

A photograph of a beaver swimming in a pond, surrounded by tall reeds. The beaver is in the foreground, partially submerged, with its head and back visible above the water. The reeds are in the background, creating a natural setting. The text is overlaid on the image in two boxes.

Wisconsin Beaver Management Plan

April 2017

What is a furbearer?

- ∞ Diverse group of mammals including rodents, canines, felines, and other carnivores/omnivores.
- ∞ Mammal that has been historically trapped for its fur.
 - Major driver of European settlement in North America
 - Peak of fur trade late 1500s – 1850s
- ∞ Two layers of fur
 - Dense under fur (insulation and water protection)
 - Guard hairs – protects under fur from matting, damage
- ∞ Fur primes in late fall/winter – photo period
- ∞ Many are adaptable species that do well in a range of habitat types

Physical Features



- Large hind feet
- Small Front feet
- Flat tail
- Small ears
- Membrane on eye that allows protection underwater
- Flap on each cheek that closes at back of throat

Physical Features

- 2nd toe nail on each hind foot is split longitudinally
 - Used for grooming
- Two glands
 - Oil (water proofing)
 - Castor (scent marking)



Castor canadensis

- ∞ Largest rodent in North America
 - Occasionally exceeding 80lbs (40kg.)

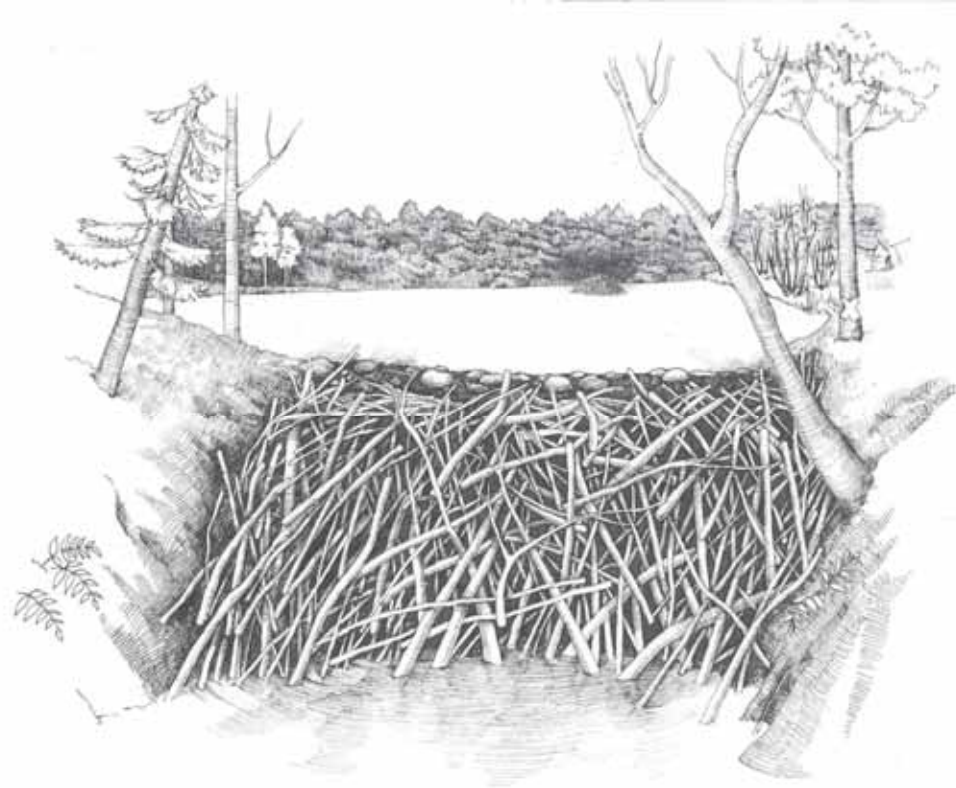
- ∞ Habitat manipulation
 - Dams, lodges
 - Diet (leaves, twigs, bark)

- ∞ Movements
 - Daily movements
 - Yearling wandering
 - Dispersal
 - 2 year olds



Castor canadensis

- Colonies
 - Adult pair
 - Current offspring (kits)
 - Yearlings
- Breed (January – March)
 - Bank dens, lodges, or in water
- Birth (April – May)
 - 1-9 kits per litter
 - Typically 3-4





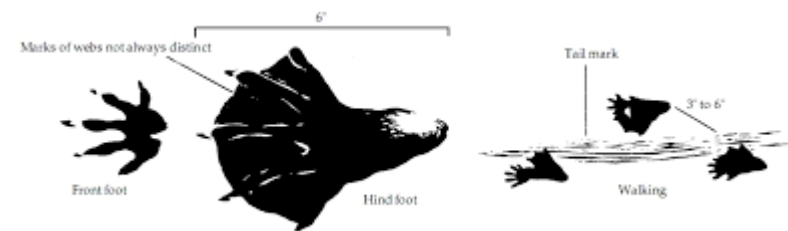
Beaver “Sign”



Beaver "Sign"



Slide



Tracks

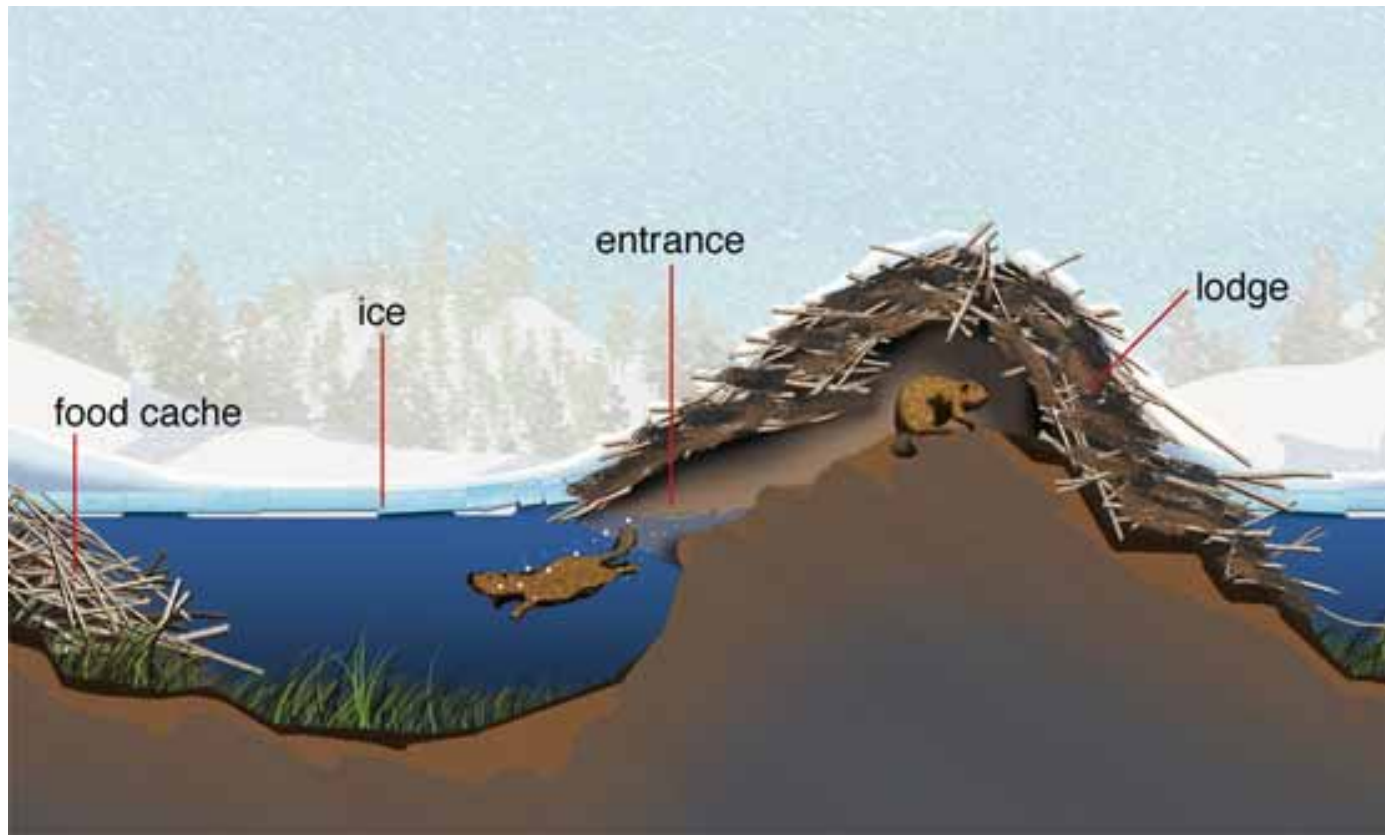
Beaver “Sign”



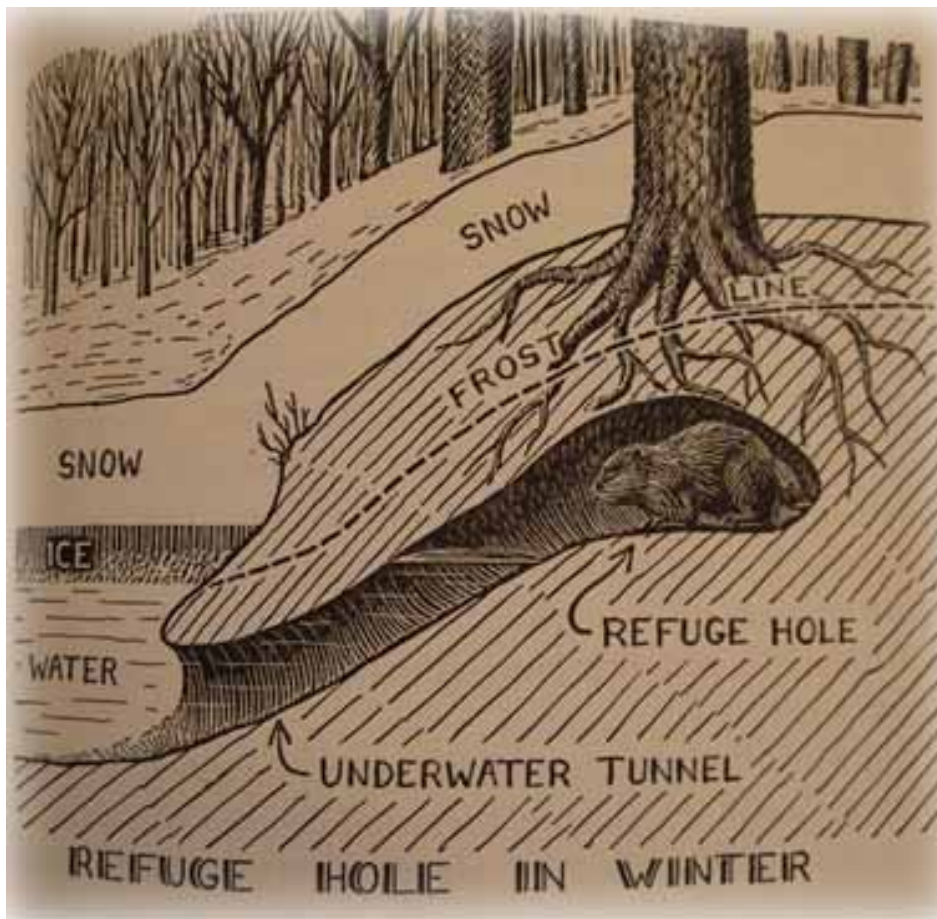
Beaver “Sign”



Beaver “Sign”



Beaver “Sign”



- Bank den

Beaver “Sign”



Food Cache

History in North America

- Beaver pelts
- Main driver of westward expansion of European Settlement
- Pelts were used as currency among fur traders
- Demand lead to beaver being extirpated in the middle to late 1800s



History in North America

- Why such a demand for beaver?
- Felts Hats
- Popular in European Fashion
- Hats were responsible for term “made as a hatter”
 - Mercury used in manufacturing process



History in Wisconsin



- Probably hundreds of thousands of beaver prior to European settlement
- Intensive trapping and logging let to low numbers by 1800s
- Lowest levels around 1900
 - Est 500 beaver
- Slow recovery in mid-1900s
- By 1980s, beaver abundant in central and northern WI

Status of Beaver in Wisconsin

Why should you care?

- ∞ Beaver occupy complex roles
 - Habitat
 - Wildlife
 - Humans

- ∞ Beneficial and detrimental impacts
 - reflection of human perception

- ∞ Wetlands created by beaver:
 - Soil conservation
 - Water resources
 - Ground water discharge
 - Water quality
 - Consumptive and non-consumptive outdoor experience
 - Aesthetic beauty
 - Habitat creation / destruction



Beaver Impacts

Regional Examples

∞ Keystone species and ecosystem engineer

- Lowland Forests -
 - Susceptible to changes in hydrology
- Trumpeter Swans +
 - Nest on beaver ponds
- Mussels -
 - Changes in flow impact less tolerant species
- Hine's emerald dragonfly + or -
 - Breed in formerly impounded areas
- Golden wing warbler +
- Native trout + or -
 - Siltation
 - Warm water
 - Blocked migration
 - Increased forage base



Damage Control and Coordination

- Beaver activity at any population level can negatively impact resources.
- Decisions to control damage involve various department programs, other agencies, interested user groups, and the public.
- Clear and open communications is critical in understanding damage control decisions.



Damage Control and Coordination

- Dam building, flooding and the felling of trees can result in environmental and economic damage, as well as safety issues.
- Beaver dams on cold water stream systems can negatively impact cold water fish communities
 - Barriers to fish movements
 - Degrade trout habitat and spawning areas by siltation
- Divergent interests in beavers make it difficult to decide where to conduct beaver control

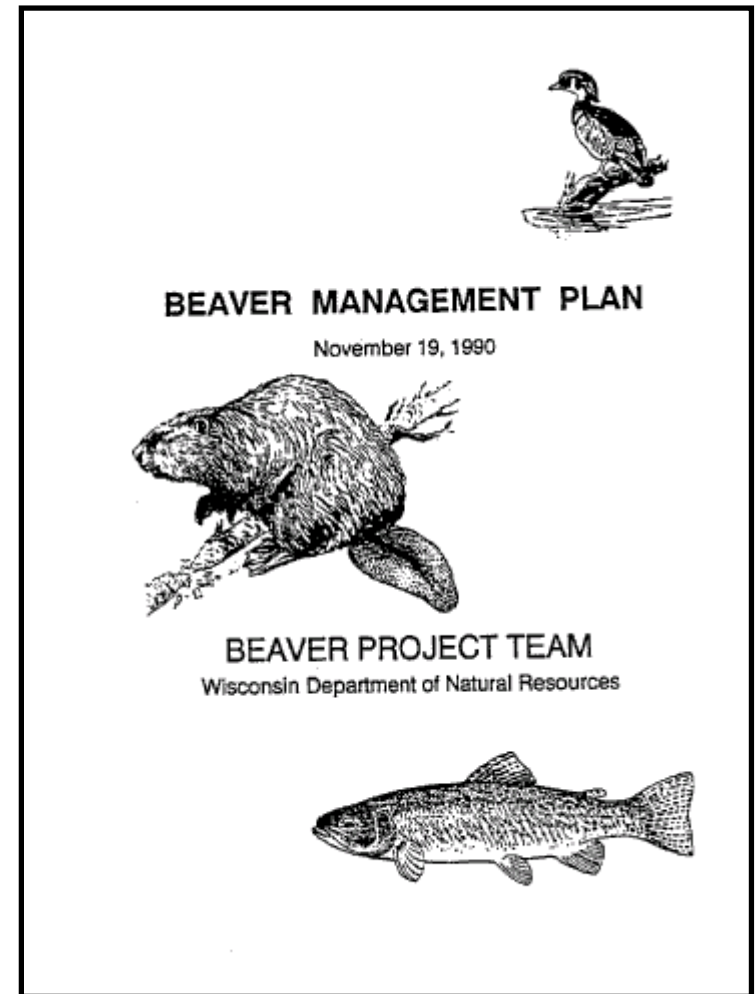


1990 Beaver Management Plan Highlights

Primarily addressed two main needs

- 1) Reduce beaver population
- 2) Protect critical resources

- ☞ Beaver Management Zones
- ☞ Regional Population Estimates
- ☞ Trapper Subsidies
- ☞ Water Bank
- ☞ Negative Habitat Management
- ☞ Stream Specific Control
- ☞ County Cost Share
- ☞ Funding Options
- ☞ Education
- ☞ Beaver Damage Guidelines



2010 - Time for an Update

- ∞ 2010 - Initial meeting to discuss status of beaver management in WI
- ∞ 1990 plan didn't cover:
 - Concerns of all stakeholder
 - The value of beaver
 - New plan needed to incorporate these needs



Creating a Beaver Task Force

- ∞ WDNR policy teams offered a seat to all parties interested in beaver management

- ∞ Facilitated by UW Extension Educator

- ∞ Task Force included ~40 representatives from:
 - WDNR programs
 - Other agencies
 - Organizations
 - Tribes



Government reps. - federal, state, county, town, GLIFWC.

User group reps. - TU, WWA, WTA, WCC, WWF, birders, paddlers, fishers, wild ricers

Tribes - Ojibwa tribes, Menominee, Mohican, Potawatomi

Beaver Plan Development

- ∞ **July 2011 - First Task Force meeting**
 - Identified need to gather input from stakeholders

- ∞ **September 2011 - 4 public meeting and 1 webinar**
 - La Crosse, Oshkosh, Rhinelander, and Hayward

- ∞ **Two additional Task Force Meetings**
 - December 2011
 - February 2012

- ∞ **March 2012 – February 2014 plan drafted**

- ∞ **October 2015 – Plan approved by the Natural Resources Board**



<http://www.conservationvoters.org>

Identifying Concerns

Concerns

- ∞ Damage control necessary (roads, forests, fields, lakeshores, etc.)
- ∞ Priority trout streams free flowing.
- ∞ Wetland community concerns (waterfowl, river otters, trout, wild rice, amphibians, etc.).
- ∞ Beaver decline?
- ∞ Forest and wetland community stability?



Beaver Management Plan – Identifying Goals

- ∞ 1) Stable beaver populations are maintained in suitable habitats throughout Wisconsin while at the same time providing trapping and viewing recreation, and limiting human-beaver conflicts and impacts to resources.
- ∞ 2) Habitat management is used as a tool for managing beaver populations.
- ∞ 3) Beaver damage is mitigated.
- ∞ 4) Education, information and outreach on Wisconsin beaver management is improved.
- ∞ 5) Emerging disease threats to beavers and any related zoonotic implications are monitored, investigated, and managed.
- ∞ 6) Beaver management is improved by obtaining better information on beaver harvest, population status, ecological impacts, and societal views and values.

Task Force Recommendations

1. Population Management

- ∞ Zone A – Maintain or slight increase
- ∞ Zone B – Maintain or slight increase
- ∞ Zone C – Maintain
- ∞ Zone D – Maintain or slight decrease



Task Force Recommendations

2. Habitat Management

- Forestry BMPs in Riparian Zones

- ∞ Encourage beaver through habitat management
 - where compatible with other resources.

- ∞ Discourage beaver through habitat management
 - where NOT compatible with other resources.



Task Force Recommendations

3. Damage Control

- ∞ Continue damage control on warm water resources and landowner abilities.
- ∞ Continue damage control on cold water resources.
- ∞ *"Sideboards are recommended"*



“Sideboards”

- ∞ Local communications through area-level meetings – Fisheries lead.
- ∞ Maximum level of control - 50%.
 - Langlade (67%)
 - Oconto (33%)
 - Ave. (10%)
- ∞ Local support for any additional needs (greater than 50%, and/or Class 3 waters)
- ∞ Input/approval of MOU with USDA-WS by various bureaus/division.



Task Force Recommendations

4. Education & Outreach

- Communication plan
- Interpretive
- Damage management options for agencies & public.

5. Beaver Health

- ∞ Continue to monitor.

6. Research

- ∞ Improve surveys
- ∞ Watershed-level view
- ∞ Overall value of beaver and public attitudes.



Task Force Recommendations

✎ *Task Force to meet and review status at Year 5, Year 10 (end of plan duration).*

Task Force to review, report, and recommend at each "mile post".

Beaver Management into the Future



Beaver Management

- ☞ Regulated Trapping Season
- ☞ Damage Management
- ☞ Surveys



Where were we in 2014?

Population Status

- Population declines appeared significant in Zones A & B.
- Population increase / decrease in various parts of Zone C?
- Population increase in Zone D?



Beaver Management – Rule Proposal

Task Force Recommendations 2015

Rule Proposal: *Shorten the beaver trapping season by one month in Zones A & B, with continued trapping season (as is), on Class I and II trout waters within these same zones.*

Rationale: *Allows continued opportunity, directs harvest to streams of importance, possibly reduces overall government effort and cost.*



Where Are We Today?

Population Status

- ☞ Fur prices have decreased significantly
- ☞ ↑ water levels in the north
- ☞ Beaver numbers appear to be increasing in Zones A & B.
- ☞ Shortening the season may not be necessary at this time.



<http://www.ecology.info/beaver-ecology.htm>

Beaver Management – Rule Proposal

- ∞ Received approval to begin working on a rule.
- ∞ No plan to move forward with shortening the season at this time.
- ∞ Considering a new rule that would allow flexibility in adjusting the beaver season +/- 15 days from April 15th.
- ∞ Rule would allow the department to adjust the beaver season end date in the north up to 30 days without going through entire administrative rule process.
- ∞ Allow a faster response to current conditions.



Population monitoring tools

- ∞ Beaver helicopter survey
- ∞ Fur Value Survey
- ∞ Fur Harvest Survey
- ∞ Beaver trapper questionnaire



Beaver Management — Surveys

- ☞ Monitor harvest levels through annual surveys
- ☞ Mailed to 6,000 trapping/conservation patron license holders
- ☞ Provides baseline information
- ☞ Solicits harvester opinions

TABLE

1. Did you trap beaver during the 2002-2003 season?
 (1) Yes (2) No

2. What percentage of your beaver (BTB) are roadkill, what percentage are leg-hold traps, and what percentage are snares?
 _____ % Roadkill _____ % Leghold _____ % Snares

3. What percentage of your beaver (BTB) were from roadkill, what percentage from leg-hold traps, and what percentage from snares?
 _____ % Roadkill _____ % Leghold _____ % Snares

4. How many of the beaver that you caught since June, 2002 did you eat?
 _____ beaver _____ % in Wisconsin _____ % Outside Wisconsin

5. What percent of your catch did you sell?
 _____ % in Wisconsin _____ % Outside Wisconsin

6. Which beaver management zone did you trap in most? (See attached beaver zone map)
 Zone A (north of Hwy 64, west of Hwy 13) Zone C (south of Hwy 64)
 Zone B (south of Hwy 64, east of Hwy 13) Zone D (Manitoulin River)

7. Please fill in the blanks below for each zone in which you trapped for beaver during the 2002-2003 season regardless of whether you caught any beaver.

Zone	Avg. No. of Sets	No. Days Trapped	No. Beavers Caught (Include Snares)	No. Beavers Caught (Exclude Snares)
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

8A. Based on your observations in the zones you trapped, are beaver populations stable, increasing, or decreasing? (Please only reply for zones you trapped.)

Beaver Zone	Stable	Increasing	Decreasing
Zone A	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Zone B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Zone C	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Zone D	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

(Note: See attached beaver zone map.)

8B. Based on your observations in the zones you trapped, are other populations stable, increasing, or decreasing? (Please only reply for zones you trapped.)

Other Zone	Stable	Increasing	Decreasing
North	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
South	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

(Note: See attached other zone map.)

9. The riparian beaver easement has been established to allow for optimum beaver and these effects have begun to show results. At the same time other easements from the riparian easement combined with incidental take, is causing concern. In the future, if we need to alter the easement in an effort to maintain beaver and other populations, what would you suggest?

a) Delay the full beaver easement by (check one):
 (1) no delay (2) 2 weeks (3) 4 weeks (4) 6 weeks

b) Shorten the riparian beaver easement by (check one):
 (1) no delay (2) 2 weeks (3) 4 weeks (4) 6 weeks

c) Do both a and b) from above - Delay the full and shorten the riparian beaver easement (check one):
 (1) Yes (2) No

d) Other (please describe): _____

10. Would you support combining both beaver and other easement with standard riparian and clearing laws for each zone?
 (1) Yes (2) No

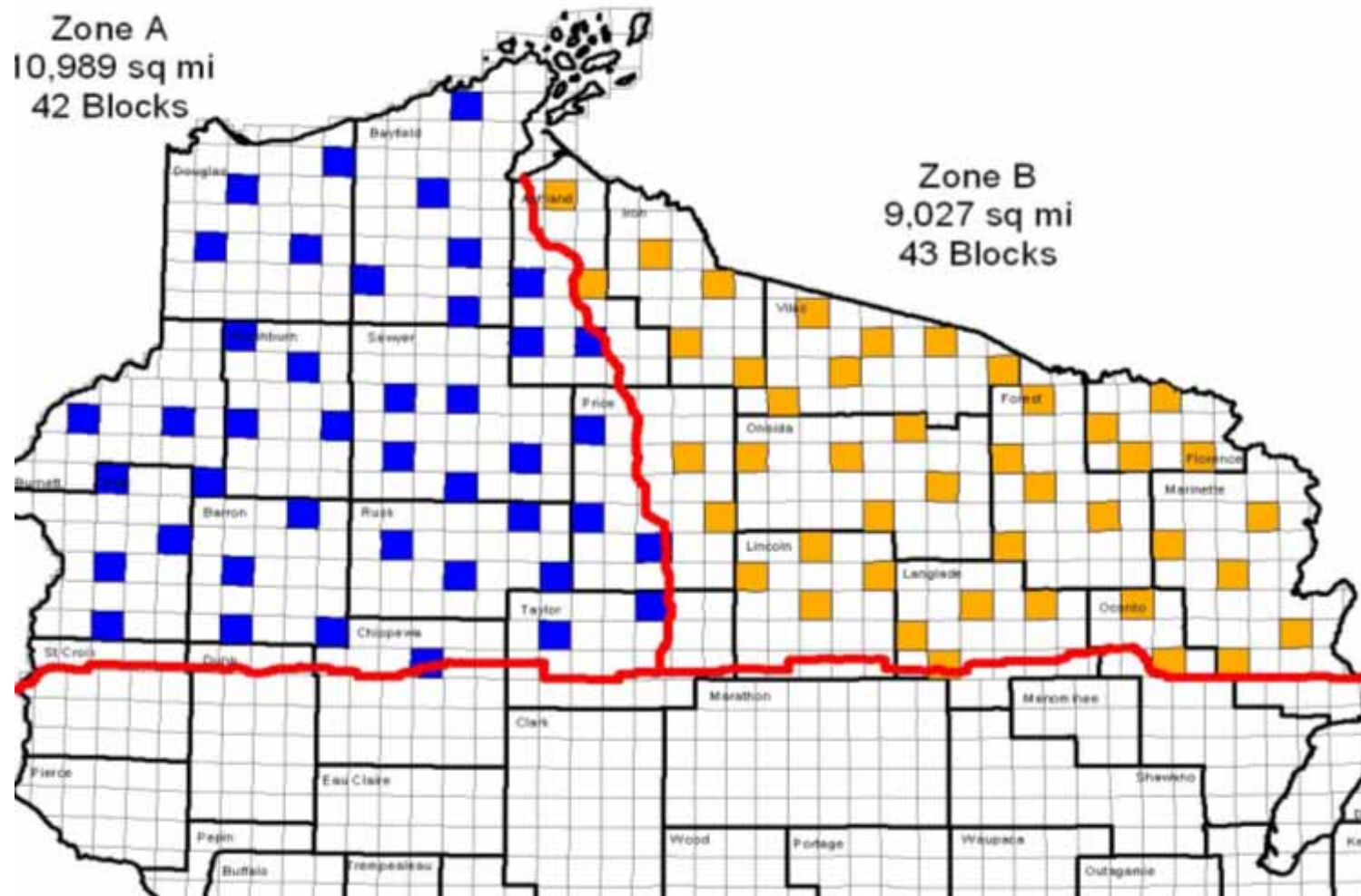


Beaver Management - Surveys

- ∞ 1992 – 2014 Surveyed beaver using helicopters
- ∞ Only done in north
 - Completed every 3 years
 - 85 quadrats that average 5.5 sq. miles
 - Flown in fall (October/November)
 - Count active colonies (fresh sign)

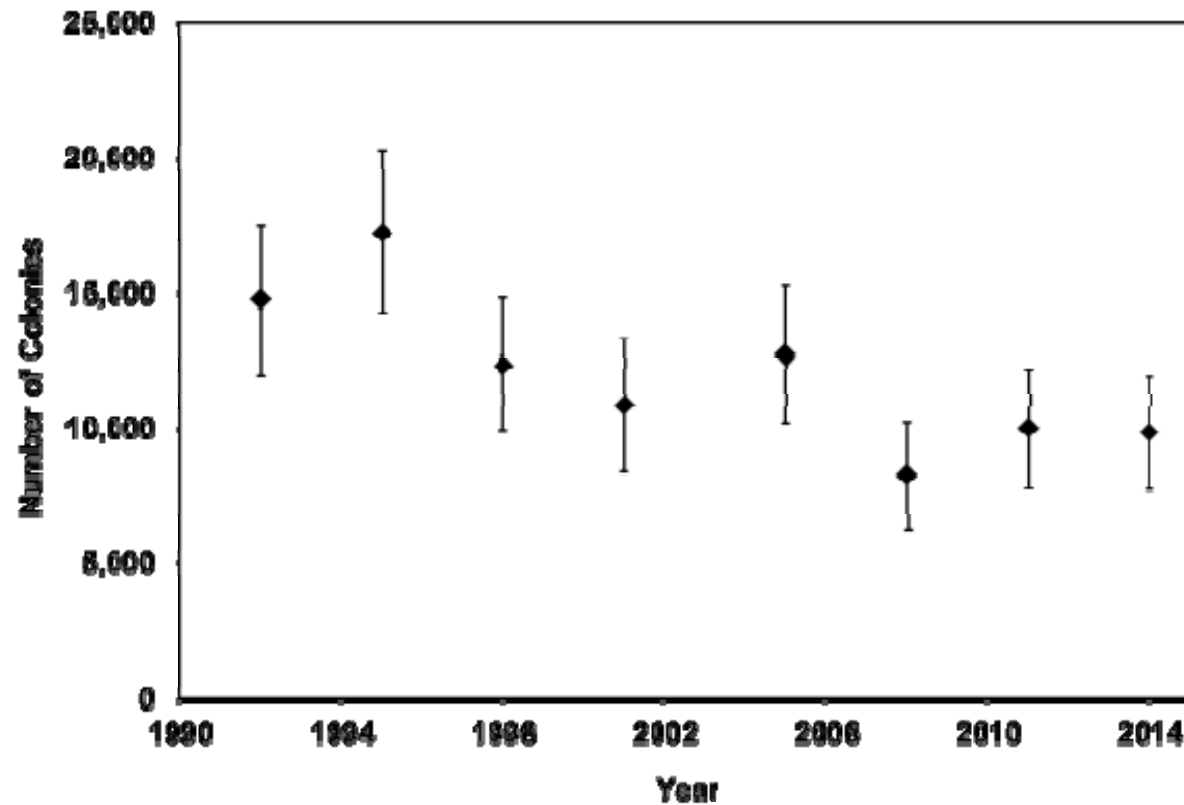


Beaver Management - Surveys



Beaver Management - Surveys

Estimated number of beaver colonies in northern Wisconsin, 1992-2014



Beaver Management - Surveys

- ∞ Cost of Beaver Helicopter survey has skyrocketed
 - Can no longer run survey due to costs
- ∞ Piloting new satellite imagery program
- ∞ Compare to helicopter survey data
- ∞ Evaluate for effectiveness



Future Needs?

- ∞ Accurate estimate of beaver population
- ∞ Beaver take by group
 - Trapper
 - Nuisance Wildlife Control
 - Private land control
 - Need consistent records
- ∞ Impact of disease
- ∞ Accurate estimate of predator take
 - Coyote, otter, etc.
 - Requires additional research



Questions?

