CONSERVATION ENHANCEMENT ACTIVITY

E643D

CONSERVATION STEWARDSHIP PROGRAM

Low-tech process-based restoration to enhance floodplain connectivity

Conservation Practice 643: Restoration of Rare or Declining Natural Communities

APPLICABLE LAND USE: Range, Pasture, Forest, Associated Ag Land

RESOURCE CONCERN: Animal

ENHANCEMENT LIFE SPAN: 1 Year

Enhancement Description

Beaver Dam Analogues (BDAs) and/or Post-Assisted Log Structures (PALS) are low-tech structures used to facilitate process-based restoration of rare and declining 'Stage 0' stream conditions. These structures are used to mimic, promote, and sustain the natural processes of beaver dam activity and wood accumulation that lead to more fully connected floodplains. BDAs and PALS are hand-built with a mixture of woody debris and on-site soils and vegetation. This enhancement is intended primarily to kick-start natural ecological, geomorphic, and hydrologic processes required for maintenance of healthy and functioning streams and associated floodplains.

Criteria

- Implement a series (complex) of Beaver Dam Analogues (BDAs) and/or Post-Assisted Log Structures (PALS) within stream reaches where the state approved evaluation tool identifies that the current condition meets planning criteria but restoration or enhancement is desired to improve floodplain connectivity, riparian condition, and move towards Stage 0 stream conditions.

- Document current condition as meeting planning criteria using the state approved evaluation tool and explain how implementation of the enhancement is expected to improve upon current condition (e.g., an increase in wetted area after

implementation).

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- Follow the conservation planning process and stream restoration guidance outlined in the Low-Tech Process-Based Restoration of Riverscapes Design Manual and Pocket Field Guide (Wheaton et al. 2019; available at: http://lowtechpbr.restoration.usu.edu/).

- Complete Low-Tech Restoration Risk Considerations Checklist. Apply enhancement only on 1st - 3rd order wadeable streams where all other risks are low-to-moderate. (See pg. 22 of Low-Tech Process-Based Restoration of Riverscapes Design Manual for checklist).

- Provide project design package that includes: 1) map showing stream reach(es) affected, 2) objectives for each reach, and 3) estimated number, type, and location of structures in each reach.

- Obtain all necessary Clean Water Act, Section 404 permits, and other federal, state, or local permits, as required.

- Structures should consist of native materials, such as woody debris (branches, limbs, small logs, brush) and on-site soils and vegetation. Where posts are required for structure stability, use only untreated wooden posts. Structures should be hand-built and avoid the use of heavy equipment (tractors, dozers, etc.).

- Recommend annual monitoring, maintenance, and adaptive management until stream condition objectives are achieved. Typical maintenance activities should include replacing posts, refilling structure with woody material, and extending structure length.

- Estimated application rate to achieve the appropriate depth of cover is 270 cubic yards per acre.

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Documentation and Implementation Requirements:

Participant will:

- ☐ Prior to implementation, provide project design package that includes:
  - Map showing stream reach(es) affected,
  - Objectives for each reach, and
  - Estimated number, type, and location of structures in each reach. (NRCS will provide technical assistance, as needed.)
- ☐ Prior to implementation, obtain all necessary Clean Water Act, Section 404 permits, and other federal, state, or local permits, as required.
- ☐ Prior to implementation, document pre-treatment conditions of the area including the use of representative digital images/photos.
- ☐ During implementation, install BDAs and/or PALS using appropriate methods as per the plan and specifications.
- ☐ During implementation, notify NRCS of any planned changes to verify the planned system meets the enhancement criteria.
- ☐ After implementation, document post-treatment conditions of the area including the use of representative digital images/photos.
- ☐ After implementation, annual monitoring, maintenance, and adaptive management is recommended.

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NRCS will:

- ☐ As needed, provide technical assistance to meet the criteria of the enhancement.
- ☐ During implementation, evaluate any planned changes in the mulching plan to ensure enhancement criteria are met.
- ☐ If changes were made after implementation, use information provided from the participant to verify the applied system meets the enhancement criteria.

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

WASHINGTON SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY E643D

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Additional Criteria for Washington

- In addition to the criteria specified in the National job sheet for E643D the following guidance and criteria apply in Washington:

  - The *Stream Visual Assessment Protocol 2* (SVAP2) is the state approved evaluation tool for assessing both current and planned post-implementation stream conditions. SVAP2 is available in: Washington FOTG *Section 3/Resource Planning Criteria for RMS/ Conservation Tools.*

    - Use SVAP2 to document current (benchmark) conditions in the stream reaches; to meet planning criteria the *overall score* must be 7 or higher. Individual evaluation elements #1, 2, 4, and 5 may rate below a score of 7 for current conditions.

    - Following the planned enhancement activity, individual evaluation elements #1, 2, 4, and 5 must each rate a post-implementation score of 7 or higher at some point in the future. In documentation explain how the enhancement is expected to improve upon current conditions.

  - When completing the Risk Considerations Checklist in the *Low-Tech Process-Based Restoration of Riverscapes Design Manual*, if any moderate risks are identified, NRCS engineering approval is required prior to implementation.

- When working in Waters of the State, a Hydraulic Project Approval (HPA) permit from the Washington Department of Fish and Wildlife (WDFW) is required.
  - Contact a WDFW Area Habitat Biologist for more information: https://wdfw.maps.arcgis.com/apps/MapJournal/index.html?appid=48699252565749d1b7e16b3e34422271

- For either BDAs or PALS, use this Specification Sheet: https://s3-us-west-2.amazonaws.com/etalweb.joewheaton.org/RestorationConsortium/Workshops/2020/SGI/Materials/Module4/04_USDA_643_BDAs+and+PALS_spec+template_7-2019.pdf

- Contact the NRCS State Fish Biologist if you have questions about other aspects or details of applying the criteria in this supplement to the enhancement.