

Beavers and Beaver Management in Washington

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Objectives:

To build toward a comprehensive and ecosystem-based approach to beaver management, by:

1. Conveying the value and role of beavers in ecosystems,
2. Conveying the population and harvest management approaches and data that are in place today,
3. Sharing the place-based examples of beaver reintroduction to contribute to restoration, and
4. Laying out recommended near- and longer-term actions.



Setting the Stage

Credit: Janet Anthony



What we plan to cover:

- Holistic view
- Beaver Biology 101
- Management Programs
 - Recreational Trapping
 - Conflict / Nuisance removals
 - Relocation Program
 - Ecosystem Restoration Projects
- Near-term and long-term Objectives
- Consider relevant regulations and authorities throughout



The world's greatest engineer!



Benefits:

- Improved hydrology
- Increased habitat diversity and associated improvements to biodiversity
- Increases opportunities for people's connection with nature



Taking in the holistic view

Improving the good while planning for and managing the challenges

- Flooding
- Damaged and lost trees
- Ensuring fish passage
- Supporting salmon and steelhead recovery areas/projects



American Beaver Biology 101

- Largest rodents in North America; Av. 40 lbs., 2'-3' not inc. 15"x6" tail
- Social in colonies but territorial
- Most active at night
- Herbivores (plant) & lignivores (wood)



Credit: Laura Rogers



Geographic Range

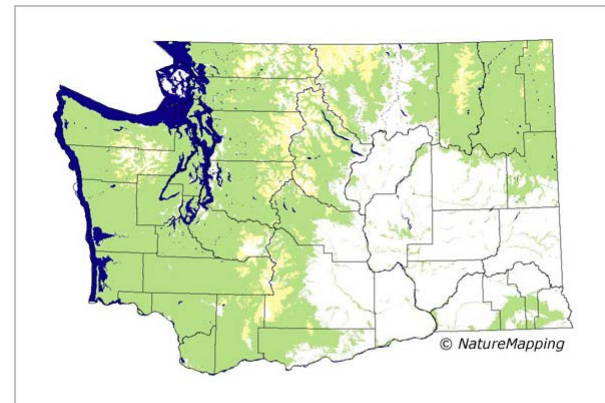
Once among the most widely distributed mammals in North America, beavers were eliminated from much of their range in the late 1800s because of unregulated trapping.

With proper management, they became reestablished in much of their former range and are now common in many areas.

Roughly 69,000 in WA



Figure 1. Distribution of the North American beaver (from Baker and Hill 2003).



+ enlarge map

Predicted breeding range

- = Core Habitat
- = Marginal Habitat



Management Programs

- **Harvest Management/Recreational Trapping**
 - Conflict/nuisance removals
 - Relocation Program
 - Ecosystem Restoration Projects

FURBEARER TRAPPING REGULATIONS

FURBEARER SPECIES Badger, Beaver,
Bobcat, Mink, Muskrat, Raccoon, Red Fox,
River Otter and Weasel

SEASON DATES Nov. 1 - Mar. 31



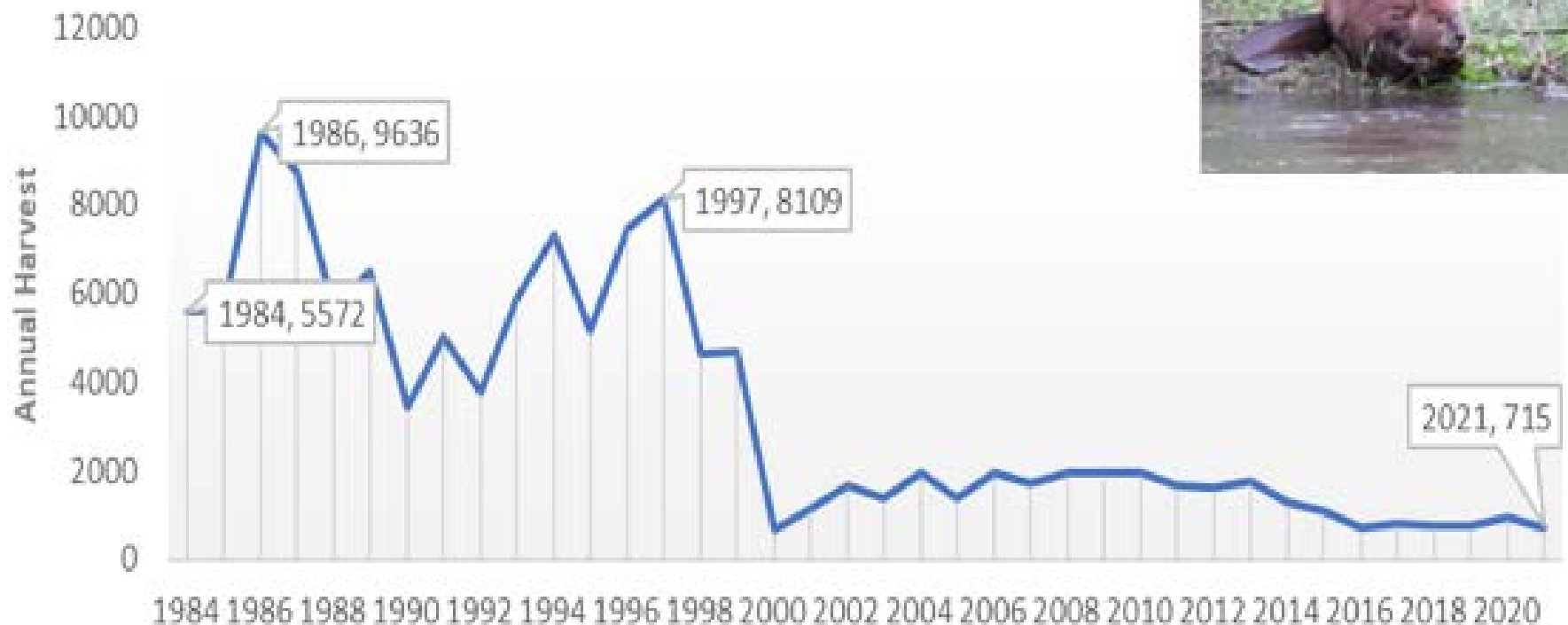
Harvest Management Information

- Classified as a furbearer (RCW 77.12.020 Wildlife to be classified/WAC 220-400-020(2) Furbearing animals are game animals and include beaver)
- Legally trapped using box or cage traps
- Roughly 500-700 trapping licenses sold annually
- About 110 report trapping beaver (1/3rd of pre- body gripping trap ban)

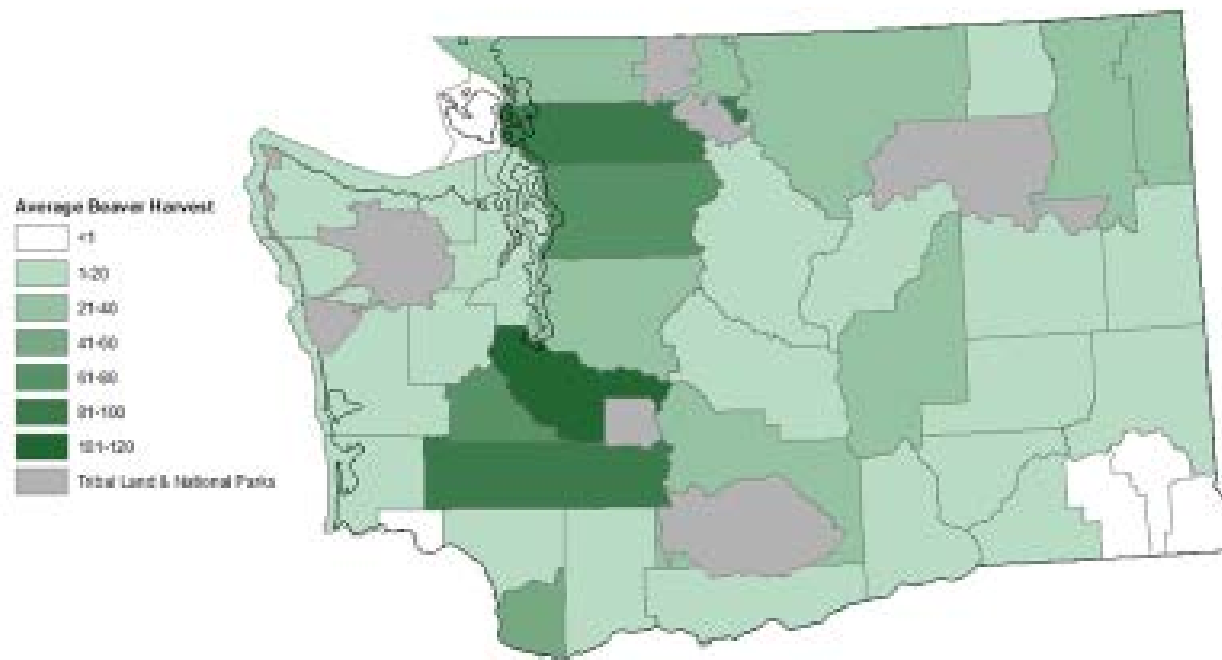


Harvest 1984-2021

Reported Beavers Harvested Per Year



WA Harvest by County 2017-2021

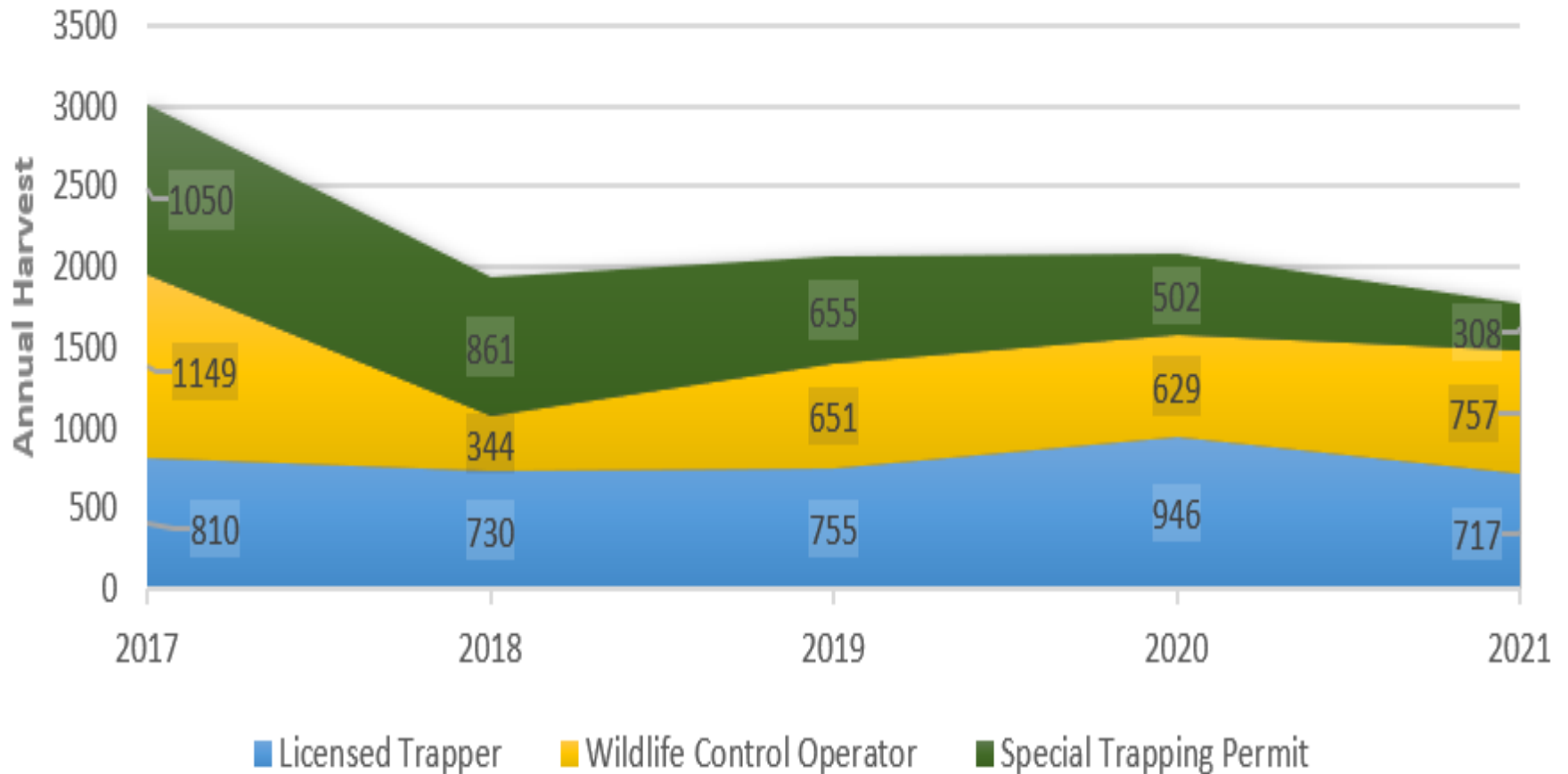


Management Programs

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WDFW Regulated Beaver Mortality



Wildlife Control Operators



[About WDFW](#) [Newsroom](#) [Get involved](#) [Civil Rights/Accessibility](#)

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Species & Habitats

- Species in Washington
- Ecosystems in Washington
- Living with wildlife**
- At-risk species
- Habitat recovery and protection
- Aquatic Invasive Species
- Amphibians and reptiles of Washington
- Wildlife diseases
- Marine toxic contaminants
- Fish and Wildlife Live Cameras

Hiring a Wildlife Control Operator

The Washington Department of Fish and Wildlife (WDFW) receives thousands of calls every year from citizens seeking advice on how to deal with unwanted wild animals. Although laws give citizens substantive latitude to deal with problems, many are either unwilling or unable to handle human/wildlife conflicts.

WDFW enlists the help of private citizens who have skills and training in the capture and handling of many wildlife species that commonly generate wildlife complaints. Typically these individuals are referred to as Wildlife Control Operators (WCOs), and there are many WCOs throughout the state. A WCO must be certified through WDFW and conform to its regulations, but they are **not** state employees and operate as private entities, setting their own fees.

Finding a WCO

To find a Wildlife Control Operator who works in your area, select your county from the list below. *Please note: some WCOs operate in multiple locations across the state, so an operator may appear in results for multiple counties.*

Find a Wildlife Control Operator near you

Where do you need service?

- Choose a county - ▾

Species

Beaver ▾



Other Human-caused Mortality

- Unreported removals from conflict
- Tribal harvest and conflict removals
- Roadkill



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Pilot Beaver Relocation Program

Est. 2019 – RCW 77.32.585



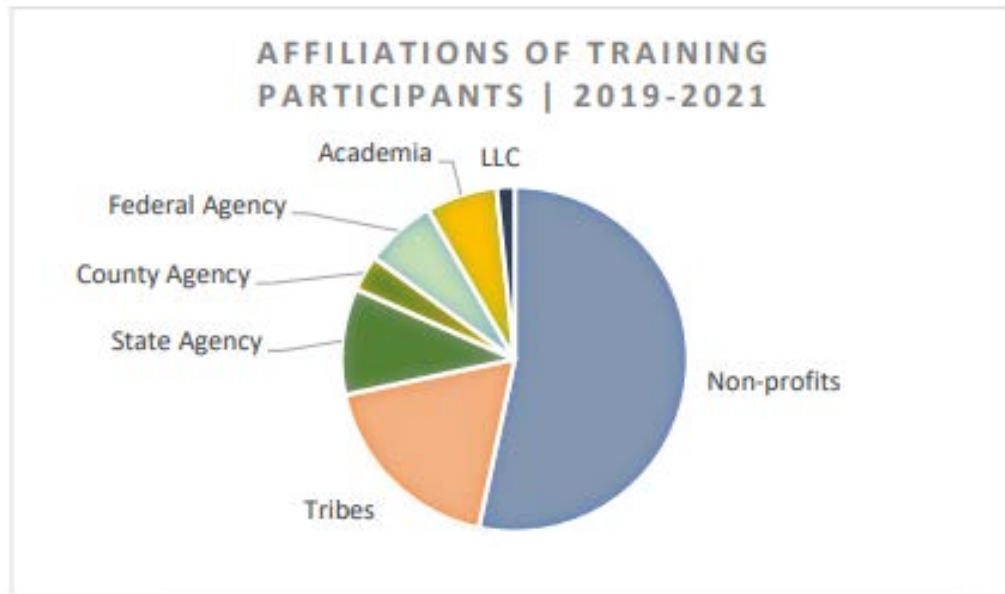
Credit: Julie Nelson

The program's success will be measured by achieving the following goals:

- Safe and humane treatment of beavers.
- Beaver survival and establishment at release sites.
- Mitigating property damage caused by beavers and reduced beaver mortality.
- Efficient implementation for landowners, beaver relocation permittees, and WDFW staff.



- 44 permits issued since inception
- 6 permits issued in 2022



Release Site Selection

Beaver relocation is not a panacea, nor should it be undertaken without careful consideration for the site, the watershed, and the beavers themselves.

Program incorporates a statewide Beaver Intrinsic Potential model that utilizes stream gradient, bankfull width and valley width to calculate a score for each stream segment in the state.

This model in combination with GIS layers showing agriculture areas, developed areas, and culvert sites to mitigate future conflict, as well as forage species and other relevant spatial datasets.



Pilot Beaver Relocation Program

- Analysis of 21 beaver relocation sites from the 2019 and 2020 field seasons show a 11% increase in surface water area within a one-mile radius.
- Increases in riparian buffer width, overall riparian buffer size, increase in canopy height, and total surface water are all positive changes seen.
- The program continues to evolve as new information is gathered to improve efficiency and effectiveness in reducing conflict removals, managing wildlife responsibly, and meeting multi-stakeholder interests.
- The overarching goal for this pilot is to migrate the permitting program into a permanent program through the development of a rule in upcoming agency rule-making.



Management Programs

- Harvest Management/Recreational Trapping)
- Conflict/nuisance removals
- Relocation Program
- **Ecosystem Restoration Projects**



Credit: Rebecca Smokoska



Ecosystem Restoration Projects

Ecosystem considerations are critical for successful Beaver Relocation!

Field assessment of site conditions

- Physical habitat: floodplain connectivity, channel depth and contours, cover from predators, area for dispersal
- Food sources: riparian quality/quantity, diversity of soft and hard woods of the right sizes
- Surrounding community: adjacent/nearby land uses, indicators of perception of beaver

Beaver complexes are dynamic and create fish habitat through restoring system processes





Yakima Basin Beaver Reintroduction Project 2011-22

Goal: Increase stream complexity and riparian system function

- Yakima Beaver Relocation Project, most active 2011-2015
 - 45 colonies relocated, resulting in 26 new dams storing 25 million gallons of water
 - 161 individuals beaver relocated
 - Success rate 16 of 45 (36%) for colonies surviving after one year
- Challenges: sustaining funding and organization after 2015, finding suitable relocation habitat
- Opportunities: renewed interest from Yakama Nation to jumpstart program



Methow Beaver Project

“Methow Beaver Project provides solutions to support landowners, restoration professionals and educators in understanding the benefits of beavers and the importance of coexistence with beavers for our ecosystem, for our wildlife, for our community, for us.”



- Foundation in relocation since 2008
- Coexistence Services began in earnest in 2019
- Fish and Fur Project and Beaver-based Stream Restoration
- Active Research Questions:
 - Quantifying the effects on instream habitat, water quantity/quality/timing, biodiversity, and watershed resilience
- Challenges:
 - Poor overall habitat quality in watersheds limits translocation opportunity and success
 - Lack of coordinated statewide strategy and practices to guide beaver management and support local efforts

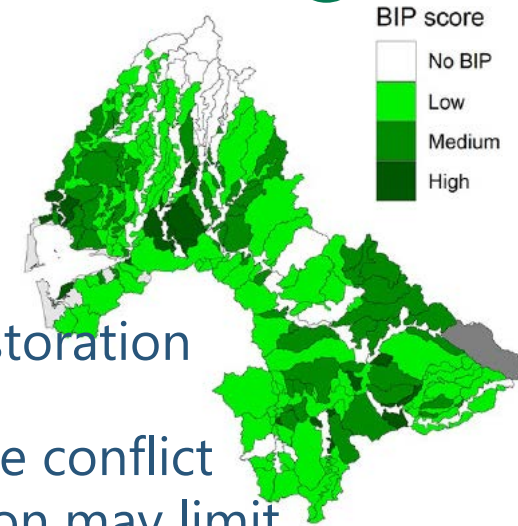
<https://methowbeaverproject.org/>



Chehalis Basin Beaver Planning

Chehalis restoration efforts prioritize:

- Protecting existing beaver habitat
- Encouraging beaver colonization
- Increasing distribution & abundance



Community Perceptions & Restoration Priorities Intersect:

- Restoration could increase conflict
- Growing beaver population may limit interest in restoration
- Need proactive conflict mediation

Krueger et al. 2021. Beaver status, coexistence, and conflict within the Chehalis Basin. <https://wdfw.wa.gov/publications/02297>

Active Research Questions:

- Do BDAs increase habitat complexity/connectivity, thermal refugia, or beaver colonization?
- Effects of dams or BDAs on fish passage?



Building Towards a Comprehensive Approach

Near Term Objectives:

- Continue active partnerships
- Continue working with trappers as partners
 - Info sharing regarding restoration sites
 - Signage in restoration areas
- Address recreational harvest in Furbearer GMP
 - Consider harvest changes and Issue Statements to address during the span of the GMP



Longer Term Objectives:

- Statewide Beaver and Ecosystem Management Plan
- Add beaver as a SGCN due to ecosystem values



Questions?

