

# **USDA-APHIS- WILDLIFE SERVICES**

## **Cooperative Beaver Damage Management Program**



**Protecting Valued Resources In  
Wisconsin**

# WISCONSIN WILDLIFE SERVICES BEAVER DAMAGE MANAGEMENT

## Introduction

The history of beaver populations in Wisconsin has followed a pattern common to many states of the Great Lakes Region. European demand for beaver fur, and the wealth generated by the fur trade, led to exploration and early settlement of the area. By the late 1800's the intense fur trapping pressure, coupled with habitat disruption as Wisconsin's resources were utilized, led to low beaver populations. At the turn of the century beaver could be found only in northern Wisconsin. The Wisconsin Department of Conservation began a beaver live-trapping and restocking program. Restocking along with strict protection and changes in forest management practices which favored beaver, led to a steady increase in abundance and distribution. In the early 1980's, a sharp decline in the demand for beaver fur led to greatly reduced trapping efforts, and very high beaver populations.



Problems associated with beaver have increased along with the population. An increase in beaver complaints were documented between 1946 and 1986, including damage to roads, timber, railroads, fish habitat, and property. In 1990 a multi-agency beaver management task force released a beaver management plan, which targeted northeastern Wisconsin as the area most heavily damaged by beaver activities. The primary concerns in this area were negative impacts to many miles of high quality trout streams.

Wisconsin has approximately 10,000 miles of trout streams which are primarily brook trout streams. Most of these streams have a very low gradient and are negatively impacted by beaver dams. Beaver dams block trout migration, create unsuitable water temperatures, and increase siltation, which converts a cold water fishery to a warm water fishery.

Beaver damage control was attempted by various methods, which included trapping and dam removal by contract trappers, trapping by personnel of WDNR and USFS, as well as beaver subsidy payments as an incentive for private trappers to trap beaver. These methods were met with varying and limited degrees of success. Treatments were sporadic and inconsistent.

## USDA-WS Cooperative Beaver Damage Management Program

A State representative from northern Wisconsin was instrumental in bringing together USFS, DNR, WS, Counties and other interested parties to discuss the severe beaver damage problems facing northern Wisconsin in the 1980's.

In the summer of 1988, WS opened its District Office in Rhinelander, Wisconsin primarily, at this time, to address beaver damage concerns. Cooperative agreements with the WDNR and USFS were set up to rehabilitate trout streams through the removal of beaver and dams from selected potentially high quality trout streams in the northeast portion of the State. The objectives of this cooperative program were simply to remove beaver and beaver dams from designated streams in order to restore and maintain them as free flowing coldwater systems.

Also at this time, several Wisconsin counties in the northern part of the state were involved in obtaining assistance for severe beaver damage to roads and forest resources. The first CSA for county timber damage was negotiated with Lincoln County in 1989.

Although the beaver program started out strictly as trout habitat protection, other entities soon were making requests for assistance with beaver damage. Today WS goals have expanded and include protecting coldwater ecosystems (the whole coldwater ecosystem), road and culvert protection, wild rice habitat management, timber resource protection, preservation of sensitive habitats/plants, trail and trail bridge protection, protection of existing stream habitat improvement structures, and protection of dams and impoundments.

## **Methods**

### ***TROUT HABITAT PROTECTION***

The cooperative program utilizes a very systematic and comprehensive approach consisting of an active treatment phase and a less intensive maintenance phase. The initial treatment phase involves the intensive removal of all beaver and dams from designated stream sections, the Wildlife Specialists (WS) begin removing beaver colonies from the bottom of a stream, working their way upstream. The goal of this phase is to remove beaver as quickly and efficiently as possible. Methods used include conibear and foothold traps, snares, and shooting. As the WS works his way upstream, all beaver dams are noted and flagged. Once a portion of the stream is free of beaver, a WS certified explosives specialist removes all of the identified beaver dams. The explosives specialist and WS walk the beaver free section of the stream removing all dams. Small dams are taken out by hand, while large dams are removed using explosives. Eventually the upper end of the stream section is reached. Ideally, at this point the entire section is free of beaver and primary dams. However, numerous ground surveys of the streams are undertaken to double check for any sign of missed beaver. Also, many smaller dams become visible as the larger impoundments are removed, these too are removed. The initial active treatment phase, during which the stream is returned to free flowing condition, may take from two to four years or longer depending on the size of the system and density of beavers and dams. Cost for initial clean out is approximately \$1,500.00-\$2,000.00 per mile of stream.



**“Brookie” from one of WIWS treatment streams.**

Streams that are determined to be free of beaver colonies are termed maintenance streams. Streams in the maintenance phase require less intensive effort. Any beaver entering these streams have dispersed from other areas. In northern Wisconsin beaver disperse primarily in April and early May, and an effort is made on all project streams at this time to trap and remove dispersing beavers. After spring, a combination of ground and aerial surveys are conducted on maintenance streams in order to locate active beaver colonies. Active beaver colonies are investigated and beavers trapped and dams removed. Any sites identified by the previous years fall aerial survey are also trapped and dams removed. The maintenance phase is very site selective, and requires less manpower than the initial treatment phase. A single WS can efficiently maintain many miles of stream annually. Cost for maintenance is about \$250.00 per mile of stream.

<b>YEAR</b>	<b>BEAVER REMOVED</b>	<b>DAMS REMOVED MANUALLY</b>	<b>DAMS REMOVED WITH EXPLOSIVES</b>	<b>TOTAL DAMS REMOVED</b>	<b>STREAM MILES PROTECTED</b>
1993	1108	696	205	901	630
1994	885	730	116	846	630
1995	1099	504	291	795	640
1996	1009	739	261	999	640
1997	874	648	77	725	740
1998	564	753	310	1068	850
1999	865	490	92	582	850
2000	632	711	96	807	900
2001	606	549	44	593	900
2002	650	628	61	689	900
2003	662	565	61	626	1200
2004	828	821	76	897	1250
2005	758	809	103	912	1500
2006	692	649	131	780	1500
2007	581	704	94	798	1500
2008	723	765	109	874	1500
<b>TOTAL</b>	<b>12536</b>	<b>10761</b>	<b>2127</b>	<b>12892</b>	<b>1500</b>

### ***COUNTY AND TOWNSHIP ROAD AND FOREST PROTECTION***

When a county forestry or highway department signs into the program, the services are then offered to any township in that county at a reduced rate. Typically there are about 50 townships that sign a CSA with WIWS each year. The township program is only offered to address beaver conflicts at road sites. The average cost for a township is about \$500 annually. The toll-free number is given to all cooperators to call in complaints. Due to the seasonal nature of beaver work in this state all beaver program efforts generally run from April thru October.

### **Non-Target Concerns**

Since this program is a comprehensive control effort, the avoidance of non-target catches, such as otters, bobcats, raptors, and waterfowl is a major concern of WS and cooperators. National and State WS policy seeks to minimize non-target catches. All foothold traps used must be equipped with pan tension devices and drowning devices. WS are taught to set for back foot catches so that traps can be set in deeper water, and any manipulation of water levels is avoided. Sensitive non-targets including otters are turned in to the WDNR.

### **Other Concerns**

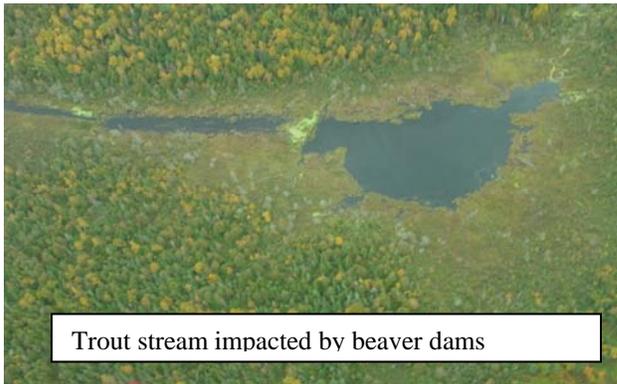
Although the majority of WS beaver damage management efforts are conducted outside of the state's fur trapping season, WS activities and private trapper activities may overlap in spring and fall. WS makes every attempt to avoid potential conflicts with recreational trappers. Specialists are instructed not to set near private trappers, and to pull their own sets if a private trapper sets near them

(even though this has resulted in a reduction of effectiveness and possibly creates more work during the summer).

In order to avoid conflicts with other users, WS places warning signs at all access points where traps are set in accordance with WS policy. Also, before any dam is blown, the WS specialist has thoroughly checked the area for access roads, trails, and structures. Although we have had many thousands of trapnights, and blown hundreds of dams since the program began, we have had a minimal number of complaints from the public. Strict policy adherence, training, and common sense have avoided this.

## **Program Results**

### ***TROUT HABITAT PROTECTION***



WS currently has treated and continues to protect approximately 200 trout streams annually which totals about 1500 miles of streams. This represents about 15% of the trout stream miles in the State. DNR estimates this saves a potential loss of 1.9 million dollars of trout habitat annually.

### ***COUNTY ROAD AND FOREST PROTECTION***

#### ***AND MISC. WORK***

WS also has Cooperative Service Agreements (CSA's) with nine counties to address beaver conflicts at road sites and/or forest flooding problems. Additionally about 90 CSA's are renewed each year by smaller cooperators including: Trout Unlimited, townships, lake associations, snowmobile clubs, local DNR managers, and some private landowners. To address specific beaver damage complaints, cooperators call in complaints to toll-free telephone lines maintained at each WS District Office. Combining all of these service agreements, WS resolves an average of 200 complaints each year, which is estimated in saving a potential loss of over one million dollars annually.



**WS employees preparing to remove a large beaver dam with explosives.**

### ***WILD RICE AND TRIBAL WORK***

The DNR also has an agreement with WS to control beaver and dams on wild rice lakes. Beaver dams on these lake outlets cause high and fluctuating water levels, which damage rice beds. WS protects 23 wild rice lakes annually from damage caused by beaver.

In 2004, WS was contacted by a Native American Tribe to provide beaver control expertise to restoring wild rice and trout habitat on their reservation. A Cooperative Service Agreement was established in 2005 and the tribe was extremely happy with the results of WS efforts. The CSA has been renewed each year since. This is the first Native American Tribe that has enrolled in WS beaver management program.

### ***FUR AND CASTOR SALVAGE***

In order to avoid a waste of the beaver resource WS attempts to salvage most beaver taken. During spring and fall salvage (April, May, and September, October) WS saves all beaver trapped. These beaver are bid on by licensed fur buyers. WS typically is able to salvage an average of 600 beavers per year. Castors are also saved from beaver taken and used for making scent for trapping, and the better grades are sold. WS sells approximately 100 lbs. of castor annually. Monies generated from these sales are used to buy equipment and supplies for the beaver program.

### **Program Administration**

The WS Cooperative Beaver Damage Management Program is very cost effective due to multi-agency interest and funding. This creates a solid infrastructure that allows WS to protect many resources across Wisconsin. Operational and technical assistance work for beaver damage management is administered by the Rhinelander and Waupun District Offices. Wisconsin Wildlife Services funding for beaver damage management is over \$400,000 annually. Federal dollars make up over 60% of this total. There are four licensed and certified explosives specialists in the state.

**CONTACT INFORMATION:**

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# Trout Streams Protected From Beaver Damage By USDA-APHIS-WS

## Legend

- USDA-APHIS-WS Treated Streams
- Non-Treated Streams

