

Reach RL01

Existing Conditions

Reach RL01 Begins at the headwaters and extends approximately 7900 feet to the base of the hill.

Informal Field Survey completed on 12/9/02. Low flow conditions existed. No access to the reach upstream of the quarry.

Channel Habitat Type: MH (Moderate Gradient, Headwater Channel) to LM (Low Gradient, Moderately Confined)

Adjacent Land Use: Private Industrial Forest and Gravel Quarry

Characteristics:

- Channel Conditions: Limited access was obtained in this area during the field visit, so there is
 limited knowledge of the channel conditions. The stream has been placed in a culvert under the
 gravel quarry, which is approximately 100 feet long. It appears that the culvert acts as a passage
 barrier, however no formal measurements were taken. The gradient of the creek downstream of
 the quarry is approximately 1.5 percent. The valley slope is approximately 2.2 percent. The
 gradient of the creek upstream of the quarry changes from about 2 percent just upstream of the
 quarry to about 30 percent near the headwaters.
- *Riparian Conditions:* There are good riparian conditions along the reach. However, a review of the 1994 digital photos and the 2002 aerial photos indicates that the riparian area has been significantly reduced in size by the gravel quarry operations. The trees appear to be a mix of conifers and hardwoods. Downstream of the quarry, the 2002 aerial photos show a riparian width of approximately 50 feet along the left and right banks. The riparian zone upstream of the quarry is undisturbed and very wide.
- Water Quality: There is no water quality information available for Roderick Creek. However, temperature measurements taken during the TMDL study show that the temperature in Gales Creek increases downstream of the Roderick Road crossing. Roderick Creek flows into Gales Creek approximately 5,000 feet downstream of Roderick Road. Therefore, flows from Roderick Creek may be contributing to the warming of Gales Creek.
- *Water Quantity:* There is one permitted irrigation diversion just upstream of the quarry. Table 4-9 presents the following diversion data for the reach.

Table 4-9: Reach RL01

Permit Number	Use	Rate	Notes
29250	IR	.1625cfs	No field verification of screening

- *Habitat Access:* It appears that a culvert, which is approximately 100 feet long (partially CMP and partially HDPE), under the Gravel Quarry forms an effective barrier to fish passage. This is in the lower portion of the reach.
- Habitat Elements: No formal habitat survey was completed for Roderick Creek. However, in 1999, ODFW identified Roderick Creek as having adequate steelhead habitat from its confluence with Gales Creek, up to the headwaters of the creek. It appears that runoff from the Gravel Quarry would contribute sediment to the creek. The LWD volume is unknown.

Degree of Impairment Score = 2.8

Limiting Factors

Habitat Access

Target Functions

• Fish Barriers – Evaluate potential fish barrier to determine the potential use of the creek upstream of the barrier and to determine if it is a barrier during all of the salmonid life cycle.

Recommended Actions

- 1. Work with ODFW to evaluate whether there truly is steelhead habitat upstream of the culvert that runs under the gravel quarry. If there is valuable fish habitat upstream of the culvert and the culvert is determined to be a barrier to passage, work with the quarry operator to mitigate the effects of the culvert.
- 2. Work with property owners near the creek to educate them about programs that promote stream stewardship and that may be available to industrial forestlands and quarry operators through state and federal grants.

Reach RL02

Existing Conditions

Reach RL02 begins at the edge of the hill and extends approximately 2900 feet to the confluence with Gales Creek.

Informal Field Survey completed on 12/9/02. Low flow conditions existed at the time of the survey.

Channel Habitat Type: LM (Low Gradient, Moderately Confined)

Adjacent Land Use: Agriculture (Container Nursery and Annual Crops)

Characteristics:

- Channel Conditions: This reach has been channelized through an agricultural field and along a local access road for most of its length. There is no information on the floodplain conditions of Roderick Creek. However, the 1996 flood inundation GIS layer shows water pooled in the fields adjacent to the Creek. There is the potential that flow from Roderick Creek caused this localized flooding. The gradient of the stream within the reach is approximately 0.4 percent. The valley slope is approximately 0.5 percent.
- Riparian Conditions: The riparian areas are in poor condition. There is no riparian area along the upper portion of the reach that runs through the agricultural field. The main vegetation in the ditch appears to be reed canarygrass. The portion of the reach along the local access road has a narrow (5 15 feet) riparian area with a significant amount of non-native vegetation (primarily Himalayan blackberries).
- Water Quality: No water quality information is available for Roderick Creek. However, temperature measurements taken during the TMDL study show that the temperature in Gales Creek increases downstream of the Roderick Road crossing. Roderick Creek flows into Gales Creek approximately 5,000 feet downstream of Roderick Road. Therefore, flows from Roderick Creek may be contributing to the warming of Gales Creek.
- Water Quantity: There is one permitted irrigation diversion from this reach. There is a sluice gate across the creek near the end of the local access road. It is not clear whether the sluice gate is located at the permitted diversion point or if it is an illegal diversion. It appears that this gate may be used to back up water in the creek for irrigation withdrawal purposes (perhaps flood irrigation). If the gate is in a closed, or partially open position, it appears that it would cause a passage barrier. Table 4-10 presents OWRD permitted diversion information for the reach.

Table 4-10: Reach RL02

Permit Number	Use	Rate	Notes
33140	IR	.01cfs	It appears a sluice gate is used for the diversion

- *Habitat Access:* An irrigation diversion gate located approximately 20 feet upstream of the local access road appears to form an effective passage barrier. The culvert under the local access road (approximately 40 feet long) may also be a barrier. The downstream invert of the culvert is about a foot higher than the invert of the stream.
- Habitat Elements: No formal habitat survey was completed for Roderick Creek. However, in 1999, ODFW identified Roderick Creek as having adequate steelhead habitat from its confluence with Gales Creek, up to the headwaters of the creek. The reach has mainly a sediment bed with some exposed gravels and cobbles at riffles. It appears to have glide characteristics throughout most of the reach. The LWD volume is very low.

Degree of Impairment Score = 1.4

Limiting Factors

- Channel Conditions
- Riparian Conditions
- Habitat Elements
- Water Quality
- Habitat Access

Target Functions

- Riparian Zone Intensive riparian vegetation planting to restore stream shading and large wood recruitment in areas that have little or no existing riparian vegetation.
- Fish Barriers Evaluate potential fish barrier to determine the potential use of the creek upstream of the barrier and to determine if it is a barrier during all of the salmonids life cycle.
- In-stream Complexity Place wood in the stream to provide in-channel habitat diversity, deep pools, and locations with cooler water temperatures during the warm summer months.

Recommended Actions

 Work with the landowners along the left and right banks to enhance and restore the riparian zone. There is no existing riparian zone where the channel runs through the agricultural field. In this area, non-native vegetation should be cleared from a 50 foot wide swath on either side of the creek. It should initially be planted with an erosion control mixture and then planted with native shrubs and trees.



Photo RL02-1 Looking upstream (northwest) along Roderick Creek. A small shuice gate structure on the lower section of the creek may be a passage barrier. The reach lacks a sufficient cover of trees and shrubs to shade the channel.

Work with OWRD to evaluate the status of this diversion. Work with ODFW to ascertain if there truly is steelhead habitat upstream of the culvert that runs under the road and upstream of the sluice gate in the channel.



Photo RL02-2 A close-up photo of small slice gate structure on Roderick Creek. The photo was taken in late autumn of 2002.

If there is valuable fish habitat upstream of the culvert and the sluice gate and they are determined to be barriers to passage, work with the landowner to mitigate the effects.

- 3. Increase in-stream complexity of the channel through the placement of LWD. This work should initially concentrate near in the portion of the reach where the channel flows through the agricultural field. The work would consist of creating pools that juvenile fish can utilize for refuge from high water temperatures. Specific activities will be determined during the project design phase.
- 4. Work with property owners near the creek to educate them about programs that promote stream stewardship and that are available to agricultural operations through state and federal grants.