

Watering Facility for Wildlife (Guzzler) Installation and Maintenance

Nebraska Conservation Planning Sheet 22 (July 2009)

Landuser: _____ OPID: _____ Date: _____
 Contract No./Revision No. : _____ Tract No. _____ Field No(s). _____

This planning sheet applies to a type of watering facility for wildlife often referred to as a “guzzler” which traps rain water and stores it for use by wildlife during dry periods. For other types of watering facilities for wildlife, refer to the applicable FOTG standard: Pond (378); Spring Development (574); Pipeline (516); Well (642) and the criteria for adapting livestock watering facilities for use by wildlife within the Watering Facility (614) standard.

Note: Attach a map (aerial photo) showing the guzzler location(s) and a copy of the drawings which specify the design and construction parameters.



General Recommendations and Requirements:

Many wildlife species are not dependent upon available drinking water for survival. Exceptions include bighorn sheep and wild turkey, especially during the period when lambs/poults are being raised. For most other big game, upland game birds, and mourning doves, water developments will influence distribution more than abundance. *Water developments provide little or no benefit if other habitat factors (i.e. cover) are not adequate to support the species.* The planned wildlife habitat conditions for the site must meet the minimum quality criteria in order to apply this practice.

Additional Design Requirements for Guzzlers:

- Design factors such as size (storage and collection apron) and location must correlate to the targeted species.
- Storage tanks and troughs intended for use by wildlife will be installed at the ground level.
- Ramps (30 to 45 degree slope) to allow wildlife access/escape must be installed in all open tanks and troughs.
- All components of the facility will be protected from livestock as needed (i.e. fence) but still allow wildlife access.

Materials: A guzzler generally consists of a water collection apron to capture rainwater and direct it to a storage tank. Wildlife access can be provided directly to the storage tank or water can be piped to a separate watering basin or trough. Circle the type of materials listed below that will be used for the required components.

Water Collection Apron: Metal Plastic Fiberglass Butyl Rubber Concrete Asphalt Soil Cement

Storage Tank: (used tanks must be cleaned) Metal Plastic Fiberglass Concrete Other:

Watering Basin/Trough: Not Applicable Metal Plastic Fiberglass Concrete Other:

Site Selection:

- Avoid areas in close-proximity to human activity, such as roads and farmsteads; or plant vegetative screens to minimize disturbance from human activity.
- Avoid drainage features, such as gullies, to prevent damage due to flooding or silt deposition.
- Install to account for slope to allow drainage away from the guzzler in the event that over-filling of the tank occurs, or, as an alternative, an over-flow pipe may be included in the design.
- Locate to allow access for addition of supplemental water, if deemed necessary.
- Select sites that compliment existing habitat features including reliable food supply and escape cover.
- Upland Game Birds: Provide overhead cover (i.e. shrub thickets or tall, broadleaf plants) within 50 feet of site but keep immediate perimeter free of dense vegetation. Tall trees may increase predation due to perching raptors.
- Wild Turkey, Deer, and Elk: Maintain a wider zone (approx. 25 feet) of short vegetation to allow for adequate sight distances and to prevent concealment of predators. Place facility in know travel corridors to maximize use.
- Pronghorn: Prioritize sites in flat, open terrain to accommodate visual requirements.
- Bighorn Sheep: Prioritize sites within 100 yards of steep, rocky terrain to facilitate escape.

Guzzler Size Design Chart ³

Circle or Highlight the applicable size of apron and tank based on planned use and location.

Guzzler Class ¹ (gallon/day)	Apron Size (square feet) (Minimum) ²			Tank Size (gallons) (Minimum) ²		
	VZ I	VZ II & III	VZ IV	VZ I	VZ II & III	VZ IV
Typical Use (5 gal/day)	185	135	105	240	170	130
Intense Use (10 gal/day)	370	265	205	480	345	265
Large Ungulate Use (15 gal/day)	550	400	310	720	520	400

¹ Guzzler Class is based on estimated wildlife consumption per day as indicated.

Typical Use includes upland game birds, song birds, and small mammals. Use by wild turkey, deer and/or pronghorn is random and incidental due to low population densities OR other reliable, permanent water sources are present within ½ mile radius.

Intense Use includes upland game birds, songbirds, and small mammals plus wild turkey (routinely present or seasonally present in large numbers (i.e. multiple broods)) or high densities of deer or pronghorn (≥ 5 per sq. mile) AND no other reliable, permanent water source within a ½ mile radius. These areas most often consist of woodland habitats which support significant populations of wild turkey and/or deer but lack naturally-occurring water sources such as streams on a localized basis. Ecotypes within Nebraska where these conditions may commonly occur include: Pine Ridge, Wildcat Hills, Loess Canyons, Loess Hills, and upper reaches of Republican River tributaries.

Large Ungulate Use includes all sites where elk or bighorn sheep are expected to use the facility on a regular basis and no other reliable permanent water is available within a ½ mile radius. Reliable, permanent water sources for the purpose of this practice must be accessible to wildlife without disturbance/interference and must contain water during periods of extreme or extended drought.

² The minimum apron size is based on Colorado NRCS Biology Technical Note #21. Minimum tank size is 1.3 X apron size (rounded off) and closely approximates the previous Nebraska formula. Apron size may be increased up to 50% in order to optimize rainfall harvest (storage tank size should be adjusted according to the formula given above); increases beyond 50% are not warranted.

³ Contact the NRCS State Wildlife Biologist to assist with design requirements for unusual situations such as extremely high wildlife density in an area, or use by unique species.

Operation and Maintenance:

- Facilities should be inspected at least twice per year to assess and repair damaged appurtenances (especially ramps), remove sediment and debris, clear or manage vegetation that obstructs wildlife access to the water, and monitor water levels and water quality.
- If the facility is not designed to withstand freezing, it should be annually winterized by draining the components.
- During periods of extreme drought, it may be necessary to manually add water to the storage tank in order to achieve wildlife habitat objectives.

PRACTICE APPROVAL:

Designed by:

Date:

Approved by:

Date:

LANDOWNER'S/OPERATOR'S ACKNOWLEDGEMENT:

The landowner/operator acknowledges that:

- a. He/she has received the drawings and specifications and has an understanding of the contents and requirements.
- b. No changes will be made in the installation of the job without prior concurrence of the NRCS technician.
- c. Maintenance of the installed work is necessary for proper performance during the project life.

Accepted by:

Date:

PRACTICE COMPLETION:

I have made an on-site inspection of the site (or accepted owner/contractor documentation), and have determined that the facility, as installed, conforms to the drawings and practice specifications.

Certification by:

Date: