

Living with Beavers

Management Solutions for Nuisance Beaver Activity



Beavers provide benefits to streams, wetlands, wildlife, fish, and water supply. They also create opportunities for enjoyable wildlife viewing.

Unfortunately, beaver activity can also cost time and money in property damage and conflicts with land uses. Fortunately, there are strategies to managing these problems that go beyond trapping and lethal control. Trapping and lethal control can provide a temporary solution to nuisance beaver activity, but these methods are not a long-term solution, as beavers will generally re-colonize desirable habitat quickly.



Image from City of Westminster Beaver Management Plan (2008)

If removal is the only option, contact Montana Fish, Wildlife and Parks for a list of licensed trappers.

This pamphlet provides a summary of cost-effective and lasting beaver management strategies currently used on private and public land in Montana, with additional detail on how to implement some of the more complex structural solutions. Please recognize that this document is not comprehensive. These methods do have the potential to fail if inappropriately applied; before proceeding with a plan, we encourage you to consult someone with experience with these solutions. Local and regional experts are listed on the back of this document.

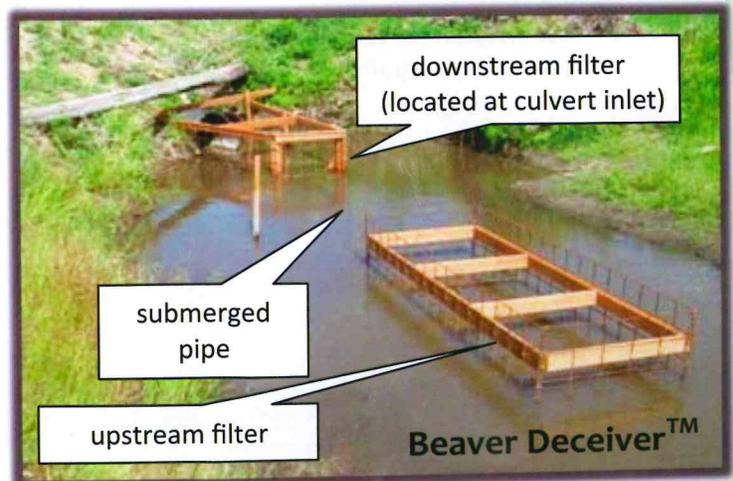
Below (and continued on page 4) is a list of possible solutions to address specific problems associated with beaver. Each solution incorporates typical beaver behavior into the management strategy.

Culvert Obstruction:



Beaver often choose road crossings as dam sites, which results in an increased risk of flooding and culvert failure. Upgrading the crossing to a bridge, repeated ripping out of the beaver dam, or removal of beaver are solutions that may not be favorable due to cost or the requirement of regular maintenance.

The Beaver Deceiver™, a design developed by Skip Lisle of Beaver Deceivers International, is the most durable and cost effective solution we have found to address culvert plugging by beaver and reduce maintenance costs. Construction of a Beaver Deceiver is described on pages 2 and 3. These structures are built to last at least 20 years with minimal maintenance.



-----The discussion of beaver management solutions is continued on page 4 -----

Constructing a Beaver Deceiver™

These steps describe the construction techniques and necessary materials to assemble a beaver deceiver. Every site requires a specific solution, developed based on beaver activity and likely response, site conditions, flood tolerance for protecting property, and proximity of other beaver activity. We recommend a thorough site review to develop a beaver management plan and define success criteria prior to any installation efforts. It may be necessary to obtain permits from various local, state, and federal agencies before work is started. For sites in Montana, please refer to the Montana Stream Permitting Guide (<http://dnrc.mt.gov/Permits/StreamPermitting>), or contact your local conservation district for assistance.

Helpful Tips:

- Use chainsaw or circular saw to carve a point on posts and braces.
- Pre-drill holes before installing extensions.

Example Construction Method:



(1) Construct a frame upstream of the culvert. Depending on the height of the culvert, this may include installing a 2" x 4" cross brace perpendicular across the top of the culvert.



(2) Attach a horizontal extension to the culvert or roadfill. Secure with lag screws. Attach vertical post to the end of the extension.



(3) Repeat step 2 on opposite side. Keeping level with first extension, angle extension toward center of the channel to create a rectangular or trapezoidal structure. Connect extensions with a cross brace and secure.



(4) At mid-points along the extensions, install vertical posts and an additional cross brace. Use level to 'true' posts while installing.



(5) If the site has a sand bottom, install wire mesh panel on bottom of the structure to prevent tunneling by beaver. Panel should stick outside of structure and wrap around vertical posts.



(6) Install diagonal braces to vertical posts. Pound into streambed through wire floor and attach with lag screws.



(7) Tack wire mesh panels to sides and back cross brace using staples. Cut front panel but do not attach if a double filter and pipeline are used.

| Example Materials <i>(quantities will vary by site and size of structure)</i> | Recommended Equipment for Construction |
|--|--|
| Pressure treated 2" x 4" boards | Chainsaw, Cordless Drill, Cordless Impact Driver, Cordless Circular Saw |
| 7' x 20' wire mesh panels: 4 gauge, 6" x 6" or 4" x 6" cell | 12 lb. Sledgehammer |
| 14' x 8" schedule 35 PVC pipe | Speed square, 2' and 4' levels, Bolt cutters |
| 1/4" x 3' aluminum rod | 1/2" and 3/8" drill bits, 1" x 6" pipe nipple |
| T-Star lag screws: 3", 4", and 5" (high quality) | Rakes |
| 1.5" galvanized fencing staples | Nail apron, Marking Pens, Ear/ eye protection, Leather gloves, chest or hip waders |

Detail Work:

Attention to detail, such as making sure posts and braces are level and straight will ensure the structure is more durable.



Cut fencing so a metal runs along the top and outside edges, with 6" stakes on bottom for anchors.



Block vertical posts flush with extensions.

Constructing a Filter:



Construct a rectangle of appropriate size and at equal intervals install cross braces. (In this photo the filter is upside down during construction.)



Attach walls together by twisting prongs using pipe nipples.



Cut a hole in the wire large enough to insert the PVC pipe.

Installing a Filter and pipe:



Place pipe into stream with one end running two feet into the filter frame.



Place filter and insert PVC or double-walled poly pipe. Note: drill two holes in top of pipe to attach pipe to fencing.



If using double-walled corrugated pipe, prepare pipe by cutting slits of outer layer to allow air to escape.



Attach PVC pipe to filter box using aluminum rod.

Final Steps:



Anchor filter box by embedding the 6-inch wires on the bottom of the filter into the streambed.



Install front wire panel on the filter frame. Cut a hole that will fit tightly around the pipe.



Inspect filter boxes for any gaps or holes.

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