Bull Trout Passage In-Lieu of Anadromous Fish Passage

Draft Bull Trout Passage Plan
Lewis River Settlement Agreement
Section 4.10

- Specifically calls for collection facilities at four different locations
- Merwin downstream (on hold per USFWS Preliminary Determination Notice concerning Merwin In-Lieu, will revisit after 2024).
- Merwin Upstream
- Yale Downstream
- Yale Upstream
Trap Locations
Merwin Upstream
Yale Downstream
Yale Upstream
Expected Trap Encounters

**Merwin Upstream**

- Data collected annually since 1995
- Fish capture methods have consisted of tangle nets, purse seines, and angling.

**Bull trout captured in the Yale tailrace of Merwin Reservoir**

- **No. bull trout captured**
- **No. of sampling events**

![Bar chart showing the number of bull trout captured and the number of sampling events from 1995 to 2017.](chart.png)
Yale Downstream

- No juvenile bull trout migration data available for Yale bull trout subpopulation.
- Swift juvenile bull trout migration (Floating Surface Collector) used as a surrogate.
- Data suggests Swift populations likely 4-5 times larger than Cougar.
Yale Upstream

- Data collected 2007-2016.
- Collection methods included tangle nets and angling.
<table>
<thead>
<tr>
<th>Activity</th>
<th>Date Range</th>
<th>Total Fish Collected over Period</th>
<th>Average # of Collection Events per Year</th>
<th>Range # of Fish Collected per Year</th>
<th>Average # of Fish Collected per Year</th>
<th>Total Capture Mortalities</th>
<th>Total Hatchery Held Mortalities</th>
<th>Cumulative Total Mortalities</th>
<th>Average Mortalities per Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yale Tailrace Netting (Adults) (Merwin Res.)</td>
<td>1995-2018</td>
<td>162</td>
<td>5</td>
<td>0-19</td>
<td>7</td>
<td>4</td>
<td>9</td>
<td>13</td>
<td>0.5</td>
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<tr>
<td>Swift No. 2 Tailrace/Swift Bypass Reach Netting (Adults) (Yale Res.)</td>
<td>2007-2016</td>
<td>232</td>
<td>7</td>
<td>5-32</td>
<td>23</td>
<td>1</td>
<td>3</td>
<td>4</td>
<td>0.4</td>
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<tr>
<td>Swift Floating Surface Collector (Juveniles) (Swift Res.)</td>
<td>2013-2018</td>
<td>36</td>
<td>n/a</td>
<td>2-16</td>
<td>6</td>
<td>2</td>
<td>n/a</td>
<td>2</td>
<td>0.3</td>
</tr>
</tbody>
</table>
Upstream Trapping Protocols

- Both Yale Tailrace and Swift Bypass Reach facilities operated seasonally, May-October
- Traps operated 24/7 during seasonal timeframe
- Each location checked once daily
- After PIT tag and bio data, captured bull trout transported into next upstream reservoir
Downstream Trapping Protocols

- Yale forebay trap operated seasonally, March-June.
- Trap operated 24/7 during seasonal timeframe.
- When in operation, checked once daily.
- After tag and bio data, maiden tagged juveniles released back into Yale Res. at Yale Park. If recaptured, then taken downstream to Woodland Release Ponds and released to North Fork Lewis.
- As there will be no downstream trap concurrently in operation in Merwin for the first couple of years, we wouldn’t want to release Yale forebay captures downstream into Merwin Res.