



Mid-Atlantic Panel on Aquatic Invasive Species  
 Fall 2013 Meeting  
 December 17<sup>th</sup> and 18<sup>th</sup>  
 USFWS Chesapeake Bay Field Office  
 Annapolis, Maryland

Participants:

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Action Items:

- Whitney and Martin will work on the membership and interested parties list
- Kyde will inform the panel of MISC's decision on potential new representative (Jay Kilian, MDNR)
- Panel-send Whitney and Martin any membership updates
- Early January deadline to send taskforce letter expressing how budget cuts have affected panel business.

- Topic for next meeting - discuss the future of the coordinator position for MAP
- Revise RFP
  - 1.) Create sub-committee to revise RFP request and priority list (Whitney, Fernald, Minkinnen, Allen)
  - 2.) Write RFP draft and send to panel by Jan 17<sup>th</sup>,
  - 3.) Send RFP final draft to interested parties early Feb 2014
- Norris will share Virginia Tech report on climate/weather modeling
- Imlay to share electronic copy of biocontrol document
- Panel - send information to Imlay about status of biological controls in Mid-Atlantic Region and comment on the draft.

Decisions:

- Spring 2013 Minutes approved
- RFP to state availability of \$35K to applicants with no mention of how many projects will receive funding (flexibility to fund one or many projects)
- Bob Morgan agreed to represent PA
- Mike Goehle might not be alternate (back to Sandy Kepner)

Day #1 (December 17):

1. **Spring 2013 Minutes - Decision: Approved**

- a. Update (Laura Norcutt): Currently, the Habitattitude pages are not working due to lack of funding. Funding is necessary to update the page and there are ongoing discussions on whether or not to continue with the concept. A committee is being formed to develop water garden guidelines to prevent spread of AIS that could relate to Habitattitude and update the pages.

2. **Spring 2013 Action Items**

- a. Send RFP recommendations. Completed.
- b. Work on membership list and SOPs.
  - i. Membership list includes two members for USDA (NRCS and APHIS). USDA is large and two representatives would provide more diversity. (**Action: Whitney will ask Mangin about this to figure out voting issues**).
  - ii. Bob Morgan invited for PA (PAFBC)
  - iii. Bryan King invited for DC (Associate Director of Fisheries)
  - iv. **Action:** Augment interested party list (Whitney and Martin) to involve more people and not worry about voting issues.
  - v. **Action:** Jay Kilian (MDNR) is interested in joining this panel as Maryland Invasive Species Council (MISC) representative and Kerrie would be alternate. MISC will discuss at MISC January meeting and send in letter to Sarah Whitney with decision.
  - vi. **Action:** Send Martin and Whitney any membership updates

### 3. 2013 RFP Update (Mike Allen, MD Sea Grant)

- a. Funded 3 projects this year. All projects funded effective Aug 19, 2013.
  - i. “Bushkill Township Invasive Species Management Project”, Project Leads: Jason E. Smith, Hanover Engineering Associates, Inc. **Summary:** The Bushkill Township Invasive Species Management Project includes three primary components, including: 1) Invasive Species Identification and Mapping, 2) Action Plan for Invasive Species Treatment, 3) Social Media and Application Development – Hanover Engineering will prepare a web-based GIS application for invasive plant species.
  - ii. “Invasive Species: From the Hudson River to your Classroom”, Project Leads: Alan Berkowitz and Cornelia Harris, Cary Institute of Ecosystem Studies. **Summary:** This project proposes to develop, implement, and evaluate a hybrid learning course for educators on aquatic invasive species. The graduate-level course will help educators, who in turn will reach more than 4,000 students a year, to understand the ecology, impact, and management issues surrounding aquatic invasive species through a blend of online, field, and traditional classroom methods.
  - iii. “Environmental DNA monitoring of the invasive freshwater diatom, *Didymosphenia geminata*, in Mid-Atlantic waters” Project Leads: Stephen Keller and Robert H. Hilderbrand, University of Maryland Center for Environmental Science (UMCES). **Summary:** This project will use genetic monitoring on environmental DNA samples to establish a robust monitoring network for the highly invasive freshwater diatom, *Didymosphenia geminata* (aka, “Didymo”). This project already started to spend the money.
- b. Four projects previously funded in previous fiscal cycle.
  - i. Two projects are completed: 1) Eradicating nutria 2) Didymo conference
  - ii. Two other projects are in progress and will be funded through July 2014: 1) Development of WV AIS plan 2) Invasive Species toolkit for educators
- c. Panel has \$3,800 left for this fiscal year which goes through July 2014.
- d. Next round of funding-still working on budget, but expected to be around \$40K again. Taskforce would like to hear how budget cuts have affected the panels.
- e. Discussion:
  - i. Are we the only panel that allocates funds for projects? Yes and we are the only one that doesn’t have a coordinator. Chesapeake Research Consortium/Chesapeake Bay Program provides staff support (through fellowship program), but cannot allocate enough time for a full coordinator. **Action: Discuss Panel coordination needs at next MAP meeting.**
  - ii. McKnight-Are the grants that the panel provides too small to motivate people to follow through with the project? We could change the way the grants work by funding one large project or taking a year off. Major factor: cannot match these funds with federal funds

1. Contract length has changed—now 5 year grant period so that gives more flexibility.

#### 4. RFP Priorities Discussion-Sarah Whitney

##### a. Suggested additions to priority list

- i. “On the ground projects”-eradication/monitoring/control efforts or projects like e-DNA studies (field based) that also serve as outreach events and spread AIS awareness
- ii. Implementation of AIS plans
- iii. Funding studies that produce technical data to build and serve as a knowledge base when faced with new emerging problems (lack of literature studies)

##### b. Suggested deletions

- i. Social marketing requires hundreds of thousands of dollars. This small RFP program couldn't fund this. Remove social marketing products.

##### c. Regional Field Guide would be a great product—education, outreach. (like the PA one)

- i. PA project Process: MAP grant (\$10K) that paid for portion of graphic design and staff time to write content. Several other grants to finish graphic design and printing (~\$50K total) and higher with printing costs.
- ii. Panel has list of species of interest for Mid Atlantic Region (MAR) but needs to be updated. MAR field guide=PA field guide species + species of interest list.
  1. Is there opportunity to build on PA guide or is that proprietary? PA is happy to share the info and work with funding to expand it to the MAR. Printing is very expensive—we could create it and people could print copies on their own.
  2. However, If MAP is spending all \$\$ in one place, it loses the opportunity to give starting funds to community based projects.

##### d. Next Steps: 1. Create sub-committee to revise RFP request and priority list (Whitney, Fernald, Minkinnen, Allen) 2. Write RFP draft and send to panel by Jan 17<sup>th</sup>, 3. Send RFP final draft to interested parties early Feb 2014.

- i. Note: Diverse history of proposals received would suggest that the MAP RFP gets broad distribution.
- ii. Panel as whole look at risk of AIS in terms of climate change and see what is coming our way? Nature conservancy is doing a risk assessment and a project done by Virginia Tech with weather modeling and final report is done. **Action** Marian Norris will send link to Vtech report.
- iii. Climate change and modeling wouldn't be effective strategy for the allocation of MAP funding. Field guide could include species that are predicted to enter region based on climate change.
- iv. **Decision: RFP to state availability of \$35K to applicants with no statement of how many projects will receive funding (flexibility to fund one or many projects)**

#### 5. ANSTF Update (Laura Norcutt)

- a. Taskforce meeting was Nov 6-7, 2013 in Silver Spring, MD (hosted by NOAA).
- b. Decisions from the meeting
  - i. Arkansas AIS Management plan approved-now 43 approved state plans
  - ii. Classroom guidelines approved (50% of schools use live animals in curriculum, prevent spread of species released). Working on putting posting for federal register for 30 day public comment period.
  - iii. Fracking: Mississippi River recommends pathway risk assessment for fracking. Concerns AIS is spread through water and vehicles between different locations. The taskforce agreed to get more information on the fracking industry at the spring 2014 meeting.
  - iv. Lake Champlain Canal: Corps of Engineers received funding to do feasibility barrier study wanted task force support. Taskforce agreed to write a letter of support for the funded study.
- c. Action Items from the meeting
  - i. Retrofitting and design changes of boats to prevent AIS through a device that could be used to easily drain boats. Invited many members to come and discuss this retrofit idea. Taskforce was fine with group establishing committee to develop recommendations. You can volunteer on a committee if you are interested.
  - ii. Recreation guidelines and water guidelines have been approved and working on posting notice of documents are final in federal register (Jan 2014). Develop outreach committee (interested in participating let Laura know) to promote these guidelines.
  - iii. National Invasive Species Awareness (NISAW) week (last week of Feb/first week of March). If you want to help contact Susan Mangin.
  - iv. List of invasive species caucus numbers. Nov 19<sup>th</sup> first meeting of caucus with good attendance.
  - v. Susan requested panels to address funding cuts by Jan 3<sup>rd</sup>. Provide info on impact of \$10K cut and how panels are unique to use to get more funding.
  - vi. Wildlife Forever did a presentation on developing guidance on better coordination for projects like 'Stop Aquatic Hitchhikers!'
- d. Discussion:
  - i. What message do we want to send to ANSTF about what we see as value of MAP?
    - 1. Budget cuts have affected panels that are funding coordinators
    - 2. MAP has funded successful eradication projects.
    - 3. What has the cut done to the panel?
    - 4. **Action:** list successful projects. Whitney will send email requesting information to include in report to Mangin.

## 6. New Zealand Mudsnail-A first for the Atlantic Slope (Bob Morgan, PAFBC)

- a. PADEP and PAFBC discovered New Zealand Mudsnails (NZM) in Spring, Creek Centre County, PA (Susquehanna drainage). It is the first known occurrence in Atlantic slope of

United States (known in Great Lakes and Western US). May have been positive samples collected in 2010 (issue with ID report) but definite positive samples of NZM collected in Spring 2013 and confirmed with second opinion ID as well. Epicenter of infestation= Fisherman's Paradise, which has many public fishing accesses as it is a major trout stream.

- b. NZM: 3-4mm length, 500-800 per sq meter density. Reproduce by live birth (slower reproduction compared to zebra mussels). Currently waiting on genetic analysis to determine specific clone and geographic area where the snails came from.
- c. Warning posters were installed along Spring Creek and preliminary surveys were conducted to determine if NZM had spread (no other positive samples yet).
- d. Only three disinfection measures (freezing, soak in hot water, or soak in chemical Formula 409 products). They have hard operculum that can close off disinfection methods.
- e. First concern. Two hatcheries on the stream—afraid of the possibility of snails getting into hatcheries. Mudsail can pass through gut of fish still reproduce. Potential of fish picking up snails and then transporting around state when doing stocking. Survey on hatcheries—no positive samples.
- f. Upper Spring Creek Rearing Ponds were positive. Recommendation is that this facility would be taken offline.
- g. Field Guidance: NZM congregates in areas with parphyton, filamentous algae, under riffle areas in creeks/streams. Rough estimate of density: 1,000 per sq meter in Spring Creek. Visual detection with low densities in the area is very difficult.
- h. Discussion:
  - i. Cannot ID in field unless expert is present. No distinguishable characteristics for positive identification.
  - ii. Impact in other areas when invasive? Western US has not done a lot of impact work. Yellowstone Basin-three creeks but no articles on impact on fish or upper invertebrates.
  - iii. Have anglers been shown to be the vector in other areas? They attach to gear really easily and hard to notice. It hasn't been determined for sure.
  - iv. Periphyton—would they enjoy didymo? Probably not preferred food source because of the silica in the didymo.
  - v. Close to Penn State, possibility of university doing work with NZM? No, it doesn't do much invertebrate work. More molecular and genetics.
  - vi. High quality habitat (trout stream)—ideal for NZM-cold water.
  - vii. 1-3 yrs probably in the area with anglers going in and out. We will be getting records of where walleyes were moved and we will survey where the fish were stocked. Could be transported on stocking gear (trucks, nets) biosecurity.
  - viii. Genetic strains are clones, they are parthenogenetic. They are all cloned females and born gravid. Takes one to start a new colony. Each female can birth 300 a year.

- ix. Can live out of water for a long time. Desiccation is out of question for eradication method. 50-80 days.
- x. Long term solution? Just starting to think about this, but will just have to continue surveying, especially with the hatcheries.
- xi. How are anglers reacting? Members of TU—they will religiously disinfect. General public—no clue on their attitude. Not a lot in the press about this to get message out to the public.

**7. Update on Biocontrol Work Group (Marc Imlay, Mid Atlantic Invasive Plant Council)**

- a. **Action: Imlay to send Martin handout electronically**
- b. **Action: Panel send information to Imlay about status of biological controls in Mid-Atlantic Region and comment on the draft.**
- c. Would like the MAP to read aquatic plants listed on this document and be aware of biological control on these species. Some are successful and some are not. Look them over, become aware and find out from colleagues information that should be included and updated in this living document.
- d. If you can advocate, advocate for more federal funding to do the research.

**8. Invasive Catfish in the Mid Atlantic (Bruce Vogt, NOAA)**

- a. Blue catfish and Flathead catfish are the two main invasive catfish species in Chesapeake Bay region- Growing in numbers, size, and range (presentation will focus on blue catfish)
  - i. Preying on commercially important species
  - ii. Flathead-15+ years and up to 125 lbs, introduced to Chesapeake around 1965. Aggressive and opportunistic feeder
  - iii. Blue Catfish - 20+ years and up to 100 lbs. opportunistic feeder and introduced to Chesapeake around 1975 for recreational opportunities
- b. Blue catfish introduction was highly successful. Diet dominated by other fish at around age 3. Exponential growth curve. Hampering restoration of anadromous species. Few natural predators. Habitat competition with native catfish (white catfish). They will eat shad, river herring, menhaden, blue crabs, soft shell clams and freshwater mussels. Anglers want the big fish around for recreational activities and providing economic revenue (license, charters, bait). They want to catch and release the big ones in order to catch them again.
- c. According to recent boat electrofishing surveys, blue catfish in the James and Rappahannock rivers are more than 75% of the total fish biomass.
- d. Catfish taskforce (part of the Chesapeake Bay Program's Sustainable Fisheries Goal Implementation Team (Fish GIT)) wants to develop and implement bay wide management measures. Goals-reduce populations and biomass in specific tributaries, mitigate spread, promote fishery, and improve public awareness.
- e. Fish GIT actions. Started December 2010.
  - i. Declared as invasive species by ASMFC in fall 2011.
  - ii. Policy signed in Dec 2011
  - iii. Research being funded 2012-2013

- iv. June 2013 draft recommendations
- f. Toxic Research—Rob Hale reported that blue catfish toxic levels are not higher for consumption estimates, similar to striped bass.
- g. Develop tools for managers. “Blue Catfish Portal” distribution layer overlay with areas of high value watersheds.
- h. Need to find best removal method.
- i. What can MAPAIS do?
  - i. Raise awareness and help plug into expertise in other regions
  - ii. Identify grant opportunities
  - iii. Post/distribute final report (early 2014)
- j. Discussion
  - i. Probably human introduction. Get the message out to not transport.
  - ii. Mississippi-research spread as bait
    - 1. Accidental spread? No. Spread for recreational opportunities.
  - iii. Catfish nation boasted that people are moving them around to fishing areas. Target spot eradication, these guys will continue to reintroduce. What do you do ?
    - 1. Huge challenge, make sure broader public (kayakers, boaters) are aware of issue.
    - 2. Need to focus more on anglers and catfish nation to have better communication.
  - iv. Dam removals also allow for spread of AIS. Will work with Fish Passage Workgroup to see if they have protocols/outlines for this.
  - v. Creating a blue catfish fishery-concerned enough about impacts on native species that people would be willing to have a sustainable fishery for this species.
  - vi. Tap into Susan Pasko presentation at taskforce on creating incentive fishery.
  - vii. Vogt interested in Asian Carp control plans to use as a model
  - viii. NPS can put out flyers and signs (Vogt contact Marian Norris)

## **9. Maryland Risk Analysis Process for Live Barramundi Sales (Jonathan McKnight)**

- a. A request was made to Maryland permitting agencies to raise Barramundi and ship them live from MD eastern shore aquaculture. Barramundi species is attractive to aquaculture with health certificate from stock from Australia. Native to Australia, delicious fish. Live fish trade. More money than iced fish trade. Urban asian phenomenon. Selling whole sale markets for \$10/lb.
- b. Assessment: probability of establishment and consequences of possible establishment of fish and pathogens, and background threat. Assumed that eventually they would be released into open waters.
- c. Approach: threat posed by this activity=threat of establishment x consequences of establishment – existing threat.

- d. Lab confirmation of thermal tolerance. Species doesn't survive in water that is less than 13 degrees C (not threat in MD waters). Based on January average water temperature—no survival areas north of Georgia.
  - i. Range of fish size? Small ones.
  - ii. Determination: wouldn't make great deal of difference if bigger fish were used in study
- e. Pathology-27 pathogens from Barramundi, common bacteria and parasites. Most concerned about the barramundi nervous necrosis virus (BNNV). Concern with how well they are screened from facilities for the virus.
- f. Probability of establishment: Low. Consequences of establishment: Medium.
- g. Not sufficient biological risk to the Mid-Atlantic region to deny fisheries entry into the market for live shipment of barramundi.
- h. Three additional recommendations
  - i. Consequence of establishment should be mitigated by testing juveniles for BNNV
  - ii. Inform authorities in other states of this risk assessment
  - iii. If brood stock changes, risk assessment should be repeated.

#### 10. Interested Party Updates

- a. Matt Shank (SRBC)—Susquehanna River Basin, PA NY and MD. Didymo was in all surrounding sides but in June 2013 it was found in Pine Creek (north central PA) in a drift net. Trying to limit spread and talking with different agencies to develop a plan. Round goby was found dead and floating in Susquehanna in NY (believed to be from a bait bucket). Zebra mussel publication sent around by Ron Kluda. Found in lower reservoirs around Conowingo. Evidence larval abundance is increasing but not adult. Found stock forming diatom in NE PA in Snake Creek and thought it was didymo but it turned out to be a different genus. Searched literature—endemic to Pacific NW closely related to didymo. Cymbella=genus.
- b. Ray Fernald (VA DGIF)—Focuses on aquatic on snakeheads and blue catfish as well as work on feral hogs, nutria and mute swans. Control and eradication studies. Still looking for mudsnail or rusty crayfish. No positive sightings.
- c. Jonathan McKnight (MD DNR)—Hot issue in Maryland is the presence of invasive plant species in Deep Creek Lake – water chestnut and Eurasian watermilfoil.
- d. Edna Stetzer (DE FW)—Hydrilla is in a lot of state ponds, 5 ponds treated (more than 40% cover). Method-harvester and chemicals. Creeping water primrose, yellow floating heart. Didymo-come across in field but doesn't know the extent of it in DE. Snakehead-34 confirmed reports from 5 water bodies this year with new locations of snakeheads. One blue catfish confirmed. Nutria-new regulation proposing that will become law by 2014. Unlawful to have live nutria and can only be trapped during muskrat season and all must be killed and alert agency of capture.
- e. Steve Kendrot (USDA APHIS)--Nutria project continuing of goal of nutria free Delmarva Peninsula. Surveys in Wicomico area say it is pretty heavily infested. Waiting for January

to roll around to initiate trapping in Wicomico River. Deployed detection platform and checking those regularly.

#### **11. ANSTF State AIS Management Plan Updates (Don)**

- a. 43 states have AIS plans. Funding eligibility for 42 of those plans.
- b. PA, VA, NY are states in Mid-Atlantic Region with plans.
- c. WV and NC both are in progress. WV is closer to a draft
- d. States-Money isn't the issue, more about having a plan done to leverage with people to get stuff done.
- e. Important take home message: State plan money is an earmark in budget. 2012 FWS directed to do Asian carp work but there is no funding (took from state funds)
- f. Interest in program, budget exercise at FWS, try to increase money for state plans. Lots of competing priorities.

#### **12. Membership Categories (Sarah Whitney)**

- a. **Decision: Bob Morgan agreed to represent PA**
- b. **Decision: Mike Goehle might not be alternate (back to Sandy Kepner)**

### Day #2 (December 18<sup>th</sup>) Minutes

#### **13. Member Updates**

- a. Marian Norris-MD found didymo in Big Hunting Creek (Catoctin Park) and detailed onsite decontamination procedures have been put in place. Other species of diatom that have similar cell structure to didymo have been seen. Cymbellus species (but not same found in PA). 2014 project working with Leetown Science Center and USGS to look at didymo. Upper DE finding didymo cells without stocks attached in smaller tributaries. Tim King is USGS POC. Issue in DC metro area balancing fish passage and invasive species. Rock creek—cannot remove dam, there is a fishway paid by SHA as mitigation. Not sure if we have to keep it open, there are snakehead at the fishway and want to keep them out of rock creek. Plant team has permit to treat aquatic plants. Plan to treat aquatic plants in parks. Unsure about the specific species and where they are located and algae.
- b. Steve Minkkinen-still working on snakeheads. Reports fish caught in main bay, one near Smith Island which means they are tolerating higher salinity (smith island is around 20ppt). Probably can't reproduce in high salinity areas but can pass through to get to the lower salinity areas. Potomac seems to be perfect habitat for snakehead. Coordinated with other states to do tagging to get population estimates. January meeting to coordinate what will be done in 2014. Severe budget constraints.
  - i. Fishery—hook and line and archery is popular in Potomac. Everyone is asked to kill them. Popular fishery in Potomac.
  - ii. They are moving up the bay and will probably hit Susquehanna and hit the fish lifts at the dams.
  - iii. MD and DE recommend killing them. Regulated that must be dead to transport or possess them. PA doesn't recommend killing due to similar appearance to native species.

- c. Terrie Kyde (MISC) Lists of tiered terrestrial plants are being developed to have separate requirements. Using APHIS weed risk assessment protocol. MDA just got money from grants that will pay for an assessor. Risk assessment protocol but no list yet (expected 2014.) Working on buy in from nursery and landscaping industries.
- d. Stas Burgiel (ISAC)-ANSTF joint task group looking at climate change and invasive species—potential implications. Group about 30+ people looking at background and number of tools (climate niche model, risk assessment). First step of assessment is to identify research gaps and next steps. Second step is to develop pathway management plan. Determine what guidance is available. Connect pathway mgmt guidance. Help regional panels have pathways they want to look at. Engage dialogue with panels.
- e. Sarah Whitney: PA Sea Grant is focusing on pathways. Tournament anglers, habitattitude to aquarium and garden owners. Approached by landtrust and conservation district interested in putting on an event to talk about didymo. Landtrust wants to do urinal posters and coasters for the anglers (go to the bar). Looking at beer brewers as they would benefit from both clean water and anglers that drink beer. .

#### 14. SOP discussion

- Western Regional Panel and Northeast panel have new bylaws.
- Whitney would like small group to pick and choose/look through bylaws of other panels, pull what makes sense, gives panel the process to hire someone for coordinator.
  - Who would like to help?
  - Are we fine with bylaws?
  - Choose mechanism to determine coordinator information.
  - **Action: Whitney will update draft and send out to panel for review.**
  - Better to have flexibility to not pay a coordinator.
  - Without having a coordinator, some things are not going to happen.
  - Document pros and cons of having a coordinator.
  - Use some money to help support travel in order to have a quorum at the panel meetings.
- Virtual meeting facilities. Limitations on federal partners being able to be at the same meeting.
  - Norris can look into video/virtual meeting.

#### 15. Bait Vector Update (Fredrika Moser)

- Awarded money to look at live bait pathways to understand vector.
- SERC, UMD College Park to look at live bait vector in bloodworm trade from Maine to Mid Atlantic states/rest of the world.
- Findings from social scientists and biological scientists that the packing material is the vector.
  - 15 distributors total in Maine and they control whole industry and send all across the world, including M in USA.
  - What are the species being transported and what the survival rates are?
  - Series of tests to figure out if you could easily clean the packing material.

- Social scientists—what’s the behavior of anglers that receive the bait and how they felt about the stop aquatic hitchhiker message.
- Talked to Maine distributors about soaking packing material in salty water and rinse in freshwater it kills about 98% of invasive species
  - Interesting analysis of vector. Found the bottleneck and found out how to manage the vector and clear guidance about options. Need to find the political will to work with regulatory community to get on board with the pathway. The distributors affect the world. But they won’t move voluntarily. Interested in looking the anglers in the Mid-Atlantic Region-last part of project will be done in April 2014. Pick numerous bait shops (mom and pop shops). Came up with brochure and stickers to go on bait bags that say trash your bait.
  - Interested to see how anglers respond to the bait shop brochures and stickers.
  - Figure out if they care what packing materials are being used.
  - Would have liked to have more \$\$ to do more studies with the anglers.
  - Overall-really well done careful analysis of a small vector management strategy.

#### **16. Stop Aquatic Hitchhikers-Pat Conzemius, Wildlife Forever**

Wildlife forever is a nonprofit conservation organization founded 26 yrs ago from hunting and fishing clubs. Continue to do projects coast to coast but focused on invasive species removal and restoring habitat. “Stop aquatic hitchhiker campaign” started 7 years ago with large host of partners to work with campaign to get to recreational users on board.

- Stop Aquatic Hitchhiker (SAH) Campaign. Encourage everyone to “like” SAH facebook page
- Modernize brand for public appeal and promote a “Clean, drain, dry” message.
- E-newsletter partners in action feature. Highlight individual or group that has done great work. Every month.
- E-marketing-websites with digital ads and web banners. Click on banner and go to video PSA.
- Outdoor media-outdoor billboards. Survey results on effectiveness that billboards are top 5 media to reach recreational boaters.
- Silent invaders: 3 years ago started pilot programs in Great Lakes. 30 min. reached 11 million households in spring 2013. Now have seven 30 min programs.
  - Took content from programs and found 2 minute tip segments and put in North American fisherman program. Live PSA within program. Wide distribution and resonated with folks when it was in the middle of something they were watching.
  - Free distribution of silent invaders DVD. All 30 min programs on one disc and PSA disc.
  - Engagement tool that public can have access to.
- Wanted dead not alive posters.
  - QR code directs to the clean drain dry website.
- Invaders of the Great Lakes. 25,000 pocket guides for free distribution. Highlights 39 invasive species in Great Lakes. What they look like, how you can help, environmental impacts/why they are bad.
- Brochures with targeting geographic regions.

- Wanted species sign customized to geographic location. Consistent marketing and messages. Purchased brushes and put the logo on the brush.
- Backpacker magazine advertisement.
- Boat ramp designs “invasive species alert”
- Future: unsure of funding (#1 problem) without funding, no social media and coordinating with folks.
- \$50K minimum for annual costs.
- Discussion:
  - Duck dynasty—tried several times to get a hold of them, unfortunately they want 100K just to show up. EPA project—we have funding to waterfowl PSA.
  - Fernald: make presentation available through MAP website or email? Pdf will be on website.
  - Allen: survey of users, most effective way of messaging? Access sites are number one ways to access people. Media ads, but signs at water accesses are #1 to reach rec users. Trying to modernize outreach.
  - Fernald: we have stop aquatic hitchhikers at all our boat ramps in VA and in MD (most of them)
  - How you measure effect of campaign. Are any partners trying to do that? Yes- Minnesota Sea Grant has done survey work on campaign effectiveness but we recently finished Great Lakes survey (30,000 members) and did comprehensive survey after exposing folks to 7 messages. Working on write up now. 90% success rate when exposed to message and campaign, they know what to do and are willing to take action. Just have to get more folks exposed.
  - Links on website to scientific data that supports the rinse clean rinse dry? No. but there is a need and opportunity to engage states with that information. Scientific and marketing data.
  - Allen: how cost effective is the web banner and advertisement that you have to pay for is? Usually it’s a bonus feature, and part of that buy you can leverage (non profit) that partnership and get media exposure. Web banner ads are just added value when working with a specific vender. They get a lot of hits and views. It’s a few thousand, but the branding tool is useful.
  - Whitney will send catalog of materials out to members to help them with their work.
  - Information sharing is great so we don’t have to duplicate.
  - If you have products, let Conzemius know!

## 17. Next Meeting

- We haven’t met in NY and VA in a while.
  - VA for spring meeting? Richmond is always available. Field trips are always great. Richmond is a great location and Norfolk would work too.
  - Northeast ANS panel would like to do a joint meeting with MAP. (NY would be good option for this)

- Send out doodle for dates once logistics are determined.