Wildlife-Friendly Troughs

Why Use Escape Ramps?

- Many types of wildlife, such as birds, squirrels, and bats, use livestock troughs for drinking water. Unfortunately, these species often find themselves unable to escape when they fall in while attempting to drink or bathe.
- The use of wildlife escape ramps benefits livestock by maintaining clean water. Livestock with consistent access to clean drinking water have been shown to be healthier and gain more weight.
- Escape ramps can also protect float valves in livestock troughs.

Cost to fabricate one ramp (as shown on reverse): Approximately $15.00
Labor estimate: 2.5 hours or less

Relevant NRCS Practice:
734 – Fish and Wildlife Structure

- Water levels should be kept no lower than 6 inches from rim
- When possible, maintain water year-round
- Wildlife ramps can also provide the additional benefit of protecting float valves in livestock troughs

Ramp design option: Bent Metal Grating
(shown on reverse)

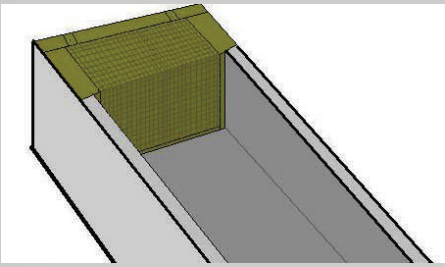
Ramp design option: Rock and Mortar

Ramp design option: Triangular Wire Mesh

Important Ramp Considerations

The key is to provide a climbable ramp that meets the sides of the trough. This makes it easier for the trapped animal to intercept the ramp. Designs that do not provide this can trap animals swimming along the perimeter of the tank, passing underneath the ramp until exhausted, and eventually drowning.

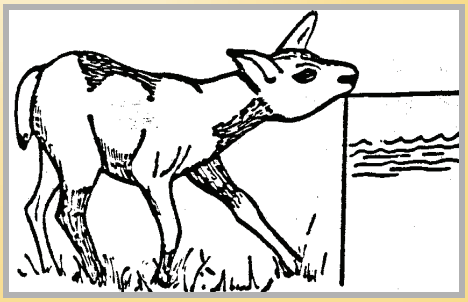
- Wildlife ramps must be placed properly and firmly attached so it can not be knocked loose by livestock or other animals
- Ramp must meet the side of the trough and reach the bottom when possible
- Preferably no more than a 45 degree slope
- Use long-lasting, graspable materials, such as painted or coated metal grating, roughened fiberglass, concrete, rock and mortar or high-strength plastic composites
- Horses can get their manes caught in sharp ramp protrusions. If this is a concern, use "flat" metal mesh, grind the edges and install edges flush with the trough



This design alternative provides a Float Cover/ Ramp combination. The plumbing components of the trough are physically protected, while the ramp provides both escape and a place for birds and other animals to access the water for drinking.
Provide a flat top and then angle the grating 45 degrees towards the bottom of the trough. The edges must be flush with the sides of the trough .

Trough Modifications

- Young animals, such as deer and elk, cannot reach some watering facilities. It is important to install the trough at the correct height so that these animals don't try to climb in.
- Troughs should not exceed 20 inches in height, and should be placed parallel to fence (if applicable).
- Larger troughs may be set partially below ground to accommodate the 20 inch maximum.



- Remove obstructions from above or within trough, which can be dangerous to bats and bird. When a trough is used for multiple fields, install a "moveable" fence line with posts in a diamond-shape around the trough to shift fence as needed and eliminate cross-fence being pulled across the trough.

May 2011

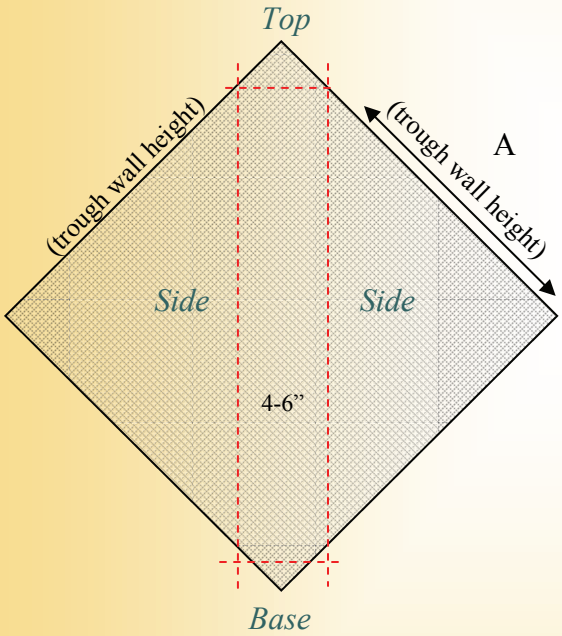
*Suggested Technique for Construction: *Bent Metal Grating Design**

Materials

- 13 gauge 1/2-inch or 3/4-inch metal mesh in 2 x 2 squares
- Rust-Proof Paint
- Washers & self-tapping metal screws
- If metal is not pre-cut, grinder or suitable cutting tool
- Saw Horses or table, two 2x6 boards, large C-clamps and angle iron (2x4 will also work, but not as well)
- A buddy to help bend the materials (optional)
- Heavy mallet or light sledgehammer
- Drill (with masonry bit for concrete troughs)

Step 1: Cut Mesh

CAUTION—EDGES WILL BE SHARP!!
Use grinder to smooth sharp edges & wear heavy-duty gloves



Length (A) should reach the bottom of the trough when installed, or at least the lowest water level.

Step 2: Bend Sides to 45 or 90 Degrees

Try using 2x6 boards clamped around the grate (as shown here) with angle iron to make bends easier.

Step 3: Hammer the Bends

To finalize the shape of the sides, use a hammer to create the proper bends for the ramp.

Step on the “top” to create the portion that will go over the upper edge of the trough. Step on the “base” to flatten the bottom (this part will lay flat when installed)

Step 4: Paint

To reduce deterioration of the material, spray the ramp with rust-proof paint.

Step 5: Installation

- Attach to edge of trough with washers and two self-tapping metal screws
- The bottom should reach the base of trough, or at least below the lowest water level
- Install ramp flush with side of the trough

Maintenance

Keep troughs full year-round to provide a consistent source of drinking water for wildlife. This is especially important during the dry season and in periods of drought.
If this is not an option, take the "full or dry" approach - drain troughs when you can't keep them full, to avoid half-full troughs that are attractive traps for wildlife.

For more information, please contact your local NRCS Office
http://www.nrcs.usda.gov/

NRCS Natural Resources Conservation Service

Photos courtesy of Bat Conservation International and NRCS