

PRE- PROPOSAL FORM -

Lewis River Aquatic Fund

1. Applicant organization.

USDA Forest Service
Gifford Pinchot National Forest

2. Organization purpose

Resource management agency

3. Project manager (name, address, telephone, email, fax).

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Fisheries Habitat Restoration Biologist
20+ years of experience with fish habitat restoration projects
NCCP Watershed Rehabilitation certified

4. Project Title

Spencer Creek Alluvial Fan and Channel Rehabilitation

5. Summary of Project proposal

The Forest Service proposes to restore Spencer Creek from the confluence of the North Fork Lewis River upstream approximately 1000 feet (Figure 1 and 2). The channel currently has low levels of large wood and few pools greater than 1 foot in residual depth (Figure 3).

Roni and Timm 2016 reported the limiting life factor, key habitat, affects all three species (Chinook, Coho and Steelhead) in summer. Pool formed by conifers were rated low (0), large wood debris and riparian function rated moderate (2 and M respectively) in the EDT report and a high percentage of fines (31.2%) was reported. The lack of large woody debris and pool areas were the rationale to recommend large woody debris enhancements as initial restoration measures.

Juvenile salmonids have been observed using the lower reach of Spencer Creek even though the reach lacks complexity and deep pools. Out-migrating Chinook salmon juveniles are expected to benefit from high flow refugia and mainstem spawning opportunities provided by the structure at the confluence with the North Fork Lewis River and the Spencer Creek alluvial fan (Figure 4). Coho salmon and steelhead trout will benefit from the Spencer Creek large wood complexes by providing spawning gravel, cover, food sources and pools greater than 1 foot residual depth.

Approximately 100 pieces of large wood will be used to construct a structure immediately upstream of the Spencer Creek alluvial fan to encourage high flow scour into the lower reaches of Spencer creek that lie within the North Fork Lewis floodplain. Approximately 7 additional structures using another 100 pieces of large wood will be constructed within the upper Spencer Creek reach to create deeper pools and habitat complexity upstream of the North Fork Lewis River influence. These structures are expected to increase spawning gravel retention and increase juvenile salmonid rearing carrying capacity and productivity. Forest Road 9000480 will be used for excavator access and large wood, half with rootwads and greater than 60' in length, will be helicoptered into Spencer Creek from the spur road.

Priority 1: *Benefit fish recovery throughout the North Fork Lewis River, with priority to federal ESA-listed species.*

Chinook and coho salmon along with steelhead trout are listed as a threatened species under the ESA. This project will directly benefit recovery of listed species by providing quality rearing habitat for juvenile salmonids, and increased spawning opportunities for adult fish.

Priority 2: *Support the reintroduction of anadromous fish throughout the basin.*

Creating quality spawning, rearing and overwintering habitat in tributaries of the North Fork Lewis River will support reintroduction of anadromous fish in the Watershed. Juvenile salmonids have been observed in Spencer Creek so an improvement of habitat conditions will further increase carrying capacity and productivity.

Priority 3: *Enhance fish habitat in the Lewis River Basin-, with priority given to the North Fork Lewis River.*

This project is located in the North Fork Lewis River Basin and restores a valuable tributary habitat that is being currently used by salmonids in the North Fork Lewis River. The alluvial fan at the confluence with the mainstem North Fork Lewis River can provide high quality Chinook salmon spawning opportunities. Coho salmon juveniles slow water habitats will be improved with the addition of large wood components.

6. Project location

The project area is located on the lowest 1,000 feet of Spencer Creek. The project area can be accessed from the 480 spur off Forest Road 90.

7. Expected products and results

This project will result in a restored tributary of the North Fork Lewis River approximately 1,000 feet in length. Creating approximately 7 complex structures within Spencer Creek and the Spencer Creek alluvial fan will provide quality spawning, rearing and overwintering habitat within the Spencer Creek channel, including the alluvial fan at the confluence with the North Fork Lewis mainstem. Each structure will create a pool providing overwintering and summer rearing habitat for a combination of juvenile coho salmon and steelhead trout, and benefit Chinook salmon within the alluvial fan and mainstem margins. Structures will facilitate gravel sorting, increasing high quality

spawning opportunities, and provide hiding cover and increase habitat complexity for resident and anadromous fishes.

8. Benefits of proposed Project

Increased numbers of juvenile salmonids above background levels from reintroduction activities are expected to occur from this project. The project will benefit anadromous fishes by increasing spawning habitat for adult fish, and overwintering and summer rearing habitat opportunities for juvenile fish. This tributary will act as refugia from high flows in the mainstem North Fork Lewis River for juvenile Chinook salmon.

9. Project partners and roles.

Mount St. Helens Institute (MSHI). MSHI will provide monitoring of structures.

10. Community involvement (to date and planned).

The Forest Service maintains active community involvement by scheduling regular events with legislators, scientists, members, and key individuals for continual program and project development along with cultivating strong ties with agencies, academia, and local citizen groups. Monitoring activities will include partnering with the Mt. St. Helens institute and their urban youth outreach programs.

11. Procedure for monitoring and reporting on results.

- 1) Perform baseline monitoring. This monitoring will occur prior to project implementation and include a longitudinal profile, cross-sections, pebble counts, photo-documentation and snorkel surveys. MSHI will provide two interns, urban youth and a supervisor to perform monitoring work.
- 2) They will perform most aspects of the monitoring with supervision and training from the Forest Service. The Forest Service will perform Snorkel Surveys.
- 3) Perform after project monitoring. This monitoring will occur following project implementation and will continue on an annual basis for several years following project completion. MSHI will provide two interns for this portion of the work supervised by the Forest Service.
- 4) Monitoring Report. A monitoring report will be written each year following project implementation. MSHI will provide raw data in excel format, the Forest Service will provide analysis of data and report.

12. Project schedule (anticipated start date, major milestones, completion date).

NEPA – Complete in 2017

Project Implementation July 2018

Post project monitoring 2019 and beyond

13. Funding requested (estimated cost for project design, permitting (including necessary resource surveys), construction, and monitoring).

Total ACC Funds-\$117,000

14. Type and source of other contributions (Identify cash (C) and/or in-kind (IK), and status, pending (P) or confirmed (Co)).

Gifford Pinchot National Forest- **\$12,000** (IK)

Materials from USFS- **\$45,000** (IK) (Co)

Mt. St. Helens Institute- **\$3,000** (IK), (Co).

15. If you have technical assistance needs for this project, please briefly describe such needs.

None Needed

Spencer Creek Overview

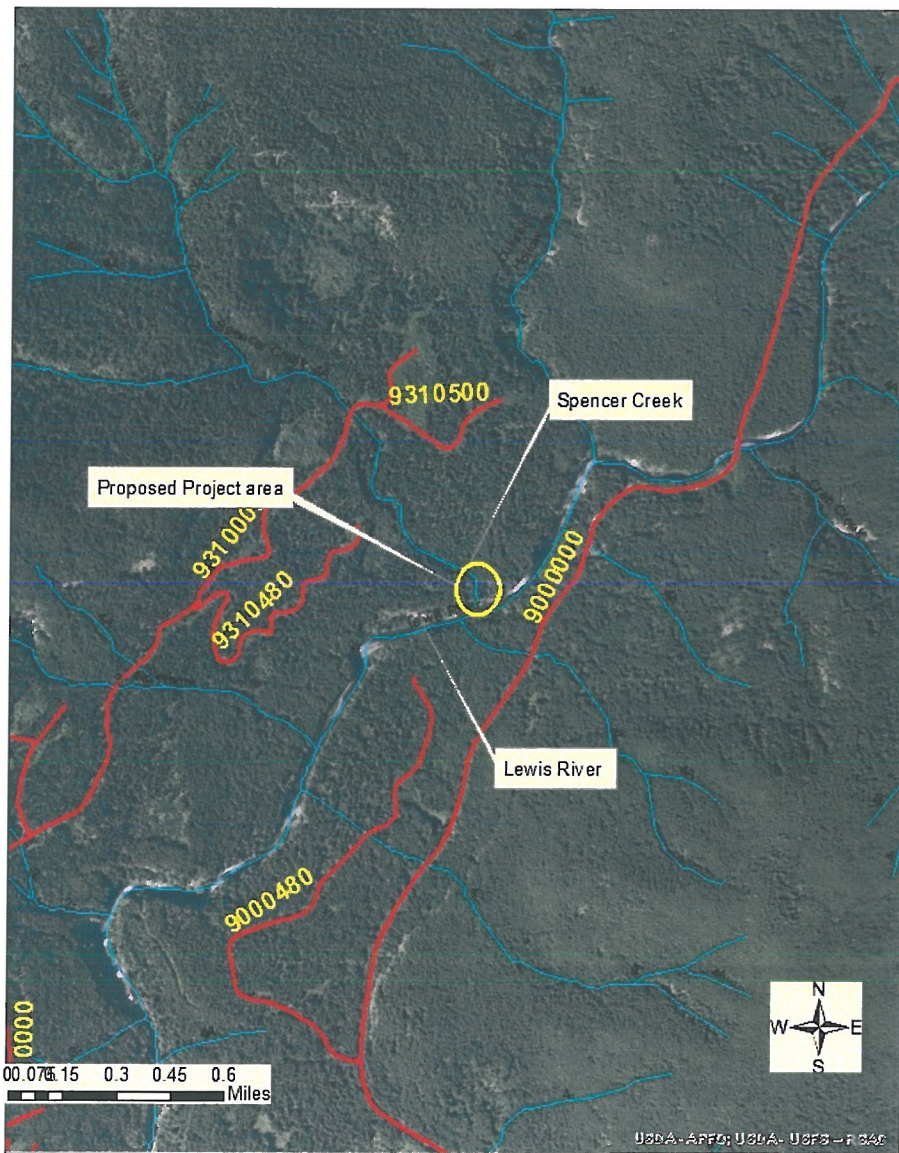


Figure 1. Spencer Creek project area expanded view.

Spencer Creek Enlarged View



Figure 2. Spencer Creek project area enlarged view.



Figure 3. Spencer Creek channel showing limited spawning gravel and low levels of functional large wood.



Figure 4. Spencer Creek alluvial fan at the confluence of the mainstem North Fork Lewis River.