

The logo consists of the letters 'R', 'E', and 'M' in a bold, sans-serif font. The top portion of each letter is a dark navy blue, while the bottom portion is a lighter, medium blue. The letters are closely spaced and aligned horizontally.

REM

road ecology meeting



BEAVER AND CALTRANS:

Beaver damage mitigation using cost effective solutions that retain habitat benefits

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North American beaver (*Castor canadensis*) dam building can cause upstream flooding along roadways



CASE STUDY

Caltrans Highway 101 Project – Prunedale, CA Channel Restoration Before and After Beaver Colonization

ISSUE: Beaver builds dam in newly restored channel which begins to flood adjacent roadbed. Caltrans seeks solution to preserve aquatic habitat while preventing flooding.



Summer 2012 – Post Construction,
Prior to beaver colonization

Fall 2014 – Post Construction,
After beaver colonization, causing flooding



CASE STUDY – Prunedale, CA (continued)

SOLUTION: Non-lethal Pond Leveler Device Installed Summer 2015

- Install pond leveler device to lower water level while keeping beaver dam intact
- Lower water level protects roadbed, dam remains intact and beaver continue to maintain valuable habitat for sensitive species
- Pond leveler discourages beaver from raising dam any higher preventing them from harvesting new materials from plantings in the mitigation site



Photo: Kate Lundquist/OAEC WATER Institute

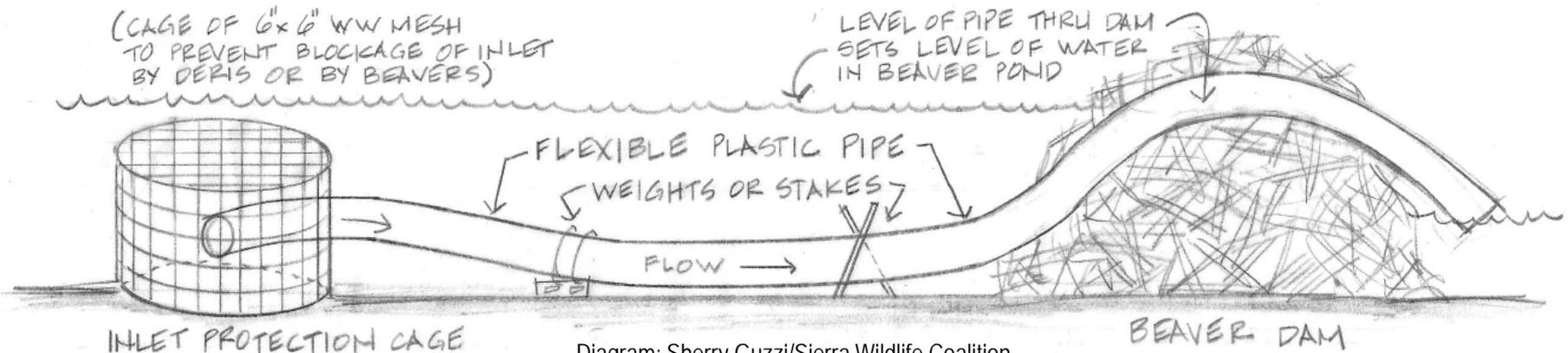


Diagram: Sherry Guzzi/Sierra Wildlife Coalition

Other beaver damage mitigation techniques include:

TREE PROTECTION

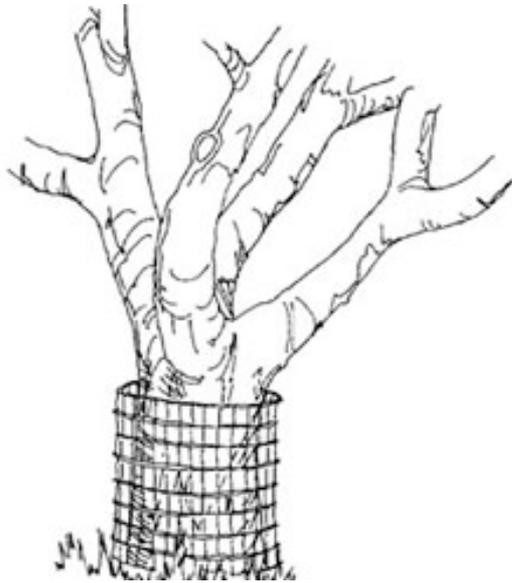


Illustration: Washington Department of Fish and Wildlife

Protect new and existing vegetation with wire mesh or sand-paint mixture:

- inexpensive
- easy to install and maintain
- paint can be color matched
- preserves mitigation plantings

CULVERT PROTECTION



Prevent culvert blockage with trapezoidal fencing:

- keeps beaver from accessing culvert
- reduces dam building stimulus
- inexpensive
- low maintenance
- can be combined with a pond leveler as needed
- also functions as a trash rack



Non-lethal techniques let beaver remain in place to provide biotic and abiotic benefits

Beaver dams create habitat for sensitive species including:

Biotic Benefits:

- Red-legged frog
- Western pond turtle
- Willow flycatcher
- Southern steelhead trout



Abiotic Benefits:

- increase groundwater recharge
- increase water retention & base flows
- attenuate floods
- aggrade incised streambeds
- reconnect streams to floodplain
- enhance water quality
- expand habitat area and complexity

Credits: Nancy Siepel (Biologist, CT), Scott Dowlan and Katherine Brown (Landscape Architect, CT), Kevin Swift (Swift Water Design), and Kate Lundquist (Occidental Arts and Ecology Center WATER Institute)

