

Guidelines for Relocation of Beaver in Oregon
Oregon Department of Fish and Wildlife
January 4, 2012

Introduction: Beaver are well known for their ability to modify aquatic and terrestrial ecosystems. Beaver activity can provide valuable and often critical habitats for a variety of wildlife species, and for many fish species, including federally listed (ESA) coho salmon, mid-Columbia summer steelhead, and bull trout. Nearly extirpated in Oregon, beaver have made a remarkable comeback in many areas through natural re-colonization and relocation efforts by the Oregon Department of Fish and Wildlife (ODFW) and others. There is a strong interest in relocating beaver in Oregon because they have the potential to provide considerable benefits to fish, wildlife, and habitats. However, beaver may also create conflicts with humans. Dam building can result in damage to roads and structures, and beaver may also damage important woody vegetation along water ways, including ornamental plantings and commercially valuable trees. Therefore, a clear set of guidelines is needed to direct relocation efforts for beaver in Oregon to carefully balance the potential for beaver to benefit fish and wildlife with possible damage issues. Because ecological differences exist between western and eastern Oregon, these guidelines may reflect minor differences in protocols to improve relocation efforts.

Purpose: The purpose of these guidelines is to establish standards for when, where, and by whom beaver may be relocated on public and private lands in Oregon, and to provide a process for monitoring and evaluating the success of beaver relocation efforts. These guidelines will also provide direction to ODFW staff when evaluating applications for relocating beaver.

Who: The guidelines apply to all agencies, organizations, and individuals that propose to relocate beaver onto public or private lands in Oregon.

Process: ODFW district fish and wildlife staff will jointly evaluate applications based on these guidelines. No beaver will be released until the site has been evaluated and approved by the ODFW District Wildlife Biologist responsible for the release site. The ODFW district office in the source area will issue a relocation permit if the District Wildlife Biologist in the receiving area agrees to the relocation. The permit will be valid for the specific site, duration, and desired number of beaver to be released.

Where: The very first step is to contact the ODFW District Wildlife Biologist in the proposed release area to discuss if beaver may be relocated in that district. Selection of release sites must then be based on an evaluation for suitability prior to any release of captured beaver. No releases will occur in areas where evidence (e.g., dams, dens, chewing, lodges, scent mounds) indicates the site(s) are currently occupied by beaver. Multiple releases from the same source

population may occur at the same site to improve chances of successfully establishing a colony.

An analysis of the Oregon stream survey data indicated that suitable release sites for beaver should have the following characteristics:

- Small, perennial streams with an active channel width of 4-8 m
- Valley width greater than 2 times the active channel width
- $\leq 5\%$ gradient
- A density of ≥ 550 trees/ha of small (15–30 cm DBH) deciduous trees or shrubs within 30 meters of the stream (statewide, preferred trees and shrubs include willow, cottonwood, alder, red osier dogwood; in eastern Oregon, preferred trees also include aspen)

The ODFW district biologists may have GIS maps that display stream reaches that may meet the release site criteria and for western Oregon, may also indicate primary rearing areas for coho.

Additional attributes for release sites should include:

- Sites without visible evidence of current occupation by beaver (e.g., fresh chewing, active dams, lodges, dens, forage caches, active channels, scent mounds). Sites recently vacated by beaver should not be considered until an analysis determines why the site is no longer occupied.
- Sites not adjacent to roads, or unprotected culverts or other critical infra-structures that may be detrimentally impacted by beaver activities.
- Areas that allow for dispersal upstream and downstream.
- Cooperation by the majority of landowners within 5–6 miles upstream and 5–6 miles downstream from the release site. Without consensus of the landowners, the ODFW Watershed Manager for the release area will make the final decision for approval or denial of an application.

Source populations selected for relocation will also be evaluated for suitability based on the following considerations:

- Presence of invasive species or pathogens that may be transported with relocated beaver may preempt the relocation in certain situations.
- Proposed relocations of beaver within a watershed must be approved by ODFW District Wildlife Biologists for both the source population and the destination area.
- Proposed relocations of beaver out of a particular watershed must be approved by ODFW Watershed Managers for both the source population and the destination area.

- Watersheds with suitable habitat but no source populations may receive beaver from an adjacent or nearby watershed.
- Beaver will not be relocated from public lands unless the beaver have caused damage to infrastructure (e.g., road damage, culvert damage, flooding of infrastructure) on these lands as determined by the responsible ODFW District Wildlife Biologist. ODFW/Oregon Department of Transportation (ODOT) liaisons will work closely with ODFW biologists and ODOT road engineers to facilitate beaver damage control on a case-by-case basis.
- Emphasis will be on relocating colony groups if possible.
- Relocation of breeding pairs will be a priority unless it will adversely affect the source colony.

Any beaver exhibiting clinical sign of disease, abnormal behavior, or not appearing healthy (refer to physical condition check-list) should not be relocated. Captured beaver that are in poor health should be humanely euthanized and submitted to any ODFW office for transfer to the Wildlife Health Lab for a complete necropsy.

Timing: Beaver will be relocated based on life history considerations. Relocating beaver during their principle dam-building and food-storage period will increase the chances that relocated beaver will remain in the vicinity of the release site. The optimum relocation period is August 1 through October 31 for western Oregon and August 1 through October 15 for eastern Oregon. For those desiring to relocate beaver outside of the optimum relocation period, approval must first be obtained from the responsible ODFW Watershed Manager(s).

Beaver Capture and Handling: Because the objective is to relocate healthy, viable beaver capable of establishing a colony, care should be taken to minimize stress and injury during all stages of the process. Use of an experienced trapper is highly recommended for all beaver captures. Either Bailey or Hancock style live traps or live-capture snares are preferred for capturing beaver for relocation purposes. Foothold traps shall not be used to live-capture beaver for relocation. If anesthetic drugs are used on individual beaver, these medications must be administered by a trained and certified biologist or veterinarian. A record of all captures and capture-related injuries or deaths will be provided to the ODFW immediately after capture efforts are conducted. All relocated beaver will be uniquely marked by ear-tags supplied by ODFW to those obtaining approval for relocations. Any person live-trapping and moving beaver will not need a Scientific Taking Permit, but will need to obtain a live trap and transport permit from ODFW. A Scientific Taking Permit (see http://www.dfw.state.or.us/wildlife/license_permits_apps/) is required if you are conducting scientific research, and/or if beaver are being fitted with radio transmitters.

Monitoring: Monitoring is needed to determine the success or failure of relocations. Measures of success include evidence that relocated beaver become established, build structures, and persist in an area for the long term (at least one full year post-release). The following monitoring protocols will be the responsibility of the individuals conducting the release.

Minimum required post-release monitoring of beaver will include:

- at least one site visit in the first 30 days post-release (complete appropriate section of monitoring form)
- a second site visit the spring following a release (complete appropriate section of monitoring form)
- a final site visit the following fall (complete appropriate section of monitoring form)
- Submit the monitoring form to the ODFW office that approved the relocation within 30 days of the final site visit

If radio-marked, beaver will be monitored for the life of the radio transmitter or until the fate of the beaver is known.

Monitoring criteria will include evaluation of a minimum of 1000 meters (Oregon Plan habitat monitoring site survey distance) upstream and downstream from the release site for signs of beaver or beaver activity (e.g., dams, dens, chewing, lodges, scent mounds). Monitoring should include efforts to identify individually marked beaver.

Reporting: Completed post-release forms shall be submitted after each of the three monitoring site visits to the ODFW District Wildlife Biologist where the release occurs. Forms will include information on number of beaver moved, fates of beaver(s) (e.g., mortality and cause of death [if possible], dispersal distance from release site), and a summary of information collected during site monitoring visits (e.g., observation of dam-building efforts, lodge-building efforts). Frequent dialogue with the ODFW District Wildlife Biologist is recommended and specific issues that develop with reintroductions and/or monitoring shall be reported as soon as possible.



ODFW BEAVER RESTORATION FORM PRE-RELEASE FORM

Complete for each release site prior to release

Date:

Form completed by:

Beaver Identification # :

Record a response for each category

Have you obtained permission from the District Biologist (yes/no)	
Name of individual conducting the release	
Scientific take permit number or live-trap and transport permit number	
Date of proposed release (mm/dd/yyyy)	
Wildlife Management Unit name	
Public or Private Land	
Stream Name	
Release Site Coordinates (UTM)	
EASTING	
NORTHING	
Dominant species of tree at release site	
Approximate percent conifer trees @ site in a 4.5 ac quadrat*	
Approximate percent hardwood trees @ site in a 4.5 ac quadrat*	
Average DBH of conifers @ site in a 4.5 ac quadrat*	
Average DBH of hardwoods @ site in a 4.5 ac quadrat*	
Stream substrate	
Stream Gradient (percent)	
Active Channel Width (meters)	
Active Channel Height (meters)	
Distance from site to current beaver activity (meters)	

* the 4.5 ac quadrat should be centered over the release site



ODFW HEALTHY BEAVER CHECKLIST

Complete for each beaver prior to release

Date:

Form completed by:

Beaver Identification # :

Check a response for each category

YES	NO	
<input type="checkbox"/>	<input type="checkbox"/>	Lethargic
<input type="checkbox"/>	<input type="checkbox"/>	Compromised from injury (broken bones, major laceration, etc.)
<input type="checkbox"/>	<input type="checkbox"/>	Emaciated or exhibiting poor body condition
<input type="checkbox"/>	<input type="checkbox"/>	Obviously blind with missing eye(s), sclerosis or cataracts
<input type="checkbox"/>	<input type="checkbox"/>	Exhibiting hair loss
<input type="checkbox"/>	<input type="checkbox"/>	Obvious lumps, swelling, or draining abscesses
<input type="checkbox"/>	<input type="checkbox"/>	Heavy visible, external parasites loads
<input type="checkbox"/>	<input type="checkbox"/>	Nasal discharge (indicating upper respiratory infection)
<input type="checkbox"/>	<input type="checkbox"/>	Audible respiratory sounds indicating distress caused by potential infection
<input type="checkbox"/>	<input type="checkbox"/>	Anal discharge indicating diarrhea or intestinal mucosal bleeding (very dark – black)
<input type="checkbox"/>	<input type="checkbox"/>	Neurological signs: such as head tilted to one side, aimless walking or circling, not responsive to stimuli, no response when touched or handled, excessive threatening sounds or actions.
<input type="checkbox"/>	<input type="checkbox"/>	Excessive drooling or salivation
<input type="checkbox"/>	<input type="checkbox"/>	Any unusual behavior
<input type="checkbox"/>	<input type="checkbox"/>	Abnormal anatomical features (mutations, additional appendages)
<input type="checkbox"/>	<input type="checkbox"/>	Missing incisors

IF YOU CHECKED YES TO ANY OF THE ABOVE THEN DON'T RELOCATE THIS BEAVER

Instead - euthanize and/or deliver to the ODFW Wildlife Laboratory

If you are euthanizing:

Take blood in tiger top and purple top test tube

Take a fecal sample

Obtain the individual's temperature prior to euthanizing

Obtain the individual's pulse and respiratory rate prior to euthanizing

Take a photo prior to euthanizing

Send completed form to: Oregon Department of Fish & Wildlife, Atten: furbearer biologist
3406 Cherry Ave. NE, Salem OR 97303



ODFW BEAVER RESTORATION FORM BEAVER RELEASE FORM



Complete for each release site prior to release

Date:

Form completed by:

Record a response for each category

NAME OF INDIVIDUAL CONDUCTING RELEASE			
SCIENTIFIC TAKE PERMIT NUMBER or			
LIVE-TRAP AND TRANSPORT PERMIT NUMBER			
DATE OF RELEASE (MM/DD/YYYY)			
WILDLIFE MANAGEMENT UNIT NAME			
STREAM NAME			
PUBLIC OR PRIVATE LAND			
CAPTURE SITE COORDINATES (UTM):			
EASTING			
NORTHING			
HOW WERE THE BEAVER CAPTURED ?	check all that apply		
live-trap			
snare			
foot-hold			
other			
RELEASE SITE COORDINATES (UTM):			
EASTING			
NORTHING			
NUMBER OF BEAVER BEING RELEASED:			
adult males			
adult females			
yearling males			
yearling females			
male kits			
female kits			
HOW ARE THE BEAVER MARKED	check all that apply		
ear tags			
tail tags			
freeze branding			
transmitters			
WERE ANESTHETICS USED ? (YES OR NO)			
IF YES -- TYPE USED			
LIST EACH INDIVIDUAL BEAVER IDENTIFICATION # AND AGE/GENDER	AGE/GENDER	ID #	Transmitter frequency



ODFW BEAVER RESTORATION FORM POST-RELEASE MONITORING FORM

Complete for each site visit after each release

Dates of post-release evaluation:

Form completed by:

Beaver Identification # :

Record a response for each category

Name of individual conducting the evaluation			
Scientific take permit number or live-trap and transport permit number			
Date of release (mm/dd/yyyy)			
Wildlife Management Unit name			
Public or Private Land			
Stream Name			
Release Site Coordinates (UTM)			
EASTING			
NORTHING			
	Monitoring		
	30 days	Spring	Fall
Date of site visit (mm/dd/yyyy)			
Is the beaver still at this site (yes/no/unknown)?			
What signs are available to verify the beaver's presence (check all that apply)?			
visual observation			
transmitter signal from a live beaver			
fresh beaver cuttings			
scent mound / droppings			
tracks			
other (specify)			
Did the beaver build a dam (yes /no)?			
Maximum distance from site to current beaver activity (meters)			
Did the beaver move from this site (yes/no/unknown)?			
If yes - how far has it moved (meters)?			
Have the site characteristics changed due to beaver activity (yes/no)?			
Describe changes			