Final Report, AIS Grant (AEPP-379-13)

Project Summary

The project officially began on Wednesday, April 24th, 2013 with the attendance of 39 interested students and adult volunteers at an AIS Workshop held at the Community Center in Solon Springs, Wisconsin. Carrie Sanda, Douglas County AIS Coordinator, conducted the workshop from 6:30-8:00 pm. Boat landing inspections were scheduled to begin with the fishing opener on Saturday, May 4th and extend through Labor Day week end for a total of 18 weekends. Mother Nature, however, had other plans for our landings as we were iced in until Mother's Day weekend. Beginning on May 11th, the Saturday of Mother's Day weekend, two of our busiest landing sites were monitored each weekend for a total of 45 hours per weekend, on a regular basis. Our third landing site, the private launch at Lakeview Lodge was monitored during the last 5 weeks of the project as plant material coming out of the lake began to get heavier and more questions regarding plant matter arose. Due to the positioning of the 4th of July in the calendar, we monitored our busiest site, the St. Croix Inn site from July 4th through the entire holiday weekend. For the modified 17-week period, inspection teams were present at landing sites a total of 834 hours, or a total of 738 student worker hours and 321 adult volunteer hours. During this period monitors inspected a total of 1,079 boats entering and/or leaving Upper St. Croix Lake. Along with inspecting the boats for plants before launching, the inspection teams also checked boats coming out of the water to make sure they left the landing sites free of plant materials, carrying no water, and disposing of unused bait. The teams handed out educational materials such as Eurasian Water Milfoil and Purple Loosestrife informational packets and bait rules. They reminded 2,737 boaters about the water and plant transport laws, the 100 foot no-wake law, and the problems associated with invasive species. While informing boaters about the threat posed by the introduction of Eurasian Water Milfoil and other aquatic invasive species into our lake, the monitors demonstrated proper inspection procedures boaters can employ on their own to ensure their boats and trailers don't transport invasive species to other lakes. Students also worked in the field extensively cutting and bagging purple loosestrife and yellow iris. Our presence out in the community was a vivid one and many individuals inquired about our work.

Achievement of Project Goals

1.) Monitoring boat landings:

Student workers for the project were recruited from the local high school in late April. Adult volunteers were solicited from the Upper St. Croix Lake Association, the Village and Town Boards of Solon Springs, and the broader Solon Springs Community beginning in late April and continually throughout the summer. A training session was held for the student workers and the adult volunteers before monitoring began on Wednesday, April 24th in the local Community Center from 6:30 to 8:00 pm. The training session was attended by a total of 39 students and adults. Carrie Sanda, Douglas County AIS Coordinator, also held another training session at the same location at a later date for interested adults in surrounding communities.

Trained boat inspectors monitored three boat launches and all data acquired was entered into the SWIMS site. Two of these, the St. Croix Inn Launch and the DNR Launch, were monitored each weekend between May 11th (Mother's Day weekend) and September 2nd, Labor Day. These boat launches are located at the end of Main Street in Solon Springs, a.k.a. the St. Croix Inn Site, and also along County Road A, the newly remodeled DNR Launch, Palmer's Landing. The St. Croix Inn Site was monitored from 4:00 – 7:00 pm Fridays, and 7:00 am – 7:00 pm on Saturdays and Sundays, and also on holiday Mondays (Memorial Day and Labor Day). We also monitored during the entire 4th of July week from 7:00 am – 7:00 pm at this site. The DNR site at Palmer's Landing, being traditionally less busy in past years, was monitored from 7:00 am –7:00 pm on Saturdays and 1:00 pm – 7:00 pm on Sundays. Our third launch site, the private launch at Lakeview Lodge, was monitored during the last 5 weeks of the project as plant material coming out of the lake became heavier and questions regarding that plant matter became more regular. That said, there were many days without one boat at the Lakeview Lodge site due to deterioration of the launch. At each monitored site, one trained student and at least one adult volunteer inspected the watercraft. Only adult volunteers monitored the launch sites the first weekend, May 11 & 12, and the last two weekends of the project, August 24-25 and August 31-September 2, as students were unavailable because of school, sports, and other activities revolving around school. During the 17 weeks of the project, inspectors were present at the launch sites a total of 834 hours or a total of 1,059 student worker plus adult volunteer hours.

2.) Education of boaters regarding AIS and prevention:

During the 17 weeks of the project, monitors inspected a total of 1,079 boats entering and/or leaving Upper St. Croix Lake. Along with inspecting the boats for plants before launching, the inspection teams also checked boats coming out of the water to make sure that they left the landing site free of plant materials, carrying no water, and not transporting any live bait. The inspection teams also handed out educational materials regarding Eurasian Water Milfoil, purple loosestrife, VHS, and a host of other aquatic invasive species. They placed Stop Hitchhikers stickers on boater's trailers and talked with 2,737 boaters about the problems associated with aquatic invasive species and which lakes in our local area were currently affected by these invasives. In addition to informing the boaters about the threat posed by the introduction of Eurasian Water Milfoil and other aquatic invasive species into our lake, the monitors demonstrated proper inspection procedures that boaters could employ on their own to ensure their boats and trailers arrive at landing sites free of plant materials in the future. Most boaters seemed keenly aware of the dangers that AIS posed on our pristine lake environment. There were still some watercraft users however who claimed to never have heard of the laws or they were unsure of what the laws meant. While carrying out the watercraft inspections, students asked boaters questions about their boating practices and knowledge about AIS and they in turn used this information to fill out daily Watercraft Inspection Reports. These reports were completed for each launch site during each 3-hour monitoring session and then all of this survey data was entered into the Wisconsin DNR CB/CW database (SWIMS).

During the busiest week of the summer, July 4th – 7th, 185 boats were inspected at the launch sites. This was 50 boats over our total Fourth of July weekend from 2012 when

we had an extra day due to the positioning of the 4th. During this weekend alone, inspectors talked with more than 381 boaters about AIS. The landing site at the end of Main Street in Solon Springs, a.k.a. St. Croix Inn Site, was routinely the busiest launch site throughout the boating season. During all boat inspections, inspectors asked boaters questions about their boating practices and used this information to fill out Watercraft Inspection Reports. The reports were completed for each launch site during each 3-hour monitoring session and all of the survey data was entered into the CB/CW database (SWIMS).

3. & 4.) Public Education about AIS:

Public education of lake property owners, Lake Association members, and the broader Solon Springs community was achieved through the publication of articles in the initial membership letter, the newsletter and local newspapers, and the distribution of brochures at public events and places. There were two CB/CW workshops held at the Solon Springs Community Center for area volunteers, or those who yearned to become a volunteer. Douglas County AIS Coordinator, Carrie Sanda held both of these workshops. While 39 students and volunteers participated in the April 24th workshop, several members of the Solon Springs community at large as well as the Lake Minnesuing Sanitary District Personnel participated in the other. We also held a very successful set of pontoon rides during the Fourth of July that involved 40 residents climbing aboard to learn more about their lake. As we approached mid-August and plant matter began to thicken in the lake, both student and adult volunteers alike were often personally trained by the coordinator on what to look for in the case of Eurasian Water Milfoil. This usually resulted in a lesson of leaflet numbers or structure and they turned out to be Northern Water Milfoil, Elodea, or Coontail, all of which are native species in our lake.

An Upper St. Croix Lake Advisory Committee, which includes personnel from both the Town and Village Boards, the St. Croix Lake Association, Douglas County Forestry Department, Friends of the St. Croix Headwaters and the local high school, as well as community members at large, has been particularly interested in both the volume of watercraft using the lake and the distance boaters have traveled to use the lake. Together, we are trying to sort out a solution that will hopefully satisfy most of these patrons. The major driving force is the protection and preservation of Upper St. Croix Lake, which exotic species would render less then pristine. An initial announcement of the AIS grant along with a description of the proposed project and an invitation to attend the CB/CW boat-landing inspector training workshop went out to all members of the lake association, lake property owners, and residents within a mile radius of the lake in early April. A total of 14 community members, plus 25 students, attended this workshop. As this was the sixth (non-consecutive) year of this type of grant, several lake association members were already on board and ready to participate again as launch site volunteers. This, and an extensive calling effort on the part of the project coordinator, culminated in the participation of 85 community members in the project, 25 students and 60 adults. It should be noted that the Coordinator also worked with the Lake Minnesuing Sanitary District to help facilitate their own Clean Boats/Clean Waters Program. Many of Upper St. Croix Lake's monitors also monitored on Lake Minnesuing at the Hallberg Landing.

During the monitoring segment of the project, May 11th, 2013 to September 2nd, 2013, the AIS project coordinator wrote an article for the local newspaper, an article for the

lake association's newsletter, continued care of a rain garden to help mitigate soil erosion and harmful chemicals from reaching Park Creek, purchased rain barrels through an environmental reserve grant to help mitigate soil erosion, sent reminders to adult and student landing monitors, as well as sat on the Board of Directors of Friends of the St. Croix Headwaters and the Upper St. Croix Lake Association. The coordinator and several student workers also had **twelve** workdays tackling many invasive plant species. The first held June 17th was strictly a purple loosestrife eradication effort. Workers dug out the bulbous roots of emerging purple loosestrife at the north end of Upper St. Croix Lake where St. Croix Creek dumps into the lake. Twenty clear contractor bags were filled with plants and roots on that date. Four students and the coordinator worked for 3 hours to complete a ½ block free from purple loosestrife. The second invasive plant identification and eradication effort came on June 20th in Lucius Woods County Park. This event was held in conjunction with experts from the Douglas County Forestry Department, the Northwoods Cooperative Weed Management Area at Northland College in Ashland, and the Lake Superior Research Institute at UW-Superior. Purple loosestrife, buckthorn, knapweed, black locust, and a certain species of honeysuckle were the plant types targeted by the group. A third outing was held on June 26th, which was again strictly a purple loosestrife eradication effort. The workers dug out the bulbs of emerging purple loosestrife on the opposite side of the road from June 17ths efforts. Seventeen large contractor bags were filled with purple loosestrife (mostly roots). The coordinator enlisted village workers to help dispose of the noxious weed when the blossoms were harvested. On July 10th and 11th, the coordinator and several student workers tackled an invasive of another kind, yellow iris. Carrie Sanda, Douglas County AIS Coordinator and her assistant, Farrah along with the CB/CW coordinator and 9 students worked for 5 hours each day pruning or pulling yellow iris which has taken over the mouth of the river leaving Upper St. Croix Lake. On July 17th, the coordinator and seven additional student workers spent a second day working with Douglas County Forestry to eradicate invasive plant species from our local County Park. Once again experts from Douglas County Forestry Department, the Northwoods Cooperative Weed Management Area at Northland College, and the Lake Superior Research Institute at UW Superior participated in this event. On August 1st, the coordinator experimented on a one block area of purple loosestrife on the Northwest corner of Upper St. Croix Lake, roadside. She cut the entire blossoming PL and dabbled the stems with either Round up or a solution made with vinegar, salt, and dish detergent. The homemade remedy was given to marked plants. One contractor size bag of PL was cut during this 2-hour event. During that same day, the coordinator visited the area where the Galerucella beetles were placed in the spring. The beetles had obviously gone through a cycle and now were eating the leaves off of the purple loosestrife plants ravenously. On August 6th, the original stand of cut PL was examined and it was determined that the coordinator would apply the generic vinegar mix to the woody stems of the cut purple loosestrife. Working with a crew of two student workers on August 7th, the coordinator and her group seized 12 contractor sized bags of purple loosestrife blossoms beginning at the junction of County Roads A and P to the most western edge of the lake at Lakeview Lodge. On August 12th, the coordinator and three students seized 18 more bags of purple loosestrife from the spot we left off at traveling further south along county road A. On August 14th, the coordinator and students once again worked with weed experts and personnel from Douglas County

Forestry in Douglas County Park for a third day attempting to eradicate buckthorn, black locust, and honeysuckle. Our last invasive species work day came on August 15th when 4 students and the coordinator cut 18 more bags of purple loose strife blossoms along County Road A from where we left off the time before to the Bunch Road on the west side of Upper St. Croix Lake. Among other things, these efforts enabled the public to view students working to eradicate invasive species and quite often started a conversation about what local residents could do in their own back yard to help control the invasive population. Being in full view of the locals driving by also helped them become more aware of the CB/CW monitoring program, solicited more volunteers, recognized the participation of local high school students as inspectors and community leaders, emphasized the importance of keeping the lake free of Eurasian Water milfoil and other invasives, and solicited partnerships for continued lake vigilance. These efforts highlight our current partnerships between the Lake Association, the School District of Solon Springs, the Village and Town of Solon Springs, Douglas County Forestry, Douglas County AIS personnel, and Northern Cooperative Weed Management. The mission of educating local anglers, boaters, lake property owners, and Solon Springs' community members about AIS was definitely accomplished.

5.) Aquatic plant-monitoring results

Throughout the monitoring season from ice out on Saturday, May 11th through September 2nd (Labor Day), 85 community members of Solon Springs monitored l3 boat landings for aquatic plants. On occasion, there were plant materials attached to props of watercraft upon vacating our lake, especially in the later part of the season. This prompted the intense scrutiny of each individual plant either by the student monitors or by the coordinator herself. The coordinator conducted a lesson of leaflet numbers or structure if the student monitor or monitoring adult was unsure of him/herself. The result was always either Northern Water Milfoil or Coontail, both of which are native in Upper St. Croix Lake. The landings themselves were also monitored each week by the coordinator who took at sample at each of the locations each week. Although the plant matter increased in scope, only native species were found at each site.

6.) Purple Loosestrife Work

Beginning in February, Douglas County AIS Coordinator, Carrie Sanda, came to the Solon Springs School District to educate the Physical Science 9 class about the biological control for purple loosestrife, Galerucella beetles. The students planted 4 pots of PL roots and watched them flourish under wet foot conditions and plenty of warmth. Beetles, which were hibernated until that time when we had 4 foot PL, were subsequently released to begin damaging the leaves. By the time the pots were set out at the end of May the beetles had burrowed in the soil. The 4 pots were placed in a troublesome area; a wetlands preserve area, at the south end of the lake during an AIS field trip. Besides setting out the pots, our Lake Association President, James Heim, took 30 students, in shifts, out on his pontoon to do a weed rake, a sechi dish reading, and bait for rusty crayfish. A picture taken at the beginning of August indicates our success.

On June 17th, student workers and the coordinator dug out the bulbous roots of emerging purple loosestrife at the north end of Upper St. Croix Lake where St. Croix Creek dumps into the lake. Twenty clear contractor bags were filled with plants and roots on that date. Four students and the coordinator worked for 3 hours to complete a ½ block free from purple loosestrife. A second attack at the same location was held on June 26th. The workers dug out the bulbs of emerging purple loosestrife on the opposite side of the road from June 17ths efforts. Seventeen large contractor bags were filled with purple loosestrife (mostly roots). The coordinator enlisted village workers to help dispose of the noxious weed when the blossoms were harvested. On August 1st, the coordinator experimented on a one block area of purple loosestrife on the Northwest corner of Upper St. Croix Lake, roadside. She cut the entire blossoming PL and dabbled the stems with either Round up or a solution made with vinegar, salt, and dish detergent. The homemade remedy was given to marked plants. One contractor size bag of PL was cut during this 2-hour event. On August 6th, the original stand of cut PL was examined and it was determined that the coordinator would apply the generic vinegar mix to the woody stems of the cut purple loosestrife. Here are the results:

Treated with Vinegar/Salt/Dish soap **Treated with Round Up**

Working with a crew of two student workers on August 7th, the coordinator and her group seized 12 contractor sized bags of purple loosestrife blossoms beginning at the junction of County Roads A and P to the most western edge of the lake at Lakeview Lodge. On August 12th, the coordinator and three students seized 18 more bags of purple loosestrife from the spot we left off at traveling further south along county road A. Our final student led purple loosestrife work day came on August 15th when 4 students and the coordinator cut 18 more bags of blossoms along County Road A from where we left off the time before to the Bunch Road on the west side of Upper St. Croix Lake. The Coordinator herself cut remaining large stands of purple loosestrife blossoms from the Bunch Road to the corner of A and Main Street. It should be noted that the combination of Galerucella beetles and cutting the PL each year seems to have rendered some of the plants incapable of flowering. Indeed, some plants looked so sickly that they were unable to produce blossoms this season. Among other things, these efforts of being out in the field enabled the public to view students working to eradicate invasive species and quite often started a conversation about what local residents could do in their own back yard to help control the invasive population. Being in full view of the locals driving by also helped them become more aware of the CB/CW monitoring program, solicited more volunteers, recognized the participation of local high school students as inspectors and community leaders, emphasized the importance of keeping the lake free of Eurasian Water milfoil and other invasives, and solicited partnerships for continued lake vigilance. These efforts highlight our current partnerships between the Lake Association, the School District of Solon Springs, the Village and Town of Solon Springs, Douglas County Forestry, Douglas County AIS personnel, and Northern Cooperative Weed Management. The mission of educating local anglers, boaters, lake property owners, and Solon Springs' community members about AIS was definitely accomplished.