• Information • Communication • Coordination

2009

Yakima Basin Science & Management Conference

Purpose:
To provide a comprehensive overview and exchange of ideas about the most current biological science and resource management activities in the Yakima Basin

Central Washington University

400 E University Way
Ellensburg, WA 98926

Science Building, Rooms
101 & 147

Visit www.ykfp.org for more information

Wednesday, June 17, 2009
8:30AM to 5:00PM

Thursday, June 18, 2009
8:00 AM to 5:00PM

Bonneville

CENTRAL WASHINGTON UNIVERSITY

RECLAMATION

Conference History

1. Contractual Deliverable for BPA YKFP Projects
2. Expanded to Include other Basin Science Programs (BOR, NOAA, USF&WS, CWU)
3. Relationships of How Management Decisions are Influenced by Science
4. Expanded Habitat Programs - Split Sessions
5. YBF&WRB - Subbasin Plans and Recovery Actions

YKFP Deliverables

Updates on the Cle Elum Spring Chinook Supplementation Program

- Homing
- Distribution
- Genetics
- Reproductive Success
- Precocialism
- Domestication
- Non-Target Taxa
- Predation by Birds and Fish

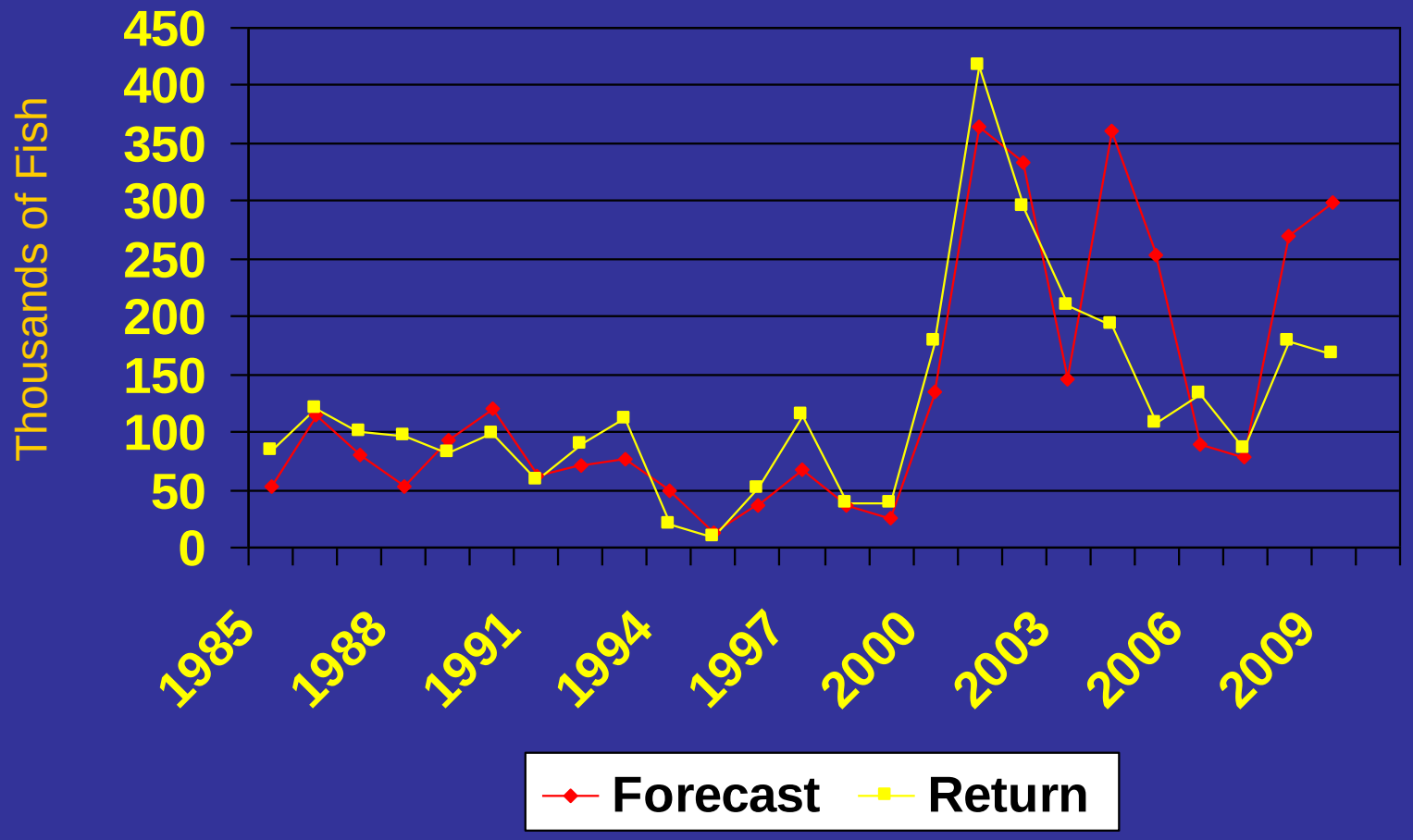
Bird Predation

Predator or Protector?

Spring Chinook Run Forecast

- Columbia Basin Management Decisions are Based on Annual Run Predictions
- Harvest Regulations above and below Bonneville Dam
- Harvest Allocation for Treaty and Non-treaty Fishers
- Science from Yakima Basin may Assist in Refining the Predictor Model

Forecasted vs Actual Returns of Col. R. Spring Chinook, 1985 - Present



Data Source: Columbia River Joint Staff Report, Jan. 26, 2009

http://wdfw.wa.gov/fish/crc/crcindex.htm

- Why has the traditional jack predictor resulted in increased divergence between forecasted and actual returns in recent years?

- Can we correct for this?

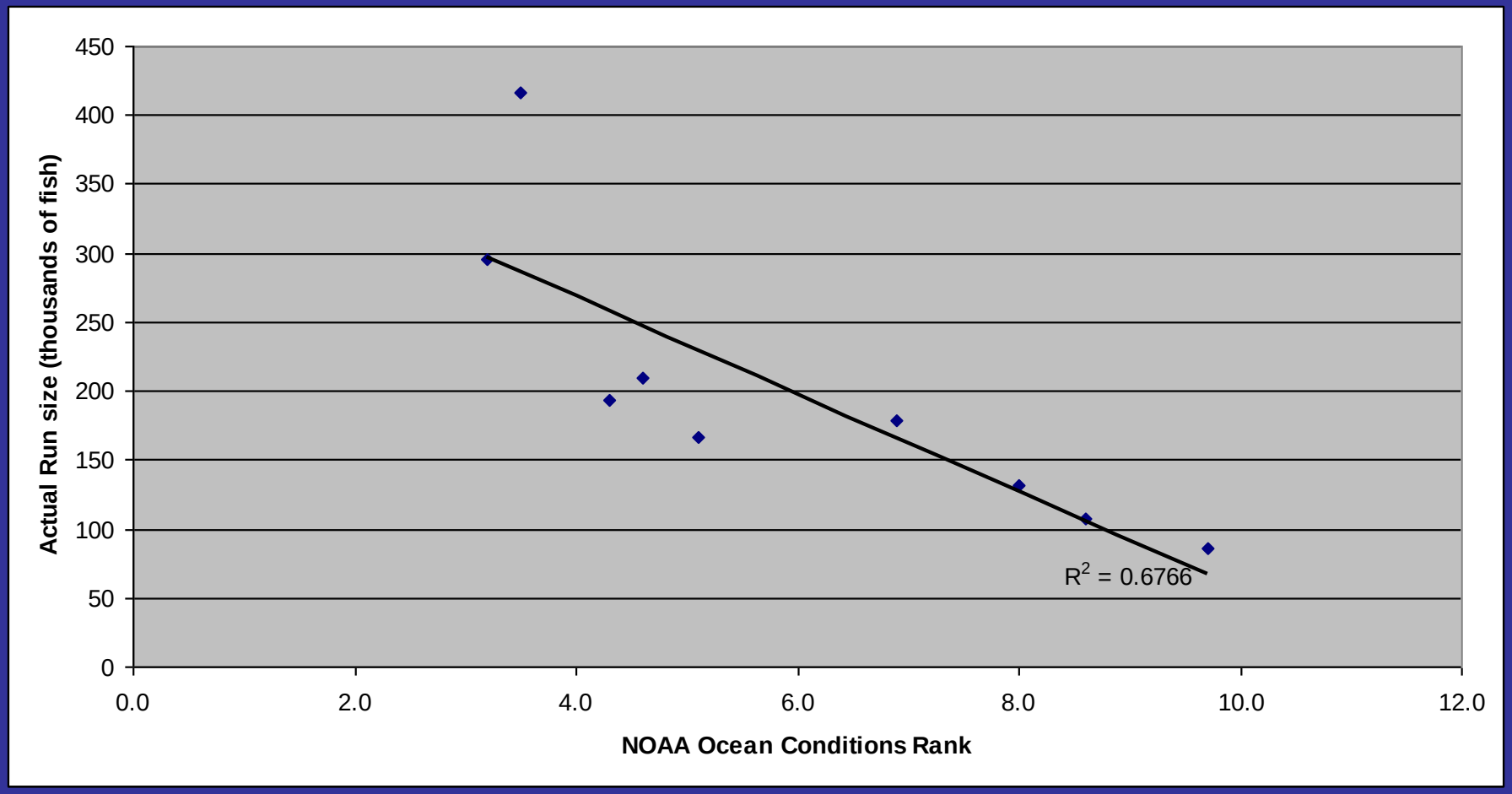
Ocean Conditions when Juveniles Arrive

http://www.nwfsc.noaa.gov/research/divisions/fed/oeip/g-forecast.cfm

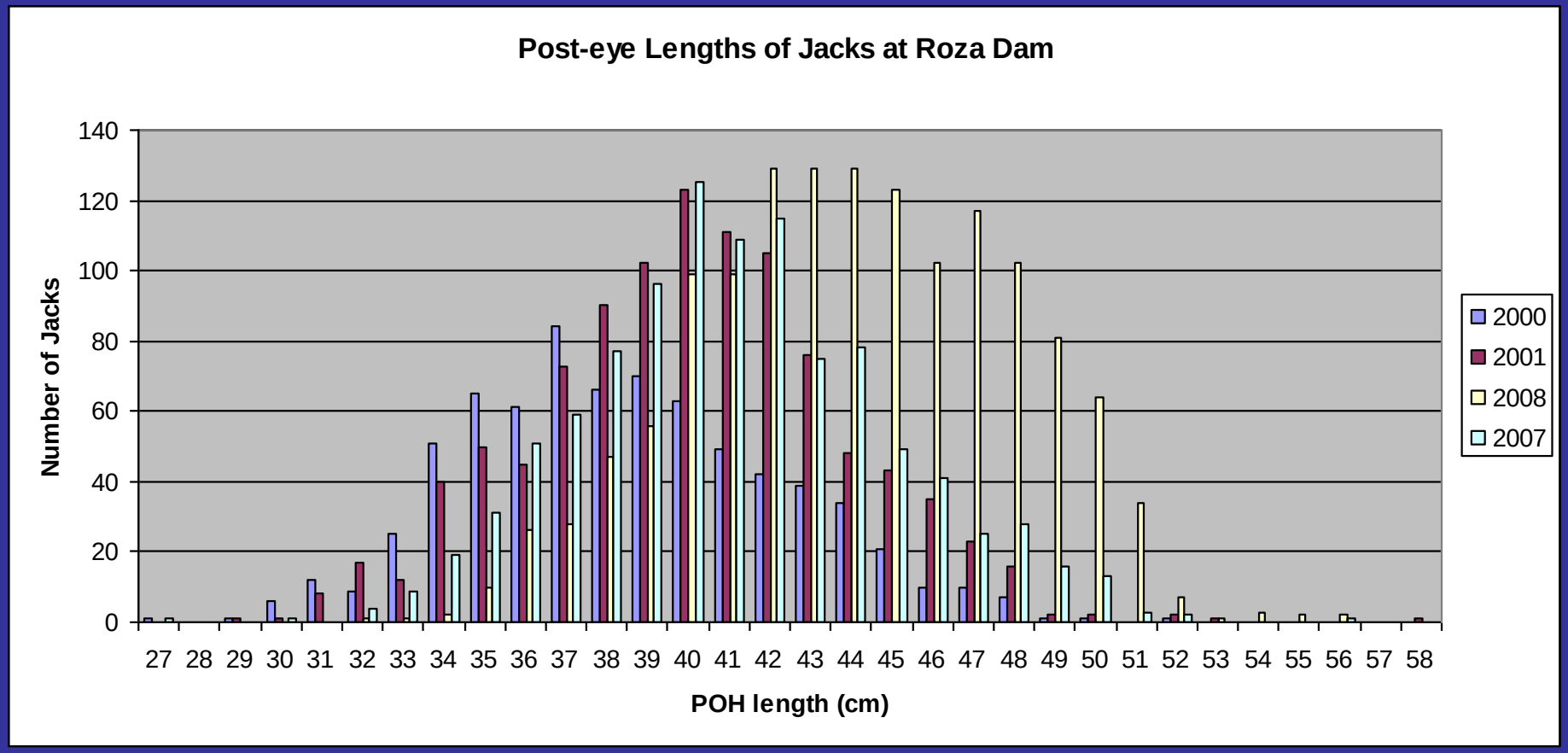
Table 1a. Rank scores upon which color-coding of ocean ecosystem indicators is based. Lower numbers indicate better ocean ecosystem conditions, or "green lights" for salmon growth and survival, with ranks 1–4 green, 5–7 yellow, and 8–11 red. To arrive at these rank scores, 11 years of sampling data were compared across years (within each row), and each year received a rank between 1 and 11.

	Year of Samples										
	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Pacific Decadal Oscillation											
December–March	10	4	1	7	3	11	6	9	8	5	2
May–September	5	2	4	3	6	10	9	11	7	8	1
Multivariate El Niño Southern Oscillation Index											
MEI Annual	11	1	3	5	10	9	7	8	6	4	2
MEI Jan–Jun	11	2	3	5	7	9	6	10	4	8	1
Sea surface temperature											
Buoy 46050 (May–Sep mean)	9	2	4	5	1	7	11	8	6	10	2
NH 05 (May–Sep mean)	8	2	1	4	7	6	11	10	5	9	3
Winter prior to ocean entry	11	6	4	5	3	7	10	9	8	2	1
Physical spring transition (Logerwell)	7	6	2	1	4	9	8	11	9	3	5
Coastal upwelling April–May	6	1	10	3	5	9	8	11	6	2	4
Deep water at NH 05 (May–Sep)											
Temperature	11	4	6	2	2	7	8	10	9	5	1
Salinity	11	3	3	5	8	9	10	7	6	1	1
Upwelling season length (d)	7	4	3	9	1	10	8	11	6	5	2
Copepod biodiversity	11	2	1	5	3	8	7	10	9	6	4
N Copepod anomalies	11	8	3	5	2	9	6	10	7	4	1
Biol. spring transition	11	6	3	5	4	9	7	10	8	2	1
Spring Chinook (Jun)	10	2	3	8	5	7	9	11	6	4	1
Coho (Sep)	9	2	1	4	3	5	10	11	7	8	6
Overall Ranking											
Mean of ranks	9.5	3.5	3.2	4.6	4.3	8.6	8.0	9.7	6.9	5.1	2.4
Rank of mean ranks	10	3	2	5	4	9	8	11	7	6	1

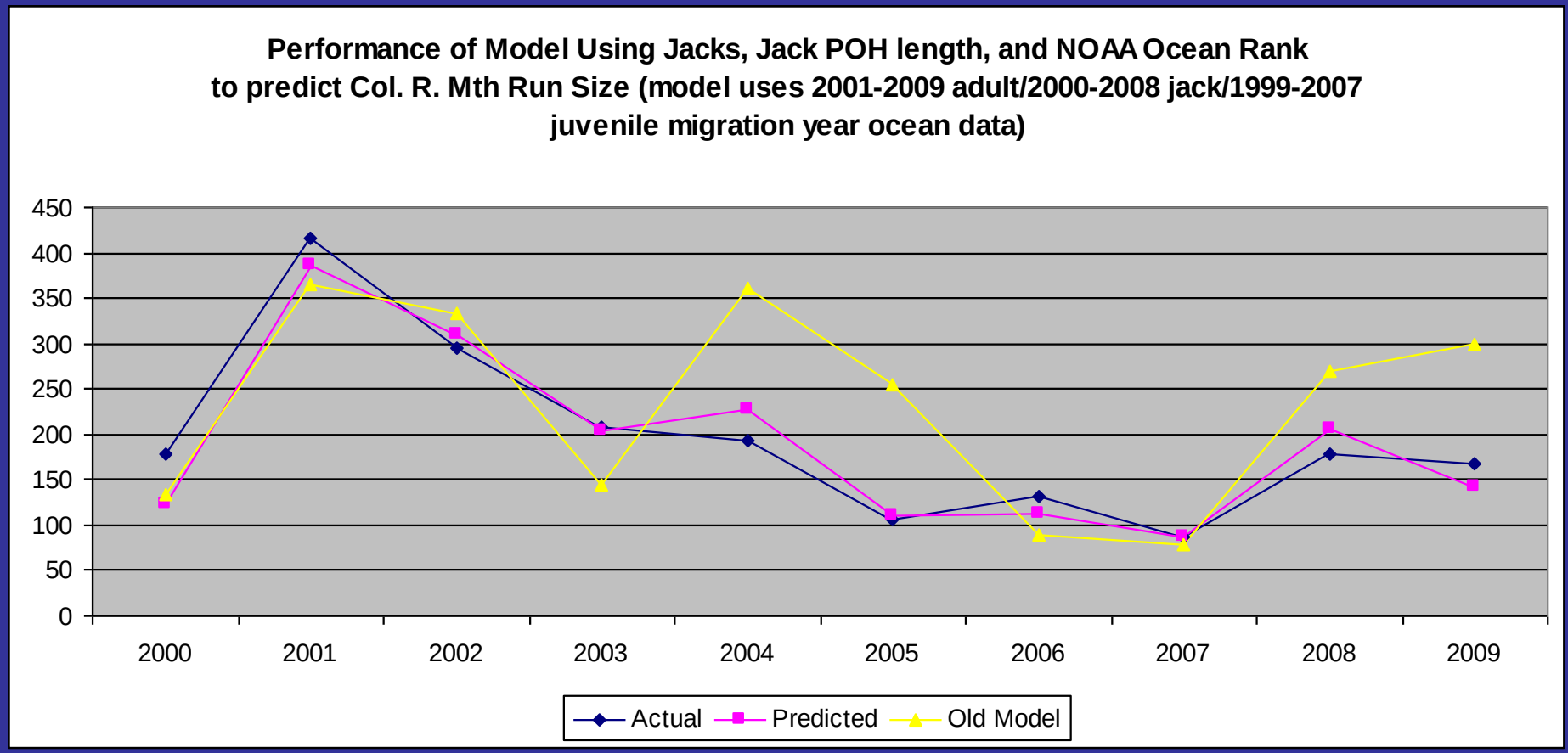
There is a strong relationship between the NOAA Ocean Condition rank at juvenile entry and actual Adult Returns



Jacks (as sampled at Roza Dam/Yakima R.) were much bigger in 2008 than in prior years



Adjusting the predictor model for these two variables results in much greater forecast accuracy for years since 2001



YKFP Deliverables

Updates on the Other Salmon Enhancement

- Coho Reintroduction
- Fall Chinook Supplementation
- Summer Chinook Reintroduction
- Steelhead Monitoring

Other Salmonid Programs

Updates on the Other Programs

- Bull Trout Status and Genetics
- Steelhead Kelt Reconditioning
- Steelhead Population Monitoring
- Sockeye Reintroduction

Wildlife Programs

Updates on the Other Programs

- Wildlife and I-90 Construction
- Elk and Agriculture
- Spotted Owls
- Cougars

Habitat Programs

- Climate Change and water
- Water Storage
- Flow Issues
- Water Quality
- Nutrients
- Cottonwood Restoration
- Groundwater Issues
- Large Woody Replenishment
- Floods
- Tributary Access Panel

Welcome To Central Washington University and the Yakima Basin Science and Management Conference

Overview of Habitat Activities

Alex Conley YBFWRB

Keynote Speaker
Rob Walton

Assistant Regional Administrator
for Salmon Recovery
NOAA Fisheries