

**ODFW AQUATIC INVENTORY PROJECT**  
**OREGON PLAN FOR SALMON & WATERSHEDS**  
**STREAM RESTORATION HABITAT REPORT**

STREAM: West Fork Ecola Creek (N114)  
BASIN: Ecola Creek  
SURVEY TYPE: Reference  
DATE: February 22, 2002  
SURVEY CREW: Sean Allen, Rachel Werner  
REPORT PREPARED BY: Paul Jacobsen  
BASIN AREA: 24.3 km<sup>2</sup>  
USGS MAPS: Arch Cape  
ECOREGION: Coast Range Sitka Spruce

**GENERAL DESCRIPTION:**

The West Fork Ecola Creek habitat survey extended 345 meters. The channel was alternately constrained by hillslopes and terraces in a broad valley floor. The average valley width index was 5.7 (range: 3.5 – 8.0). Land use for the reach was second growth (15-30 cm dbh) trees. The average unit gradient was 3.0 percent. Scour pools (58%) and riffles (27%) dominated stream habitat. Gravel (39%) and cobble (34%) dominated stream substrate. Wood volume was low at 13.2 m<sup>3</sup>/100m.

**COMMENTS:**

There were no potential barriers to upstream fish migration in the surveyed length.

REACH

**T4N-R10W-S6NE**

REACH

**Valley and Channel Summary**

Valley Characteristics (Percent Reach Length)

| <u>Narrow Valley Floor</u> |     | <u>Broad Valley Floor</u> |         |
|----------------------------|-----|---------------------------|---------|
| Steep V-shape              | 0%  | Constraining Terraces     | 100%    |
| Moderate V-shape           | 0%  | Multiple Terraces         | 0%      |
| Open V-shape               | 0%  | Wide Floodplain           | 0%      |
| Valley Width Index         | 5.7 | VWI Range:                | 3.5 - 8 |

Channel Morphology (Percent Reach Length)

| <u>Constrained</u> |      | <u>Unconstrained</u> |    |
|--------------------|------|----------------------|----|
| Hillslope          | 0%   | Single Channel       | 0% |
| Bedrock            | 0%   | Multiple Channel     | 0% |
| Terrace            | 0%   | Braided Channel      | 0% |
| Alt. Terrace/Hill  | 100% |                      |    |
| Landuse            | 0%   |                      |    |

Channel Characteristics

| <u>Type</u> | <u>Length (m)</u> | <u>Area (m2)</u> | <u>Dry Units</u> |
|-------------|-------------------|------------------|------------------|
| Primary     | 345               | 4,587            | 0                |
| Secondary   | 18                | 17               | 0                |

Channel Dimensions (m)

| <u>Wetted</u> | <u>Active</u> | <u>Floodprone</u> n = 5 | <u>First Terrace</u> n = 5 |
|---------------|---------------|-------------------------|----------------------------|
| Width: 11.8   | Width: 15.4   | 29.4 ( 13.7 - 39.5 )    | 30.4 ( 14 - 40 )           |
| Depth: 0.62   | Height: 0.7   | 1.4 ( 1.3 - 1.5 )       | 1.6 ( 1.4 - 2 )            |

W:D ratio: 22.2

Entrenchment (ACW:FPW ratio): 1.9

Stream Flow Type: MF

Habitat Units/100m (total channel length): 4.1

Average Unit Gradient: 3.0%

Habitat Units/100m (primary channel length): 4.4

Water temperature (°C): 8.5 - 8.5

**Riparian, Bank, and Wood Summary**

|                      | <u>Primary</u> | <u>Secondary</u> |
|----------------------|----------------|------------------|
| Land Use:            | ST             |                  |
| Riparian Vegetation: | D15            |                  |

Bank Condition and Shade

| <u>Bank Status</u> | <u>Percent Reach Length</u> | <u>Shade (% of 180)</u> |
|--------------------|-----------------------------|-------------------------|
| Actively Eroding:  |                             | Reach avg:              |
| Undercut Banks:    |                             | Range: -                |

Large Wood Debris

|                             | <u>Total</u> | <u>Total / 100m primary channel</u> |
|-----------------------------|--------------|-------------------------------------|
| All pieces (>=3m x 0.15m):  | 38           | 11.0                                |
| Volume (m <sup>3</sup> ):   | 45           | 13.2                                |
| Key pieces (>=12m x 0.60m): | 0            | 0.0                                 |

OREGON DEPARTMENT OF FISH AND WILDLIFE

WF ECOLA REFERENCE (N-114)

HABITAT INVENTORY

Report Date: 11/15/2013

Survey Date:

2/22/2002

| REACH               | T4N-R10W-S6NE   |                        |                     |                     |                                    |                               | REACH                            |     |      |     |      |      |
|---------------------|-----------------|------------------------|---------------------|---------------------|------------------------------------|-------------------------------|----------------------------------|-----|------|-----|------|------|
| HABITAT DETAIL      |                 |                        |                     |                     |                                    |                               |                                  |     |      |     |      |      |
| Habitat Type        | Number<br>Units | Total<br>Length<br>(m) | Avg<br>Width<br>(m) | Avg<br>Depth<br>(m) | Total<br>Area<br>(m <sup>2</sup> ) | Large<br>Boulders<br>(#>0.5m) | Substrate<br>Percent Wetted Area |     |      |     |      |      |
|                     |                 |                        |                     |                     |                                    |                               | S/O                              | Snd | Grvl | Cbl | Bldr | Bdrk |
| POOL-LATERAL SCOUR  | 6               | 172                    | 13.0                | 1.13                | 2,290                              | 0                             | 3                                | 7   | 47   | 30  | 14   | 0    |
| POOL-STRAIGHT SCOUR | 1               | 26                     | 15.0                | 0.90                | 390                                | 0                             | 0                                | 15  | 40   | 25  | 20   | 0    |
| RAPID/BOULDERS      | 2               | 39                     | 17.2                | 0.20                | 654                                | 0                             | 0                                | 5   | 23   | 35  | 38   | 0    |
| RIFFLE              | 5               | 118                    | 9.7                 | 0.25                | 1,262                              | 0                             | 4                                | 11  | 30   | 42  | 9    | 4    |
| STEP/COBBLE         | 1               | 8                      | 1.0                 | 0.05                | 8                                  | 0                             | 0                                | 10  | 65   | 20  | 5    | 0    |
| <b>Total:</b>       | 15              | 363                    | 11.8                | 0.62                | 4,604                              | 0                             | <b>Avg:</b> 2                    | 9   | 39   | 34  | 15   | 1    |

| HABITAT SUMMARY   |                 |                        |                     |                     |                   |         |                |                          |  |
|-------------------|-----------------|------------------------|---------------------|---------------------|-------------------|---------|----------------|--------------------------|--|
| Habitat Group     | Number<br>Units | Total<br>Length<br>(m) | Avg<br>Width<br>(m) | Avg<br>Depth<br>(m) | Wetted Area       |         | Large Boulders |                          |  |
|                   |                 |                        |                     |                     | (m <sup>2</sup> ) | Percent | Number         | (# / 100m <sup>2</sup> ) |  |
| Dammed & BW Pools | 0               | 0                      |                     |                     | 0                 | 0.00%   | 0              | 0.0                      |  |
| Scour Pools       | 7               | 198                    | 13.3                | 1.09                | 2,680             | 58.21%  | 0              | 0.0                      |  |
| Glides            | 0               | 0                      |                     |                     | 0                 | 0.00%   | 0              | 0.0                      |  |
| Riffles           | 5               | 118                    | 9.7                 | 0.25                | 1,262             | 27.41%  | 0              | 0.0                      |  |
| Rapids            | 2               | 39                     | 17.2                | 0.20                | 654               | 14.21%  | 0              | 0.0                      |  |
| Cascades          | 0               | 0                      |                     |                     | 0                 | 0.00%   | 0              | 0.0                      |  |
| Step/Falls        | 1               | 8                      | 1.0                 | 0.05                | 8                 | 0.17%   | 0              | 0.0                      |  |
| Dry               | 0               | 0                      |                     |                     | 0                 | 0.00%   | 0              | 0.0                      |  |
| Culverts          | 0               | 0                      |                     |                     | 0                 | 0.00%   | 0              | 0.0                      |  |

| POOL SUMMARY                          |              |                              |   |
|---------------------------------------|--------------|------------------------------|---|
|                                       | <u>Total</u> | Total of all Channel Lengths |   |
|                                       |              | <u># / Km</u>                | Primary Channel Length<br><u># / Km</u> |
| All Pools:                            | 7            | 19.3                         | 20.3                                    |
| Pools >=1m deep:                      | 3            | 8.3                          | 8.7                                     |
| Complex pools (LWD pieces>=3):        | 3            | 8.3                          | 8.7                                     |
| Pool frequency (channel widths/pool): | 3.4          |                              |   |
| Residual pool depth (avg):            | 0.87         |                              |   |

# Comment Summary

## Oregon Plan Monitoring Sites 2002

MONITORING AREA: 1-NC      SITE ID: 114      WF ECOLA REFERENCE (N-114)

| UNIT# | TYPE | CHAN | DIST. (m) | COMMENTS | NOTES         |
|-------|------|------|-----------|----------|---------------|
| 1     | LP   | 00   | 26.5      |          | T = 8.5       |
| 2     | LP   | 00   | 66.5      | SS/      |               |
| 3     | RI   | 01   | 103.5     | TJ/      |               |
| 9     | RI   | 01   | 226.2     | /TJ      |               |
| 10    | SC   | 11   | 226.2     |          | H = 1.2       |
| 13    | LP   | 00   | 301.7     |          | SPLIT CHANNEL |