

**NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION PRACTICE STANDARD AND SPECIFICATIONS**

WETLAND WILDLIFE HABITAT MANAGEMENT

(acre)

Code 644

DEFINITION

Retaining, developing, or managing habitat for wetland wildlife.

PURPOSE

- Maintain, develop, or improve habitat for waterfowl, fur-bearers, or other wetland-associated flora and fauna.

CONDITIONS WHERE PRACTICE APPLIES

On or adjacent to wetlands, rivers, lakes, ponds, fens or 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.

CRITERIA

General Criteria Applicable to all Purposes

Habitat development and management, necessary to achieve the purpose(s), shall be based on use of the Illinois Wildlife Habitat Evaluation (Biology Technical Note 18) or individual species habitat models, depending upon the needs and objectives of the landowner. The appraisal is used to determine a habitat score for the wetland area.

The planned habitat score must be at least 0.4 for the wetland area to be developed/managed under this standard. Recommendations selected by the producer for development and management should achieve this minimum score on the habitat evaluation, and result in

an increased score over benchmark conditions.

Habitat Elements

The following elements will be evaluated when assessing wildlife habitat. Not all may apply to every habitat type.

1. Food
 - a. type
 - b. amount
2. Cover
 - a. type - nesting, brood rearing, resting/roosting, protection/escape, and winter.
 - b. amount
 - c. quality
3. Water
 - a. quality
 - b. quantity
 - c. accessibility
 - d. seasonal availability
4. Interspersion and Distance to
 - a. crops
 - b. grasses and or legumes
 - c. shrubs
 - d. trees
 - e. water
 - f. openings
5. Migration
 - a. routes
 - b. season of use
 - c. corridors

As indicated by the wildlife habitat evaluation, certain habitat elements may be weak or missing. For the desired natural community or selected wildlife species, identify the types, amount, and distribution of habitat elements

and management actions necessary to achieve the management objectives.

The amount and kinds of habitat elements planned, their location, and management shall be identified in a management plan.

Existing wetlands will be preserved and protected from being manipulated or used in a manner that would reduce the functions (type or capacity) the wetlands are providing.

All disturbed areas will be vegetated according to a revegetation plan using a seed mixture recommended for wildlife. Use CONSERVATION COVER (327) unless the area is subject to frequent overflows or spillway protection is needed, then CRITICAL AREA PLANTING (342) will be used. Vegetation used will be adapted for use on the local soil/site conditions. Native plant materials will be used whenever possible to provide the intended protection.

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

Any habitat management technique will ensure that the soil resource base is protected.

Livestock grazing or haying and prescribed burning can be used to maintain or improve vegetation structure and composition so as to improve the desired wildlife habitat. This will require a detailed management plan for grazing or haying, or a prescribed burning plan. See the PRESCRIBED GRAZING (528A) and/or PRESCRIBED BURNING (338) standards.

Management measures shall be provided to control invasive species and noxious weeds on a "spot" basis.

The landowner is responsible for obtaining any necessary local, state, and federal permits.

CONSIDERATIONS

Where amphibians are a priority, consider the exclusion of fish populations from the wetland.

Accessibility of the site for installation and maintenance.

Effects of management on non-target fish and wildlife species and threatened and endangered species.

Aesthetics of the installation.

Effects of movement of dissolved substances on groundwater and downstream surface waters.

Effects of runoff, infiltration, evaporation, and transpiration on the water budget.

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

Nutrients and pesticides contained in surface and ground water, as well as accumulated sediments, may have an adverse effect on wetland vegetation. The nutrient and pesticide tolerance of the species planned along with the wetland objectives should be considered where known nutrient and pesticide contamination exists.

The need for buffer practices beneficial to wildlife around the perimeter of the site. Plan practices such as CONSERVATION COVER (327), FILTER STRIP (393), FIELD BORDER (386) and/or RIPARIAN FOREST BUFFER (391) to create a vegetative buffer between the management unit and adjacent land uses. This buffer should be at least 30 feet wide, or wider, depending on its purpose.

Effects of management actions on compliance with state and federal hunting regulations.

Effects of elevated wildlife uses on adjacent lands (crop depredation).

Effects on 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.

Flood impacts or water seepage problems on adjacent non-wetland areas.

PLANS AND SPECIFICATIONS

Plans and specifications for this practice shall be prepared for each site. Plans and specifications shall be recorded using approved specification sheets, job sheets, technical notes, or narrative documentation in the conservation plan, or other acceptable documentation to describe the requirements for applying the practice to achieve its intended use.

Targeted plant community or species of wildlife will be recorded.

Document how habitat needs will be provided: (1) desired depth of water needed during the different seasons; (2) types, locations and sizes of structures required; and (3) desired plant species and the means of establishing and maintaining them.

Marsh Development

The developed area will be at least one acre. Larger areas will attract and hold more wetland wildlife species.

At least 50 percent of the marsh will be designed to have water depths between 0.1 and one foot. Between 20 and 40 percent of the marsh will be designed to have water depths of one to three feet. The remainder of the marsh can be deeper areas, mudflats, or islands for loafing and nesting.

Vegetative re-establishment will be comprised of native species that occur on the wetland type being restored.

Natural regeneration will be allowed to occur on soils where the seedbank contains desirable species or natural succession of desired species will begin to occur in less than five years. Specific guidelines that consider soil, seed source, and species will be developed from recommendations by an IDNR or NRCS biologist. The topsoil from wetland excavated areas will be stock piled and redistributed to maintain plant seedbanks.

If the site was predominantly herbaceous vegetation prior to modification and planting is necessary, then a minimum of two species adapted to the site will be planted. Use soils

and site information to determine plants to use. Planting rates and species will be based on recommendations from an IDNR or NRCS biologist. Herbaceous vegetation may also be established by placing soil containing seed or tubers at a minimum depth of 4 inches over 50 percent of the site.

Irregular shaped borrow areas will be used instead of straight sided (square/rectangular) areas. These "creative borrow" areas should be used to intersperse open water and emergent cover.

Islands can provide loafing, resting and nesting sites that provide some predator protection. However, islands should not significantly replace open and shallow water habitat. Therefore, the combined area of all islands above normal water level should be less than two percent of the surface area of the marsh when full. Islands should be one to four feet above water, have a top width of at least 6 feet and side slopes of at least 6:1 or flatter for one-fourth of the perimeter above water. Islands of oblong shape parallel with water flow are desired. Islands will be surrounded by water that is at least one foot deep during periods of low water.

An adequate water control structure is desirable (but not required) to manipulate levels for vegetation succession and control. Slow, shallow water removal will expose mudflats for wetland wildlife use. See STRUCTURE FOR WATER CONTROL (587). WETLAND RESTORATION (657) or DIKE (356) will be used if berms are needed as part of the water control plan.

A water management plan, when needed, will be developed to insure proper use of water level manipulation. Consult with a NRCS or IDNR Biologist for specific recommendations.

Where reptiles and amphibians are to be encouraged, place stacked logs, rock piles, stumps and semi-submerged logs near the water's edge to provide critical basking habitat. Provide 5 basking structures per acre.

Where aquatic fur-bearers are a priority, wetlands will have permanent water with depths from 3 to 5 feet over 20% of the

wetland and bank side slopes that vary from 3:1 to 16:1.

Green Tree Reservoir - These are bottomland hardwood areas that are shallowly flooded during the trees' dormant season. The mast producing trees attract feeding waterfowl.

Minimum size is one acre.

Flood bottomland hardwood areas on the average of no more than 10 inches during the tree's dormant season (after leaf drop or first hard freeze in the fall, and before trees bud out in the spring).

If wood ducks are nesting in the area, brood cover is limited, and the green tree reservoir can be divided up into three or more units; keep one unit (on a rotating basis) flooded until May 1 for ducklings. If trees become stressed, practice this type of late spring dewatering only every other year or less.

Tree stands for development must be at least 40-50% mature hard mast bearing tree species (pin oak, cherrybark oak, swamp white oak, etc.).

An adequate water control structure is a necessity. Water must be off the area by the time of bud development in early spring. Water control structure must be of sufficient size to pass normal summer flow of water through the ponded area. It should drain the site within one week in case of heavy runoff event. See STRUCTURE FOR WATER CONTROL (587).

Design levees on the contour, with small enough impoundment units, so that the units can be flooded 2-10 inches over the majority of the area.

A water management plan will be developed to insure proper use of water level manipulation. Consult with a NRCS or IDNR Biologist for specific recommendations.

Vary flooding dates, depth and duration from year to year, to assure longevity and productivity of the trees.

Flood and dewater slowly (4-6 weeks).

Selective cutting can be used to release the desired hard mast producing tree species and

allow openings for use by wetland wildlife. See WOODLAND IMPROVEMENT (666).

If tree planting is required use trees adapted to wet sites. Use a minimum of three species, two of which must be hard mast producing species. See TREE PLANTING (612).

Cropfields/moist soil areas

SHALLOW WATER MANAGEMENT (646) will be used to develop/manage these areas.

Water Supply

Opportunistic water supply (flooding, rainfall, or high water table) must provide an adequate water source in years of normal precipitation, or an alternative source of water must be developed. Opportunistic water can be considered adequate if the watershed to wetland area ratio is at least 5:1; or if the site floods at least annually or has a high water table to the desired elevation, during years of normal precipitation and during the season of the year when surface water is desired.

For optimum benefits a source of water to flood wetland areas must be adequate and dependable. The source should be sufficient to flood one-third to one-half the area within one week.

Nesting Structures

Wood ducks nest in tree cavities 20 to 60 feet above the forest floor within 1/2 mile of a stream or wetland complex. Where suitable tree cavities are not available, install nesting boxes within 1/2 mile of suitable brood rearing cover. Wood ducks will use nesting boxes as low as 3 - 4 feet if they are surrounded by water.

Giant Canada geese nest in every county in Illinois. They prefer to nest on islands or other isolated areas where there is protection from nest predators like raccoons. Where protected sites are unavailable, artificial nest structures such as baskets, tubs, and platforms, can be provided to improve nesting success. Annual maintenance is required to replace nest material (straw, hay or wood chips). Space nesting structures at least 100 yards apart and 10-15 yards offshore.

OPERATION AND MAINTENANCE

A plan for the operation, maintenance, and management of the area shall be developed and recorded using approved job sheets, technical notes, or other forms of acceptable documentation.

The plan shall include monitoring and management of the overall site, as well as structural and vegetative measures. The area should be reviewed annually to see if adjustments are needed in any water/vegetation management plan.

Repair and upkeep of practices (maintenance) shall be carried out as needed, including repair or replacement of vegetative or structural components.

The following activities will be addressed in the plan: (1) timing and level setting of water control structures required for establishment of desired hydrologic conditions or for management of vegetation; (2) inspection schedule of embankments and structures for damage assessment; (3) depth of sediment accumulation allowed before removal is required; (4) management needed to maintain vegetation, including control of unwanted vegetation; and (5) acceptable uses and timing (e.g. grazing and haying; timber harvest or tree cutting).

Inspect the area adjacent to the facility to make sure the area is well protected with desirable vegetation.

REFERENCES

Fish and Wildlife Leaflet 13, Waterfowl Management Handbook. 1988. U.S. Fish and Wildlife Service. Washington D.C.

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