

Final Report for Grant 2016 SG-15

KLLT's project is the restoration of a 316 acre parcel of former pastureland encompassing 1 ½ miles of the Sprague River, to create a rich, complex habitat that will support the greatest possible biodiversity. This property is located just downstream from threatened bull trout critical habitat, making it a migration route, and is also used as spawning and rearing habitat for the Upper Klamath Basin redband trout. In addition, because the Klamath River dam removal project is slated to be completed by 2020, restoration in the Upper Klamath Basin will also serve to prepare for the reintroduction of Chinook salmon and steelhead.

The goal of the full project is to mitigate the damage done by decades of intensive livestock grazing, installation of a levee, and loss of all riparian vegetation. The effects of this damage to native fish species includes excessive sediment and nutrient loading to the stream, destabilized streambanks, increased thermal stress to native fish, and loss of off-channel rearing habitat.

Funds from WNTI were used toward the fall 2016 planting of riparian vegetation. As these plantings mature, several benefits to native fish species will accrue: the native vegetation planted will reduce sediment and nutrient loading to the stream and stabilize cutbanks, and the shade of overhanging willows will help to cool the water, reducing thermal stress on fish. Emergent vegetation such as cattails and reeds, and the various insects and aquatic invertebrates they support will become established, providing good cover and plentiful food for juvenile fish.

With the help of WNTI funding, the replanting of the riparian zone is now complete. We were fortunate to be able to combine the 2016 plantings with the planned 2017 plantings, which will allow us to concentrate on the upland areas in 2017. All planting occurred in the riparian zone as designated in KLLT's CREP agreement (See project map attached). Plants were obtained from Western Native Plants, who also did the planting, with project oversight by Natosha Alexander, Kestrel Country, LLC, who is the contracted conservation manager for KLLT.

Planting commenced on 10-5-16, and continued as conditions allowed, with completion on 11-7-16. Protection against beaver damage for willow and aspen is still in the process of being installed. Plants consisted of 7500 native willow stakes purchased and planted at a cost of \$2.50 each, and 6500 assorted other native species purchased and planted at a cost of \$9.00 each. The breakdown of the 6500 assorted species is as follows:

• Chokecherry	1574
• Golden Currant	1168
• Woods Rose	843
• Black Cottonwood	135
• Pacific Willow	346
• Quaking Aspen	281
• Antelope Bitterbrush	289
• Bittercherry	30
• Common Snowberry	12
• Douglas Spirea	224
• Idaho Fescue	62
• Indian Ricegrass	95
• Milkweed, MIXED	335
• Milkweed, Narrowleaf	228
• Mock Orange	233
• Nebraska Sedge	269
• Oceanspray	5
• Red Osier Dogwood	94

- Saskatoon Serviceberry 123
- Sulphur-flower Buckwheat 8
- Winecup Clarkia 120
- Woolly Sunflower 26

We are delighted to have had the opportunity to partner with WNTI on this important project. Your support has been greatly appreciated, and we look forward to the opportunity to work together on future projects.

SPRAGUE RIVER RESTORATION PROJECT



The goal of the Sprague River Restoration Project is to return this 316 acre parcel of damaged habitat to its historic wetland state. It will become high-quality habitat for a broad range of native species both local and migratory, providing a haven for wildlife in the midst of land damaged by unviabile agricultural practices.




Phase One 2012-2015, Completed, includes the following:

- Purchase of property: 2012
- Returning 3.2 cfs water rights in-stream: 2014
- Installation of piezometers by OIT students and faculty: 2013
- Eliminating cattle grazing on the property: 2012
- Engineering for levee removal: 2014
- Removing 1.5 miles of levees: 2015
- Test plantings: 2012 and 2013

Phase Two 2015-2017, Vegetation re-establishment, includes the following:

- Riparian Zone planting of 17,674 plants.
- Mowing, tilling and reseeded the Upland Zones.
- Continued weed removal of the entire 316 acres.

Legend

- ☆ KLLT Property
- Local Restoration Efforts
- City of Sprague River
- KLLT Property Boundary
- Test Planting Locations
- Completed CREP Planting Locations
- Removed Levee
- Direction of Flow



KLAMATH COUNTY
Natosha Bunnell
4/12/2016
Klamath Lake Land Trust Office
NAD 1983 UTM Zone 10N, Transverse Mercator
Coordinates of Project site 42.46953, -121.35985






Riparian zone as designated by KLLT's CREP agreement.



Sprague River 316 acre property irrigated and heavily grazed pre-restoration



Levees on 316 acre property along the river in background and levee in wetland – now removed.



A portion of the area to be planted, with boat transferring plants in the background.



Restoration crew bringing plants across river



Golden currant, chokecherry and crews in boat



Planting underway



Rose



Golden currant



Spirea



Aspen