

Animal Enhancement Activity – ANM12 – Shallow water habitat



Enhancement Description

Construct or renovate small, shallow sites to impound or hold water seasonally, typically from late winter through early summer (e.g., vernal pools).

Land Use Applicability

Cropland, Pastureland, Rangeland, Forestland

Benefits

Shallow water habitats are used by amphibians, reptiles, birds, mammals and other species in completing their life cycles. Most species of amphibians need shallow water areas to lay their egg masses. These seasonal pools of water do not provide year-round water habitat that would support fish that could prey on the egg masses.

Conditions Where Enhancement Applies

This enhancement applies to all crop, pasture, range or forest land use acres.

Criteria

This enhancement requires the construction or renovation of small, shallow sites to impound or hold water seasonally, typically from late winter through early summer (e.g., vernal pools).

1. **Soil & Site Considerations:** Shallow water habitat sites should be located where water can be impounded or regulated by diking, ditching, flooding, pumping, or excavation. Soils must have low permeability or seasonal high water tables to inhibit subsurface drainage and allow for maintenance of proper water levels. These aquatic habitats must be located adjacent to or within wildlife-friendly cover or natural habitats. This activity does not apply on existing wetlands.
2. **Size/Depth/Season/Composition:** There are no area limitations, although larger aquatic habitats provide greater ecological benefits.
 - a. The shallow water habitats must be arranged in groups of two or three with approximately 1/4 to 1/3 mile between each pool. There will be 1 pool arrangement per each 20 acres of suitable land. Each pool must be between 0.1 and 1/2 acre in size. As a minimum there must be at least 0.2 acres of shallow water habitat per 20 acres of suitable land in a land use. If the suitable land use is less than 20 acres the amount of shallow water habitat required will be reduced according to the ratio: 0.2 acres per 20 acres.
 - b. Maximum depth shall not exceed 30 inches and the average depth should be between 6 and 18 inches.



- c. These aquatic habitats must be designed and managed to hold water at a minimum from late winter through early summer, however it should not hold water all year long.
- d. Irregular substrate surfaces are preferred over smooth substrate surfaces to create diverse plant communities and habitat structure.
- e. A combination of open water and natural vegetation, including moist soil and wetland plants, is desired within the wetted perimeter.
- f. A ratio of about 50% open water to 50% vegetation is ideal (acceptable range is 30-70%). Habitat complexity can be enhanced by the addition of logs or rocks that provide resting and basking sites.

Refer to Conservation Practice Standards, Shallow Water Development and Management (646) for additional management information and Dike (356), or Water and Sediment Control Basin (638) for additional information on water impoundment structures for this enhancement. Contact your local conservationist for assistance with Conservation Practice Standards.

Operation and Maintenance

The contributing watershed and/or water supply shall provide clean water free of harmful pollutants. Apply conservation treatments to the contributing watershed to ensure minimal erosion and sediment delivery. Buffer these aquatic habitats with wildlife-friendly perennial vegetation dense enough to retard erosion and trap sediments before entering the water.

Manage water levels by artificially raising or lowering in order to produce desired habitat conditions. Manage the areas to control reed canarygrass, purple loosestrife and other undesirable invasive plants. Manage dense vegetation such as cattails and prairie cordgrass so that 50-70% open water is maintained.

Adoption Requirements

This enhancement is considered adopted when vernal pools have been established that meet or exceed the above criteria and they have been functioning and maintained as described in the operation and maintenance section.

Documentation Requirements

1. Site description including a location map, a detailed map or sketch including surrounding land uses, with dimensions, water depth and estimate of area,
2. Description of management activities and dates completed,
3. Maintenance plan, and
4. Photos of established pools.

References

Balas C. J., N.H. Euliss Jr. and D.M. Mushet. 2012. Influence of Conservation Programs on Amphibians using Seasonal Wetlands in the Prairie Pothole Region. *Wetlands* 32:333-345.

Blackwell, M.S.A. and E.S. Pilgrim. 2011. Ecosystem services delivered by small-scale wetlands. *Hydrological Sciences Journal* 56(8): 1467-1484.



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Lehtinen, R.M., S.M. Galatowitsch and J.R. Tester. 1999. Consequences of habitat loss and fragmentation for wetland amphibian assemblages. *Wetlands* 19: 1–12.

USDA-NRCS and Wildlife Habitat Council. 2007. Temporarily flooded wetlands. Fish and Wildlife Habitat Management Leaflet No. 47. Washington, D.C.

<http://directives.nrcs.usda.gov/OpenNonWebContent.aspx?content=18529.wba>

USDA-NRCS and Wildlife Habitat Council. 2006. Amphibians and Reptiles. Fish and Wildlife Habitat Management Leaflet No. 35. Washington, D.C.

<http://directives.nrcs.usda.gov/OpenNonWebContent.aspx?content=18528.wba>

USDA-NRCS and Wildlife Habitat Council. 2006. Ecologically Isolated Wetlands. Fish and Wildlife Habitat Management Leaflet No. 38. Washington, D.C.

<http://directives.nrcs.usda.gov/OpenNonWebContent.aspx?content=18517.wba>

Utah State Supplement 2015 for ANM12

Minimum 30ft vegetated buffer around the high water mark. Maximum slope in shallow water is 1:10, and 1:20 is preferable. 2b – Water should have an average depth 6-12 inches and a maximum depth of 24 inches. No fish shall be present or introduced into the shallow water.



Operations & Maintenance, Conservation Measures, and Client Acknowledgement

Operation and Maintenance	
Operation:	
Maintenance:	
Conservation Measures	
Actions that must be implemented by the landowner/manager during enhancement implementation:	
Client's Acknowledgement Statement	
The Client acknowledges that:	
a. They have received a copy of the enhancement and understand the contents and requirements.	
b. It shall be the responsibility of the client to obtain all necessary permits and/or rights, and to comply with all ordinances and laws pertaining to the application of this enhancement.	
Biologist:	Date: _____

Planner:	Date:

Client:	Date:
