

Project Overview

The Iron County Land & Water Conservation Department (LWCD) is devoted to working with private landowners, municipalities, and partner agencies on erosion and water quality concerns throughout the county. Aquatic Invasive Species education, prevention, and control are critical components of protecting the high-quality resource waters in the county. Aquatic Invasive Species (AIS) has been a focus of the Iron County LWCD for the past ten years with the establishment of an AIS program. Through this program the county hired an AIS Coordinator who has provided education and outreach as well as assisted with prevention and control of AIS across the county.

On October 3, 2006 Xcel Energy (Licensee) filed an application with the Federal Energy Regulatory Commission (FERC) to amend its license for the Big Falls Hydroelectric Project to include the Turtle-Flambeau Flowage as a project feature. FERC issued an order on October 14, 2008 amending the Big Falls license to include the Turtle Flambeau Project. The amending order stipulated various conditions or additions to the plans and requirements (Article 416) in the WDNR's Water Quality Certification (WQC). One of the plans required the development of an invasive species management plan. In 2009-2010 the Iron County LWCD became involved in the Federal Energy Regulation Commission (FERC) license requirement that Xcel Energy develop an Invasive Species Management Plan for the Turtle Flambeau Flowage in consultation with the resource agencies. The Iron County LWCD, WDNR, Turtle Flambeau Flowage and Trude Lake Property Owners Association (TFFTL POA) and Xcel Energy developed the Invasive Species Management Plan for the Turtle-Flambeau Storage Reservoir. This Invasive Species Management Plan provides \$7,000 annually to the Iron County LWCD to subsidize a limited term employment(LTE) position on the Turtle Flambeau Flowage to carry out the invasive species education, monitoring and control efforts outlined in the plan. The funds from Xcel Energy obtained by the Iron County LWCD are matched with LWCD funds to expand funding for a second LTE position and education and prevention activities.

These funds also allow the project to better its monitoring efforts of purple loosestrife through training and providing equipment to volunteers who actively participate in the purple loosestrife surveys and treatment each year. In addition, funding has enabled the expansion of education and outreach to resort owners, TFFTL POA members, visitors and additional user groups.

Objectives and Activity Update 2018

The Iron County Land & Water Conservation Department hired two interns (LTE) staff from May-August to conduct AIS monitoring, Clean Boats Clean Waters boat landing surveys and to educate the public on the identification, awareness, prevention, and control, for boats and water sports equipment.

Goal A: Educate the public on AIS and prevention through statewide programs including Clean Boats, Clean Waters and Citizen Lake Monitoring. Develop additional education programs for the public. Target audiences include: lake associations, lake recreation users, landowners, local businesses, etc.

Objective A1: *Provide regular AIS monitoring and conduct regular watercraft inspections on the TFF and Trude Lake.*

Activity 1.1: Hire two limited term employees during the summer months to provide AIS education and outreach

2018 Field Season: Anthony Rotter and Peter Conowall were hired for the 2018 summer field season as LTE staff. They were employed from May 22 through August 24th, 2018.

Activity 2.4: Develop media releases on trainings, current AIS topics, etc.

2018 Field Season: A dozen media releases were sent to the area papers to advertise program offerings, these included: Conservation on Tap education series; Citizen Lake Monitoring Network training, Fe University Invasive Species Workshop, and Iron County Lake and River Alliance presentations. The area papers included: Ironwood Daily Globe, Lakeland Times, Turtle Flambeau Flowage POA newsletters, Gile Flowage FOG newsletter, Iron County Miner, and Price County Review. Please see [Appendix A](#) for examples of press releases.

Objective A3: *Provide education presentations and activities on AIS.*

Activity 3.1: Develop program for TFFTL POA meetings.

2018 Field Season: LWCD Conservation Specialist wrote two newsletter articles and updated the flowage president and committee members on AIS, shoreline restoration, terrestrial invasive species work, Citizen Lake Monitoring Network (CLMN) volunteers and Clean Boat Clean Water (CBCW) efforts. In addition, a purple loosestrife work day was also scheduled through the association.

Activity 3.4: Coordinate a Clean Boats/Clean Waters program and Citizen Lake Monitoring workshop.

2018 Field Season: Citizen Lake Monitoring Network: The LWCD Staff continued to coordinate and provide recourses for the seven-citizen lake monitoring network volunteer stations. Individual trainings and consultation was provided throughout the year. The LWCD staff maintains its own station at the confluence of the flowage and the Flambeau river at Murray's landing. Water quality sampling is conducted each month starting in May and ending in August. Other presentations, trainings, and AIS educational efforts

encouraging participates to get involved with the citizen lake monitoring network was provided to Pine, Pike, Long, Grand Portage, Echo, Spider, Wilson, Weber, and the Gile Flowage Lake Association. Conservation Specialist communicates and works bimonthly with 36 different lake groups throughout Iron county during the monitoring season. In addition, LWCD AIS LTE staff were trained in the citizen lake monitoring network protocol and assisted in several water sampling events.

Clean Boats Clean Waters: The Clean Boats Clean Waters program continued again in 2018 with boat inspections occurring each Friday, Saturday, and Sunday starting from Memorial weekend and ending in late August. Both LTE's were trained in the statewide watercraft inspection protocols and were given educational tools to aide in boater education and the effects that AIS can do to our states waters. Specific events were held during the season to highlight the statewide efforts. The Drain Campaign was held on Friday, June 1 to Sunday, June 3, WDNR staff and partners communicated the message with anglers at boat landings around the state to drain livewells and ice their catch. The campaign encourages the use of ice as a safe and legal alternative to keep fish fresh during transport. To help anglers, staff provided educational materials during the campaign weekend at select boat landings. An additional special event was scheduled during the Fourth of July Weekend called the Landing Blitz. This is a statewide effort to remind boaters and other water lovers to take action to stop the spread of aquatic invasive species, which pose great risks to the health of our lakes and fisheries. Volunteers are stationed at boat landings around the state to give demonstrations of the prevention steps that boaters must take before they leave the water:

- **Inspect** your boat, trailer and equipment
- **Remove** all attached plants or animals
- **Drain** all water from boats, motors, livewells and other equipment
- **Never** move live fish away from a waterbody
- **Dispose** of unwanted bait in the trash
- **Buy** minnows from a Wisconsin bait dealer, and use leftover minnows only if you will be using them on that same waterbody or if no lake or river water or other fish were added to the container.

Objective A4: *Monitor and maintain signage at boat landings at TFF and Trude Lake Landings.*

Activity 4.1: Coordinate with DNR to replace small signs at landings.

2018 Field Season: Most boat landing signage throughout the county was inspected and reported in good condition. The Turtle Flambeau Flowage Trude Lake boat landing signs were also in good working condition and reported in the SWIMS database. One new AIS sign was added at the Rice Lake Boat landing on the Turtle River. The LWCD does encourage the public to contact the department when signs are needed or missing at boat landings.

Goal B: Monitor and document invasive species locations on the TFF and Trude Lake and conduct boat inspections. Monitor shoreland for sites that require habitat restoration, and report sites to Iron County LWCD.

Objective B.1: *Coordinate LTE's and volunteers to monitor for AIS and conduct watercraft inspections to education recreationists on preventing the spread of AIS.*

Activity 1.1: Conduct weekly WQ sampling and identify aquatic plants through summer.

2018 Field Season: Volunteers take monthly water quality sampling at six locations on the TFF and one site on Trude Lake. Many of these volunteers take secchi (water clarity) readings bi-weekly in addition to their monthly WQ sampling. These volunteers are trained to monitor for basic AIS and have been asked to monitor for AIS while they are conducting their water quality testing. This year due to the completion of the WDNR AIS grant in 2017, funds at 4 of the 7-water quality CLMN sites were no longer supported. In an effort to continue the good work done by volunteers collecting water samples for phosphorus and chlorophyll analyses, the TFFTL POA funded the sites. Mike and Beth Meyer led the initiative and to their credit the program continues. Plans for future funding are still being explored to sustain the program.

An end of the season report was created and shared with the TFFTL POA and it was also included in their annual newsletter. Comparisons dating back 10 years were included for reference in an effort to report back to the volunteers and to show them that their data is being used and is very important in the overall monitoring of the flowage and Trude lake.

Activity 1:2: AIS monitoring and Point Intercept Surveys (PI):

2018 Field Season: The Turtle Flambeau Flowage AIS shoreline monitoring surveys continue to be a monumental task, mostly due to the dark stained water and the over 100 miles of shoreline. During the 2018 field season the LTE staff conducted 3 days of AIS meandering surveys and 20 days of PI and AIS monitoring surveys. 23 days in total of AIS surveys were conducted totaling 276 LTE staff hours. Three additional days of Purple Loosestrife monitoring and management were conducted mainly in the Turtle

inlet, Manitowish River and Murray's landing areas of the flowage were infestations are most prevalent. Meandering surveys concentrated on high use areas such as boat landings, resorts, and developed shorelines. Meandering protocol suggests throwing out a rake every 100-200 meters and more intense surveys near high risk areas. Conducting Point Intercept (PI) surveys show a more systematic sampling technique and for the past two years the LTE staff showed an interest in aquatic plant identification enabling more dedication to complete PI surveys. By the end of the 2017-2018 field season the LTE staff had identified, collected, pressed and labeled 55 species of aquatic plants. The voucher specimens were briefly surveyed by Trout Lake limnology staff confirming several species of special concern. Voucher specimens will be sent to the Freckman Lab at the UW Madison for final verification.

For additional training to aid in these surveys both LTE staff attended the Aquatic Plant identification workshop at Kemp Station on June 26th.

In 2018, LTE staff focused in on Fisherman Landing, Turtle Inlet, and the Donners Bay areas of the flowage for PI surveys. Survey data was also entered into the PI spread sheet database (Appendix B). To date there have been 871 sites visited. Purple Loosestrife and Reed Canary grass were the only non-native invasive species identified during both the PI and the meandering survey. Please see the map in [Appendix B](#) for specific survey routes and P.I locations.

Activity 1.2: Develop a project report for the partnership.

2018 Field Season: Each year a copy of the report is provided to all members and financial partners, these include; DNR Lakes Coordinator, Turtle Flambeau Flowage Property Manager, TFFTL POA, Iron County Land & Water Conservation Committee, and Xcel Energy. This report is discussed at the annual partnership meeting, during that time the partnership provides feedback to improve or make changes to the program.

Activity 1.3: Document findings in SWIMS.

2018 Field Season: Data was put into SWIMS on a weekly basis, all 2018 data has been submitted.

Activity 1.4: Conduct weekly boat inspections.

2018 Field Season: Watercraft inspections are conducted at various landings throughout the Turtle Flambeau Flowage / Trude Lake. CBCW inspections are done Friday, Saturday and Sunday as those days receive the highest traffic. LTE staff contacted 2,934 people while inspecting 1,369 boats in a total of 598 hours. Other highlights include 46% of the recreationists reported it was their first time being contacted by a boat inspector this season, and 99% were willing to participate in the survey. Also, 18% had been to

another lake in the past 5 days before entering the Flowage or Trude Lake. It is interesting to note that of the 18% (174) boaters that had visited another lake within the past 5 days, these boaters had come from 27 different counties and 3 different states. In addition, there were 70 different lakes that these boaters had been in within the past 5 days, 20 within Iron County and 50 outside of Iron County. Some of which have some of the worst infestations of aquatic invasive species in the state. Please see [Appendix C](#) for the results from the CBCW surveys.

Objective B2: *Monitor and address new & existing infestations of invasive species immediately.*

Activity 2.1: LTE's & volunteers report monitoring results on DNR SWIMS database.

2018 Field Season: Data was put into SWIMS on a weekly basis, all 2018 data has been submitted.

Goal C: Aide coordinated partners to organize and carry out control efforts. Document all infestations with GPS to show locations of AIS and extent of infestations. Develop maps for annual reports on the locations and extent of any AIS on the TFF, Trude Lake and the tributaries.

Objective C1: *Assist DNR, TFFTL POA and other partners in control efforts of invasive species.*

Activity 1.1: Conduct Purple loosestrife surveys, map infestations and map treatment efforts.

2018 Field Season: Each year the Turtle Flambeau Flowage & Trude Lake Property Owners Association (TFFTL POA) conducts purple loosestrife surveys through their membership. Volunteers take a section of the flowage, covering their territory noting any location of loosestrife on a map or when possible with a GPS unit, flagging is also placed at the site as a quick visual reference. See [Appendix B](#) for a map of these sections and infestations. Each monitoring team fills out a data sheet with location, number of plants, succession of plant growth, beetle damage, and treatment. In cases where there are only one or two plants found or if the plant is easy to pull, teams are encouraged to pull plants to minimize the use of herbicide. Once the section has been monitored, the data sheets are given to the LWCD Conservation Specialist who then maps the locations and formulates a report and strategic plan. Once the data is compiled a work day is organized which is typically made up of TFFTL POA members, DNR and LWCD staff. A team of volunteers in six different boats are assigned a section to monitor, cut flower heads, pull plants, or treat with herbicide.



(Purple Loosestrife Team-Sturgeon Bay Boat Landing)



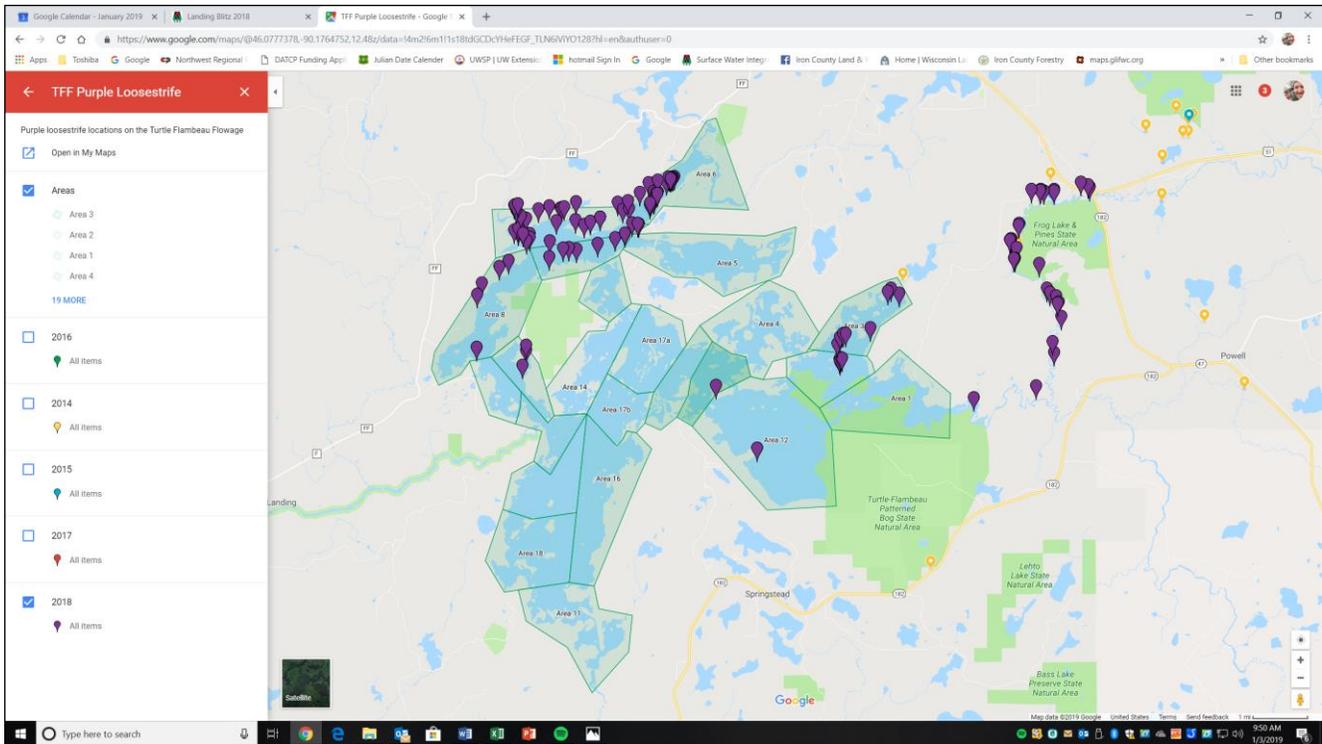
(Bonnies Mound Area TFF)

Activity 1:2: Activity 1.2: Aide DNR in treatment of terrestrial and wetland species on TFFTL

2018 Field season: Great strides have been made to eliminate or manage purple loosestrife infestations on the TFFTL. Volunteers reported that they are starting to see an overall reduction in plant abundance and distribution. Some areas have seen major reductions in abundance and others have seen an increase. Overall, data shows that the ongoing treatment has been effective, and further monitoring efforts are necessary to control the purple loosestrife. An online database was created last year which included past monitoring efforts. This will aide in future monitoring efforts and will help document spread, abundance, and/or elimination in certain areas. The google mapping application also allows volunteers to use their cellphone to find locations. This year, invasive species staff took a more organized approach and with the added resources, were able to do more purple loosestrife management than in years past. Pulling, cutting, and herbicide treatments were all methods used to control the spread of purple loosestrife. In addition to staff time a total of 122 volunteer hours were dedicated to surveying and the management of purple loosestrife by the TFFTL-association.

Flowage News Letter: “This summer, for the first time in a few years, the entire flowage (all 200+ miles of shoreline) was surveyed for Purple Loosestrife by TFF-TL POA members and Zach Wilson’s crew. Complete coverage eliminates gaps in the records over time and improves monitoring accuracy. The greatest problem areas continue to be the north side of the flowage (The Hideaway down to Pink Rock), with 5 sites of infestation of over 100 plants, and one over 500. Most other sites are scattered and have less than 5 plants. Other than the Hideaway to Pink Rock area, the flowage remains relatively free of Purple Loosestrife, with the exception of the Bonies Mound area, which is showing a moderate number of small infestations. Workday had a

weather forecast of only 20% chance of rain, but unfortunately it did rain right after lunch, and we had to quit around 2 PM. Zach and crew returned the following Monday to finish up. It's important to have the workday with Iron County and DNR crew, who can use herbicide to treat the large sites, which can't be effectively handled by the volunteers on their own. In general, it appears we are keeping the Loosestrife under control.”-Randy Payne



Screen shot of the google maps app that was created for the TFFTL 2018

2018 Field Season: Each year reimbursement requests and project reports are provided to the DNR in November-December.

Activity 1.4: Report accomplishments to Iron County LCC.

2018 Field Season: Each LWCC meeting the Conservation Specialist provides a program update with highlights from the AIS program. The LWCC meets 3-4 times a year, receiving these updates each meeting. At the end of each year at the November-December meeting the LWCC receives the same TFF end of the year report that the partnership does.

APPENDICES