

**PACIFIC SALMON COMMISSION
SELECTIVE FISHERY
EVALUATION COMMITTEE
ANALYSIS WORKGROUP**

SFEC AWG



MARK MEETING, 2012

PRESENTATION

- ◉ What does SFEC AWG do?
- ◉ MSF Proposals
- ◉ MSF report status
- ◉ Annual reports
 - MSFs currently implemented
 - Stocks impacted
 - Size of MSFs
- ◉ DIT Analyses

SFEC AWG

- Reviews design of MSF proposals and sampling programs
 - Sampling strata
 - Tag detection methods
 - Analytical methods for estimating impacts
- Evaluates DIT results

MSF PROPOSALS

- Provide information on species, location/time, regulations, stocks impacted and proposed sampling
- Turn in by Nov 1 of year prior to implementation
 - Which really means end of Nov
- Since 2010 agencies have provided proposals for all MSFs being considered

MSF REPORTS

- ◉ Why are they needed?
 - Required for analysis of CWT data
 - e.g., Visual or electronic?
 - Provide information for PSC Chinook model
- ◉ How are we doing?
 - We do not consistently receive these reports
 - WDFW/NWIFC have developed database that will provide the post season reports as well as other CWT based reports- currently preliminary.

2012 ANNUAL REPORT

- MSFS PROPOSED AND IMPLEMENTED

- TABLE 5

- CWT'D INDICATOR STOCK IMPACTS

- TABLE 8 AND 9

SIZE OF MSFS COHO SALMON

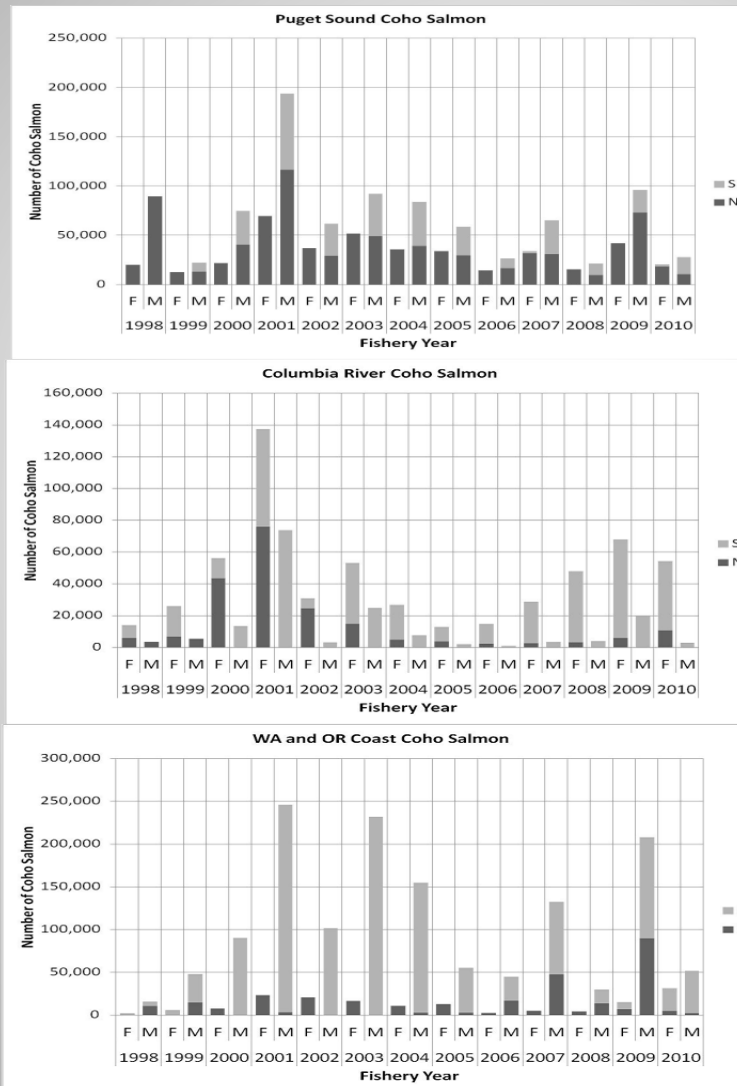


Figure 1. Landed catch of Coho salmon in MSFs (S) and non selective fisheries (N) in freshwater (F) and marine waters (M) for three regions and years 1998-2010.

SIZE OF MSFS CHINOOK SALMON

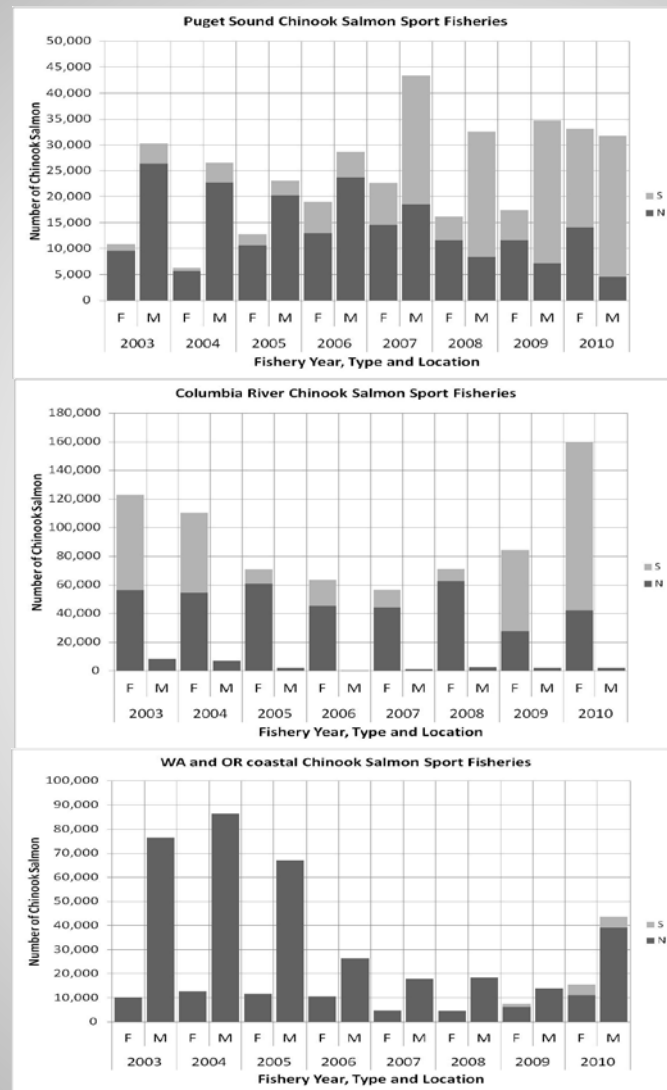


Figure 1. Landed catch of Chinook salmon in MSFs (S) and non selective fisheries (N) in freshwater (F) and marine waters (M) for three regions and catch years 2003-2010.

SIZE OF MSF - CHINOOK SALMON

MARKED INDICATOR TAG GROUPS

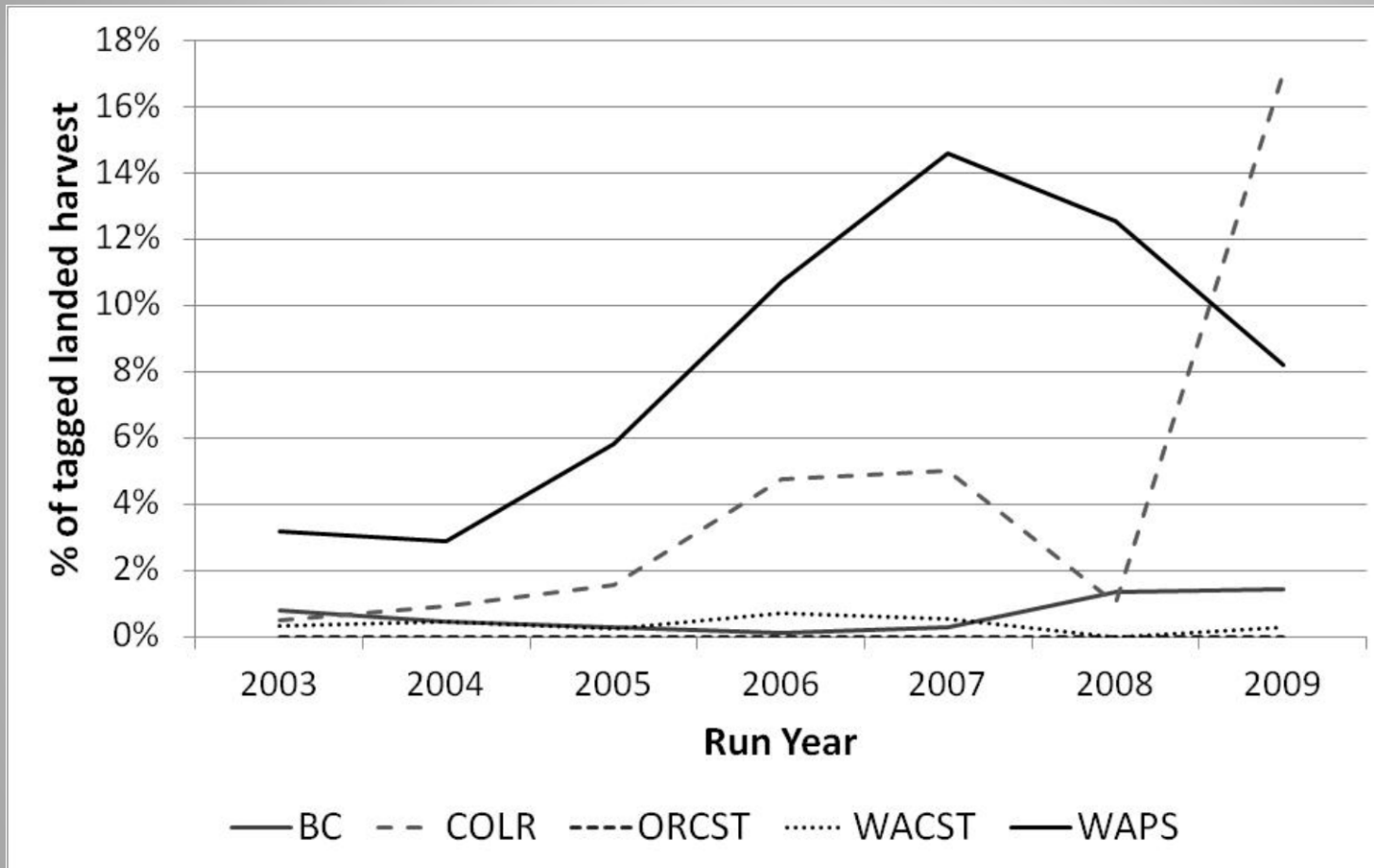


Figure .Percent of total landed tagged harvest caught in MSFs for run years 2003-2009 for Chinook salmon indicator stocks by region of origin (British Columbia [BC], Columbia River [COLR], Oregon Coast [ORCST], Washington Coast [WACST], and Puget Sound [WAPS])

WHAT DO DITS GIVE US?

- The DIT provides a measure of difference in escapement of marked and unmarked groups - which provides an unbiased estimate of *total* MSF impacts and Exploitation Rates
- The DIT provides a measure, the unmarked to marked ratio (λ), for estimating encounters in individual MSFs

$$E_{\text{unmarked}} = L_{\text{marked}} \cdot \lambda$$

- Ratio at release
- Ratio in escapement
- Ratio in non-selective fisheries

IMPACT OF MSFS ON INDICATOR STOCKS - DIT ANALYSIS

Stock	Brood Year	Unmarked		Marked		Unmarked to marked ratio		Ages in MSFs		Z-statistic for H(o) of p(Z)		Significant?
		Escapement	Release	Escapement	Release	λ^{rel}	λ^{esc}	Pre-terminal	Terminal	no impact	two tailed	
Green River	2001	108	162,160	88	178,119	0.910	0.813	2-5		2.08	0.04	Y
	2002	493	198,321	550	192,443	1.031	1.116	2-5		(2.26)	0.02	Y
	2004	578	204,269	507	204,698	0.998	0.879	2-5		2.14	0.03	Y
	2005	938	198,542	807	196,353	1.011	0.860	2-4		2.87	0.00	Y
	2006	229	204,385	165	204,795	0.998	0.721	2-3		3.19	0.00	Y
Grovers Creek	2003	1,431	151,492	1,348	163,799	0.925	0.942	2-5		3.65	0.00	Y
	2004	1,133	133,455	872	118,197	1.129	0.770	2-5		3.06	0.00	Y
	2005	1,115	169,954	1,076	136,519	1.245	0.965	2-4		(3.94)	0.00	Y
Nisqually	1998	668	192,165	485	202,103	0.951	0.726	4-5		6.00	0.00	Y
	2001	572	99,688	426	88,909	1.121	0.745	2-5	4-5	2.79	0.01	Y
	2002	500	92,560	382	91,385	1.013	0.765	2-5	4-5	3.71	0.00	Y
	2003	1,235	203,624	1,096	207,975	0.979	0.887	2-5	3-5	3.30	0.00	Y
	2004	1,102	209,905	924	208,724	1.006	0.838	2-5	2-5	3.71	0.00	Y
	2005	674	127,293	510	120,154	1.059	0.757	2-4	2-4	3.62	0.00	Y
	2006	334	204,613	268	204,221	1.002	0.801	2-3	2-3	2.41	0.02	Y
Skagit Spring	2002	561	60,000	436	59,777	1.004	0.777	2-5	3-5	3.92	0.00	Y
	2003	338	75,418	242	74,590	1.011	0.715	2-5	2-5	3.87	0.00	Y
	2004	718	71,942	465	73,668	0.977	0.648	2-5	2-5	7.71	0.00	Y
Skykomish	2002	408	197,105	325	195,075	1.010	0.797	2-5	2-5	2.83	0.00	Y
	2003	469	173,116	416	176,427	0.981	0.887	2-5	2-5	1.99	0.05	Y
	2004	966	199,529	807	200,398	0.996	0.835	2-5	2-5	3.70	0.00	Y
	2006	103	206,362	75	205,344	1.005	0.726	2-3	2-3	2.01	0.04	Y