SUCCESSES

In June 2014, the Minnesota Legislature accepted the recommendation of the Lessard-Sams Outdoor Heritage Council (LSOHC) and awarded $4,040,000 to Initiative Foundation to:

"…develop a series of pilot projects to enhance aquatic habitat by preventing the spread of aquatic invasive species, including pilot projects conducting education and outreach, inspection and decontamination, enforcement, and other activities. All pilot projects must be conducted on a reimbursement basis and require a match of non-Outdoor Heritage Fund dollars. A required evaluation of results must be funded with non-Outdoor Heritage Fund dollars. The required evaluation must evaluate the efficacy of inspection and decontamination activities utilized in any of the pilot projects in preventing the spread of aquatic invasive species."

Our grant agreement to administer this program was completed effective July 1, 2014.

The Initiative Foundation hosts the process on their website with a dedicated webpage http://www.ifound.org/community/aquatic-invasive-species and online application and reporting process.

A total of ten projects have now been funded through our process, with a short summary of each presented below:

Crow River Organization for Water (CROW) Joint Powers Board
The Crow River Watershed is a major tributary of the Mississippi River northwest of the Twin Cities. Agriculture is the primary land use, although rapidly growing urban expansion is creating new pressures on water recreation and water quality, including the emerging risks of associated with the spread of AIS. With over 120 public water access sites in the three counties of Wright, Meeker and McLeod the challenge to protect the water bodies in the project area is burgeoning.

The project is creating education and outreach which targets youth (ages 10-25), including heavy use of experiential learning, social media, and audio and visual mediums in an effort to internalize the importance of AIS prevention. This effort is geared towards creating a cultural shift in the way young adults think about their role in stopping the spread. We believe that making an impression on this age group will be an effective way to normalize "Clean, Drain, Dry" activities, because they are beginning to utilize water-related equipment independently. Pursuing marketing and communicating strategies that are specific this age group is an effort to solidify expectations for water-craft use on public waters and establish positive behaviors. Approved for up to $50,000 in January 2015.

2016 Status: Replicating and producing the Attack Pack (a comprehensive educational package which includes preserved samples of invasive species) has been the more difficult aspect of this project. CROW staff spent nearly two months working to get permissions and available artwork. This process took a bit more communication and persistence than anticipated. Ultimately CROW received the artwork and had it reproduced by a local print shop. In addition, staff are still working with the producer to make AIS acrylic samples. The individual who produced them for the Sea Grant has retired and is in the process of selling his business. After 8 months of back and forth communication and trying to get a firm deal in place the blocks, CROW staff were ultimately successful in acquiring specimens that are preserved in alcohol. Although they have purchased the preserved invasive species samples, they have been working with MN DNR staff for nearly two months trying to secure a permit to transport them in Minnesota to the CROW office where staff will manually produce the blocks.

The use of social media as a platform for an incentive program has proved challenging in a few circumstances. Due to an individuals' privacy settings, you may not be able to see the name of a "follower." This proves problematic as we work to randomly select winners as part of this project. Further research shows this a consistent problem that many businesses, organizations, and entities struggle to rectify. Staff have mitigated this problem by asking people to send their name and/or a message to the "Crow River Lakes and Streams" page so that winners may contact them directly, if needed.

Carnelian-Marine-St. Croix Watershed District
Big Marine Lake (Washington County) has a number of relatively small 2 to 10 acre areas (about 45 acres total) of Eurasian Water Milfoil (EWM) in open water. They are near two DNR boat landings, Washington County Big Marine Park Reserve landing, Veteran's Camp private landing and the outlet to downstream waters. Herbicide treatment of these areas typically turns the EWM brown and knocks it down, but does not totally kill the plant or the root crown. So, treatment in the same or expanded areas is typically needed again the next year. This project is employing a new treatment protocol developed by the Big Marine Lake Association (BMLA) to maintain the herbicide concentration at the level required to kill EWM without exceeding the 4 ppm label rate for 2, 4-D herbicide. The BMLA is treating the areas three times in one day at six-hour intervals. Approved for up to $35,000 in April 2015.

2016 Status: Killing Eurasian watermilfoil (EWM) in small spots is difficult. The object of this grant is to prove that it could be done with multiple herbicide applications in one day to increase herbicide concentration over time. Contractor Steve McComas concluded in his final report, "The result of the 2015 treatment efforts by the Big Marine Lake Association found that in late summer assessments there was less than 0.1 acre of dense EWM (mats) in the entire 1800 acre lake and less than 0.05 acres in the 19 acres treated. This represents exceptional control of EWM within the treated areas in 2015". The EWM biomass in the areas (19 acres total) treated was reduced by 50%.

The lake association reports that membership "has been frustrated since 2009 since herbicide treatment only slowed growth, but did not kill the small narrow bands of EWM that were starting to circle the lake. The OHC grant funds have re-energized the BMLA by providing the resources needed to apply the new treatment protocol to the problem. Other lake associations in the area that have followed our project are now using the new protocol. In 2016, the DNR has requested additional water samples and will finance the analysis. They are very impressed with the results to date and want to better understand the science."

Carver County Water Management Organization (Carver County)
The county has established a tagging system that provides outbound boaters at the Lake Minnewashta access with a "proof of inspection tag" allowing them expedited future lake access if the tag is still intact. County funds were utilized to purchase a decontamination unit for phase two of this tagging system by offering boaters the option of being decontaminated and tagged at the Lake Waconia access, which subsequently allows them to bypass the inspection process at other county lakes if the tag is still intact. This will allow project partners to determine the feasibility of a centralized inspection system where boaters can be decontaminated, receive a tag or code, and launch at lakes participating in the program. Approved for up to $50,000 in January 2015.

Status in 2016: County staff report that "boaters that participated in decontamination procedures were very appreciative of the service provided. Further, over boaters that received proof of inspection and proof of decontamination tags were pleased with subsequent expedited inspection service at Carver

County lakes." The primary challenge experienced was "Due to a later than expected arrival of our decontamination unit, the service was not adequately advertised in 2015." In 2016, the service will be provided at the beginning of our inspection season, and program marketing efforts are currently underway.
One additional insight that the staff have reported is that because they are performing "courtesy" decontaminations people are coming to the Lake Waconia decontamination station to be decontaminated before they head to other parts of the state with their watercraft, knowing they have last been on a lake infested with zebra mussels. Furthermore, watercraft owners who have been denied launch at local bodies of water have the option to be decontaminated at the Waconia access, and allowed to launch shortly thereafter, a component of the service that has been very well received."

Cass County Environmental Services – Enhanced Training for AIS Inspectors
Although the DNR provides basic training and certification for inspectors (typically placed at boat landings), this grant would provide additional training in conflict resolution, techniques to de-escalate confrontations, and basic precepts in limnology and ecology of common AIS. Exploration of e-learning opportunities to share these materials with other counties may also investigated. Approved for up to $22,212 in October 2015.

Crow Wing County (on behalf of the Mississippi Headwaters Board)
to Media Purchases and Viral Distribution of AIS Education Aimed at Wakeboard Users
Mississippi Headwaters Board has already developed several "edgy" videos to appeal to younger recreationalists (who largely have ignored conventional education campaigns). User data show that the majority of this sector that recreate in the Headwaters area come from the Twin Cities, so this grant will support placement of these videos on metro area television, as well as promote its distribution via social media, and assess their impact. As an example of the available material here is a link to the first completed video: https://vimeo.com/silentshoutproductions/review/116985788/01c89dffc4. Approved for up to $84,484 in October 2015.

2016 status: The MHB's educational campaign utilizing infomercials and social media has now been running for approximately one year, and believes that they have increase recreational user knowledge regarding best practices in preventing the spread of AIS. From the TV aspect alone they are reaching over 7 million households. Surveys are scheduled to be administered (at public landings) in August 2016 to access how this increased knowledge has influenced changes in behavior.

Kandiyohi County to Support a Centralized Inspection and Decontamination Station
One of the greatest barriers to "best practices" is the inconvenience of having your boat inspected (prior to launch) or decontaminated (after leaving an infested area). This grant supports the management of a centralized site where recreationalists could book an appointment in advance in order to provide most convenient service. Promotion of this effort will include Meeker and Stearns Counties since many recreational uses in Kandiyohi come from the east. Approved for up to $59,200 in October 2015.

2016 status: The regional Permanent Decontamination and Inspection Station became operational in May 2016. A collaborative partnership with lake service provider was secured and contract signed. Watercraft decontaminations are available from on-site staff Monday through Saturday, and Sunday by appointment. An AIS hotline is set up at (320) 214-6730 lists decontamination sites and forwards callers to the Lake Service Provider for appointments or the AIS Coordinator for further information.

Implementation of surveys and data collection for this project was delayed by turnover in the county's AIS Coordinator position, demand for the services were less than expected, and the County Board decided to withdraw from the project.

Lake County Soil and Water Conservation District
The Boundary Waters Canoe Area Wilderness (BWCAW), located in Northeast Minnesota, is the most visited wilderness area in the US. The Kawishiwi Watershed comprises a large portion of the southeast portion of the BWCAW. Approximately 20 years ago, rusty crayfish were introduced into Northern Minnesota Lakes as fishing bait. The release of unused bait established a breeding population that has exploded, causing declines in native crayfish populations and reductions in aquatic vegetation including wild rice. If left unchecked, the reduction in aquatic vegetation will reduce game fish and water fowl habitat. This project supports the intensive trapping of rusty crayfish at the invasion front, reducing the potential source of re-infestation from adjacent infested locations and encourages the practice of catch and release of small mouth bass (which predate the rusty crawfish). According to previous results from a University of Wisconsin study, this should remove the largest most reproductively active invasive crayfish. Property owners on the White Iron Chain of Lakes, which lies adjacent to the Kawishiwi River and is heavily infested with rusty crayfish, will also trap rusty crayfish along their shorelines. Approved for up to $50,000 in January 2015.

Status in 2016: SWCD staff reports that through their trapping efforts, they have defined a clear delineation of where rusty crayfish are present on the North Kawishiwi River. The number and size of crayfish were tallied throughout the Summer. There is no obvious decline in size or numbers of rusty crayfish at the invasive front that can be distinguished from seasonal variation. The location of the infestation has not progressed further into the BWCAW. The South Branch of the Kawishiwi River has had a significant decline in the number of rusty crayfish when results from trapping are compared between the years 2014 and 2015. This corresponds to an overall reduction of crayfish in the area, likely due to other natural predators, mainly muskrats.

As to the success of their eductional effort, they report, "The Finland Youth Group requested us to lead a field trip to talk to the group about Rusty Crayfish and their impacts to local lakes. We met them at Dumbbell Lake and after a short presentation on identification of Rusty Crayfish and the history of their rapid proliferation in the Lake, we took them in a small fishing boat to help harvest the traps that we had placed the previous day. The first boatload that I took consisted of 6 young girls (below the age of 10). I asked them if anyone would help me pull the traps out. One timid voice replied yes while the rest of them shrank lower into the boat. I jockeyed the boat up to the float and helped this brave little girl pull up a trap teeming with rusty crayfish. As we went to the next trap, EVERY little girl in the boat said, "Can I help with the next one?" Each girl got the opportunity to help pull in the traps and help count the rusty crayfish that we caught. The next day, their chaperone sent a picture of all these bright smiling faces as we approached the dock. She said that this "was the best field trip ever."

Lake Koronis Association (Stearns County) to Manage Starry Stonewort
In August 2015 the invasive microalgae Starry Stonewort (*Nitellopsis obtusa*) was located in the southeast bay of the lake, and has subsequently been found in over 200 acres in eight locations. This is the first confirmed infestation in Minnesota, although lakes in Wisconsin and Michigan have long been infested. Like Eurasian watermilfoil, Starry Stonewort grows in dense mats and can impair fishery reproduction (by creating a barrier around spawning grounds), choke out native vegetation, and imped recreational activities. There are no proven methods of effective eradication or sustainable management.

In the first year of this project the Lake Association proposes a three step response: 1) deployment of an experimental harvesting machine (developed by Dockside Aquatics, Inc., a Mendota Heights based vendor) to cut and collect target organisms, 2) with support by trained SCUBA divers which will both assess effectiveness of the harvester, as well as hand collect any remaining specimens, including use of a fine weave seine to capture any loose fragments; After this mechanical and physical removal/reduction, 3) chemical treatment will be used to "spot treat" any remaining infestation in an "Integrated Pest Management" approach. Chemical treatments will be administered by licensed and certified pesticide applicators employed by PLM, a Brainerd-based firm. Approved for up to $450,000 in April 2016.

Wildlife Forever to Support Interactive Educational Outreach in the Vermillion Lake Watershed

Wildlife Forever is a key partner in the "Stop, Drain and Dry" education campaigns to promote AIS prevention. This project will use "geo-fencing" (electronic 'pushing' of emails or web-messages sent via smart phone) to share best practices, locations of decontamination or inspection services, and other resources for AIS prevention. Users that view the videos will be rewarded with coupons to local businesses, fostering local support (and potential sponsorship) from the business community. This project was approved for up to $44,200 in October 2015.

Wright County Soil and Water Conservation District to prevent the spread of Zebra Mussels

Some of the most widely used and highest quality lakes in Wright County are in the Annandale area. Because of their high fishing and recreational value, lakes including East and West Sylvia, Sugar Lake, and Clearwater Lake serve as destination locations for the entire Minneapolis Region. Due to the level of their usage, the risk of AIS contamination is high for Wright County. Our activities include: education/public awareness, monitoring/mapping, treatment, watercraft inspections, and enforcement. Wright County has recently increased its role to ensure all of these activities are properly coordinated and implemented. The Wright Soil and Water Conservation District (SWCD) and the Wright County Coalition of Lake Associations (WCOLA) have a strong history assisting local lake associations with their lake planning efforts, which has significantly increased the local capacity to address various AIS issues.

Lake John (near the headwaters of this lake system is known to be infested with zebra mussels, which if allowed to migrate downstream would enter Lake Sylvia, and subsequently into Moose Lake, Lake Francis, and then into the Crow river, endangering a series of lakes, streams and the Crow River which flows through much of Wright County in the Mississippi River. The SWCD is proposing a comprehensive AIS management/prevention strategy that includes education, inspections, decontamination, and a zebra mussel barrier. Regarding this last activity, Wright County SWCD is preventing the downstream zebra mussel contamination of the Lake Sylvia Chain of Lakes (East and West Sylvia, Goose Lake, and Lake Francis) by the installation of a self-cleaning 0.4-micron filtration barrier between Lake John and Lake Sylvia. Approved for up to $350,000 in funding in June 2016, but contract cancelled with it was discovered that zebra mussels had already spread below the area where the barrier would have been installed.

Aquatic Invaders Summit

With the two new funding resources appropriated by the 2014 Legislature ("County aid" and the OHC support) available to local AIS managers, the Initiative Foundation hosted a two-day "Aquatic Invaders Summit" in January 2015. The summit represented a timely opportunity for local and tribal governments, communities and their partners — lake associations, lake improvement districts, service providers, angling and conservation groups, hospitality industry businesses, chambers of commerce, and others — to learn and plan together for effective, local AIS prevention. We highlighted national

AIS prevention leaders to talk about successful programs in other states and on-the-ground applied science and actions for preventing the spread of AIS. Summit attendees also participated in the development of a first-of-its-kind Local AIS Action Framework (LAAF) that will help guide local governments and their partners as they work together to plan and allocate local AIS prevention aid to limit and prevent the spread of AIS. Approximately 400 people attended the Summit including representatives from 57 Counties, 14 park districts, 15 watershed districts, and 45 lake associations as well as over 30 speakers.

Aquatic Invaders Summit II

The Initiative Foundation (IF) and the Minnesota Lakes and Rivers Advocates (MLAR) hosted the Aquatic Invaders Summit II on October 5 & 6, 2016 at the Riverside Convention Center in St. Cloud. The Summit will build on the success of the January 2015 Aquatic Invaders Summit that was attended by over 450 participants. The initial Summit was focused on drawing participants to the Initiative Foundation's Pilot AIS Prevention Program and providing program building assistance to Minnesota counties who were in the first year of receiving allotments from the Local AIS tax aid. The 2016 Summit will be an opportunity to showcase the solid AIS prevention programs and projects that Minnesota counties now have in place after two open-water seasons using local tax aid and the nine pilot projects now underway with OHF funding to the Initiative Foundation.

Recognizing that no government entity, organization, or constituency can alone slow the spread of aquatic invasive species (AIS) in Minnesota, the 2016 Summit's primary goal is building strong partnerships across all constituencies that have a vested interest in the quality of Minnesota's waters. Targeted participants for the Summit include: state and local governments, shoreland property owners, angling and sporting interests, tourism and economic development entities, tribal communities, and the residents of Minnesota. An attendance of 500 or more is anticipated based on current interest exhibited.

In addition to the hosting organizations, additional Summit sponsors to date included: MN DNR; Minnesota Association of Watershed Districts, National Park Service, US Fish and Wildlife Service, Minnehaha Creek Watershed District, Wildlife Forever, National Professional Anglers Association, and the Future Angler Foundation. Hospitality Minnesota and the Congress of Minnesota Resorts are discussing support at this time. The Association of Minnesota Counties is collaborating with promotion to counties and offering scholarships to county commissioners that would like to attend the Summit.

CHALLENGES

LOCAL MATCH REQUIREMENT

Although public announcements of the funding opportunity associated with this project were disseminated in July 2014, this timeline was likely too brief for most local units of government to adequately allocate resources for their 2015 budgets, thus depressing applications during the first cycle of funding through the program. In addition, the deadline to our first "letter of inquiry" (mid-September 2014) would have required fast turnaround for any partner not already planning an AIS prevention program. We are counting on both stronger quality and a larger quantity of pilot project proposals in the next two cycles of funding which are providing greater lead time.

Many applicants in the original pool of projects were also unclear on matching funds (or in-kind services) required to participate in the program. When our Accomplishment Plan was amended in December 2014 we gained clarity (LSOHC funds for up to 50 percent of a project; mandatory 20 percent local match, and 30 percent from any other non-LSOHC source). This clarity essentially eliminated five of the eight projects for which we invited full proposals when the project proponents were unable to commit necessary match. One unintended consequence of the clarified requirements for matching funds may to be discourage projects that require larger upfront investment. The number of potential partners -- particularly outside of urban areas -- which can secure and deploy matching funds within the next 24 months on a scale larger than five figures is a very short list.

Our experience to date have underscored this concern; two projects (with Cook County Soil and Water Conservation District, and with the Stearns County Coalition of Lake Association) withdrew from the program even after being awarded funding due to concerns about ability to provide matching funds and/or ability to comply with state procurement policies and rules. A third project (with the Minnehaha Creek Watershed District) was also awarded funding but withdrew when local units of government declined to participate in the program, and a fourth project (UM Extension) was invited to submit a full proposal and had secured funding, but was not able to structure their match in a way that matched the OHC requirements.