

5.2. Element 2: Channel Habitat Type (CHT) Assessment.

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5.2.1. Methodology. Aerial photos obtained from the Bureau of Land Management were used to identify and assess channel habitat type on Jackson Creek. The data were coded on 7.5 minute quadrangle maps, and marked on Mylar cover-sheets, along with various tributaries, towns, riparian condition units, channel modification sites, and gradient class segments. A field visit was made to verify and evaluate conditions on-site.¹

Six gradient classes were used and they are expressed as a percent of gradient (for example, a stream that drops 10 feet in elevation over 100 linear feet of streambed has a 10% gradient):

Class 1	<1%	Class 2.	1-2%	Class 3.	2-4%
Class 4.	4-8%	Class 5.	8-16%	Class 6.	>16%

Channel confinement was estimated according to the definition used in the OWEB watershed manual, which is *"the ratio of the bank-full width to the width of the modern flood plain."*² Bank-full width is defined as *"the width of the channel at the point at which over-bank flooding begins."* Confinement classes are defined as follows:

<u>Confinement Class</u>	<u>Flood plain Width</u>
Unconfined	>4 x bank-full width
Moderately Confined	>2 x but <4 x bank-full width
Confined	<2 x bank-full width

Once the gradient and confinement classes were determined, creek segments were then given a CHT designation, and CHT abbreviations.

5.2.2. Findings. Approximately 9.7 miles of creek within the Jackson Creek watershed are categorized within channel habitat types with high potential for riparian enhancement. These CHT's include low and moderate gradient channels with moderate confinement (LM, MM). The main stem of Jackson Creek, as well as each of the major tributaries, contains creek segments that fall within these CHT categories.

Low and moderate gradient channels are very responsive to enhancement activities, due often to their location within the watershed that provides a combination of active flood plain and hill-

¹ The watershed was visited on July 6th, 2000, to validate the riparian, wetland, and channel modification assessments. The team consisted of a Biologist, Geologist, and a Field Technician, and was assisted by the Jacksonville Forester, Paul Kangas. Additional information was provided from a study by Rob Burns, USFWS.

² Oregon Watershed Assessment Manual. Oregon Watershed Enhancement Board, July 1999. p. III-8.

slope or terrace controls. These channels have the benefit of a flood plain that allows for both lateral and vertical movement of the creek. Possible enhancement could include bank stabilization, increased vegetation diversity within the less forested areas, and the addition of roughness features (large wood/debris and boulders) within the more forested areas.

Six channel habitat types recognized by geomorphologists, were found within the Jackson Creek Watershed, and are listed and defined as follows:

LOW GRADIENT CONFINED (LC)

- ◆ Stream gradientC<2%
- ◆ Valley shapeClow to moderate gradient hill slopes with limited flood plain
- ◆ Channel patternCsingle channel, variable sinuosity
- ◆ Channel confinementCconfined
- ◆ Oregon stream sizeCmedium to large
- ◆ Position in drainageCmiddle to lower end of drainage basin
- ◆ Dominant substrateCcobble to bedrock
- ◆ Channel responsivenessClow (controlled, incised creek-bed; low sensitivity)
- ◆ Riparian enhancement opportunitiesClow

LOW GRADIENT MEDIUM FLOOD PLAIN (FP2)

- ◆ Stream gradientC<2%
- ◆ Valley shapeCbroad, flat, or gentle landforms
- ◆ Channel patternCsingle to multiple channels, sinuous
- ◆ Channel confinementCunconfined
- ◆ Oregon stream sizeCmedium to large
- ◆ Position in drainageCmiddle to lower end of drainage basin
- ◆ Dominant substrateCsand to cobble
- ◆ Channel responsivenessChigh (high sensitivity)
- ◆ Riparian enhancement opportunitiesClow (unstable)

LOW GRADIENT MODERATELY CONFINED (LM)

- ◆ Stream gradientC<2%
- ◆ Valley shapeCbroad, generally much wider than channel
- ◆ Channel patternCsingle, with occasional multiple channels
- ◆ Channel confinementCvariable
- ◆ Oregon stream sizeCvariable, usually medium to large
- ◆ Position in drainageCvariable, often main-stem and lower end of main tributaries
- ◆ Dominant substrateCfine gravel to bedrock
- ◆ Channel responsivenessChigh (dynamic system, high sensitivity)
- ◆ Riparian enhancement opportunitiesChigh (high predictability, longevity)

MODERATE GRADIENT MODERATELY CONFINED (MM)

- ◆ Stream gradientC2 to 4%

- ◆ Valley shapeCnarrow valley with flood plain, or narrow terrace development
- ◆ Channel patternCusually single channel, low to moderate sinuosity
- ◆ Channel confinementCvariable
- ◆ Oregon stream sizeCvariable, usually medium to large
- ◆ Position in drainageCmid to lower portion of drainage basins
- ◆ Dominant substrateCgravel to small boulder
- ◆ Channel responsivenessChigh (dynamic system, high sensitivity)
- ◆ Riparian enhancement opportunitiesChigh (high predictability, longevity)

MODERATE GRADIENT HEADWATER (MH)

- ◆ Stream gradientC1 to 6%
- ◆ Valley shapeCopen, gentle V-shaped
- ◆ Channel patternClow sinuosity to straight
- ◆ Channel confinementCconfined
- ◆ Oregon stream sizeCsmall
- ◆ Position in drainageCupper, headwater
- ◆ Dominant substrateCsand to cobble, bedrock
- ◆ Channel responsivenessCmoderate (moderate sensitivity)
- ◆ Riparian enhancement opportunitiesCmoderate

MODERATELY STEEP NARROW VALLEY (MV)

- ◆ Stream gradientC4 to 8 %
- ◆ Valley shapeCnarrow, V-shaped
- ◆ Channel patternCsingle channel, relatively straight
- ◆ Channel confinementCconfined
- ◆ Oregon stream sizeCsmall to medium
- ◆ Position in drainageCmid to upper
- ◆ Dominant substrateCsmall cobble to bedrock
- ◆ Channel responsivenessClow (high stability, low sensitivity)
- ◆ Riparian enhancement opportunitiesClow

Table 5.0. Channel Habitat Types of Jackson Creek and Tributaries.

Drainage	River Mile	Channel Habitat Type
Mainstem Jackson Creek	0.00 to 3.75	Low Gradient Confined (LC)
	3.75 to 8.30	Low Gradient Medium Floodplain (FP2)
	8.30 to 9.90	Low Gradient Moderately Confined (LM)
	10.00 to 12.20	Moderate Gradient Moderately Confined (MM)
	12.20 to headwaters	Moderate Gradient Headwaters (MH)
South Fork Jackson Creek	0.00 to 1.00	Moderate Gradient Moderately Confined (MM)
	1.00 to headwaters	Moderate Steep Narrow Valley (MV)
Walker Creek	0.00 to 2.10	Low Gradient Medium Floodplain (FP2)
	2.10 to 2.50	Low Gradient Moderately Confined (LM)
	2.50 to 3.00	Moderate Gradient Moderately Confined (MM)
	3.00 to headwaters	Moderate Gradient Headwater (MH)

Note: The Channel Habitat type of Dean, Horn, Niedermeyer Creeks, and Miller Gulch, Sailor Gulch, Norling Gulch, and Cantrall Gulch were not measured.

5.2.3. Information Needs. Channel habitat types for most of the tributaries in the Jackson Creek watershed were not assessed (see above), and a detailed Rosgen survey is needed for both CHT and channel modifications. Most tributaries are ephemeral (seasonal) and subject to erosion, which needs to be controlled through vegetative controls.

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