

## Wisconsin Department of Natural Resources SWIMS Project Summary

### General Project Information

**Project ID:** RM06116  
**Name:** TOWN OF ELCHO: Restoring Aquatic Connectivity on the Hunting River  
**Type:** River Grant  
**Subtype:** River Protection Grant  
**Status:** COMPLETE  
**Start Date:** 04/15/2016  
**End Date:** 12/31/2017  
**Purpose:** The Town of Elcho is sponsoring a project to restore aquatic connectivity to the Hunting River.

Project final deliverables include: Post construction monitoring would occur to document changes in water levels and flows after the new road crossing is installed. Success would be documented in part by comparing the water velocities, flow characteristics, and riverbed composition at the new road crossing to make sure they match the conditions in the natural river channel at a natural reference reach beyond the influence of the road. A stream and water elevation profile would also be tied to the local benchmarks to document the elimination of the impounding condition as well as culvert perch to allow for reestablishment of natural channel morphology and sediment transport. Instream water monitoring device data would also be evaluated to document any changes in upstream water temperatures.

Specific project activities include: To design a road stream crossing that will meet the deliverables above and to replace the current culverts with an adequately sized and set road crossing during the 2016 field season.

Specific conditions for this Project: The Wisconsin Department of Natural Resources (WDNR) will be provided electronic and hard copies of all data and or reports/plans generated as a result of this project.

**Objective:** Through a \$50,000 Lakes Program Grant, team work, and sweat equity, Jon Simonson, Northern Region, DNR colleagues, stakeholders, and partners moved significantly closer to restoring trout community health and habitat in the Hunting River System through a river grant entitled, "TOWN OF ELCHO: Restoring Aquatic Connectivity on the Hunting River."  
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 The Hunting River, a class II trout stream surrounded by state and local natural areas (see map below) and a haven for anglers in Langlade County, was the subject of a fish passage issue at Fitzgerald Dam Road. Restoring fish passage at this location was identified as a high priority issue for many years. Through a multi-partner approach and funding by the Rivers Grant Program -- and after many years of cooperative efforts by the town of Elcho, Langlade County Land Conservation Department, Department of Agriculture Trade & Consumer Protection (DATCP), DNR, and Trout Unlimited -- the aquatic connectivity of the Hunting River System has been restored.  
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 Significant environmental benefits to the Hunting River were immediately realized (see below), while the project also delivered a long-lived, low maintenance, flood-resilient road crossing for the town of Elcho. DATCP site inspectors documented an immediate fluvial response upstream of the road crossing. Water depths decreased exposing more riffle habitat as well as a narrowing of the stream channel (see before and after photos below).  
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**Comments:** Grantee is TOWN OF ELCHO

**Outcome:** Stream connectivity is a common concern for fish and other aquatic health throughout Wisconsin. There are an estimated 80,000 stream crossings in Wisconsin, with about 8,000 posing a complete barrier to fish passage and 16,000 partially blocking fish movement throughout the state (Miller, 2017). Lack of stream connectivity impairs both instream habitat for fish and other aquatic life and fishing potential up and downstream. The barrier reduces the availability of habitat and prevents natural migration patterns and reproduction in many cases. Upstream the water level is raised, pooling waters and drowning the characteristic riffles and pools so important to trout species. In the case of the Hunting River Project, a poorly engineered and/or perched culvert which may have degraded over time was replaced with a well-engineered, sturdy, and well-placed box culvert, saving local resources and maintenance, and improving fish community potential throughout the river. <br><br>
 During this project, an excavating company replaced four 36" round culverts with a 27' 10" wide by 7' 9" tall aluminum box culvert with headwalls and wingwalls. During the replacement process the Hunting River flow was maintained and diverted from the pipe trench using temporary culverts and a bypass channel. The project replaced a poorly constructed, deteriorated structure with a quality-engineered aluminum box culvert, professional site grading, restoration, and erosion control measures.

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 The water depths, elevations, and velocities in the new culvert closely match the conditions of the river channel. In addition to the site conditions observed adjacent to the road crossing, APHIS \*\* beaver control (John Carbonari) working on the river noticed an immediate 6" water level drop about 2.5 miles upstream of the crossing and observed trout in the former impounded area where he has never seen a trout before. Additionally, trout are being observed in upstream

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reaches where they have not been observed in the past.

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According to Dave Siebel, Fisheries Biologist, this was a high priority where removal of this barrier will make 9.5 miles of the Hunting River headwaters available for trout use. The project also opens up an additional 7.7 miles of seven Class I trout stream tributaries of the upper Hunting River, 1.1 miles of two Class II trout stream tributaries, and 39.2 acres of twelve high quality, native trout spring ponds.

**Study Design:** Over the coming months, DNR staff will retrieve the instream temperature probes that were deployed to evaluate if there is an instream temperature response. Also, DNR, Trout Unlimited, and UW-Madison staff will work on outreach to share this success story and emphasize the broad benefits of adequately sized road stream crossings.

**QA Measures:**

People						
Name	Role	Status	Start Date	End Date	Organization	Comments
Town of Elcho,	GRANT_RECIP	ACTIVE	06/01/2016		Town of Elcho	

Project Statuses			
Date	Reported By	Status	Comments

Actions				
Action	Detailed Description	Start	End Date	Status
Habitat Restoration - Instream	The Town of Elcho is sponsoring a project to restore aquatic connectivity to the Hunting River. Project final deliverables include: Post construction monitoring would occur to document changes in water levels and flows after the new road crossing is installed. Success would be documented in part by comparing the water velocities, flow characteristics, and riverbed composition at the new road crossing to make sure they match the conditions in the natural river channel at a natural reference reach beyond the influence of the road. A stream and water elevation profile would also be tied to the local benchmarks to document the elimination of the impounding condition as well as culvert perch to allow for reestablishment of natural channel morphology and sediment transport. Instream water monitoring device data would also be evaluated to document any changes in upstream water temperatures. Specific project activities include: To design a road stream crossing that will meet the deliverables above and to replace the current culverts with an adequately sized and set road crossing during the 2016 field season.	04/15/2016	12/31/2017	COMPLETE

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Action	Detailed Description	Start	End Date	Status
Restore Hydrology, Morphology	<p>The Town of Elcho is sponsoring a project to restore aquatic connectivity to the Hunting River. Project final deliverables include: Post construction monitoring would occur to document changes in water levels and flows after the new road crossing is installed. Success would be documented in part by comparing the water velocities, flow characteristics, and riverbed composition at the new road crossing to make sure they match the conditions in the natural river channel at a natural reference reach beyond the influence of the road. A stream and water elevation profile would also be tied to the local benchmarks to document the elimination of the impounding condition as well as culvert perch to allow for reestablishment of natural channel morphology and sediment transport. Instream water monitoring device data would also be evaluated to document any changes in upstream water temperatures. Specific project activities include: To design a road stream crossing that will meet the deliverables above and to replace the current culverts with an adequately sized and set road crossing during the 2016 field season.</p>	04/15/2016	12/31/2017	COMPLETE

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Details:	Parameter	Value/Amount	Units	Comments
	Degraded Biological Community			
	Degraded Habitat			
	Total Nitrogen			
	Total Phosphorus			
	Total Suspended Solids			

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Action	Detailed Description	Start	End Date	Status
Grant Awarded	The Town of Elcho is sponsoring a project to restore aquatic connectivity to the Hunting River. Project final deliverables include: Post construction monitoring would occur to document changes in water levels and flows after the new road crossing is installed. Success would be documented in part by comparing the water velocities, flow characteristics, and riverbed composition at the new road crossing to make sure they match the conditions in the natural river channel at a natural reference reach beyond the influence of the road. A stream and water elevation profile would also be tied to the local benchmarks to document the elimination of the impounding condition as well as culvert perch to allow for reestablishment of natural channel morphology and sediment transport. Instream water monitoring device data would also be evaluated to document any changes in upstream water temperatures. Specific project activities include: To design a road stream crossing that will meet the deliverables above and to replace the current culverts with an adequately sized and set road crossing during the 2016 field season.	04/15/2016	12/31/2017	COMPLETE

### Monitoring Stations

Station ID	Name	Comments
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### Assessment Units

WBIC	Segment	Local Name	Official Name
383400	1	Hunting River	Hunting River
383400	2	Hunting River	Hunting River
383400	3	Hunting River	Hunting River
385700	1	Un Spring	Un Spring
387000	1	Un Creek (T34n-R10e-S14)	Unnamed

### Lab Account Codes

Account Code	Description	Start Date	End Date
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### Forms

Form Code	Form Name
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### Methods

Method Code	Description
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### Fieldwork Events

Start Date	Status	Field ID	Station ID	Station Name
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### Documents

## Wisconsin Department of Natural Resources SWIMS Project Summary

Title	Description	Author	Published	Comments
Hunting River Project After	PHOTO	WDNR	10/31/2017	
Hunting River Project Before	PHOTO		11/03/2017	
Hunting River Project Before and After	Hunting River Project Before and After	WDNR		
Hunting River Stream Connectivity Project Deliverables Report for River Protection Program	The Hunting River at Fitzgerald Dam Road has been identified as a high priority fish passage barrier for many years. It is a pleasure to report that after many years of cooperative efforts between the Town of Elcho, Langlade County Land Conservation Department (LCD), Department of Agriculture Trade & Consumer Protection (DATCP), Department of Natural Resources (DNR), and Trout Unlimited (TU), aquatic connectivity of the Hunting River System has been restored. This resulted in significant environmental benefits to the Hunting River and delivered a long-lived, low maintenance, flood resilient road crossing for the Town of Elcho.	Jon Simonsen	10/24/2017	

### Budget

**Combined Budgets:**  
**Combined SLOH:**  
**Combined Total:**

### Funding

Organization	Source	Type	Amount	Start Date	End Date
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