

The Role of the *US vs. OR* *Technical Advisory Committee* *(TAC) in Columbia River* *Steelhead Fisheries* *Management*



Chris Sullivan

Pacific Coast Steelhead Management Meeting

Outline

- Introduction
 - USvOR Agreement
 - Who is TAC?
 - Geography
 - Management periods and stocks
- Process
 - Forecasting
 - In-season Run Updates
 - Information delivery to PC
 - Expansion or curtailment of fisheries

US v. OR Management Agreement

2018-2027

United States v. Oregon

Management Agreement

Agreement that governs harvest of
most anadromous fish in mainstem
Columbia River Fisheries

US v. OR Management Agreement

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Management Agreement

Technical Advisory Committee - TAC

- Tasked with developing, analyzing, and reviewing data pertinent to the Agreement and making reports and technical recommendations regarding harvest management of Columbia River fish runs

TAC Members

- Washington
- Oregon
- Idaho
- USFWS
- NOAA
- BIA
- Warm Springs Tribe
- Umatilla Tribe
- Nez Perce Tribe
- Yakama Nation
- Shoshone-Bannock Tribes



Geography – *US v. OR Management Agreement*

- All mainstem fisheries below the mouth of the Snake River from August 1 through October 31
- Mainstem fisheries from the Dalles Dam to the mouth of the Snake River from November 1 through December 31
- Fall treaty fisheries in Drano Lake and tributary mouth sport fisheries in Zone 6

Steelhead Management Groups

Skamania Steelhead - pass Bonneville Dam April 1 – June 30

- Most originate from Klickitat River

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A/B Index Steelhead - pass Bonneville Dam July 1 – October 31

- A-index = less than 78cm
- B-index = greater than or equal to 78cm

Steelhead Management Groups and ESA

Threatened Stocks

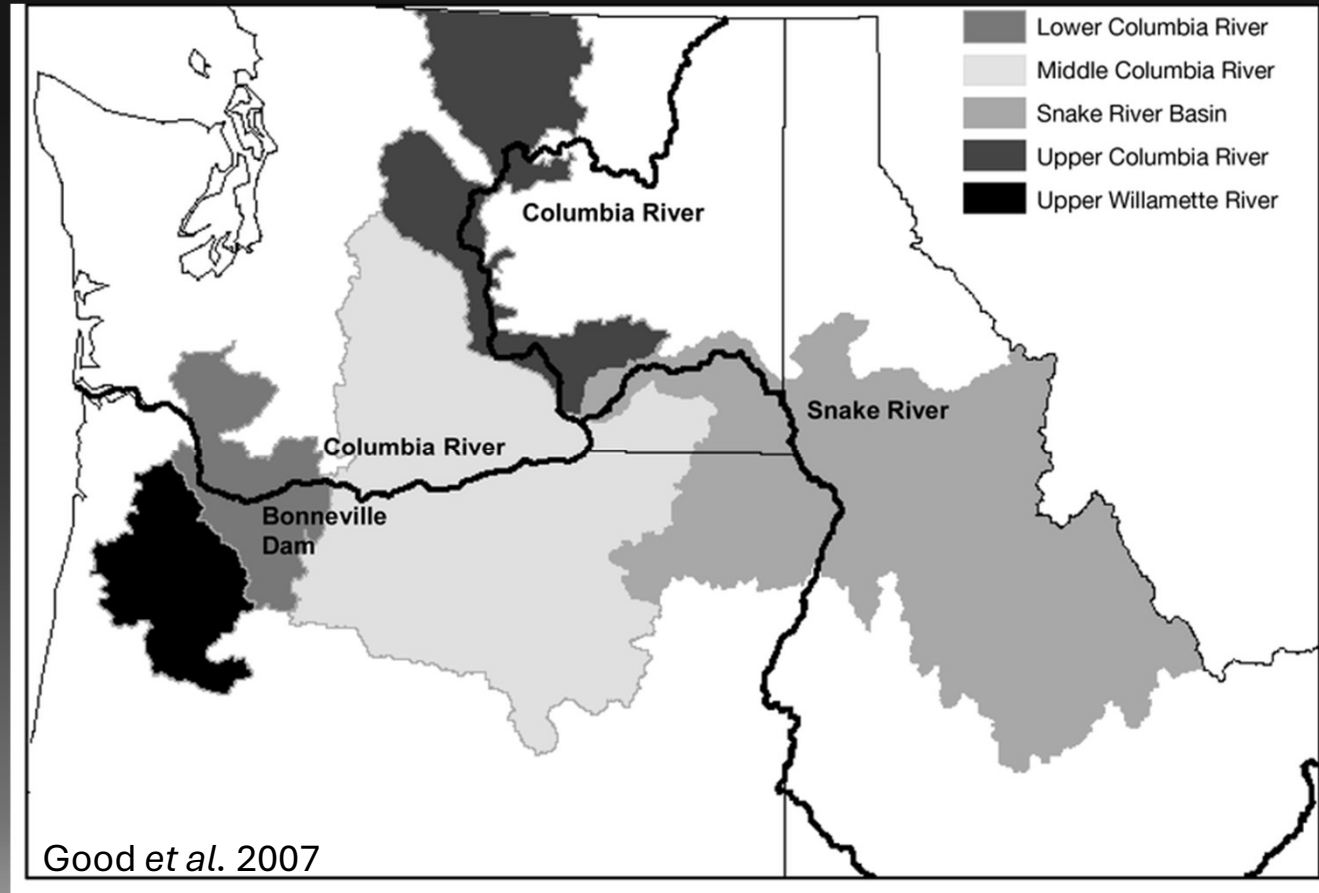
Willamette River

Lower Columbia River

Middle Columbia River

Upper Columbia River

Snake River Basin



Harvest Rates from USvOR Agreement

Table 5.1.7. Abundance Based Harvest Rate Schedule for B-Index Steelhead in Fall Season Mainstem Fisheries.

Bonneville Total B-Index Steelhead Run Size	River Mouth URB Run Size	Treaty Total B-Index Harvest Rate	Non-treaty Natural-origin B-Index Harvest Rate	Total Harvest Rate
< 20,000	Any	13%	2.00%	15.00%
20,000	Any	15%	2.00%	17.00%
35,000	>200,000	20%	2.00%	22.00%

B-Index Steelhead are defined as steelhead measuring ≥ 78 cm that cross Bonneville between July 1 and Oct 31

This harvest rate schedule applies to fall season fisheries only. These fisheries include all mainstem fisheries below the mouth of Snake River from August 1 through October 31 and for mainstem fisheries from The Dalles Dam to the mouth of the Snake River from November 1 through December 31. Also included are fall season treaty fisheries in Drano Lake and tributary mouth sport fisheries in Zone 6 that impact Snake River steelhead.

TAC Role in Management Process

- Preseason forecasts
 - Skamania hatchery and natural
 - A/B index clipped and unclipped hatchery and natural (6 groups)

Group	2025 BON Forecast
Skamania	6,500
Total Hatchery	3,900
Clip Hatchery	3,650
Unclip Hatchery	250
Wild	2,600
A Index	55,600
Total Hatchery	36,600
Clip Hatchery	34,100
Unclip Hatchery	2,500
Wild	19,000
B Index	11,800
Total Hatchery	10,700
Clip Hatchery	9,100
Unclip Hatchery	1,700
Wild	1,100
Total A/B Index	67,400
Total Hatchery	47,300
Clip Hatchery	43,200
Unclip Hatchery	4,200
Wild	20,100
<i>All summer steelhead</i>	73,900
Total Hatchery	51,200
Clip Hatchery	46,850
Unclip Hatchery	4,450
Wild	22,700

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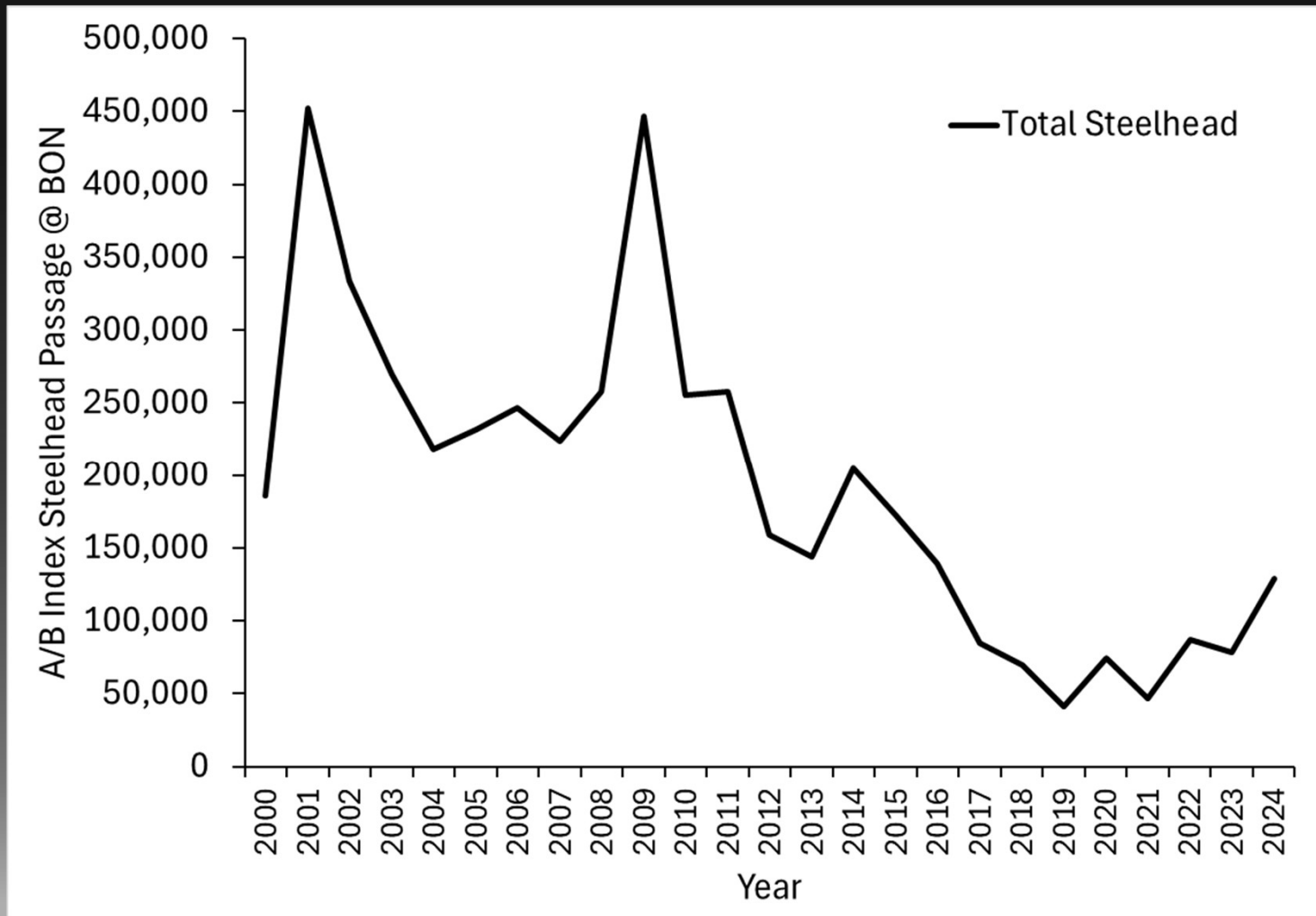
Total July 1 – October 31 steelhead passage @ BON = **150,594**

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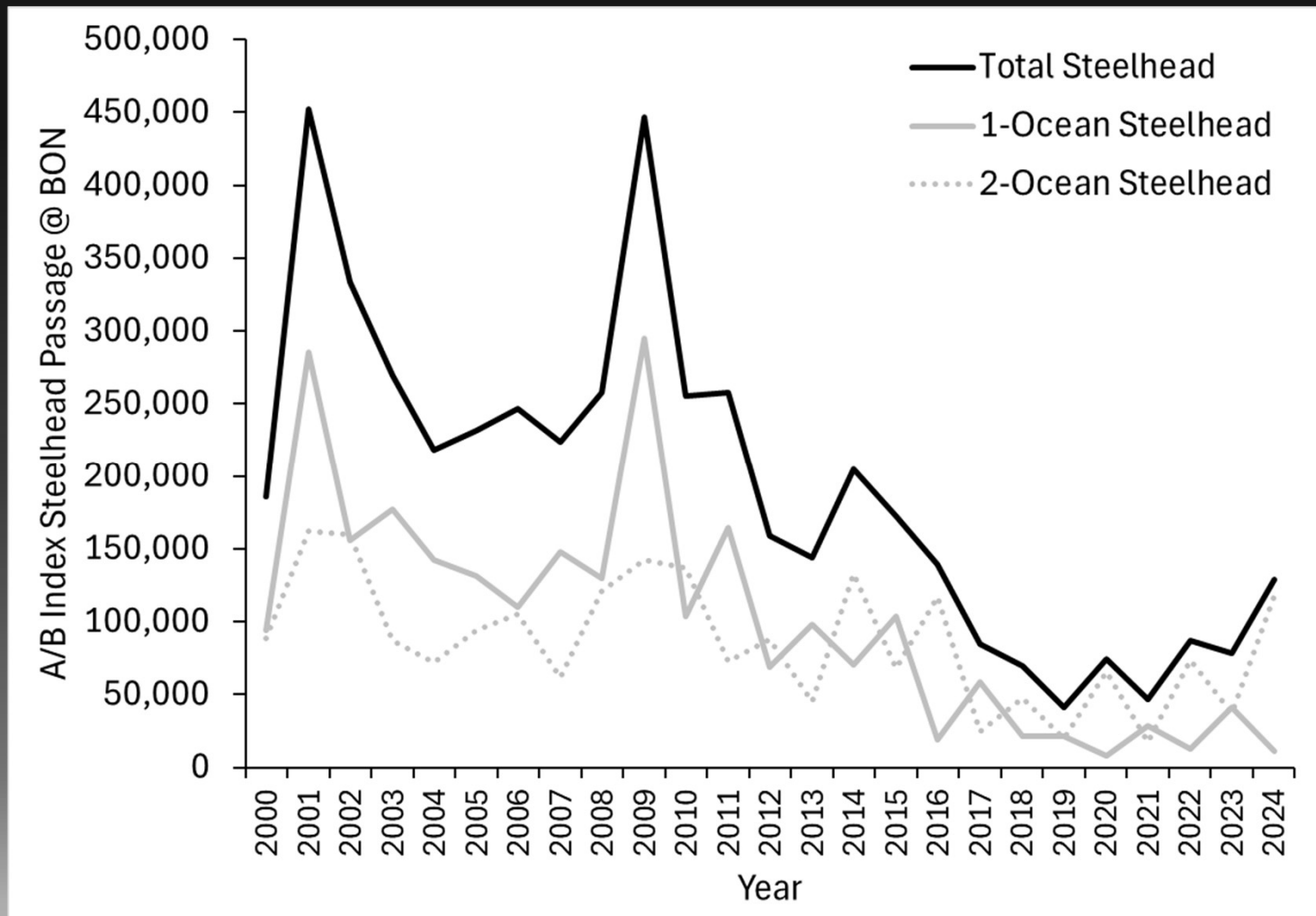
Steelhead Forecasting is Difficult

- Annual Abundance is highly variable
- Majority of A-index fish are 1-ocean
- Trying to forecast size classes for A/B Index period
 - Most 1-ocean fish are A-Index
 - 2-Ocean fish are a mix of A/B Index fish

Steelhead Forecasting is Difficult



Steelhead Forecasting is Difficult

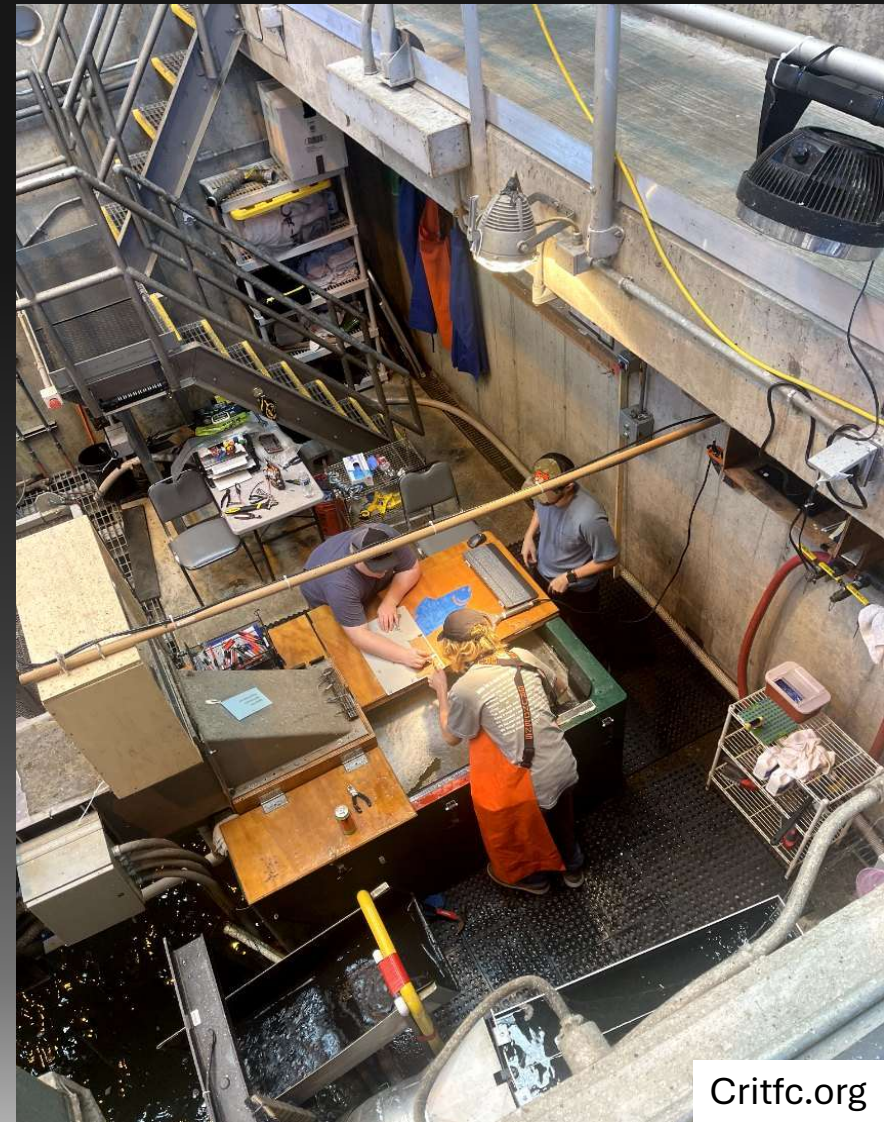


TAC In-season Run Updates

- Weekly meetings to review information
- Clipped and unclipped counts at Bonneville Dam
- Bonneville Dam Adult Fish Facility (AFF) biological data
- Run timing information (historic AFF data)
- Random-walk model combines information to generate projections

Bonneville Adult Fish Facility

- Fish length
- Identify origin (W, H, HNC)

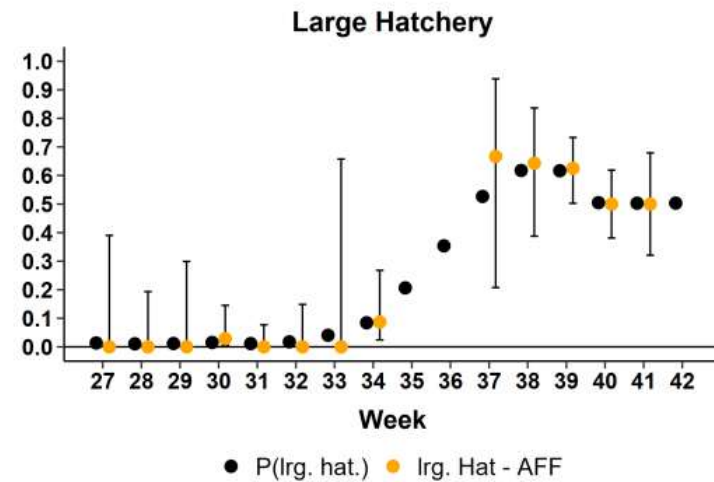
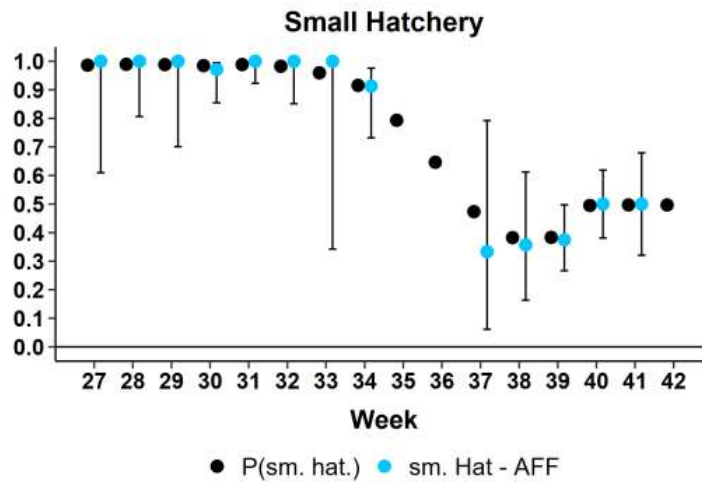


Steelhead models – clipped fish

TAC steelhead projections

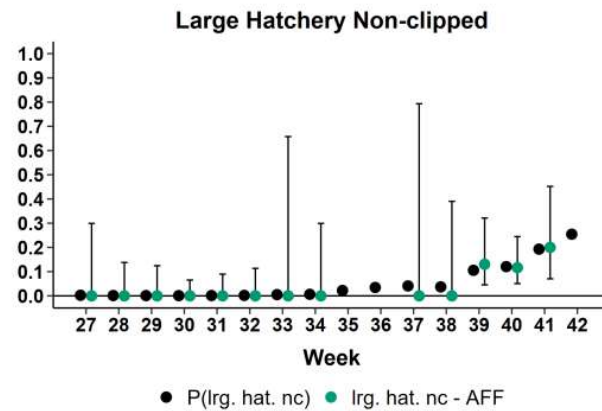
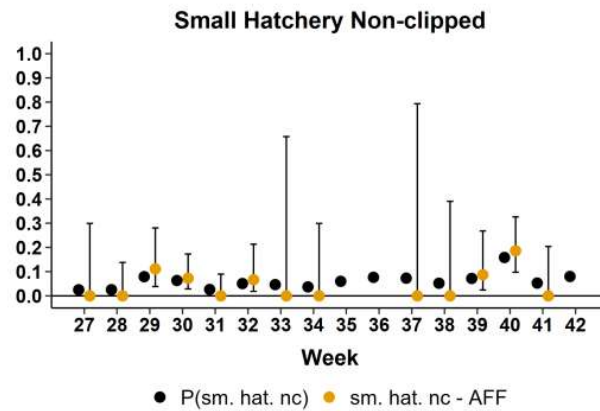
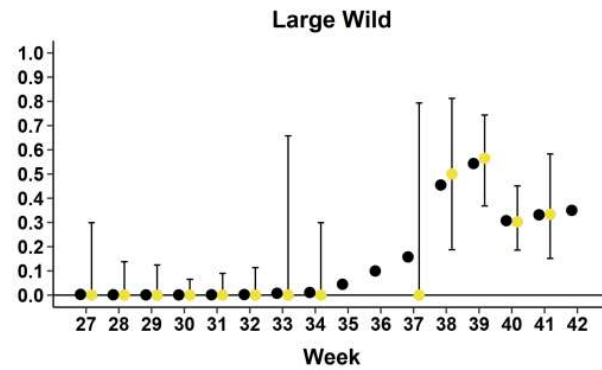
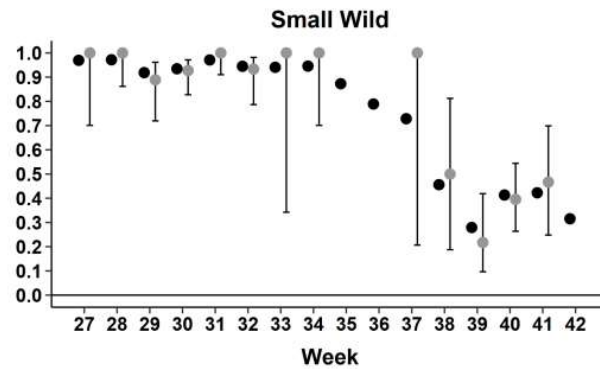
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Binomial probabilities



Steelhead models – unclipped fish

Multinomial probabilities



Steelhead model estimates by week

Binomial-Multinomial model estimates

Week	Small Hatchery	Large Hatchery	Small Wild	Large Wild	Small HNC	Large HNC
27	1,323	18	2,175	7	56	5
28	3,878	42	5,187	8	136	7
29	5,375	64	6,337	7	546	7
30	11,146	173	10,295	11	698	10
31	13,118	152	9,302	14	252	12
32	9,606	172	5,181	14	278	10
33	8,332	353	3,801	31	188	20
34	6,900	636	3,031	35	119	21
35	4,246	1,105	1,775	91	122	45
36	1,453	795	833	105	81	37
37	3,097	3,447	1,904	412	191	107
38	2,164	3,495	963	960	110	78
39	1,725	2,776	489	951	126	185
40	1,592	1,624	554	412	212	162
41	504	510	179	140	22	82
42	363	367	127	141	32	103
Total	74,822	15,729	52,133	3,339	3,169	891

Steelhead model projected end-of-season abundances

Run timing proportions

Category	Week No.	5-yr Mean	10-yr Mean	5-yr Max	10-yr Max	75th Percentile	State-space Ests.
sm. hat.	42	1.00	0.99	1.00	1.00	1.00	74,822
lg. hat.	42	0.99	0.98	1.00	1.00	0.99	15,729
sm. wild	42	1.00	1.00	1.00	1.00	1.00	52,133
lg. wild	42	0.99	0.98	1.00	1.00	0.99	3,339
sm. HNC	42	1.00	0.99	1.00	1.00	1.00	3,169
lg. HNC	42	0.99	0.98	1.00	1.00	0.99	891

Expansions

Category	5-yr Mean	10-yr Mean	5-yr Max	10-yr Max	75th Percentile
Total steelhead	150,750	151,184	150,368	150,368	150,555
Total A-index	130,606	130,807	130,358	130,358	130,387
Total B-index	20,143	20,376	20,010	20,010	20,168
Total unclipped A	55,450	55,513	55,389	55,389	55,403
Total unclipped B	4,264	4,301	4,240	4,240	4,269

Updates to the *US v. OR* Policy Committee

- Run size updates sent to PC weekly
- May trigger fishery management changes
 - Expansion of fisheries
 - Complete closures
 - Sanctuary area closures
 - Co-mingled species issues

Acknowledgements

TAC members

Stuart Ellis

Steve Haeseker (retired USFWS)

Adam Storch (ODFW)

Mark Sorel (WDFW Models)

Bonneville Adult Fish Facility staff

Alan Byrne/Carly Somerset

Questions

