

**NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION PRACTICE STANDARD**

**WILDLIFE WATERING FACILITY
(NO.)
CODE 648**

DEFINITION

Develop, improve, or modify watering places and systems for wildlife.

PURPOSE

- To provide adequate drinking water, during critical periods, for wildlife.
- To create or expand suitable habitat for wildlife.
- To improve water quality and accessibility for wildlife.

CONDITIONS WHERE THIS PRACTICE APPLIES

In areas where new, additional, or improved watering places are needed to increase the range, distribution, improve the habitat of, or attract wildlife by meeting their water requirements. Where lack of adequate water has been identified as the limiting habitat component.

CRITERIA

General Criteria Applicable to All Purposes

- Because each facility is unique to species, habitat, topography, and climate; watering facilities must be planned and installed according to a plan and adapted to the specific site. Types of facilities include:
 1. Rain Traps - impervious catchments with storage tank and drinking facilities.
 2. Dugouts and pits supplied by surface runoff, stream diversion, or spring flow.
 3. Drinking troughs supplied from a pipeline.
- Methods used will be designed to protect the soil resource from erosion
- Design shall be sized to accommodate the expected and/or anticipated consumptive rates of target and non-target species. Refer to Table 1 (Water Requirements).

- Facilities shall be protected from livestock damage.
- The facility must provide permanent, accessible, dependable, and suitable quality water for the critical period. Refer to Table 2 and 3 for tank and apron sizes.
- The distribution and spacing of facilities shall be based on topography, required travel distance to water and the home range, territory size, and distribution of the target species. Refer to Table 4 (Distance between available water).
- Ramps shall be installed in open water troughs and tanks when necessary for access and escape.
- Design shall include appropriate safety features to minimize the hazards of the facility.
- Management measures shall be provided to control invasive species and noxious weeds.
- Facilities shall be designed and installed in compliance with all State and federal laws including water rights and permits if needed.
- Disturbed areas shall be vegetated according to a revegetation plan using adapted plant materials.
- Watering facilities will be planned for a primary wildlife species.

Conservation practice standards are reviewed periodically, and updated if needed. To obtain the current version of this standard, contact the Natural Resources Conservation Service.

**NRCS, ID
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Table 1
Water Requirements

Facilities will be designed to supply the following water requirements:

| | |
|-------------------------|--|
| Mule deer | 1 to 2 gallons/animal/day |
| Antelope | 1 to 2 gallon/animal/day |
| Elk | 5 to 8 gallons/animal/day |
| Rocky Mt. goat | 1 to 2 gallons/animal/day |
| Rocky Mt. Bighorn sheep | 1 to 2 gallons/animal/day |
| Quail | 750 gallons/covey/year |
| Chukar | 750 gallons/covey/year |
| Wild turkey | 500 gallons/flock on summer range |
| Sage grouse | 500 gallons/flock on summer range |
| Sharptail grouse | 500 gallons/flock on summer range |
| Hungarian Partridge | 500 gallons/flock on summer range |
| Mourning dove | 2 to 5gallons/flock/day available year long |
| Pheasant | 2 to 5 gallons/flock/day available year long |
| Songbirds | 1 to 2 gallons/flock/day available year long |

Table 2
Tank Size

The water storage capacity is determined by the average rainfall as follows:

| <u>Average Rainfall</u> | <u>Minimum Tank Storage Capacity Required</u> |
|-------------------------|---|
| 5" to 10" | 750 gallons |
| 10" or more | 500 gallons |

The size can be reduced if used for small mammals and/or birds.

Table 3
Water Collection Apron

The water collecting apron size is determined by the minimum annual rainfall on record for the area and the tank storage capacity.

Circular Apron

| Minimum Annual Rainfall (Inches) | Apron Radius (ft.) by Storage Size | |
|----------------------------------|------------------------------------|--------------------|
| | <u>500 gallons</u> | <u>750 gallons</u> |
| 6 | -- | 14.0 |
| 8 | -- | 12.0 |
| 10 | 7.0 | 11.0 |
| 12 | 7.0 | 10.0 |
| 14 | 7.0 | 9.0 |
| 16 | 7.0 | 8.5 |

Rectangular Apron

| Minimum Annual Rainfall (Inches) | Apron Area by Storage Size | |
|----------------------------------|----------------------------------|----------------------------------|
| | <u>500 gallons</u> (Sq. Feet) | <u>750 gallons</u> (Sq. Feet) |
| 6 | -- | 496 |
| 8 | -- | 296 |
| 10 | 158 | 237 |
| 12 | 132 | 198 |
| 14 | 113 | 169 |
| 16 | 99 | 148 |

Watering facilities will be planned for a primary wildlife species.

Table 4
Distance Between Available Water

| <u>Species</u> | <u>Optimum</u> (Miles) | <u>Maximum</u> (Miles) |
|-------------------------|---------------------------|---------------------------|
| Mule deer | 1 | 3 |
| Antelope | 2 | 3 |
| Elk | 1 | 3 |
| Rocky Mt. Goat | 1 | 1 |
| Rocky Mt. Bighorn sheep | 1 | 2 |
| Quail | 0.5 | 1 |
| Sage grouse | 1 | 2 |
| Sharptail grouse | 1 | 2 |
| Hungarian partridg | 1 | 2 |
| Chukar | 0.5 | 1 |
| Turkey | 1 | 2 |
| Mourning dove | 3 | 5 |
| Pheasant | 0.5 | 1 |
| Songbirds | 0.25 | 0.5 |

CONSIDERATIONS

General Considerations

- Consider the effects on the target species and the ecosystem by concentrated grazing, predation, hunting etc.
- Consider the accessibility of the site for installation and maintenance.
- Consider any effects upon natural springs and associated unique flora and fauna.
- Consider the aesthetics of the installation

Periodically monitor water quality to insure acceptable water quality. Maintain as needed.

Water Quantity Considerations

- Consider the effects on downstream flows or groundwater that could affect other water users or associated aquatic sites.

Water Quality Considerations

- Consider the effects on wetlands or other aquatic sites.
- Consider the existence and maintenance of suitable water quality for the target species.

PLANS AND SPECIFICATIONS

Plans and specifications shall be prepared in accordance with the criteria of this standard and shall describe the requirements for applying the practice to achieve its intended use.

NRCS Biology Technical Note 23 or other recognized sources such as designs by the Idaho Department of Fish and Game, US Forest Service, Bureau of Land Management, and US Fish and Wildlife Service can be used to design a wildlife watering facility for a specific situation
NOTE: Outside agency designs must meet the Wildlife Watering Facility, Trough and Tank standard for NRCS.

OPERATION AND MAINTENANCE

Facilities shall be checked periodically to insure proper function. Repair and maintain as needed.

Inspect the area adjacent to the facility to make sure the area is well protected with desirable vegetation and not subject to erosion or deposition. Correct as needed.

Facilities not designed to withstand or operate during freezing weather shall be winterized prior to winter conditions.