

## Considering Life History, Behavioral, and Ecological Complexity in Defining Conservation Units for Pacific Salmon

A symposium to review the state of the science regarding designation of conservation units of Pacific salmon and steelhead, with special emphasis on units that might include both resident and anadromous populations and/or both hatchery and natural populations.

\*\*\*\*\* Registration: If you plan to attend the symposium on March 29th, please register by emailing your name and affiliation to Kurt Davis (kurt.davis@noaa.gov). \*\*\*\*\*

Date: March 29, 31, 2005

Location: Building 9 Auditorium on NOAA's Sand Point, Seattle campus  
7600 Sand Point Way N.E.  
Seattle, WA 98115-6349

For a map of the campus see: <http://www.wasc.noaa.gov/images/wrc.gif>

March 29, 2005

Seattle, NOAA Sand Point Auditorium

### Agenda

8:00 Registration

8:45 Welcome Usha Varanasi, Director, Northwest Fisheries Science Center

#### **I. Background** (Session Chair: John Stein)

Goal: Review background information, regulatory language and policies and history of their application, and provide broader context for thinking about conservation units.

9:00 Why are we here? Background to the issues at hand (Mike Ford, NWFSC, Seattle)

9:30 Review of NMFS ESU concept, other published ESU concepts, and application to salmon, including hatchery and resident fish (Robin Waples, NWFSC Seattle)

#### **10:10 Break**

#### **II. Reality check: practical questions that any DPS/ESA framework must be able to address** (Session Chair: Robin Waples)

Goal: Make sure everyone understands the kinds of practical problems that any proposed framework will have to deal with.

10:40 Hatchery/wild fish (Rob Jones, NMFS NW Regional Office, Portland)

11:00 Resident/anadromous fish (Pete Adams, SWFSC, Santa Cruz)

### **III. Evolutionary theory** (Session Chair: Robin Waples)

Goal: Summarize current thinking by evolutionary biologists on two key topics related to the questions at hand.

11:20 Selection in two environments, within and/or between generations  
(Sara Via, U. Maryland)

11:50 Tempo and mode of contemporary evolution: a review of the empirical record  
(Michael Kinnison, U. Maine)

### **12:20 Lunch**

### **IV. State-of-the-science reviews of hatchery/resident fish issues** (Session chair: Mike Ford)

Goal: provide a common empirical and theoretical background for considering hatchery fish and resident fish in identifying conservation units. The NMFS policy has focused on evolutionary/genetic relationships and lineages, but some other possible frameworks focus more on ecological/behavioral factors.

1:30 Genetic/evolutionary relationships between hatchery and wild fish  
(Ken Currens et al., Northwest Indian Fisheries Commission, Olympia)  
Ecological/behavioral relationships between hatchery and wild fish  
(Ian Fleming, Memorial University of Newfoundland)

2:15 Genetic/evolutionary relationships between resident and anadromous fish  
(Don Campton, US Fish and Wildlife Service, Abernathy, WA)  
Ecological/behavioral relationships between resident and anadromous fish  
(Sue Sogard, Southwest Fisheries Science Center, Santa Cruz)

### **3:00 Break**

### **V. Panel Discussion of alternative frameworks for considering hatchery fish and resident fish in conservation unit determinations** (Session Chair: Tom Quinn, U. Washington)

Goal: Summarize alternative ways for dealing with hatchery fish and resident fish under the DPS provision in the ESA. Discuss pros and cons of each approach in light of material covered in Sessions I-IV.

Panel members: Russ Lande, UC San Diego; Ernie Brannon, U. Idaho; Rich Carmichael, Oregon Department of Fish and Wildlife, La Grande; Chris Wood, Canada Department of Fisheries and Oceans, Nanaimo, B.C.; Roger Doyle, Dalhousie U., (emeritus)

3:20 Brief presentations (~ 15 minutes each)  
Russ Lande

Ernie Brannon

3:50 Remarks by Chair and other panel members

4:15 Panel and audience discussion

**5:15 Adjourn**

Day 2 and morning of Day 3      Panel meets in closed session