3.10 PORT ANGELES INDEPENDENT DRAINAGES RECOMMENDATIONS

Section 3.4 contains recommendations for instream flows, and Section 3.3 contains other recommendations for rehabilitation of small urban streams, habitat restoration, salmon recovery, and related environments (e.g., riparian corridors, wetlands, estuaries) that are intended to be considered for all WRIA 18 streams and rivers. Sections 3.1 and 3.2 contain water quantity and water quality recommendations that also apply to all WRIA 18 subbasins.

3.10.1 Dry Creek (WRIA# 18-0265)

Issue: Dry Creek is a relatively small independent drainage to salt water, entering the Strait half way between Angeles Point and the west end of Port Angeles harbor. It has been severely degraded due to logging of the upper watershed and rerouting of a significant portion of the channel between RM 0.8 and RM 1.5. The Limiting Factors Analysis (LFA) (Haring, 1999) has identified water quality and/or habitat recommendations to address on this stream.

Existing Conditions and Current Actions

The combination of logging and channel rerouting, along with agricultural activities in the middle reaches, has severely compromised conditions throughout the watershed. The stream experiences heavy sedimentation, continual headcutting in the area of the channel reroute, depleted LWD, and a lack of intact riparian habitat. It is on the 303(d) list for excessive temperature conditions. The loss of vegetation throughout the watershed, along with the increased stormwater inputs associated with the airport, has significantly altered the flow regime of the stream.

There are no active restoration/improvement actions or programs being undertaken in the Dry Creek watershed.

Desired Conditions and Outcomes

- Fish habitat restoration addressed by appropriate agencies and local jurisdictions.
- Dry Creek achieves properly functioning water quality and habitat conditions adequate to support healthy populations of all naturally-occurring anadromous stocks.

Recommendations

A. Water Quality

No new stream-specific recommendations developed.

B. Habitat

1. To the extent feasible, remediate stormwater impacts to the channel; ensure that stormwater impacts resulting from future construction in the watershed are fully addressed at the time of construction.

2. To the extent feasible, prevent further headcutting in relocated reaches of Dry Creek.
3. Develop and implement a short-term LWD strategy to provide LWD presence and habitat diversity until full riparian function is restored.
4. To the extent feasible, restore functional riparian zones throughout the watershed.

3.10.2 Tumwater Creek (WRIA# 18-0256)

Issue: Tumwater Creek is a relatively small independent drainage to salt water, entering salt water near the western end of Port Angeles harbor. It has been heavily impacted by development throughout the watershed. The Limiting Factors Analysis (LFA) (Haring, 1999) has identified water quality and/or habitat recommendations to address on this stream.

Existing Conditions and Current Actions

Urban and rural developments have had substantial impact in Tumwater Creek. The lower one-quarter mile is culverted under waterfront industrial and city street properties, and the following half-mile is confined and channelized between a high valley wall and the Tumwater Truck Route. The upper watershed has experienced extensive rural conversion, with associated animal and stormwater effects.

As noted by Haring (1999), of particular concern is the very large, active slide area, initially caused by altered stormwater drainage. Fine sediment generated from this massive stormwater-related gully headcutting to the west of Black Diamond Road (just north of Alice Road) is a continuing source of excessive sediment input into Tumwater Creek. At this location, stormwater from Black Diamond, Alice, and Hoar roads has been routed into a small draw that historically had a very small drainage area. In addition, these road cuts have intercepted very large volumes of groundwater that can be seen percolating into ditch lines. With these additional flows, the gully walls have collapsed due to increased undercutting by the consolidated stormwater runoff. Steady headcutting continues towards Black Diamond Road, delivering large amounts of sediment to Tumwater Creek. The road itself will likely be consumed by the failure at some point in the future. Fine sediment from this slope failure adversely impacts substrate downstream all the way to the mouth. Efforts to date to negotiate a solution to this problem have been unsuccessful. As a result, the failure continues to discharge large amounts of sediment to Tumwater Creek.

There are no active restoration/improvement actions or programs being undertaken in the Tumwater Creek watershed. However, the neighborhood located on Black Diamond Road, between Tumwater and Valley creeks, is in the process of determining its needs for roads, trails, and parks. The outcome of this assessment may motivate local citizen action on restoration projects.

Desired Conditions and Outcomes

- Fish habitat restoration addressed by appropriate agencies and local jurisdictions.
- Tumwater Creek achieves properly functioning water quality and habitat conditions adequate to support healthy populations of all naturally-occurring anadromous stocks.

Recommendations

A. Water Quality

Remediate stormwater management in the watershed to collect, treat, and discharge stormwater in a manner that avoids adverse impacts to Tumwater Creek and other surface waters; particular attention should be given to eliminating stormwater discharges that are creating major sediment contribution off Black Diamond Road and to taking measures to stabilize erosion from the gully.

B. Habitat

1. Recognizing the site's economic importance of the Port Angeles industrial area, restore functional estuary processes as opportunities arise, to the extent feasible and subject to planned economic development in the area.

2. Recognizing the site's economic importance of the Port Angeles industrial area, as opportunities arise, remove channel constrictions in the lower channel and restore functional floodplain processes, to the extent feasible and subject to planned economic development in the area.

3. Develop and implement a short-term LWD strategy to provide LWD presence and habitat diversity until full riparian function is restored.

4. Restore functional riparian zones throughout the watershed.

3.10.3 Valley Creek (WRIA# 18-0249)

Issue: Valley Creek is a relatively small, independent drainage, entering salt water near the center of Port Angeles harbor. It has been significantly altered to accommodate urban and industrial development in Port Angeles, with the more than 2000 feet of the lower channel contained in a continuous series of concrete culverts. Habitat degradation has been so great as to extirpate all salmonid species except for cutthroat trout and some coho. The Limiting Factors Analysis (LFA) (Haring, 1999) has identified water quality and/or habitat recommendations to address on this stream.

Existing Conditions and Current Actions

Though heavily altered over the years of urban and upstream development, recent activities have resulted in the formation of an active local watershed group, the Valley Creek Restoration Committee (VCRC) that has developed an overall work plan and coordinated ongoing restoration. The committee formed in 1999 following the construction of a human-created 1.5-acre estuary in 1998 and the identification of other potential restoration

projects. The VCRC has now completed further restoration projects (passage improvements to the box culvert under Highway 101 and full habitat restoration of 1500 feet of previously straightened and channelized stream),and is moving ahead to new priorities. A conceptual restoration plan has been developed for the watershed (McHenry and Odenweller 1998), which the group has worked to incorporate as it broadens its emphasis into a more complete restoration framework, including land acquisition and recreational and educational components. VCRC has developed a specific work plan with explicit recommendations, which are reflected as the recommendations in this section.

In addition to the fish passage problems posed by the culverted lower reach, stormwater impacts, both in quantity and quality, continue to be of particular concern.

Desired Conditions and Outcomes

- Fish habitat restoration addressed by appropriate agencies and local jurisdictions.
- Valley Creek achieves properly functioning water quality and habitat conditions adequate to support healthy populations of all historically-occurring anadromous stocks.
- A functionally restored watershed supporting healthy fisheries alongside compatible educational activities and a trail.

Recommendations

A. Water Quality

Local jurisdictions should conduct a reconnaissance of Valley Creek to identify and eliminate illegal discharge pipes, as state assistance is available. Local jurisdictions should work together to minimize impacts from stormwater runoff from existing and planned development.

B. Habitat

1. Set a goal of preserving the Valley Creek corridor as a natural reserve, for educational and recreational use, subject to agreement with existing property owners.
2. Set a long-term goal of restoring Valley Creek, consistent with its habitat potential and planned educational and recreation use, and review City zoning to support this goal.
3. Recognizing the economic impact of residences and industrial/commercial areas and subject to planned economic development in the area, as opportunities arise, improve passage conditions and reduce long reaches of culverts, working with willing landowners.
4. Recognizing the economic impact of residences and industrial/commercial areas and subject to planned economic development in the area, as opportunities arise, restore the lower ¾ mile of stream to the extent feasible by re-meandering, restoring LWD, and re-creating pools, working with willing landowners.

5. Reestablish floodplain process by reducing floodplain constrictions, particularly downstream of Highway 101.
6. Remediate stormwater management in the watershed to collect, treat, and discharge stormwater in a manner that avoids adverse impacts to Valley Creek and other surface waters.
7. Restore riparian vegetation communities and instream large wood.
8. Seek funding for purchase of conservation easements or donations of easements or land from willing property owners in the Valley Creek corridor, focusing initially on the upper watershed.
9. Waterfront Trail/Olympic Discovery Trail
   Fully incorporate in all appropriate City and County planning and zoning documents, policies, and procedures: the establishment of a non-motorized trail link along Valley Creek from the Waterfront Trail (Olympic Discovery Trail) south to Olympic National Park through private, County, State and federal lands.
10. Adjacent Property Owners
    Work with all adjacent property owners, from 6th Street to the harbor, to find ways to "open up" the culverted length of Valley Creek.
11. Acquire Small Parcels
    Support acquisition by the City of the many small, low-valued parcels, predominantly on the valley slopes, to ensure watershed protection and creek restoration in the Valley Creek ravine and for inclusion in the City park.
12. Adopt Instream Flow Rules
    Adopt instream flow rules that fully support a restored system consisting of healthy populations of all stocks historically present.
13. Streamkeepers Monitoring Program
    Support and maintain the Streamkeepers' monitoring program for baseline conditions and ongoing (ambient) status which incorporates all appropriate water quantity, water quality, habitat, and fisheries population parameters.

3.10.4 Peabody Creek (WRIA# 18-0245)

Issue: Peabody Creek is a relatively small, rain-dominated, independent drainage to salt water, entering Port Angeles harbor in downtown Port Angeles. The 4.8-mile-long stream drains through heavily urbanized areas of Port Angeles. Sewage was historically discharged directly to Peabody Creek. Vast quantities of stormwater are currently routed into the creek. Historic logging has occurred throughout the watershed. A portion of the upper stream corridor was included in recent additions to Olympic National Park associated with the Hurricane Ridge Road. The Limiting Factors Analysis (LFA), (Haring, 1999), has identified water quality and/or habitat recommendations to address on this stream.

Existing Conditions and Current Actions

As noted in the NOPLEG Strategy (2001), although Peabody Creek historically supported coho and possibly chum salmon, the number and magnitude of limiting factors results in little restoration potential for the stream as it currently exists. Restoration would require

extensive culvert removal, extensive stormwater retrofit, and property acquisition in heavily urbanized portions of Port Angeles. Restoration should be considered for continued support of cutthroat, water quality, and other salmonids, but may rank low for salmon and steelhead in comparison to restoration benefits in other streams in WRIA 18.

Of particular concern, Haring (1999) notes that upstream of potential anadromous habitat, in Olympic National Park ownership, the stream is encased within two small-diameter (~4 ft.) culverts buried under 30-40 feet of fill. This material is apparently composed of spoils from the Hurricane Ridge Road construction. The spoils were placed in the valley bottom of Peabody Creek, on top of the culverts, as a disposal site. The culverts are approximately 30 years old and deteriorating, representing both a significant risk to downstream habitat and a public safety hazard. If the culverts fail or are blocked, the large fills could fail catastrophically sending a flood wave and large amounts of sediment downstream.

There are no active restoration/improvement actions or programs being undertaken in the Peabody Creek watershed.

Desired Conditions and Outcomes

- Fish habitat restoration addressed by appropriate agencies and local jurisdictions.
- Peabody Creek achieves properly functioning water quality and habitat conditions to the extent feasible, with the objective of providing conditions adequate for continued support of cutthroat and other salmonids (however restoration is a lower priority than other streams in WRIA 18).
- Long-term stabilization of the culverts and fill material to protect human safety and downstream habitat conditions.

Recommendations

A. Water Quality

1. Collect and treat stormwater.

B. Habitat

1. Protect and preserve critical habitat for state-listed salamander.
2. Improve fish passage as opportunities arise.
3. Remove instream fill on ONP lands.
4. LWD/riparian improvement projects.

3.10.5 White Creek (WRIA# 18-0235)

Issue: White Creek, a major tributary of Ennis Creek that enters Ennis at RM 0.3, is heavily degraded from urbanization in its lower reaches (including construction of a motel over the watercourse, which is now encased in a bottomless culvert in that area). Consequently, it is regarded as having little production potential due to the extensive

culverting and impassible culverts. Haring (1999) addresses White Creek within the discussion of Ennis Creek.

Existing Conditions and Current Actions

The heavily degraded lower reaches of White Creek, along with significant alteration of its upper watershed, combine to leave White Creek in very poor condition. The bottomless culverts in lower White Creek are accessible to salmonids, but there is little, if any, production potential in that area. In addition, the 800-foot culvert in White Creek under Highway 101 is a virtually complete barrier to salmon passage. The WDFW Fish Passage Barrier database (1999) indicates that removal and replacement of this culvert would provide access to an additional 4772 m^2 of spawning habitat and 5945 m^2 of rearing habitat. However, the channel in the upper watershed is steep and tightly confined, and the available habitat has experienced widespread degradation. This degradation is a result of extensive development in the headwaters, withdrawal of domestic water from wells immediately adjacent to the stream, runoff from an old garbage dump, and numerous locations where recreational vehicles regularly run through the channel. In addition, the cost to remove and replace the culvert would be very high.

There are no active restoration/improvement actions or programs being undertaken in the White Creek watershed.

Desired Conditions and Outcomes

- Fish habitat restoration addressed by appropriate agencies and local jurisdictions.
- White Creek achieves properly functioning water quality and habitat conditions to the extent feasible (however restoration is a lower priority than other streams in WRIA 18).

Recommendations

A. Water Quality

1. Initiate water quality sampling on White Creek in the near future.
2. Local jurisdictions should conduct a reconnaissance of White Creek to identify illegal discharge pipes. State assistance should be sought in this effort.

B. Habitat

White Creek is treated as a tributary of Ennis Creek.

3.10.6 Ennis Creek (WRIA# 18-0234)

Issue: Ennis Creek is the smallest snow-fed stream on the North Olympic Peninsula, with its headwaters located within Olympic National Park. The Limiting Factors Analysis (LFA),

(Haring, 1999), has identified water quality and/or habitat recommendations to address on this stream.

Existing Conditions and Current Actions

Ennis Creek is generally considered the healthiest of the Port Angeles urban streams, having the largest undisturbed upper watershed, the least development, the greatest diversity of existing native fish stocks, and the highest potential for restoration and salmon recovery among these urban streams. The creek is generally steep and is confined within much of its length by valley side slopes. A Klallam village site (Y'inis) was historically located at the mouth of Ennis Creek. In the late nineteenth century the first cooperative colony in Washington was constructed at the historic village site. A large pulp mill followed in the 1930s. That mill has been demolished, and the site is undergoing cleanup and restoration, in preparation for sale to a new owner and subsequent new development. The generally satisfactory condition of much of the Ennis Creek watershed has led to a focus on specific remaining issues, such as the Rayonier Mill site and various fish passage, stormwater, and water quality issues. Friends of Ennis Creek, an informal local watershed group, is actively pursuing a variety of restoration projects and educational activities. WDFW has recommended replacing the existing Highway 101 culvert on the creek with a bridge to alleviate fish passage problems. Acting as the Citizen Facilitation Group, EMMT sent a letter of support for bridge replacement. The Elwha-Morse Management Team has recommended to the NOPLE that Ennis Creek should be made a Tier 2 stream due to its high quality habitat.

In May 2000, oversight of cleanup of the Rayonier millsite, at the mouth of the creek, was delegated to the state under a three-party Deferral Agreement involving the EPA, Department of Ecology, and the Lower Elwha Klallam Tribe. This involves a cleanup process under the state Model Toxics Control Act (MTCA). The Lower Elwha Klallam Tribe has concurrence on all major cleanup decisions throughout this process because cleanup activities could affect its Treaty fisheries. The Tribe also has strong historical ties to the site. A Site Management Team (SMT) comprising Rayonier, Ecology, and the Tribe is involved in planning activities associated with the cleanup process. Interim Cleanup Actions were completed at three locations.

Desired Conditions and Outcomes

- Fish habitat restoration addressed by appropriate agencies and local jurisdictions.
- Ennis Creek achieves properly functioning water quality and habitat conditions adequate to support healthy populations of all naturally-occurring anadromous stocks.
- Existing high-quality habitat preserved in Ennis Creek.
- Rayonier Mill site restored to the level needed to support the broader Ennis Creek objectives of restored fisheries, including healthy functioning restored estuary, floodplain, and riparian zone.

Recommendations

A. Water Quality

1. Appropriate jurisdictions should conduct a reconnaissance of all WRIA 18 sub-basins to identify and eliminate illegal discharge pipes, as state assistance is available. State assistance should be sought in this effort.

2. Collect and treat stormwater from Hwy 101 and other impermeable surfaces.

3. Seek funds to monitor water quality in the vicinity of the golf course.

B. Habitat

1. Highway 101 Culvert: As a high priority, repair, improve, and maintain the Highway 101 culvert/ fishway on Ennis Creek for safe fish passage. Improve and remediate problems with flow velocity and placement of riprap causing fish mortality and impairing passage. Support the implementation of WDFW recommendation to replace the existing Highway 101 culvert on the creek with a bridge to alleviate fish passage problems.

2. Rayonier Millsite: Recognizing the potential importance of the millsite riparian and estuarine habitat, consider opportunities to restore and provide long-term protection to the Ennis Creek riparian corridor and estuary.

3. Habitat Restoration: Respecting existing property rights and working with willing property owners, seek opportunities to restore habitat and recover salmonids. Where possible and as needed, based on habitat and changing conditions, achieve the following objectives, using tools such as conservation easements, land donations, and purchases from willing sellers, as well as City or County planning, zoning and critical areas ordinances and regulations:

    a. Restore and protect natural stream banks, including natural riparian vegetation.

    b. Examine environmentally friendly methods of enhancing existing rock armoring to provide improved habitat.

    c. Restore stream meander to the extent possible.

    d. Restore estuarine conditions to the extent feasible.

    e. Eliminate fish passage barriers, redesigning or replacing culverts as needed.

    f. Restore large woody debris.

    g. Implement BMPs where vegetation management is necessary (e.g., under powerlines) to minimize effects on properly functioning conditions throughout watersheds.

    h. Eliminate stream constrictions, including bridges and dikes. Where elimination is infeasible, reduce constrictions to the extent feasible.

    i. Restore damaged riparian areas and LWD presence and function throughout the channel.

3.10.7 Lees Creek (WRIA# 18-0232)

Issue: Lees Creek is a medium-sized independent drainage to salt water, entering the Strait of Juan de Fuca just east of Port Angeles. It currently supports very low numbers of anadromous salmon, limited to a few returning coho and steelhead. The Limiting Factors Analysis (LFA), (Haring, 1999), has identified water quality and/or habitat recommendations to address on this stream.

Existing Conditions and Current Actions

Lees Creek is a "naturally closed channel" through the summer, as the mouth of the channel is isolated from the Strait of Juan de Fuca by a natural sand spit during low flow periods. Access is available to anadromous salmon only when flows and tides increase to the extent that the sand spit is overtopped. Lees Creek has been significantly altered from its historic condition. Various constrictions affecting downstream flow and fish passage are still in place, although some have been resolved in recent years. Inadequate large woody debris is a widespread problem. Stormwater flows (including those from several landfills), animal-keeping practices, water quality impacts from surface nonpoint sources, and sedimentation are ongoing issues in this watershed. No active restoration/ improvement actions or programs are known in the Lees Creek watershed.

Desired Conditions and Outcomes

- Fish habitat restoration addressed by appropriate agencies and local jurisdictions.
- Lees Creek achieves properly functioning water quality and habitat conditions to the extent feasible.

Recommendations

A. Water Quality

Evaluate flow and water quality impacts of runoff from the mill landfills, Hwy 101, and agricultural areas of concern; remediate identified problems.

B. Habitat

1. Improve passage conditions, initially at Hwy 101 and at RM 0.1 and subsequently at other locations.

2. Restore riparian presence and function, develop and implement a short-term LWD recovery strategy, and fence livestock away from the channel on agricultural areas on both the East and West forks.

3. Identify and remove/correct floodplain constrictions.