

Dave Kumlien discusses whirling disease and Trout Unlimited's approach to aquatic invasive species – January 2010

In the mid 1990's Dave Kumlien was the owner of Montana Troutfitters, a successful fly shop in Bozeman MT. Dave had run one of Montana's best fly shops for years and when Whirling Disease (WD) was discovered to be decimating wild trout populations in the west, he and several Bozeman area trout conservationists stepped forward to help. Dave became one of the founders of the Whirling Disease Foundation, a private non-profit foundation created to help fight WD. Invasive species have ways of changing our lives that we don't expect and that sure happened with Dave. Following the sale of his fly shop in 1998, Dave began part-time work for the Whirling Disease Foundation and then assumed the full-time responsibility of directing the work of the Foundation in 2000. In 2001 Dave and the Whirling Disease Foundation received the Outdoor Life Conservationist of the Year for work on whirling disease.

For more than a decade the Foundation directed millions of dollars of federal, private, and state funds toward WD research and led the effort to protect our waters from WD. In 2007, the WD Foundation merged with Trout Unlimited and Dave has continued as the Executive Director of the Foundation and serves as the invasive species specialist for Trout Unlimited. Dave was the author of TU's call for the elimination of felt and works tirelessly to help protect our waters from all types of invasives.

No one is closer to the fly fishing industry, individual anglers and invasive species than Dave and we are pleased to bring you his thoughts on some of the invasive species issues that are impacting us all.

Dave, As the Author of Trout Unlimited's call for the elimination of felt you have been at the center of the felt free debate. There has been remarkable progress made by boot companies to develop new products to replace felt and many anglers are switching to felt free alternatives. How would you evaluate the industry and angler response to the TU call to action?

Overall, the response has been positive. When we proposed the "eliminate the use of felt soles" policy at the national Trout Unlimited meeting in Salt Lake City in 2007, one of the goals was to use the policy to help change the paradigm of thinking about aquatic invasive species amongst TU membership and in the fly angling community. Up until that time, the fly angling community had not been engaged in the AIS problem. Many believed AIS were only a problem for boaters dealing with Zebra mussels and didn't affect them. While there is general support for the "eliminate felt" policy amongst anglers, there are plenty of skeptics. I actually find the skepticism refreshing in that the skeptics are at least giving serious thought to an issue that a few years previously they paid hardly any attention to.

A lot of anglers have pointed out that felt soles are only one of the problem areas in boots. Boot laces, insoles, cuffs and a host of other nooks and crannies can hide invasives. Many anglers wonder why the focus is on felt when all of these other problems exist.

This question represents exactly the sort of reaction we'd hoped for in proposing the "eliminate felt sole" policy. It is true there are many other potential vectors for AIS,

and we realize that eliminating felt soles does not address all of them. However, included in TU's policy announcement was a strong admonition to anglers to not only eliminate the use of felt but to adopt the Clean Angling practices espoused in the Clean Angling Pledge (CAP) developed by Bob Wiltshire at the Center for Aquatic Nuisance Species. By adopting the recommendations contained in the CAP to Inspect, Clean, and Dry angling equipment and to avoid moving fish, fish parts, water, and plants between drainages, anglers will go a LONG way toward reducing the risk of spreading AIS. Understandably, there has been a lot of focus on the felt issue, but the implementation of clean angling practices may have as much or even more to do with the reducing the risk of spreading AIS.

A lot of anglers ask about chemicals that can disinfect their waders. In some places there are actually tubs for disinfecting boots that are open to the public. However, in most places there are no disinfection stations. What should anglers do to disinfect their gear?

TU has stayed away from recommending chemical treatment of gear, and it appears that most fish and wildlife agencies are doing the same. There is some risk involved in these chemical treatments. The specter of the public armed gallons of chlorine bleach or Sparquat disinfecting their gear along the banks of our rivers and streams is unsettling and potentially dangerous. In addition, in the case of most chemical treatments, the treatment requires full immersion of gear for a period of time, often more than 15 minutes. Plus, there really isn't one chemical treatment that gets all the AIS. So, in addition to potentially damaging fish gear, we believed that complicated, tedious and messy chemical treatment has a very low probability of being implemented by the public. At the TU meeting in Salt Lake in '07, a representative of the US Forest Service presented a matrix of equipment treatment recommendations specific to various AIS, and the spreadsheet for this was 7 pages long! So, the risk from chemicals used in and around riparian zones coupled with the low probability of implementation moved TU away from making chemical treatment recommendations and toward the recommendation of adopting the clean angling practices to Inspect, Clean, and Dry.

What is the latest news about whirling disease research? Are we any closer to finding solutions for this disease?

While whirling disease has moved off the front pages and out of the collective thought of much of the angling public, WD remains a serious fish health threat to cold water trout and salmon fisheries. The parasite continues to spread to new waters and infections have increased in many new waters to the point that population declines are occurring. One of the problems with WD is selling the problem to the public. The parasite and the damage it causes is virtually invisible. The infection typically kills juvenile fish, those under 2" long, in the wild. So, there are no dead bodies washing up along the banks visible to the anglers. The impacts of a serious WD infection are population declines that are also largely invisible to many anglers. Not trying to be harsh or disdainful to anglers, but creel census surveys have proven over the years that a small percentage, 10% or less, of anglers catch most of the fish. I believe the numbers are something like 10% of the anglers catch 90% of the fish. Consequently, a population decline of 50-60% would not be particularly noticeable to much of the angling

community. The point remains that WD is still a serious fish health issue that is of concern to cold water fisheries managers, but at this time, much of the angling public believes that the problem has gone away and that the fish are developing immunity and populations are recovering. Nothing could be further from the truth. Impacts of disease in animals are hard to predict and over time there are tremendous fluctuations in impact on infected species. In short, WD is not over.

So, what is going on with WD research? As a result of previous research, public and private aquaculture has implemented best management practices to reduce the risk of introduction of WD through stocking. Also, many agencies are increasing inspection of aquaculture facilities and of private ponds, another source of WD and AIS introduction. In the area of management tools, research conducted on whirling disease resistant trout in Colorado indicate that WD resistant rainbow trout developed by Colorado Division of Wildlife and introduced into several CO waters devastated by WD are gaining a toe-hold in some rivers giving hope that a wild, self sustaining rainbow trout population could re-emerge in some of these troubled waters.

Another WD management tool being developed has to do with the WD parasite alternate host t. Tubifex worms. The WD parasite has a two host life-cycle, and the t. Tubifex worm, ubiquitous in our trout, salmon and steelhead waters, is necessary to completing the parasite life cycle. Within the t. Tubifex family, different strains show differing levels of resistance to the WD parasite. One strain of the worm is virtually resistant to producing the fish infective form of the parasite called the TAM. Researchers are experimenting with introductions of the WD resistant worm into high risk ponds to help reduce the risk of WD introduction. Federal funding for WD research was cut a few years back, so, the level of research is not occurring at the pace of years past, but many state fish and wildlife agencies continue to do research on WD and TU and the Whirling Disease Foundation continue to raise funds to support these efforts.

You have been involved in the effort to develop a strain of trout that is WD resistant. Can you tell us more about this?

In 2000, the Whirling Disease Foundation was approached by two leading WD scientists, Dr. Mansour El Matbouli and Dr. Ron Hedrick. El Matbouli, a German fisheries research scientist, presented some strong anecdotal evidence that a strain of rainbow trout living in a private hatchery in Germany demonstrated strong resistance to WD. After careful consideration, the Foundation chose to support initial research in the WD resistant rainbows. To make a long story short, this research has continued to the point that a WD resistant rainbow has been developed through traditional animal husbandry techniques that has demonstrated the ability to survive WD in the wild and whose off-spring retain a high level of resistance to WD. While this management tool doesn't serve every fisheries management approach, the WD resistant rainbow does offer a strong management tool for specific situations.

As more states develop programs to fight invasives they are increasingly turning to fishing and boating to pay the cost of these programs. Idaho and Oregon have implemented new fees on all boat owners to pay for their programs and it is very likely

that new fees will hit recreation in the future. Does TU have a position on who should pay for these programs?

At this point, TU doesn't have a position on how these programs should be funded. It's my personal opinion that the enormous costs associated with dealing with AIS need to be supported by both the public and the government. Federal funding was a key in the progress in whirling disease research, and I believe that federal funding is critical to progress in the AIS battle. Certainly, state programs like Idaho's and Oregon's will help state agencies, but the amounts being raised by these programs will not be enough in and of themselves. AIS are a problem for all of society. In the Great Lakes, costs for dealing with the mussels are reaching into the 100's of millions of dollars. We're all going to have to shoulder some of this cost burden.

It was not too many years ago that we didn't have to pay any attention to the problem of invasive species. However, today invaders seem to impact on us in lots of ways. What advice can you offer for what we might expect in the next couple of years?

I believe it is very easy to become obtuse in thinking about AIS. So, my sphere of work and my attention pertains primarily to the mission of TU to conserve, protect, and enhance North America's cold water fisheries. I suspect that over the next few years, we'll see more attention paid to AIS by the public and a greater commitment from federal and state agencies to fund and deal with this problem. Mother Nature is shoving AIS in our collective faces. For example, Asian Carp have caught the attention of our President. I am hopeful the same sort of "funding" attention will be paid to the overall AIS problem. One of the keys in reducing the risk of spreading AIS is outreach and education. It is my belief that we need to develop more and better tools to reach and educate the public, especially the children, who as we all know are the key to the future.

Is there anything else you would like to tell our readers?

I would like to thank Bob Wiltshire and the Center for Aquatic Nuisance Species for the opportunity to address their readership. Regarding the "eliminate felt sole" policy, I am always willing to answer any questions regarding this and other AIS issues. Contact me through my email at DKumlien@tu.org