



Aquatic Invasive Species River Steward  
NEI Job Code: 0100-306-010 Project Code: L-2014-021  
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Final Report  
By  
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This is the final report for work done by the Ausable river Association (AsRA) to fulfill the responsibilities of the grant "Aquatic Invasive Species River Steward for Central Champlain Region of NY," NEI Job Code: 0100306010 and Project Code: L-2014-021. The report outlines all work performed between April 22<sup>nd</sup>, 2014 and October 13<sup>th</sup>, 2014.

## Introduction

Aquatic invasive species (AIS) that affect rivers are fast encroaching on the Champlain Basin. The Ausable River, known worldwide for its trout fishery and spectacular scenery, cannot afford the ecosystem-changing invasions of AIS whether it is a invasive invader like didymo, or non-native invasives like New Zealand mud snail, rusty crayfish, or fish disease. Ecologically, the Ausable system, while still capable of supporting significant recreational use, is stressed. The introduction of AIS or the proliferation of species that have already gained a foothold, further challenges water quality, habitat diversity, and nutrient processing. Economically, the Ausable River attracts \$2.3 million dollars in national and international fishing tourism to the region annually and supports four fly shops and numerous private guides. Indeed, a tourism survey conducted annually by the Essex County Visitors Bureau shows that anglers make up eighteen percent (18%) of the visiting public. The introduction of an invasive species that threatens the world renowned Ausable trout fishery would have a devastating impact on local tourism. Experts agree that the most cost-effective method of dealing with AIS is to invest in spread prevention through public outreach and education.

In 2014, the Ausable River Association (AsRA), with funding from LCBP through NEIWPC, continued a program to hire, train, and deploy an aquatic invasive species river steward on the Ausable River in New York State's central Champlain region. A similar, highly successful spread prevention project was implemented in summer 2010, 2011, and 2012 (the latter with funding from The Nature Conservancy). The purpose of this continuing project is to protect the Ausable River – with its 94 miles of river channel that is, at present, relatively uninvaded – from spreading aquatic invasive species. The river steward provides a “safety net” around the Ausable region of New York by distributing the spread prevention message locally and regionally and by maintaining wader washing stations in the watershed. The river steward also educates the general public, visitor bureau staff, local fly shops staff and customers, hotel owners, and anglers/river users by sharing the “Check, Clean, Dry” AIS spread prevention message. Educational brochures, cleaning station materials, and streamside signage are distributed. Results are measured in number of anglers, river users, general public, fly shop and visitor bureau staff engaged and educated as well as in fly shops and visitors bureaus visited regularly, and brochures distributed and signs posted. In each year thus far a survey of angler/river user AIS knowledge, river use and spread prevention effort is administered. Data from the survey is compiled for use in AsRA's organizational planning and to inform our partners of results through this report. Anglers are the major vectors for transporting river-based invasive species. Because many AIS are invisible or small and illusive to the naked eye, didymo and NZ mud snail are difficult to detect and remove from gear. Gear choice has a tremendous influence on spread

prevention. For example, felt is difficult to dry or clean. For this reason alternatives to felt soled waders are being promoted by gear companies and state regulators. Felt waders were outlawed in the State of Vermont in April 2011. Most gear companies have developed a “clean stream” boot that has rubber tread instead of felt, and is constructed with minimal stitching, cloth, laces, or other absorbent fibers. While the fishing industry has worked diligently to improve their products, it is still up to the angler to understand the threat, buy the gear, and implement the cleaning instructions. Known worldwide for its trout fisheries and spectacular scenery, the Ausable River cannot afford to be affected by unsightly or ecosystem-changing invasive species.

This was the fourth successful year of the program (there was no river steward in 2013 due to a lack of funding). The position has been refined over this time to address changing needs, to adapt the AIS message to the public and the angling community, and to expand the days of coverage to coincide with higher fishing use rates. Work is now focused on the highest use areas of the Ausable River: on the West Branch from the Olympic ski jumps to the Lake Everest Dam in Wilmington, and – new this year - at the Ausable Point State Park, where the river flows into Lake Champlain. The targeted audience is all river users, specifically fly anglers, spin anglers, and canoe and kayak users.

## Methods

In May 2014, AsRA’s executive director hired Curtis Buker to fill the river steward role under the 2014 grant. In addition to being an avid fisherman, Curtis graduated from SUNY Plattsburgh with a MS in Environmental Studies. He began training in the Wilmington office in mid-May familiarizing himself with AsRA, the Ausable watershed, prior river steward work and reporting. He already had a broad familiarity with river aquatic invasive species - including didymo, New Zealand mud snail, and rusty crayfish, public outreach and education methods, and survey and record-keeping skills. A tour of the river and introduction to key fly-fishing proprietors also prepared the steward for the 2014 season. Curtis also attended the Adirondack Regional Watershed Stewardship for Boat Launch stewards training, hosted by the Lake Champlain Basin Program and Paul Smith’s College on May 20th and 21st. Curtis left the project on August 18, 2014 to pursue further graduate study and was promptly replaced by Carrienne Pershyn. Carrienne holds a BS degree in Ecology from SUNY Plattsburgh ('07) and has extensive education, outreach, and survey experience and served as an Adirondack black bear steward for two summer seasons. A week-long overlap allowed Curtis to fully train Carrienne and acquaint her with the ongoing work.

After completing and gaining approval for the project QAPP, the river steward was active on the river beginning on May 24, and continuing through October 13. The steward’s primary

responsibilities included conducting public outreach and spread prevention education on the river at popular access points to educate anglers and other river users. A particular focus was to ensure the steward was present on the river during high use times of day. The steward also spent time at Ausable Point in an attempt to reach more spin anglers during hot weather.

The primary printed outreach material used by the river steward was the “Check, Clean, Dry” tip strip (Appendix I). These are four inch by nine inch double sided, full color rack cards that were designed in 2010 by AsRA staff and our first river steward to provide angler information and be a companion card to the “Clean Boats – Clean Water” spread prevention card designed by the Adirondack Park Invasive Plant Program (APIPP), Lake Champlain Basin Program, and the NYS Chapter of Trout Unlimited. These rack cards provide the reader with information on gear cleaning options and aquatic invasive species of concern. These were primarily distributed during angler surveys, but were also available at events, stocked in wader wash stations (WWS) and available at local fly shops, tourist information centers, and other regional businesses. Under the 2014 LCBP grant, the river steward updated and re-printed the tip strip to give it a fresh look, more accurately portray our current knowledge about didymo, and update the listed cleaning procedures. The first river steward started this project, and the replacement river steward finalized it, overseeing printing in mid-September. The new version was distributed to local retail shops and the WWS, as well as to anglers and other river users. Sufficient stock remains to continue distribution in the 2015 season.

The river steward once again conducted a streamside survey of river users, as in past years. The survey collects data about river user equipment cleaning practices, knowledge of aquatic invasive and invasive species, and data about other locations fished. The survey was adapted from previous years, and no longer collects economic information. At the end of each survey, the steward offered copies of the “Check, Clean, Dry” tip strips and the Ausable River Association brochures.

Wader wash stations were permitted by DEC and deployed and maintained by AsRA at four popular river access points along the river and at two local outfitters. Wash stations were placed at the Ft.Drum Memorial/Holcomb Brook outlet, the Rt.86 Bridge/Connery Pond parking area, Monument Falls, and Copperas Pond trailhead parking area. These WWS are the same as those used in previous years, and consist of a five-gallon bucket of a non-toxic five percent salt solution, brush, egg timer, and information about the Ausable River and invasive threats to it as well as instructions about how to carefully wash gear. The salt solution was made by combining  $\frac{3}{4}$  cup of canning and pickling salt per gallon of water. Information posted included the wader wash station flip book from 2011, and an introductory WWS sign (Appendix I).

During slow times on the river, the steward often went to local gear shops, businesses, chambers of commerce, and watershed entry points to ensure printed materials were well stocked, and also to talk with business owners and customers about current river and hatch information, and provide spread prevention education. Other slow time activities included walking the river to look for presence of terrestrial invasive species and garbage pickup. The steward cleaned up hundreds of pounds of trash and this activity also encouraged river users to approach the steward.

The river steward also attended various events in the region over the course of the summer. Curtis hosted tables at four area events providing information about invasive species and spread prevention. He attended the Wilmington Ausable Two-Fly Challenge on May 16th and 17th and intercepted about 40 anglers in the competition. The survey was not yet approved, but Curtis did provide spread prevention education and handed out Check, Clean, Dry tip strips and Ausable River Association brochures. Anglers were very receptive to the mission and work of the river steward. In June, Curtis attended the Wilmington-Whiteface Circuit Race on June 1, and a Father's Day kite event in Keene Valley on June 15. He also set up an informational table at the Ausable River Association's Ride for the River on August 3rd. Carianne attended and assisted at the annual AsRA Friendraiser on September 6, and discussed her work as river steward with a variety of local residents, community partners, and prospective donors. Brendan Wiltse, AsRA Stewardship and Outreach Coordinator also attended the ADK Fall Outing in Keene Valley in September, and had an informational table about AIS and AsRA.

During the slower, warmer months, the river steward, at the request of the Adirondack Park Invasive Plant Program, conducted visual surveys for the presence of riparian invasive species along the West Branch Ausable. Starting at NYS Rt. 73, the steward traversed sections of the West Branch Ausable River in search of infestations of purple loosestrife, Japanese knotweed, phragmites, and yellow iris. No infestations were found, but Curtis suggests that this is expanded in future years to include Ausable Marsh and Ausable Point State Park. The steward also assisted AsRA's Stewardship and Outreach Coordinator (SOC) to reinvigorate a photo monitoring effort on Mill Pond in Lake Placid where, in 2009, AsRA worked with the community to identify infestations of purple loosestrife and release beetles as a biocontrol effort. The plots were not monitored in 2012 or 2013. After searching AsRA's digital and hard copy files, the steward was able to identify plot locations and landowner contact information. The steward and SOC conducted a preliminary field site visit to attempt to locate the three release sites, look for remnants of purple loosestrife plant matter, any evidence of insect herbivory, and connected with landowners. The steward created detailed records and a work plan to continue with the remaining 5 years of the ten-year monitoring project in summer 2015.

## River Steward 2014

Curtis Buker was hired as River Steward in May 2014, and completed hundreds of surveys and attended all of the events but the last (Friendraiser). He lived near Plattsburgh, and thus it was easy for him to spend a great deal of time at the Ausable Point State Park during the hotter parts of the summer, and he was able to reach 164 anglers there. He had a great deal of past experience doing surveys of recreationists, and took extra care to ensure he could share inside tips about hatches and fishing spots with anglers. In mid-August Carrienne Pershyn, our first female river steward, picked up where Curtis left off. Her familiarity with the watershed, background with surveying, and prior position as a black bear steward allowed her to adapt quickly. She continued streamside outreach and education efforts through the Columbus Day holiday weekend. Carrienne attended one event, finalized and distributed the updated tip strip, conducted hundreds of surveys, updated WWS signage, and assisted with the Mill Pond purple loosestrife biomonitoring project.

## 2014 Survey Data

River user surveys (n=730) were completed on 62 days between May 24 and Oct 13, 2014. Most surveys were completed on Thursdays through Sundays, in an attempt to encounter as many anglers as possible. Surveys were taken at 15 locations, from the ski jumps in Lake Placid to the Ausable Point State Park in Peru, NY (see Table 1).

Survey Location	Surveys Completed
Iron Bridge	54
River Rd. popular parking areas	23
Ft. Drum Memorial/Holcomb Pond outlet	44
Rt. 86 bridge	83
Monument Falls parking area	115
Shadow Rock Pool	41
Owen Pond trailhead parking area	2
Basset Flats parking areas	43
Copperas Pond parking area	36
Whiteface Mtn. parking areas	105
Flume parking areas	15
Wilmington Town Beach (Lake Everest)	22
Lake Everest Dam	9
Ausable Forks Gazebo	5
Ausable Point State Park	133
Total	730

Table 1. River user survey locations on the Ausable River in the 2014 season.

72% of river users observed were fly anglers. Other user types include spin and bait anglers, kayakers, and canoeists. Since there were relatively low numbers of kayakers and canoeists, they are combined for the remainder of the data analysis, and labeled collectively as boaters. Additionally, bait anglers were combined with spin anglers.

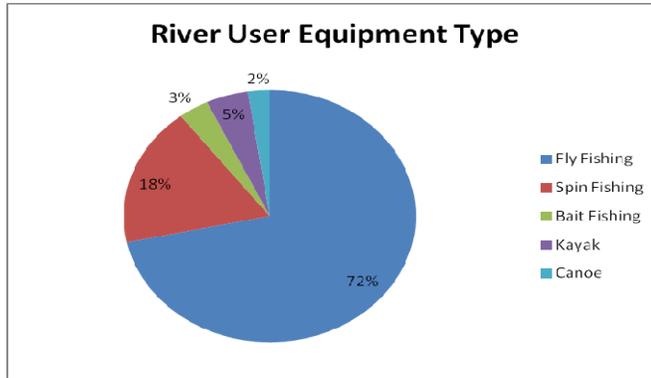


Figure 1. Ausable River user type in 2014.

Only 48% of fly anglers used felt waders, which shows a definite downward trend since 2011(Figure 2). Other footwear choices included rubber and rubber with spikes, as well as a wet-wade or not entering water. Among other footwear choices, our data from 2014 show that fly anglers are using a mix of rubber and spiked sole wading boots (Figure 3).

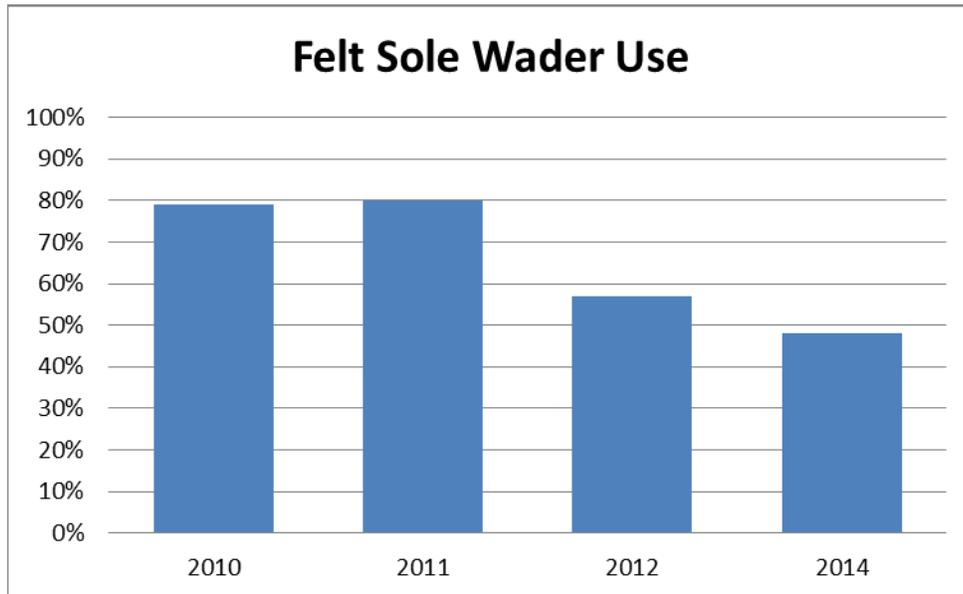


Figure 2. Percentage of river users wearing felt soled waders, 2010 to 2014. Note there was no river steward in 2013.

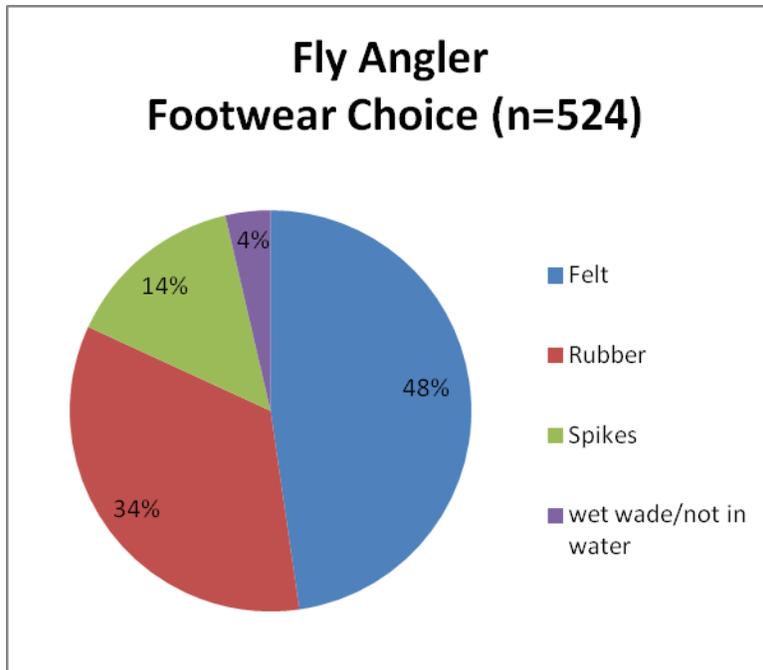


Figure 3. Fly angler footwear choice in 2014.

Before fishing in the Ausable, individual anglers reported fishing in 86 different locations outside the watershed, mostly in NY and VT, but also in MA, NH, ME, PA, NJ, MT, WY, and AK. Of these, 37 Anglers surveyed (5%) had fished in a water body with known occurrences of didymo blooms. These water bodies included the Battenkill River, Connecticut River, Delaware River, Farmington River, and Kayaderosseras Creek. Of these anglers, 33 knew about didymo, and 32 of them took steps to clean their gear between rivers. Data from 2010 shows that 11, or 12% of anglers surveyed came from rivers with didymo, and one with NZ mud snail (Spring Creek, PA). It is unclear how many of these cleaned their equipment. And in 2011, 28 of 712 (4%) came from infected waters, and all of these cleaned their equipment.

#### *Cleaning Methods*

A total of 462 (63%) river users surveyed practiced AIS spread-prevention methods between rivers, including cleaning, inspecting, drying, or using Ausable-specific gear not used anywhere else. Of these, 411 users cleaned their gear – a marked drop from previous years (see Figure 4).

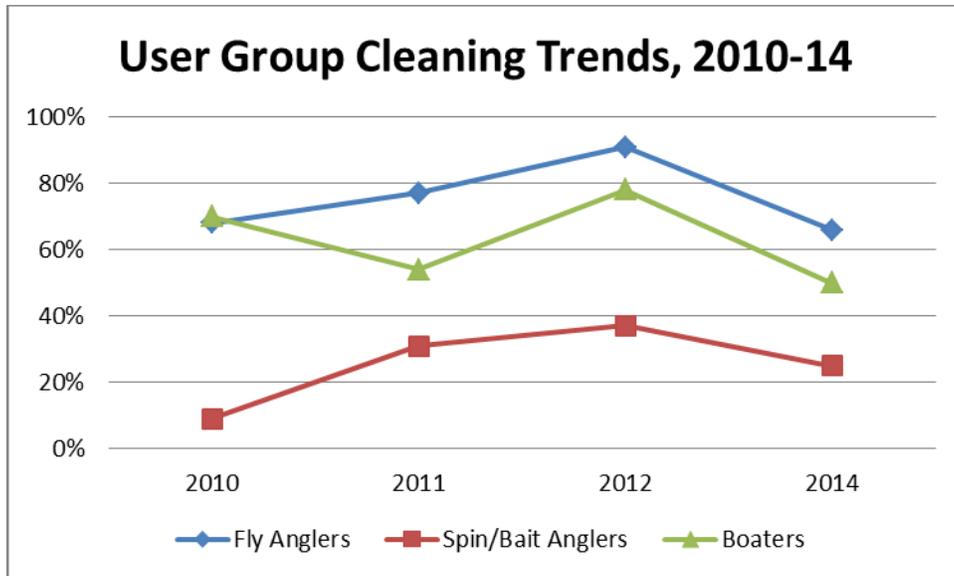


Figure 4. A chart showing the percentage of users who took steps to clean their equipment, shown for each user type, 2010-2014.

We compared 2014 data about preferred cleaning methods, with data from 2012 (Figure 5). In both years, a large proportion of river users are employing soap, bleach, or salt solution to clean their gear between trips. Use of salt has increased as well, which can be correlated with continuous use of wader wash stations throughout 2014.

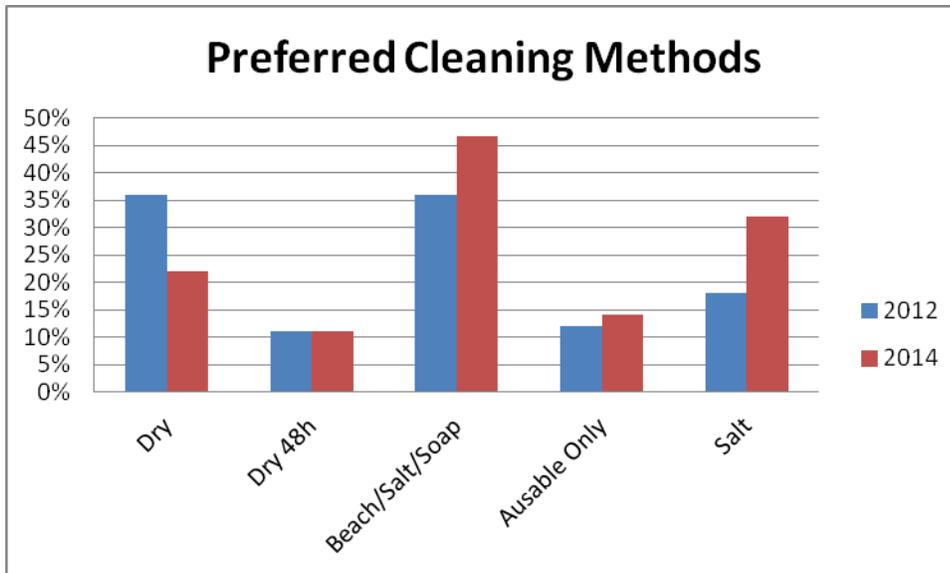


Figure 5. Percentage of users that employed acceptable cleaning methods for aquatic invasive species spread prevention, with data from 2014 compared to 2012.

## Awareness of AIS

71% of surveyed river users were aware of didymo, or Rock Snot. Among fly anglers, 86% said they knew about didymo, where only 9% of spin/bait anglers and 5% of boaters had heard of this species. 71% of those that hadn't heard of didymo did not clean their gear. Finally, of those that had heard of didymo, 68% cleaned their equipment, but 32% (167 of 318) did not take steps to prevent the spread of AIS. The following chart (Figure 6) shows river user group awareness of didymo over time. This awareness increased from 2012 to 2014 for fly anglers, but decreased for boaters and spin/bait anglers.

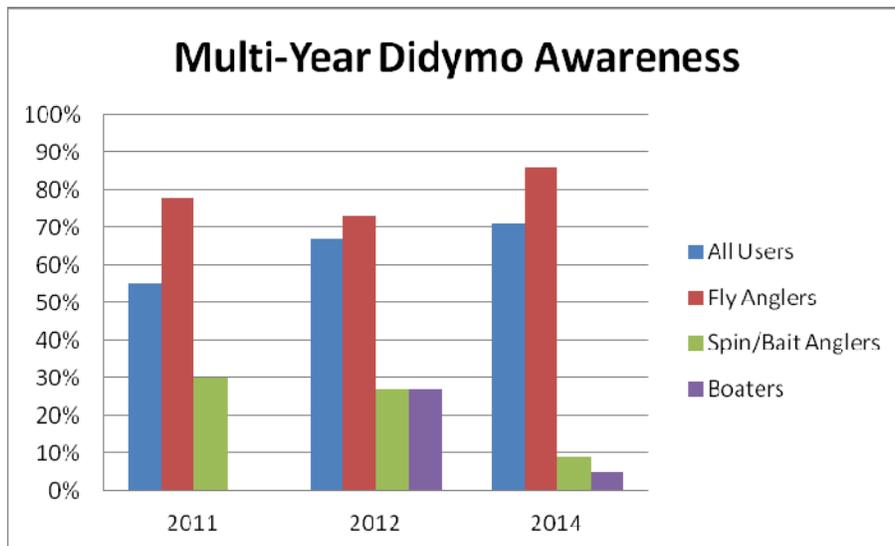


Figure 6. Didymo awareness by user group from 2011, 2012, and 2014.

Overall, fly anglers are more familiar with the river AIS, whereas other user groups were more readily able to name invasive fish, shellfish, and plant species that more often affect lakes. The following chart (Figure 7) shows the awareness of New Zealand mud snail, rusty crayfish, viral hemorrhagic septicemia, and whirling disease for all user groups.

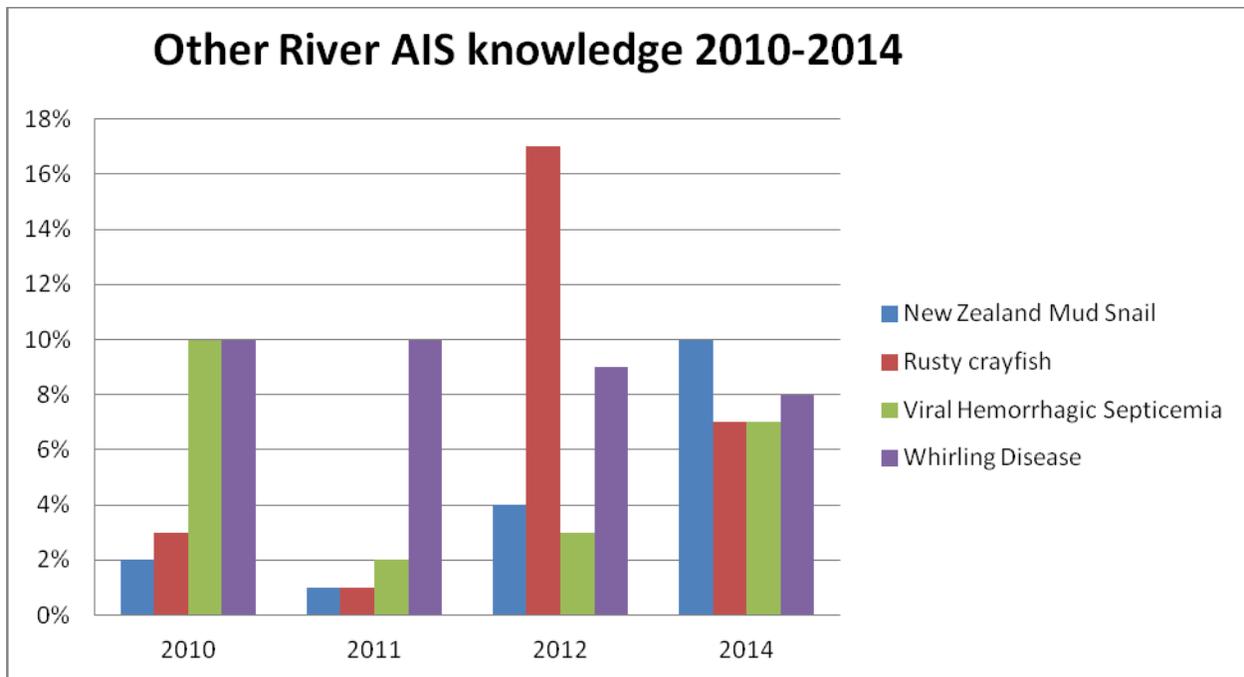


Figure 7. River user awareness of other riverine aquatic invasive species threats, with data from 2010-2014.

In addition to the fish diseases, rusty crayfish, and New Zealand mud snail, many river users listed other AIS that have invaded or are a threat to the Lake Champlain watershed. The following table lists the name and frequency of other AIS listed by surveyed river users.

Aquatic Invasive Species	# Instances Mentioned	Percent of all other AIS listed
Zebra or quagga mussels	185	35%
Rusty crayfish	52	10%
New Zealand mud snail	51	10%
Viral hemorrhagic septicemia	46	9%
Eurasian water milfoil	44	8%
Whirling disease	41	8%
Alewife	21	4%
Snakehead	18	3%
Round goby	13	2%
Sea lamprey	13	2%
Asian carp	11	2%
Spiny water flea	11	2%
Asian clam	6	1%
Water chestnut	4	1%
Hydrilla	4	1%
Purple loosestrife	3	1%

Table 2. Occurrences and percentage of river users that mentioned other invasive species (besides didymo) in 2014.

### *Additional Outreach Performed*

A total of 153 Check, Clean, Dry tip sheets were distributed over the summer. In addition, 160 Ausable River Association (AsRA) informational brochures were given out to river users at the end of surveys. These were offered optionally to all river users encountered. New signs were affixed to the wader wash stations with brighter colors and more details about AIS.

Five outdoor retail shops were visited and materials distributed. Due to the efforts of previous river stewards, the employees are knowledgeable about AIS and help spread the Check, Clean, Dry message to customers. Additionally, eight other retail shops, restaurants, local lodging facilities, and the Wilmington Visitors Center were visited and brochures distributed.

### **Discussion**

The 2014 river steward season continued to build upon the work done by the three previous river stewards and some awareness and behavior changes can be seen in the survey results. That being said, the need for more education remains. The most interesting results from the survey data are discussed here in more depth.

First, felt-soled wading shoes are still in use. This has decreased significantly since 2010, but there are still 48% of fly anglers who choose this type of footwear (see Figures 2 and 3). Many of those anglers that have moved away from felt in their equipment choices are familiar with bans on sales and use of these products in other locations. Other footwear choices included rubber and rubber with spikes, and the river steward heard many reports that new methods, especially the new Orvis system, provided higher quality and greater safety than felt soles. Numerous anglers spoke about being proud of making the switch. There may be value in researching how other states, such as Vermont, enacted state-wide felt sole bans and considering whether this would be feasible in New York State. If such a ban is not deemed feasible, an alternative may be to work with DEC to highlight concerns with felt soled boots and recommend options for all anglers. Possible avenues for DEC promotion of alternatives might include changes to the DEC website and fishing regulations booklet.

In addition to a continued use of felt, our survey indicated a decrease in the number of people people taking steps to clean their gear when moving from one water body to another (see Figure 4). Didymo awareness has increased, but spread prevention efforts have

decreased (Figures 6 and 5, respectively). Figure 6 shows a decrease in the awareness of didymo among spin and bait anglers. It is possible that this could be a reflection of the increase in number of Lake Champlain anglers with the addition of Ausabe Point State Park in 2014, and thus being more aware of lacustrine AIS. Possible reasons for the recent decline in cleaning practices could be attributed to the lack of a river steward in 2013 and a decreased awareness of the need for spread prevention. It is also possible that anglers saw publicity on a recent study that hypothesizes that didymo has been a native diatom in North America, and is only exacerbated by altered environmental conditions. Regardless of why this occurred, these data demonstrate a critical need to continue and increase outreach efforts in the Ausable river watershed. AsRA is dedicated to increasing awareness that cleaning is good practice whether AIS are known to be present or not. Our goal is to encourage an ethic of spread prevention and stewardship among all river users. Continuing the river steward program is essential to this goal. Whether didymo is still a serious threat to this system remains to be seen, but the same outreach efforts and prevention techniques can and should be applied to other invasive species that pose threats to the region. Future river stewards can work towards this. Also, increased signage and printed material at public access points along the entire length of the river would be beneficial to remind all river users of the importance of AIS spread prevention.

There were a number of anglers (5%, n=37) that the river steward surveyed that had previously fished in a water body with confirmed observations of didymo. These water bodies included the Battenkill River, Connecticut River, Delaware River, Farmington River, and Kayaderosseras Creek. The majority of these anglers knew about didymo, and all but five of them took steps to clean their gear between rivers. Data from previous years show four to 16% of anglers that have been intercepted by the river steward came from infested water bodies as well. What is worrisome about this is that there could have been a number of river users coming from infected river systems that were not intercepted by the river steward or our outreach materials. These numbers can be used to understand the threat level to the Ausable River, and a gauge of our success in educating users about spread prevention. This also helps demonstrate a need for increased print material for outreach along the river, at entry points, and digital material that is encountered by anglers planning a trip to this region. It also highlights a need for greater use of the river steward model regionally - an ideal pursuit for LCBP.

Overall, and as witnessed in previous years, fly anglers have a greater awareness than other river users surveyed of riverine aquatic invasive species, especially didymo, (Figure 7). They are also the user group with the highest rates of spread prevention practices (Figure 4). It does appear though, that boaters and bait/spin anglers were aware of other invasive species that affect the Champlain Basin, especially the plants, fish, and shellfish. Many users knew about zebra mussels, alewife, round goby, and Asian clam (Table 2). The newest

species to invade Lake Champlain, the spiny water flea, was also mentioned by 11 users. This shows that there is a basic awareness of AIS threats to the region, but that more outreach could be done in this area, such as the river steward distributing other materials to non-fly anglers or assisting to create and distribute signage to educate river users when a steward is not present.

Wader wash stations were successful again this year. The river steward cleaned the WWS weekly throughout the season, and often replaced the salt solution more than once on busy weekends. The survey data show that the use of salt as a spread prevention method has increased since 2012 as well. This can be correlated with continuous use of wader wash stations throughout 2014. There was only one incident in which the WWS were abused, where it was used as a trash receptacle. The Monument Falls WWS showed the most use, but this suggests there are more anglers that use that site, and this correlates with the high number of river user surveys completed at Monument Falls. The river stewards recommend that an additional WWS be placed at Whiteface Mountain parking lots in 2015, as the number of surveys completed there suggests a need.

## **Conclusions and Recommendations**

The river stewards and AsRA's staff agree that 2014 was a very successful year for this program. Based on the comments of river users, AsRA's supporters, and the public, and feedback from our stewards, we know the program fills a valuable niche. Having trained staff on the river to connect with river users ensures that accurate and up-to-date information is available to the public about AIS and spread prevention, allows for monitoring of river conditions and rapid response to reported threats, and it raises the river's profile as a living resource deserving of thoughtful protection by everyone. Having clear printed materials and user-friendly wader wash stations readily available to users when a steward can't be present is another essential piece of the protection puzzle.

As the river steward program continues, the legacy of past contributors becomes increasingly evident. The 2014 river steward reported meeting with anglers who discussed speaking with and being influenced by previous river stewards. Many anglers thanked the steward for keeping the river clean by picking up garbage along the West Branch. Others expressed their appreciation for the river steward program and the presence it creates on the river.

Combined with the above, the data collected this year on the decrease of gear cleaning practices, the continued use of felt soled wading shoes, and the amount of aquatic invasive species awareness clearly demonstrates that education and outreach efforts are vital to the

continued health of the Ausable River. A future river steward could take a number of steps to increase the river user access to the spread prevention message.

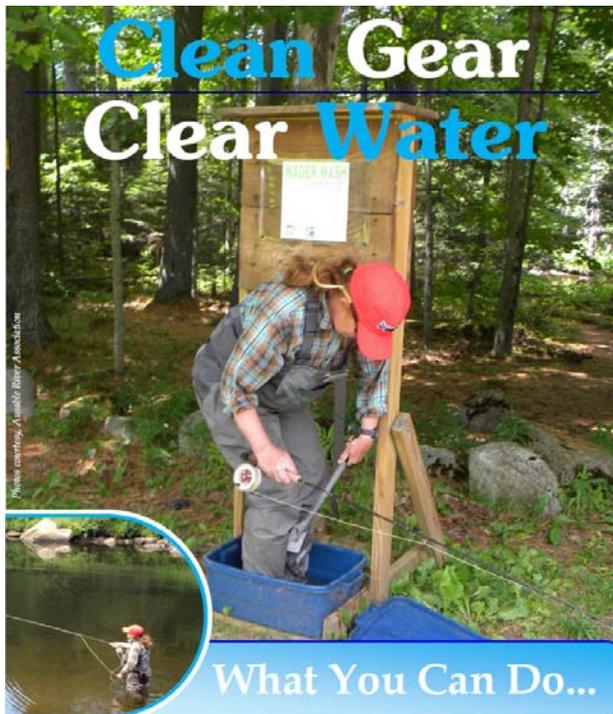
To increase the reach of the Check, Clean, Dry message we suggest increasing appropriate signage along the river corridor. In summer 2014, APIPP and the Northern Forest Canoe Trail partnered to create signage geared specifically towards canoeists. Signs were posted along the entire NFCT route from New York to Maine. This sign could easily be adapted for anglers along the Ausable River. Future AsRA river stewards might consider developing more printed materials to distribute in the wader wash stations. We also recommend increased signage prohibiting littering or suggesting carry in, carry out procedures. The stewards observed that litter was reduced at parking areas with such signage; a discussion with DEC might be a starting point. Also, posting information and signage for the public regarding an existing DEC toilet just inside the treeline at Monument Falls – a largely unused resource in an area with high usage – would also afford greater protection for the river.

The ability to share training with boat launch stewards is very useful, but a review of other AIS spread prevention outreach methods used in other river systems might identify new options for AsRA and AIS messaging. The creation of more web content could better reach anglers that are planning a trip to the region. This will be included in the new AsRA website, but expanding this web message to regional tourism bureaus and fly shops would increase the number of viewers of a consistent, shared message.

While doing a review of AIS spread prevention methods in other river systems, it could be valuable to review what rules and regulations have been enacted in other states and municipalities, or ways that other governmental environmental agencies communicate with anglers. As we've noted above measures such as felt-sole bans or other prevention methods should be considered to protect the waters of the Ausable. Such a suite of work would aid in long-term planning efforts for AsRA and provide us with proven techniques to share with DEC and other partners to harmonize our message about spread prevention of aquatic invasive species in the Ausable and beyond.

#### Appendix Attachments

- I. Outreach Materials
- II. River User Survey 2014
- III. River User Survey Data



**CHECK** for and remove all mud, plants, animals from gear, clothing and pets.

**CLEAN** everything that came in contact with water. Soak for at least one minute in:  
**HOT water:** heated above 140° F; **OR**  
**Bleach:** 1/3 cup to 1 gallon water; **OR**  
**Detergent or Salt:** 3/4 cup to 1 gallon water.

**Household cleaners** containing Quaternary Ammonium (e.g. 409® or Fantastic®) sprayed on items, wiped and rinsed off.

**Freezing** items solid will kill Didymo.

**Absorbent items** (Felt-soled waders and life jackets) require soaking of 40 minutes.

**DRY** gear completely then leave for 48 hours if cleaning is not practical.

**PROTECT OUR ADIRONDACK WATERS**



**STOP AQUATIC HITCHHIKERS!™**

Prevent the transport of nuisance species. Clean all recreational equipment. Particularly waders boots. [www.ProtectYourWaters.net](http://www.ProtectYourWaters.net)

Aquatic invasive species (AIS) are non-native plants, animals, and microscopic organisms that threaten native plants, wildlife, and their habitat. They degrade fishing and boating areas and detract from the natural scenic beauty. Once established, AIS are impossible to remove from a river system!

**River Invaders to Look For:**



**New Zealand Mud Snail**

- Tiny snails (1/8 inch or 2-3 mm) with brown or black cone shaped shells
- Reproduces rapidly and depletes trout food supply
- Populations can reach half a million per square meter!

U.S. Geological



**Didymo (AKA Rock Snot)**

- May be considered a nuisance species in Adirondack waters
- A light brown to beige algae with a rough cottony feel
- May impact trout habitat and food supply

VT Dept. of Environmental Conservation



**Live Bait**

- Non-native crayfish and minnows
- Can carry pathogens like Viral hemorrhagic septicemia (VHS) that kill fish
- Displace native crayfish; reduces fish survival

J. Gundersen

For more information visit [ausableriverassociation.org](http://ausableriverassociation.org)



# WADER WASH



**The invasive alga known as “Didymo” or “Rock Snot” has infected some area rivers...but not the Ausable!**

Didymo blankets stream bottoms, smothers aquatic life, limits fish populations, and gets tangled in flies. Help us keep this river safe! Prevent the spread of Didymo by taking the following simple steps below each time you enter and leave the river.

***If you fish outside the Ausable, please take at least 60 seconds now to protect our river:***

1. Wash your waders in the non-toxic 5% salt water bath below. (Freshwater organisms cannot tolerate salt water).
2. Soak boots thoroughly, especially felt soles, and use the brush to scrub your boots and wet the upper parts.
3. Saturation of waders in high salt concentrations for 60 seconds, longer for felt waders, kills Didymo!



Use the grab bar for safety

Use the brush to soak the upper wader. Salt water won't harm your waders.



**Didymo** is an algal diatom – a one-celled plant - that forms long stalks which combine to form heavy, thick mats that can smother a stream bottom. The stalks can persist for two or more months after the diatoms die, causing habitat damage for an extended period of time. Originally found in Scotland and extreme northern Europe and Asia, Didymo has been transported worldwide. Recently, the species has been found in the northeast and mid-Atlantic regions of the United States. In many cases, anglers have unknowingly transported the diatom on their fishing gear.

**CHECK, CLEAN, AND DRY YOUR GEAR BEFORE FISHING IN ANOTHER WATER BODY:**

This can help stop the spread of ALL aquatic invasive species. Please take a tip sheet from inside the wader wash box for more info.





### Appendix III: River User Survey Data

(Note: this is a screenshot of the dataset. A full copy of the raw data in Microsoft Excel can be provided upon request. Please contact [info@ausableriver.org](mailto:info@ausableriver.org))

Date	Time	Access Point	Survey	Group Size	Equipment Type	Id/I Equipment	Boot Type	Cleaned? (Y/N)	Prevention: Original	Prevention: Dry	Prevention: Dry 48
5/24/2014	7:41	Whiteface	Y	1	FF	N/A	R	Y	W	N	N
5/24/2014	7:42	Whiteface	Y	1	FF	N/A	Felt	Y	B	N	N
5/24/2014	8:01	Whiteface	Y	1	FF	N/A	R	Y	Sa	N	N
5/24/2014	8:23	Whiteface	Y	1	FF	N/A	R	Y	W	N	N
5/24/2014	8:59	Whiteface	Y	1	FF	N/A	R	Y	W	N	N
5/24/2014	8:59	Whiteface	Y	1	FF	N/A	Felt	Y	B	N	N
5/24/2014	9:23	Shadow Rock Pt	Y	1	FF	N/A	R	Y	W & Fr	N	N
5/24/2014	9:45	Shadow Rock Pt	Y	1	FF	N/A	Felt	N	NOT CLEANED	N	N
5/24/2014	10:30	Shadow Rock Pt	Y	1	FF	N/A	R	N	NOT CLEANED	N	N
5/24/2014	10:45	Shadow Rock Pt	Y	1	FF	N/A	R	Y	Sa	N	N
5/24/2014	11:22	Monument Fall	Y	1	FF	N/A	R	Y	Sa	N	N
5/24/2014	11:30	Monument Fall	Y	1	FF	N/A	Sp	Y	W	N	N
5/24/2014	11:42	Copperas Pond	Y	1	FF	N/A	R	Y	B	N	N
5/24/2014	12:40	Copperas Pond	Y	1	FF	N/A	R	Y	W	N	N
5/24/2014	13:20	Copperas Pond	Y	1	FF	N/A	R	Y	Sa	N	N
5/24/2014	14:37	Rt. 86 Bridge	Y	1	FF	N/A	Sp	Y	B	N	N
5/24/2014	14:50	Rt. 86 Bridge	Y	1	FF	N/A	R	Y	W	N	N
5/25/2014	7:50	Whiteface	Y	1	FF	N/A	Sp	Y	Sa	N	N
5/25/2014	8:25	Whiteface	Y	1	FF	N/A	R	Y	W	N	N
5/25/2014	8:30	Whiteface	Y	1	FF	N/A	Sp	Y	Sa	N	N
5/25/2014	8:35	Whiteface	Y	1	FF	N/A	R	AO	AO	N	N
5/25/2014	8:37	Whiteface	Y	1	FF	N/A	Felt	Y	W	N	N
5/25/2014	9:30	Rt. 86 Bridge	Y	1	FF	N/A	Felt	Y	S	N	N
5/25/2014	9:35	Rt. 86 Bridge	Y	1	FF	N/A	Felt	N	NOT CLEANED	N	N
5/25/2014	9:35	Rt. 86 Bridge	Y	1	FF	N/A	Felt	N	NOT CLEANED	N	N
5/25/2014	10:15	Iron Bridge	Y	1	FF	N/A	Felt	Y	S	N	N
5/25/2014	10:15	Iron Bridge	Y	1	FF	N/A	Felt	Y	W	N	N
5/25/2014	10:35	Monument Fall	Y	1	FF	N/A	R	Y	W & Sa	N	N
5/25/2014	10:36	Monument Fall	Y	1	FF	N/A	Felt	N	NOT CLEANED	N	N
5/25/2014	10:37	Monument Fall	Y	1	FF	N/A	R	Y	Sa	N	N
5/25/2014	10:41	Monument Fall	Y	1	FF	N/A	R	Y	Sa	N	N
5/25/2014	10:42	Monument Fall	Y	1	FF	N/A	R	Y	Sa	N	N
5/25/2014	11:35	Monument Fall	Y	1	FF	N/A	Sp	Y	W	N	N
5/25/2014	11:40	Monument Fall	Y	1	FF	N/A	R	Y	B	N	N
5/25/2014	12:45	Whiteface	Y	1	FF	N/A	R	Y	B	N	N