

Wildlife Escape Ramps for Livestock Watering Troughs



Watering troughs installed for livestock are often used by a variety of wildlife, especially during the summer. Troughs generally benefit wildlife but can be deadly for animals that get in but can't get out. Many wildlife species, including sage-grouse, are known to accidentally drown in stock tanks that do not have adequate escape ramps. The good news is that effective wildlife escape structures are easy and inexpensive to build and can virtually eliminate wildlife mortality in water troughs.

Properly designed and installed, these structures also improve livestock health by maintaining clean water that's uncontaminated by drowned animals.

Guidelines

Several basic principles should guide the design and installation of all wildlife escape ramps. An effective escape ramp should:

- extend down into the water and meet the inside wall of the trough so animals swimming along the perimeter will find the ramp, rather than becoming trapped behind or beneath it or missing it entirely;
- reach to the bottom of the trough, so it will be effective even if water levels drop sharply;
- be firmly secured to the trough rim so it will not be knocked loose by livestock or other animals;
- be built of grippable, long-lasting materials, such as painted or coated metal grating, roughened fiberglass, concrete, rock and mortar or high strength plastic composites;
- have a slope no steeper than 45 de-

grees so animals can climb out without slipping back into the water

- be located to cause minimal interference with livestock.

Fig. 3

Some new water troughs come equipped with escape ramps



NRCS offers financial assistance to landowners willing to retrofit existing watering troughs with escape ramps to make them friendlier for sage-grouse and other wildlife. Through the Oregon Sage-Grouse Habitat Improvement Initiative, NRCS will pay up to 75% of the average cost to implement these conservation practices in certain areas. Landowners can apply for program assistance at their local NRCS office. Eligible applications will be ranked and will compete against other projects for funding. Higher preference will be given for projects located within high priority sage-grouse habitat.

NRCS Field Offices:

Deschutes & Crook Counties.....	541-923-4358
Lake County.....	541-947-2367
Harney County.....	541-573-6446
Malheur County.....	541-889-7637
Baker County.....	541-523-7121



Fig. 1
Existing water troughs can easily be fitted with escape ramps



Fig. 2
Retrofitted escape ramp

Wildlife Escape Ramps

Wildlife Escape Ramp Design

One of the most economical and easily constructed wildlife escape structures is made of expanded-metal grating, which is especially well-suited to round metal troughs that are no more than four feet deep. The ramp is constructed of 11 or 13 gauge expanded metal with 1/2" holes for the ladder effect. They can be cut out with a cutting torch, hand grinder or have the supplier pre-cut with a shear. Shearing often leaves a very sharp edge that needs to be dulled prior to bending into a ramp shape. One 4'x8' sheet of expanded metal will yield 8 ladders that fit 20" deep troughs.

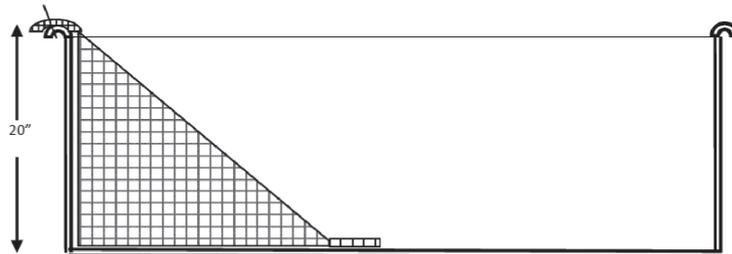
After cutting the design out, the metal is bent with a metal brake or clamping to a sturdy bench to make the sloped side or "wings" for the ramp. Be sure to keep the wing slope somewhat consistent as varying angles will make the ladders difficult to stack and transport.

After bending the wings, bend one triangle corner in a half-circle to fit the trough rim (see diagram). Escape structures must be firmly attached to the trough rim. A metal-tapping screw and washer is simple and effective, or a bracket with a bolt and wing nut can be made or purchased to allow easier removal for trough maintenance. The other triangle corner is bent in the opposite

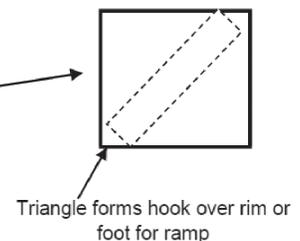
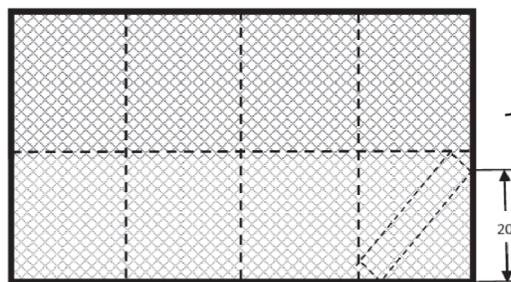
direction to rest flat on the bottom of the trough.

The ladders should be painted or dipped with a neutral color farm implement paint to prevent rusting. Be sure that paint is non-toxic after drying. The design can also be modified for rubber tire tanks by rounding the outer edge of the "wings".

Ramp Diagram



Side View: escape ramp in trough showing upper triangle bent over rim and lower triangle bent to form a foot to contact the trough floor.



Cutting Example Diagram: an 8' x 4' sheet of expanded metal can be cut into 8 - 2'x2' squares and bent along dotted lines as indicated in lower right square to form the ramp for a trough 20 inches deep.