

SHORELAND HABITAT

(Acres)
CODE 643A (Interim)

Natural Resources Conservation Service
Conservation Practice Standard

I. Definition

Area adjacent to a waterbody or watercourse in a non-agricultural setting that is vegetated with a *diverse*¹ mixture of native species that can include grasses, grass-like species, forbs, shrubs, and trees.

II. Purposes

- A. Provide habitat (food, shelter, nesting sites, over-winter cover) for aquatic and terrestrial fauna.
- B. Enhance *littoral zone* (shallow water) habitat function for a broad range of vertebrate and invertebrate species by providing shade and cover with overhanging vegetation, and promoting natural recovery of emergent species.
- C. Provide a source of detritus (decomposing organic matter) and large woody cover for aquatic organisms.
- D. Provide shade to lower water temperatures and facilitate higher dissolved oxygen concentrations to improve habitat for aquatic organisms.
- E. Promote shoreland corridors for aquatic and terrestrial flora and fauna.
- F. Increase the presence and diversity of native plant and animal species in shoreland areas.
- G. Reduce the environmental and visual impact of human activities in the near-shore area.
- H. Improve water quality by reducing the amount of sediment and other pollutants, such as pesticides and nutrients in surface runoff.
- I. Enhance bank stability by limiting intensive use, and reducing wave impact.

III. Conditions Where Practice Applies

This practice applies, but is not limited to, areas of shoreland development where it is desired to enhance

or restore native mixed vegetation for the improvement of fish and wildlife habitat, water quality and bank stability.

Where the primary purpose is to control sediment to environmentally sensitive areas, refer to the Natural Resources Conservation Service (NRCS) Field Office Technical Guide Section IV (FOTG), Standard 393, Filter Strip.

Where the primary purpose is to control bank erosion, refer to NRCS FOTG Standard 580, Streambank and Shoreline Protection to be used in conjunction with this standard.

IV. Federal, State, and Local Laws

Installation and maintenance of shoreland habitat shall comply with all federal, state, and local laws, rules, or regulations. The landowner is responsible for securing required permits. This standard does not contain text of any federal, state, or local laws.

V. Criteria

The Wisconsin Biology Technical Note 1: Shoreland Habitat is an important guidance document to this standard. This can be found either in the NRCS Field Office Technical Guide (FOTG) or on the NRCS website: [<http://www.wi.nrcs.usda.gov/fotg/index.html>]

A. Establishment

1. Shoreland habitat shall be established by planting a diverse mix of native species that are adapted to site conditions and are representative of area plant communities. Where appropriate, natural recovery techniques may be utilized rather than planting. Refer to county species lists and/or the Wisconsin Biology Technical Note 1: Shoreland Habitat, where applicable.
2. In order to restore the functional values of a shoreland habitat, vegetation shall be vigorous, diverse and structurally complex

¹ Words in the standard that are shown in italics are described in X. Definitions. The words are italicized the first time they are used in the text.

and shall include herbaceous cover, a shrub layer and a tree canopy. The only exception to this requirement shall be where natural conditions in the region lack these habitat components.

3. *Invasive plants* shall not be included in any installation.
 4. Invasive plants and state listed *noxious weeds* shall be *controlled* during establishment, if present.
 5. Exposure of bare soils during establishment shall be kept to a minimum. Measures shall be taken to prevent erosion.
 6. Phosphorus application is only permitted where soil tests indicate a deficiency. Where fertilizer application is necessary, no drift or misapplication into the water shall occur.
 7. Heavy equipment shall be excluded from the shoreland habitat area, to avoid compaction of soil.
 8. Weeds shall be controlled until the shoreland habitat species are established.
 9. A watering schedule shall be followed until species are established.
- B. The starting point for measuring minimum shoreland habitat depths for the following landscape features shall be as follows.
1. Lakes. Practice depth shall be measured from the *ordinary high water mark* (OHWM) landward perpendicular to the shoreline.
 2. Perennial and intermittent streams, and springs. Practice depth shall be measured from the OHWM. Each side of the stream shall be evaluated independently.
 3. Wetlands. Practice depth shall be measured from the upland-wetland interface.
 4. Existing tree and shrub corridors. Existing tree and shrub corridors shall be included as part of the measured practice depth.
- C. Shoreland habitat dimensions

1. Practice depth: The minimum practice depth is 35 feet. Greater practice depths provide increased benefit and are encouraged.
 - a. Where the principal structure is within 50 feet of the OHWM, land within 15 feet of the structure may be excluded from the practice.
 2. Practice length: The practice shall extend the entire length of the lot, except that a viewing and access corridor is allowed.
 3. A viewing and access corridor may extend from the lake inland. Corridor dimensions shall be determined by applicable county standards and ordinances. The maximum viewing corridor width is 30 feet.
- D. Runoff from impervious surfaces, such as rooftops and driveways, in the contributing drainage area shall be evaluated and treated to promote infiltration and sheet flow.
- E. When soil disturbance is necessary due to bank or gully repair, the appropriate action shall be taken to limit the disturbance and protect and replant all disturbed areas in accordance with this standard.
- F. Areas of concentrated flow shall be evaluated and treated.
- G. Areas below the OHWM shall not be disturbed. This does not preclude practices intended for bank stabilization.

VI. Considerations

- A. Consider using this practice to enhance the conservation of declining species.
- B. Consider marking practice boundaries in an identifiable manner until established.

VII. Plans and Specifications

Plans and specifications for the shoreland habitat describe the requirements for applying the practice to achieve its intended purpose. Plans and specifications shall be prepared for each specific site where the practice will be installed. A plan includes information about the location, site preparation, vegetation establishment, and operation and maintenance requirements.

Plan specifications will include the following (see Wisconsin Biology Technical Note 1: Shoreland Habitat).

- A. Dimensions of the practice to accomplish the planned purpose.
- B. Site map or diagram.
- C. Species selection, planting rates, location and spacing to accomplish the planned purpose.
- D. Planting dates, care, and handling of the seeds or plants to ensure an acceptable rate of survival.
- E. Site preparation sufficient to establish and grow selected species.
- F. Identification and treatment of concentrated flow areas.
- G. Operation and Maintenance Plan.

VIII. Operation and Maintenance

- A. Dead or windblown trees provide cover and refuge for fish and wildlife, and should be left in place. Tree thinning or removal of dead or diseased trees requires approval by the appropriate administering agency.
- B. Mowing or other removal of ground cover is prohibited in the practice area except as part of an approved maintenance plan.
- C. The duff layer, made up of fallen leaves and/or pine needles, must be left intact. This layer covers the soil, thereby conserving moisture and preventing erosion.
- D. State listed noxious weeds shall be controlled. Control of invasive plants is encouraged.
- E. Herbicides are prohibited except as required for control of invasive plants and as approved by the appropriate administering agency. Avoid damage to shoreland habitat vegetation from herbicide application to nearby areas.
- F. Fertilizers are prohibited after the establishment year, except as approved by appropriate administering agency.
- G. Except for an access corridor, areas waterward of the practice shall be undisturbed.

- H. Boats, docks and other equipment shall be excluded from the practice area to prevent soil compaction and damage to practice vegetation.
- I. Vehicles shall be excluded except as necessary for establishment and maintenance activities.
- J. Activities are prohibited in the practice area which damage or destroy the vegetation, such as piles of leaves, boards, etc.

IX. References

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- Baumann, Jim. 1993. *Wisconsin Construction Site Best Management Practice Handbook*. Wisconsin Department of Natural Resources, Bureau of Watershed Management: Madison, WI.
- Burnett County Land and Water Conservation Department. 2001. *Shoreline Buffer Restoration: A Guide for Landowners*. Burnett County Land and Water Conservation Department: Siren, WI. 26 pp.
- Iowa State University, University Extension. 1996. *Stewards of Our Streams, Buffer Strip Design, Establishment, and Maintenance*. Pm-1626b.
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Thompson, A. and C. Luthin. 2000. *Wetland Restoration Handbook for Wisconsin Landowners*. Wisconsin Department of Natural Resources, Bureau of Integrated Science Services: Madison, WI. 108 pp.

United States Department of Agriculture – Natural Resources Conservation Service, *Wisconsin Field Office Technical Guide, Section IV* (Technical Standards).

Wisconsin Department of Natural Resources. 1995. *Wisconsin's Forestry Best Management Practices for Water Quality*. Bureau of Forestry, Pub-FR-093 95.

UW Madison herbarium website (good source of county species lists): [<http://wiscinfo.doit.wisc.edu/herbarium/Countysearch.html>].

Wisconsin Manual of Control Recommendations for Ecologically Invasive Plants: [http://www.dnr.state.wi.us/org/land/er/invasive/manual_toc.htm].

X. Definitions

Control (V.A.4.) – To destroy the above-ground portion of a weed in a manner and at the proper time to prevent the development and distribution of viable seeds or other propagules and their spread from one area to another. For species that reproduce vegetatively, control includes the use of methods which help contain or reduce the vegetative spread of the weed.

Diverse (V.A.1.) – For the purposes of this standard, a mix of plants is considered diverse when it meets the minimum number of species as specified in

Wisconsin Biology Technical Note 1: Shoreland Habitat, Table 1.

Invasive plants (V. A. 3.) – Having the ability to significantly displace desirable vegetation in landscapes or to reduce yield of growing crops. The Department of Natural Resources Bureau of Endangered Resources maintains a list of invasive plants. For more guidance refer to the following Web site: [<http://www.dnr.state.wi.us/org/land/er/invasive/index.htm>].

Littoral zone (II.B.) – The near shore area of a lake or wetland where water is shallow enough to support the growth of rooted aquatic vegetation.

Noxious weed (V. A. 4.) – “Noxious weed” means Canada thistle, leafy spurge and field bindweed (creeping jenny) and any other weed the governing body of any municipality or the county board of any county by ordinance or resolution declares to be noxious within its respective boundaries (ref. WI Statute, Chapter 66, part 66.0404). For more information refer to the following Web site: [<http://www.legis.state.wi.us/rsb/stats.html>].

Ordinary high water mark (V. B. 1.) – The ordinary high water mark (OHWM) is the point on the bank or shore where the water is present often enough so that the lake or streambed begins to look different from the upland. Specifically, the OHWM is the point on the bank or shore up to which the water, by its presence, wave action, or flow, leaves a distinct mark on the shore or bank. The mark may be indicated by erosion, destruction of or change in vegetation, or other easily recognizable characteristics.

The OHWM can be located through on-site studies of physical and biological conditions at the shoreline. The principal indicator is the change from water plants to land plants. In the area where the plants change, the investigator may also use indicators such as change in soil type, ridges, or other erosion marks or water stains on rocks, soils, trees, or structures. If none of these indicators are available in the immediate location, the elevation of the OHWM may be found at another spot and transferred to that site in question.