Conservation and Consumption: Nez Perce Tribe Duty and Obligation

“Our fate and the fate of the fish are linked.”

Dan Landeen and Allen Pinkham, Salmon and His People
“Fish provide us with both physical and spiritual sustenance. Other cultures seem unable to recognize how those two concepts go hand in hand. Instead, they see them as separate, traditional beliefs on one side, science on the other. For Indian people those concepts have never been separate.”

—Jamie Pinkham

Restoration and caring for fish is considered a tribal cultural ethic that has prehistoric ties.
“...the right of taking fish at all usual and accustomed places, in common with the citizens of the Territory, and of erecting temporary buildings for curing them: together with the privilege of hunting, gathering roots and berries....”

—1855 Treaty
Responsibility

Conservation

Abundance

Productivity

Distribution

Diversity

Consumption

Treaty Harvest

Sustainability

All Areas

Traditional Gear
Reality #1
Different entities have different goals/priorities

"HOW CAN I MAKE IT?"
"HOW CAN I BREAK IT?"

DIVISIVE POSITIONS BETWEEN PRO-SALMON ENTITIES CONFUSES GENERAL PUBLIC
Nez Perce Tribe Goals

1) Abundant and healthy salmon populations
2) Robust harvest opportunities throughout U&A area
3) Full ecosystem function

Table 4. Designated stronghold populations, viable abundance thresholds, sustainable escapement objectives, and ecological escapement objectives for populations of spring/summer Chinook in the Snake River Basin.

<table>
<thead>
<tr>
<th>Subbasin</th>
<th>Population</th>
<th>Designated Stronghold</th>
<th>Viable Abundance Threshold</th>
<th>Sustainable Escapement Objective</th>
<th>Ecological Escapement Objective</th>
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<tbody>
<tr>
<td>Lower Snake R.</td>
<td>Tucannon River</td>
<td>X</td>
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<td>Asotin River</td>
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<td>Catherine Creek</td>
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<tr>
<td></td>
<td>Upper Grande Ronde River</td>
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<td>15,000</td>
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<td></td>
<td>Big Creek</td>
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<td></td>
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<td>Sulphur Creek</td>
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<td></td>
<td>Bear Valley</td>
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<td>750</td>
<td>5,700</td>
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</tbody>
</table>

www.nptfisheries.org
Reality #2

Pacific Northwest aquatic ecosystems have been intentionally and unintentionally altered by humans.
Mitigate = 1) To make an offense or crime less serious or more excusable; and 2) To make something less harsh, severe or violent.

Common misconception:

We have low productivity because we have hatcheries....

We have hatcheries because of low productivity
Congressionally mandated mitigation obligations associated with the FCRPS are substantial and are not supplanted by the need to comply with the Endangered Species Act.
Salmon and steelhead production (in thousands) above Bonneville Dam by funding authorization.
Reality #4
Hatchery program implementation has associated benefits and risks

- Increased harvest
- Reduced productivity
+ Reestablished populations
- Altered life history expression
+ Expanded distribution
- Reduced genetic fitness

“Necessity is the mother of "taking chances"” Mark Twain 1835-1910
Reality #5
Fisheries management requires balancing many perspectives
Managing Reality Action #1: Maintain some hatchery-free populations

Snake River Spring/Summer Chinook Salmon

1 - ESU

Lower Snake
Grande Ronde/Imnaha
South Fork Salmon
Middle Fork Salmon
Upper Salmon

5 - MPG

31 - populations
Managing Reality Action #1:
Maintain some hatchery-free populations
Snake River Spring/Summer Chinook Salmon

1 - ESU

5 - MPG

31 - populations

- = LSRCP and FWP
- = LSRCP
- = IPC
- = No Hatchery

39% with hatchery program
61% without hatchery program
Managing Reality Action #1: 
**Maintain some hatchery-free populations**

Snake River Spring/Summer Chinook Salmon

1 - ESU

11 of 31 (35%) populations occupy wilderness (pristine) habitat and have no hatchery programs
Managing Reality Action #1: Maintain some hatchery-free populations

Snake River Steelhead

1 - ESU

5 - MPG

25 - populations

- = LSRCP and FWP
- = LSRCP
- = IPC
- = No Hatchery

44% with hatchery program
56% without hatchery program
Managing Reality Action #2: Abundance-based hatchery origin gene flow

Broodstock Management Sliding Scale

Escapement to River

50

• No broodstock taken
• Initiate captive broodstock program

Demographics Important
• No constraints on % hatchery in nature or % natural in broodstock.
• Keep up to 50% natural fish for broodstock.

Genetic Conservation Important
• Limit % hatchery above weir to 50%
• Ensure minimum of 30% natural origin in broodstock
• Minimize of 30% natural taken for broodstock

500

500

1000

Strict limits
• Less than 10% hatchery above weir
• 100% natural origin in broodstock
• Less than 25% natural taken for broodstock
Managing Reality Action #2: Abundance-based hatchery origin gene flow

Broodstock Management Sliding Scale

- Minimum Natural Escapement
- Maximum Hatchery Passed Upstream

Graph showing the relationship between Minimum Natural Escapement and Maximum Hatchery Passed Upstream. The graph includes categories such as >0.05 Critical, 0.05-0.5 Critical, 0.5 Critical, 0.5 Viable, Viable, 1.5 Viable, 2 Viable, >2 Viable, with data points indicating the sliding scale for Abundance-based hatchery origin gene flow.

Interior Columbia Technical Recovery Team Abundance Threshold
Managing Reality Action #2: Abundance-based hatchery origin gene flow

Adult Hatchery-origin Fish Disposition

Lostine River Chinook Salmon 2009 - 2013

Pie chart showing:
- Average Conservation Use:
  - Spawners 64%
  - Brood Stock 12%
  - Out-Plants 3%
- Average Consumption Use:
  - Food Distribution 12%
  - Harvest 8%
Managing Reality Action #3: Abundance-based harvest rates

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Natural origin Escapement to River Mouth</strong></td>
<td><strong>Nez Perce Natural Origin Harvest Rate</strong></td>
<td><strong>State Natural Origin Harvest Rate</strong></td>
<td><strong>Expected Average % Natural Origin Harvest Allocated to Nez Perce Treaty Fisheries</strong></td>
<td><strong>Total Harvest Rate on Natural Origin Spring Chinook</strong></td>
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<tr>
<td>&lt;300</td>
<td>1%</td>
<td>0%</td>
<td>100%</td>
<td>1%</td>
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<tr>
<td>301-1,000</td>
<td>8%</td>
<td>3%</td>
<td>76%</td>
<td>11% “on Margin”</td>
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<td>1,001-1,500</td>
<td>16%</td>
<td>6%</td>
<td>75%</td>
<td>22% “on Margin”</td>
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<td>1,501-2,000</td>
<td>19%</td>
<td>6%</td>
<td>75%</td>
<td>25% “on Margin”</td>
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<tr>
<td>&gt;2,000</td>
<td>28%</td>
<td>12%</td>
<td>73%</td>
<td>40% “on Margin”</td>
</tr>
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</table>

Wild Run Size:
- Critical
- Critical to MAT
- MAT to 1.5 MAT
- 1.5 MAT to 2X MAT
- > 2X MAT

Wild Take:
- State Wild Take
- Treaty Wild Take
Reality Check #1
Natural-origin Abundance With and Without Hatchery Programs

Population Abundance Relative to Minimum Abundance Threshold (10 year geometric mean ~ 2002-2011)

Abundance and Productivity rated as Moderate to High risk for all populations.
Reality Check #2
Harvest Opportunity with and without Supplementation

![Graph showing Imnaha River Adult Abundance from 1945 to 2015. The x-axis represents the year, and the y-axis represents abundance. The graph shows fluctuating abundance levels over time.](image-url)
Reality Check #2
Harvest Opportunity with and without Supplementation

Imnaha River Adult Abundance

- Observed Total Abundance
- Observed Natural Abundance
Reality Check #2
Harvest Opportunity with and without Supplementation

Imnaha River Adult Abundance

- Observed Total Abundance
- Observed Natural Abundance
- Predicted Natural Abundance
Reality Check #2
Harvest Opportunity with and without Supplementation

Potential Tribal Adult Harvest Opportunity

- Median Reference Stream

- Units: Thousands

- Time Period: 1990 to 2010
Reality Check #2
Harvest Opportunity with and without Supplementation

Potential Tribal Adult Harvest Opportunity

- Imnaha Unsupplemented
- Median Reference Stream
Contemporary ecosystem conditions are such that treaty-right harvest is not sustainable without hatchery programs.
Reason for Optimism
Snake River fall Chinook

Robust natural production can co-exist with integrated hatchery program
“Our fate and the fate of the fish are linked.”