Fisheries

Andrew Ollenburg

Cushman Fish Facilities Manager
## Production Goals

<table>
<thead>
<tr>
<th>Species</th>
<th>Life stage at release</th>
<th>Subtotal</th>
<th>Total</th>
<th>Potential Adult Returns</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sockeye</td>
<td>Fed Fry (May)</td>
<td>200,000</td>
<td>2,000,000</td>
<td>22,200</td>
</tr>
<tr>
<td></td>
<td>Fed Fry (June)</td>
<td>1,000,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fed Fry (Sept)</td>
<td>800,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spring Chinook</td>
<td>Fingerling</td>
<td>300,000</td>
<td>375,000</td>
<td>1,388</td>
</tr>
<tr>
<td></td>
<td>Yearling</td>
<td>75,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Winter Steelhead</td>
<td>Smolts</td>
<td>15,000</td>
<td>15,225</td>
<td>675</td>
</tr>
<tr>
<td></td>
<td>Adults</td>
<td>225</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coho</td>
<td>Smolts</td>
<td>10,000 - 35,000</td>
<td>500 - 1,750</td>
<td></td>
</tr>
</tbody>
</table>
Starting Reintroduction...

• Outside egg sources must be used for Chinook and sockeye:
  – WDFW - Marblemount Hatchery
  – Puget Sound Energy - Baker Lake Hatchery
• All eggs tested and are pathogen/disease-free
• Seed stock from which our programs will grow
Timelines...

**Happening Now**
- Reintroduction program releases
- Agreements reached with partners
- Continued partnerships to work toward success
- Spring Chinook spawning in the North Fork!!!

**2-5 Years From Now**
- Little-to-no reliance on WDFW for Chinook eggs
- Less and less reliance on PSE for sockeye eggs

**5-25+ Years From Now**
- No reliance on WDFW or PSE for eyed eggs
- Naturally spawning fish will significantly augment hatchery production
- Utilization of returning adults may start to occur
# Fish Releases from Cushman

<table>
<thead>
<tr>
<th></th>
<th>Spring Chinook</th>
<th>Coho</th>
<th>Steelhead</th>
<th>Sockeye</th>
</tr>
</thead>
<tbody>
<tr>
<td>BY14</td>
<td>131,028</td>
<td>BY13</td>
<td>BY16 8,543</td>
<td>BY16 241,943</td>
</tr>
<tr>
<td>BY15</td>
<td>339,632</td>
<td>BY14</td>
<td>BY17 6,351</td>
<td>BY17 484,035</td>
</tr>
<tr>
<td>BY16</td>
<td>375,728</td>
<td>BY15</td>
<td>BY18 9,602</td>
<td>BY18 397,584</td>
</tr>
<tr>
<td>BY17</td>
<td>398,434</td>
<td>BY16</td>
<td>9,972</td>
<td></td>
</tr>
<tr>
<td>BY18</td>
<td>436,161</td>
<td>BY17</td>
<td>11,888</td>
<td></td>
</tr>
<tr>
<td><strong>TOTALS</strong></td>
<td><strong>1,680,983</strong></td>
<td><strong>37,729</strong></td>
<td><strong>24,496</strong></td>
<td><strong>1,123,562</strong></td>
</tr>
</tbody>
</table>

BY = Brood Year
Adult Spring Chinook

0 returning adults 2014-2017
  0 eggs from NF fish  400,000 eggs from WDFW

113 returning adults captured in 2018
  112,000 eggs from NF fish  380,000 eggs from WDFW

156 returning adults captured in 2019
  302,000 eggs from NF fish  200,000 eggs from WDFW
Spring Chinook Production

![Bar chart showing production of eggs from North Fork and WDFW from 2017 to 2019.]

- 2017: 0 eggs
- 2018: 113 eggs (Eggs from North Fork: 75, Eggs from WDFW: 38)
- 2019: 156 eggs (Eggs from North Fork: 75, Eggs from WDFW: 81)
Sockeye Production

Eggs from WDFW

Program Goal

Interim Goal

Eggs from WDFW

2016
2017
2018
Teamwork is the key!!

We cannot be successful without help and cooperation

• WDFW supplies eyed eggs for Chinook, fisheries co-manager

• PSE supplies eyed eggs for sockeye

• Skokomish Tribe coordinates and is a fisheries co-manager

• Upper Skagit Tribe coordinates and is a fisheries co-manager

• Sport fishing clubs and organizations support reintroduction efforts

• Work through new challenges that arise and adapt when needed
Questions?

Thank You!