YN Perspective on Salmonid Management in the Mid-Columbia

Prepared for
USFWS Review Team
14 April 2006
YN Fisheries Management Priorities

- **Gravel-to-Gravel Approach**
  - Prioritizes natural fish in the natural habitats
  - Adaptive management framework.
  - Focus on the tributary, mainstem, estuary, and ocean ecosystems and habitats where anadromous salmonids live
Harvest Management

- Columbia River treaty tribes discontinued commercial fishing for summer chinook (1964 – 2003) and for spring chinook (1977-1999)
- Ceremonial and subsistence fishing was reduced
- During this time period John Day, Wells and Snake River dams were constructed, further reducing the numbers available for harvest
Role of Hatchery Facilities in the Mid-Columbia

- Mitigation Facilities
- Supplementation
- Restoration
Mitigation Facilities

- USFWS Hatchery Facilities
  - Mitigation for lost wild fish and lost fishing opportunity
- Supports highest priority tribal fisheries
Supplementation of Naturally Producing Populations

- Hatchery supplementation of natural production in the Mid-Columbia
  - Increased mortality schedule
  - Need for continued artificial production
  - Emphasis on abundance and productivity vs. genetic diversity and spatial structure
Restoration of Extirpated Populations

► Important role in the restoration of extirpated species

► Example: Coho Restoration Program
  - Development of a local broodstock
  - Naturalization of hatchery fish

[Graph showing McNary Coho SAR from 1985 to 2003]
Overview of Coho Reintroduction in Mid-Columbia Tributaries
Long-Term Vision

To re-establish naturally spawning coho populations at biologically sustainable levels which provide significant harvest in most years.
Feasibility Study Goals

► Determine whether a broodstock can be developed from lower Columbia River stocks
► Initiate natural production
Acclimated Releases

►► Wenatchee River
  ▪ Icicle Creek
    ► Primary broodstock development site
  ▪ Nason and Beaver Creeks
    ► Species interaction
    ► Natural production

►► Methow River
  ▪ Winthrop NFH
    ► Broodstock development
  ▪ Wells FH (2006)
    ► Broodstock development
Leavenworth NFH
Small Foster Lucas Pond
Broodstock Collection and Spawning

Broodstock Collection
- Wenatchee
  - Dryden Dam
  - Tumwater Dam
  - Dam 5 (LNFH)
- Methow
  - Wells Dam
  - Winthrop NFH

Spawning
- Wenatchee: Entiat NFH
- Methow: Winthrop NFH
ENFH Spawning
Incubation and Rearing

► Incubation
  ▪ Wenatchee
    ▶ Peshastin Incubation Facility
    ▶ Entiat NFH
  ▪ Methow
    ▶ WNFH

► Rearing
  ▪ Winthrop NFH (250K)
  ▪ Cascade FH (700K)
  ▪ Willard NFH (500K)
Facilities Overview
Summary of Results To-Date

Feasibility Phase
The Development of a Local Broodstock

1999: LCR
2000: LCR
2001: LCR
2002: MCR
   1st Generation
2003: MCR
   1st Generation
2004: LCR & MCR
2005: MCR
   2nd Generation
2006: MCR
   2nd Generation
2007 MCR
   1st & 2nd Generation
### Natural Production

#### Wenatchee River Redd Counts

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<th>2000</th>
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<th>2002</th>
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Wenatchee Coho Natural Production

Smolt Production

Egg-to-Smolt Survival

Brood Year / Migration Year

Population Estimate
Egg-to-Smolt Survival
Species Interactions

- Predation
- Redd superimposition
- Residualism
- Competition
Where do we go from here?

- Coho Master Plan
  - Submitted January 2006
- 2007-2009 Solicitation
- ISRP Review
Master Plan for Coho Restoration

- Phased approach
- Natural Production Phases
  - Local adaptation is emphasized
  - Loss of fitness is address through AHA
Master Plan for Coho Restoration

- Habitat Improvement
- M&E Plan
  - Project performance indicators
  - Adaptability to local conditions
  - NTTOC monitoring
- Timeline through 2026
Proposed Master Plan

- Designed to meet tribal restoration goals
- Minimize impacts to species and to the environment
- Meet legal and policy mandates
- Meet NPCC principles, objectives and strategies
  
  "experimental adaptive management approach that includes an aggressive program to evaluate the risks and benefits and addresses scientific uncertainties." (NPCC 2000)

- Help achieve the visions of the Wenatchee and Methow Subbasin Plans.
  
  "the goal for coho salmon includes re-establishment of run sizes that provide for species recovery"