Hatchery Reform

Minimizing Adverse Effects

NOAA Fisheries
Northwest Region
Salmon Management Division
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Columbia River Basin

- 80 hatchery facilities in Columbia basin
- 178 hatchery programs in Columbia basin
- 48 along the Oregon coast; 7 in the Willamette
- Annual hatchery production of around 144 million juvenile salmon and steelhead

Prepared by Parametix, Inc. January 19, 2010 (DEIS_Figure_1-3_20100119.mxd).

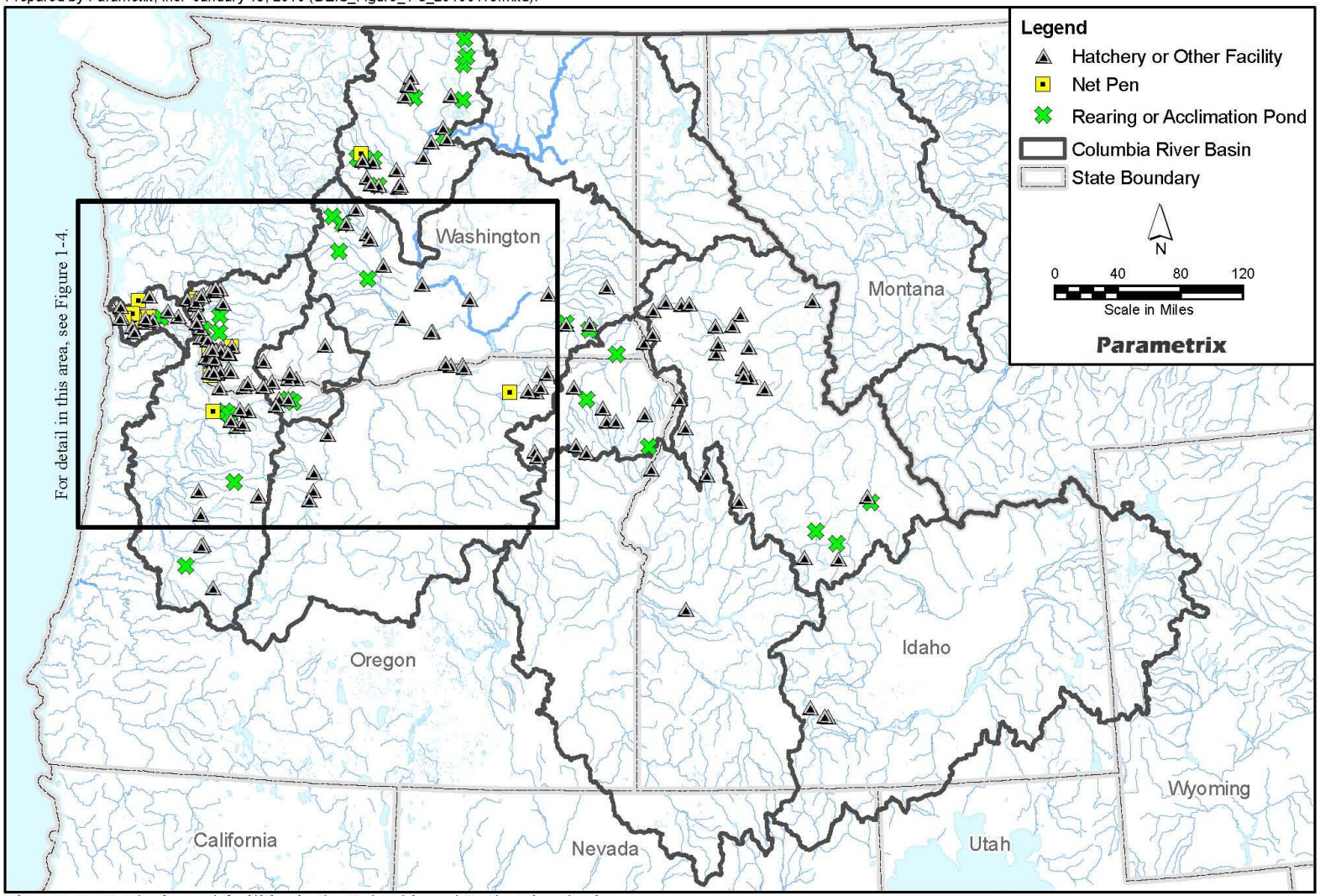
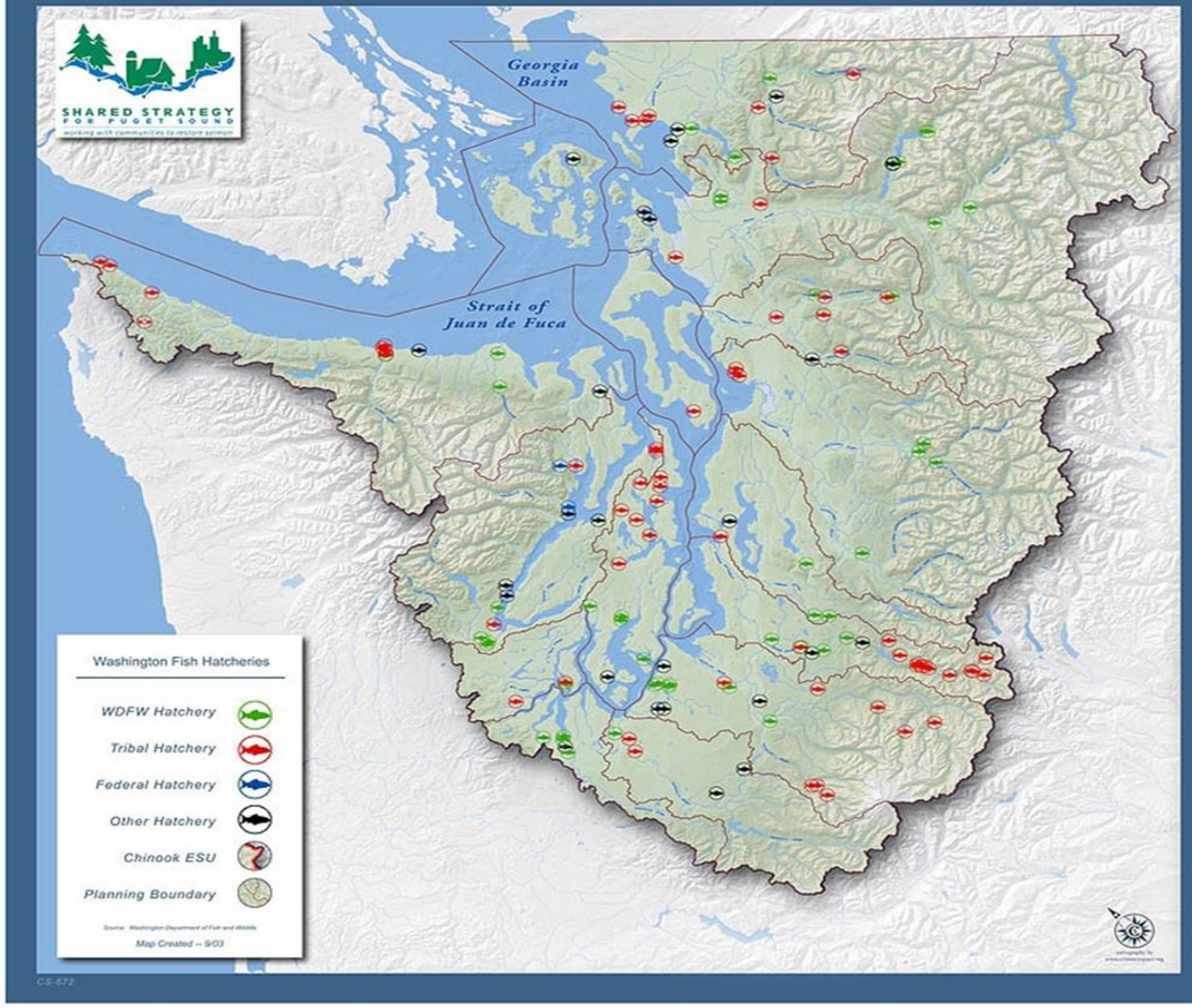


Figure 1-3. Hatcheries and facilities in the Columbia and Snake River basins.

Puget Sound

- 50 hatcheries and 11 net pens in Puget Sound
- 144 hatchery programs in Puget Sound.
- Annual hatchery production of around 144 million juvenile salmon and steelhead

Hatchery Locations
in the Shared Strategy Planning Area



NOAA
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
U.S. DEPARTMENT OF COMMERCE

Klamath-Trinity/Central Valley

- Two hatcheries in Klamath/Trinity
  - Seven hatchery programs in K/T
    - 9 million chinook released
- Six hatcheries in the Central Valley
  - Twelve hatchery programs in CV
    - 32 million chinook released
- 50 million salmon and steelhead released in California

Hatchery Reform under the HSRG:

- Broodstock Management
- Minimize Ecological Interactions
- Environmental Compliance

Hatchery Reform under the ESA:

NMFS 2011, after summarizing the science:
"**Hatchery fish thus pose a threat . . .**"

- "Risk is outweighed" when population size critically small.
- "Extent and duration of genetic change" is uncertain.
- "Hatchery intervention is a legitimate and useful tool," but minimize adverse effects.
- Transition from current practices to those "consistent with recovery, implementation of treaty rights and in harmony with other applicable laws and policies."

Hatchery Reform under the ESA:

"If you produce them,
you own their effects."

- Identify the effects
- Minimize
- Create "transition strategy" from *status quo*
- Spell it out in an HGMP

Hatchery Genetic Management Plan

The "Spell it out" Document

- Purpose: Conservation or Harvest.
- Performance objectives and measures.
- Account for genetic and ecological effects on natural populations, particularly from straying.
- Tight criteria for collection of natural broodstock.
- Effects of subsequent harvest, good and bad.
- Monitor and evaluate the program, including the disposition of all adults.

NEPA Madness

- Federal Actions, including most ESA hatchery determinations, must comply with the NEPA.
  - Columbia River Hatchery EIS – Final EIS, Spring 2013
  - Puget Sound Hatchery EIS – Draft EIS, Spring 2013

The NEPA Pivot

in the Northwest:

- Prior to 2011, Columbia R. Hatchery EIS (Mitchell Act) and Puget Sound EIS were to *PRECEDE* ESA determinations.
- Beginning in 2011: First in – First out; EAs to be followed by big EIS.

ESA Hatchery Consultations/Reform in the Northwest Region