"All wildlife, including fish, within the state of Idaho, shall be preserved, protected, perpetuated, and managed. Captured or taken as will preserve, protect, and perpetuate such wildlife, and provide continued supplies for fishing."
Managing Realities

Reality 1: Where we fish and what we catch has changed.
~1940-1966: All waters open to steelhead harvest the entire year.

1940-1966: Annual harvest up to 31,000 fish. Harvest is 100% wild origin.

1973: Last record of harvest in the Lochsa, Selway, South Fork Salmon River and Middle Fork Salmon River drainages.

1974: Only 3,000 fish harvested.

1975: No harvest allowed.

1986: Harvest in Clearwater and Salmon drainages restricted to only adipose-clipped fish; extended to Snake River in 1987.

2007–2014: Annual harvest of 64,700 steelhead: range = 36,000 to 120,000 fish.
MANAGING REALITIES

Reality 1: Where we fish and what we catch has changed.

Reality 2: Human impacts on the fishery resources have been large.
MANAGING REALITIES

Reality 1: Where we fish and what we catch has changed.

Reality 2: Human impacts on the fishery resources have been large.

1901 Swan Falls Dam, Snake River

1908 Barber Dam, Boise River
Snake River Basin habitat accessible to anadromous fishes

Chinook salmon intrinsic potential habitat (ICTRT)

Today vs. 1900: Not Accessible
Reality 1: Where we fish and what we catch has changed.
Reality 2: Human impacts on the fishery resources have been large.
Reality 3: Extensive resources were lost without any mitigation.
MANAGING REALITIES

Reality 1: Where we fish and what we catch has changed.
Reality 2: Human impacts on the fishery resources have been large.
Reality 3: Extensive resources were lost without any mitigation.
Reality 4: We accepted hatcheries as mitigation/compensation for dam impacts.
Mitigate for Brownlee, Oxbow, Hells Canyon dams

- 4 million spring chinook smolts
- 400,000 pounds steelhead smolts
- 1 million fall chinook smolts

Hells Canyon Settlement Agreement

**Mitigation**

- 55,100 adult steelhead
- 58,700 adult spring/summer chinook salmon
- 18,300 fall chinook salmon
MANAGING REALITIES

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Reality 5: Hatcheries become part of the landscape.
    Hatcheries cannot provide complete in-place mitigation.
    Hatchery and wild fish will interact.
Management Framework Salmon River

- **No hatchery steelhead releases in:**
  - South Fork Salmon River
  - Middle Fork Salmon River
  - North Fork Salmon River
  - Mainstem Salmon downstream of the North Fork

- **Hatchery steelhead releases confined to Little Salmon R. and Upper Salmon R.**

- **No hatchery Chinook releases in:**
  - Secesh River
  - Middle Fork Salmon River
  - North Fork Salmon River
  - Lemhi River

- **Hatchery Chinook releases confined to five areas.**
Chinook Salmon Spawner Surveys

- 2003 – 2013
- 60,900 Hatchery Chinook returned to Pahsimeroi and Sawtooth traps + 7,500 harvested in sport fisheries
- 3,802 Chinook carcasses recovered in Middle Fork Salmon River spawning surveys
  - 3,678 natural origin (96.7%)
  - 102 unknown origin
  - 22 hatchery origin (0.6%)
Steelhead Returns

- 2000 – 2014

- 419,500 Hatchery steelhead returned upstream of the Middle Fork Salmon River (minimum)
  - 149,900 Hatchery steelhead returned to Pahsimeroi and Sawtooth traps
  - 269,600 Hatchery steelhead harvested in sport fishery
From: Ackerman et al. 2012

<table>
<thead>
<tr>
<th>Natural Population</th>
<th>Reporting Group</th>
<th>Avg. Pairwise Fst</th>
<th>Sawtooth</th>
<th>Pahsimeroi</th>
<th>Oxbow</th>
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<tbody>
<tr>
<td>1. Sawtooth Weir</td>
<td>Upper Salmon River</td>
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<td>2. Valley Cr</td>
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<td>3. WF Yankee F Salmon</td>
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<tr>
<td>4. Morgan Cr</td>
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<td>5. Pahsimeroi Weir</td>
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<td>6. Hayden Cr</td>
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<td>7. NF Salmon R</td>
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<td>8. Marsh Cr</td>
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<td>9. Sulphur Cr</td>
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<td>10. Rapid R (MF)</td>
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<td>11. Pistol Cr</td>
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<td>12. Canais Cr</td>
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<td>13. Loon Cr</td>
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<td>14. Big Cr (upper)</td>
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<td>15. Big Cr (lower)</td>
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<td>22. Boulder Cr</td>
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<td>24. Slate Cr</td>
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<td>25. Whitebird Cr</td>
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Reality 5: Hatcheries become part of the landscape.
   Hatchery and wild fish will interact.
   Hatcheries cannot provide complete in-place mitigation.
Reality 6: Hatcheries have included population-specific conservation roles.
South Fork Salmon River Population

Management Objective
- Average PNI of 0.67

Pahsimeroi River Population

Management Objective
- Average PNI of 0.8

Upper Salmon River Population

Management Objective
- Manage for an average PNI of 0.67

Common Objectives
- Maintain a minimum escapement of 300 fish upstream of the weir
- Bring integrated hatchery fish into the segregated broodstock.

Weir control < 50%

Weir control 100%

Weir control 95+%
<table>
<thead>
<tr>
<th>NOR Return to Weir</th>
<th>NORs Released Above Weir</th>
<th># of NORs Held for Brood</th>
<th># of Int HORs Rel Above Weir</th>
<th>Max % of NORs Retained for Brood</th>
<th>Fish In Habitat</th>
<th>Additional Fish in Habitat</th>
<th>% of NORs Retained</th>
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Min Escapement Above Weir (H+N) 0.3%
Integrated HOR SAR 0.3%

1 million smolt production capacity
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</table>

Min Escapement Above Weir (H+N) 300
Integrated HOR SAR 0.3%
# of Int HOR Returns 195

Pahsimeroi Summer Chinook
1 million smolt production capacity
SUMMARY: MANAGING THE REALITIES

- Fishing is different
  - Wild fish → Mitigation hatcheries
- Management is active, not passive
  - Integrated Programs
  - Segregated (Mitigation) Programs
  - Wild/Natural Areas
- Management has been effective, but not perfect
  - There are wild fish in wild areas
  - Hatcheries support fisheries
- New information tools to inform management
  - PIT arrays, PBT, GSI