Endangered Species Act 12-month finding for Lake Sammamish Kokanee

February 8, 2012
Kokanee Work Group Meeting

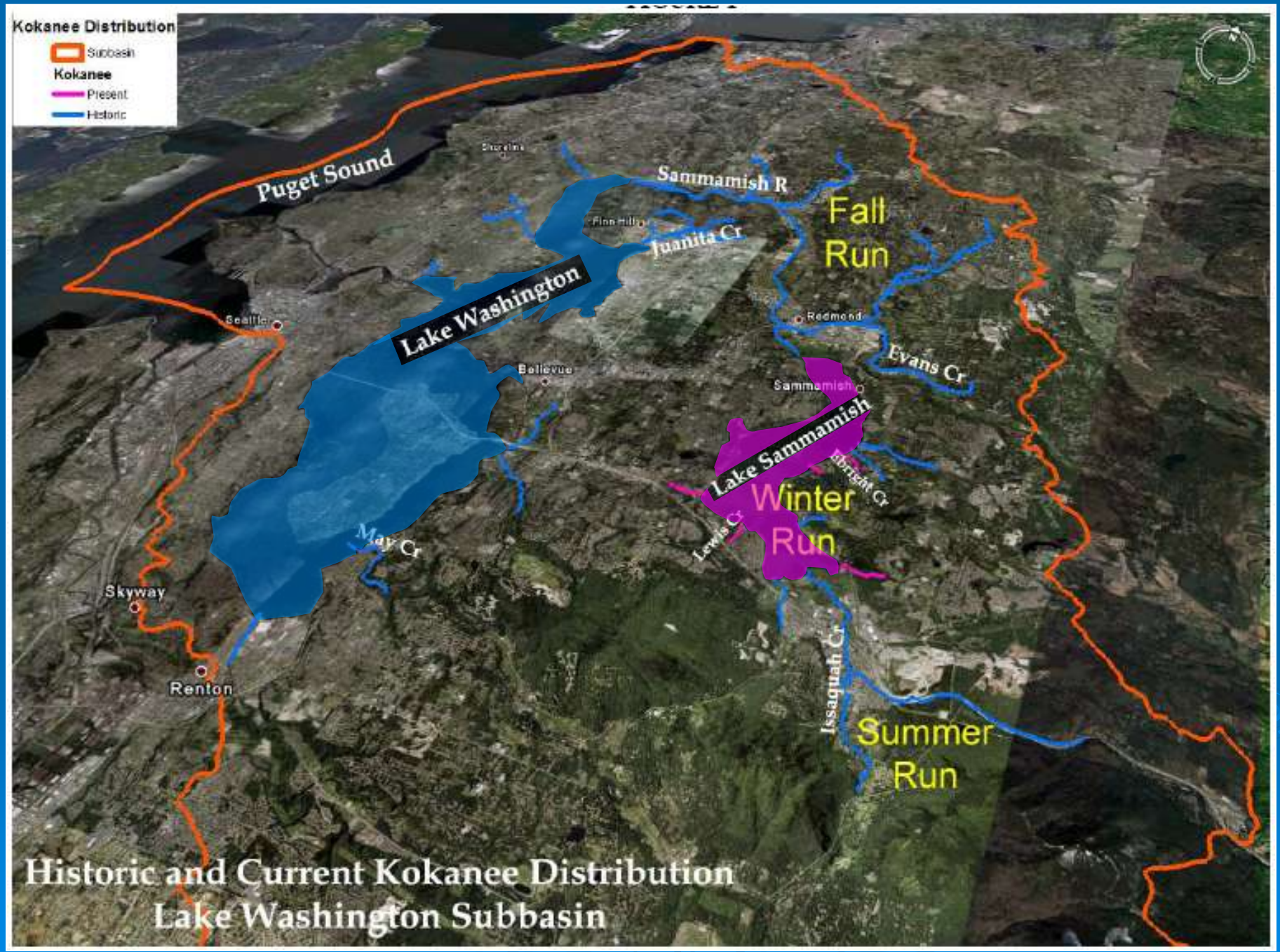
U.S. FISH & WILDLIFE SERVICE
DEPARTMENT OF THE INTERIOR

Outline

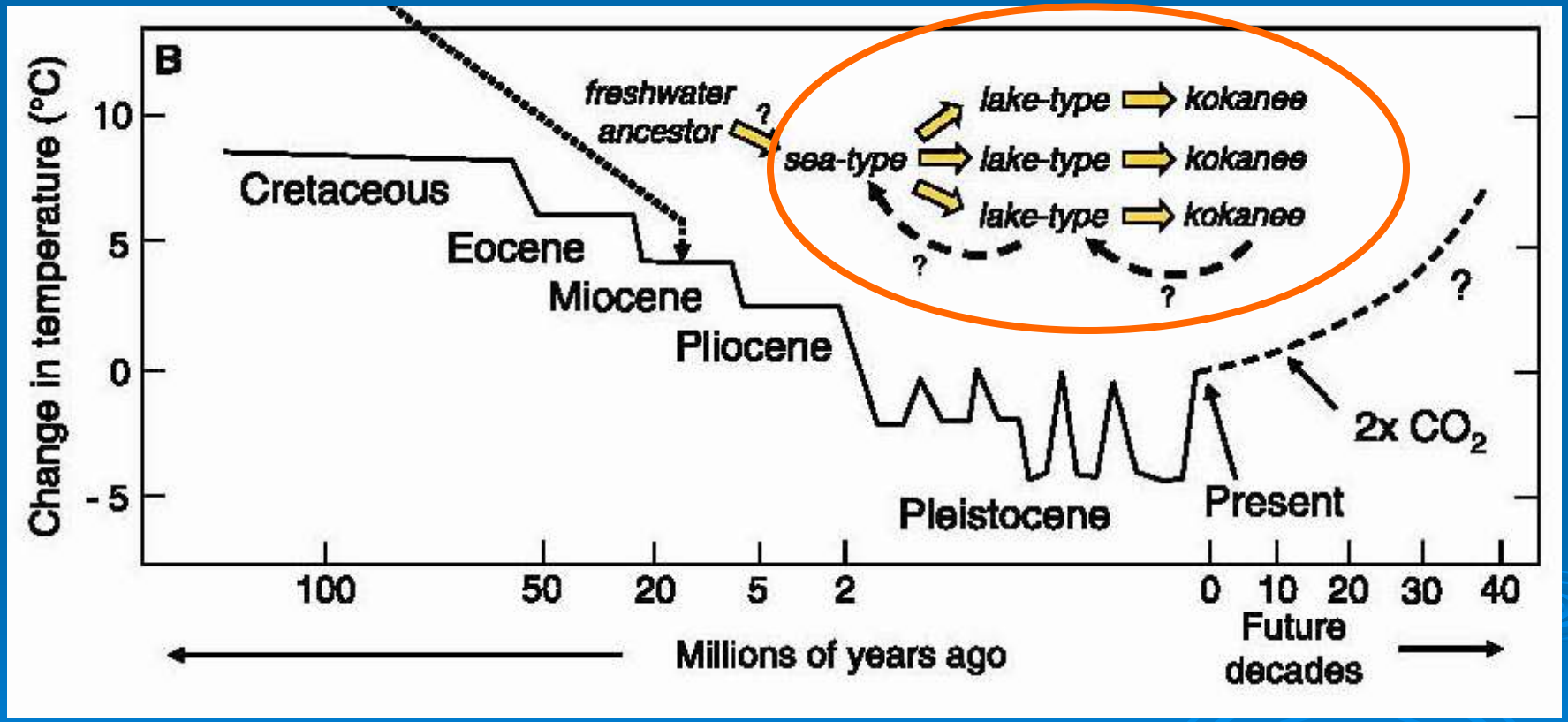
- Background on ESA listing petition for Lake Sammamish kokanee
- Review of *O. nerka* evolutionary development and distribution
- Delineating units for conservation, joint jurisdiction, Distinct Population Segment (DPS) criteria under ESA

Petition Background

- Petitioned to list Lake Sammamish kokanee in July 9, 2007
  - Trout Unlimited
  - City of Issaquah, WA
  - King County, WA
  - People for Puget Sound
  - Save Lake Sammamish
  - Snoqualmie Tribe
  - Wild Fish Conservancy
- Positive 90-day finding - May 6, 2008
- Not Warranted 12-month finding - October 4, 2011

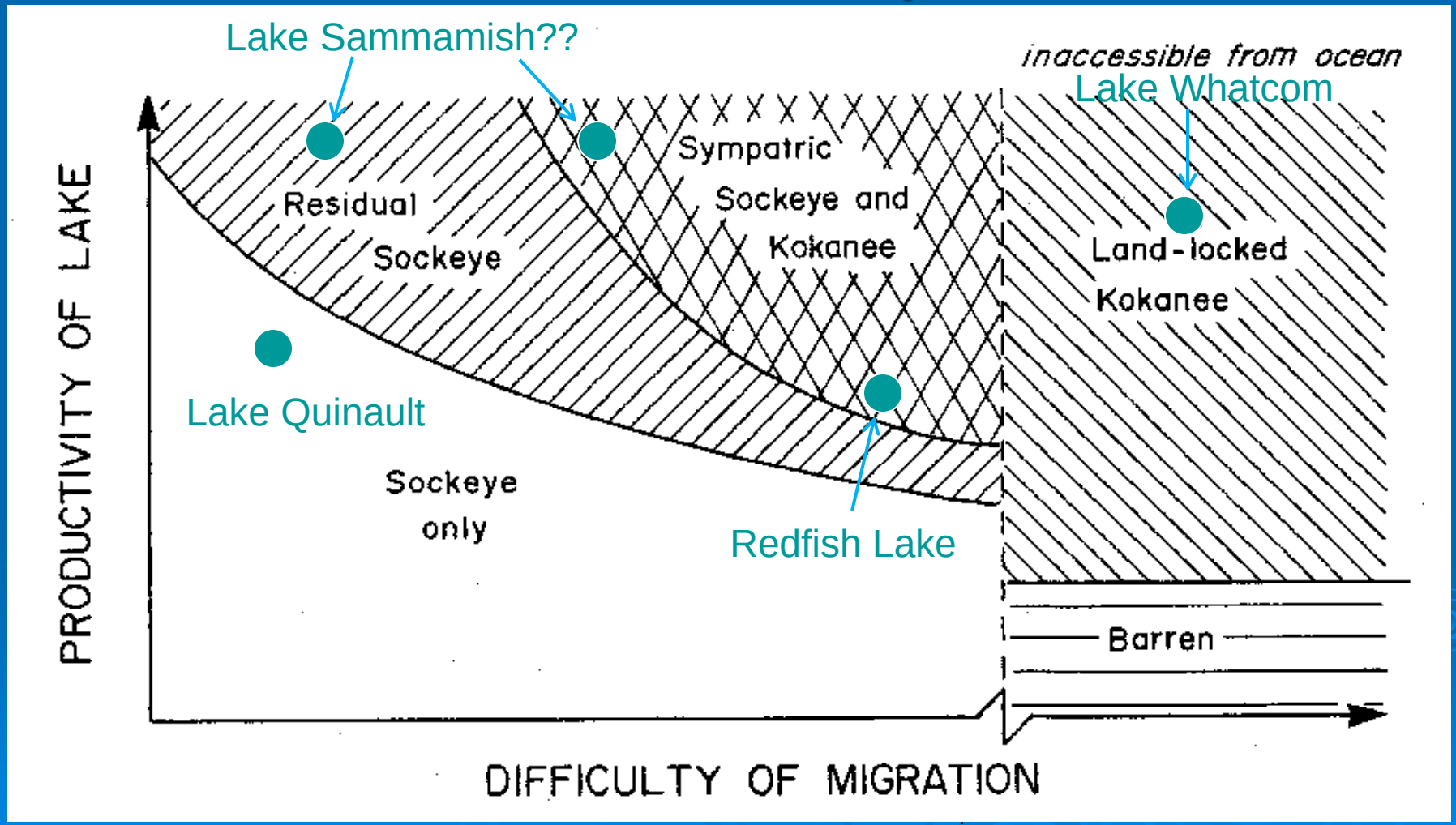

Kokanee Distribution
Subbasin
Kokanee
Present
Historic
Puget Sound
Shoreline
Sammamish R
Fall Run
Juanita Cr
Lake Washington
Seattle
Redmond
Evans Cr
Bellevue
Sammamish
Lake Sammamish
Winter Run
Lewis Cr
May Cr
Skyway
Renton
Issaquah Cr
Summer Run
Historic and Current Kokanee Distribution
Lake Washington Subbasin

Evolutionary Perspective of *O. nerka*



Wood et al. 2008

Factors Influencing *O. nerka* Relationships



Wood 1995

Rangewide Distribution of *O. nerka*

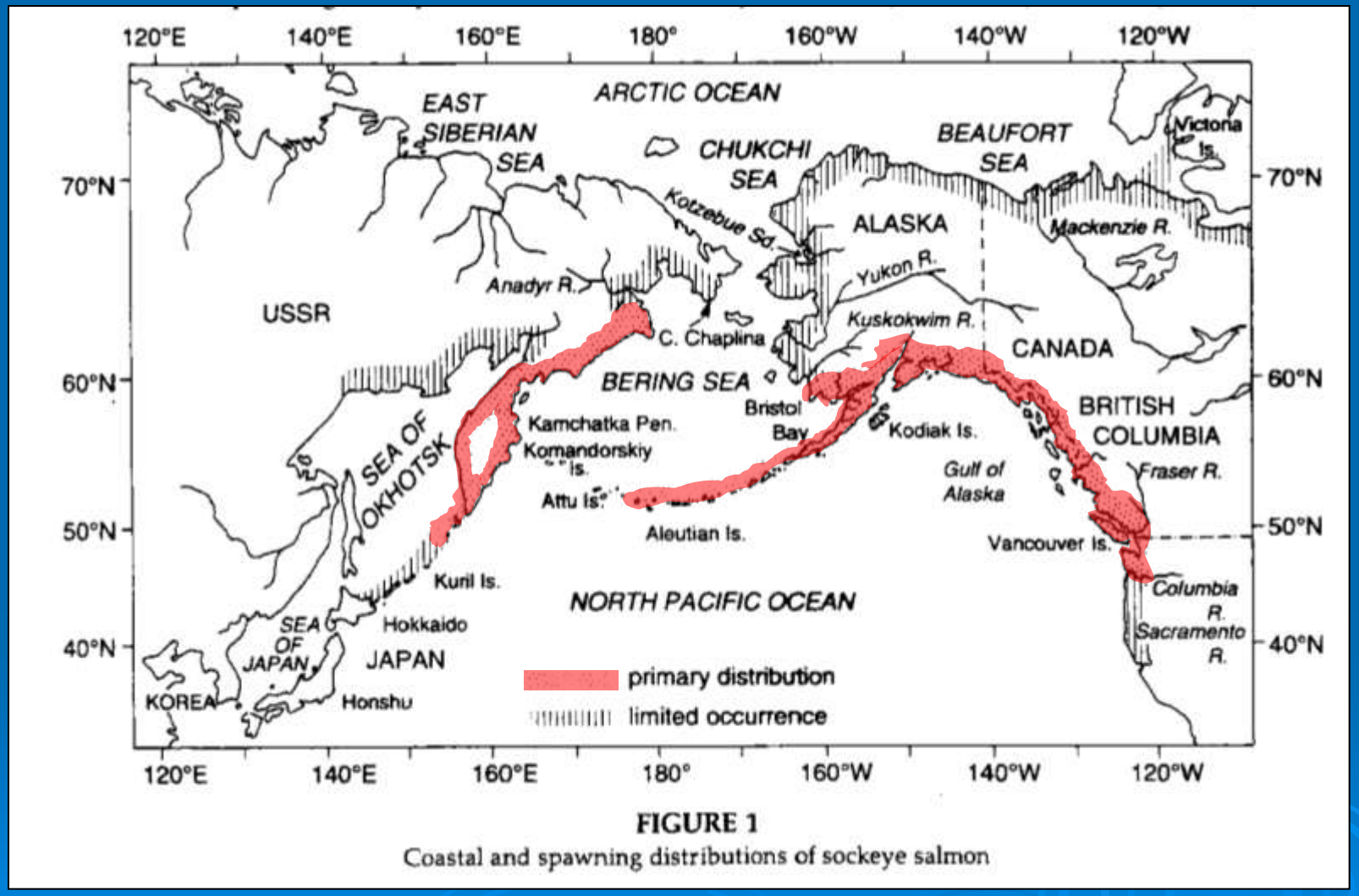


FIGURE 1

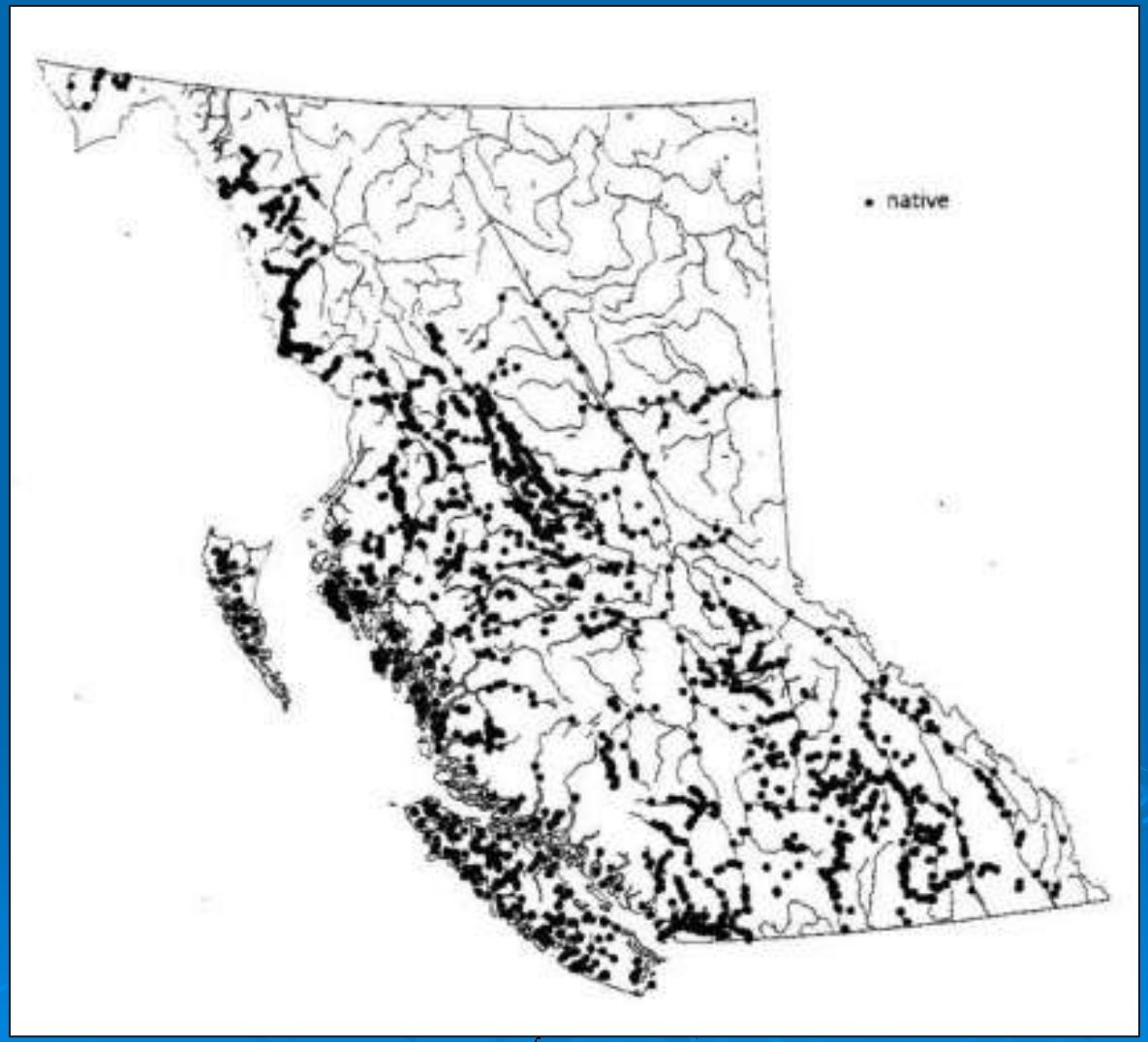
Coastal and spawning distributions of sockeye salmon

Burgner 1991

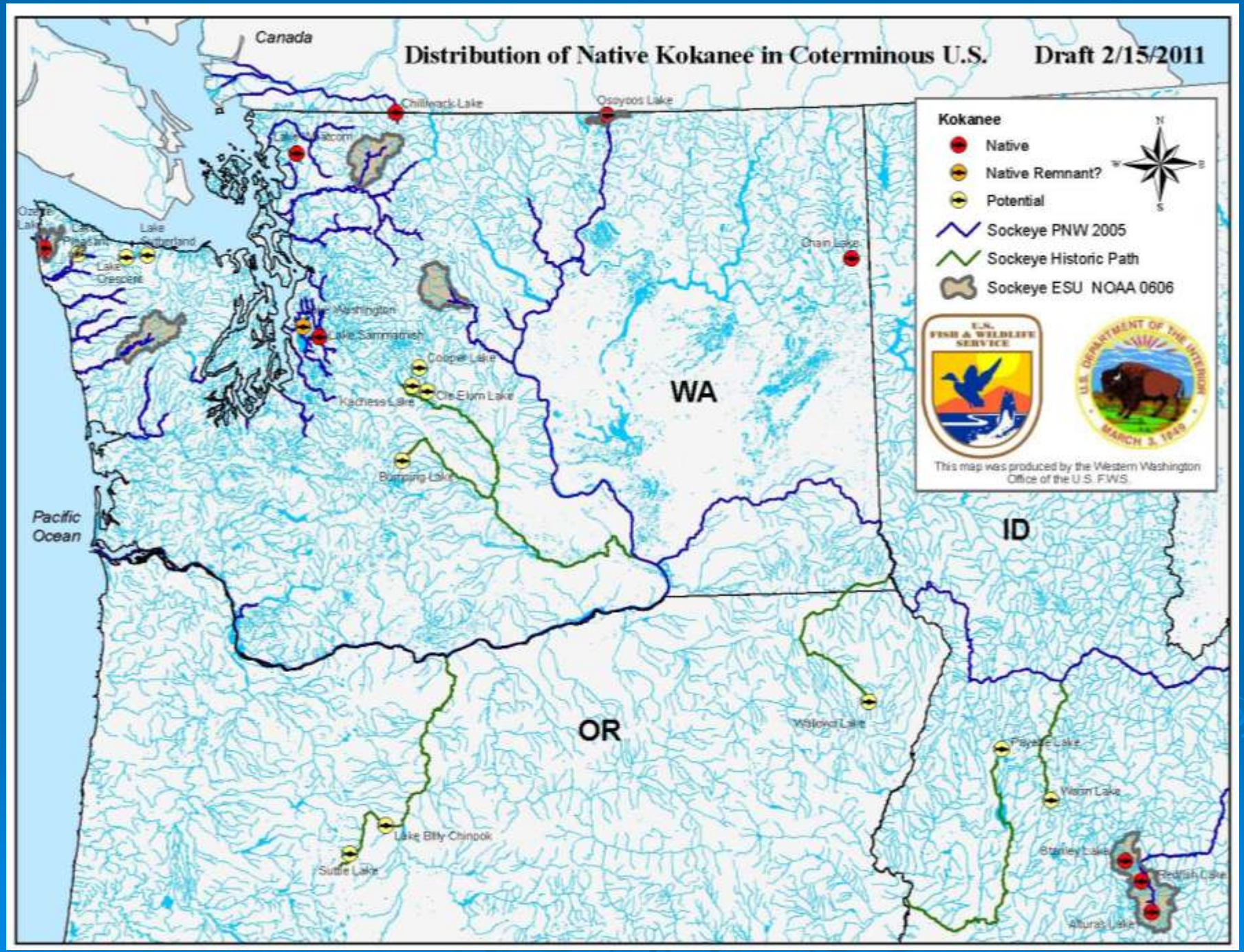
B.C. Distribution of *O. nerka*

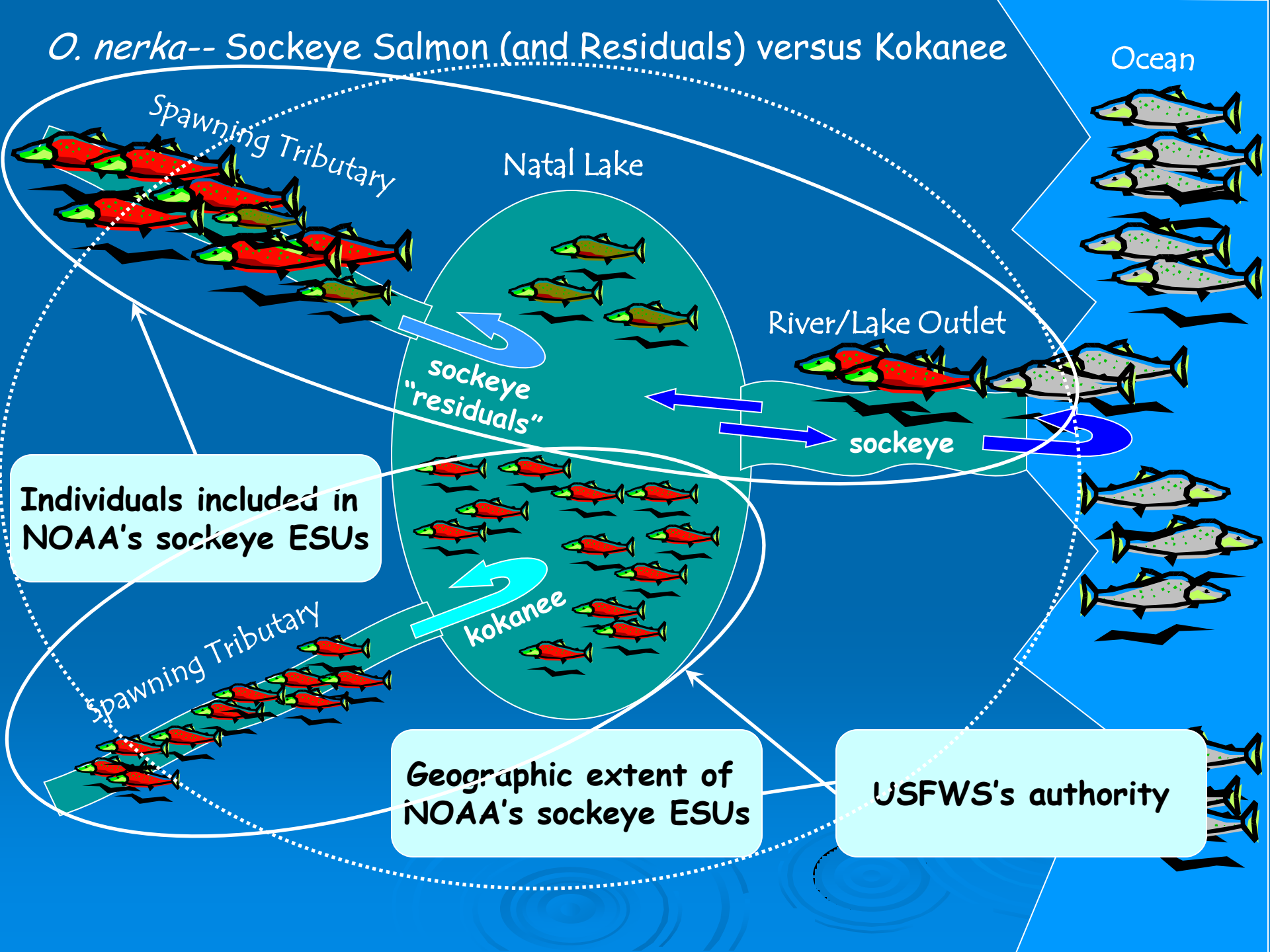
"About 900 sockeye salmon stocks and well over 500 kokanee populations in British Columbia"

*Fewer kokanee populations in Alaska

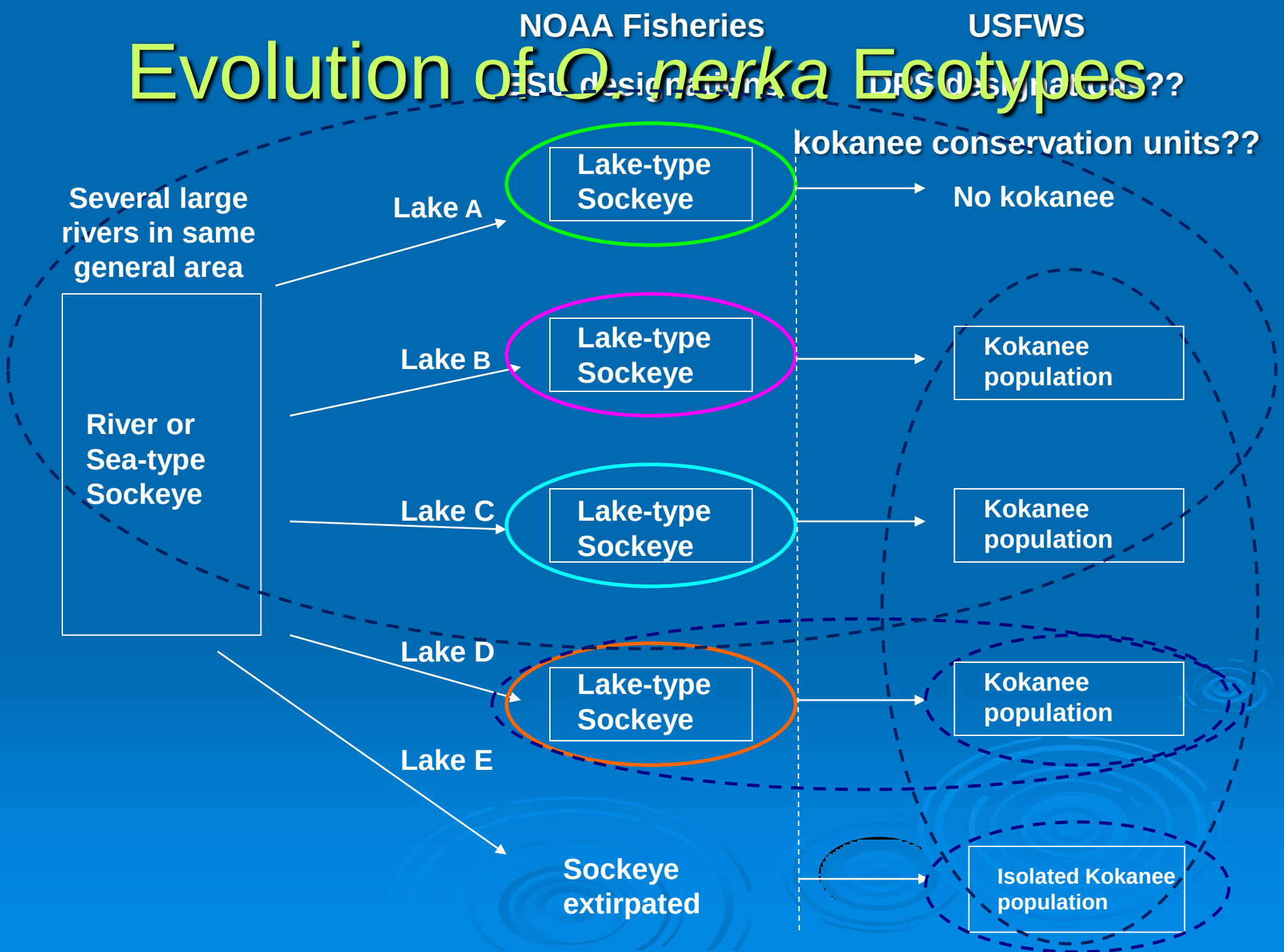


McPhail 2007


Distribution of Native Kokanee in Coterminous U.S.
Draft 2/15/2011
Canada
Chilliwack Lake
Osoyoos Lake
Lake Whatcom
Lake Washington
Lake Sammamish
Cooper Lake
Cle Elum Lake
Kachess Lake
Bumping Lake
Chain Lake
Pacific Ocean
WA
OR
ID
Willowa Lake
Payette Lake
Warm Lake
Stanley Lake
Redfish Lake
Alturas Lake
Lake Billy Chinook
Suttle Lake
Kokanee
Native
Native Remnant?
Potential
Sockeye PNW 2005
Sockeye Historic Path
Sockeye ESU NOAA 0606
U.S. FISH & WILDLIFE SERVICE
This map was produced by the Western Washington Office of the U.S. F.W.S.


O. nerka-- Sockeye Salmon (and Residuals) versus Kokanee
Ocean
Spawning Tributary
Natal Lake
River/Lake Outlet
sockeye "residuals"
sockeye
Individuals included in NOAA's sockeye ESUs
kokanee
Spawning Tributary
Geographic extent of NOAA's sockeye ESUs
USFWS's authority

Evolution of *O. nerka* Ecotypes



Distinct Population Segment (DPS) Policy

- **Joint policy with NOAA Fisheries (61 FR 4721, Feb 1996)**
  - **Includes NOAA's ESU policy**
  - **Allows ESA listing below taxon**

1. **Discreteness of the population**
2. **Significance of the population**
3. **Conservation status**

- **Congressional guidance to use "sparingly"**

NOAA Fisheries' Evolutionarily Significant Unit (ESU) Policy

- **Applies only to Pacific salmon**

  1. **Must be substantially reproductively isolated from other population units**
  2. **Must represent an important component in the evolutionary legacy of the species**

- **USFWS has no authority under the ESU policy**

DPS Policy (continued)

- **Discreteness:**
  - **Markedly separated**
    - Physical, physiological, ecological, or behavioral
  - **Delimited by international boundary**
    - control of exploitation, habitat management, conservation status, regulatory mechanisms
    - "…that are significant"

DPS Policy (continued)

- **Discreteness:**
  - **Markedly separated**
    - **Finding – discrete based on geographic and reproductive isolation; also genetically and ecologically discrete**
  - **Delimited by international boundary**
    - **Finding – not applicable**

DPS Policy (continued)

- **Significance:**
  - **"May include but not limited to":**
    - Unique or unusual ecological setting
    - Significant gap in the range
    - Only surviving natural occurrence
    - Markedly different genetic characteristics
  - **Significance is to the <u>taxon</u> as a whole (all of O. nerka)**

DPS Policy (continued)

- **Significance:**
  - Unique or unusual ecological setting
  - **Finding - L. Washington Basin not considered an unusual setting (lake setting/ecology)**
  - Significant gap in the range
  - **Finding - Loss not considered a major gap**
  - Only surviving natural occurrence
  - **Finding – not applicable**
  - Markedly different genetic characteristics
  - **Finding - although different, could not determine how much across the range**

DPS Policy (continued)

- **Significance:**
  - Disease (IHN) resistance
  - **Finding – If Lake Sammamish kokanee are IHN resistance, unlikely to be unique**
  - Multiple run (spawn) timing
  - **Finding – presence of other multiple run times in *O. nerka* populations**

- **Determined to be not a listable entity, "Not warranted" finding**

Other Examples – USFWS

Similar DPS policy applications

- **Coaster brook trout**
  - **Great Lakes**
- **Desert bald eagle**
  - **Sonoran Desert (Central Arizona)**
- **Big Lost River whitefish**
  - **Big Lost River Basin, Idaho**

Final Points to Consider

- Kokanee populations are widespread and easily transferable compared to lake-type sockeye.
- If kokanee populations are “islands”, how should individual importance be evaluated within the ecotype and the taxon? And which ones do you conserve?
- USFWS does not believe this one “island” is a listable entity but has not determined what is.
- ESA may not be the appropriate tool to conserve this level of biodiversity.

Questions?

Male Kokanee Salmon (Oncorhynchus nerka)
November 26, 2001
Lewis Creek, Tributary to Lake Sammamish
King County, Washington
Photograph by Scott Craig
U.S. Fish and Wildlife Service
Lacey, Washington