

NATURAL RESOURCES CONSERVATION SERVICE  
CONSERVATION PRACTICE STANDARD

**SHALLOW WATER MANAGEMENT FOR WILDLIFE**

(Acre)  
**CODE 646**

**DEFINITION**

Managing shallow water on agricultural lands and moist soil areas for wildlife habitat.

**PURPOSE**

To provide open water areas on agricultural fields and moist soil areas to facilitate waterfowl and shorebird resting and feeding.

To provide habitat for reptiles and amphibians and other aquatic species which serve as important prey species for waterfowl, raptors, shorebirds, and other wildlife.

**CONDITIONS WHERE PRACTICE APPLIES**

On agricultural and moist soil areas where water can be impounded or regulated by diking, ditching, or flooding.

Where the potential exists, efforts should be made to emphasize the restoration of habitat for listed and proposed listed species as well as species of concern. Flexibility for this standard allows for fluctuations in the design water depths in order to provide optimum habitat for targeted waterfowl and shorebird species. Reference the California Natural Diversity Database, state and federal wildlife agencies and local resource inventory information for species lists and habitat needs.

This practice does not apply to: Wetland Restoration (657) intended to rehabilitate a degraded wetland where the soils, hydrology, vegetative community, and biological habitat are returned to original conditions; Wetland Enhancement (659) intended to rehabilitate a degraded wetland where specific functions and /or values are enhanced beyond original conditions; or Wetland Creation (658) for creating a wetland on a site location which historically was not a wetland or on a site which was formerly a wetland but will be replaced with a wetland type not naturally occurring on the site.

**CRITERIA**

Soil characteristics shall include heavier-textured soils which exhibit slow to very slow permeability or that have an impermeable subsurface layer which will effectively reduce the downward movement of water.

Shallow water impoundment requires an adequate water supply for the purpose of maintaining planned water depths as well as an adequately sized water control structure for the purpose of managing water depths or removing water from the unit.

Landowner shall obtain all local, state, and federal permits necessary.

If pumping or diverting water, water rights must be assured prior to practice implementation.

The Standards and Specifications for Dike (356), Pumping Plant for Water Control (533), and Structure for Water Control (587) will be used as appropriate. Refer to Chapter 6, "Structures," for additional design information. Existing drainage systems will be utilized, removed, or modified as needed to achieve the intended purpose.

**CONSIDERATIONS**

To insure that foods are available to dabbling ducks, impoundments should be gradually flooded to a depth of 6-18 inches.

Management of water levels for use by shorebirds includes lowering water levels to mudflat conditions in order to provide optimum feeding habitat during spring and summer months.

Consider the effects of the timing of the flooding and drawdown, as well as the type of drawdown, on plant species composition (moist soil areas).

Consider the species flooding tolerances and the composition of seed in the soil at the site (moist soil areas).

Planning considerations for field borders and adjacent upland nesting habitat areas shall include use of native plants whenever possible. Native vegetation has a tendency to harbor higher and more diverse populations of invertebrate species, which are a critical food source for juvenile birds.

Consider effects on wetlands or wildlife habitats that would be associated with the practice.

Consider the effects of residual herbicides (moist soil areas).

Consider the targeted plant species' tolerance with respect to timing and type of drawdown.

Consider effects on movement of dissolved substances to groundwater and to downstream surface waters.

Consider effects on downstream flows that would affect other water uses or users.

### **Endangered Species Considerations**

Determine if installation of this practice with any others proposed will have any effect on any federal or state listed Rare, Threatened or Endangered species or their habitat. NRCS's objective is to benefit these species and others of concern or at least not have any adverse effect on a listed species. If the Environmental Evaluation indicates the action may adversely affect a listed species or result in adverse modification of habitat of listed species which has been determined to be critical habitat, NRCS will advise the land user of the requirements of the Endangered Species Act and recommend alternative conservation treatments that avoid the adverse effects. Further assistance will be provided only if the landowner selects one of the alternative conservation treatments for installation; or at the request of the landowners, NRCS may initiate consultation with the Fish and Wildlife Service, National Marine Fisheries Service and/or California Department of Fish and Game. If the Environmental Evaluation indicates the action will not affect a listed species or result in adverse modification of critical habitat, consultation generally will not apply and usually would not be initiated. Document any special considerations for endangered species in the Practice Requirements Worksheet.

Some species are year-round residents in some streams, such as, freshwater shrimp. Other species, such as steelhead and salmon, utilize streams during various seasons. Be aware that during critical periods, such as spawning, eggs in gravel's, and rearing of young may preclude activities in the stream that may directly affect

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the stream habitat during those periods. For example there should be no disturbance of stream gravel beds that may have eggs in them. That could include any equipment in the stream or even walking in the stream or work upstream that may result in sediment depositing in the gravel beds. Document any special considerations for endangered species in the Practice Requirements Worksheet.

### **PLANS AND SPECIFICATIONS**

Plans and specifications for installing structures for water control shall be in keeping with this standard and shall prescribe the requirements for applying the practice to achieve its intended purpose.

### **OPERATION AND MAINTENANCE**

When undesirable plant species are considered to be excessive, the management unit should be drained and treated. Recommended control measures include crushing, burning and disking of emergent vegetation such as cattails and hardstem bulrush.

The following actions shall be carried out to insure that this practice functions as intended throughout its expected life. These actions include normal repetitive activities in the application and use of the practice (operation), and repair and upkeep of the practice (maintenance).

Any use of fertilizers, mechanical treatments, prescribed burning, pesticides and other chemicals to assure the shallow water or moist soil area function shall not compromise the intended purpose.

Biological control of undesirable plant species and pest (e.g. using predators or parasitic species) shall be implemented where available and feasible.

Operation and maintenance shall include monitoring and management of the site as well as structural components.