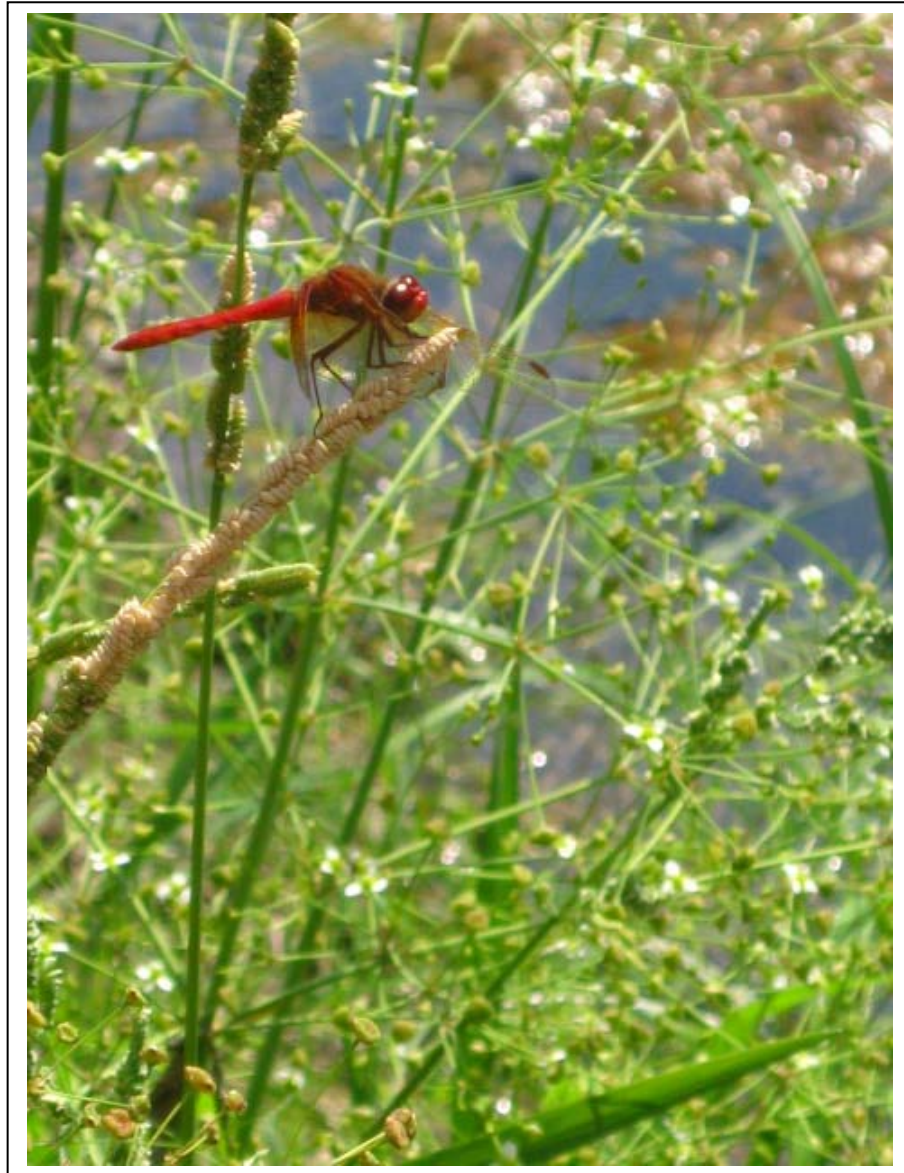


Middle Fork Willamette Watershed Council

Haws Oregon Chub Enhancement Project Year One Monitoring Report for OWEB Project #207-074



**October, 2009
Prepared by Eve Montanaro**

1) A Description of Maintenance Performed:

OWEB funding supported the excavation of a pond to provide habitat for a population of Oregon chub that would be transplanted from an established population on the Haws property. Establishment of suitable habitat for Oregon chub involves many stages that occur after pond excavation and over time. Once the excavation was complete and aquatic vegetation planted, post-implementation success for the Haws Oregon Chub Enhancement Project is dependent upon three main criteria; establishment of aquatic vegetation, sufficient and consistent water levels and chub survival rate.

Aquatic vegetation is a key element for chub habitat and it was necessary to establish robust vegetation prior to placing chub in the excavated pond. MFWWC and ODFW staff made qualitative assessments of the planted aquatic vegetation during several site visits between October 2008 and 2009. It was observed that the planting of aquatic vegetation was successful, with various plant species present and thriving in the pond. In May 2009, Oregon chub specialists, Paul Scheerer and Brian Bangs, determined that sufficient aquatic vegetation had been established and would effectively support chub populations.



An essential component of chub habitat, aquatic vegetation is established at the Haws Oregon Chub Enhancement site. Key aquatic vegetation species planted on site include alisma, sparganium and potamogeton. Vegetation plugs were purchased from a local vendor, supporting local watershed economy.

Sufficient and consistent water levels must be maintained in the pond to ensure suitable habitat for chub populations. Monitoring water levels pre and post pond excavation was required prior to transporting chub into the newly formed pond. Prior to excavating a pond for Oregon chub, the MFWWC worked with the City of Oakridge to dig two test holes at opposite ends of the proposed project site to monitor water table levels. MFWWC staff and landowners Eric and Gail Haws monitored the water table for one year to determine the diameter and depth we would need to excavate to create suitable habitat. Using the results of the pre-project monitoring, a 550 square meter by 1.8 meter deep pond was excavated. Since the creation of the pond, MFWWC and ODFW staff has monitored the water levels to determine habitat suitability and to ensure the successful survival of chub once transplanted into the enhancement pond. Water levels in the excavated pond fluctuate depending upon the season,

however, levels have consistently been observed as adequate for supporting Oregon chub populations.

The successful establishment of vegetation and constant water levels provided the necessary conditions for transporting Oregon chub from the original pond/population located on the Haws property. In October 2009, ODFW specialists transported the first population of Oregon chub into the enhancement pond. Through the guidelines in the Oregon chub recovery plan and an ODFW permit with the USFWS, no more than ten percent of the population can be moved each year. ODFW moved ten percent (47 Oregon chub) from the original Haws pond into the enhancement pond on 10/7/2009. The average length of the fish moved was 52mm (range: 43 – 62mm). The water temperature of the enhancement pond was 13.5 degrees C, compared to 11 degrees C in the original pond. Schools of redbreast shiners were observed throughout the enhancement pond but are not being considered a threat to the chub (*Brian Bangs, Fisheries Biologist, Corvallis District ODFW*).

A temperature data logging device (Onset HOBO device) has been placed by ODFW in the enhancement pond, and similar devices recording both surface and depth temperatures and pressure (to determine water depth) have been placed in the source pond for the donor population. All of these devices are currently collecting monitoring data and will be downloaded in late fall of 2009. Initial comparisons of water surface temperature monitoring show summer temperatures in the enhancement pond are 1 to 3 degrees C cooler than the original pond. A more accurate analysis of temperature comparisons will be available once information is downloaded from the data loggers. At this time, it appears that the enhancement pond will provide more suitable habitat

2) Maintenance and Post-Implementation Report Accounting:

An accounting of costs associated with the post-implementation maintenance and monitoring of the project include the following:

- Site visits, Tours & Qualitative assessments : \$500
- Irrigation system maintenance: \$100
- Removal of invasive plant species in riparian area: \$1,425
- Monitoring (including equipment): \$ 5,750
- Establish USFWS'Safe Harbor Agreement with Landowners: \$500
- Project Management: \$300
- Publication & Report writing: \$600

A total expense accounting for post-project maintenance and monitoring equals \$ 9,175 between October 2008 and 2009.

3) Assessment of Project Goals & Original Grant Agreement:

The Haws Oregon Chub Enhancement project continues to meet the goals and objectives proposed in the original grant proposal and agreement. The criteria identified for a successful project post-implementation are being met and we anticipate this trend to continue. The following is a summary of the progress made toward the goals and objectives proposed in the original agreement with the Oregon Watershed Enhancement Board.

Original Project Proposal

The Haws Enhancement project proposes to establish suitable off-channel habitat for chub by creating an isolated pond adjacent to an existing pond that supports an abundant chub population. The proposed project site is located upstream of the confluence of Gray Creek and the Middle Fork Willamette River in the upper Middle Fork Willamette drainage. An approximately 2,750 square meter (41m x 67m) pond will be created in proximity to the existing pond on the Haws property. The pond will be introduced with chub from the population in the existing pond. The proposed pond will be planted with a variety of aquatic vegetation to provide a proper source of cover and food for chub. Approximately 135 native shrub and plants species will be planted around the perimeter of the pond to provide habitat for chub and wildlife.

The objective of the proposed project is to increase the abundance of the Endangered Oregon chub by establishing critical habitat at the Haws site. Establishing a population that exhibits a stable and increasing abundance trend will contribute to the downlisting of Oregon chub to threatened and eventual delisting. The proposed project will accomplish the following objectives:

- Restore key habitat lost with dam construction,
- Establish an introduction site for Oregon chub,
- Provide habitat that does not contain non-native fish (predators),
- Provide isolated habitat free from invasion of non-native fish,
- Establish a site within chub historic range,
- Provide habitat that does not dry up seasonally,
- Provide habitat with proper food and cover,
- Reduce risk of extinction of Oregon chub, and
- Increase probability of their full recovery,
- Plant native vegetation to provide spawning and rearing habitat, and
- Provide habitat for western pond turtle.

Post-Implementation Status: Post-implementation status of the excavated pond appears to meet all of the proposed goals and objectives with the exception of “Provide isolated habitat free from the invasion of non-native fishes”. Flood levels in winter 2009 were significant and water from Gray’s Creek did connect with the established pond. This was unexpected, and is not considered a serious threat at this time. ODFW fisheries biologist found red-side shiners in the established pond but are not concerned about the viability of Oregon chub.

Project Completion

The anticipated condition of the site upon project completion will be an approximately 41m x 67m pond with an island in the center. The pond will sustain an annual average depth of 0.8 meters and will support aquatic vegetation. Native shrubs and plants will have been planted around the perimeter of the pond and will be protected with tubing.

Project Completion Status: As previously mentioned, the excavated pond is 550 square meters by 1.8 meters deep. The water level has remained relatively constant, maintaining a water depth of 1.2-1.8 meters. Aquatic and riparian vegetation are abundant and in good condition. Native plants continue to populate the perimeter of the pond, as the landowners actively remove reemerging Armenian blackberry from the site. The combination of a stable water levels, abundant vegetation and non-threatening fish species in the pond indicates a successful post-implementation outcome.

Ten years

In ten years, the pond will support a healthy abundant population of Oregon chub. The population is expected to increase on an upward trend over this time, and adult count should be double or triple the original number transplanted (> 500 adults) to the pond. The pond will support healthy established aquatic vegetation, providing food, cover and spawning habitat for the chub. The pond will not contain non-native fish, as the project site is an adequate distance from the main stem river and area of frequent flooding. Native shrubs will be established and mature; providing spawning and rearing habitat for Chub and supporting western pond turtles.

Year One Status- Projecting Trend: Given the positive conditions present at the excavated pond, the first population of Oregon chub was transplanted this fall. It is projected that the population will have a high survival rate, and after one year (fall 2010), another population of chub will be transported from the donor population to foster the establishment of a healthy abundant population of Oregon chub. ODFW will monitor the population trend and results will be shared in subsequent monitoring reports as well as with the public.

4) A summary of any public awareness or educational activities related to the project, including identification of any tours or presentations and copies of newspaper or other media coverage about the project:

The Haws Oregon Chub Enhancement project continues to be used as a demonstration project for the community of Oakridge and beyond. The Middle Fork Willamette Watershed Council host 1-2 tours per year of this project, providing partners and community members an opportunity to learn about habitat enhancement on private property. Additionally, an update on this restoration project is highlighted in the Council's newsletter on a frequent basis.

5) Original Proposed Design & Project Conditions: Please see response # 3.