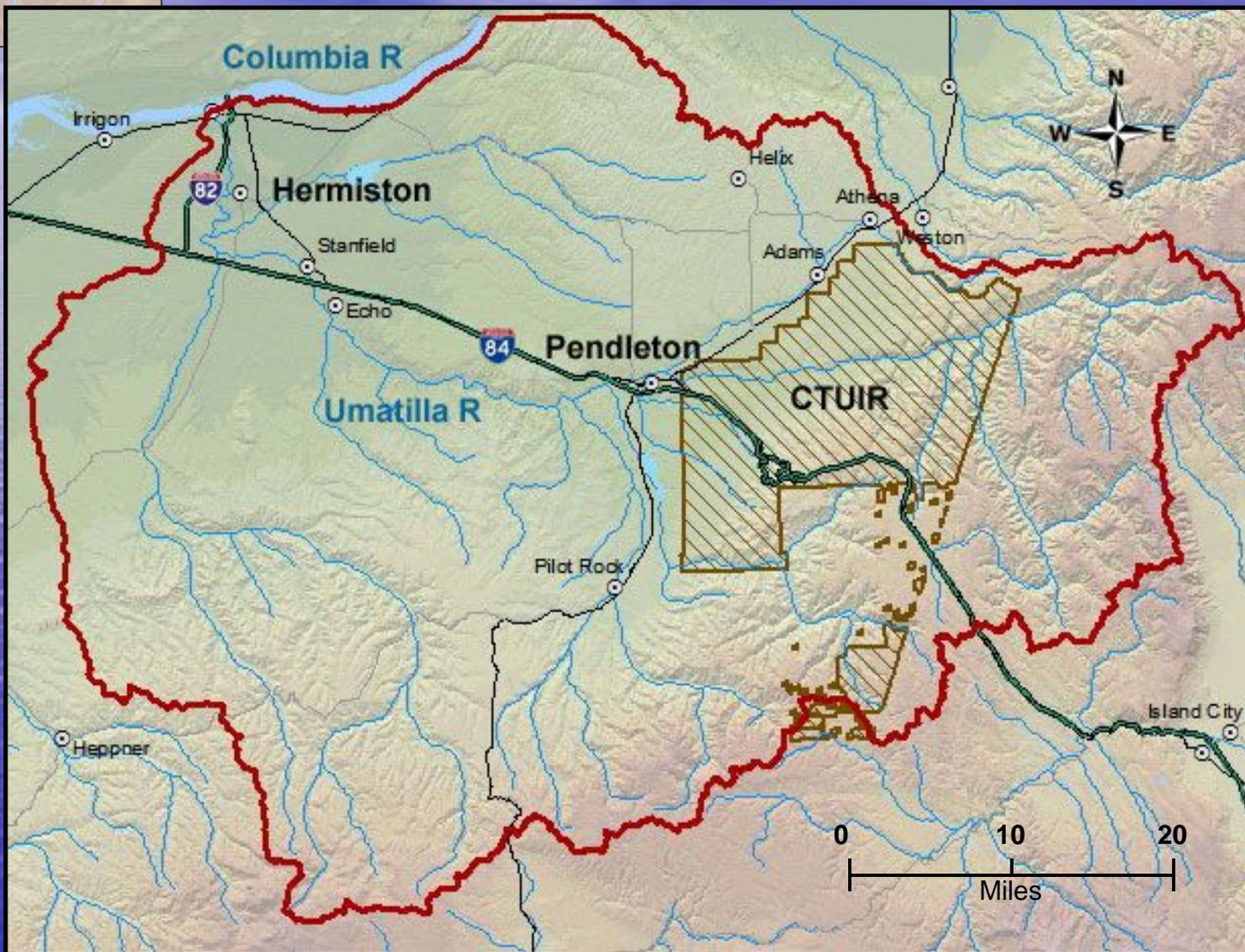


**Umatilla Basin Project:
Cooperative Exchange of
Columbia River Water for
Instream Flows**

Rich Marvin, R.G., P.H.
Sr. Hydrographer
OR Water Resources Dept.

Umatilla Basin



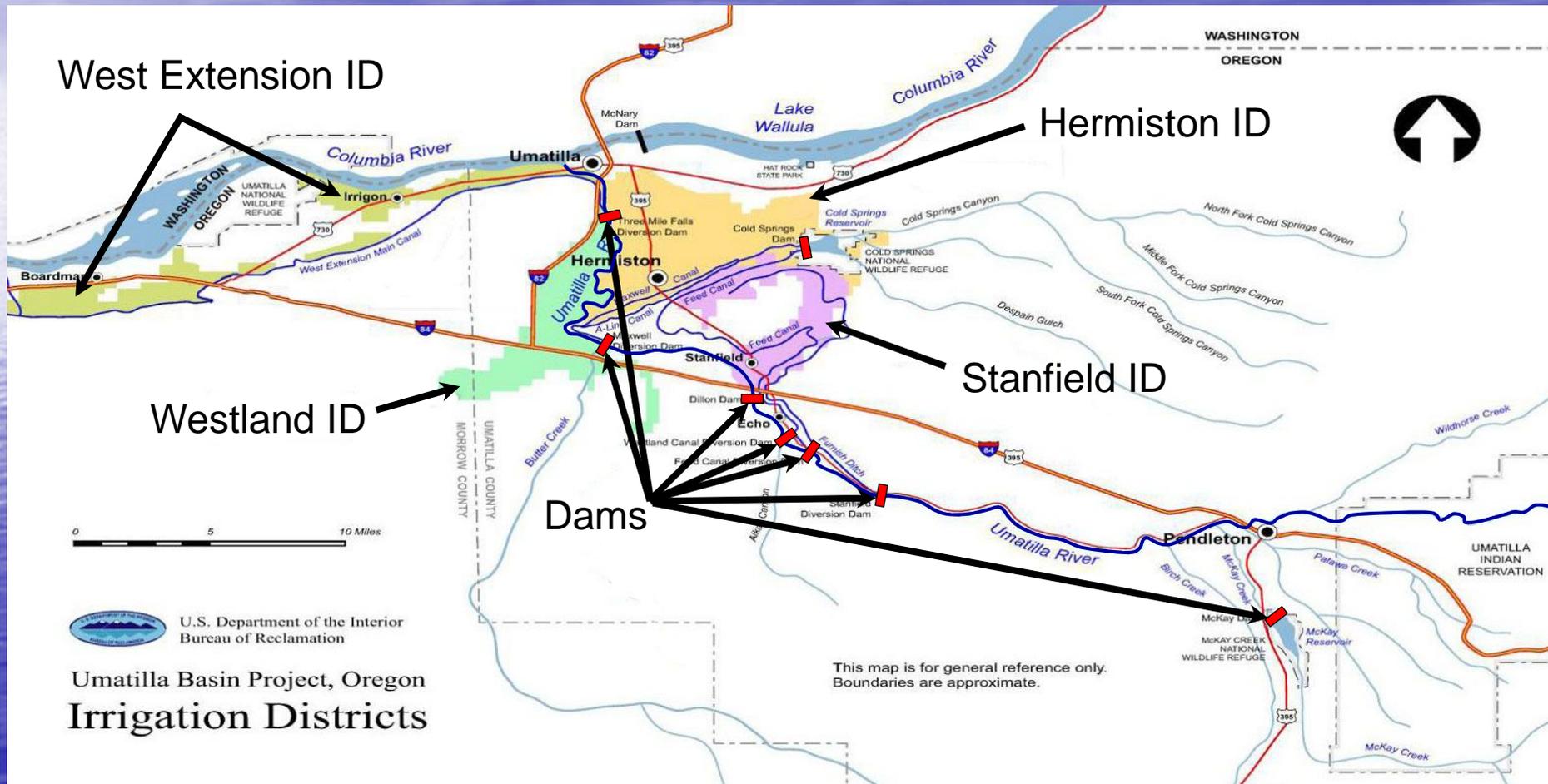
Background

- Prior to arrival of European settlers, salmon and other native species harvested by mid-Columbia tribes for subsistence and trade
- 1855 Treaty: Umatilla tribe and others ceded 6.4 million acres to U.S. Government, including Umatilla basin (1.5 million acres)
- Shortly after, much of basin converted to agriculture and waterways began to be altered for irrigation

“Original” Umatilla Basin Project

- Combination of private and Federal development constructed between 1905 and 1927
 - Reservoirs: Cold Springs and McKay
 - Diversion Dams: Furnish, Umatilla Feed Cn, Westland, Maxwell, and Three Mile Falls
 - Complex network of irrigation canals

Umatilla Basin Irrigation Districts



Decline and Confrontation

- By early 1900's, low streamflow combined with insufficient passage and screen facilities led to extirpation of salmon and dramatic decline in steelhead
- Led to confrontation, primarily between CTUIR and irrigation districts

Brokering a Deal

“I was lucky to get out of the hearing room alive.”

- Sen. Mark O. Hatfield, on his experience at a meeting on the water disputes in the Umatilla Basin

Restoration Efforts Begin

- In early 1980's, fisheries restoration programs began
 - Habitat improvements
 - Passage enhancements
 - Water-use plan
 - Analysis of benefits of flow enhancement

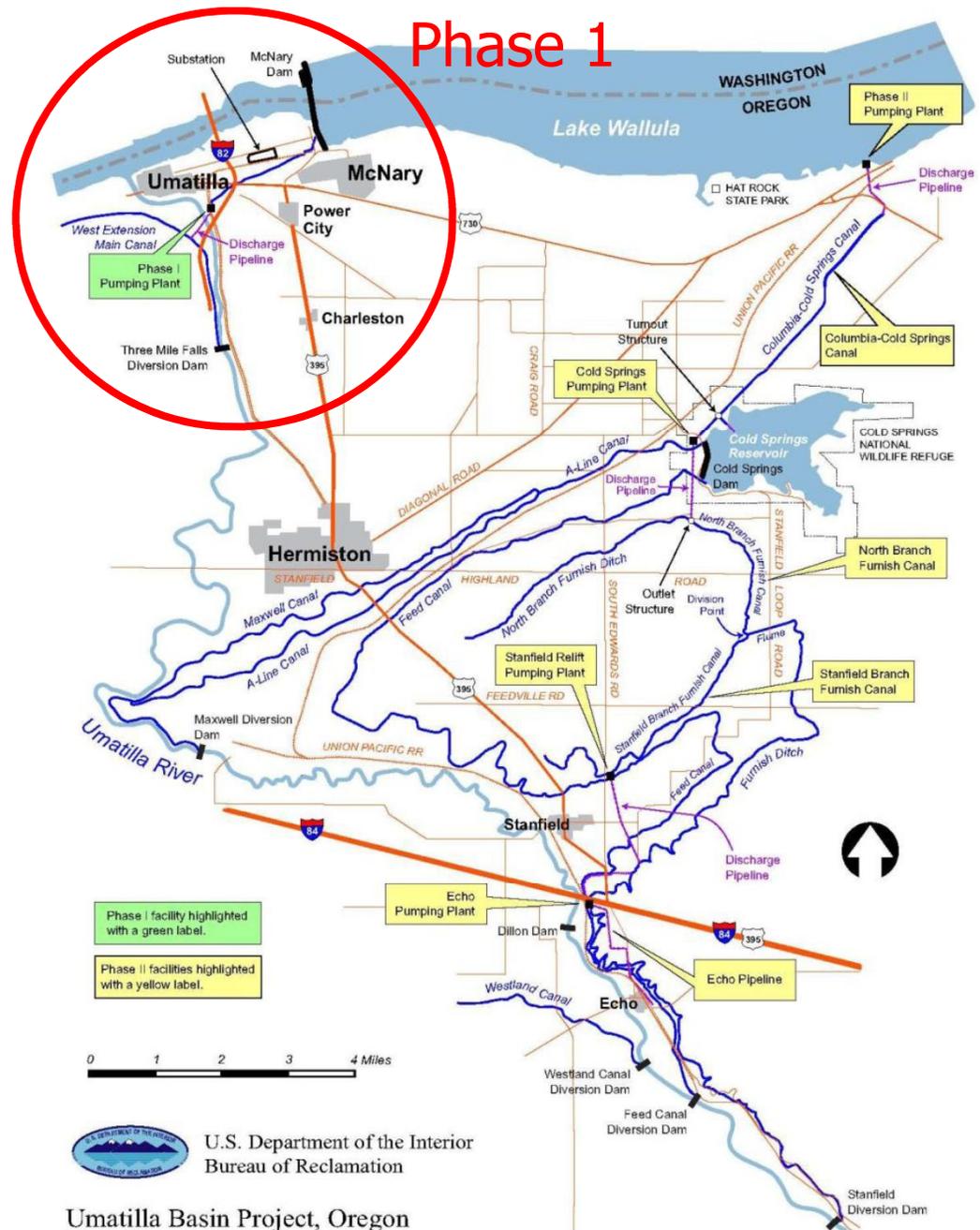
Umatilla Basin Plan

- In 1988, Congress authorized Umatilla Basin Plan
 - Cooperative effort by CTUIR, IDs, OWRD, BPA, NWPPC, BOR, and Federal and state fisheries agencies
 - Part of comprehensive plan to improve salmon and steelhead runs
 - Instream flow enhancement during critical migration periods

Phase 1 Exchange

- Water diverted from Columbia River in exchange for Umatilla River “live flow” to be left in the Umatilla River at Three-Mile Dam
- BOR canal and pumping station completed in 1993

Umatilla Basin Project Facilities



Umatilla Basin Project, Oregon Facilities

Based on Drawing Number 1022-155-40, August 1984

Phase 1 Pumping Plant



Three Mile Diversion Dam



Phase 2 Exchange (Part 1)

- Columbia River water pumped to Cold Springs Reservoir in exchange for Umatilla River “live flow” left in the river from Hermiston ID’s diversion near Echo and protected with HID’s 1905 priority to the mouth of the Umatilla River.
- BOR pumping station and canal became operational in 1994

Phase 2 Exchange (Part 2)

- Columbia River water pumped to Stanfield Irrigation District in exchange for Umatilla River “live flow” and SID’s McKay Reservoir storage. Water protected with 1905 and/or 1965 priority from SID diversion to the mouth.
- Partial exchange began in 1999

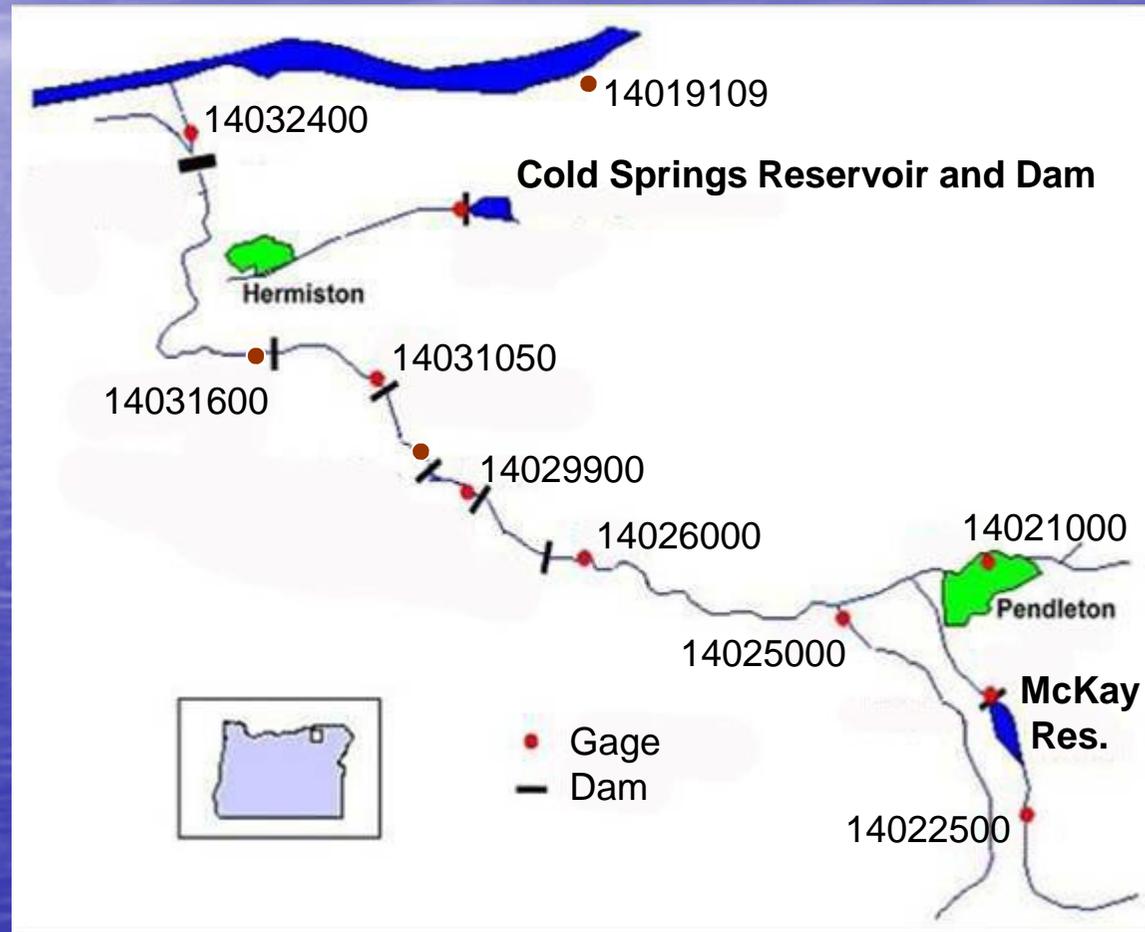
BOR Columbia River Pumping Plant – Phase 2



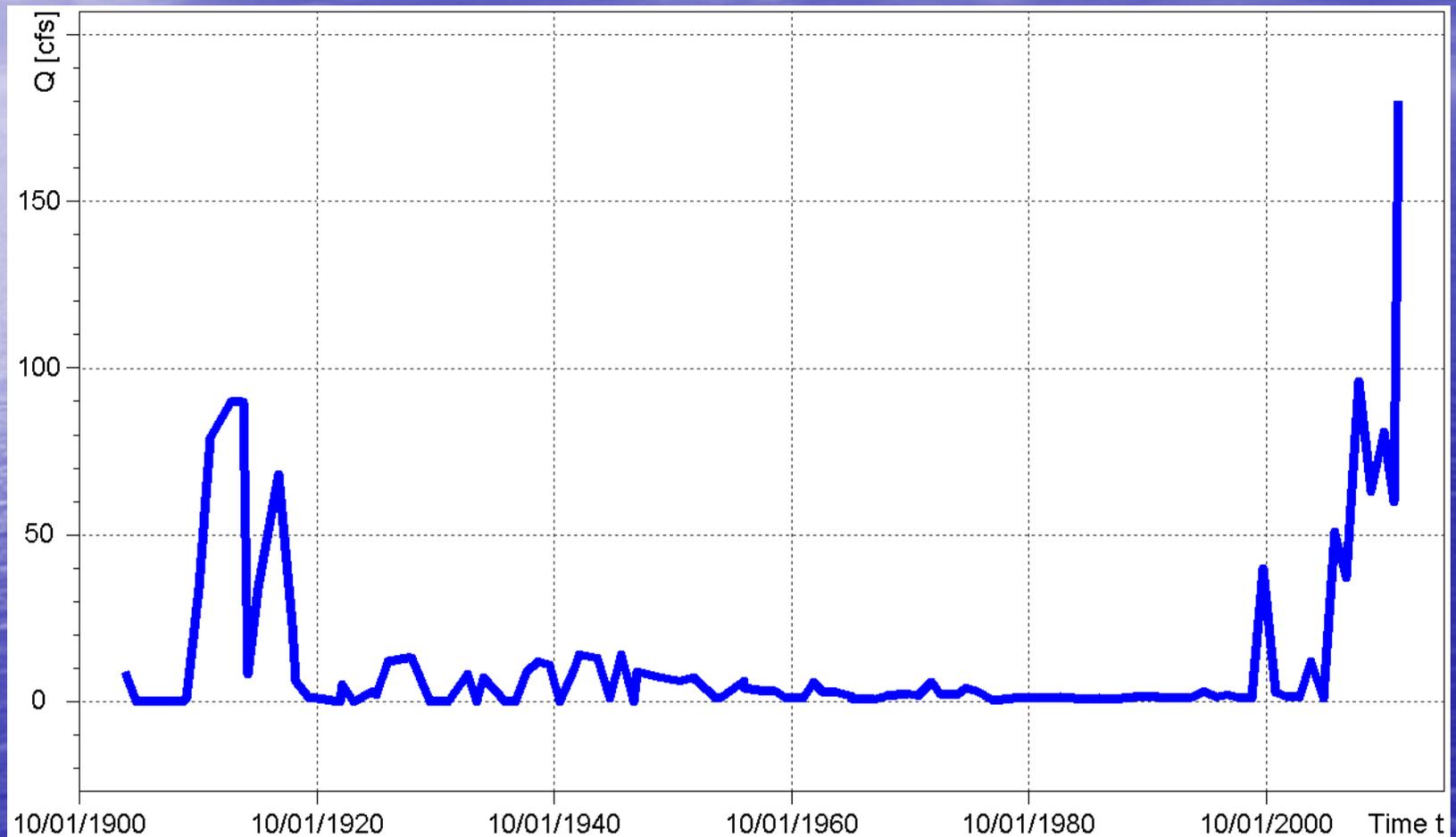
Columbia Exchange Canal - Phase 2



Some of the Gages

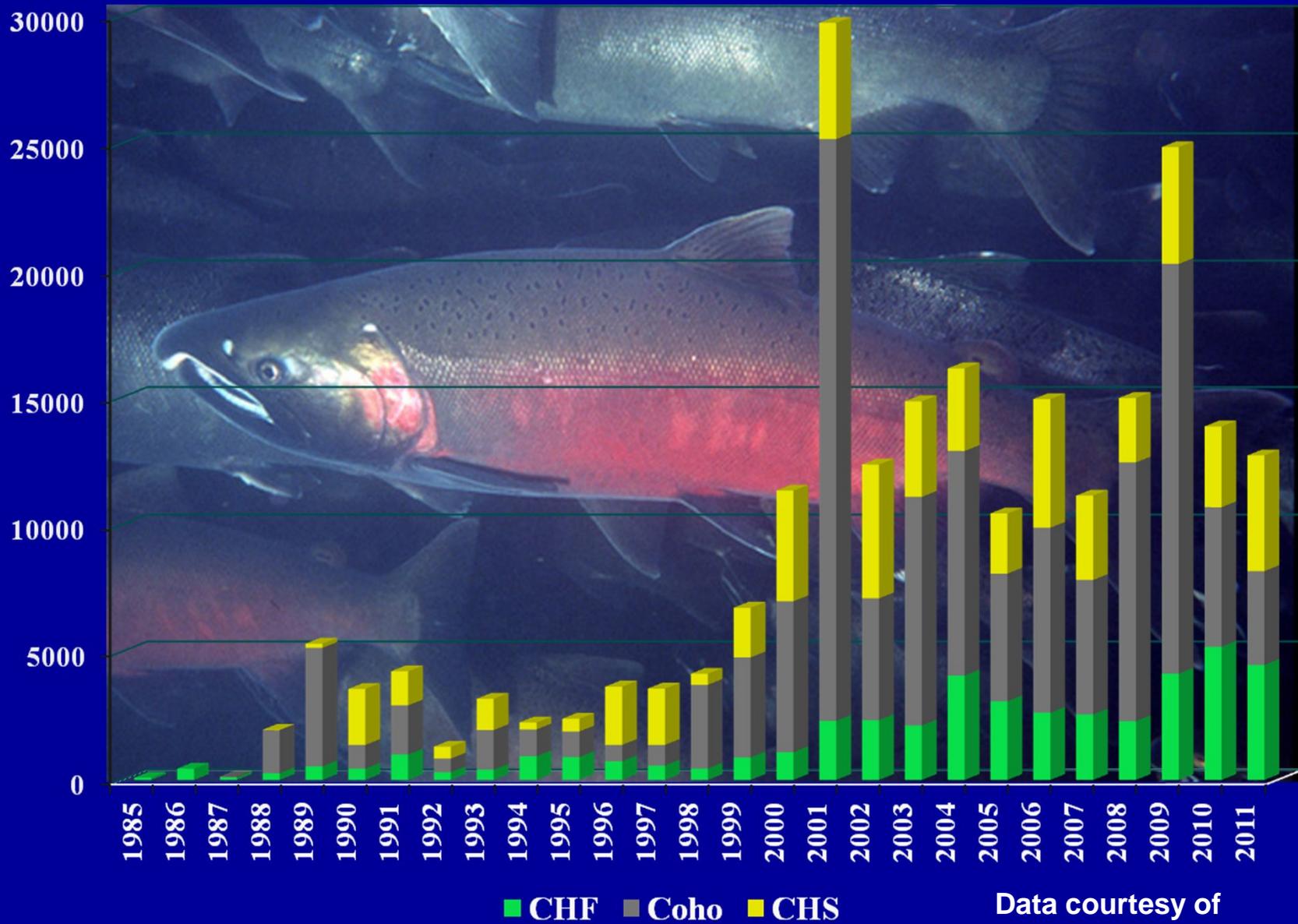


Annual Low Flows



14033500 Umatilla R nr Umatilla

Annual Salmon Returns to 3MD



Data courtesy of
Brian Zimmerman, CTUIR

Umatilla Basin Project Oversight Committee - 2012



03/14/2012 09:59