

UNITED STATES DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

CONSERVATION PRACTICE STANDARD
WETLAND WILDLIFE HABITAT MANAGEMENT

(Acre)

CODE 644

DEFINITION

Retaining, developing, or managing habitat for wetland wildlife.

PURPOSE

To maintain, develop, or improve wetland habitat for waterfowl, shorebirds, fur-bearers, or other wetland dependent or associated flora and fauna.

CONDITIONS WHERE PRACTICE APPLIES

On or adjacent to wetlands, rivers, lakes, and other water bodies where wetland associated wildlife habitat can be managed. This practice applies to natural wetlands and water bodies as well as wetlands that may have been previously restored, enhanced, or created. [See Alabama NRCS conservation practice standards (CPS): Wetland Restoration, Code 657; Wetland Enhancement, Code 659, and Wetland Creation, Code 658.]

CRITERIA

Criteria Applicable to all Wetland Wildlife

Application of this practice alone, or in combination with other supporting and facilitating practices, shall result in a conservation system that will enable the planning area to meet or exceed the minimum quality criteria for wildlife habitat established in Section III of the FOTG.

Identify species management goals and objectives. For the desired species, identify the types, amount, and distribution of habitat elements and the management actions necessary to achieve the management objectives.

Native plant shall be used where possible.

Control of all undesirable pest species shall be implemented where feasible. Control of highly aggressive pest species, such as cogongrass, kudzu, or feral hogs, may be essential to the success of this practice.

Sites containing hazardous waste will be cleaned prior to the installation of this practice. The landowner shall obtain all necessary local, state, and federal permits that apply.

Additional Criteria Applicable to Selected Wetland Wildlife in Alabama

I. Ducks

- A. Retaining habitat – Retain as much acreage as possible in ponds, including natural ponds and those on abandoned mined land; marshes; oxbow lakes; coastal flats; and other wetlands. Must be at least 1 acre.
- B. Creating habitat
 1. Beaver ponds – Applicable in beaver ponds that
 - a. contain at least 1 acre of shallow water (2 to 30 inches deep);
 - b. contain no trees or mostly dead trees in the shallow margins;
 - c. contain little, if any, alder, buttonbush, or emergent water weeds; and
 - d. contain live streams to ensure water for flooding.

Break dam at the existing channel in June or July. The break should be in the form of a deep narrow "V." Build and install a three-log drain, a Clemson leveler or other suitable drain. See Alabama NRCS FOTG, Section I, References, Biology, Wood Ducks in Alabama, for diagram of three-log drain and The Clemson Beaver Pond Leveler for diagram of Clemson beaver pond leveler. Leave at least one-third of the beaver pond flooded (not drained).

Broadcast 20 pounds of Japanese millet or baldwin junglerice seed per acre immediately after draining and while the exposed mudflats are still wet. Best results will be obtained when

Conservation practice standards are reviewed periodically, and updated if needed. To obtain the current version of this standard contact your Natural Resources Conservation Service State Office, or download it from the [electronic Field Office Technical Guide](#).

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area is fertilized at the rate of 500 lbs of 5-10-10 fertilizer per acre. Planting must be at least 1 acre in size. However, 5 to 10 acres are recommended. Make sure beavers do not repair the dam while the crop grows. If so, tear out the new portion to keep flood damage to waterfowl planting from occurring.

Plug the pipe or remove the 3 log drain and repair the dam after seed mature in the fall. In most cases, beavers will repair the damage for you and the resulting impounded water will flood millet to proper depths.

2. Shallow edges of ponds, lakes, and reservoirs – Applicable only where lowering the water level exposes at least 1 acre that is suited for the growth of duck foods.

Lower the water level in spring or summer, depending on the crops to be grown. On the exposed area, plant at least 1 acre of corn; baldwin junglerice; buckwheat; grain sorghum (especially bird resistant varieties); browntop millet, dove proso millet, or Japanese millet. On the wetter sites Japanese millet or baldwin junglerice are good choices. For best results, fertilize at recommended rates for the crops to be grown. See Planting Guides for planting dates, seeding rates, and other information.

Raise water level after seed mature in the fall. It is usually best to flood in stages of 12 to 15 inches every 4 to 8 weeks. But if blackbirds or other animals are competing for the food, it may be best to flood the entire crop at one time. Then, gradually lower the water level during late fall and winter.

3. Duck fields – Must have the following characteristics:
 - a. contain at least 2 acres that are suited to growth of duck foods;
 - b. level or nearly level;
 - c. soils with high water-holding capacities;
 - d. located near a dependable water supply.

Build dikes as needed. Build according to specifications in AL NRCS CPS, Dike, Code 356. Install a water-control structure that is large enough to prevent flooding for more

than 11 days after heavy rains. Plant at least 2 acres of the same crops as specified for in I.B.2. Shallow edges of ponds, lakes, and reservoirs listed above.

Flood in the fall after seed mature and just before major duck flights begin to arrive – usually around November 1. Flood most of the field to depths of 15 in. or less.

4. Green tree reservoirs – Must have the following characteristics:
 - a. good stand of acorn-bearing oaks, preferably water, willow, nuttall, cherrybark, and shumard oaks;
 - b. be level or nearly level so that at least 2 acres can be impounded at reasonable cost;
 - c. have soils with high water-holding capacities; and
 - d. be located near a dependable source of water— a spring, a permanent stream, an overflowing well, a storage reservoir, or some other source.

Build dikes as needed. Build them according to specifications in AL NRCS CPS, Dike, Code 356. Install a water-control structure large enough to pass the normal summer flow through the reservoir. It should permit draining the area within 1 week.

Open areas in green tree reservoirs may be planted in the same crops as specified in section I.B.2. Shallow edges of ponds, lakes, and reservoirs listed above.

Flood from early December to March 1. Prolonged flooding before the first hard frost or after March 1 may weaken or kill desirable hardwoods. Flood most of the reservoir to depths of 15 inches or less.

- C. Managing habitat – Protect habitat from wildfire and harmful grazing. Lower water levels, plant, and flood every year as needed. In some instances, winter flooding and spring drawdown will provide adequate natural duck foods without planting. Do not manipulate planted duck foods in any way other than flooding once they mature. Mowing, disking, or otherwise knocking down mature crops may be considered baiting under the Federal Migratory Bird laws. For more information regarding these laws, contact your local conservation officer.

Protect trees that contain cavities suitable for wood duck nests. Erect nest boxes if suitable nesting cavities are absent from existing trees. Build, erect, and maintain nest boxes according to instructions in Alabama NRCS FOTG, Section I, References, Biology, Wood Ducks in Alabama. Install nest boxes only on areas that provide a permanent water supply until July 1st. Placing nest boxes in green tree reservoirs without accessible permanent water can be ecological traps for ducklings.

Remove undesirable brush, logs, trees, and other debris from areas on which habitat is created. In green tree reservoirs, remove undesirable trees and thin the stands of desirable trees that are growing slowly, especially dense stands of oaks.

- II. **Birds** – Retain as much acreage in wetlands as possible. Must be at least 1 acre.
- III. **Fish** – Same as for II. Birds.
- IV. **Fur-bearers** – Same as for II. Birds.
- V. **Other Wetland Species** – Obtain specifications from a biologist with either USDA NRCS, Alabama Department of Conservation and Natural Resources, Alabama Wildlife Federation, U.S. Fish and Wildlife Service, Auburn University, or other agencies.

CONSIDERATIONS

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

Consider effects of hazardous materials expected or known to occur on the site on wildlife or human use related to wildlife.

Consider effects of management actions on compliance with state and federal hunting regulation (e.g., baiting).

Consider effects of management on non-target fish and wildlife species and Threatened and Endangered Species.

Consider effects of livestock grazing on runoff, infiltration, and wetland vegetation. Livestock exclusion shall be considered when possible.

Consider using artificial nesting structures that are designed for the state.

Consider locating the management practice adjacent to existing wetlands and other water bodies.

Consider the impact of elevated wildlife uses on adjacent lands (e.g., crop depredation).

Consider effect of volumes and rates of runoff, infiltration, evaporation, and transpiration on the water budget.

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

Consider adjacent wetlands or water bodies that contribute to wetland system complexity and diversity, decrease habitat fragmentation, and maximize use of the site by wetland-associated wildlife.

Consider effects on movement of sediment and soluble and sediment-attached substances carried by runoff and/or wind.

Consider effects on cultural resources. This practice has the potential to adversely affect cultural resources and compliance with GM 420; Part 401 during the planning process is necessary. Where appropriate, local cultural values shall be incorporated into a practice design in a technically sound manner. Compliance with all applicable federal, state, and local laws and regulations, including permits, permissions, or notifications is required.

PLANS AND SPECIFICATIONS

Document how habitat needs will be provided for the desired kinds of wildlife: required depth of water during the different seasons; types and sizes of structures required; desired native plant species and the means of establishing and maintaining them. Specific information may be provided using appropriate job sheets or written documentation in the conservation plan.

OPERATION AND MAINTENANCE

The plan for operation and maintenance at a minimum should include monitoring and management of structural and vegetative measures and also consider:

- Haying and livestock grazing plans shall be developed so as to allow the establishment, development, and management of wetland and associated upland vegetation for the intended purpose.
- Biological control (e.g., using predator or parasitic species) of pest species should be used whenever possible.

REFERENCES

Alabama NRCS FOTG, Section I, References,

Biology:

The Clemson Beaver Pond Leveler

<http://www.clemson.edu/psapublishing/PAGES/AFW/AFW1.PDF>

Wood Ducks in Alabama

<http://www.aces.edu/pubs/docs/A/ANR-0519/>

Alabama NRCS conservation practice standards:

Dike, Code 356

Wetland Enhancement, Code 659

Wetland Creation, Code 658

Wetland Restoration, Code 657

USDA NRCS General Manual 420; Part 401.