Invasive Species (PARM-AIS) in Pennsylvania

At the end of their presentation, Kate and Grace would like to have an open discussion with Council members on how their research can be most useful for work on-the-ground.

Work in progress includes surveys of anglers in 2020 (7,474 responses) and 2021 (15,770 responses). Anglers were asked where they fish, their knowledge and preferences on invasive species, if they’ve seen invasive species, and how invasive species have affected their fishing decisions.

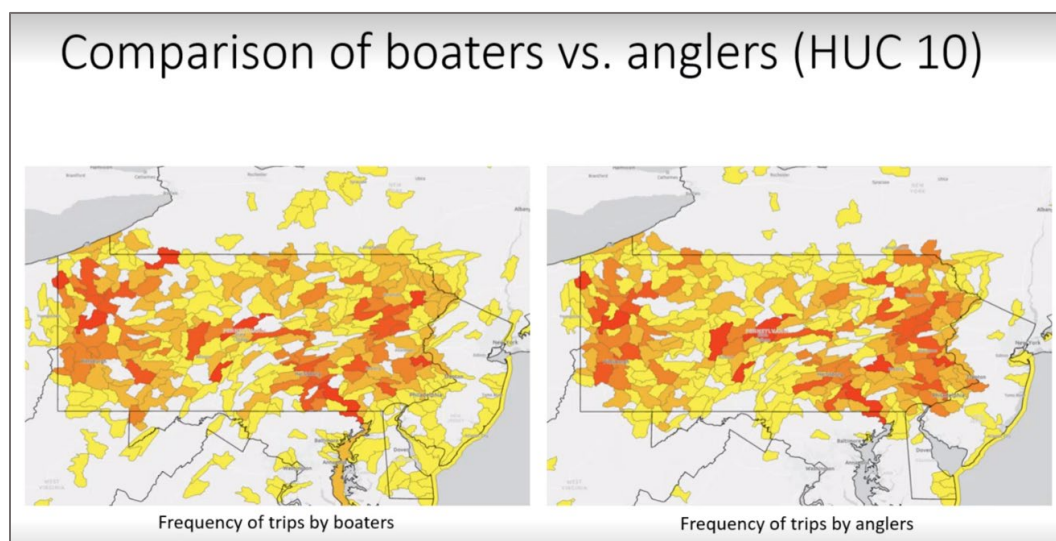
Anglers were also asked if they wanted to participate in a diary. If so, every couple of weeks, individuals were asked where they went fishing. In 2020, there were seven diaries with 1,093 responses, and in 2021, there were 10 diaries with 3,368 responses.

In 2021, anglers were asked about their behaviors related to cleaning gear (i.e., how much time do they spend cleaning their gear, what kind of gear do they take with them to go fishing). Kate and Grace surveyed the population of people with Pennsylvania fishing licenses, with many of these same individuals also having boats as well, so additional/similar questions were asked in

regards to boating (i.e., how much time is spent cleaning your gear, what motivates you to clean your gear, how effective do you think this is). A total of 6,218 responses were received from this “Willingness to Clean Gear” survey.

The main objectives with these surveys were to:

- **Characterize fishing behavior**
 - Where anglers go?
 - How often?
 - Is this similar to previous years?
- **Evaluate the impact of aquatic invasive species (AIS) on this fishing behavior**
 - Are anglers familiar with AIS?
 - Are they concerned about AIS?
 - Which specific species?
 - Does the presence of AIS change angler behavior?
- **Evaluate the impact of fishing behavior on AIS**
 - Do these patterns correlate with/cause AIS spread?
 - Is this mitigated by preventative action?
 - Do signs/social norms increase this preventative action?
- **Heterogeneity across boaters, targeted species, gear, socio-demographics**



The above two maps show frequency of trips by both boaters and anglers. The red areas indicate places people are visiting the most.

When asked how much time people spend cleaning their gear, the average was 17 minutes (mean) and 10 minutes (median). In the tables below, it was noted that people with boats are spending more time cleaning their gear than people without boats. The same was true for people using live wells versus people not using live wells.

Boat vs. no boat

	Mean (mins)	Median (mins)
Boat	25	15
No boat	14	10

Of boaters, live well vs. not

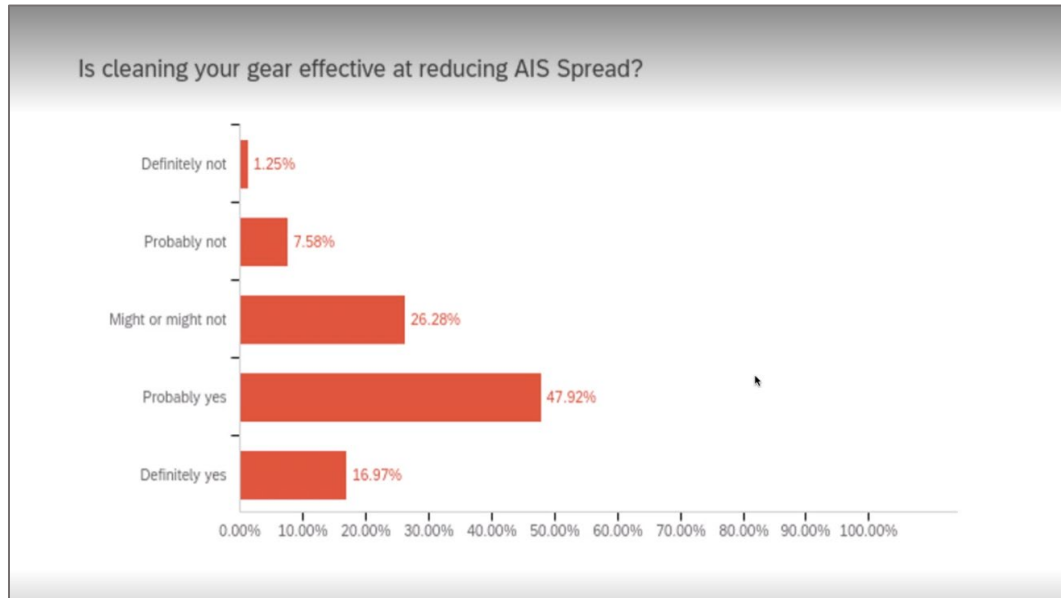
	Mean (mins)	Median (mins)
Live well	30	20
No live well	22	15

When asked what motivated people to clean their gear, many people are doing so to maintain it, not just for reasons of preventing the spread of invasive species. However, the biggest percentage of people (almost 40%) said they clean their gear partially for maintenance purposes and partially to prevent the spread of AIS.



Survey participants were also asked if they thought that cleaning their gear was effective at reducing AIS spread, which most people responded “yes” to (almost 48%). Kate said that more

education and outreach needs to be done for the people who felt unsure if cleaning their gear would help limit the spread of AIS (and definitely for the individuals that said it would not help at all).

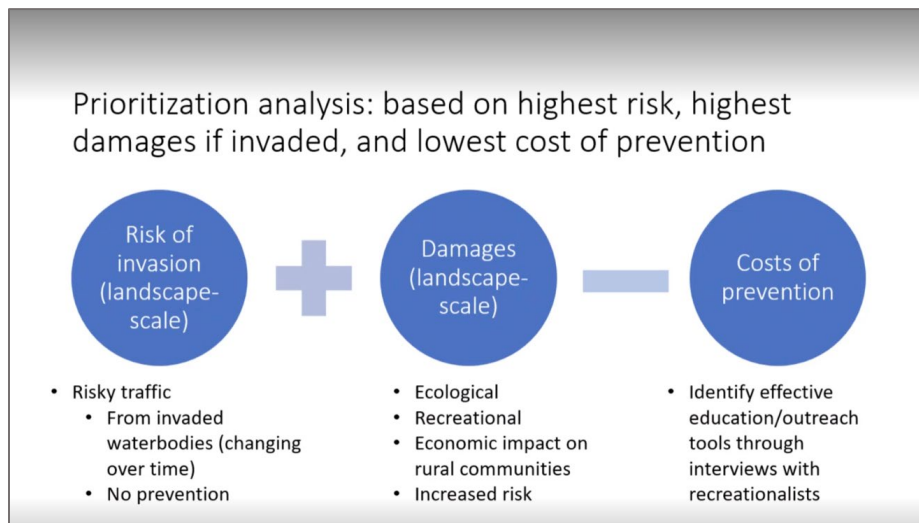


The following are proposed research projects by Kate and Grace:

- 1) A letter of intent was sent to the Center for Rural Pennsylvania looking at the “Implications of Regional-Based Management of Invasive Species for Rural Recreation-Based Communities in Pennsylvania”. This plan would include:
 - Evaluating the PRISM framework in New York and identifying best practices to be applied to the Pennsylvania PRISM framework
 - Identify key stakeholders in the six proposed regions of Pennsylvania and evaluate their willingness and ability to be potential host organizations
 - Identify two case studies of rural recreation-based communities to determine their key needs and how the PRISM framework can be designed to address these needs
 - Rural communities as an asset for the goals of the PRISM
 - Education/outreach for out-of-state and non-local recreationists

- 2) Another proposal Kate and Grace have in the works is for the Fish and Wildlife Service’s request for projects related to landscape management of invasive species. Kate and Grace are considering doing a “Prioritization Analysis for the Regional Management of Aquatic Invasive Species (PARM-AIS) in Pennsylvania”. The project would use GIS mapping layers from iMapInvasives as well as eDNA data, overlaid with GIS data for angler/boater trips (collected by Kate/Grace), DCNR state forests data, and PFBC creel surveys. The purpose of

this tool would be to prioritize management decisions. (See the following graphic for more details on this proposed project.)



This project would include three phases:

1. **Identify** needs for the most useful and usable tool available.
 - a. PRISM hosts
 - b. Recreationists
 - c. Interviews and focus groups to collect data
2. **Design** the tool in partnership with a collaborator in Penn State's Math Department.
3. **Introduce** the tool to managers and recreationists. Gather feedback for refinement.

Discussion questions for the Council today:

1. Implications of PRISM for rural communities
 - a. Current thinking? What else should we consider?
 - b. Other useful questions pertaining to evaluating PRISM framework in New York and application in Pennsylvania?
2. Prioritization tool
 - a. Inputs: Boat/angler traffic, locations of current AIS, critical habitat, cleaning behavior, estimates of economic damages
 - b. Outputs: Map with high, medium, and low priority waterbodies in a 5-year timeframe
 - c. User defined: Prevention methods, weights on damages
 - d. Is this a useful framework? What else should we consider?

Eve Adrian (Policy Specialist with the PDA) expressed her full support for the work Kate and Grace are doing, especially in relation to the effects of invasive species on recreation-based economies in rural communities.

Sean Hartzell (AIS Coordinator, PFBC) felt the research being proposed by Kate and Grace is very interesting and will be relevant in terms of AIS work in combination with a future PRISM program in Pennsylvania. Sean would like to talk with Kate and Grace further to provide additional feedback on behalf of his agency.

Amy Jewitt (Invasive Species Coordinator, WPC) fully supports these research projects and suggested that Kate and Grace share a template letter of support with members and stakeholders of the Council so a broader audience can help advocate for these important efforts.

Fred Strathmeyer (PDA) asked if Kate/Grace have reached out to the [PA Department of Community and Economic Development](#) (DCED), specifically Carrie Lepore, the Deputy Secretary from the Office of Marketing, Tourism, and Film. She would have more information on current tourism programs in the state and may be able to provide some important input. Kate said no (*they have not reached out to this Department*), but this was a good idea by Fred and they will be sure to follow-up with Carrie.

Invasive Species Listing Committee

Spokesperson: Andrew Rohrbaugh, Botanist, PA Department of Conservation and Natural Resources (DCNR), Bureau of Forestry, Ecological Services Section

This committee is proposing to add several new taxa to the Council's invasive species list (*housed on the PISC website*). A vote by the Council will be needed in order to make these additions official. These species lists were provided in the packet of information that was sent out (*to Council members and stakeholders*) prior to today's meeting.

The species lists are broken down into three categories:

- **Potential**: Not in PA
- **Emerging**: Not widely established in PA; less than $\sim\frac{1}{3}$ (?)
- **Established**: Widely established in PA; greater than $\sim\frac{1}{3}$ (?)

Regarding invasive species risk assessments, there will be no further updates on plant assessments until this winter due to the busyness of field season for many people. Andrew will get back to work on plant assessments in the fall. Sean Hartzell (PFBC) has been working on aquatic species assessments.

- Question: Is the Council comfortable putting all these lists on the website prior to their affiliated assessments being completed?
 - Listing without a completed assessment is an industry issue for some plants; is it similar for these species?

Sean Hartzell (PFBC) responded to Andrew’s question, saying he would be fine to include these species lists on the Council website prior to having completed assessments for them. It should be noted on the PISC website that completing the necessary species assessments is a work in progress by the Council.

Deb Klenotic (DEP) mentioned in the meeting Chat: “Transparency is good, with clear, thorough, contextualizing language.”

Jim Grazio (DEP) agreed with Sean’s comments. Jim said he will send a link to a clearinghouse of completed assessments to Andrew, Sean, and others interested for their use with this committee. *(He later provided this link in the meeting Chat by commenting the following.)*

“Here’s a [link](#) to a fantastic risk assessment clearinghouse developed by NOAA’s Great Lakes Environmental Resource Lab. It contains links to both RA methods and completed assessments. It’s worth a look if you’re not already familiar with it.”

Andrew commented that most of the species being considered for listing on the website are ones with known issues and have a track record of being invasive; however, the assessment process takes time to complete. At least by listing these species on the Council website, the information is being made available to the public that these species are known invaders.

The species threat categories are further defined as follows:

- Potential: Species not yet in PA, but have the potential to cause serious damage upon arrival.
- Emerging: Species introduced to PA with increasing damage coincided with expanding distribution.
- Established: Well-established species with significant damage incurred in the past and continued currently.

The following three lists are being considered for inclusion on the Council website. They comprise invasive insects. These lists were compiled by Lawrence Barringer (PDA) and Houping Liu (DCNR).

- **Potential insect threats:**
 - [Asian longhorned beetle](#) (*Anoplophora glabripennis*)

- [Asian giant hornet](#) (*Vespa mandarinia*)
 - [Red imported fire ant](#) (*Solenopsis invicta*)
 - [European fire ant](#) (*Myrmica rubra*)
 - [Kudzu bug](#) (*Megacopta cribraria*)
 - [Winter moth](#) (*Operophtera brumata*)
 - [Crapemyrtle bark scale](#) (*Eriococcus lagerstroemiae*)
 - [Box tree moth](#) (*Cydalima perspectalis*)
 - [Asian garden beetle](#) (*Maladera castanea*)
 - [Spruce longhorned beetle](#) (*Tetropium fuscum*)
- **Emerging insect threats:**
 - [Spotted lanternfly](#) (*Lycorma delicatula*)
 - [Hemlock woolly adelgid](#) (*Adelges tsugae*)
 - [Walnut twig beetle](#) (*Pityophthorus juglandis*)
 - [Sirex woodwasp](#) (*Sirex noctilio*)
 - [Elm zigzag sawfly](#) (*Aproceros leucopoda*)
 - [Viburnum leaf beetle](#) (*Pyrrhalta viburni*)
 - [Lily leaf beetle](#) (*Lilioceris lili*)
 - [Allium leaf miner](#) (*Phytomyza gymnostoma*)
 - [Fall armyworm](#) (*Spodoptera frugiperda*)
 - [Cherry curculio](#) (*Anthonomus consors*)
- **Established insect threats:**
 - [Spongy moth](#) (*Lymantria dispar*)
 - [Emerald ash borer](#) (*Agrilus planipennis*)
 - [Elongate hemlock scale](#) (*Fiorinia externa*)
 - [Balsam woolly adelgid](#) (*Adelges piceae*)
 - [Spotted-wing drosophila](#) (*Drosophila suzukii*)
 - [Japanese beetle](#) (*Popillia japonica*)
 - [Brown marmorated stinkbug](#) (*Halyomorpha halys*)
 - [Introduced pine sawfly](#) (*Diprion similis*)

Ruth Welliver (PDA) asked if these insect lists could include information on which species are regulated at the federal and state level (vs ones that are not regulated). Andrew responded that yes, this information could be included.

The following three lists are being considered for inclusion on the Council website. They comprise invasive pathogens. These lists were compiled by Katya Nikolaeva (PDA) and Jill Rose (DCNR).

- **Potential pathogen threats:**

- [Sudden oak death](#) (*Phytophthora ramorum*)
 - [Oak wilt](#) (*Bretziella fagacearum*)
 - [Laurel wilt](#) (*Raffaelea lauricola*)
 - [Australian grapevine yellows](#) (*Candidatus Phytoplasma australienses*)
 - [Stolbur phytoplasma](#) (*Candidatus Phytoplasma solani*)
 - [Apple proliferation](#) (*Candidatus Phytoplasma mali*)
 - [European stone fruit yellows](#) (*Candidatus Phytoplasma prunorum*)
 - [Plum pox virus](#) (*Potyvirus*)
 - [Little cherry virus](#) (*Velarivirus*)
 - [Bacterial wilt](#) (*Ralstonia solanacearum*)
 - [Potato wart](#) (*Synchytrium endobioticum*)
 - [Scots pine blister rust](#) (*Cronartium flaccidum*)
 - [Phytophthora blight](#) (*Phytophthora kernoviae*)
 - [Alder root and collar rot](#) (*Phytophthora alni*)
 - [Pale cyst nematode](#) (*Globodera pallida*)
 - [Golden nematode](#) (*Globodera rostochiensis*)
 - [Late wilt of corn](#) (*Magnaporthe oryzae Triticum pathotype*)
 - [British root-knot nematode](#) (*Meloidogyne artiellia*)
 - [Wheat blast](#) (*Magnaporthe oryzae Triticum pathotype*)
 - [Philippine downy mildew](#) (*Peronosclerospora philippinensis*)
 - [Japanese oak wilt](#) (*Raffaelea quercivora*)
- **Emerging pathogen threats:**
 - [Beech leaf disease](#) (*Litylenchus crenatae*)
 - [Corn tar spot](#) (*Phyllachora maydis*)
 - [Strawberry fruit rot](#) (*Neopestalotiopsis rosae*)
 - **Established pathogen threats:**
 - [Beech bark disease](#) (*Neonectria faginata*)

The following lists are being considered for inclusion on the Council website. They comprise invasive mollusks and other land invertebrates. These lists were compiled by Katya Nikolaeva (PDA).

- **Potential mollusk/land invertebrate threats:**
 - Large arionid slugs ([Arion ater](#) and [Arion rufus](#))
 - Hygomiid snails ([Monacha spp.](#))
 - Geomitrid snails ([Cochlicella spp.](#))
 - Geomitrid snails ([Cernuella spp.](#))
 - [Giant African snail](#) (*Lissachatina fulica*) - (pet shops/swaps)
 - [Chinese slug](#) (*Meghimatium pictum*)

- Leatherleaf slugs ([Belocaulus spp.](#)) – (Greenhouse only)
 - Leatherleaf slugs ([Colosius spp.](#)) – (Greenhouse only)
 - Leatherleaf slugs ([Laevicaulis spp.](#)) – (Greenhouse only)
 - Leatherleaf slugs ([Semperula spp.](#)) – (Greenhouse only)
 - Leatherleaf slugs ([Veronicella spp.](#)) – (Greenhouse only)
- **Emerging mollusk/land invertebrate threats:**
 - Jumping worms ([Amynthes-Metaphire spp.](#))
- **Unassigned threat category mollusk/land invertebrate threats**
 - [Crazy snake worm](#) (*Amynthes agrestis*)
 - [Broadhead planarians](#) (*Bipalium spp.*)
 - [Red wiggler](#) (*Lumbricus rubellus*)
 - [Green crawler](#) (*Lumbricus terrestris*)
-

The following mammals and birds are being considered for inclusion on the Council website. (editor's note: these lists were sourced from the Pennsylvania iMapInvasives tracked species list, a program administered by the Western PA Conservancy and PA Natural Heritage Program.)

- **Unassigned threat category**
 - [Mute swan](#) (*Cygnus olor*)
 - **Potential mammal/bird threats:**
 - [Nutria/coypu](#) (*Myocastor coypus*)
 - [Wild boar/feral swine](#) (*Sus scrofa*)
 - **Established mammal/bird threats:**
 - [House sparrow](#) (*Passer domesticus*)
 - [European starling](#) (*Sturnus vulgaris*)
-

The following three lists are being considered for inclusion on the Council website. They comprise invasive aquatic animals. These lists were developed by Sean Hartzell (PFBC).

- **Potential aquatic animal threats:**
 - [Calico crayfish](#) (*Faxonius immunitis*) – (banned)
 - [Golden mussel](#) (*Limnoperna fortunei*)
 - [Carter's moss animal](#) (*Lophopodella carteri*)
 - [Greater European pea clam](#) (*Pisidium amnicum*)
 - [Marbled crayfish](#) (*Procambarus fallax f. virginalis*) – (banned)
-

- [Big-eared radix](#) (*Radix auricularia*)
 - [Chinese pond mussel](#) (*Sinanodonta woodiana*)
 - [European fingernail clam](#) (*Sphaerium corneum*)
 - [European stream valvata](#) (*Valvata piscinalis*)
 - [Banded mystery snail](#) (*Viviparus georgianus*)
 - [Blotched snakehead](#) (*Channa maculata*) – **(banned)**
 - [Giant snakehead](#) (*Channa micropeltes*) – **(banned)**
 - [Red shiner](#) (*Cyprinella lutrensis*) – **(banned)**
 - [Ruffe](#) (*Gymnocephalus cernuus*) – **(banned)**
 - [Silver carp](#) (*Hypophthalmichthys molitrix*) – **(banned)**
 - [Bighead carp](#) (*Hypophthalmichthys nobilis*) – **(banned)**
 - [Blue catfish](#) (*Ictalurus furcatus*) – **(native and introduced populations in PA)**
 - [Ide](#) (*Leuciscus idus*)
 - [Black carp](#) (*Mylopharyngodon piceus*) – **(banned)**
 - [Pink salmon](#) (*Oncorhynchus gorbuscha*)
 - [Blue tilapia](#) (*Oreochromis aureus*) – **(regulated)**
 - [Redbelly tilapia](#) (*Tilapia zillii*) – **(banned)**
 - [African clawed frog](#) (*Xenopus laevis*)
- **Emerging aquatic animal threats:**
 - [Scud](#) (*Apocorophium lacustre*)
 - [Mud bithynia](#) (*Bithynia tentaculata*)
 - [Water flea; a Cladoceran](#) (*Bosmina coregoni*)
 - [Spiny waterflea](#) (*Bythotrephes longimanus*)
 - [Fishhook waterflea](#) (*Cercopagis pengoi*)
 - [Chinese mystery snail](#) (*Cipangopaludina chinensis*)
 - [Japanese mystery snail](#) (*Cipangopaludina japonica*)
 - [Quagga mussel](#) (*Dreissena bugensis*) – **(banned)**
 - [Zebra mussel](#) (*Dreissena polymorpha*) – **(banned)**
 - [Scud; Amphipod](#) (*Echinogammarus ischnus*)
 - [Rusty crayfish](#) (*Faxonius rusticus*) – **(banned)**
 - [Virile crayfish](#) (*Faxonius virilis*) – **(banned)**
 - [Bloody-red shrimp](#) (*Hemimysis anomala*)
 - [New Zealand mudsnail](#) (*Potamopyrgus antipodarum*)
 - [White river crayfish](#) (*Procambarus acutus*) – **(banned)** – **(native and introduced populations in PA)**
 - [Red swamp crayfish](#) (*Procambarus clarkii*) – **(banned)**
 - [Goldfish](#) (*Carassius auratus*)
 - [Northern snakehead](#) (*Channa argus*) – **(banned)**
 - [Grass carp](#) (*Ctenopharyngodon idella*) – **(regulated)**
 - [Greenside darter](#) (*Etheostoma blennioides*)
 - [Western mosquito fish](#) (*Gambusia affinis*)
 - [Oriental weatherfish](#) (*Misgurnus anguillicaudatus*)

- [White perch](#) (*Morone americana*) – **(native and introduced populations in PA)**
 - [Round goby](#) (*Neogobius melanostomus*) – **(banned)**
 - [Rainbow smelt](#) (*Osmerus mordax*)
 - [Freshwater tubenose goby](#) (*Proterorhinus semilunaris*) – **(banned)**
 - [Flathead catfish](#) (*Pylodictis olivaris*)
 - [Rudd](#) (*Scardinius erythrophthalmus*)
 - [Red-eared slider](#) (*Trachemys scripta elegans*)
 - [Yellow-bellied slider](#) (*Trachemys scripta scripta*)
- **Established aquatic animal threats:**
 - [Asiatic clam](#) (*Corbicula fluminea*)
 - [Allegheny crayfish](#) (*Faxonius obscurus*) – **(banned)** – **(native and introduced populations in PA)**
 - [Alewife](#) (*Alosa pseudoharengus*)
 - [Common carp](#) (*Cyprinus carpio*)
 - [Sea lamprey](#) (*Petromyzon marinus*) – **(native and introduced populations in PA)**

Jim Grazio (DEP) commented that the terms “potential”, “emerging”, and “established” are being used in these lists to mean something different (and is in conflict) with how most invasion biologists would use them. For example, Dreissenid mussels are well established and have reproducing populations where they occur, as much as a sea lamprey does where it occurs. Jim currently feels uncomfortable with how these terms are being used to describe the threat category (*at least in regards to the aquatic animals*). Andrew mentioned Jim’s comment is a valid concern; however, Andrew clarified that these terms were being used from a statewide perspective (i.e., is a species widespread in waterbodies across the state, or only in a few waterbodies and we should focus on preventing its spread into new areas?). Jim commented again that he had an issue with sea lamprey being listed as established, since it is not present in all of PA’s waters; it’s only present in the Great Lakes and the Atlantic Drainage.

Ruth Welliver (PDA) commented the following in the meeting Chat: “Maybe two categories of established? They would include ‘widely established’ and ‘established in parts of state’.

Ruth also commented the following in the meeting Chat: “The ‘Pathogen’ list should definitely be changed to ‘Plant Pathogen’ list.”

The following list is being considered for inclusion on the Council website. It comprises invasive aquatic pathogens.

- [Viral hemorrhagic septicemia](#) (VHS) virus (*Novirhabdovirus*)
- [Infectious Hematopoietic Necrosis](#) (IHN) virus

- [Spring Viremia of Carp \(SVC\)](#) virus
 - [Infectious Salmon Anemia \(ISA\)](#) virus
 - [Ceratonova shasta](#)
 - [Koi herpesvirus \(KHV\)](#) disease
 - [Tetracapsula brysalmonae](#)
 - [Salmincola spp.](#) (gill lice)
 - [Ranavirus](#) (Reptiles/Amphibians)
 - [Snake fungal disease](#) (*Ophidiomyces ophidiicola*)
-

Amy Jewitt (WPC) asked about two species that perhaps should also be added to the list of species just presented on: Avian influenza (pathogen) and didymo (aquatic diatom). Andrew responded that Avian influenza is going to be discussed at today's meeting (just a little bit later), so he refrained from providing an answer on that for now. Regarding didymo, Sean Hartzell (PFBC) commented that it's unclear whether or not didymo is native in PA. Didymo has been noted as a native species in other states. Because of this lack of distinction in PA, didymo is not being included on the official PISC invasive species list for now. Andrew noted that didymo will be reevaluated in the future for potential listing on the PISC website.

MOTION: Andrew Rohrbaugh (DCNR) moved that the Council approve the above-mentioned lists of invasive species for inclusion on the PISC website, and reconsider the terminology used to describe the threat categories. Sean Hartzell (PFBC) seconded the motion. **Motion approved.**

At the last Controlled Plant and Noxious Weed Committee (CP&NWC) meeting, (*public*) comments were received for a number of species to consider (*for listing as noxious weeds in PA*). These species were discussed by the CP&NWC, and many were determined not to be an issue in terms of needing to be listed (i.e., they are invasive/weedy/aggressive, but not noxious). However, Andrew/others felt some of these species should perhaps be considered for inclusion on the PISC list of invasive species.

These species included:

- [Rose-of-Sharon](#) (*Hibiscus syriacus*)
- [Sweet Annie](#) (*Artemisia annua*)
- [Lilacs](#) (*Syringa* spp.)
- Plantain (*this could refer to either [genus](#) or [species](#)*)
- Zoysia grass (*this could refer to either [genus](#) or [species](#)*)
- [Bedstraw](#) (*Galium* spp.)
- [American lotus](#) (*Nelumbo lutea*)
- [Heavenly bamboo](#) (*Nandina domestica*)

Some of these species may be added to the noxious weed law; however, further research is needed. Trilby Libhart (PDA) is currently researching Bedstraw spp. Andrew will reach out to Sean Hartzell (PFBC) and Nick Decker (DCNR state parks) regarding America lotus. Andrew will research heavenly bamboo.

Andrew questioned if a list of “rejected” invasive species should be housed on the PISC website? These species would include those considered but not chosen for listing as noxious by the CP&NWC, or species considered for listing as invasive on the PISC website but not selected. This list would help eliminate duplicate species suggestions from the public/others and see a response as to why a species was not selected for inclusion on a particular list (*noxious weed list or PISC list*). Amy Jewitt (WPC) supports having a list like this posted on the PISC website. She felt it would help further communication happening behind the scenes that the public may not be aware of.

ACTION: Andrew Rohrbaugh (DCNR) and Kris Abell (PDA) plan to further discuss the formatting of a “rejected species” list that will later be posted on the PISC website. Information will be provided on the website explaining why a species was not selected to be included on either the CP&NWC noxious weed list, or the PISC invasive species list.

Andrew noted that the [updated plant list](#) is now live on the PISC website. This list includes info on each species’ priority score, noxious weed rank, invasive impact score, etc. Information on the PISC species list will be updated as new assessments are completed.

Updated Plant List is now on the PISC website

Scientific Name	Common Name	Priority Score	Noxious Weed Rank	Invasive Impact Score	Aquatic or Terrestrial	PLNR Economic Importance Score	DCNR Rank	EDRR	PA Profile URL
Acer ginnala	Amur Maple	3.13		66.22	Terrestrial	4.76	Watch	Yes	
Acer palmatum	Japanese Maple	3.13		50.00	Terrestrial	8.10	Watch	No	
Acer platanoides	Norway Maple	4.24		82.00	Terrestrial	3.54	2	No	
Aegopodium podagraria	Goutweed	2.8		63.75	Terrestrial	0.79	3	No	
Ailanthus altissima	Tree-of-Heaven	9.06	B	68.00	Terrestrial	0.48	1	No	
Akebia quinata	Chocolate Vine	3.25		52.38	Terrestrial	1.15	Watch	Yes	
Albizzia julibrissin	Mimosa	3.06		40.00	Terrestrial	2.00	2	No	
Alliaria petiolata	Garlic Mustard	6.12	B	84.00	Terrestrial	0.64	1	No	
Alnus glutinosa	European Black Alder	3.13		66.44	Terrestrial	0.90	2	No	
Amselopsis glandulosa	Potcelain Berry	4.5		71.26	Terrestrial	0.90	1	No	
Anthriscus sylvestris	Wild Chervil	1.33		78.75	Terrestrial	0.26	3	No	
Aralia elata	Japanese Angelica Tree	5.5	B	80.46	Terrestrial	1.03	1	Yes	
Artemisia vulgaris	Mugwort	4.25	B	79.31	Terrestrial	0.75	3	No	
Anthraxon hispidus	Small carpetgrass	3.07		75.68	Terrestrial	0.14	2	No	
Arundo donax	Giant Reed	4			Terrestrial	1.25	Watch	Yes	
Berberis thunbergii (seeded varieties)	Japanese Barberry	7.76	B	91.00	Terrestrial	3.69	1	No	
Berberis thunbergii (seedless varieties)	Japanese Barberry	5.18	B		Terrestrial	4.52	1	No	
Berberis vulgaris	European Barberry	6.12		68.75	Terrestrial	2.25	1	No	
Bromus japonicus	Japanese brome	2			Terrestrial	0.64	3	No	
Bromus sterilis	Poverty Brome	1.5			Terrestrial	0.26	3	No	

Andrew posed one final question to the Council: Should the PISC lists include human and animal pathogens? Sean Hartzell (PFBC) asked if animal pathogens are referring to pathogens that impact livestock, wild animal populations, or both? Andrew felt the animal pathogens would

refer to both livestock and wild animal populations. For example, Avian influenza can affect wild animals, but is also a livestock issue.

Lisa Murphy (University of PA) commented that perhaps this question could best be answered by asking if these human and animal pathogens are being addressed elsewhere, such as by other departments within the PA Department of Agriculture. Having lists in more than one place may result in the lists not always paralleling or being “synced up”. Specifically for Avian influenza, this is a disease that’s ubiquitous, but under certain circumstances, the impacts can be huge on both wild and domestic species.

Ruth Welliver (PDA) commented that to answer this question effectively, we need to know what the goal is for the listings. For example, if posted on the PISC website, the reasons for doing so would be for public awareness or to report if found. For animal and human pathogens, Ruth felt the PISC website is not an appropriate place for either educational or reporting purposes. Is there another goal for putting a human and animal pathogen list on the PISC website?

Fred Strathmeyer (PDA) felt it would be good to table this discussion for now and bring it back up for discussion by the Invasive Species Listing Committee, keeping in mind the need to answer the questions asked here today by Ruth and others. Andrew agreed with Fred, while also mentioning that perhaps an alternative would be for the PISC website to reference some of those other groups that do more work with human and animal pathogens (without PISC actually maintaining a list).

Lisa Murphy (University of PA) commented in the meeting Chat: “We could post links directing folks to relevant areas of the Bureau of Animal Health and Bureau of Plant Industry webpages.”

Controlled Plant and Noxious Weed Committee (CP&NWC) Update

Spokesperson: Jessica Lenker, Pesticide Certification and Education Specialist with the Pennsylvania Department of Agriculture

At the last CP&NWC meeting held on April 21, 2022, three plants were presented on for consideration of adding to the PA noxious weed list. These species included:

- [Wild chervil](#) (*Anthriscus sylvestris*) – Class A consideration
- [Chocolate vine](#) (*Akebia quinata*) – Class A consideration
- [Lesser celandine](#) (*Ficaria verna*) – Class B consideration

These plants were presented on at the April meeting and will be briefly presented on (to refresh committee members of their invasiveness) at the next CP&NWC meeting scheduled for July 21, 2022. CP&NWC members will vote on these species at the July meeting.

Also at the July meeting, four new plants will be presented on (i.e., info on the plants and their specifics). They include:

- [Burning bush](#) (*Euonymus alatus*)
- [Chinese privet](#) (*Ligustrum sinense*)
- [European privet](#) (*Ligustrum vulgare*)
- [Japanese privet](#) (*Ligustrum japonicum*)
- [Border privet](#) (*Ligustrum obtusifolium*)

No vote will not occur for these species at the July meeting (*however, a vote will occur at the October 2022 meeting*).

Four new sterile Japanese barberry cultivars were recently [approved for sale and planting](#) in Pennsylvania. Each are from the WorryFree® series. They include:

- Mr. Green Genes®
- Crimson Cutie®
- Lemon Cutie®
- Lemon Glow®

All of this information is available on the [CP&NWC website](#). Additional sterile cultivars of Japanese barberry will continue to be approved as information arises. So far, these are the only four sterile cultivar applications the PA Department of Agriculture has received.

On April 21, 2022, three new species were added to the CP&NW list. They included:

- [Glossy buckthorn](#) (*Frangula alnus*) – Class B weed
- [Common buckthorn](#) (*Rhamnus cathartica*) – Class B weed
- [Ravenna grass](#) (*Tripsidium ravennae*) – Class A weed

The full listing of PA noxious weeds, including these new additions, is available [online](#).

Deb Klenotic (DEP) mentioned in the meeting Chat: “All good info for next PISC news issue.”

Legislative Committee

Spokesperson: Eve Adrian, Executive Policy Specialist at the Pennsylvania Department of Agriculture

Shea Zwerver (DCNR) took a new position and resigned her position as chair of the PISC Legislative committee. In her place, Eve volunteered to be the new chair.

Robert Caccese (PFBC) joined our committee; he stepped into Mike Nerozzi's former position of Director of Policy, Planning, and Communications at the PA Fish and Boat Commission.

We are holding off on pursuing new legislation until we learn if [Partnerships for Regional Invasive Species Management](#) (PRISM) funding is approved in appropriations. This will allow us to refine our goals for PRISM before putting it into legislation. If funding is approved and PRISM starts showing success, there's likely to be more political support to pass new legislation for a dedicated line item (*in the state budget*). This would be a restricted account to fund PRISM.

We are putting more focus on raising awareness with legislators about the issues and impacts of invasive species. This committee plans to hold legislative field visits with the goal of building support for the future legislation. To do this, we're compiling a list of potential groups that we could partner with to hold events, and identifying speakers to lead them. We're also identifying sites and species that show the impacts of invasive species. We hope to combine our efforts with conservation districts' existing legislative field days on farms (i.e., leveraging this existing event to make sure we cover as many topics as possible to make a lasting impact on legislators). We're identifying legislators to invite to these events and our goal is to prioritize regions that are represented by folks who are neutral towards these issues, or are not enthusiastic about funding or providing support. If we also include some folks that are "already on board", that could be useful to bolster their colleagues' support.

We hope that funds in the PA Department of Agriculture's Rapid Response Disaster Readiness account don't get earmarked for other things in a way that could take resources away from the PRISM program. This is something we'll be keeping tabs on.

PRISM messaging and outreach must be unified among PISC members. We need to make sure that we're continuously being vocal about our support of PRISM funding, and that our messaging to legislators and stakeholders is consistent. In other words, we do not want to "reinvent the wheel" for doing outreach because we already have several resources that we can use (e.g., letter template, PRISM FAQs, talking points, and a fact sheet from the Center for Rural Pennsylvania).

Questions for the Council (*in terms of education/outreach for PRISM*):

- Who from Council membership can assist with outreach and planning, specifically for:
 1. Getting contacts
 2. Finding speakers
 3. Reaching out to legislators

- Are there additional folks PISC should be reaching out to? This is our list so far (*see below*):

Preserves and Conservancies:

- Montour Preserve
- Wildlands Conservancy

State/Federal Agencies:

- Department of Conservation and Natural Resources (DCNR), Bureau of Forestry
- Department of Conservation and Natural Resources (DCNR), state forests/parks
- Penn Nursery
- Natural Resources Conservation Service (NRCS)
- PA Fish and Boat Commission (PFBC)
- Department of Environmental Protection (DEP)
- U.S. Forest Service (USFS)

Non-Governmental Organizations:

- PA Association of Conservation Districts (PACD)
- McKean County Conservation District
- County Conservation Districts (other)
- Envirothon
- PA Wilds
- PA Parks and Forests Foundation (PPFF)
- Pennsylvania Environmental Council (PEC)
- Trout Unlimited
- Riverkeeper chapters
- Natural Lands
- Kittatinny Ridge Conservation Landscape
- PA Organization for Watersheds and Rivers
- WeConservePA
- PA Association of Environmental Professionals
- Audubon Society

Educational Entities:

- Stroud Water Research Center
- Bucknell Center for Sustainability and the Environment
- Penn State Extension
- [Van Wagner](#)
- Eden Hall Campus Farm, Chatham University
- PA Master Gardeners
- PA Master Naturalists

The legislative committee would like to know if DCNR can do state park and state forest visits with legislators? **ACTION:** No answer(s) provided by Council members to this question, so Eve will send a follow-up email after today's meeting.

Who from the Council can assist with legislative field visits? Suggestions from Eve: PA Landscape and Nursery Association, PA Farm Bureau, conservation districts?

Kris Abell (PDA) reaffirmed that we do want as much Council participation and help as possible outside of the Legislative committee to help organize and plan legislative field visits. If there are ideas/comments not mentioned here today, please reach out to Eve or Kris via email or phone.

Communications Committee

Spokesperson: Deb Klenotic, Deputy Communications Director at the Department of Environmental Protection

Two new people were recently added to the Communications committee. They include Jan Huzvar, the PennDOT Deputy Communications Director, and Cecile Stelter, the Communications Chair of the Allegheny Forest Health Collaborative and a DCNR Forest District Manager.



Celebrate and protect our native plants, trees, insects, and animals

On the “front burner” for this committee is the first-ever [Pennsylvania Native Species Day](#) which will be announced on Friday, June 17, 2022 at 11:00am. The announcement will take place at a press event held at the PA Fish and Boat Commission’s (PFBC) headquarters on Elmerton Avenue (in Harrisburg, PA). The event will take place outside at a site where a PFBC stream

restoration project was recently completed and included the planting of numerous native trees and plants on the banks of Asylum Run. This site provides the perfect example of our dual messaging for PA Native Species Day, which is to:

- Celebrate our native plants, trees, fish, and wildlife species
- Take action to protect them against increasing pressures from non-native, invasive species

At the event, we will be presenting Governor's Wolf's proclamation of the first "Pennsylvania's Native Species Day" and the language that echoes this dual message. Deb was quite pleased with the state agency response to the event; she invited leaders from all the state agencies who are members of PISC to participate. Seven speakers, each representing a PA agency, agreed to be at the event. They include:

- [Tim Schaeffer](#), Executive Director, PFBC
- [Kris Abell](#), Governor's Invasive Species Council Coordinator, PDA
- [Patrick McDonnell](#), Secretary, DEP
- [Matt Keefer](#), Assistant State Forester, DCNR
- [Dr. Denise Johnson](#), Acting Secretary, PA Department of Health
- [Melissa Batula](#), Acting Executive Deputy Secretary, PennDOT
- [David Gustafson](#), Director, Bureau of Wildlife Habitat Management, PGC

All speakers will give brief remarks. Later, [Tyler Neimond](#) (Habitat Manager, PFBC) will do a "show and tell" at the stream site about the native species that were planted and how these plant species support native wildlife.

Deb is working with the DEP legislative director, [Greg Kauffman](#), to extend an invitation to [Senator Yaw](#) to participate in the event too. (Senator Yaw's participation is currently TBD; the legislature might be off that day.) The event will be live-streamed to news outlets statewide and to the DCNR Facebook page. It will also be shared on the Facebook pages for the DEP, PDA, and other state agencies and organization that want to share the live stream. Afterwards, a multimedia package of video, photos, and the press release will be issued. All PISC members and stakeholders are invited to attend this event in-person (if you are based in the Harrisburg area, or nearby). Deb will send out the event details along with a map (the site is tricky to get to; you'll also want to wear long pants and tick repellent).

Also in regards to PA Native Species Day, a grand slam from the communications perspective is the engagement we've been able to get through stakeholder outreach. About a month ago, we wrote up some language, brainstormed who to reach out to, and conducted individual stakeholder outreach (a painstaking process) by inviting folks to participate in whatever way they could. Deb would have been happy if 3-4 organizations joined in, and so far, eight organizations have expressed interest! This shows that we are amplifying our message, which comes not only from

the Council, but it shows buy-in from others (i.e., PA Native Species Day is not just about presenting a proclamation, but it's "walking the walk"). The list of participants so far include:

- Several DCNR state parks: Will host talks, walks, and other presentations on June 17
- PA Native Fish Coalition: Holding a native fish challenge and looking into organizing an educational activity on invasive bait use
- Harrisburg University: Doing a community garden project and incorporating native plants
- Regional Science Consortium (Erie): Putting together a public education talk about natives in Presque Isle wetlands
- Penn State Master Watershed Stewards (Erie): Organizing an invasive species pulling event for volunteers on June 17
- Penn State Extension groups (PA Sea Grant, watershed stewards, 4-H): Putting together several educational activities for families at the Philadelphia Flower Show on June 17
- Longwood Gardens: Putting together four back-to-back presentations to educate the public on natives and invasives on June 17
- PA Lake Management Society: Holding a boat cleaning and educational event in southeast PA

Deb felt this list of participants was a really good start for our first ever Native Species Day in PA! Ruth Welliver (PDA) commented in the meeting Chat: "What an impressive list of partner events for Native Species Day!"

Included on the [PA Native Species Day webpage](#), the Communications committee put together a communications toolkit that partners can use to ensure consistent messaging from all participating partners.

Finally, Kris Abell (PDA) had mentioned there was some interest (over the last few months) in doing an op-ed campaign again (*that would advocate for a PA PRISM program*). Deb said that Jim Grazio's (DEP) op-ed was picked up by one of the papers in Erie, and we still have several really well-written op-eds. If anyone wants to modify their op-eds to tie into PA Native Species Day (since the previous op-eds were originally targeted for National Invasive Species Awareness Week - NISAW), that would be well worth doing. Deb is happy to help by reviewing any modifications.

Andrew Rohrbaugh (DCNR) mentioned in the meeting Chat: "I can try to modify my original article."

As an aside, the NISAW op-ed written by PFBC was submitted to the Post-Gazette. The response from the Post-Gazette asked for more development and drama. Based on this response, Deb said the Committee will hold off on submitting any additional op-eds to the Post-Gazette at this time. There are a number of other news outlets we can try instead.

Fred Strathmeyer (PDA) commended Deb and others on the Communications committee - what an incredible first go-around for PA Native Species Day! Can't thank you enough for your efforts. Fred is looking forward to June 17 which should be a spectacular day across the state!

ACTION: Fred also mentioned that PDA has a new Communications Director, [Katie Schroeder](#), and would appreciate if Kris, Deb, Eve, and others would reach out to her and bring her up to speed on the work being done by the PISC Communications committee.

Deb said that when Kris delivers his remarks on June 17 during the event for PA Native Species Day, this will be an opportunity for him to reference PISC's proposed PRISM approach.

Deb has been working with Eve and others on the Legislative committee on efforts to enlist partners to host legislator visits. She was told by Greg Kauffman (DEP) that the Department of Environmental Protection can host legislator field visits since the Governor has proposed support for PRISM. Deb is happy to work on setting something up later this summer.

Deb is working with the PRISM committee on outreach this summer to get the word out about PRISM request for proposals (RFP). Looking at the announcement in the PA Bulletin and the all-important stakeholder outreach.

From everyone on the Council, can we plan on your help when we are ready to announce the RFP? Council members can aid by spreading the word through newsletters and email groups. Also, if you can recommend other organizations not part of PISC, but might be good channels to get the word out for the RFP, that would be appreciated.

The PISC website is being modified and updated. For example, on the homepage, edits were made to clarify that PISC is a multi-agency, multi-organization Council. (This can be confusing for some people since the PISC webpages are hosted on the PA Department of Agriculture website.) Also included on the PISC website is the searchable list of invasive plants (mentioned previously by Andrew Rohrbaugh of DCNR). Additional content improvements will be underway over the next few months.

The last issue of the PISC e-newsletter was released in May. Since March, there have been 24 new PISC e-news subscribers, which brings our total number of e-news subscribers to 1,334. This number includes a few reporters. This is a great sign of interest in the Council! The most popular item in the May newsletter was about PA Native Species Day. The invasive species searchable list also had some good traction as well as content on iMapInvasives and a video on lesser celandine. The newsletter's overall open rate is almost 32% which is higher than the industry average for agriculture, forestry, fishing, and hunting newsletters (which is about 27%).

Kris Abell (PDA) said a special thank you to Haley and Zach from the PDA Communications department. They've been working very hard to do all the PISC website updates, particularly for

PA Native Species Day. We put a demand on them, and they've come through. Your work is very appreciated.

Aquatic Invasive Species (AIS) Rapid Response Workgroup

Spokesperson: Sara Stahlman, Extension Leader, Pennsylvania Sea Grant

The updated version of the "Rapid Response Plan & Procedures for Responding to Aquatic Invasive Species in Pennsylvania" will be posted to the PA Sea Grant and PISC websites soon. If there is still a current PISC logo, Sara would like to include it on the cover of the Rapid Response Plan (since it's been a group effort to make these updates).

The Android version of the Aquatic Invasive Species Field Guide smartphone app will be coming soon (available in the next month or so). The app includes an option for reporting, which links into the rapid response effort. Currently, the Apple version of the app is available for use, and additional funding was received to make an Android version too. Sara will send out an announcement when it is released. The option to report an aquatic invasive species includes submitting a photograph (along with other details). Reports from the app will go directly to Sean Hartzell (PFBC) and Sara Stahlman (PA Sea Grant) in order to begin the rapid response process.

There is now a new funding matrix for individuals seeking funding to rapidly respond to aquatic invasive species infestations. This includes state, regional, and national grant opportunities (including from foundations). Information is provided on who is in charge of administering funding, what the typical award amount is, if match is required, and notes on each funding opportunity.

In regards to PA pesticide permit requirements, there is now an appendix that focuses on the type of permits needed when planning a rapid response.

Work was also done on AIS rapid response case studies for purposes of learning from others rather than "reinventing the wheel". Details on each case study include location, response objectives, how the response was implemented, and lessons learned. Current case studies completed include: 1) invasive carp in 84 Pay Lakes, 2) European water chestnut from the Mercer County Conservation District, and 3) water lettuce and water hyacinth from Presque Isle State Park. Interviews for other case studies have occurred that will allow this group to continue building a case study library.

Rapid Response Case Study: INVASIVE CARP


Lead Organization: Pennsylvania Fish and Boat Commission (PFBC) [Somerset Office]
Main Contact: Mike Deppa, Fisheries Biologist II/Invasive Carp Coordinator
Response Cost: All materials used for this response were purchased/rented by the owner of 84 Lakes

Overview
 In 2020, a seasonal biologist from the PFBC noticed a grainy photograph posted on the 84 Pay Lakes Facebook page of what looked like an invasive carp. However, it was difficult to identify the species. In 2024, on the same Facebook page, another clearer picture of a large highhead carp was posted. Concerned citizens had also called to report the species there. Law enforcement conducted an undercover investigation by fishing the lake and confirmed the carp posted on social media was caught in the lower lake. This species may have been introduced from a load of common carp and channel catfish stocked in the lakes from a midwestern commercial fisherman.

Invasive carp include species of Bighead, Silver, Grass, and Black carp. These carp are large with a voracious appetite. The highhead carp can consume 40 percent of its body weight per day in plankton and detritus, threatening the food web and trophic structure of infested water bodies.

Case Study Location: 84 Pay Lakes, Washington County

The 84 pay lakes consist of three small, nutrient-rich lakes, all under 2 acres in size, in a rural area east of the City of Washington. It is a popular fishing location with easy access, plenty of parking, benches for seating, and a little restaurant nearby. Fishing tournaments have been held in the past. The lakes are fed by a feeder creek that comes into the Lake and the receiving waterways eventually run into the Ohio River.



Response Objectives/Implementation
 • Evaluation to ensure they could not be transported or spread to other waters in the Commonwealth.

Implementation
 Once identification of the highhead carp was confirmed, PFBC law enforcement and fish management staff worked with the lake owner to conduct electrofishing surveys on the lakes for additional injurious species. Two additional highhead carp and a hybrid grass carp were captured, and a third highhead carp was spotted but unable to be captured. Upon further investigation it was found the owner did not carry a permit for the grass carp, so that became an additional illegal species possessed. They also did not carry a valid license to operate a pay fishing lake, causing law enforcement to shut down the lakes while legal proceedings commenced. In 2024, all three lakes were completely drained, non-native injurious species were removed, and hydraulic lime was spread on fish unable to be recovered. The additional invasive carp were confiscated during the draindowns and the removal was considered complete.

LESSONS LEARNED
 To further reduce the risk of spread from pay lakes, it would be best to better define the species earlier and have the permits delivered within a few weeks of the second permit issued on social media; however, the law enforcement report was the sticking point in that a call for the legal process to move through.

Rapid Response Case Study: EUROPEAN WATERCHESTNUT (TRAPA NATANS)

Lead Organization: Mercer County Conservation District
Main Contact: Nick Truitt, Agricultural Resource Conservationist
Response Cost: \$11,346.00


Overview
 In June 2028 during routine maintenance, an unusual plant species was discovered covering about 6 acres of the water body. A specimen was later identified as European water chestnut by contacts at the Crawford County Conservation District. While it's unclear how this plant entered the impoundment, healthy crops and fish populations may have introduced water chestnut seeds that were stuck to their feathers.

Water chestnut is a rooted aquatic plant, very different from the one you find in Chinese take-out. It can dominate ponds, shallow lakes, and rivers because it grows in thick, dense colonies and can grow as much as 4.8 m (16 ft) in length.

Case Study Location: Pine Run Impoundment, Mercer County
 Pine Run is an isolated flood control impoundment located within central Mercer County. It is located 4-10 miles from other water bodies including Lake Williams, Sandy Lake, Lake Linton, and the Shavers Fork. While there is limited access, Pine Run Reservoir is open to the public for fishing, and hunting takes place in the surrounding area.

Response Objectives/Implementation
 • Eradication
 • Education and Outreach

Implementation
 Three possible control strategies were identified: hand pulling, aquatic plant harvest, and chemical control. Hand pulling was the initial strategy chosen for being the easiest and quickest response. In July 2024, MCD staff, Pennsylvania State Park Staff and public volunteers organized a 2-day hand pulling event with kayaks and canoes. The event cleared less than a quarter of an acre of the invasive infestation and it was deemed that hand pulling wasn't a viable option. Next, the use of an aquatic plant harvester was considered; however, this option was not financially feasible and there were no access points to launch the harvester. MCD decided the best possible option was chemical control. They began by reaching out to the Crawford County Conservation District, the PA Lake Management Society (PALMS), and other individuals to get recommendations on aquatic herbicide control within the state and obtaining the necessary permits. The treatment consisted of one gallon of Roundup and one pound of Clippien per acre. While the infestation has decreased significantly from 2028 to 2020, this is an ongoing effort. Education and outreach efforts included news and media blasts about the infestation to inform the public about the infestation, the process, and the



LESSONS LEARNED
 To working with other organizations who have previously dealt with water chestnut such as other conservation districts, State Park, DNR and PA Parks was integral in obtaining information and resources. Without the use of these resources and partnerships involved, this process would have been much

Appendix II Rapid Response Case Studies

WATER LETTUCE AND WATER HYACINTH

Lead Organization: Department of Conservation and Natural Resources, Bureau of State Parks
Main Contact: Bill Decker, Resource Manager
Response Cost: No direct funding was allocated for this response, all costs were indirect through labor and equipment provided by supporting organizations.

Overview
 Water lettuce is a floating aquatic plant that resembles an open head of lettuce. It is a popular plant in aquariums, ponds, and water gardens, and when introduced into water bodies it can form dense groups of masses that blanket the water's surface.

Water hyacinth is an emergent aquatic plant that spreads quickly and has complex interlocking root system that forms dense mats in the water. A single acre of water hyacinth produces as much as 500 tons of floating plant material per year, causing increased oxygen and light levels, and increasing water temperatures.

Case Study Location: Presque Isle State Park, Lagoon System
 Presque Isle State Park is a 2,200-acre state park that sits on Lake Erie. It includes an extensive lagoon system that connects to the lake with many bays. Presque Isle State Park is heavily used for its beaches, boating, and other outdoor recreational activities. The water lettuce and water hyacinth infestation was found near an area called "Koching" at the east end of the lagoon system where other invasive species such as carp are present; this area has been found.

In July 2023, specialists from the Regional Invasive Consortium and the University of California were conducting a survey for aquatic plants when they discovered and confirmed the identity of water lettuce and water hyacinth in the lagoon. In June of the following year, a permit was obtained on the Regional Invasive Consortium and made available. This permit was later notified by Pennsylvania Sea Grant staff, who submitted it to Bill Decker as the lead contact for aquatic invasive species. Infestation on State Park lands.

Response Objectives/Implementation
 • Identify any new specimens
 • Eliminate identified specimens
 • Limit probability of the infestation as an AIS pathway

Implementation
 A highly organized effort following the Pennsylvania Aquatic Invasive Species Rapid Response plan steps to stop new infestation. Initial collaborations were identified in the response with specific roles and goals to lead. This allowed for one general organizer, but to one single task for one person. Implementation of the response included a comprehensive survey effort was organized to assess the initial finding and additional plants that were found was also required. Due to the density of the infestation being severely high, the hand pulling response was deemed sufficient; however, additional response options were identified to prevent additional introduction, and ensure the existing infestation was suppressed. This effort included coordinated monitoring of the infestation and removal activities and development of "do not remove" signage for the lake bridge area, evaluation of potential legal changes to limit the sale and distribution of these species in Pennsylvania, and preparing for future responses with approved herbicide use.



LESSONS LEARNED
 A key lesson learned from this response was the need for early detection and rapid response. The initial finding of the infestation was critical in preventing further spread. The coordinated effort between the State Park and the University of California was essential in identifying the species and developing a response plan. The use of signage to prevent the spread of the infestation was a valuable tool in protecting the lake bridge area. The development of "do not remove" signage for the lake bridge area was a valuable tool in protecting the lake bridge area. The development of "do not remove" signage for the lake bridge area was a valuable tool in protecting the lake bridge area.

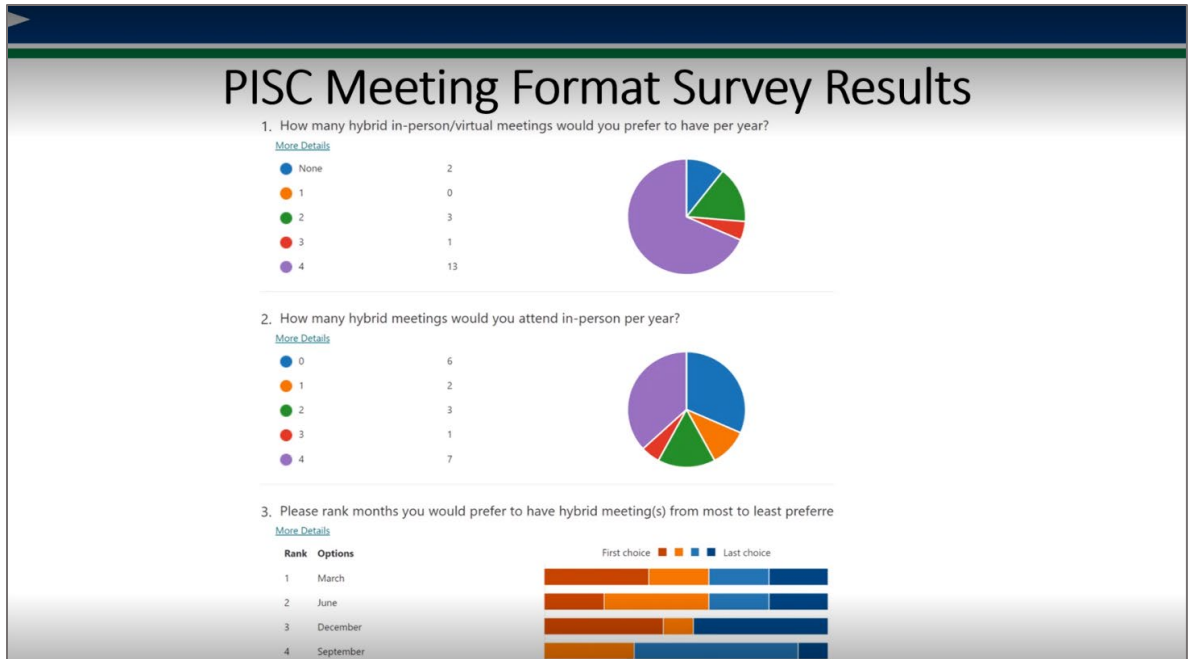
Next steps for this group including reviewing and compiling AIS best management practices information for purposes of housing on the PISC website.

As an aside, the 2022 Aquatic Invasive Species Landing Blitz will be occurring this year from July 1-10. All Great Lakes states participate and there's still time for folks to get involved, if interested. Any event or project that occurs during the landing blitz time frame (e.g., outreach at boat launches, decontamination, etc.) can count under the landing blitz. Contact Sara (sng121@psu.edu) if you are planning to do any in-person events during this timeframe (for tracking purposes). She can also provide outreach materials and press releases, as needed. Finally, help is needed to push the landing blitz on social media. Sample posts are available that can be copied/pasted, or customized as desired by interested organizations.

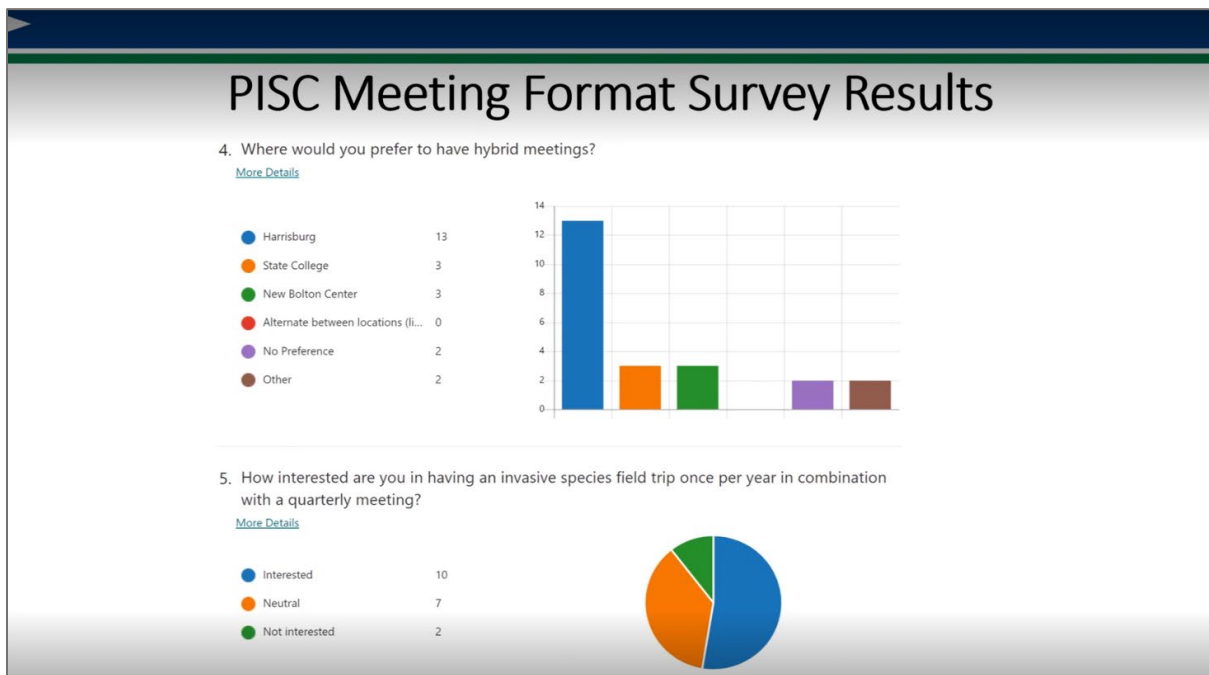
Meeting Format Survey

Spokesperson: Kris Abell, Council Coordinator, PA Department of Agriculture

Kris sent out a survey after the last PISC meeting in March. Since COVID started, the Council has switched its meeting schedule to be entirely virtual. The intent of the survey was to see if there is any interest in transitioning back to an in-person option. The results show that most people would like to have an in-person option for all four of the Council's meetings (held quarterly throughout the year). However, when asked how many people would attend in-person meetings, the results show a split between all four meetings, and none of the meetings.



Another option may be to have a single in-person meeting where everyone tries to attend for purposes of face time. If we designate one meeting a year for this purpose, that would give us a better chance for as many people as possible to come. The survey asked what month would work best for this? The results show that March was the top option, followed by June.



In the past, there's also been the question of where to hold hybrid meetings. The survey results show that most people would prefer to continue having the meetings be hosted in Harrisburg.

The final survey question asked what interest level there was in having an invasive species field trip once per year in combination with a quarterly meeting? Over half of respondents expressed interest in a field trip, with many individuals also being neutral to this option.

With these survey results in mind, Kris asked the Council today if it's possible to make a decision on offering an in-person option again? And should an in-person option be made available for all for PISC meetings, or just a single meeting?

Amy Jewitt (WPC) responded, saying she would prefer to continue having the meetings be virtual since she would need to travel a far distance to attend an in-person meeting (i.e., travel from Pittsburgh to Harrisburg, and back again). By allowing the meetings to be virtual, we allow more people to attend them from all across the state. In addition, Amy supports the idea of doing an in-person field trip once a year. Kris clarified that PISC meetings would always have a virtual (i.e., hybrid) option available; he's simply asking whether or not we should add an in-person option.

Andrew Rohrbaugh (DCNR) commented that he also is a fan of the virtual format for the meetings. In the past, even before COVID, PISC and Andrew's bureau have tried to have hybrid meetings with some folks being in-person and other on the phone or virtual. Unfortunately, this arrangement tends to be challenging. However, Andrew does see value in having at least one meeting a year be face-to-face. In-person meetings tend to facilitate having certain types of discussions that are hard to have virtually. Ultimately, Andrew would not want all four PISC meetings to be in-person. Having the meetings be virtual helps to bring in more people.

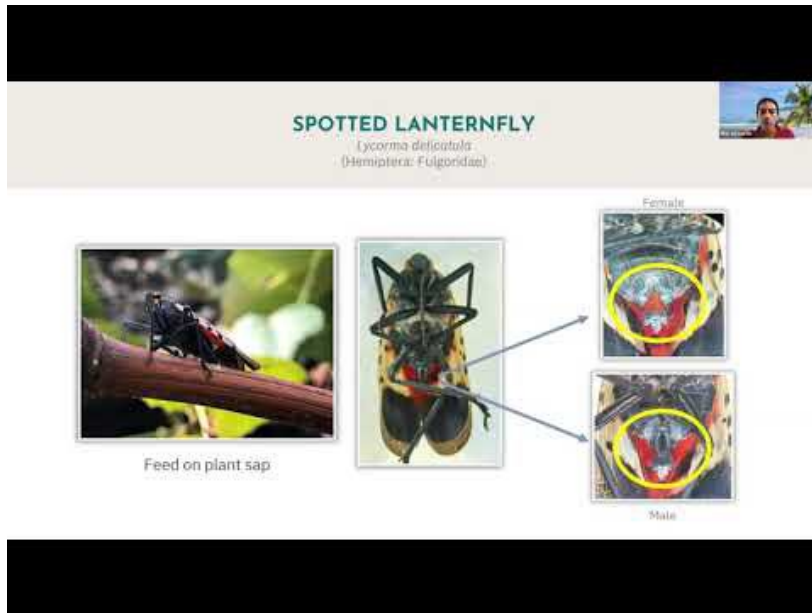
Fred Strathmeyer (PDA) wrapped up the discussion, saying the survey results speak for themselves. We'll always have a virtual option. We can certainly choose to have a meeting in-person or do a field trip. It appears virtual meetings are still the top choice. As far as when to have a field trip, June is likely not a good time considering the busyness of the PDA's Bureau of Plant Industry at that time of year. September might be a better time.

Updates, Activities, and Events

Kris Abell (PDA) gave a brief update on planning for the 2023 PA Farm Show. In the past, it's been proposed to use the Council table/space at this event for a PISC member agency/organization to promote and do outreach on their invasive species issue of interest. Kris supports this idea and invites any PISC member to step forward and accept this opportunity on behalf of their group.

Amy Jewitt (WPC) gave an update on a current event being hosted by the PA iMapInvasives Program. This event encourages individuals to survey for spotted lanternfly and tree-of-heaven

across Pennsylvania, but especially in areas where spotted lanternfly has not yet been found. The spotted lanternfly quarantine map is housed on the PDA and Penn State Extension websites. All details concerning this event are available at paimapinvasives.org > [Events](#). The event is utilizing an online, interactive map where participants can select the areas where they'd like to survey. The map allows for easy tracking of where surveys are being conducted. Amy hosted a training last week on June 2 that explained the event; a recording of this training is available on [YouTube](#) and the PA iMapInvasives website. The event is open to anyone who would like to participate. If there are questions concerning the event, folks can feel free to contact Amy (ajewitt@paconserve.org).



Jim Grazio (DEP) mentioned that one of the key takeaways from last week's Great Lakes Panel Meeting was a [resource provided by NOAA's Great Lakes Environmental Research Lab](#). It's a great site for reviewing completed risk assessments and methodology.



Public Comment Period

No comments (written or spoken).

Concluding Remarks

Fred Strathmeyer (PDA) provided closing remarks, mentioning there were in excess of 50 people on today's meeting at one time. PISC meetings continue to be well attended beyond just Council members. This is kudos to the Council in getting the word out and the importance of staying current with invasive species and the work PISC members continue to do.

Adjourn

MOTION: Lisa Murphy (University of PA) moved to adjourn the meeting. Amy Jewitt (WPC) second the motion. **Meeting adjourned.**

Next PISC Meeting

Thursday, September 8, 2022 at 10:00am on Microsoft Teams

Meeting minutes respectfully submitted by Amy Jewitt, Invasive Species Coordinator with the Western Pennsylvania Conservancy and the Pennsylvania Natural Heritage Program.

Questions concerns these minutes should be submitted to Kris Abell (krabell@pa.gov), Council Coordinator. If you are a member of the public and wish to attend the next PISC meeting, please contact Kris for more information on the date, time, and location.