2011 MAP Fall Meeting
October 5-6, 2011
National Conservation Training Center
698 Conservation Way
Shepherdstown, WV 25443

Attendees

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Mark Lewandowski	MDNR	mlewandowski@dnr.state.md.us
Tim Jones	MU	jonest@marshall.edu
Zachary Loughman	WLU	zloughman@westliberty.edu
Tim Schaeffer	PA FBC	tischaeffe@pa.gov
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Barbara Doll teleconference	NC SG	barbara_doll@ncsu.edu
Megan Hession	CRC	hession.megan@epa.gov

Action Items

- Susan Park and Dieter Busch will draft a revision for the 2012 RFP for Panel review.
- Lisa Moss will send Panel recommendations to the ANSTF.
- Jonathan McKnight and Dieter Busch will solicit nominations for the 2012 MAP Merit Award. **Additional Panel members are needed to serve on the MAP Awards Program subcommittee.**
- Sarah Whitney and Steve Minkkinen will draft an update to the Panel's Standard Operating Procedures. **Additional Panel members are needed to assist with this task.**
- Sarah Whitney will follow up with Susan Mangin regarding expectations for helping to plan the joint MAP/ANSTF spring meeting to be held May 1-3, 2012. The Panel

Executive Committee will then discuss ideas for MAP presentations and major themes.

- Sarah Whitney will follow up with Bob Wiltshire of the Invasive Species Action Network requesting a proposal outlining their funding request from MAP for the Didymo conference being planned in the eastern US for late 2012.
- Jonathan McKnight, Lisa Moss, and Megan Hession will update and revise the Species of Interest List.

Wednesday, October 5

Distribution and Ecology of WV Crayfishes *Zac Loughman, West Liberty University*

Crayfish in West Virginia were discussed. *Oronectes rusticus* (rusty crayfish) are a common and abundant invasive species engaging in hybrid swarm-intermixing with native crayfish. Native to Ohio among other states, this species is present in central regions of WV, eastern panhandle in a variety of habitats- creek systems, impoundments, etc. Evidence suggests Rusty crayfish have displaced other nonnative crayfish such as *Oronectes limosus* (spinycheek crayfish) which are now considered extirpated in WV. There is plenty of research concerning rusty crayfish in the coastal plain and Piedmont regions, but not the case for the central Appalachian region.

Professor Loughman and his students focused on the virile crayfish (*Oronectes virilis*) for a telemetry study lasting seven days at a time with a 20 day latent period in between. Virile crayfish are native to the Missouri, Mississippi, Ohio, and Great Lakes drainages. The research team investigated crayfish life histories, movement, and macrohabitat utilization in an impact-free Appalachian stream. Life history is a major component of invasive species success in an environment. Virile crayfish and other nonnatives have the reproductive advantage of carrying and extruding eggs sooner thus accessing food quicker. *O. virilis'* fecundity is 10x that of the other species getting its young out first, followed by *Cambarus smilax* and *Oronectes cristavarius. Cambarus chasmodactylus*, native to the area studied, uses an alternative strategy with young out in the fall. *O. virilis* can be either residents or adventives. Adventives are nonnative, not fully established in an area and considered locally naturalized. They move frequently, but stay in the same general area. The crayfish tracked in this study moved approximately 10m overall. Some of the population was constantly moving upstream as this is a possible mechanism for invasion. Native crayfish were tracked moving downstream. Movement patterns indicate two very different potential strategies for survival. The study revealed crayfish utilization of different habitat types. *O. virilis* were observed staying in one location for extended periods of time while *C. chasmodactylus* moved about remaining transitory. *O. virilis* has a strong preference for mud substrate over rock materials- boulders, pebble, gravel, etc. *C. chasmodactylus* selects for boulders and is perhaps why the two species can co-exist whereas other native crayfish are likely to be adversely impacted due to their need for depositional environments. Increased anthropogenic activities and sedimentation are factors in the successful establishment of invasive crayfish. Stream degradation limits habitat availability for *C. chasmodactylus*, and catalyzes *O. virilis* invasion. Much more research is needed to understand invasive species biology.

For more information on this work, please contact Zac Loughman (zloughman@westliberty.edu)

MAP's Role in Reporting AIS in the Mid-Atlantic Region *Jil Swearingen, NPS*
Jil encouraged Panel members to report EDRR through EDDMapS. To report an invasive species occurrence, members can login to EDDMapS, select their state, and provide as much information as possible. Some Panel members expressed concern about database proliferation. Although both EDDMapS and the USGS NAS database have the option to report plant and animal species, EDDMapS is focusing on plant species and NAS is focusing on animal species. These groups are sharing data on a regular basis. Panel members suggested that the maps which currently show presence/absence of invasive species be expanded to show whether a species is present, has been searched for and not found, or has not been searched for.
There will be a workshop/webinar in February during National Invasive Species Awareness Week to discuss using databases as part of an early detection network. EDDMapS is seeking assistance verifying information in the database before this workshop.

Presentation slides are available here.

Asian Carp *Tim Schaeffer, Pennsylvania Fish and Boat Commission*
Tim Schaeffer informed the Panel that Asian carp are an issue in the Great Lakes. He expressed the challenges of getting invasive species at the table because of the focus on energy issues. Asian carp should be made a priority Great Lakes states recently sued the Chicago Municipal Water Reclamation District and the Army Corps of Engineers to close the locks on the Chicago Area Waterway System to prevent the spread of Asian carp into Lake Michigan. The lawsuit was denied, but this has raised awareness of the issue in the Great Lakes region. Currently most of the focus on Asian carp is on the Great Lakes. Tim recommends focusing attention downstream in the Ohio River basin.
Mr. Schaeffer and others have been in communication with the Army Corps of Engineers about modifying a lock and dam system in Pittsburgh to help prevent the spread of Asian carp. He advocated for Panel members to consider the strategic use of locks and dams in their states and to also assess current dam structures and push for mechanisms, retrofitting where necessary, to deter Asian carp introductions.
Mr. Schaeffer is also interested in coordinating/conducting Asian carp habitat suitability assessments in the Ohio River basin tributaries to identify tributaries at high risk for invasion and help states, including the mid-Atlantic region, target prevention measures. Asian carp constitute a very large percentage of the biomass in the Ohio River with potential to wipe out freshwater mussel populations.
There is an Asian market for this species and Asian carp are good to eat, but the concern surrounds ecological impacts in waterways. There was discussion of Section 404 of the Fish and Wildlife Coordination Act.
There is interest in holding an Asian carp forum in Pittsburgh to help shift focus from gatekeeper prevention at the Great Lakes to a more regional prevention effort.

Mid-Atlantic Live Vector Management Project Update ***Jenny Allen, University of Maryland and Fredrika Moser, Maryland Sea Grant***

The Smithsonian Environmental Research Center (SERC) received a NOAA grant through Maryland Sea Grant to focus on the live-bait vector, importation of baitworms and live algal packing materials to the mid-Atlantic. Since last year Maryland Sea Grant and partners have been investigating the use of worm weed and other packing materials, and survival of worms that are shipped long distances. The team is currently collecting information including bait box sampling throughout the mid-Atlantic and Maine to determine species richness, abundance, and diversity. Next will be further sampling to involve experimentation with packing materials. Additional information important to the study is cultural in nature looking at all parties involved in the industry (who they are, attitudes towards introductions). A live bait worm giveaway was held at SERC using leftover research worms which was well attended.

The team is interested in developing a database with information on states' live bait regulations, prevention measures and their efficacy, and any ongoing outreach campaigns. An inventory of bait dealers, distribution areas, and angler access locations is needed. They would like to gauge state interest in holding conferences calls or a workshop to further discuss preventing live bait introductions. Jenny Allen (UMD) has joined the team and will be contacting state representatives to collect this information.

Presentation slides are available here.

What's going on with Crayfish? ***Tom Jones, Marshall University***

Mussels, snails, and crayfish are among the United States' most endangered animals. Tom suggested that taxonomists are not far behind. The average age of members of the Freshwater Mollusk Conservation Society is 62. Many barriers keep students from specializing in these fields. Only six schools in the eastern US offer a malacology (mollusk science) program. Even less is known about crayfish than mussels. A very small group of crayfish experts exist and are at retirement age. Crayfish coursework offered in the eastern US is very limited, yet this is where crayfish biodiversity is greatest. There is little interest in training because there is no funding for the work. Those interested in working on endangered mussels must acquire burdensome federal and state permits. Tom suggested better supporting educators to help address this issue.

Tom explained that after invasive crayfish were introduced in reservoirs in West Virginia as food sources for game fish, their populations exploded. In the 1970's *O. virilis* was introduced in the North and out West in reservoirs for game fish. Trout Lake is the only natural lake in WV. In his surveys of West Virginia streams and canals he found almost all *Oronectes rusticus* with very few natives. Tom also surveys larger rivers and is finding more biodiversity than expected.

Aquaculture was discussed as a vector for nonnative crayfish invasions. They were shipped with eggs to consume diseased eggs to improve survival of remaining eggs upon destination to hatcheries.

Presentation slides are available here.

Members' Forum

Catherine Martin (DE DNREC): Three snakeheads were found in the Nanticoke River. A bite injury reported by a kayaker led to snakehead discovery in the Christina River system.

Steve Minkkinen (FWS): Continuing studies on snakeheads in the Potomac River using external tagging and telemetry. Studies are investigating salinity tolerance show that snakeheads are tolerant to high salinity. Snakehead expansion beyond the Potomac River watershed is anticipated.

Don MacLean (FWS): The fall ANSTF meeting will take place on November 2-3 in Washington D.C. The regional panels are meeting on November 1 to discuss a template description for the Panel Coordinator role. The ANSTF will be working on an update to the strategic plan that will run from 2013-18.

Fredrika Moser (MD SG) – A ballast water treatment center testing barge began operating in the Inner Harbor last week. It will be mobile and do testing at different salinities; the barge will be sent to Norfolk and eventually up the Potomac River near DC. There is a barge in the Great Lakes and one in the Netherlands doing similar work.

Jonathan McKnight (MDNR): Maryland's ban on felt soled waders effective March 2011 has been successful thus far. Vermont has also issued a ban.

Kerrie Kyde (MDNR): Maryland's Do-Not-Plant legislation took effect on October 1st. Listed species will no longer be planted on MDNR-associated land or projects.

Ray Fernald (VA DGIF): VA DGIF has been reorganized to create operational efficiency. There is now a bureau of wildlife resources with four regions and four science teams. There will be an organizational structure put in place to address invasive species issues.

Tim Schaeffer (PA FBC): Asian carp, water chestnut, round goby, and didymo management plans have been developed by PFBC.

Sarah Whitney (PA SG): PA SG is expanding their angler/boater outreach efforts to also include water gardeners and aquarists. At the last meeting Sarah described biosecurity training that PA SG developed for PA FBC employees. This included hands-on training for all individuals who work on the water, and a computer course for all other employees. This training is being provided to additional state employees.

Funded Project Updates

Sara Grise, PA SG

Sara and others at PA SG are finalizing the Aquatic Species Field Guide for PA. Most of the content is complete and is undergoing a technical review process. PA SG hired a graphic designer to create the cover and layout. The guide will be printed and distributed to regional biologists and conservation officers in the state. PA SG is interested in making the guide available online.

Kevin Heffernan, VA DCR

Kevin and others at VA DCR continue efforts to control Phragmites at Crow's Nest and Dragon Run marshes. Most areas have been treated, but there is a landowner who does not want to participate. Through these control efforts they found what looks like hybrid native/introduced Phragmites. Kevin is working with SERC to confirm.

Mark Lewandowski, MDNR
Mark and a group of volunteers worked to remove water chestnut from the Sassafras and Bird Rivers using the kayaks that were purchased with MAP funds. There was good volunteer turnout and water chestnut removal. Many of these sites are now being overwhelmed by American Lotus, which is not native to the northeastern US but is protected in some states.

Panel Business

MAP Awards Committee
Jonathan McKnight and Dieter Busch will solicit nominations for the 2012 merit award.

Grant Agreements/New Fiscal Agent for MAP
FWS has transitioned to a new accounting system. The Panel had $5000 outstanding from an old grant that was never spent. These funds went away when the new accounting system came online. Panel may have to revisit financial planning for this year in light of this change.
This is MD DNR's last year as MAP's fiscal agent though ongoing grant awards through 2011 will still be handled through MD DNR. MD Sea Grant has offered to step in as MAP's new fiscal agent for a 5% overhead/administrative rate.

Didymo Conference
The Invasive Species Action Network based in Livingston, MT is planning to host a conference on *Didymosphenia geminata* in late 2012 in the eastern US. The purpose will be to provide a forum for researchers, managers, and recreationists to share all available information about this invader. A handout was provided to the group in attendance outlining the general conference program and planning needs. The organizers are soliciting volunteers to serve on the planning committee to help with identifying conference sites, helping with local arrangements, identifying topics for discussion and potential presenters, and generating publicity for the meeting. There was some discussion pertaining to MAP's role in terms of active participation and representation or just sponsorship-monetary support and/or in-kind services. Consensus reached was more details were needed before a final decision regarding the Panel's level of involvement would be made. Meantime, contact Bob Wiltshire (Bob@stopans.org) or Leah Elwell (leah@stopans.org) if you are interested in more information (phone number: 406-222-7270).

MAP Hosting 2012 ANSTF Meeting
Kerrie suggest hosting the MAP at O'Callaghan's Hotel in Annapolis, although ANSTF requires bids from three facilities before selection of a meeting hotel. She has spoken with representatives at SERC and is hoping to arrange tours of the facilities as well as a boat cruise and crab feast for attendees. The Panel and ANSTF meetings will run for three consecutive days. The Panel will have their meeting on day one before the ANSTF arrives. The two day ANSTF will follow and will feature presentations highlighting regional issues. Panel members are invited to participate during all three days.

There was some confusion about roles and expectations for planning the ANSTF meeting. Sarah Whitney will follow up with Susan Mangin to see if the Panel is expected to find guest speakers, plan the agenda, or make reservations.

Thursday, October 6

Panel Business (cont'd)

Update to the RFP

During the last meeting the Panel decided to review and update the RFP to better reflect Panel priorities. The group is interested in emphasizing the importance of outreach evaluation and social science. The Panel has received many good reporting and monitoring proposals in recent years. The group suggested revising the RFP ranking priorities to reflect the group's interest in behavioral change and social marketing.
Specifically they would like to keep priorities 1-4, and replace 5 and 6 with social science priorities. Dieter suggested making the use of case studies and lessons learned in other countries a priority. He also suggested making the development of school curricula a priority. Dieter Busch and Susan Park will continue to revise the RFP and share their plan with the Panel at the end of November.

Recommendations to the ANSTF

- Gather information on efforts happening on regional/national/international levels regarding creating behavior change for AIS, as this would be very helpful for the Mid Atlantic Panel as it tries to figure out how to best conduct outreach efforts. MAP is particularly interested in how to conduct "small scale social marketing" campaigns, and how to define the audience.

- Investigate providing fiscal management services to all regional panels.

- Encourage the Army Corps of Engineers to work with state fisheries management agencies on Asian carp prevention during decisions regarding waterway management, and do so across the Mississippi and Ohio River watersheds (not just the Great Lakes).

- Create and support an ad-hoc committee to develop concrete recommendations leading to vector intercept and management strategies that will work on state and watershed scales.

MAP Standard Operating Procedures

Sarah and Steve will work to review the Panel's standard operating procedures and will share recommended changes with the group during the next meeting. Sarah will also work with Lisa and Megan to revise the Panel's membership list.

Rapid Survey for a New Introduced Species of Shrimp in the Chesapeake Bay, *Roberto Llansó, Versar Inc. (2010 MAP grantee)*

Palaemon macrodactylus (Oriental shrimp) is native to Japan, China, and Korea. It was introduced to San Francisco Bay in the 1950s and is now considered common in West Coast estuaries from Oregon to San Diego, California. It has also been reported in Europe, Australia, and Argentina. The first record for eastern North America is from Long Island Sound. Ballast water transport is the most probable vector. The Oriental shrimp has recently been recorded in the Chesapeake Bay (Bay). This is one of the latest of over 250 aquatic species thought to have been introduced to the Bay. Spanning 2007 through 2009, three specimens were discovered in the Rhode, James, and York Rivers. The York River shrimp was a gravid female. The implications of *P. macrodactylus* may be significant; however, nothing is known about its prevalence in the Bay. Rapid surveys were conducted in the summer of 2010 in York River tributaries complementing surveys being conducted in the James River by Old Dominion University and in MD Western shore tributaries by the Smithsonian Environmental Research Center. A range of habitats were surveyed for shrimp, but specimens were collected in or around seagrass beds, marina pilings, small marsh, and mud flats. Sweep nets were used to collect a minimum of 100 shrimp which were brought back to the laboratory and further examined to confirm species type. The surveys yielded no *P. macrodactylus* .

Surveys conducted in tributaries throughout the Bay were important given the potential impacts of *P. macrodactylus* on Bay shrimp. This species are known to have displaced native shrimp in San Francisco Bay and have been reported to compete with Spain's native shrimp species. With a lifespan of two years and high tolerance for polluted environments and variable salinities, population establishment could have negative consequences to include competition with indigenous species, trophic impacts as a result of dietary overlap with native species that are important food to fish, introduction of new diseases, fungi, and other parasites, and general loss of biodiversity.

Meeting was adjourned at 11:30 a.m.

Please contact Megan Hession at Hession.Megan@epa.gov with inquiries concerning the minutes.