



Invasive Species River Steward
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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 Tri-Rivers Region of NY," NEI Job Code: 989-003-001 and Project Code: LS-2010-010. The report outlines all work performed between April 22nd, 2011 and October 12th, 2011.

Introduction:

Aquatic invasive species that affect rivers are fast encroaching on Lake Champlain Basin. *Didymosphenia geminata* (Didymo), for example, was first detected in a Vermont river in the summer of 2007 and by mid-summer 2008 it was discovered in a river within the Champlain Basin. In Vermont, the Battenkill, Connecticut, White, Mad and Lamoille Rivers have know infestations of Didymo. In New York State, Didymo has been found in the Battenkill, Delaware, Esopus Rivers, and most recently Kayderosserras Creek; all within a day's drive of the Champlain Basin.

Didymo, or "Rock Snot," is an invasive algae and is beige to white in color with a wooly texture. Originally known to prefer colder, nutrient-poor rivers, it seems to be gaining tolerance and has become invasive. While not harmful to human health, Didymo can form unsightly mats in rivers that may become barriers to native organisms (caddisflies, mayflies and stoneflies) that are food for fish. As a result, fish populations decline, and fishing becomes difficult. Didymo can travel as a single cell and survive in a drop of water for 40 days. Once Didymo becomes established in a waterway there is no known method of eradication.



Figure 1. *Didymo* growing in Delaware River (NY)



Figure 2. NZ Mud Snail Shells clustered around a dime

While Didymo has received the most media attention, there are other invasive species lurking in waters not far from the Champlain Basin. *Potamopyrgus antipodarum* (New Zealand Mud Snail), for example, infests Lake Ontario tributaries in New York State. This snail is tiny (1/8 in. or 2-3 mm) with brown or black cone shaped shells. They reproduce rapidly, reaching populations of half a million per square meter!

There is a strong concern that New Zealand Mud Snail will have an impact on aquatic food chains as well as negatively affecting the physical environment (sharp edges could keep fish away). The snails can withstand desiccation and are small enough to hitch a ride on an angler's gear unnoticed.

Orconectes rusticus (Rusty Crayfish) also warrants a warning as it displaces native crayfish without replacing natives in the food chain. This could have devastating consequences on angling by decreasing the health of fish populations and the aquatic ecosystem. The Crayfish's robust pointy claws and aggressive nature make them an annoyance to swimmers and anglers. They are often transported



Figure 3. Rusty Crayfish

illegally and as live bait and have been identified in NY waters as well as in neighboring VT, QC.

Spread Prevention:

Anglers are the major vector for transporting river-based invasive species. Because they are invisible or small and illusive to the naked eye, Didymo and NZ Mud Snail are difficult to detect and remove from gear. Fishermen can prevent the spread of these invaders by following the “Check, Clean, Dry” protocol outlined in the “Clean Gear, Clear Water” rack card produced as part of Ausable River Association’s (AsRA) 2010 project (Appendix A). An angler has a number of choices for eliminating invasive organisms from gear when moving between water bodies – drying for 48 hours; soaking in a bleach, soap, or salt solution for one minute; or soaking in hot water above 140 degrees. Felt soled waders require longer soaking and drying times although they can be frozen solid to eliminate Didymo.

Gear choice has a tremendous influence on spread prevention. 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 impacted by unsightly or ecosystem-changing invasive species.

The West Branch of the Ausable attracts \$3.8 million dollars¹ in fishing tourism annually and supports four fly shops and numerous private guides². For this reason the Ausable River Association employed a “River Steward” to educate anglers in the Ausable and encircling watersheds and spread the “Check-Clean-Dry” message.

Methods:

The River Steward was employed from May 1 to October 10, 2011. The Steward’s responsibilities included:

1. Public outreach and education within the Northern Champlain Basin (riverside education of anglers and river users).

¹ NYS DEC Staff, 2003, New York Statewide Angler Survey, Estimated Angler Effort and Expenditures: New York State Dept. of Environmental Conservation, Bureau of fisheries, 625 Broadway, Albany, NY.

² Ausable River Association, 2009, Economic Impact Survey mailing to fly and outdoor gear shops in the Ausable watershed.

2. Present workshops to area Visitors Bureau staff in order to prepare them to be educated informers. Provide bureaus with "Check-Clean-Dry" tip strips. Encourage Visitor Bureau's to educate future river visitors about spread prevention.
3. Support efforts of fly fishing shops in the Tri Rivers Region to develop cleaning stations and provide "Check-Clean-Dry" tip strips.
4. Host a booth at area events and Farmer's Markets.
5. Develop "Check, Clean, Dry" Streamside Poster (Appendix B)
6. Maintain streamside boxes and stock "Clean Gear, Clear Water" Rack Cards.

The 2011 River Steward:

Joel Brandt was interviewed in late April and hired as the 2011 River Steward. In addition to an avid fly fisherman and outdoor enthusiast, Brandt graduated in 2009 from SUNY Plattsburgh with a BA in Geology and MS in Education. Brandt began training in the Elizabethtown office on May 2 on all aspects of the Ausable River Association, River Aquatic invasive species -- Didymo, New Zealand Mud Snail, Rusty Cray Fish, outreach and keeping accurate survey records. A tour of the river and introduction to key fly-fishing proprietors prepared the steward for the 2011 season. Lastly, Brandt attended Lake Champlain Basin Program and Paul Smith's Steward Training for Boat Launch Stewards on May 18th.

Goals and Focus for 2011 River Steward Project:

The River Steward program was new in 2010 and lessons learned from this first season were used to enhance and improve the program for 2011. The following modifications were put into practice:

1. Start River Steward earlier in the spring (May 1st) and continue into the fall (Columbus Day weekend) in order to capture busiest fly-fishing months.
2. Obtain more data on spin fisherman, especially during the hottest parts of summer (mid July-September) when fly-fishing activity slows.
3. Determine if differences in invasive awareness, gear use, and cleaning patterns exist between the two angling groups.
4. Compare data and results from both years.
5. Develop a Facebook page as an outreach strategy.

Work Schedule and Routine Tasks:

It was the goal of the River Steward (RS) to be present on the river during the busiest fishing hours in order to educate the largest number of anglers. Typically, morning and evening hours and weekend days are the busiest times. Weekend days

were of particular interest because visitors traveling from other regions, where they may have recently recreated in infected waterways, were most likely to be in Ausable waters. For this reason the stewarding schedule for 2011 was 4-ten hour days between Friday and Monday.

The RS started patrolling the river at 8 AM, worked until 7 PM, stopping for an hour lunch mid-day. Regular meetings with the Program Director took place on Fridays or Mondays.

One day each week the RS would patrol the Saranac River (generally on Sunday or Monday). The Saranac isn't as popular a destination for fly-fishers but it is a favorite river for local sportsmen. Additionally, the RS would maintain two Wader Wash Stations located on the No-Kill Section along Silver Lake Road, and the No-Kill Section in Morrisonville on Kent Falls Road.

The main objective of the RS was to conduct a survey on angler knowledge of invasive species, their transport, and gear cleaning and to educate uninformed river users about Didymo (etc.) and spread prevention measures. The River User Survey Sheet (Appendix C) was used to collect information on angler awareness. The RS developed a specific series of questions for the survey questionnaire (Appendix D) designed to achieve consistent response data.

An Excel Spread Sheet (Appendix E) was developed to track and analyze the survey data. This program can be used with future RSs to organize and track data.

At noon when fishing was slowest the RS often visited fly shops, local business and hotels/campgrounds/etc to distribute Rack Cards. While waiting to speak to anglers the RS volunteered to collect trash along the roadside, in parking lots, and along the riverbanks.

“Clean Gear-Clear Water” Rack Card

Central to the outreach effort was the “Clean Gear-Clear Water” rack card. This brochure was developed in coordination with the Adirondack Park Invasive Plant Program (APIPP), the Lake George Association (LGA) and the NYS DEC Invasive Species Coordinator. It was designed to be a “sister” card to “Clean Boats-Clear Water” Rack Card produced by the same partners. The card presents cleaning options for fishing gear and information on species of concern to rivers. The RS distributed the cards on the riverside while conducting the river user survey. The RS also distributed the cards at outreach events, fly shops, visitor bureaus, and other NGO's and state agencies, and at eight information boxes along the Ausable's West Branch.

Attachment E contains a printout that can be left with businesses that briefly

explains the rack cards and the message AsRA hopes to spread as well as contact information.

Additional rack cards will need to be made for the upcoming years as only several dozen remain from the 2011 season.

Public Outreach – Events and Businesses:

This segment outlines the varying forms of outreach done in 2011. **The 2011 Outreach Plan** (Attachment H) shows the names of businesses and locations where the RS made contact with businesses, events, and individuals. The Outreach Plan also has the UTM coordinates of river locations where the RS met with anglers.

Farmers’ Markets:

This year the RS hosted information at 2 Farmers’ Markets – one in Keene Valley that also included AsRA’s Native Plant Sale and one in Lake Placid.

Events:

The RS hosted information at 7 events: the Two-Fly Fishing Challenge, Great Adirondack Trail Run, EMS Grand Re-Opening (Lake Placid), Water Fest, Jay Days, Essex County Fair, and Festival of Colors.

Fly Shops:

The RS met with 6 Fly Shops to spread the invasive species information: Two Fly, The Hungry Trout, Wiley’s Flies, Gander Mountain, Dick’s Sporting Goods and Jones Outfitters. None of the fly shops accepted the RS’s invitation to train their staff or guides. Many of the shops had been visited in the 2010 season and all supported the “Check, Clean, Dry” message and distributing the Rack Cards.

Trainings:

The RS conducted 3 trainings: one at the Westport Visitor Bureau and a presentation to two North Country Community College Environmental Science Laboratory classes.

2011 River Steward Reflection on Outreach

Successes

Events

Many of the 2011 events generated positive community involvement and participation. These events included The Two-Fly Fishing Challenge, Jay Days, Water Fest, The Wilmington Festival of Colors, Native Plant Sale (Keene Valley Farmers’ Market), and The Great Adirondack Trail Run. The RS noted that during

these events many people engaged in conversation, asked questions about River invasives, AsRA, and were interested in interacting with the display. In many cases the RS was able to solicit AsRA members, collect donations, and add to the email list of concerned residents. All of these events with the exception of the Keene Valley Farmer's Market could be done free of charge and should be put on the stewarding schedule in future years.



Figure 4. RS, Joel Brandt, stands in display booth at the Wilmington Festival of Colors 2011

Businesses

The RS spent the slower noon-time hours visiting local businesses, restaurants and lodging establishments inviting owners to display and distribute Rack Cards to potential river users. The RS offered a script to businesses to aid them in explaining to river users about invasive species which also contained AsRA contact information (Attachment F).

As in past years, the Fly Shops were an important partner to the RS. Two Fly, The Hungry Trout, and Jones Outfitters continued to be very helpful in educating their guides and customers about Didymo.

Press

This year a local reporter interviewed the RS and AsRA Director, Carol Treadwell, about the program and the importance of protecting the Ausable and other rivers in the Champlain Region against invasives. The article appeared in *The Adirondack Daily Enterprise* and *The Lake Placid News* (Attachment F).

As an experiment with adapting outreach strategies to the digital age the RS set up a Facebook page. The page did not become the tool of outreach we hoped for and has only generated 30 “Likes,” but it seems to be an effective arena for posting links and building interest in AsRA’s mission.

As a side project the RS created a brief video introducing the message of “Check, Clean, and Dry” as being part of the sport of fishing. The video shows the wash stations and displays available to anglers. The video can be found at <http://www.youtube.com/watch?v=n8RkHi-s0T8>

Challenges

A major target of the RS was to meet with area Visitor Bureaus to leave “Clean Gear-Clear Water” rack cards and conduct a brief training on the importance of being educated about invasives. Unfortunately, it proved very difficult to coordinate with Visitor Bureaus to organize a time to schedule such training. The Westport Visitor

Bureau was the only one that arranged for a training time. With the exception of Lake Placid, Visitor Bureaus were very willing to accommodate space for the Rack Cards. The Lake Placid Visitor Bureau reported that they did not often get people inquiring about fishing in the area, and that due to renovations they could not provide shelf space for any of our information.

Several of the events did not seem to be as successful in gaining attention to the RS message. Farmers' Markets did not seem to be a great use of time, as most people did not seem interested in stopping at the booth. The RS felt that time was better spent on the river. Several events such as the Essex County Fair and EMS Display Days also did not seem to generate much interaction. During the slower fly-fishing times these events may be worthwhile and could yield different results in the future.

Thoughts for the Future

Visiting area lodging, local businesses and restaurants with the rack cards and brief message seemed to yield good results. The RS would spend many of the slower hours on the river introducing the RS message and asking merchants to display rack cards. A list of visited business can be found on the Outreach Plan. Most businesses were happy to oblige. In future years, it is recommended to target lodging establishments and businesses that sell Fishing Licenses and fishing gear.

It was nice to draw media attention to the RS program with the local newspapers. Additional attention would also be a benefit to the program in the form of local public radio and television (North Country Public Radio, or Mountain Lake PBS). Doing an interview or brief segment on the air might be an effective way of drawing additional attention to the RS program.

It may also be possible to conduct seminars or community discussions at the ADK Loj, or High Peaks Cyclery Guide House. Continued cooperation with local TU Chapters is also recommended.

Outreach to Different Types of River Users

One of the main purposes of the RS Program is to survey and educate river users on the river. This year a special effort was made to target fly fishers *and* spin fishers to compare behavior patterns. During the warmest weeks of mid July to late August when trout fishing on the Ausable slows the RS visited popular spin fishing areas to interact with a different population of angler, the results of which are explored in the "Results" section.

- The RS spent a total of 500 hours on the river.
- The RS met with 750 River Users.
- When targeting fly fishers the RS spent most of his time on the West Branch of the Ausable and Saranac River.

- When targeting spin fishers the RS spent most of his time at Ausable Point Campground.
- UTM's of fishing locations can be found on the Outreach Plan.

Survey Results

The results of the River User Survey yielded 4 key pieces of information – awareness of invasive species, cleaning patterns, knowledge of methods of prevention, and footwear choice. As described above, this year a special interest was taken to target not only fly fishers, but spin fishers as well, then separate patterns among these types of river user. The following graphs portray the 2011 season data followed by findings from the 2010 RS Program for comparison.

In 2011 the RS surveyed a total of 722 River Users; 405 fly fishers, 237 spin fishers, 11 Canoeists, 28 Kayakers, 41 Other (passerby's, picnickers, etc.). Because of the low numbers of Canoeists and Kayakers the data does not accurately portray the population.

1. Awareness:

The 2011 River User Survey Results (Figure 5) illustrate that Didymo was the most well known invasive species documented by the survey. Fly fishing populations were generally the most consistent at identifying River invasives. Among the fly fishing group 78% were aware of Didymo, 3% were aware of New Zealand Mud Snail, 1% Rusty Crayfish, 22% Viral Hemorrhagic Septicemia (VHS), 8% Whirling Disease, and 25% could name some other type of invasive Species.

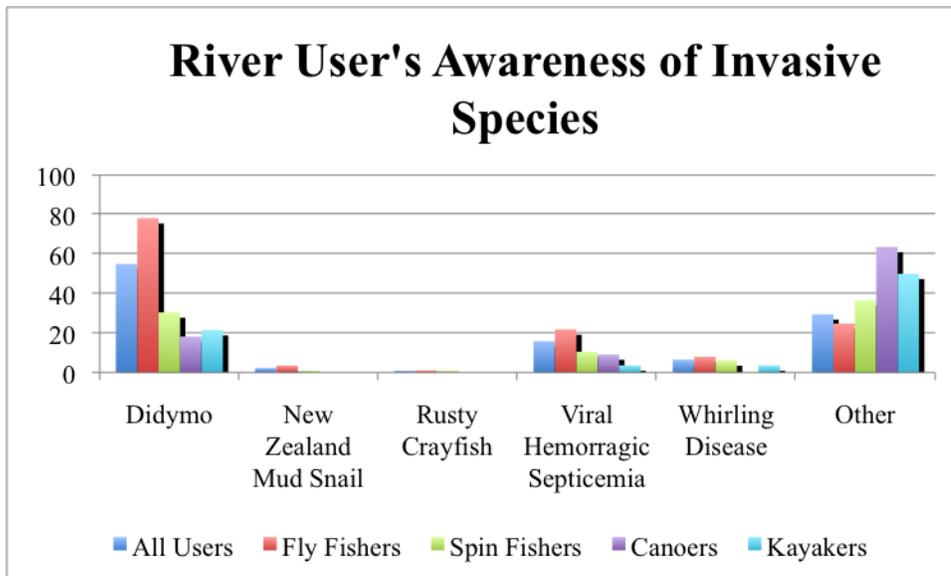


Figure 5. 2011 Data for River User Awareness of invasive Species

The spin fishing population was generally less aware of the types of invasives our survey was most concerned with. In this population group, 30% were aware of Didymo, 1% New Zealand Mud Snail, 1% Rusty Crayfish, 10% VHS, and 6% Whirling Disease. The one exception to this pattern is evident in the “Other” category as 37% of spin fishers could name some other type of invasive (compared to 25% fly fishers). spin fishers could list a host of invasive and nuisance species (Zebra Mussels, Cormorants, Snakehead, Lamprey, Milfoil, etc.) that were not species of specific interest in our survey.

Although the 2010 data does not break the river users into categories, side-by-side comparison shows several important trends (Figure 6). Of the 722 River Users surveyed in the 2011 season, 55% could name Didymo as an invasive. In 2010, 72% could. These numbers could suggest a decline in awareness of Didymo, however, spin fishers were a larger portion of the target audience in 2011. In 2011, 78% of the 405 fly-fishers surveyed had heard of Didymo, while only 30% of the 237 spin-fishers surveyed had. Awareness of Didymo among the fly fishing population has increased slightly. Awareness among spin fishers could be improved.

Breaking down River Users into categories in future survey years will be helpful to determine additional patterns and areas of focus.

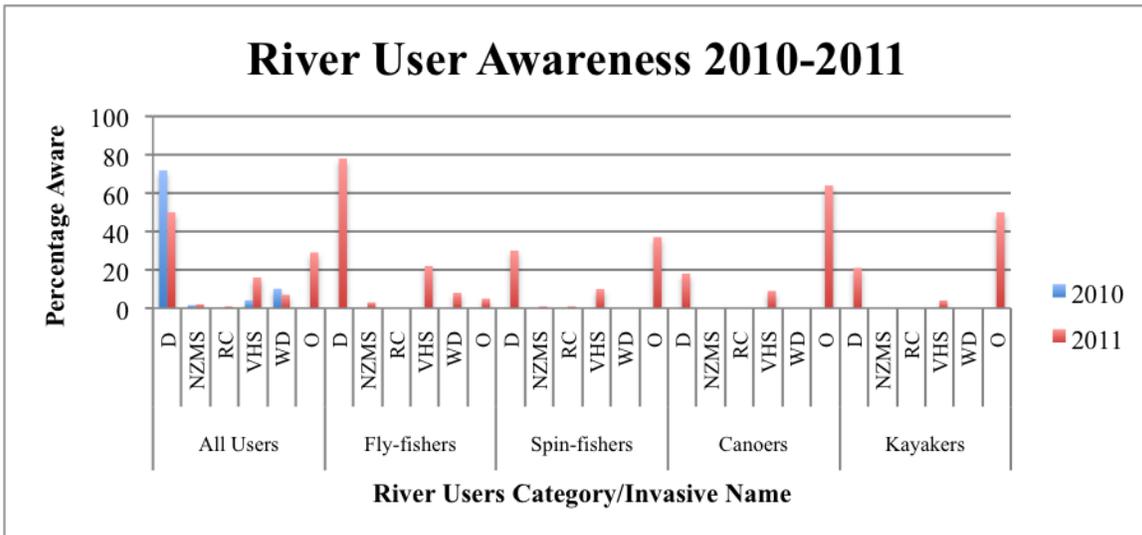


Figure 6: River User Awareness 2010-2011

2. Cleaning Habits

Cleaning habits among River Users is one of the most vital points of data collected in the survey (Figure 3). The 2011 Survey results show that 80% of fly fishers practiced some sort of cleaning or preventative measure (which included isolating gear to one river only). Only 38% of spin fishers reported practicing some sort of cleaning or preventative measure.

There is an 8% improvement in preventative habits among fly fishers between 2010 and 2011 (which correlates with the approximate 6% increase in fly fisher awareness of Didymo in 2011). There was an increase in preventative habits among spin fishers from 9% in 2010 to 38% in 2011. In 2011, 237 spin fishers were surveyed which is an increase from 99 surveyed in 2010. It may be that this increase in survey numbers portrays a more accurate representation of spin fishers' habits.

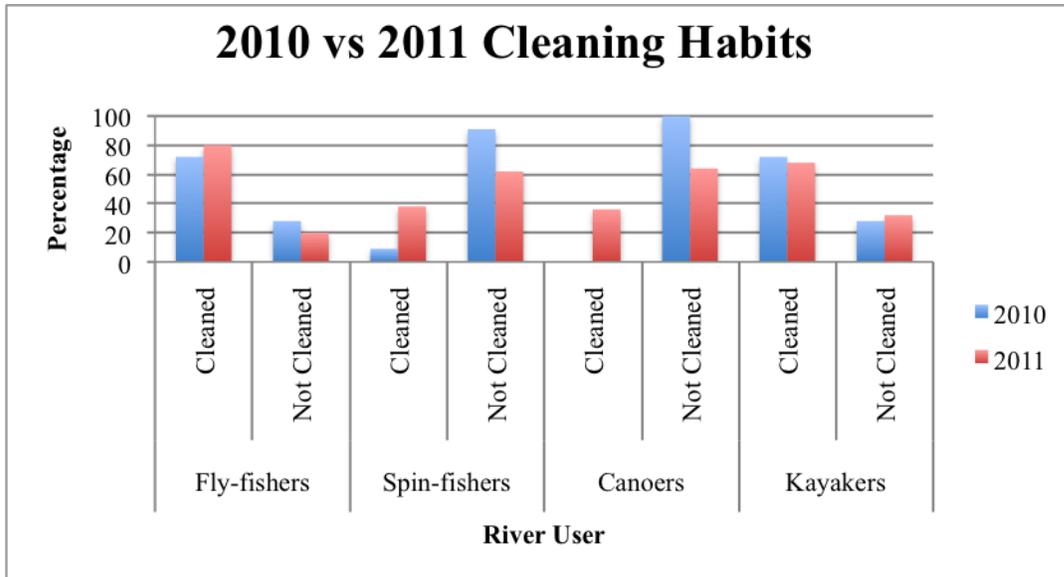


Figure 7. Comparison of 2011 and 2010 Cleaning Habits for Different Categories of River Users

3. Methods of Prevention

Of the 2011 River Users who reported cleaning their gear, drying gear for at least 48 hours was the most popular method of spread prevention (32% of All Users). 22% of all users reported “drying” their gear between fishing trips but were not aware that gear had to be completely dry for 48 hours to destroy any lingering invasives. 23% of all users who cleaned their gear followed an “Ausable Only” practice and limited that gear to only the Ausable River Watershed. Alternative chemical treatments such as bleach, soap, and salt combined composed less than 25% of the preferred methods for treatment. Freezing gear was practiced by only a small number of river users. Of special note is the trend for river users to report that they used the Wader Wash Stations after they were placed at 3 locations on the Ausable River in early September. It is recommended to include a question about use of Wader Wash Stations on next year’s survey.

When compared with the 2010 survey data, several trends emerge. Although percentages differ, the most popular method of prevention continued to be drying gear, followed by isolating gear as “Ausable Only.” 2010 Soap and Salt prevention

percentages comprised a higher lumped amount than in 2011, (in 2010 about 28% used a chemical compared to about 22% in 2011).

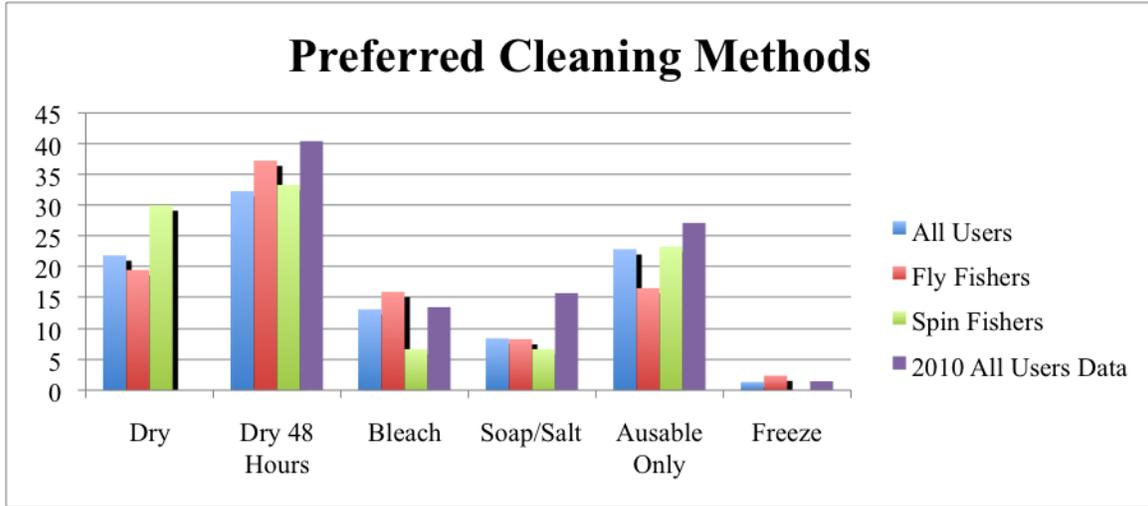


Figure 8. Preferred Cleaning Method for Different Categories of River Users

Please note that these percentages show the methods of prevention among *those who reported practicing spread prevention methods*, it does not reflect the averages of all surveyed River Users.

4. Footwear Choice

Fly fishers

2011 survey results (Figure 9) show that footwear choice among fly fishers shows a

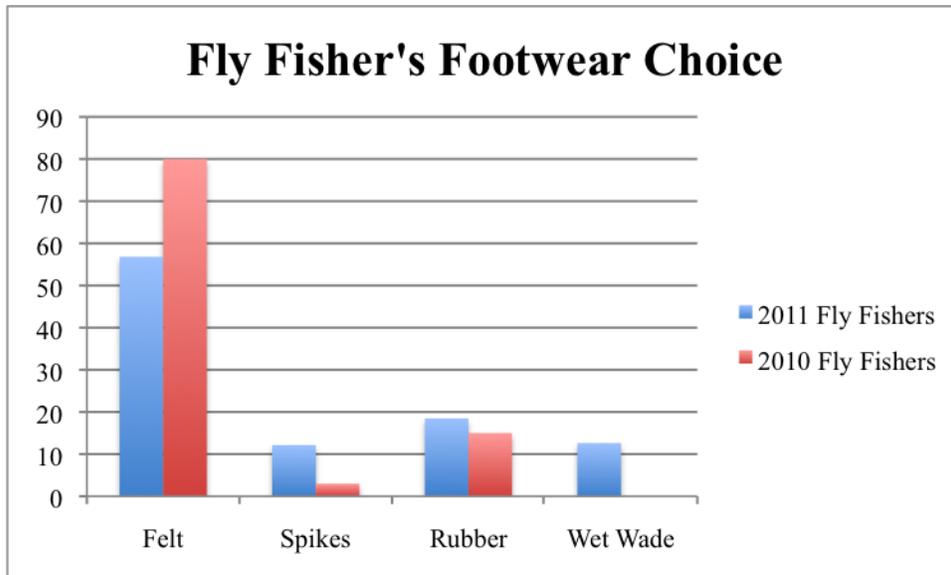


Figure 9. Comparison of 2010 and 2011 Fly Fisher's Footwear Choice

trend away from felt soled waders and boots. In 2010 nearly 80% of surveyed fly fishers used felt, in 2011 the percentage was 57. As anglers rely less on felt they have turned to alternative options. Although rubber comprised a higher percentage than spike soled boots, anglers surveyed seemed most pleased with the spike option and remarked that it gave them the greatest amount of traction. 13% of fly fishers reported that they practiced wet wading using sandals, sneakers, or never waded into the water. Wet wading totals were not recorded in 2010.

Spin fishers

When comparing 2011 to 2010 data is important to remember that in 2010 the RS surveyed 99 spin fishers while in 2011 the RS surveyed 237 in additional locations (beyond the Ausable’s popular fly fishing stretches). 2011 data shows that most spin fishers are generally classified as “Wet Waders”. This means that they do not use special gear when fishing (and thus wash those clothes) or never enter the water choosing instead to fish from shore or boat. Figure 10 displays the data related to spin fisher’s Footwear Choice. 2010 data did not specifically account for the percentage of spin fishers who opt for a Wet Wade, so no comparison can be made at this time. We can see a 20% decrease in the number of spin fishers who reported using felt boots and waders and an increase in those who use spikes. Rubber foot wear trended slightly down from 2010 by 3%.

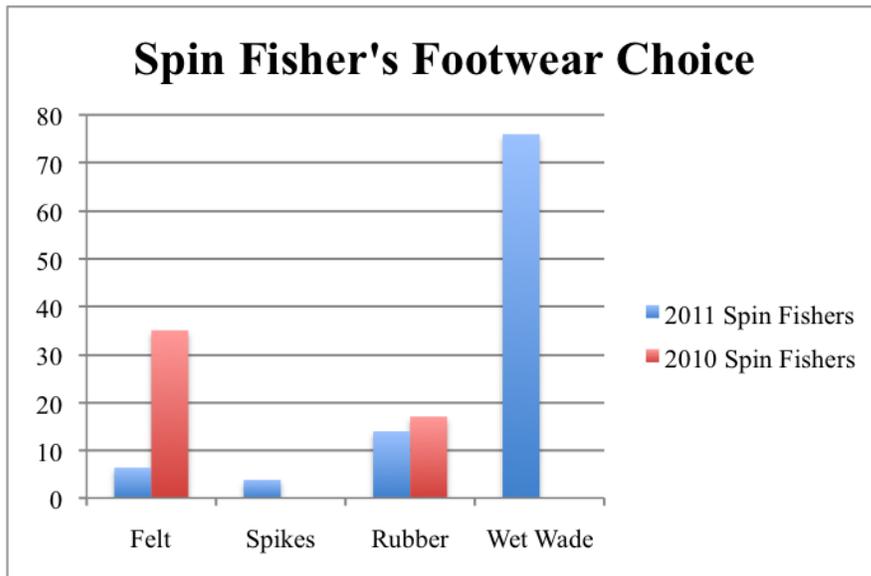


Figure 10. Comparison of 2010 and 2011 Spin Fisher’s Footwear Choice

2011 River Steward Season Summary

Herein are the personal thoughts and opinions from Joel Brandt based on his experiences as AsRA’s 2011 River Steward.

2011 successful practices for reaching anglers

Timing

As in 2010 it proved difficult to manage time in a successful way to interact with anglers. As RS I often found myself waiting for extended periods of time between contact with fly fishers. I think the best tactic for interacting with fly fishers was to wait at the most popular areas (Whiteface, Monument Falls, Iron Bridge, Quarry Hole, Route 85 Bridge, Lake Everest and Shadow Rock) and talk to anglers as they arrived or as they returned to their cars. When talking to spin fishers I would often approach them as they were fishing if it didn't seem as though I would be disturbing them too much.

Providing Information that Concerns Anglers

After talking to anglers and asking them the survey questions I was glad to offer what insights I could about fishing and the river conditions (being a fly fisher myself). I believe it is an added bonus to have a RS that is also an angler. Anglers were often curious as to what flies to use (keeping in touch with the fly shops and guides was helpful here). I also carried a small hatch chart I could show anglers. Keeping up to date on what types of fish, size, and numbers were being caught, and where, was a nice piece of information to share with anglers as well. Although I promised anglers I wouldn't need more than 4 minutes of their time, they often initiated conversations that lasted 15 minutes or more. I was glad to offer help to the anglers with everything from restaurant suggestions or fish and river flow levels.

Picking Up Trash

One of the best ways to ensure a positive conversation with river users was to let them see me pick up trash along the river. I spent many hours removing bags of trash while waiting to speak to anglers. Not only did this help public relations, but it also helped keep the river clean and beautiful. By the end of the season I had collected over an estimated 1,200 lbs. of trash from the Saranac and Ausable Rivers.



Figure 11. An old pair of waders among a bag of trash collected on the Saranac River.

Information on Hand

Every time I met with an angler I had a binder with pictures of Didymo and a map of its verified location in the Continental United States. I suggest future RSs carry a copy of the Wader Wash Station Flip Book (Attachment I). It was very convenient to have several good visuals to illustrate my message. I also carried Public Fishing Rights Maps from the NYSDEC to give directions to other fishing locations on the West Branch of the Ausable. The maps can be accessed at: <http://www.dec.ny.gov/outdoor/9924.html>

Wader Wash Stations (WWS)



Figure 12. 2010 built Wader Wash Station on the Saranac River.



Figure 13. New 2011 Wader Wash Station for use on the Ausable West Branch

In 2010, a partnership with Trout Unlimited allowed two Wader Wash Stations to be built and placed along the Saranac River. This year I placed them at the No-Kill Section in Morrisonville and the No-Kill Section at the intersection of Silver Lake Road and Route 3. An additional Wader Wash Bin was given to the Hungary Trout Fly Shop and kept on their deck for passing anglers. While speaking with anglers many mentioned the need for having Wader Wash Stations along the West Branch of the Ausable. Many of the “more traveled” anglers even mentioned using and appreciating the Wader Wash Stations on the Saranac (an hour or so drive away). I began taking an informal poll to see how many anglers would use and appreciate having the cleaning stations on the West Branch. Every angler I asked (approximately 30) seemed to think it was a good idea. Additionally, it was suggested by several of the local businesses with whom I met with that there be a convenient location to point anglers in to clean gear before entering the Ausable.

In early August, AsRA was provided funds from the Essex County Water Quality Coordination Committee to construct and maintain 3 new Wader Wash Stations. The RS built the stations in late August and placed them on the West Branch by the first weekend of September 2011.

WWS Design

The RS felt that he could improve on the design of the original Wader Wash Station, specifically by creating a collapsible station for easier transportation and storage, and an enclosed box that could store information, pamphlets, and other materials.

WWS Flip Book (Appendix I)

The RS created a booklet of information about Didymo and other invasives in 2011. The booklet is meant to serve as a means for river users to quickly access information about the threat of invasives, urge river users to clean their gear, and methods for how to do so. The Flip Book was laminated and placed in each of the Wader Wash Stations.

Cartoon (Appendix J)

In RS also created a cartoon to draw interest to river users to encourage the “Check, Clean, Dry” practice. The cartoon was laminated and placed in the Wader Wash Stations.

Saranac WWS Placement in 2011

Wader Wash Stations were placed in the No-Kill Sections of the Saranac River on Kent Falls Road in Morrisonville, and at the intersection of Route 3 and Silver Lake Road. Both Stations appeared to get moderate use.

West Branch Ausable WWS Placement in Fall 2011

Stations were placed at Route 86 Bridge, Monument Falls, and Whiteface Mountain. All stations appeared to be used and several anglers reported using them as a cleaning practice. In the future I believe it would be a good idea to have a station at Iron Bridge on River Road (considering permission from the private landowners there) and to include a column on the River User Survey to include those who clean with the wader wash stations.

Comparing Fly Fishers and Spin Fishers

One of the project goals for the 2011 season was to target spin fishers to accumulate survey data for comparison. Roughly one third of the anglers surveyed represent the spin fishing population. There are several significant implications for the spread of invasives.

- The data suggests that fly fishers are more likely to clean their gear and be aware of Didymo.
- As reflected in the Results and Data Summary sections, the spin fishers were far less likely to clean their gear or be aware of Didymo. That said, many of them could name a type of invasive species not a part of our survey. Lamprey, Snakehead, Cormorants, Milfoils and Zebra Mussel were common responses, while Didymo was not. Many spin fishers were aware of diseases associated with live bait such as VHS, and Whirling Diseases (WD).
- Of the spin fishers I surveyed, most seemed to be more casual in their fishing hobby and did not travel far from their regular fishing holes-as compared to fly fishers who often travel hundreds (if not thousands) of miles to fish a new river. For this reason the transport of invasives may not have as large an

area of spread for spin fishers.

- Spin fishers generally did not generally enter the water, thus the only thing getting wet was their tackle. While some spin fishers did use felt-soled waders (6%), the vast majority (80%) opted for a wet wader or never entered the water at all. The likelihood of their gear having the potential to spread *Didymo* cells would be less than that of a fly fisher who consistently enters the water.
- Fly-fishers as a whole seemed much more responsive to the “Check, Clean, Dry” message, seemed more engaged in the conversation, and often had questions about *Didymo*. Spin fishers on the other hand were not as responsive to the message and did not seem to be as worried about the spread of *Didymo* as compared to other concerns such as invasive fish species, fishing regulations and fishing licensing.

Stop “Rock Snot” Signs

AsRA received 110 “Stop Rock Snot” Signs. In August, 6 signs were posted on the Saranac and 34 signs were posted along the Ausable River at the most popular fishing pull offs. In an attempt to reduce sign pollution, signs were nailed to trees/posts where there were already signs (“Special Fishing Waters”, “Public Fishing Stream”, etc).

Unfortunately, by September a number of the signs seemed to have been removed. It appears unlikely that Nature alone is to blame for the sign removal, so it is the recommendation of the RS to post signs high (out of easy reach of the general public) and use 4 sturdy nails to hold the signs in place. As of October approximately 10 signs had been removed or were missing. The remaining signs are in storage for later use.

Garbage Pick-up and Removal

The RS used a lot of surveying “down time” to improve the visual appeal of the river. By the end of the season the RS had removed 42 large garbage bags of trash totaling approximately 1,200 pounds.

Trash seemed to accumulate in several areas no matter how much I picked up. Although I could consistently find garbage all along many river/roadsides these areas often contained enough litter to easily fill a large bag. Additionally, the following areas seem to have steady flow of garbage that kept me busy:

Ausable River

- Whiteface Mountain Parking Lot (most likely from plowing winter snows and associated litter).
- Carpenter’s Flats
- Ausable Point Campground (lots of litter seemed to accumulate from the

many anglers that visit that area: worm cartons, beer cans, coffee cups, fast food wrappers, fishing line, cigarette butts)

- Old Mill Dam on Ausable Drive, Ausable Forks
- Lake Everest

Saranac River

- Kent Falls Road Pull Off in Morrisonville
- Route 3 Pull Off (just west of Ore Bed Road Bridge)
- Fishing access pull off at the Intersection of Route 3 and Silver Lake Road

I also noted several areas of what appeared to be recent/continuous illegal dumping. These sites contained everything from numerous large bags of trash to old tires, paint cans, and furniture. Because of the magnitude of trash in these locations, I did not attempt to remove any of the material.

Ausable River

- Old Mill Dam on Ausable Drive, Ausable Forks
- Fishing access pull offs on Dugway Road, Clintonville
- Fishing access pull offs on Route 73 near the ski jumps

Saranac River

- Fishing access pull off at the Intersection of Route 3 and Silver Lake Road

The River Steward Program's Second Year

As the River Steward Program continues, the impacts and work of past contributors is becoming evident. The 2011 RS reported that he often met with anglers who not only remember meeting with the prior year's RS, but also were anxious to show their new "non-felt" boots to the current RS. Occasionally when approaching anglers the RS would hear "yes, I cleaned my gear and know all about Rock Snot."

Anglers often expressed their appreciation for the River Steward Program and were very pleased with the presence it creates on the river. Despite an occasional initial disinterest in talking to the RS, most river users seemed to have finished the experience glad for the opportunity to learn something new.

Thoughts and Lessons from Interactions with Anglers

Switch from felt

Although I met with many anglers who were very adamant about not wanting to change their felt soled waders/boots, the vast majority understood the rationale. Their reactions ranged from a kind of fair acceptance to eager excitement (which may include having an excuse to upgrade from an old pair of boots to a brand new pair). Those who used spiked soled were by far the happiest about the switch (some went so far as to say that they performed better than felt). Plain rubber did not

seem to do an adequate job of providing traction on the Ausable's many treacherous rocks and slippery river bottom.

Didymo awareness and concern among river users

Fly fishers were without a doubt the most concerned group of people I met as RS. Many were very knowledgeable about Didymo (and other invasives). Several had started independent projects to increase awareness on their local fishing holes or TU chapter/fishing clubs. Although concerned, the majority of anglers I met are not interested in going very far out of their way to take preventative measures to reduce the spread of invasives on their own. I believe this is why Drying Gear is the most popular form of spread prevention (very little effort is needed to stop aquatic hitchhikers). As long as invasive spread prevention in our recreational waterways is viewed as a personal choice and responsibility I think we will have the greatest success in making methods of spread prevention as easy as possible to the casual river user. Emphasizing the importance of Drying Gear for 48 hours between fishing trips is in my opinion the easiest and cheapest means to achieve a reduction in the spread of invasives. Wader Wash Stations at popular fishing access sites is important as well. Although many anglers say they are interested in stopping the spread of invasives I believe the majority of anglers will do little else than dry their gear unless there is an easy and convenient way to chemically treat their gear.

Other invasive awareness and concern among river users

Many of those I spoke to (especially at farmers' markets and other events) expressed a lot of concern about the Indian Cup Plant that is spreading rapidly along the Ausable Shoreline. In early August when the flowers bloom this issue is particularly evident.

Several informed people mentioned the threat of the Chinese Mystery Snail that is appearing in more and more New England Waterways. This invasive should perhaps be included on the Survey Sheet or Future Rack Card, as well as in discussion with River Users.

Of special interest this year was the concern of flooding, erosion, and river maintenance along the Ausable.

Appreciation for RS program, WWS, and AsRA:

Many of those to whom I spoke expressed their appreciation for the work AsRA does. The outreach at local events is a great way to inform residents of the various projects AsRA initiates. Many of the River Users I spoke with were glad to have the RS program and happy to see that Wader Wash Stations were being placed on the river. As aquatic invasives become a greater threat to recreational rivers Wader Wash sites are becoming more common, however it is good to see the Ausable River on the front lines to combat the spread of invasives.

Increased numbers of visitors from Canada

There has been a noticeable increase in the number of Canadians who come to the

Ausable to fish and recreate. As such it is important to note that it may be of interest to have information or a RS who can speak French. Additionally, having access to materials on the Canadian side may be an important consideration. The 2011 RS was able to leave materials at the Rest Stop just north of Exit 40 on I-87 Southbound for those traveling from the North. I believe this Visitor Center/Rest Stop will be an important partner in future years.

Repeat Anglers

Many (perhaps 25-30%) West Branch anglers have been coming to the West Branch for numerous years as planned fishing trips. I found that it is important to reach these anglers as they often make return trips to the Ausable and begin traditions that younger anglers then follow. Getting this population group on board with the invasives spread prevention message is an important part to creating a culture of river protection among Ausable River Anglers.

Needs and Suggestions for Future Success

Target locations where fly fishers stay while visiting Ausable Watershed

I believe it will important for future RSs to find and target the areas where River Users stay while on multi-day excursions. Leaving information for anglers to look at while planning their day's activities would be an effective way to spread our message.

Wader Wash Stations

I believe that providing an easy means for anglers to clean their gear is very important. When surveying River Users future surveys should include a column for those who cleaned their gear with the Wader Wash Stations.

Media coverage and attention to "Check, Clean, Dry"

This year we were able to get a nice article in two area newspapers with a large color picture. In future years it may be a good goal to get a quick interview on an NCPR program such as "Heard Up North" that can re-air from year to year.

Fishing License "Check, Clean, Dry"

Targeting stores and business that issue fishing licenses to spread the message about the importance of "Check, Clean, Dry" each time you go fishing would be a great way target new anglers.

"YouTube" film

I created a brief film, and posted it to YouTube, about using the Wader Wash Stations and the importance of protecting the Ausable River. It is by no means a work of art and could certainly be improved upon by someone with more filming talent, better gear, and an extra set of hands.

Appendix Attachments

- A. Rack Card
- B. Streamside Poster
- C. River User Survey Sheet
- D. Survey Questionnaire
- E. Rack Card Attachment
- F. Newspaper Article
- G. River User Survey Excel (see attachment file)
- H. Outreach Plan (see attachment file)
- I. Wader Wash Flip Book (see attachment file)
- J. Wader Wash Cartoon (see attachment file)



When you move from one waterway to another **CHECK, CLEAN, DRY** to avoid transporting unwanted aquatic hitchhikers!

CHECK for and remove all mud, plants, and 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, life jackets) require soaking times of 40 minutes.

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



STOP AQUATIC HITCHHIKERS!™

Prevent the transport of nuisance species.
Clean all recreational equipment.
Particularly waders boots.
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 Out for:



Vermont Department of Environmental Conservation

Didymo (AKA Rock Snail)

- A light brown to beige algae with a rough cottony feel
- Forms mats on river bottoms that become barriers to native invertebrates
- A single Didymo cell can survive for months in a single drop of water!



U.S. Geological Survey

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!



T. Gerdner & D. J. Bak. Aquatic.org

Live Bait

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

For more information go to protectyourwaters.net or www.dec.ny.gov/animals/50267.html



WARNING

Stop Rock Snot!

The Invasive Algae "Didymo" is present in nearby waterways* but the Ausable River is UNINFECTED. **PLEASE HELP US KEEP THIS RIVER INVASIVE FREE!**

CHECK



Remove algae and debris

CLEAN



Soak in solution or water at 140 degrees

DRY



48 hours

as of 2010 Didymo was confirmed in the following waterways: Battenkill, Connecticut, Delaware, Lamoille, Mad, White, Esopus, Kayderosserras



PLEASE DO YOUR PART
Don't Spread Didymo!



River Users Survey Form 2011			River: _____				Steward Name: Joel Brandt		Date: _____			
Total # of Groups: _____			Weather AM: _____		PM: _____		(sunny, partly sunny, overcast, rain)					
	Time	Access Point	Survey? (Yes/No)	Group Size	Eqpt. Type	Boot Type	Waterbody Name, State	Cleaned? (Yes/No)	Prevention Method	Didymo? (Yes/No)	Other River AIS?	Brochure ? (# given)
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
Time - military time		Access Point = Name of fishing access as listed on the Ausable Brochure										
Equipment Type: FF=Fly Fishing; Ba=Bait; SP=spin Casting; C=cance; K kayak; R=Rowboat, M=Motorboat												
Boot Type: Felt=Felt Boots; Sp=Spikes; R=Rubber "clean river"; N/A=not applicable												
Water Body Name: Name of other river(s) fished in the last month and the state in which the river is located										Cleaned? (Yes/No)		
Prevention Method: S=Soap; B=Bleach; Sa=Salt; H=HOT water (140F); D=Dry; D48=for 48 hrs; Fr=Freeze; AO=Ausable On												
Hear of River AIS? What other Invasive Species do you know of that specifically affect rivers?												
NZ=NZ Mud Snail; RCF=Rusty Cray Fish; VHS; WD = Whirling Disease; ZM=Zebra Mussel; O=Other												

River Steward Streamside Presentation

Joel Brandt 2011

Hello my name is _____, I work with the Ausable River Association. We are working to prevent the introduction and spread of AIS through our river systems.

Do you have a few minutes to answer some questions that will contribute to our efforts?

Today I'm conducting a survey, and promoting awareness about some of the ecological concerns that threaten the health of the Ausable River primarily with the spread of invasive species.

Survey Questions:

(Fill in **ALL** additional information on survey before leaving participant. Write "N/A" rather than leave any blank information)

Question	Answer "Yes"	Answer "No"
1. Do you know of any particular invasive species that specifically threaten the Ausable River or other river systems?	Record answer on survey, proceed to question 2	A. Describe that an invasive species is any non-native organism (plant or animal) that has negative ecological, environmental, or economic impacts its habitat. B. See if they can now think of any invasive species and proceed to question 2
2. Do you personally follow any preventative methods to reduce the spread of invasive species?	Record specific methods on survey	A. Continue on to question 3
3. What other water bodies have you fished in the last 30 days? (Name and State)	Record name and state of waterway	A. Record "N/A" in box

Distribute Tip Strip and educate if participant answered “No” to any of the three questions (see next chart).

Question 1	<ul style="list-style-type: none"> A. Review what we consider an invasive species and why we are interested in keeping the Ausable River as pristine as possible. B. Describe the main concern of Didymo, New Zealand Mud Snail, Rusty Crawfish, Viral Hemorrhagic Septicemia (VHS). C. Describe that river uses (fisherman and boaters) are the main vectors of transport as well as the front line of defense against these types of invasive species.
Question 2	<ul style="list-style-type: none"> A. Review the procedure of “Check, Clean, Dry” on the Tip Strip. B. Describe the Wader Wash Stations, and cleaning options. C. Inform and encourage the use of non-felt soled boots and waders as well as state laws the companies that promote such gear advancements. D. Leave participant with the idea that responsible fishing habits include cleaning gear.
Question 3	<ul style="list-style-type: none"> A. Describe that Didymo is an encroaching threat on the Ausable River. Nuisance blooms have been found in Vermont in the Battenkill, Connecticut, White, Mad, and Lamiolle Rivers. In New York is has been found in the Battenkill, Delaware, Esopus, and Kayderosserras Creek. B. How to identify invasive species and how to “Bag, Tag(location and date), and Flag (get sample to DEC)”.

Thank participant for their help.

Offer any additional information or materials that participant expresses interest in.

Ask if they have any other questions or concerns.

Wish them happy fishing on the river.



Hello,

I am working this with the Ausable River Association (AsRA) as the River Steward for the Ausable, Saranac and Boquet River Watersheds. These unique rivers provide vital ecological, economical, and recreational opportunities for the North Country and the many human and non-human visitors the Adirondacks attract each year. As the River Steward, my main objective is to preserve the natural and distinctive character of these water bodies. Perhaps the greatest threat to these rivers is risk of introduction of river-specific invasive species that have the potential to dramatically alter the value and charm that we as residents of the North Country both love and rely upon.

Education and awareness among river users is the keystone to supporting a healthy and productive river that provides outdoor enthusiasts with the kind of experiences that only a vibrant and ecologically diverse Adirondack Wilderness has provided. Your business services greatly contribute to the experiences that shape visitors' interactions with the outdoors this season and seasons long into the future. It is my hope that you can assist us in spreading the message of preservation and protection of the watersheds that define our home in the North Country.

Enclosed is a stack of rack cards that can be distributed to River Users (specifically anglers and boaters). The message we are hoping to spread includes both an awareness of some of the invasive and nuisance species that target river systems, and the message to "Check, Clean, and Dry" your gear in order to kill any aquatic hitchhikers that may unknowingly become transported to our pristine waters. If you have any questions, concerns, or thoughts concerning this message please contact us. As River Steward I have additional materials and a brief presentation that can be scheduled at your convenience for you and your staff to better inform you of the details and many of current issues concerning invasive Species in the Adirondacks. Many thanks for your cooperation and interest in protecting our resources!

With Best Regards,

Ausable River Association
Connecting Communities, Protecting the
River



If you would like additional materials or information please contact us.

P.O. Box 217, Elizabethtown, NY 12932
7933 Court Street, Elizabethtown, NY 12932
(518) 873-3752

www.ausableriver.org
info@ausableriver.org
steward1@ausableriver.org

Additional Didymo ("Rock Snot") Links:
<http://www.dec.ny.gov/animals/54244.html>
<http://www.youtube.com/watch?v=Wcp719utyms>

**Thank you for helping us keep our
Adirondack Rivers Pristine!**



**STOP AQUATIC
HITCHHIKERS**

**Please pass on this message to
anglers and river users:**

1. Have you heard of Rock Snot? You may be unknowingly transporting harmful invasive species to your favorite fishing spots.
2. Adirondack Rivers are uninfected and we're trying to keep it that way.
3. Please Check, Clean, and Dry your gear each time you exit the river.

Joel Brandt
AsRA River Steward
(518) 524 -7471 - cell phone
Steward1@AusableRiver.org

Newspaper Article Link:

<http://www.lakeplacidnews.com/page/content.detail/id/503693/River-steward-on-the-lookout-for-invasives.html>

River steward on the lookout for invasives

June 8, 2011

By MIKE LYNCH, News Outdoors Writer

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WILMINGTON — With water temperatures warming up and hatches in full swing, fly fishermen will be hitting the West Branch of AuSable River.

That's good news for the Wilmington region, whose economy depends on fishing tourism, but it also means there's more risk invasive species entered the valuable waterway.

That's where AuSable River steward Joel Brandt comes in to play. His job is to educate the public on threats now facing the river.

The river steward program is run by the AuSable River Association and funded by the Lake Champlain Basic Program, with assistance from the Champlain Valley Chapter of Trout Unlimited.

Brandt's job has three main tasks. He's responsible for educational outreach with visitors' bureaus, talking with staff at fishing shops and interacting with fishermen and other outdoorsmen on the water.

The main threat to the West Branch of the AuSable river is didymo, or rock snot. This algae can smother entire stream beds with mats as thick as 8 inches and ruins the habitat for fish, insects and recreation users.

“Studies show (rock snot) affects invertebrates, specifically the mayflies and the caddis flies, which you would think would have repercussions to the fish population because that's their food,” said Carol Treadwell, who heads of the AuSable River Association. “The real negative impact to the fishery is that it makes fishing difficult, fouls your line. It's difficult to walk through the stream. It's not a pleasurable experience.”

Rock snot is found in several rivers in Vermont and New York, including the Esopus River in the Catskill Park and the Kayaderoseras Creek in Saratoga County. It has made fishing in those rivers much less pleasurable.

“It kind of ruins the experience,” Brandt said. “It looks like wet toilet paper or insulation. It makes the river look like it's polluted.”

Rock snot travels on the bottoms of felt-soled boots and other fishing gear. Because it's so small, it's sometimes impossible to notice. The AuSable River Association and many other conservation-minded

organizations recommend that fishermen take steps to clean their gear in between fishing trips. Rock snot is killed when submerged in water above 140 degrees Fahrenheit, bleached or put into detergent or very salty water. Items can also be frozen. If cleaning steps cannot be taken, it's suggested that fishermen dry their gear for 48 hours.

Rock snot could be very damaging for the West Branch of the AuSable River, which has a strong reputation for trout fishing. The river is stocked with thousands of brown and rainbow trout annually, including some as large as 20 inches long.

"The AuSable is know for its fishing," Treadwell said. "It brings in \$4 million of fishing tourism annually, which is a quarter of all the fishing tourism in Essex County, but there's unnamed dollars it attracts in scenic tourism."

As part of Brandt's job he asks the fishermen if they have been to river's where rock snot is present and if they are aware of invasive species. Last year's survey showed that the majority of fly fishermen were aware of rock snot but that most spin fishermen were not.

But rock snot isn't the only invasive that the AuSable River Association is concerned about. Other river invaders include the New Zealand Mud Snail and non-native crayfish and minnows. The mud snails are tiny, about one-eighth of an inch, but they reproduce quickly and can reach a population of a half million per square meter. These snails deplete food supplies for trout and disrupt the ecosystem.

Live bait can be problematic because it can carry diseases like viral hemorrhagic septicemia, which is fatal to fish.

For the most part, fishermen and outdoor enthusiasts have been receptive to the river stewards, according to Brandt and Treadwell. They don't want to see the river ruined either because they are there to enjoy it.

"I'd say the majority, 90 percent, of the people are receptive," Brandt said. "Occasionally, I bump into people that are really receptive. Those people are generally people that have fished in rivers like Battenkill or Delaware all their life and then when didymo became present that was a huge bummer for them because it spoiled a spot that was a favorite."



Mike Lynch/Lake Placid News
Carol Treadwell, executive director of the AuSable River Association, stands with this summer's river steward Joel Brandt.