



CONSERVATION ENHANCEMENT ACTIVITY

E643139X- Colorado

CONSERVATION STEWARDSHIP PROGRAM

Creating native plant refugia

Conservation Practice 643: Restoration and Management of Rare or Declining Habitats

APPLICABLE LAND USE: Forest

RESOURCE CONCERN ADDRESSED: Fish & Wildlife – Inadequate Habitat

PRACTICE LIFE SPAN: 1 year

Enhancement Description

Provide protection from adverse environmental conditions to create refugia for documented occurrences of sensitive plant communities.

Criteria

- States will apply general criteria from the NRCS National Conservation Practice Standard Restoration and Management of Rare or Declining Habitats (Code 643) as listed below, and additional criteria as required by the NRCS State Office.
- All necessary local, state, and federal permits shall be obtained by the landowner (or designee) prior to the constructing the refugia.
- Sites where refugia will be designated are those that: 1) currently harbor plant species listed by the State as State Endangered, State Threatened, State Sensitive (or similar designation), or other native plant species determined to be in decline, or, 2) provide an appropriate ecological site for rescuing these plant species if relocation is needed.
- Specific location, size, shape, and number of refugia will be based on occurrences of sensitive plants or plant communities, and/or on the existence of environmental conditions suitable for the rescue of sensitive plants whose habitat will be destroyed. The size of refugia is also affected by site features (e.g., slope, rock outcrops, water bodies, etc.).



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- Refugia sites will be protected from adverse environmental impacts, including trampling by humans, using an 8 foot high woven wire fence and appropriate signage, with a locked gate to provide access for management. Each installation shall be at least ¼ acre in size.
- A forested area surrounding refugia will be large enough to provide a buffer from wind and temperature effects of adjacent non-forested areas.
- Methods used during refugia construction shall be designed to protect the soil resource from erosion and compaction, and to protect the plant community from adverse impacts.
- Invasive plant and animal species and noxious weeds shall be controlled in and around the refugia. When possible, control will be limited to that necessary to control undesirable species while still protecting habitat that benefit native pollinators and other fish and wildlife species that depend on the site for food, cover, and water.
- Undisturbed areas shall be conserved on a sufficient extent of the area surrounding refugia to sustain typical plant communities and help protect the refugia.
- Plants rescued and brought to refugia for protection will be those species ecologically adapted to site conditions, in quantities appropriate for best survival, which will not displace desired existing vegetation.
- Site preparation, planting dates and methods, and plant care and handling shall optimize vegetation survival and growth.
- A pretreatment assessment of the targeted habitat will be conducted to provide a baseline for comparison with post-treatment habitat conditions. Goals or success criteria will be established using reference sites for guidance and comparison. Where no such reference site exists, use ecological site descriptions or historic data to establish goals.
- Use of fertilizers, pesticides and other chemicals shall not compromise the intended purpose of this practice.
- Use criteria in other NRCS Conservation Practice Standards to facilitate the restoration and management of rare and declining habitats as appropriate for the site. Depending on site conditions and natural disturbance regimes, these may include: Fence (Code 382); Access Control (Code 472); Brush Management (Code 314); Herbaceous Weed Control (Code 315); and Tree and Shrub Establishment (Code 612).



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Documentation and Implementation Requirements:

Participant will:

- Prior to implementation, acquire all necessary approvals and permits (i.e. local, state, or federal, as applicable).
- Prior to implementation, obtain documentation from the appropriate State agency that the site:
 - has plant species listed by the State as State Endangered, State Threatened, State Sensitive (or similar designation), or other native plant species determined to be in decline, or,
 - provides an appropriate ecological setting for rescuing such plants that need relocation due to imminent threat(s).
- Prior to implementation, obtain site-specific designs for refugia, including locations and dimensions, timing of construction, and appropriate routes for bringing materials to the site. Coordinate the design with the appropriate State agency and obtain documentation that the design will provide protection for the intended plant species. Have documentation available for NRCS review.
- Prior to implementation, develop a monitoring plan in cooperation with the responsible State agency and obtain documentation that the monitoring plan is designed to address knowledge gaps in managing the plan species. Have documentation available for NRCS review.
- Prior to implementation, develop a plan for protecting resources during refugia construction. The plan will address resource concerns including potential soil damage, introduction of invasive species, and water quality related to road and trail use.
- Prior to implementation, arrange workers and materials for refugia construction.
- During implementation, follow the plan for protecting resources during refugia construction.
- After implementation, follow the monitoring plan.
- After implementation, maintain other suitable areas within the forest stand, and/or in adjacent stands, to allow the desired plant species to expand their populations.
- After implementation, if the use of pesticides or other chemicals are being considered, coordinate with the appropriate State agency to ensure that refugia plants will not be harmed.



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NRCS will:

- Prior to implementation, verify the enhancement is planned for the appropriate land use.
 - Prior to implementation, verify participant documentation that the site: has plant species listed by the State as State Endangered, State Threatened, State Sensitive (or similar designation), or other native plant species determined to be in decline, or,
 - Provides an appropriate ecological setting for rescuing such plants that need relocation due to imminent threat(s).
 - Verify that any additional state NRCS requirements have been met.
- Prior to implementation, verify documentation that the responsible State agency has approved refugia design as providing appropriate protection for the intended plant species.
- Prior to implementation, verify documentation that the responsible State agency has approved a monitoring plan.
- As needed, prior to implementation, NRCS will provide technical assistance in:
 - Selecting suitable locations for refugia location.
 - Protecting site resources during construction.
 - Preparing specifications for applying this enhancement for each site using NRCS approved specification sheets, job sheets, technical notes, and narrative statements in the conservation plan, or other acceptable documentation.
- During implementation, evaluate any planned changes to verify they meet the enhancement criteria.
- After implementation, verify the planned refugia were constructed according to specifications developed for the site.
- After implementation, verify any erosion control and/or invasive plant treatment needed for the site is functioning and is maintained to specifications developed for the site.



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.

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Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

NRCS Technical Adequacy Signature

Date

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