Lower Fly Creek Restoration Project: Upper Grande Ronde Watershed

IMPLEMENTERS: USFS La Grande Ranger District, Wallowa-Whitman
Location: Lower Fly Creek, Upper Grande Ronde Atlas Tier 1, UGR15
Implementation: 3/1/20 – 12/31/21; Contract 84573

PROJECT BACKGROUND: The project is located on 3.5 miles of Fly Creek, RM .5 -4.0. It is spawning and rearing habitat for Snake River Basin summer steelhead and redband trout and rearing habitat for Snake River Basin spring chinook salmon.

ESA ESU or DPS: (Grande Ronde/Imnaha - Catherine Creek Spring/Summer Chinook, Upper Grande Ronde Steelhead)

IMPLEMENTATION ACTIONS: Target low gradient, floodplain inundation, & Slide channel activation areas. 80 spanning debris jams, full channel jam construction, 150 whole trees, 200 pieces of floodplain wood, 2-2.5: 10 yd. loads of racking material per site, boulders placed for ballast, dug in 1-3 key wood pieces & pinned where logs crossed. Total 1550 large wood pieces (950 trees) and 2,140 yds. of racking material. Planted 20,000 seedlings and seeded all disturbed areas.

HABITAT RESPONSE: 1) Improved floodplain function, 2) Decreased stream temperatures, 3) Improved pool quality/quantity,
4) Improved habitat complexity, 5) Increased riparian shrub vegetation cover.

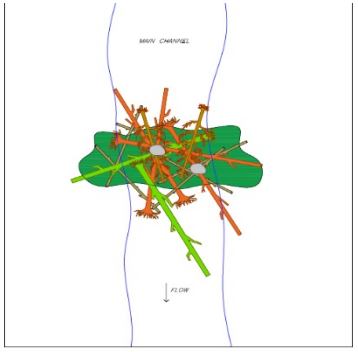
FISH RESPONSE:. Improved rearing habitat for summer steelhead and spring chinook salmon. Improved rearing habitat includes wetted areas, increased slow water habitats, improved fish cover, and improved food web complexity.

Lower Fly Creek Pre Construction

Fly Structure 25

Fly Structure 52

Lower Fly Creek Post Construction



MATERIAL SCHEDULE — PER STRUCTURE

ITEM	QUANTITY	DIAMETER (IN)	LENGTH (FT)	ROOTWAD
LARGE TREE	2	> 20	50	YES
MEDIUM TREE	4	14 – 20	50	YES
SMALL TREE/LOG	6	10 – 14	30 – 50	OPTIONAL
BOULDER	2	36 – 60	---	---
WHOLE TREE	2	---	---	YES
RACKING MATERIAL	25 CYD	---	---	---

PROJECT ELEMENT NOTES:

1) PLACE 2 LARGE TREES WITH ROOTWADS AS BASE MEMBERS.
2) PLACE 4 MEDIUM TREES WITH ROOTWADS AS KEY MEMBERS ACROSS AND THROUGH BASE MEMBERS.
3) PLACE 6 SMALL TREES/LOGS WITHIN AND PERIPHERAL TO BASE AND KEY MEMBERS TO ENHANCE STRUCTURE HABITAT AND HYDRAULIC COMPLEXITY. PLACE THESE SMALLER MEMBERS AS SUCH TO DEVELOP A STABLE INTERLACED MATRIX.
4) PLACE 2 BOULDERS TO PROVIDE BALLAST FOR STRUCTURE STABILITY.
5) PLACE 2 WHOLE TREES WITHIN THE STRUCTURE TO ENHANCE STRUCTURE HABITAT AND AND INCREASE HYDRAULIC COMPLEXITY.
6) PLACE 2.5 LOADS OF RACKING MATERIAL WITHIN AND ACROSS FACE OF STRUCTURE TO INCREASE IMPERMEABILITY AND BACKWATER EFFECT.

STRUCTURE STABILITY WILL ALSO BE PROVIDED BY:

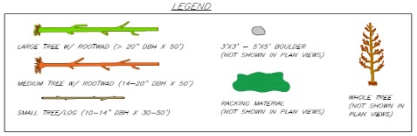
A) DIGGING 2 OR 3 MEMBERS (LARGE OR MEDIUM TREES) PER STRUCTURE INTO CHANNEL BANKS.
B) PINNING 2–5 PIECES OF WOOD TOGETHER PER STRUCTURE.

THE PROJECT INSPECTOR RESERVES THE RIGHT TO MODIFY STRUCTURE DESIGN SPECIFICATIONS DURING CONSTRUCTION IF WARRANTED DUE TO UNFORESEEN CIRCUMSTANCES.

BIOLOGICAL OBJECTIVES — DESIGN INTENT

THIS STRUCTURE TYPE (TYPE A, FULL SPANNING LOG JAM) IS INTENDED TO REPLICATE A CHANNEL SPANNING DEBRIS JAM AND PROMOTE BOTH INCREASED FLOODPLAIN INUNDATION AND HABITAT COMPLEXITY. THE PLACEMENT OF THESE STRUCTURES WAS INFORMED USING EXISTING CONDITION FIELD OBSERVATIONS, LIDAR DATA, AND PRE-/POST-IMPLEMENTATION HYDRAULIC MODEL RESULTS. LOCATIONS WERE SELECTED TO CREATE BACKWATERED POOL AREAS AND INCREASE LATERAL CONNECTIVITY WITH ADJACENT FLOODPLAIN AREAS. THIS STRUCTURE TYPE WILL FACILITATE INCREASED HYDROLOGIC CONNECTION WITH THE FLOODPLAIN AND RESULTANT INCREASED WATER TABLE AND VALLEY PRISM WATER STORAGE.

LEGEND



Fly Creek Log Spanning Jam Design

Excavator digging in rootwad

Racking material for stream

Moving trees w/shovel loader

Skidder moving trees

Placing boulders on structure

Post Construction

Tipping trees with shovel loader

Before