

# RiverCurrents

The Voice of the St. Joseph River Watershed

September 2010

A Quarterly Publication of the  
Friends of the St. Joe River Association, Inc.

## About us

The Friends of the St. Joe River Association, Inc. (FotSJR) was established in April of 1994, and operates as a 501(c)(3) not-for-profit organization.

## Mission

To unite a diverse group of stakeholders throughout the watershed in a collaborative effort to protect, restore and foster stewardship of the St. Joseph River Watershed.

## Become a Friend

Join a group of stewards restoring and protecting this natural resource. We offer a variety of tax-deductible membership levels for both Personal and Business contributors.

## Meetings

Monthly meetings of the Board of Directors and Watershed Council are usually held on the fourth Thursday of the month at the Three Rivers (Michigan) Public Library at 1:00 p.m. EDT. These meetings are open to the public. For more information and to verify dates and times, visit [www.fotsjr.org](http://www.fotsjr.org).

## Navigating the "Ladders" to Success

*Ladders & Removal Projects Help Fish Overcome Migration Barriers*

Before the watershed was developed, fish populations could swim unobstructed to and from their spawning grounds. The only threats to their migratory journeys were bigger predators and fishermen. While one may think of fish as creatures with the ability to swim about freely, many species face huge barriers and obstructions in the form of dams. If they are unable to get back to their spawning grounds fish populations dramatically decrease. However, fish ladders and barrier removal projects are making the journey easier for fish in the St. Joseph River.

### *Fish Ladders in the St. Joseph River*

Fish ladders provide a detour route for migrating fish so they can get over or around a dam that is blocking the way. Navigating these ladders is an arduous task as they travel through a series of ascending pools that are reached, not by climbing rungs, but by swimming against a stream of water. The fish leap through the cascade of rushing water, rest in the pool and then repeat the process until they are beyond the dam.

Several considerations go into the design of a fish ladder: the height and grade between the pools, the number of pools, the size of the pools and water flow are but a few. Also, fish ladders are not "one-size-fits-all"—each has to be tailored for the type of fish that will be using it. For example, trout and salmon have the talent for powerful bursts of swimming speeds, which means they can swim against stronger currents of water. Conversely, the water cannot flow too weak, as a meager trickle will not attract the fish to the passage entrance.

There are currently five fish ladders on the St. Joseph River between Lake Michigan

and Mishawaka, Indiana. The Berrien Springs fish ladder incorporates a sea lamprey barrier in its design. The other four ladders are located in Buchanan, Niles, South Bend and Mishawaka.

Four of the five ladders include a viewing window which allows biologists to monitor fish movement. A fish trap is located at the South Bend ladder which allows fisheries personnel to collect adult brood fish to supply eggs for hatcheries. After passing through the Mishawaka ladder (located approximately 60 miles upriver from Lake Michigan) fish have only three more miles to go before encountering Twin Branch Dam. This dam marks the end point of fish migration on the mainstem of the St. Joseph River. (Source: MDNRE)



*Fish Ladder on the St. Joseph River, South Bend, IN*

### *Removing Barriers to Migration*

Barrier removal projects eliminate dams, weirs and other obstructions impeding fish passage. Some dams were constructed to provide recreational opportunities on impoundment. Over time the impoundments fill with sediment, aquatic plant growth increases and recreational potential is reduced. Additionally, many dams originally constructed for hydropower are no longer generating electricity and the cost to recommission them can be impractical. Dredging impoundments

and maintaining dams is expensive. Dams that fall into disrepair become public safety hazards in addition to barriers to fish migration. Removal projects are often the best option in these cases.

The St. Joseph River and its tributaries are fragmented by at least 190 dams and an unknown number of problem road-stream crossings which negatively affect fish passage. The Friends of the St. Joe River (FotSJR) are working with the Potawatomi Resource Conservation & Development (RC&D) Council, and other conservation partners, to assess the fish passage barriers in the St. Joseph River Watershed (SJRW). An inventory of large barriers is being completed for the entire watershed. The SJRW Fish Passage Barrier Advisory Committee will use data collected during the inventory to select high priority subwatersheds for a more detailed field survey.

The goal of this project is to prioritize fish passage barriers in the watershed and identify a minimum of 10 that meet conditions for immediate removal or further study. To accomplish this goal, the Advisory Committee is: (1) gathering site-specific information about fish passage barriers in the watershed; (2) prioritizing obstructions based on the need to provide fish passage at the site and the relative ease of removal; and, (3) preparing a strategic plan of actions and funds needed to address the obstructions.

The completed report will provide guidance and justification for the funding of barrier removal projects by local partners in the future. Ultimately, the project is expected to lead to the reconnection of hundreds of miles of streams and wetlands, keeping the St. Joseph River a favorite spawning ground for its migratory freshwater fish.

## Two Federal Acts Aid Kalamazoo River Oil Spill Clean Up Efforts

On Monday, July 26, 2010, the pipeline company, Enbridge Energy Partners LLP (Enbridge), reported its 30-inch pipeline burst in Marshall, Michigan. The company estimates over 800,000 gallons of crude oil leaked into Talmadge Creek, a tributary of the Kalamazoo River. "The Friends of the St. Joe River extend our sincerest regrets to our neighbors in the Kalamazoo River Watershed," said Matt Meersman, FotSJR President. "The tragedy on the Kalamazoo reminds us how fragile our river systems are. We need to be vigilant to ensure that this disaster, or something similar, is not repeated in the St. Joseph River Watershed."

The U.S. Environmental Protection Agency (EPA) has assumed the role of Federal On-Scene Coordinator in response to the oil spill. In that role, the EPA will coordinate the response activities carried out by federal and state officials and will direct the response efforts carried out by Enbridge, Inc. The EPA has responsibility under both the *Clean Water Act* and the *Oil Pollution Act of 1990* for this spill because it happened inland, rather than offshore.

### The Clean Water Act

The Clean Water Act (33 U.S.C. 1251 et seq.) is the principal statute governing water quality. The statute's goal is to end all discharges entirely and to restore, maintain and preserve the integrity of the nation's waters, with an interim goal of providing water that is both fishable and swimmable. The Act regulates both the direct and indirect discharge of pollutants into the nation's waters.

### The Oil Pollution Act of 1990

The Oil Pollution Act (OPA) of 1990 (33 U.S.C. 2701 et seq.) is the principal statute governing oil spills into the nation's waterways, and was passed in the wake of the *Exxon Valdez* oil spill in March 1989. The OPA amended the Clean Water Act and addressed the wide range of problems associated with preventing, responding to and paying for oil pollution incidents in navigable waters of the United States. The statute imposes liability for removal costs and damages resulting from an incident in which oil is discharged into navigable waters, adjoining shorelines or the exclusive economic zone. The Act is one of the main federal statutes establishing liability for damages for injuries to, or loss of, natural resources, including land, fish, wildlife, biota, air, water, and ground and drinking water supplies.



The Friends of the St. Joe River (FotSJR) was recently awarded two separate grants totaling \$6,200. The grants, funded by the Freshwater Future Foundation and the Heart of Cook Foundation, will be used to further wetland restoration and protection efforts throughout the St. Joseph River Watershed. Today, the watershed has lost over 70 percent of its presettlement wetlands.

## Freshwater Future

The Freshwater Future grant will assist in developing a bi-state Wetland Partnership and media campaign to increase wetland restoration and protection efforts in the watershed. The FotSJR will engage local, state and federal stakeholders to help implement a wetland program and media campaign to increase awareness among residents and local officials in the watershed's 15 counties. This project will also reinforce the FotSJR's strategic plan to become a center for watershed communication and a resource for innovation/change by building a strong coalition, publishing quarterly newsletters, increasing member/donor activity and improving the FotSJR web site.

Freshwater Future supports effective community-based citizen action to protect and restore the water quality of the Great Lakes basin. They work

towards this goal by providing financial assistance, communication and networking assistance and technical assistance to citizens and grassroots watershed groups throughout the Great Lakes basin. Grassroots organizations and citizen initiatives in both the U.S. and Canada are eligible for funding in the two annual funding cycles.

"The selection process was especially difficult this Spring as so many government agencies are underfunded and citizens are stepping up to fill those gaps," said Jill Ryan, Executive Director of Freshwater Future. "An amazing array of projects to protect and restore rivers, lakes and wetlands were presented and the Friends of the St. Joe River rose to the top."

## "Heart of Cook"

The "Heart of Cook" grant, which is administered by the Berrien Community Foundation, will help further the St. Joseph River Watershed Wetland Partnership. Specifically, the grant funds will be used to support the hiring of a contractor to coordinate the bi-state wetland partnership, maintain a web site with wetland information, and develop wetland protection and restoration maps and educational materials for municipal officials and landowners. Expected outcomes of the Wetland Partnership project include

## FotSJR Receive "Fresh" Funding

Two grants help bolster wetland restoration, protection and education

development of bi-state coalition of partners working to increase wetland protection and restoration projects in the St. Joseph River Watershed. FotSJR, along with the Michigan Department of Natural Resources & Environment (MDNRE, formerly MDEQ) will develop a Geographic Information Systems (GIS) database of existing and lost wetlands with an assessment of their functions.

Further, FotSJR, with input from the partnership, will prioritize wetland sites and use this prioritization for targeting outreach efforts to landowners and municipalities in defined critical areas. With targeted outreach efforts, restoration and protection projects should increase in the most important areas of the watershed. Ultimately, the number of acres of wetland will increase, resulting in reduced flooding, increased wildlife habitat and improved water quality in the St. Joseph River and Lake Michigan.

For more information on these two grants, contact Leah Cooper, FotSJR Outreach Coordinator at [fotsjr.outreach@gmail.com](mailto:fotsjr.outreach@gmail.com).

## "Stock' it to 'em!" The Interstate Anadromous Fish Project

In 1969 the Michigan Department of Natural Resources (MDNR, now MDNRE) began stocking and managing the lower 23 miles of the St. Joseph River for trout and salmon. To expand this fishery, a fish ladder was constructed at the Berrien Springs Dam in 1975 which extended trout and salmon fishing opportunities an additional 10 miles upstream to the Buchanan Dam. Based on the success of this project, the MDNR, the Indiana Department of Natural Resources (IDNR), and the U.S. Fish and Wildlife Service (USFWS) began discussions to develop and manage this fishery further.

### Cooperative Management Plan

In 1980, the three agencies signed a formal agreement called "The St. Joseph River Interstate Cooperative Salmonid Management Plan". The \$15 million dollar interstate project called for the construction of fish passage facilities at the Buchanan, Niles, South Bend and Mishawaka dams. These fish passage facilities enabled spawning runs of trout and salmon to swim upstream from Lake Michigan to the Twin Branch Dam in Indiana, a distance of 63 miles. The project also called for construction of a fish hatchery in Indiana to provide fish for Indiana's salmonid stocking in the river, and upgrades of

several access facilities and sites. All of these objectives were met by fall of 1992, when all the ladders were open and fish had unimpeded access all the way to Mishawaka, Indiana.

### Uniqueness of Project

The St. Joseph River fisheries project is one of only a few interstate-funded anadromous fisheries projects in the nation. Unique features of the project include underground viewing chambers at four of the five ladders. Here biologists monitor fish passage with time-lapse video or computers. This allows for 24 hour evaluation of fish passage. The Berrien Springs and South Bend ladders also have facilities to enable easy capture of spawning fish (primarily steelhead) to supply eggs for the hatchery system.

The major attraction of this project is that it has created an exciting trout and salmon sport fishery, especially in the urbanized areas where fishing opportunities had been limited. The project area encompasses 47 miles of river in Michigan and 16 miles in Indiana. The economic benefit of this project to local Michigan and Indiana communities is estimated at several million dollars annually.

### Fish Stocking

As a direct result of this project, Michigan and Indiana DNR agencies have increased their fish stocking efforts

in the St. Joseph to further enhance angling opportunities. For example, the Bodine State Fish Hatchery is a trout and salmon hatchery built specifically for the St. Joseph River Interstate Cooperative Salmonid Management Plan. The \$1.5 million dollar hatchery is located in Mishawaka on the north shore of the St. Joseph River less than two miles upstream from the Twin Branch Dam.

The stocking assignment for the St. Joseph River calls for the annual planting of 241,000 Skamania strain steelhead. These fish are stocked from Mishawaka's Merrifield Park, one mile above the Mishawaka Fish Ladder. Through a recent trade agreement with Michigan, 45,000 winter run variety steelhead will also be stocked annually from Merrifield Park. This strategy will enhance the already world-class trout and salmon fishing status of the St. Joseph River by providing additional opportunities to catch steelhead practically year round.

The success of this joint project has been made possible through the cooperation and support of the two DNR agencies, the USFWS, Indiana-Michigan Power Company (American Electric Power), private industry, the local communities, Michigan Salmon and Steelheaders Association, Michiana Steelheaders and others. For more information on this project, visit [www.michigan.gov/dnr](http://www.michigan.gov/dnr).

## FotSJR Founders Named Honorary Directors & Lifetime Members

Al and Margaret Smith, who founded the Friends of the St. Joe River (FotSJR) in 1994, have been named Honorary Directors and Lifetime Members. Over the past 15 years, individuals and organizations passionate about the St. Joseph River Watershed have continued the work that Al and Margaret started with the FotSJR.



Al & Margaret Smith

The Smith's had an extraordinary vision of restoring their beloved St. Joseph River back to its healthiest state. They implemented their vision through public awareness, organized river clean ups and the development of the St. Joseph River Watershed Management Plan. Undoubtedly, the FotSJR would not have established their presence within the watershed community without the tireless efforts of both Al and Margaret.

## FotSJR Elects New Board Member

Eric Kerney has been elected to replace Amy Boetcher on the FotSJR Board. Eric works as a Water Resources Specialist for the Nottawaseppi Huron Band of Potawatomi Indians (NHBPI). Eric has an M.A. in Geography & Environmental Resources, with a special focus on water resources and hydrology, from Western Michigan University. Eric is passionate about protecting the water resources of the Huron Potawatomi, including the St. Joseph River, and looks forward to working with the watershed community.

The FotSJR Board deeply appreciates Amy's dedicated service and work during her time with the Friends. We wish her the best success with her continued work as Habitat Restoration Specialist for the NHBPI. For more information on the FotSJR Board of Directors, visit <http://www.fotsjr.org/BoardOfDirectors>.

## Creature Feature

### Rainbow Trout (*Oncorhynchus mykiss*)

The rainbow trout is native only to the rivers and lakes of North America. They are torpedo-shaped and generally blue-green or yellow-green in color with a pink streak along their sides, white underbelly, and small black spots on their back and fins. Members of the salmon family, rainbow trout can grow quite large, averaging about 20 to 30 inches long and around 8 pounds. However, they can grow as long as 4 feet and weigh up to 53 pounds. The largest rainbow trout on record weighed 57 pounds and was estimated to be 11 years old.

They prefer cool, clear rivers and streams, and freshwater homes often found in the Great Lakes. These migratory adults (called steelheads because they acquire more silvery markings) will return to the stream of their birth to spawn. Opportunistic feeders, Rainbow trout survive on insects, crustaceans and small fish.



Conservation Status: Stable



Mottville Dam

Photo Credit: rexp2 via www.flickr.com

## FlowFacts

The way a river responds to rainfall and snowmelt is an important indicator of watershed health. A stream rising slowly after a storm generally has a healthier watershed than one rising quickly. The USGS continuously monitors streamflow (or discharge) in the St. Joseph River Basin at 12 separate gauging stations. Real-time streamflow data from each gauging station is available through the USGS web site below.

### FlowFacts from the USGS gauging station at Mottville, Michigan.

#### Period of Record June 1923 to present:

- Drainage Area: 1,866 square miles (40% of SJRW)
- 2009 Peak Flow: 8,090 cfs (March 13)
- Maximum Flow on Record: 11,400 cfs (June 4, 1989)

#### FlowFactoid

11,400 cfs would fill Notre Dame Stadium in about 30 minutes!

Visit <http://waterwatch.usgs.gov> to find a gauging station nearest you and watch the **flow** of the Joe!

## Our Readers Ask

### Q. What are Aquatic Invasive Species, and how can they be prevented?

Aquatic Invasive Species (AIS) includes both introduced aquatic plant and aquatic animal species, and pose an ever-increasing threat to the St. Joseph River Watershed and beyond. Often referred to as "biological pollutants", these invaders disrupt the aquatic food chain by reducing habitat or food for native species and/or by preying directly upon native species. Additionally, these aquatic invaders are costly to manage and can permanently alter the natural biodiversity of a waterbody.

#### Examples of common aquatic invaders include:

- Aquarium and Baitfish
- Asian Carp
- Curly Pondweed
- Eurasian Ruffe
- Eurasian Watermilfoil
- Purple Loosestrife
- Round Goby
- Rusty Crayfish
- Sea Lamprey
- Snakehead Fish
- Spiny Water Flea
- Zebra Mussel

Anglers and boaters can help prevent the spread of fish diseases and other aquatic invasive species by taking the following steps:

- Clean boats, trailers, and other equipment thoroughly between fishing trips to keep from transporting undesirable fish pathogens and organisms from one water body to another.
- Disinfect livewells and bilges.
- Do not move fish or fish parts from one body of water to another.
- Do not release live bait into any water body.
- Handle fish as gently as possible if you intend to release them, and release them as quickly as possible.
- Refrain from hauling the fish for long periods in live wells if you intend to release them.
- Report unusual numbers of dead or dying fish to the local Indiana DNR or Michigan DNRE Fisheries Division office.
- Educate other anglers about the measures they can take to prevent the spread of fish diseases and other aquatic nuisance species.

Do you have a question to ask the Friends? Email it to [fotsjr.outreach@gmail.com](mailto:fotsjr.outreach@gmail.com).



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## Support the Friends

The Friends of the St. Joe River are working with individuals and partner organizations to implement important restoration and protection projects throughout the watershed.

Pledge your support for our efforts by making a tax-deductible donation. Your support and generosity will help us improve and protect the quality of the water and other natural resources we depend on. Visit [www.fotsjr.org](http://www.fotsjr.org) for more information.