

STREAM HABITAT IMPROVEMENT AND MANAGEMENT

(Acre)
Code 395

Natural Resources Conservation Service
Conservation Practice Standards

I. Definition

Maintain, improve, or restore physical, chemical, and biological functions of a stream.

II. Purposes

This practice may be applied as part of a conservation management system to support one or more of the following purposes.

- Provide suitable habitat for desired aquatic species and diverse aquatic communities.
- Provide channel morphology and associated riparian characteristics important to desired aquatic species.
- Provide aesthetic values and recreation opportunities associated with stream habitats such as angling.

III. Conditions Where Practice Applies

Streams where habitat deficiencies limit survival, growth, reproduction, and/or diversity of aquatic species in relation to the potential of the stream.

IV. Federal, State, and Local Laws

Users of this standard shall comply with all applicable federal, state, and local laws, rules, regulations, or permit requirements governing stream habitat improvement and management. This standard does not contain the text of federal, state, or local laws.

V. Criteria

The following criteria apply to all purposes.

- A. No action shall have long-term adverse impacts on endangered, threatened, or candidate species or species of concern.
- B. All required permits will be obtained prior to installation of any stream improvement measures.
- C. All stream habitat plans will need the approval of the Wisconsin Department of Natural Resources (DNR) fish manager.

- D. Instream structures will be designed to facilitate establishment and viability of the riparian plants necessary to meet the objectives of the conservation plan.
- E. Adjoining riparian corridors will be managed to establish and maintain vegetation suitable for the site conditions and desired ecological benefits. Plan according to NRCS Field Office Technical Guide (FOTG), Section IV, Standard 393, Filter Strip; or 391, Forest Riparian Buffer, as appropriate for the site.
- F. Structural stream improvement measures applied will be compatible with the stream's geomorphology including restoration of an appropriate channel width-to-depth ratio, suitable riffle-pool complexes and/or stream length gradient relationships in a meandering stream.
- G. Instream structures such as lunkers will be protected from erosion by using loose rock riprap and/or shaping and seeding the streambank. If loose rock riprap is planned as part of the practice, it will be sized according to NRCS FOTG Standard 580, Streambank and Shoreline Protection.
- H. Streambanks will be protected from erosion as needed to meet the objectives of the conservation plan. Erosion control measures that are installed as part of the plan will meet NRCS FOTG Standard 580, Streambank and Shoreline Protection.
- I. Areas disturbed by construction and other streambank areas needing vegetative protection will be seeded according to NRCS FOTG Standards 342, Critical Area Planting, or 327, Conservation Cover.
- J. Structures installed using this standard for any of the purposes will not reduce channel capacity to the extent that excessive bank erosion or unintentional lateral migration of flow is induced.
- K. When present, livestock numbers and grazing intensity will be carefully managed to prevent streambank erosion, bank trampling, and over-grazing. Plan fencing, watering areas and stream

crossings to minimize stream impacts according to NRCS FOTG Standards 575, Animal Trail and Walkway; 472, Use Exclusion; 528A, Prescribed Grazing; and 614, Watering Facility.

- L. Recreational and other adjoining land use activities will be managed to minimize impacts on stream corridor vegetation and water quality.
- M. Planned stream habitat improvements will:
- Be based on an assessment of watershed conditions that affect the physical, biological, and chemical conditions of the stream and its riparian area (see references).
 - Be based on an assessment of current stream and riparian conditions. The assessment shall evaluate channel morphology, geomorphic setting, aquatic species, riparian and/or floodplain conditions, and any habitat limitations including restriction of upstream and downstream movement of aquatic species (see references).
 - Emphasize the establishment of an ecologically self-sustaining stream-riparian system consistent with the watershed conditions and geomorphic setting.
 - List the aquatic species and life history stage for which the stream segment is being managed.
 - Provide fish passage upstream and downstream and allow movement of other aquatic species and stream organic matter to the extent possible.

VI. Considerations

Additional recommendations relating to design that may enhance the use of, or avoid problems with, this practice but are not required to ensure its basic conservation functions are as follows.

- A. Provide physical habitat components important to target aquatic species such as sediment free spawning gravel, boulders, large wood, resting pools, overhead cover, and stable banks.
- B. Cover structures should not be placed in a stream position where the structure will fill with sediment. Where possible, place planned fish habitat structures in areas where the stream current is actively eroding the bank.
- C. Instream cover structures should be protected from erosion as necessary to stabilize the structure and placed in such a way as to not cause bank erosion.

- D. Evaluate the watershed for potential changes in hydrology due to development and sources of stream contamination including sedimentation, nutrient and pesticide runoff, or other impacts, which pose an immediate threat to the fishery or planned habitat improvement activities.
- E. Planned improvements should be done in a manner that protects the aesthetic beauty of the stream corridor.
- F. Where practical, stream habitat and channel forming processes such as natural meandering and floodplain functions will be restored or maintained.
- G. Restore or protect riparian and floodplain vegetation and associated riverine wetlands.
- H. Provide alternative streamside access for recreational use, livestock, and equipment.

VII. Plans and Specifications

Plans and specifications shall be in keeping with this standard and shall describe the details adequately to apply the practice to achieve its intended purpose.

Minimum requirements include site location map, practice extent, and planned installation date. Site-specific engineering designs will be included in the case file and practice location documented on the plan map.

VIII. Operation and Maintenance

An Operation and Maintenance Plan shall be developed with the landowner or operator that is consistent with the purposes of this practice, intended life of the components, and criteria for design.

The stream should be periodically inspected and prompt repair done should the application of practices cause stream or streambank instability, or if instream structures are not functioning properly.

IX. References

USDA, NRCS Wisconsin Field Office Technical Guide (FOTG), Section IV, Practice Standards and Specifications.

National Engineering Handbook (NEH), Part 653, Stream Corridor Restoration: Principles, Processes, and Practices. Federal Interagency Stream Restoration Working Group (FISRWG) (15 Federal Agencies of the U. S. Government). Stream Corridor Restoration Handbook. October 1998.