

# Evaluation of post-season Chinook FRAM performance

## 2021 PFMC Salmon Methodology Review

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## Introduction

As part of the annual pre-season planning process for setting salmon fisheries in the marine waters of Washington and Oregon, the Pacific Fishery Management Council (PFMC) and Washington co-managers use the Fishery Regulation Assessment Model (FRAM) to estimate impacts of proposed fisheries on various coho and Chinook stocks. For Chinook specifically, FRAM is used to help plan PFMC ocean fisheries that occur north of Cape Falcon, OR as well as those that occur in the Strait of Juan de Fuca and Puget Sound. The FRAM is a deterministic single-pool model where each model run occurs over a single year and estimates fishery impacts by stock for specific time periods and age classes. For details on model structure and computational processes, in addition to a user manual, see the [FRAM Documentation Website](#).

The FRAM is rooted in a set of base period data derived through species-specific cohort analysis procedures that are founded primarily on coded-wire tag (CWT) recoveries. Key Chinook base period data include stock-age-fishery-time period specific exploitation rates, cohort sizes, maturation rates, adult equivalent (AEQ) rates, and growth function parameters. The original set of base period data for Chinook was derived from CWTs released during the 1974 - 1979 brood years and shared many of the same CWT tag groups that were used to represent exploitation rate indicator stocks and model stocks of the Pacific Salmon Commission (PSC) Chinook Model that is used for fishery management in accordance with the Pacific Salmon Treaty (PST). In recent years, a considerable amount of effort has been devoted to contemporizing and continually refining the Chinook FRAM base period data set, which is now derived from CWTs released during the 2005 - 2008 brood years. The most current base period calibration, referred to as "Round 7.1" was created in June 2021 and was produced along with a time series of post-season model runs (often referred to as validation runs) ranging from 1992 - 2018. These post-season model runs were updated in September 2021 to correct an error identified with inputs specific to

Skagit Spring Chinook. FRAM-based results presented in this report are based on this September 2021 model output. Utilizing these more contemporary base period years for FRAM means that there is no longer overlap in the CWT tag groups used to represent many of the model stocks in the PSC Chinook model, as much of the base data for the PSC Chinook model are still rooted in earlier brood years. However, there is still considerable overlap between the tag codes used to represent many Chinook FRAM stocks and the brood year 2005 - 2008 tag codes used for exploitation rate indicator stocks as part of the Chinook Technical Committee's (CTC) annual Exploitation Rate Analysis (ERA).

Each year the CTC conducts its annual ERA, which relies on cohort analysis to compute stock-specific estimates of exploitation rates, maturation rates, survival rates, and fishery indices for specified exploitation rate indicator stocks relevant to the PST. Results of the ERA are used to evaluate post-season performance in fisheries that fall under the Individual Stock Based Management (ISBM) regime of the PST. Output from the annual ERA, including estimates of maturation rates, AEQ rates, and age- and fishery-specific exploitation rates are also used as input to the annual calibration of the PSC Chinook model, which has been used to set pre- and post-season annual catch limits for fisheries that fall under the Aggregate Abundance Based Management (AABM) regime of the PST.

The purpose of this assessment is to provide an evaluation of FRAM post-season performance by comparing it with independently derived metrics from the CTC's annual ERA for appropriate stocks. Here we compare annual estimates of ocean exploitation rates and age-specific maturation rates from both Chinook FRAM and the CTC's ERA for 1999 through 2018. This range of years was selected because it represents the entirety of two ten-year PST agreements (1999-2008 and 2009-2018). As there were changes to the fishing regimes between the 1999 and 2009 PST Agreements, we compare both across and between the two time periods. It is important to acknowledge that the exploitation rates and other parameters produced by FRAM and the ERA are all estimates of the true values, which remain unknown. While each model has strengths and weaknesses, in many cases it remains difficult to determine which is more accurate. That said, this exercise remains useful in that it can help to identify discrepancies between the two models. Subsequent investigations into these discrepancies can lead to identification of errors or other recommendations for improvement to either model. This exercise may be of particular value for some Puget Sound Chinook stocks, where ERA harvest rates are used to inform stock-recruit models and subsequent rebuilding exploitation rate (RER) analyses. In some cases these RERs have been used to inform fishery limitations under the Endangered Species Act (ESA), and in cases where discrepancies exist between ERA and FRAM exploitation rates, a translation to a "FRAM-equivalent" RER becomes necessary, as FRAM is the tool used to assess fishery impacts.

In its current state, we consider this product to be a work in progress and envision future iterations. Most notably, we have developed a framework for comparing post-season model run output from both FRAM and the ERA for which the results can be quickly and easily updated should more recent or improved output become available. The codebase used to conduct this assessment and produce this document is publicly available on GitHub ([https://github.com/jon-carey/FRAM\\_R-Code/blob/master/FRAM\\_v ERA.Rmd](https://github.com/jon-carey/FRAM_R-Code/blob/master/FRAM_v ERA.Rmd)). We seek feedback from attendees of the October 2021 Salmon Methodology Review meeting on ways to improve the comparisons, should there be any. Following the results, we present some case studies into potential reasons causing differences between model outputs for stocks with notable differences. This not intended

to be a comprehensive evaluation, rather it provides some examples of factors that can cause differences between the models. Lastly, we close with some overall conclusions and next steps.

## Model similarities and differences

Before comparing output of these two models, it is important to highlight some of the key similarities and differences between them. Both processes are rooted in a standard CWT-based cohort analysis. A key difference, however, is that while FRAM uses a single cohort analysis to derive a set of base period data, the ERA conducts a separate cohort analysis for each individual brood year across the time series of available data. This difference is a result of the primary intended use of each model. The ERA is conducted in a post-season context only, as it requires CWT recoveries from a given year in order to produce output for that year. Chinook FRAM, however, can be used in both a pre-season and post-season context, although the primary use is in a pre-season context for estimating the impacts of proposed fisheries on various Chinook stocks during an upcoming fishing season. As such, the model employs a set of base period reference data, including stock-age-fishery-time period specific exploitation rates and maturation rates, which remain static between model runs. Given FRAM's reliance on a base period and the assumption of static parameters across years, we don't expect perfect agreement between FRAM and ERA exploitation rates across the entire time series. Rather, we expect to see a lower inter-annual variability in the FRAM exploitation rates, thus, a comparison of average exploitation rates over time may be more appropriate.

Given the need to accommodate the fishery management cycle and different fishing seasons (e.g., winter, spring, summer) during pre-season model runs, Chinook FRAM operates over a series of four time steps within a given year: (1) the preceding October to April, (2) May to June, (3) July to September, and (4) October to the following April. In contrast, the ERA operates over a single annual time step for each calendar year. For the purposes of this assessment, FRAM exploitation rates are calculated by summing across time steps 1-3, thus a given year represents October of the preceding year through September of the year specified, resulting in a slight disconnect between the true calendar years represented in the ERA.

Both models incorporate natural mortality at the same assumed annual rates of 40% for age 2, 30% for age 3, 20% for age 4, and 10% for age 5. Both models also account for incidental fishing mortality (e.g., shaker mortality, legal and sublegal non-retention, drop-off), however, the assumed release mortality and drop-off mortality rates differ.

Chinook FRAM is a multi-stock model which, with a few notable exceptions, attempts to account for the majority of Chinook production from the Sacramento River in the South to Cape Caution, British Columbia in the north. Hence, model stocks account for most of the modeled fishery catch. During cohort reconstruction FRAM incorporates a step where the recoveries in a fishery are expanded to match the reported catch in a fishery. This can result in base period exploitation rate errors when catches are misreported. Conversely, it can improve estimates for fisheries with inaccurate "Estimated CWTs". Additionally, Chinook FRAM incorporates imputed recoveries into the base period cohort analyses for some fisheries where sampling has not occurred (i.e., certain Puget Sound freshwater sport fisheries), whereas in the ERA these recoveries are currently unaccounted for.

Another notable difference between Chinook FRAM and the ERA in its current state is that FRAM contains separate "marked" (adipose fin clipped) and "unmarked" (adipose intact) components for each stock and algorithms for processing mark-selective fisheries (MSFs) while the ERA does not. The CTC is currently in the process of developing MSF algorithms for the ERA to allow assessment of impacts on unmarked Chinook, however, an anticipated completion date is yet to be determined. Pairing FRAM with the associated Terminal Area Management Module (TAMM) excel file also allows for accounting of differential impacts to natural populations in selective fisheries (mark, area, gear, time, etc.) as well as processing of freshwater fisheries on a population level by splitting individual populations from existing model stock aggregates.

## Methods

### Stocks

The table below provides a list of FRAM and ERA stocks that were included in this evaluation and how they relate to each other, based on a review and comparison of the CWT codes used to represent each stock. In all cases there is at least some overlap in the tag codes used to represent the FRAM and ERA stocks. In some cases there is more than one ERA stock used to represent a single FRAM stock. In these cases, exploitation rates and maturation rates were averaged across all ERA stocks that correspond to a single FRAM stock. There are some FRAM stocks that were not included in this evaluation due to lack of a suitable ERA counterpart. Generally, these were Puget Sound yearling stocks with low abundances (e.g., South Puget Sound fall yearling, Hood Canal fall yearling), stocks without marked tag codes available to represent them, (e.g., White River spring, Strait of Juan de Fuca), or stocks that are outside the purview of the PST (e.g., Sacramento River Fall Chinook). Also note that there are some instances where stocks or hatchery programs included in a FRAM stock aggregate may differ slightly to those used in an ERA stock/stock aggregate, such as "Mid Puget Sound Fall Fingerlings" in FRAM including the Grovers, Issaquah, Soos Creek, and Voights tag releases, but the corresponding tag group in the ERA including Grovers, Issaquah, and Soos Creek tag releases (but not Voights). Differences in tag codes used to represent stocks via the FRAM and ERA are presented in the results section.

Table 1. Table relating FRAM stocks to ERA stocks

<b>FRAM_Stock</b>	<b>FRAM_Stock_Abbreviation</b>	<b>ERA_Stock_Acronym</b>	<b>ERA_stock_names</b>
Nooksack/Samish Fall	NkSm FF	SAM	Samish Fall Fingerling
Hatchery Nooksack Spr	NK Sp Hat	NSF	Nooksack Spring Fingerling
Skagit Summer/Fall Fing	Skag FF	SSF	Skagit Summer Fingerling
Skagit Spring Year	SkagSpY	SKF SKS	Skagit Spring Fingerling Skagit Spring Yearling
Snohomish Fall Fing	Snoh FF	SKY	Skykomish Fall Fingerling
Stillaguamish Fall Fing	Stil FF	STL	Stillaguamish Fall Fingerling
Mid PS Fall Fing	MidPSFF	SPS	South Puget Sound Fall Fingerling
South Puget Sound Fall Fing	SPSd FF	NIS	Nisqually all Fingerling
Hood Canal Fall Fing	HdCl FF	GAD	George Adams Fall Fingerling
CR Oregon Hatchery Tule	OR Tule	LRH	Columbia Lower River Hatchery Tule
CR Washington Hatchery Tule	WA Tule	CWF	Cowlitz Fall Tule
Lower Columbia River Wild	LCRWild	LRW	Lewis River Wild
CR Bonneville Pool Hatchery	BPHTule	SPR	Spring Creek Tule
Columbia R Upriver Summer	UpCR Su	SUM	Columbia River Summers
Columbia R Upriver Bright	UpCR Br	URB	Columbia River Upriver Bright
Willamette River Spring	Will Sp	WSH	Willamette Spring
Snake River Fall	Snake F	LYF LYY	Lyons Ferry Fingerling Lyons Ferry Yearling
Oregon North Coast Fall	OR No F	SRH	Salmon River
WCVI Total Fall	WCVI TI	RBT	Robertson Creek Fall
Fraser River Late	FrasRLt	CHI HAR	Chilliwack River Fall Harrison River
Fraser River Early	FrasREr	SHU NIC	Lower Shuswap River Summer Nicola River Spring
Lower Georgia Strait	LwGeo S	BQR COW PPS	Big Qualicum River Fall Cowichan River Fall Puntledge River Summer
WA North Coast Fall	WA NCst	QUE	Queets Fall Fingerling
Hoko River	Hoko Rv	HOK	Hoko Fall Fingerling
Mid Oregon Coast Fall	MidORCst	ELK	Elk River

## Fisheries

The table below provides a crosswalk of FRAM fisheries and ERA fishery groupings to four regions as presented in figures below: Southeast Alaska (SEAK), Northern and Central British Columbia (NBC), Southern British Columbia (SBC), and Southern United States (SUS). FRAM includes 73 fisheries from southeast Alaska, Canada, Puget Sound and off the Coast of Washington, Oregon, and California. The ERA contains 233 fine scale fisheries encompassing the same range as those in FRAM, which get aggregated into 28 fishery groupings for reporting in "total mortality distribution tables," which get reported in annual ERA reports (see reference and link below). Efforts were made to ensure alignment between FRAM fisheries and ERA

fisheries when assigning each fishery to a region for comparative purposes. There may, however, be unique, stock-specific instances where misalignments occur.

Table 2. Table relating FRAM fisheries to ERA fisheries

FRAM				
FisheryID	FRAM Fishery Name	ERA Fishery Group	Region	
1	SEAK Troll	AABM SEAK Troll	SEAK	
2	SEAK Net	AABM SEAK Net		
3	SEAK Sport	AABM SEAK Sport		
9	BC No/Cent Troll	AABM NBC Troll ISBM NBC & CBC Troll	NBC	
4	BC No/Cent Net	ISBM NBC & CBC Net		
8	BC Outside Sport	AABM NBC Sport ISBM NBC & CBC Sport		
10	BC WCVI Troll	AABM WCVI Troll	SBC	
12	BC Georgia Strait Troll	ISBM Southern BC Troll		
5	BC WCVI Net	ISBM Southern BC Net		
6	BC Georgia Strait Net			
7	BC JDF Net	AABM WCVI Sport		
11	BC WCVI Sport			
13	BC N Georgia Strait Sport	ISBM Southern BC Sport		
14	BC S Georgia Strait Sport			
15	BC JDF Sport			
16	NT Area 3:4:4B Troll	ISBM N Falcon Troll	SUS	
17	Tr Area 3:4:4B Troll			
20	NT Area 2 Troll			
21	Tr Area 2 Troll			
26	Area 1 Troll			
41	Tr JDF Troll			
18	NT Area 3:4 Sport			
22	NT Area 2 Sport			
27	Area 1 Sport			
30	Central OR Troll			
32	KMZ Troll	ISBM S Falcon Troll	SUS	
34	So Calif. Troll	ISBM S Falcon Sport		
31	Central OR Sport			
33	KMZ Sport			
35	So Calif. Sport			
23	NrT G. Harbor Net	ISBM WAC Net	Terminal Fishery	
24	T G. Harbor Net			
25	Willapa Bay Net			

FRAM			
FisheryID	FRAM Fishery Name	ERA Fishery Group	Region
37	NT Area 6A:7:7A Net	ISBM Puget Sd Net	SUS
38	Tr Area 6A:7:7A Net		
43	NT JDF Net		
44	Tr JDF Net		
46	NT Skagit Net		
47	Tr Skagit Net		
49	NT St/Snohomish Net		
50	Tr St/Snohomish Net		
51	NT Tulalip Bay Net		
52	Tr Tulalip Bay Net		
55	Tr Area 6B:9 Net		
58	NT Area 10:11 Net		
59	Tr Area 10:11 Net		
61	Tr Area 10A Net		
63	Tr Area 10E Net		
65	NT Hood Canal Net		
66	Tr Hood Canal Net		
68	NT SPS Net		
69	Tr SPS Net		
70	NT Area 13A Net		
71	Tr Area 13A Net		
42	NT Area 5 Sport	ISBM Puget Sd Sport	Term (excl from Ocean ERs)
54	NT Area 6 Sport		
36	NT Area 7 Sport		
45	NT Area 8-1 Sport		
48	NT Area 8D Sport		
53	NT Area 9 Sport		
56	NT Area 10 Sport		
60	NT Area 10A Sport		
62	NT Area 10E Sport		
57	NT Area 11 Sport		
64	NT Area 12 Sport		
67	NT Area 13 Sport		
39	NT Area 7B-7D Net		
40	Tr Area 7B-7D Net		
72	Freshwater Sport		
73	Freshwater Net		

## Exploitation Rates

### ERA

Each year the CTC conducts an "Exploitation Rate Analysis" (ERA), which involves brood year specific CWT-based cohort analyses that reconstruct the cohort size and exploitation rate history for a given set of exploitation rate indicator stocks. Methods and algorithms central to the ERA can be found in Appendix II, Supplement B of [CTC, 1988](#). For this assessment we used results from the ERA conducted in 2020, which provides calendar year exploitation rate estimates through 2018 for all indicator stocks. Results of this analysis are published and available on the PSC website ([CTC, 2021](#)). Calendar year exploitation rates derived from the CTC's ERA can be obtained from AEQ total mortality distribution tables included in Appendix C of the published

report, (also [available electronically](#) on the PSC website) and are calculated for each stock (s) in a given calendar year (cy) for a subset of fisheries (F) as:

$$ER_{cy,s,F} = \frac{\sum_{a=MinAge}^{MaxAge} (\sum_{f \in F} TotMort_{cy,s,a,f} * AEQ_{s,a})}{\sum_{a=MinAge}^{MaxAge} (\sum_{f=1}^{NumFish} TotMort_{cy,s,a,f} * AEQ_{s,a}) + Esc_{cy,s,a}}$$

Where,

ER = exploitation rate

cy = calendar year

s = stock

F = ocean (pre-terminal) fisheries

a = age

MinAge = 2

MaxAge = 5

f = fishery

TotMort = total (landed plus non-landed) fishing mortality

AEQ = adult equivalent (proportion of fish that would have survived to maturity and escaped to

spawn in the absence of fishing)

Esc = escapement

Ocean exploitation rates for a given stock/year are calculated by summing the percentage distributions across all AABM and ISBM fisheries (terminal fisheries are excluded). It is important to note that, as the ERA is conducted using CWT tag codes with marked releases, these are estimates of exploitation rates experienced by the marked component of each stock. For stocks that are not subjected to significant MSFs, the difference in exploitation rates between the unmarked and marked components of the stock would be expected to be minimal. It is possible, however, that even in the absence of exposure to MSFs, there could be differences in marked and unmarked exploitation rates on a stock due to differences in age composition between the two groups. The CTC is currently in the process of incorporating MSF algorithms into the ERA.

## FRAM

FRAM exploitation rates were based on post-season validation runs conducted in September 2021, which used the latest version of the Chinook FRAM base period calibration, referred to as 'round 7.1'. Unlike the ERA, FRAM does account for differential impacts on the marked and unmarked components of a stock when exposed to MSFs, thus, in order to ensure comparability with exploitation rates from the ERA, FRAM exploitation rates presented in this document are derived using the marked component of each stock. For this analysis only pre-terminal (ocean) exploitation rates were evaluated, as FRAM does not account for terminal or freshwater fishery impacts for most stocks that originate outside of Puget Sound. FRAM exploitation rates for a subset of fisheries (F), are calculated for a given catch year (cy) and stock (s), as:

$$ER_{cy,s,F} = \frac{\sum_{t=1}^3 (\sum_{a=MinAge}^{MaxAge} (\sum_{f \in F} TotMort_{cy,s,a,f,t} * AEQ_{s,a,t}))}{\sum_{t=1}^3 (\sum_{a=MinAge}^{MaxAge} (\sum_{f=1}^{NumFish} TotMort_{cy,s,a,f,t} * AEQ_{s,a,t}) + Esc_{cy,s,a,t})}$$

Where,

t = time step

Please note that the FRAM exploitation rates presented in this assessment will differ from those that may be reported in other forums in an effort to produce rates that are comparable to those produced by the ERA. These difference are primarily due to:

1. Use of the "marked" stock component rather than the "unmarked" stock component, which is often used to estimate impacts on natural origin stocks.
2. Inclusion of age 2 fish in escapement and the resulting abundance which serves as the denominator of the exploitation rate equation. Typically, FRAM derived exploitation rates do not include age 2 fish in escapement.
3. Summation of annual impacts across FRAM time steps 1 through 3 (October through September), rather than time steps 2 through 4 (May through April), which is typically the practice when assessing Puget Sound stock impacts.

## Maturation Rates

Maturation rates are calculated similarly in both the ERA and FRAM base period cohort analyses as the mature portion of the total cohort after pre-terminal fishing, or:

$$MatRate_{by,a} = \frac{TermMort_{by,a} + Escape_{by,a}}{Cohort_{by,a} * SurvRte_a - PTermMort_{by,a}}$$

A distinction is that while the ERA maturation rates are calculated on an annual basis, FRAM maturation rates are calculated separately for each Chinook FRAM time step (e.g., Oct-Apr, May-Jun, Jul-Sep). In order to provide FRAM maturation rates that are comparable to the annual rates produced by the ERA, annual maturation rates were calculated from the time step-specific rates for each FRAM stock (s) and age (a) as:

$$MatRate_{s,a} = MatRate_{s,a,T1} + ((1 - MatRate_{s,a,T1}) * MatRate_{s,a,T2}) \\ + ((1 - MatRate_{s,a,T1}) * (1 - MatRate_{s,a,T2}) * MatRate_{s,a,T3})$$

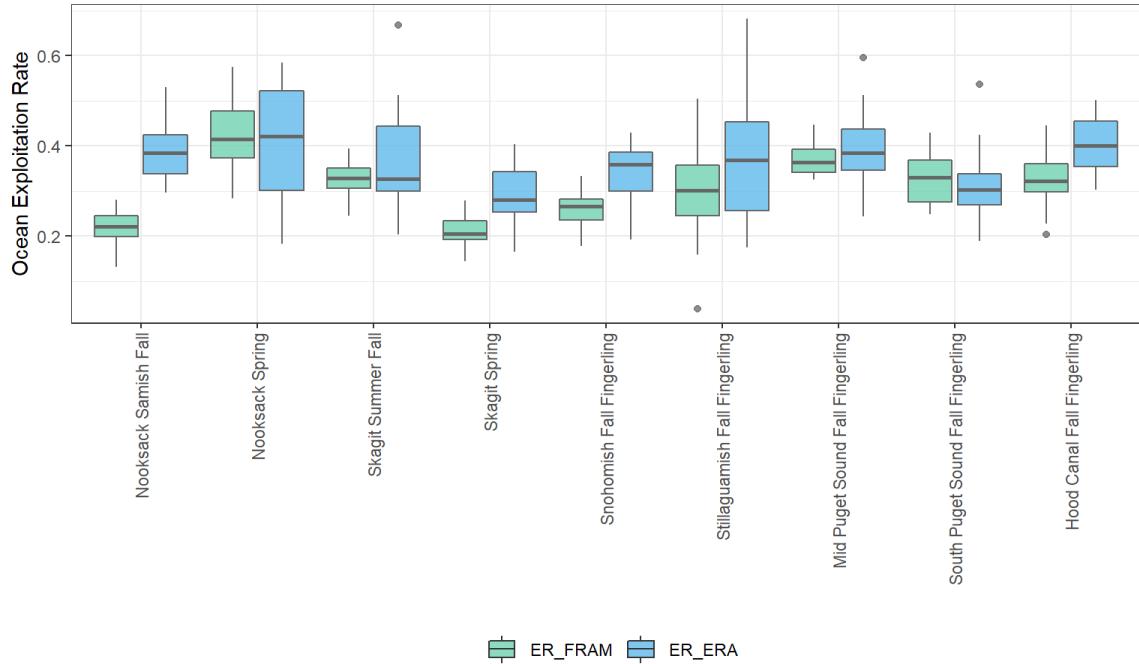
It is also worth noting that whereas the ERA maturation rates are calculated using CWT recovery data for each brood year across the time series, the FRAM maturation rates are calculated as part of the base period calibration, thus, as part of the base period data set they remain constant between model runs (i.e., are static across all years in this assessment). Maturation rates for five year old Chinook are assumed to be 100% in both models. As a result, age five maturation rates were not included in the maturation rate plots that follow to improve readability.

# Results

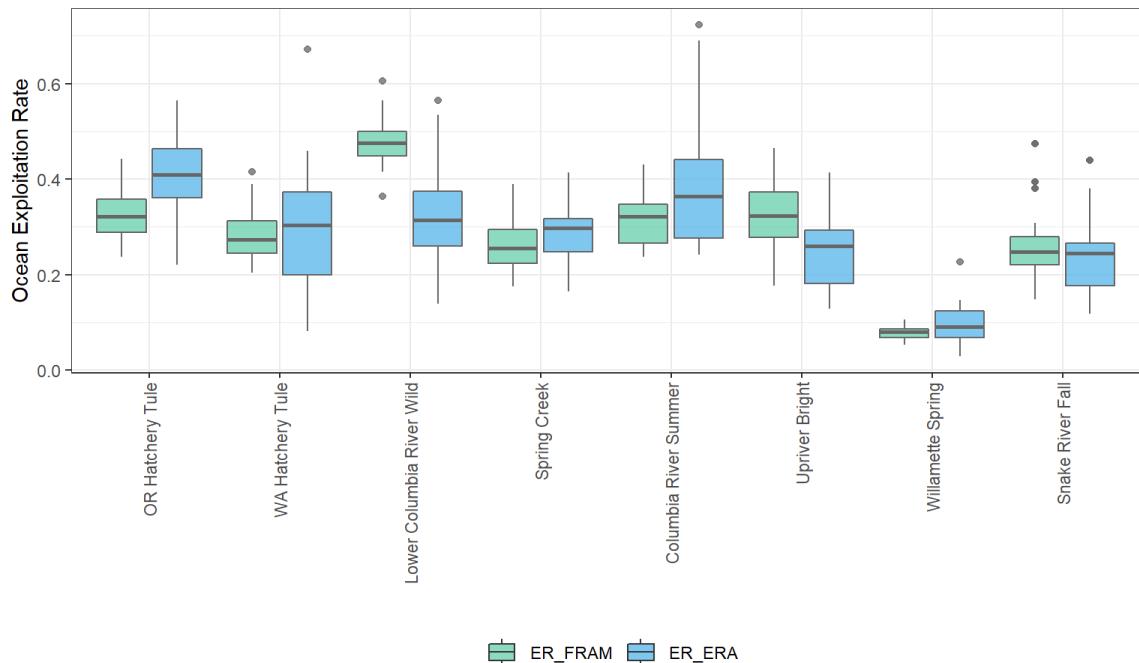
## Overall Summary Across Stocks

### Regional Box Plots

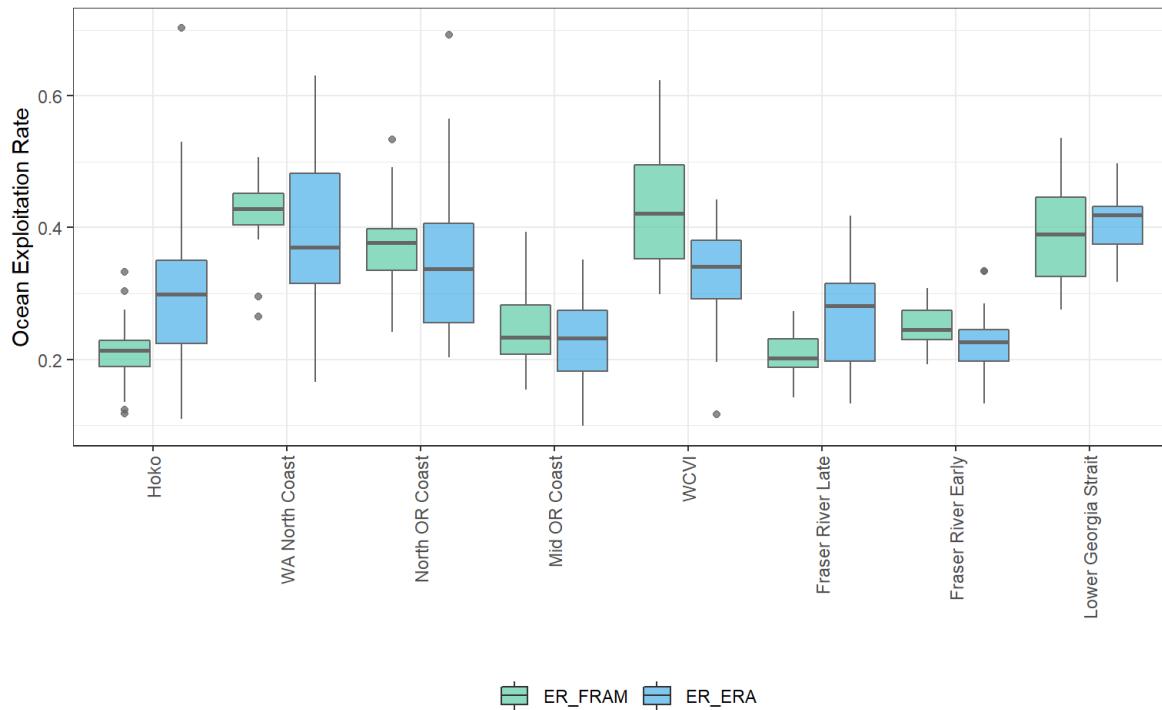
#### Puget Sound



#### Columbia River

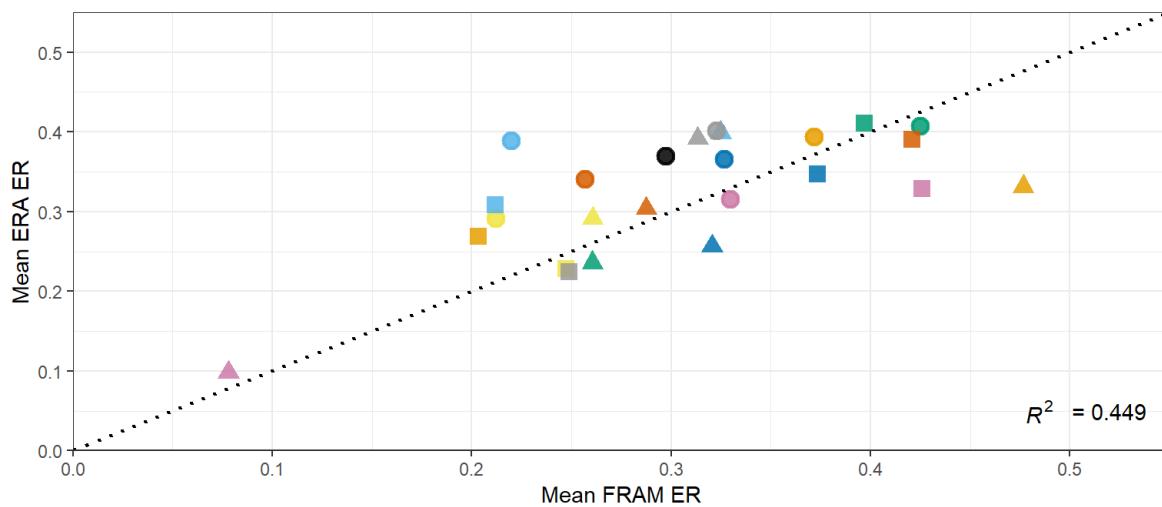


## WA/OR Coast & Canada

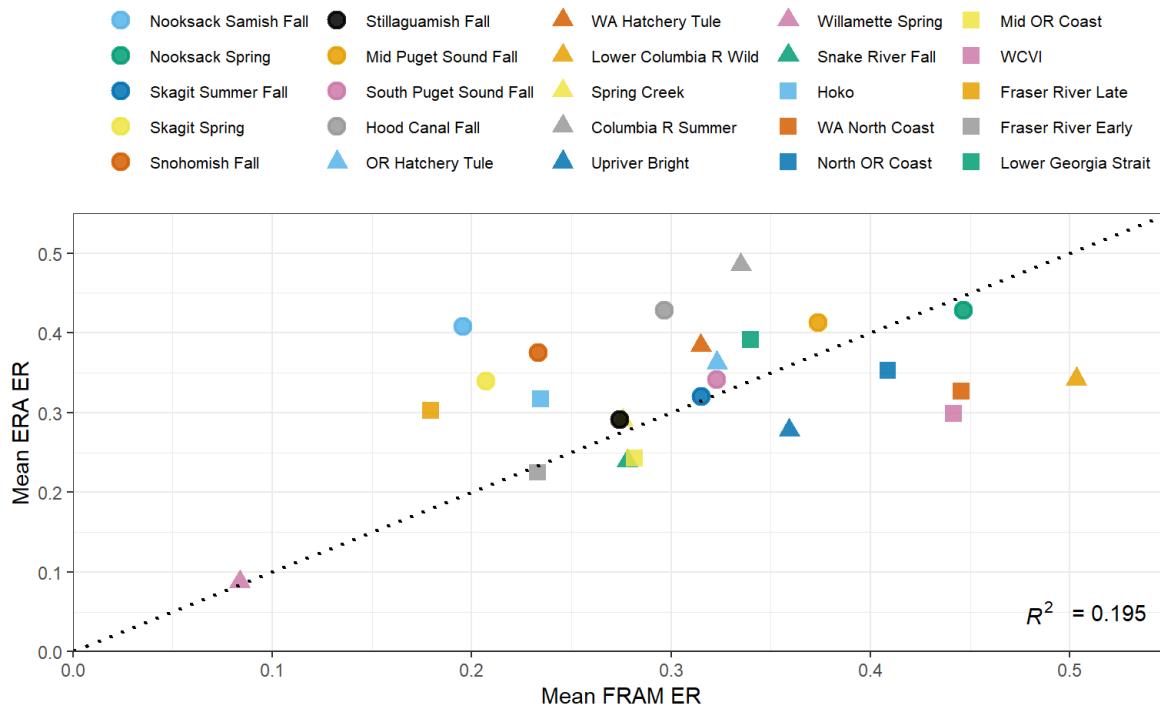


## ER Scatterplots

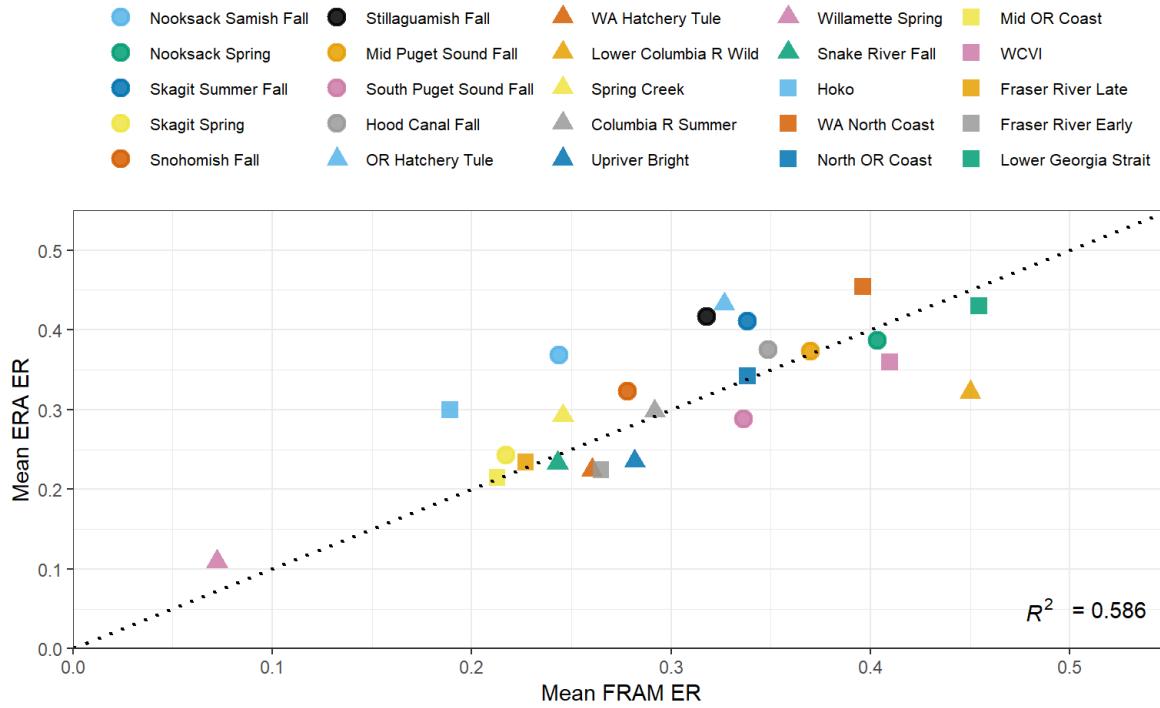
### Combined



1999 to 2008



2009-2018

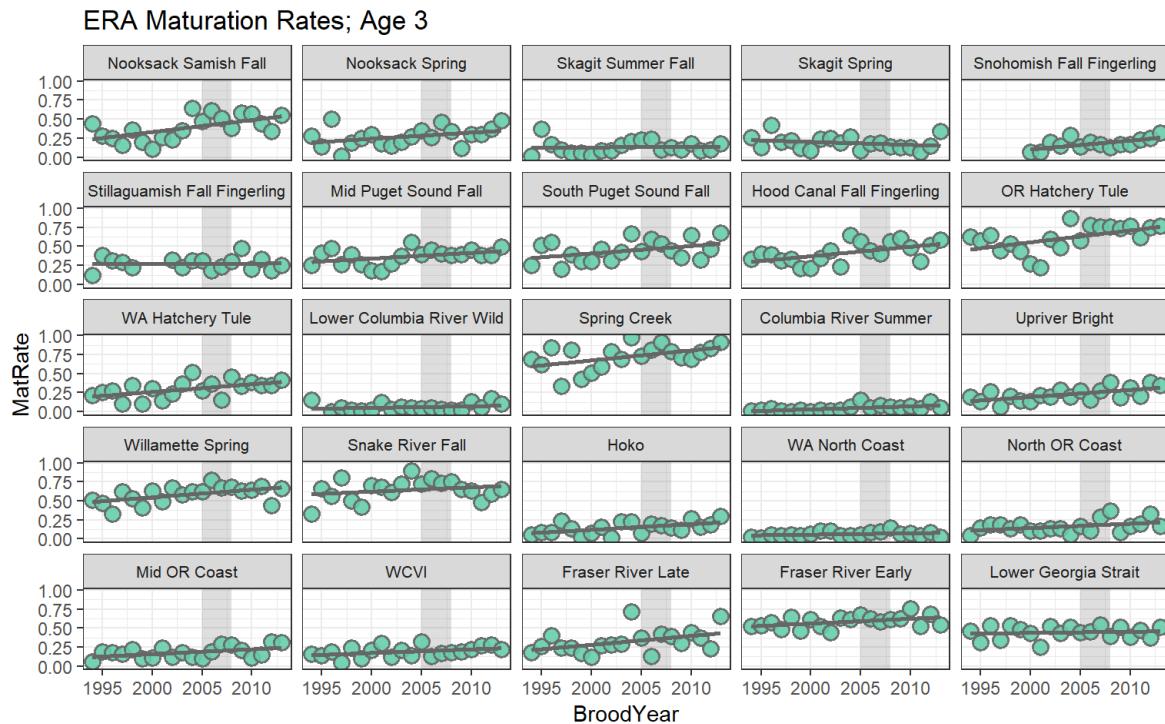


## Maturation Rates

Age 2

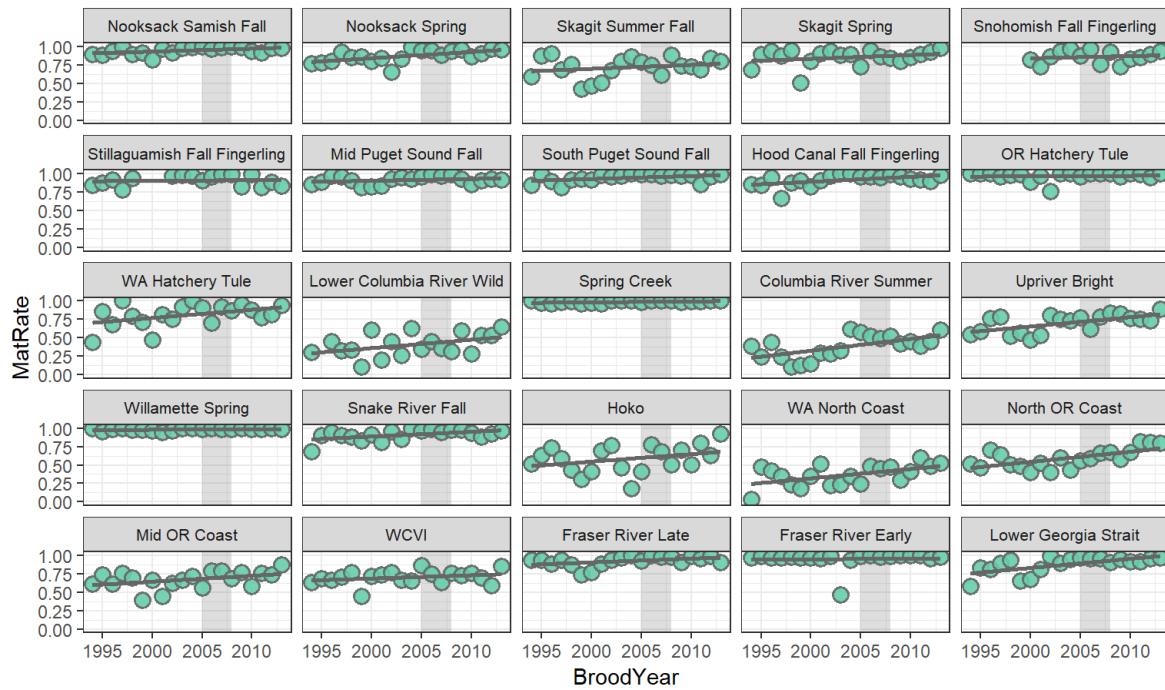


Age 3



## Age 4

ERA Maturation Rates; Age 4



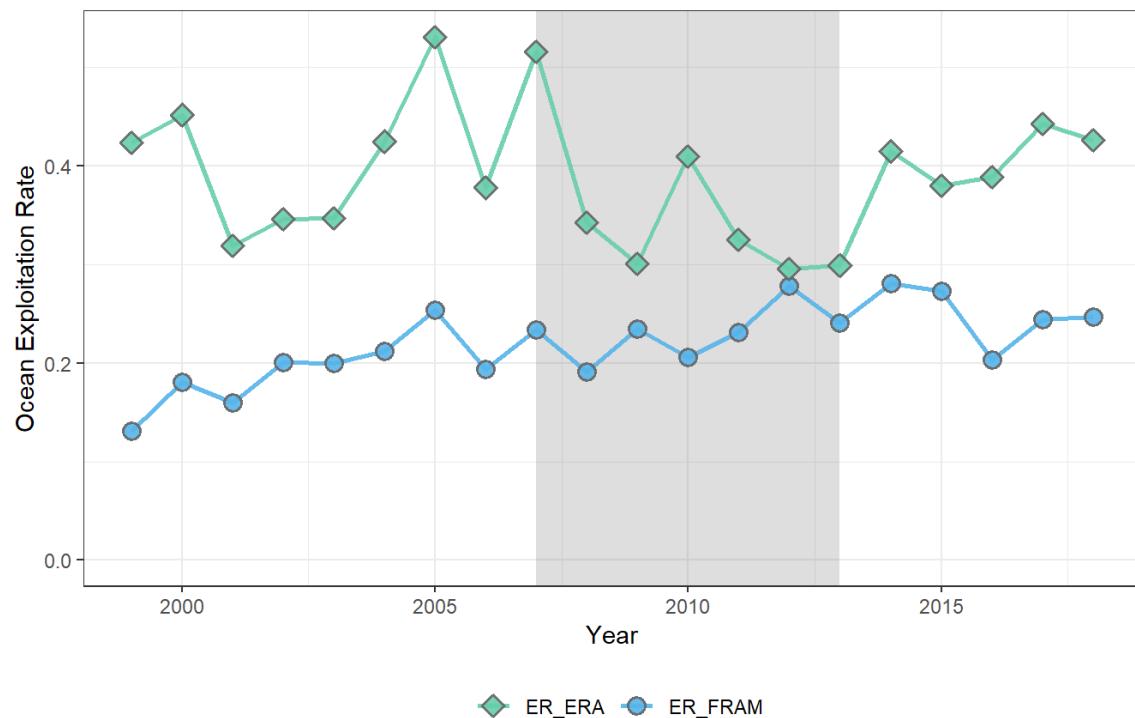
## Individual Stock Results

Nooksack Samish Fall

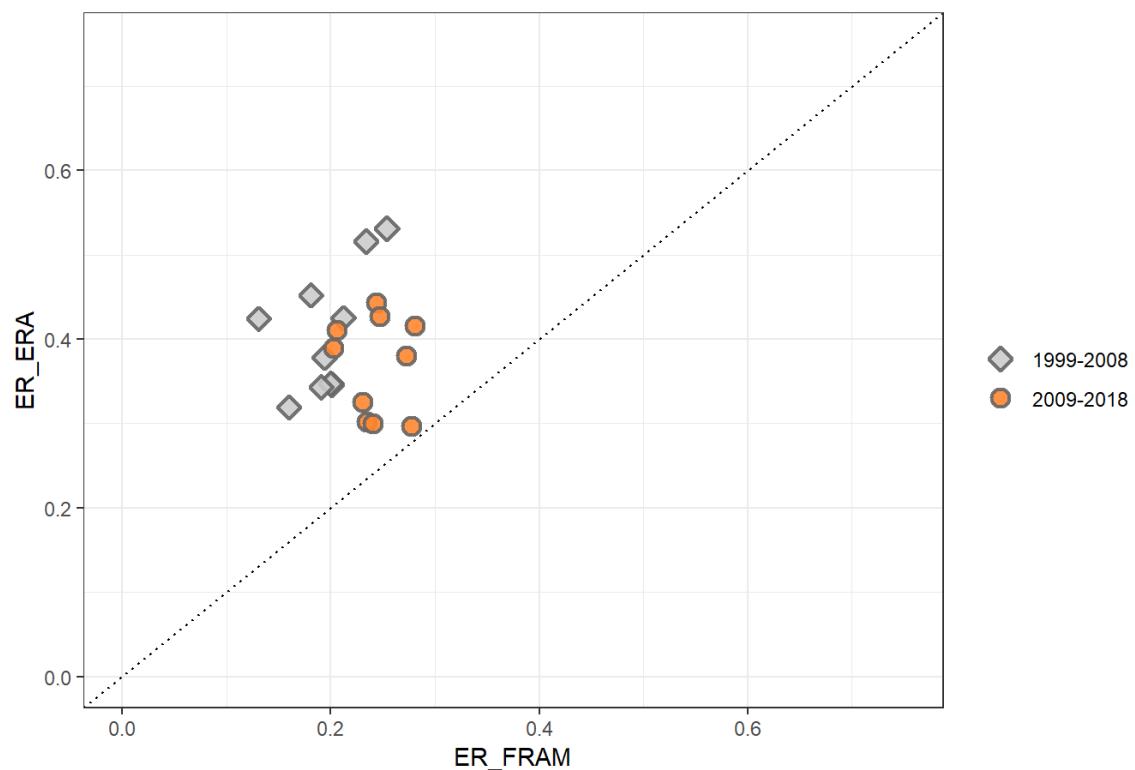
BroodYear	TagCode	Stock_ERA	ERA	FRAM
2005	633369	SAM	x	x
2005	633591	NA		x
2006	633389	SAM	x	x
2006	634080	NA		x
2007	634272	SAM	x	x
2007	634583	NA		x
2008	634841	SAM	x	x
2008	635081	NA		x

### Nooksack Samish Fall; Ocean Exploitation Rates

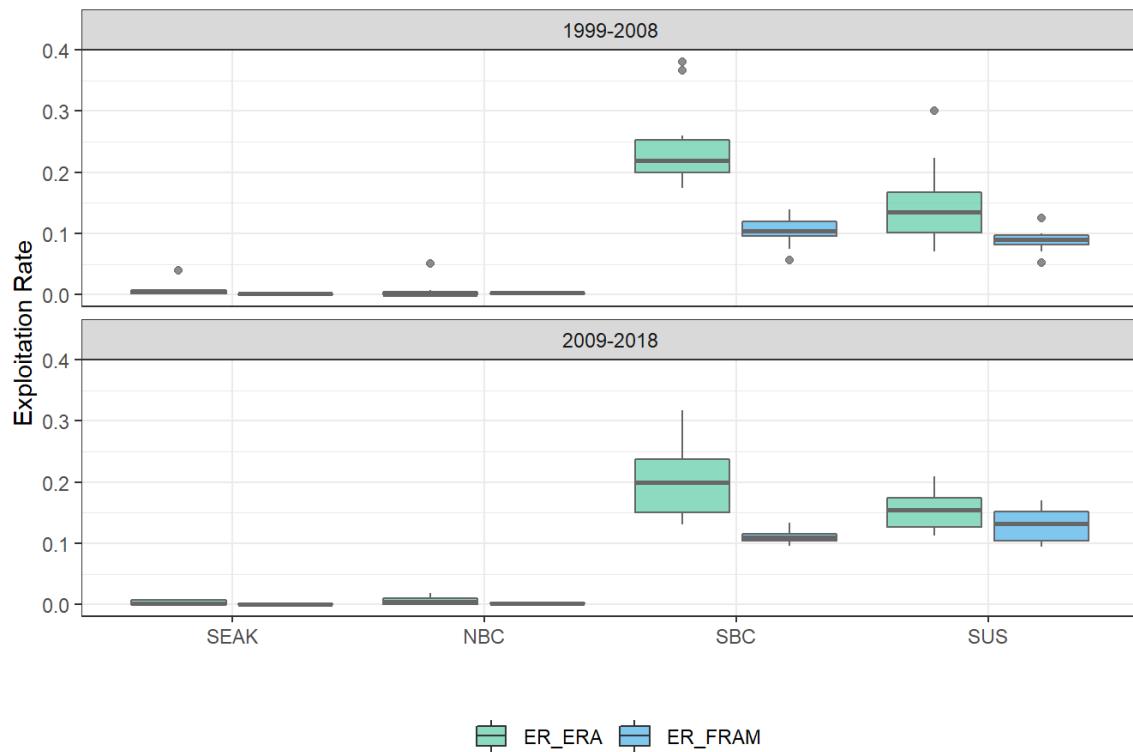
Note: gray shaded area corresponds to base period return years



### Nooksack Samish Fall

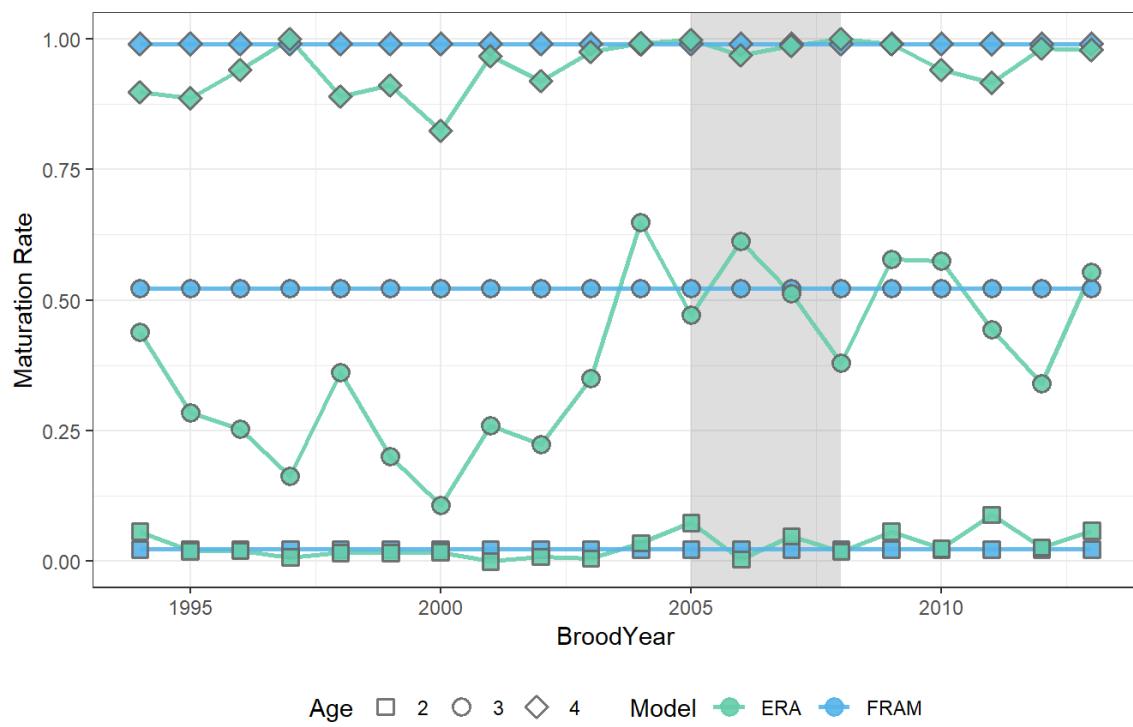


### Nooksack Samish Fall; Ocean Exploitation Rates by Region



### Nooksack Samish Fall; Maturation Rates

Note: gray shaded area corresponds to base period brood years

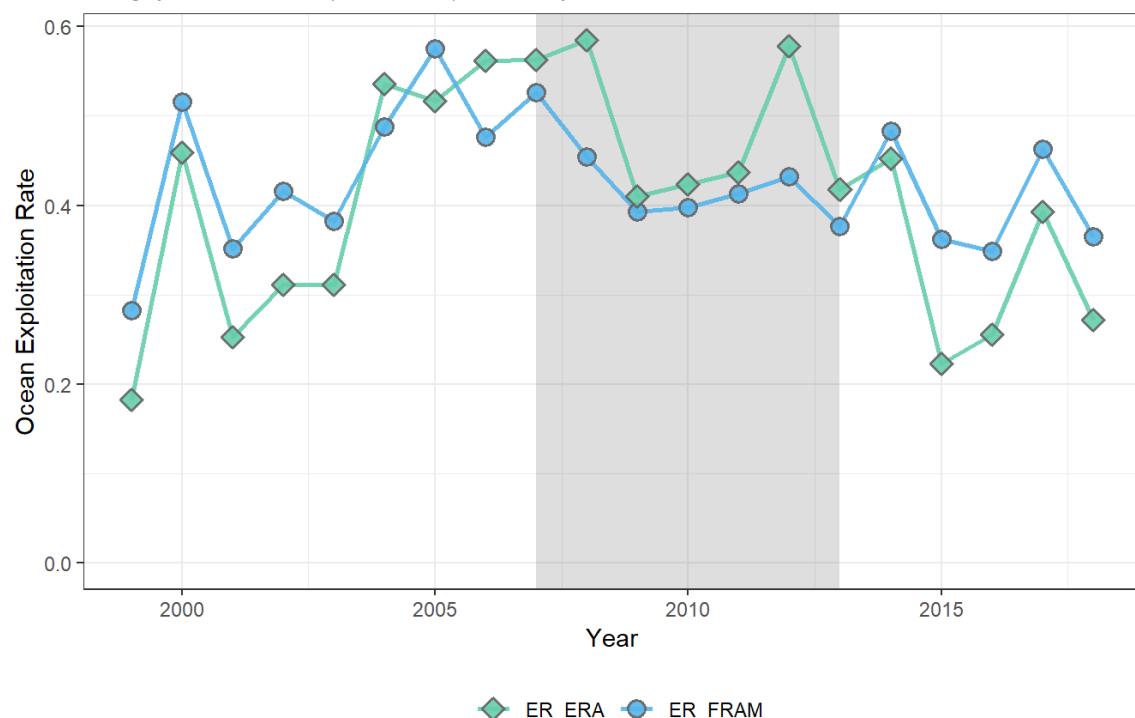


## Nooksack Spring

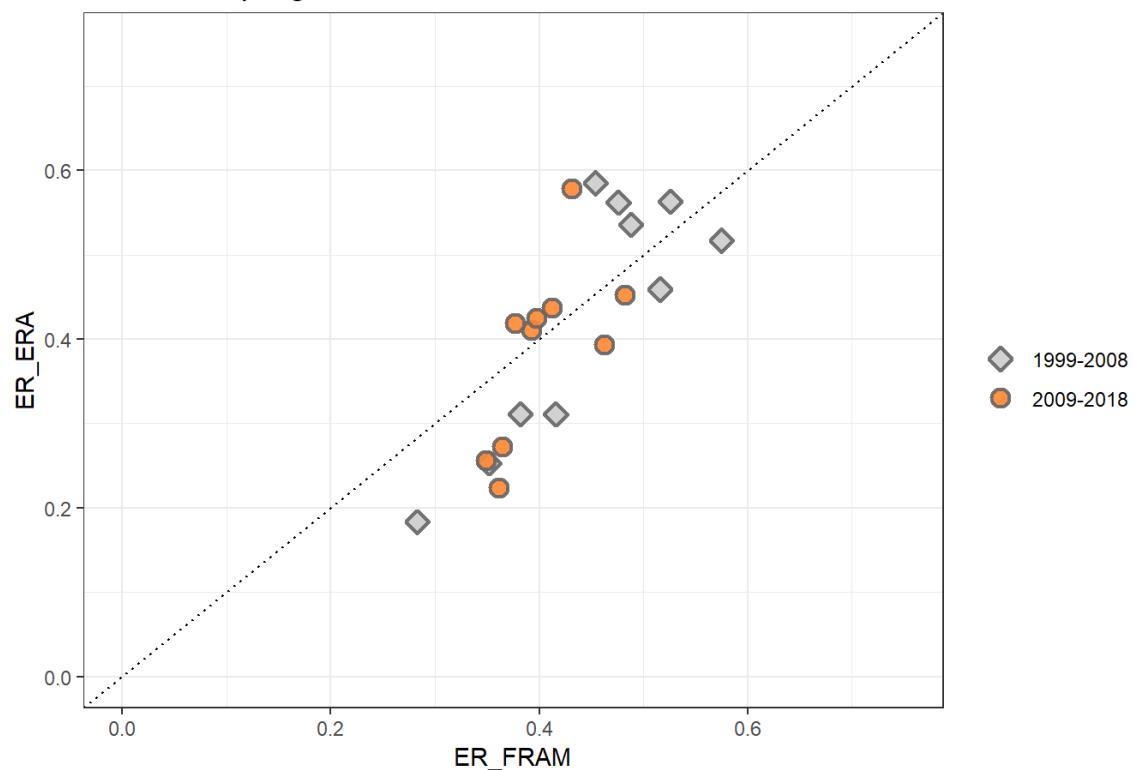
<b>BroodYear</b>	<b>TagCode</b>	<b>Stock_ERA</b>	<b>ERA</b>	<b>FRAM</b>
2005	633172	NSF	x	x
2006	633387	NSF	x	x
2007	634274	NSF	x	x
2008	634797	NSF	x	x

### Nooksack Spring; Ocean Exploitation Rates

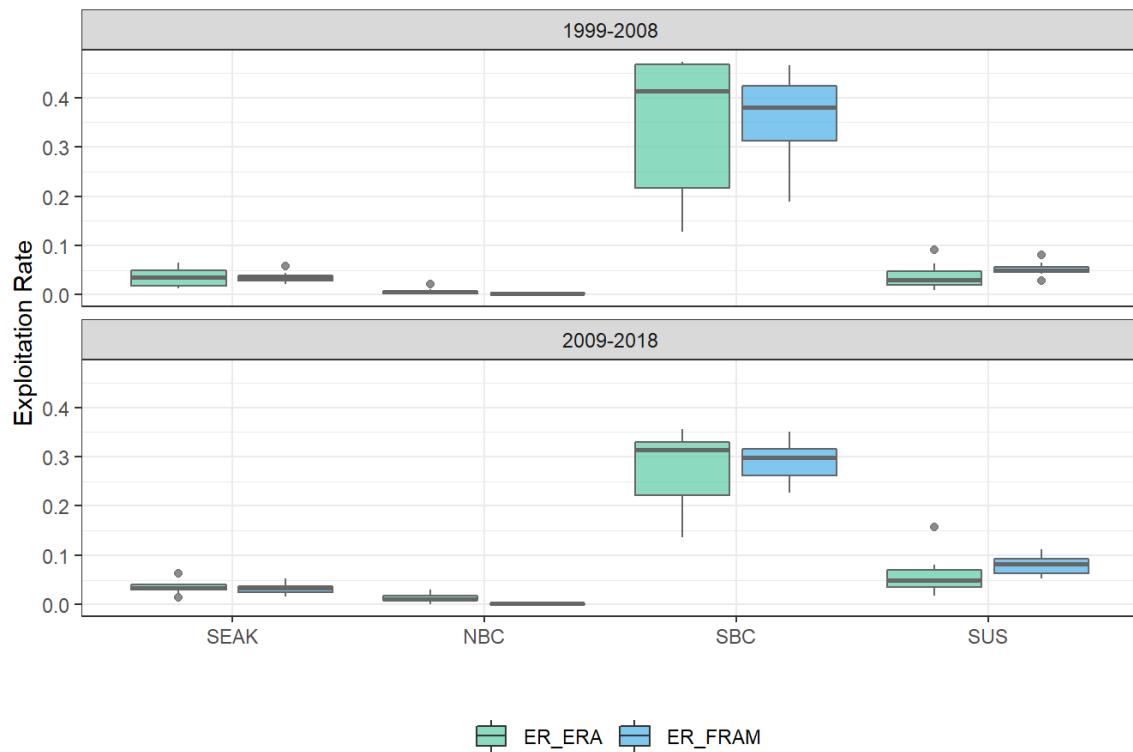
Note: gray shaded area corresponds to base period return years



### Nooksack Spring

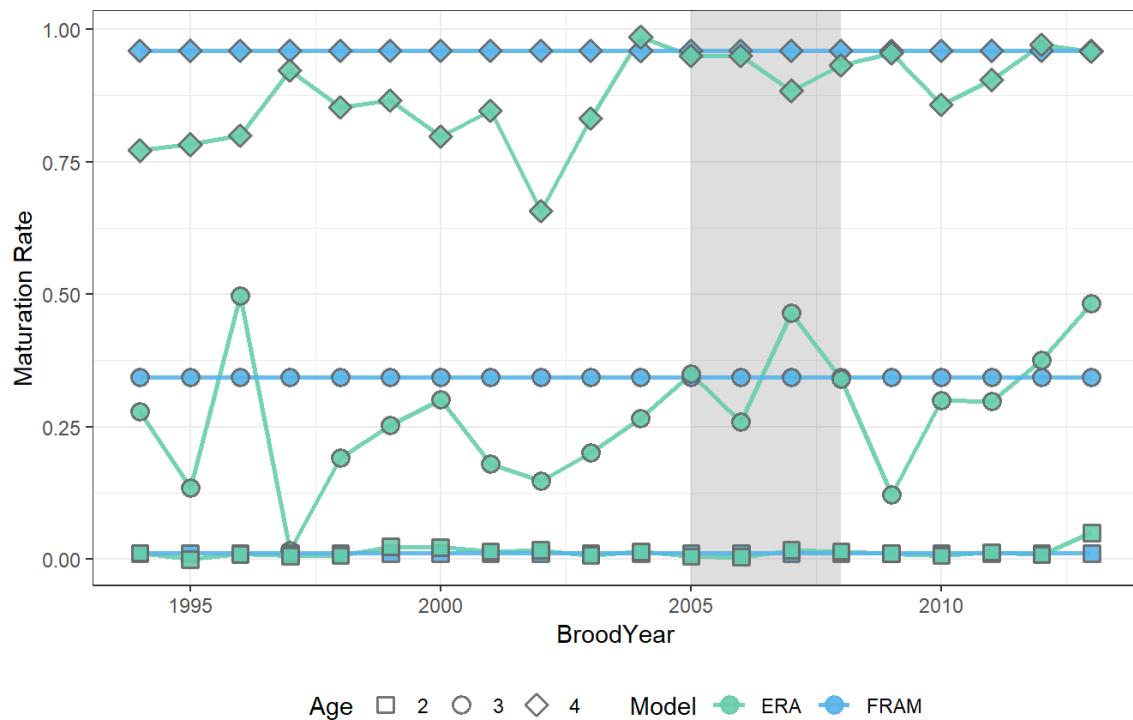


### Nooksack Spring; Ocean Exploitation Rates by Region



### Nooksack Spring; Maturation Rates

Note: gray shaded area corresponds to base period brood years

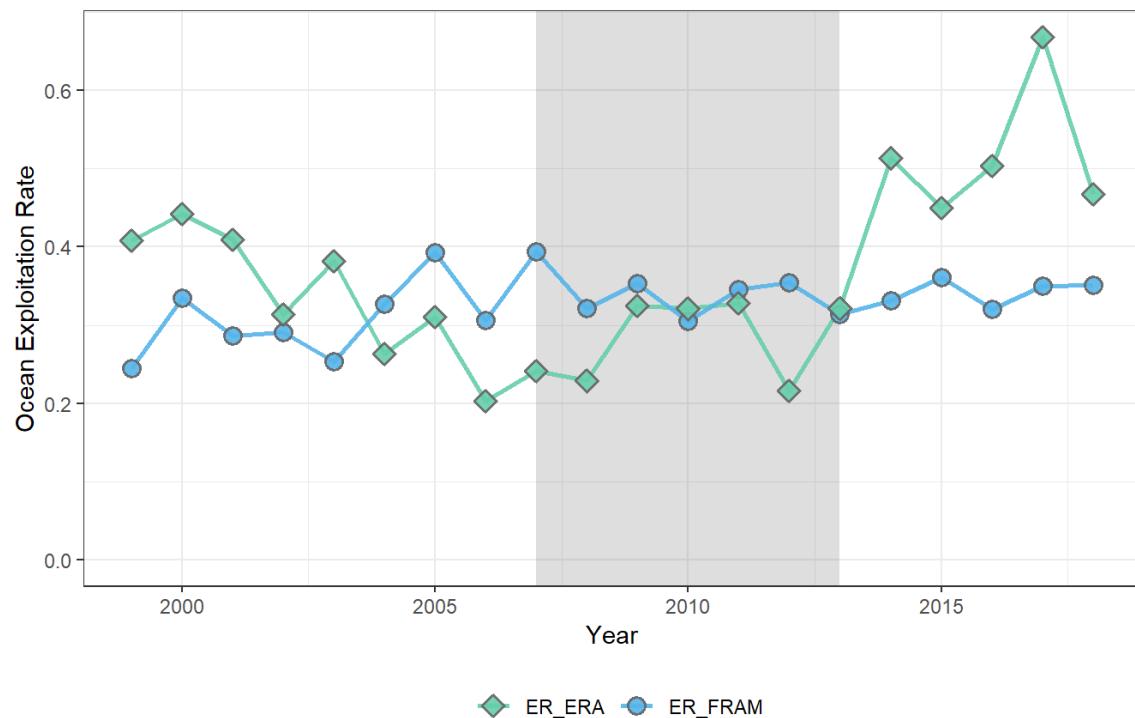


## Skagit Summer Fall

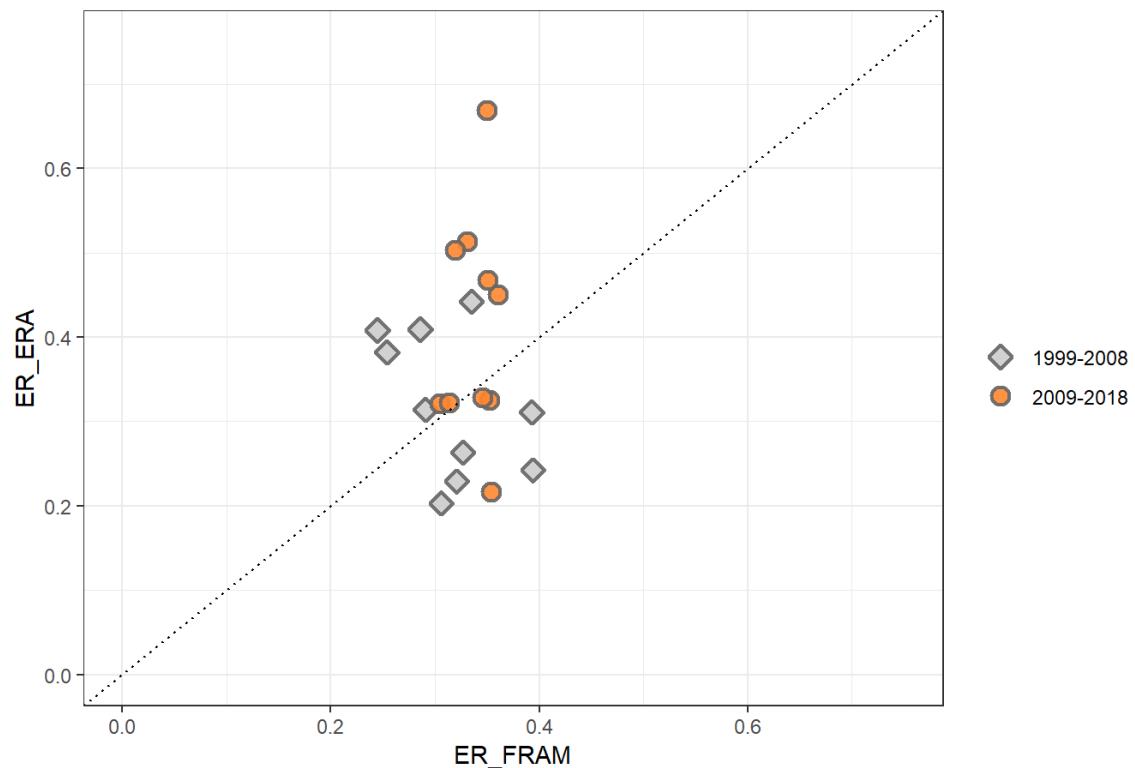
<b>BroodYear</b>	<b>TagCode</b>	<b>Stock_ERA</b>	<b>ERA</b>	<b>FRAM</b>
2005	210677	SSF	x	x
2005	212827	SSF	x	x
2005	210685	NA		x
2006	210735	SSF	x	x
2006	210745	NA		x
2007	210789	SSF	x	x
2007	210278	NA		x
2008	210842	SSF	x	x
2008	210831	NA		x

### Skagit Summer Fall; Ocean Exploitation Rates

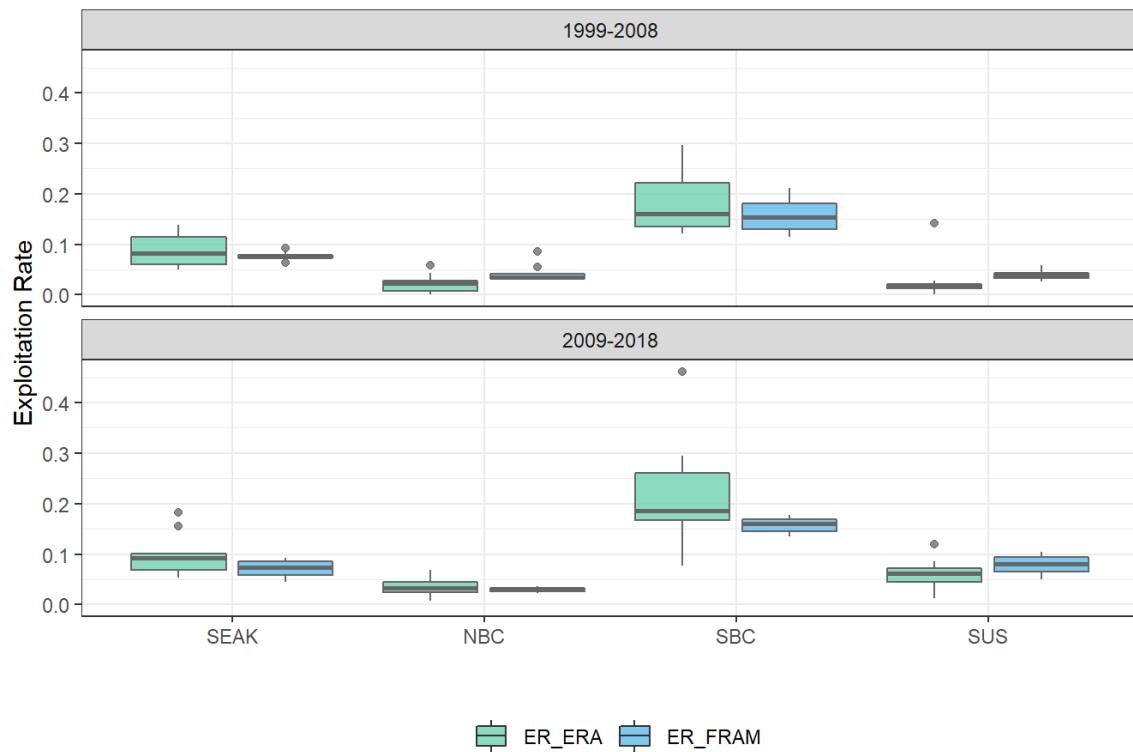
Note: gray shaded area corresponds to base period return years



### Skagit Summer Fall

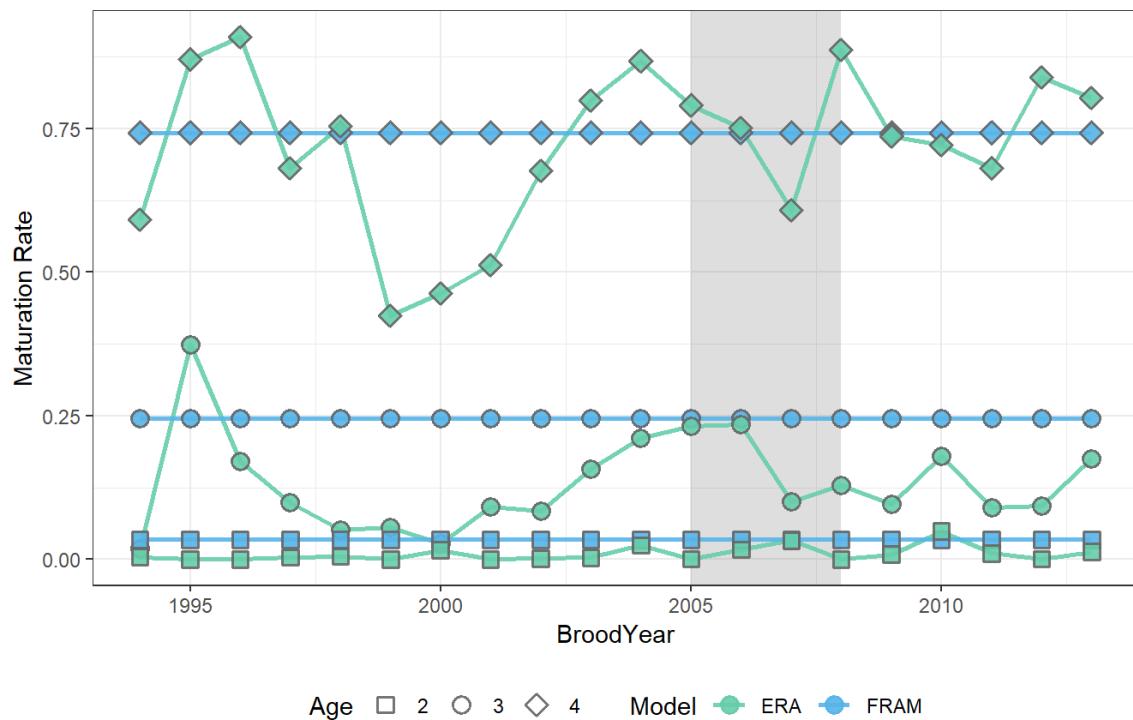


### Skagit Summer Fall; Ocean Exploitation Rates by Region



### Skagit Summer Fall; Maturation Rates

Note: gray shaded area corresponds to base period brood years

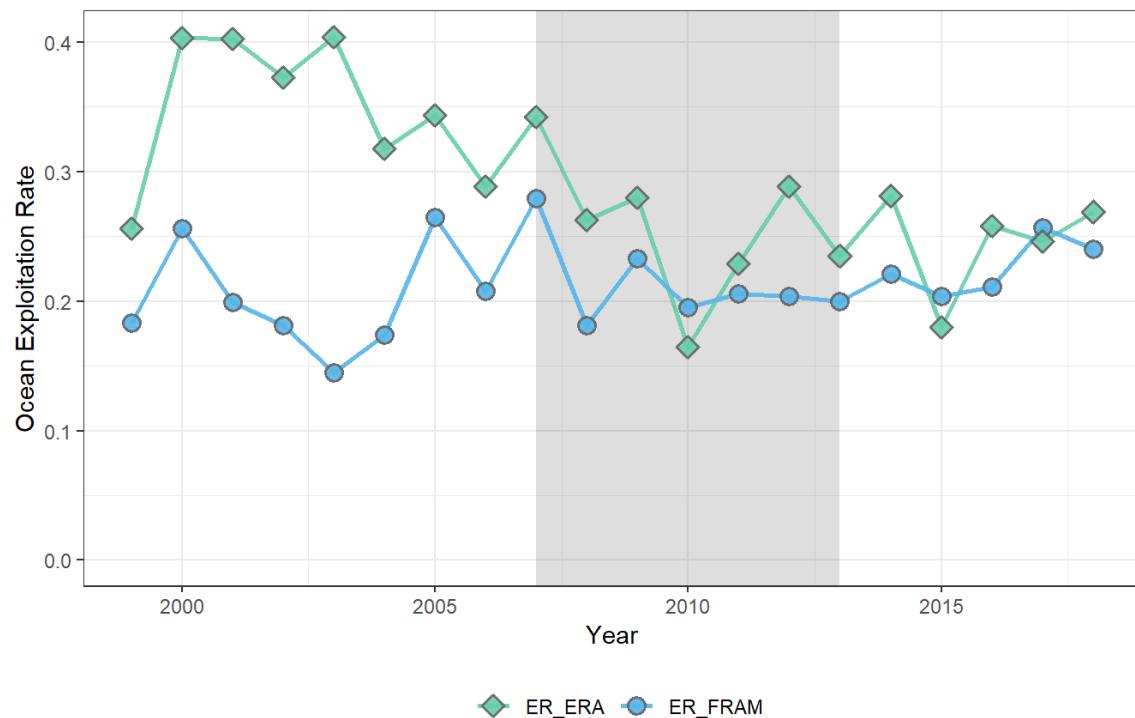


## Skagit Spring

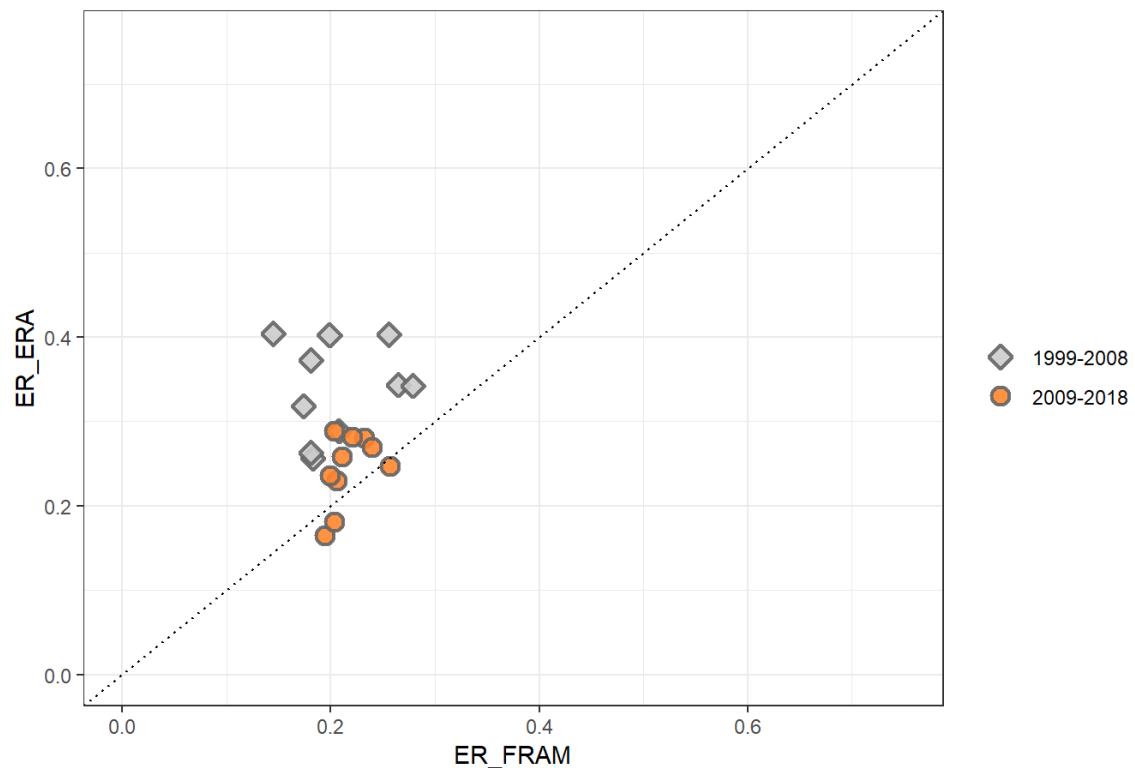
BroodYear	TagCode	Stock_ERA	ERA	FRAM
2005	633364	SKF	x	x
2005	633176	SKS	x	x
2006	633867	SKF	x	x
2006	633486	SKS	x	x
2006	633487	SKS	x	x
2006	633488	SKS	x	x
2007	633869	SKF	x	x
2007	634373	SKS	x	x
2008	634395	SKF	x	x
2008	634769	SKS	x	x

### Skagit Spring; Ocean Exploitation Rates

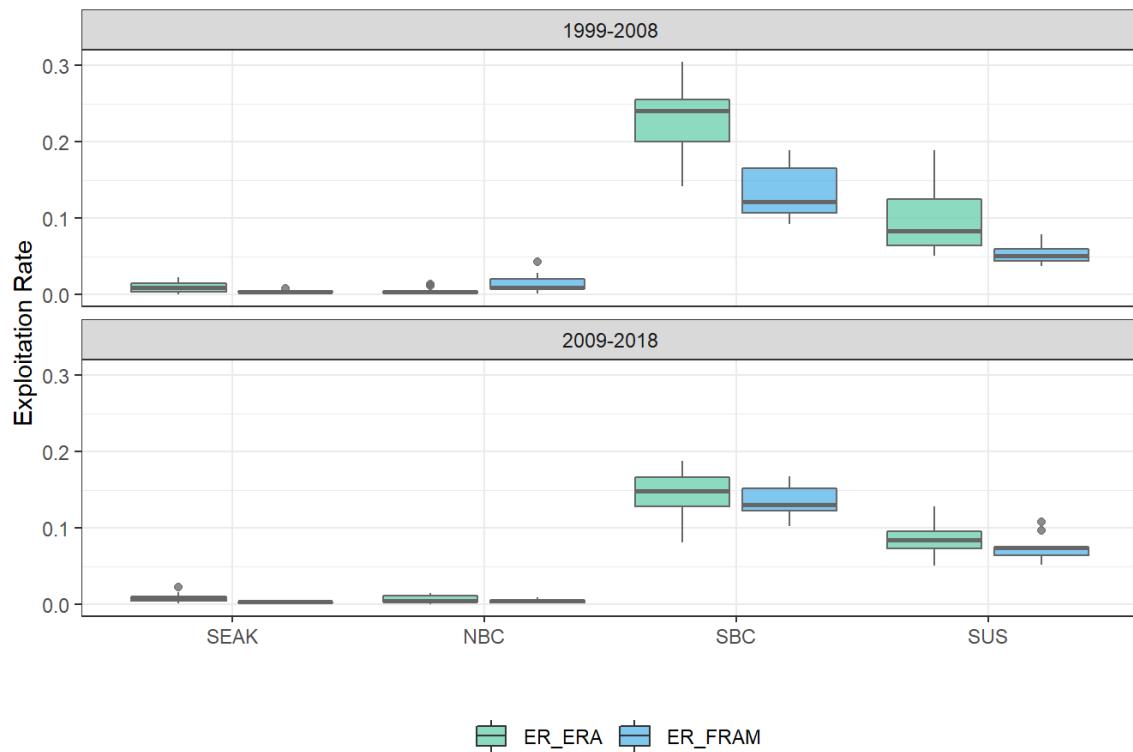
Note: gray shaded area corresponds to base period return years



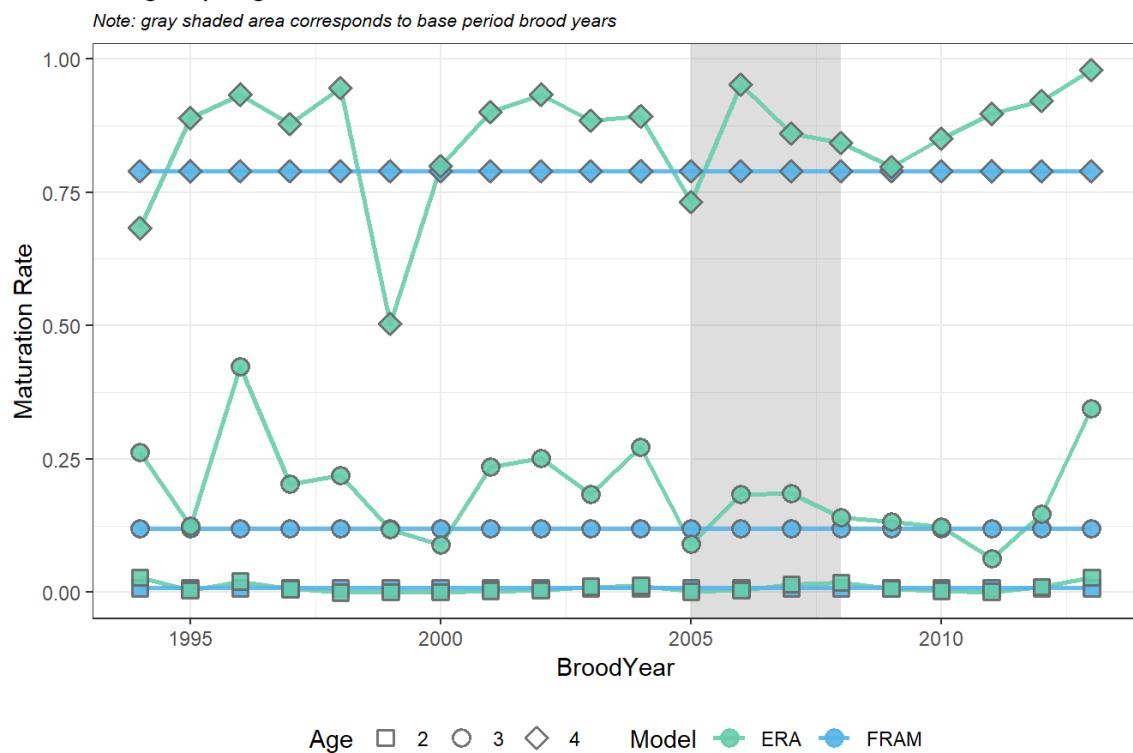
### Skagit Spring



### Skagit Spring; Ocean Exploitation Rates by Region



### Skagit Spring; Maturation Rates

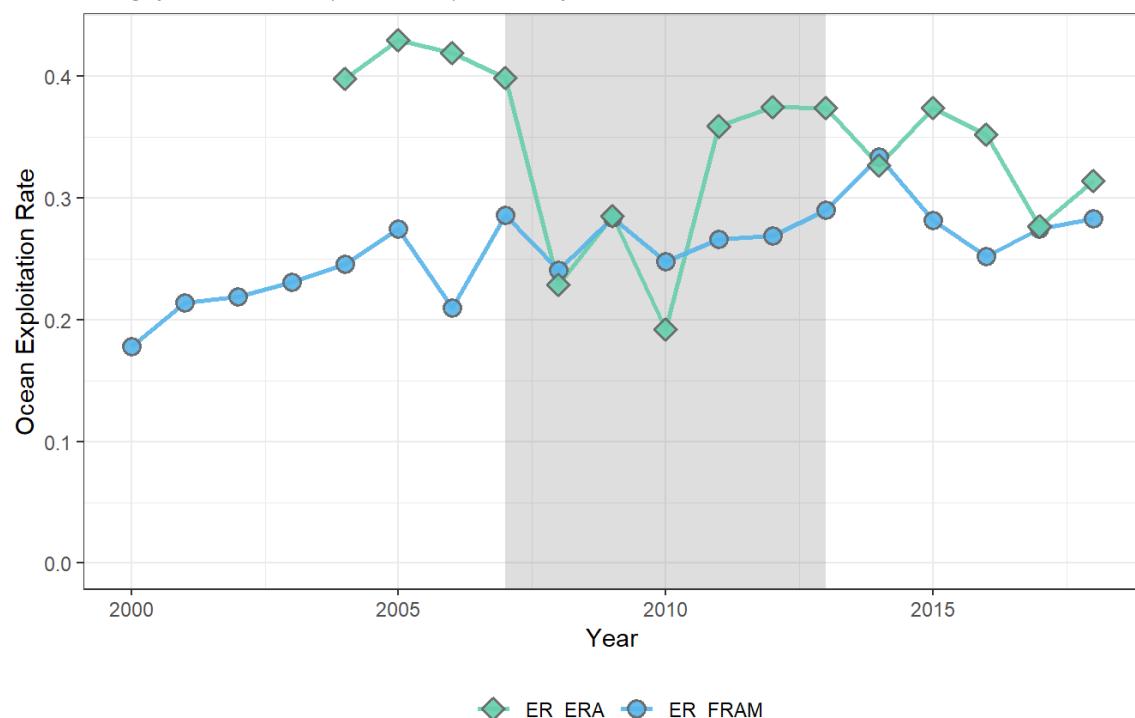


## Snohomish Fall Fingerling

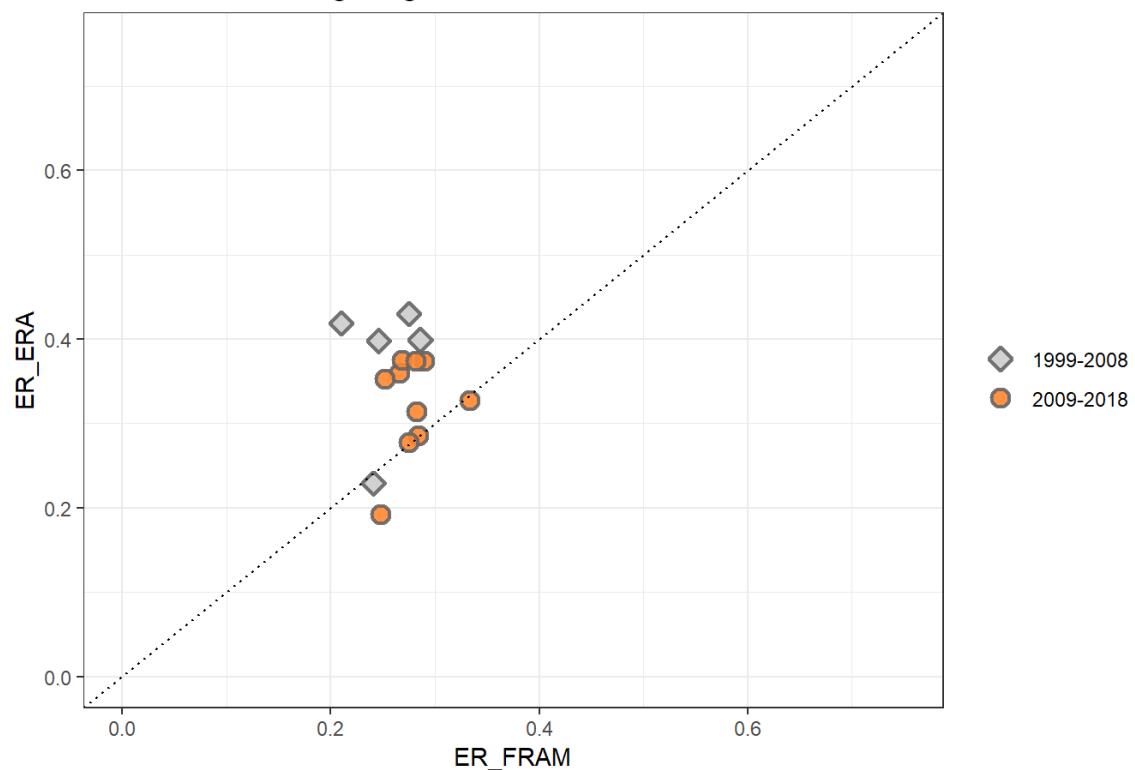
<b>BroodYear</b>	<b>TagCode</b>	<b>Stock_ERA</b>	<b>ERA</b>	<b>FRAM</b>
2005	633381	SKY	x	x
2006	633887	SKY	x	x
2007	634281	SKY	x	x
2008	634844	SKY	x	x

### Snohomish Fall Fingerling; Ocean Exploitation Rates

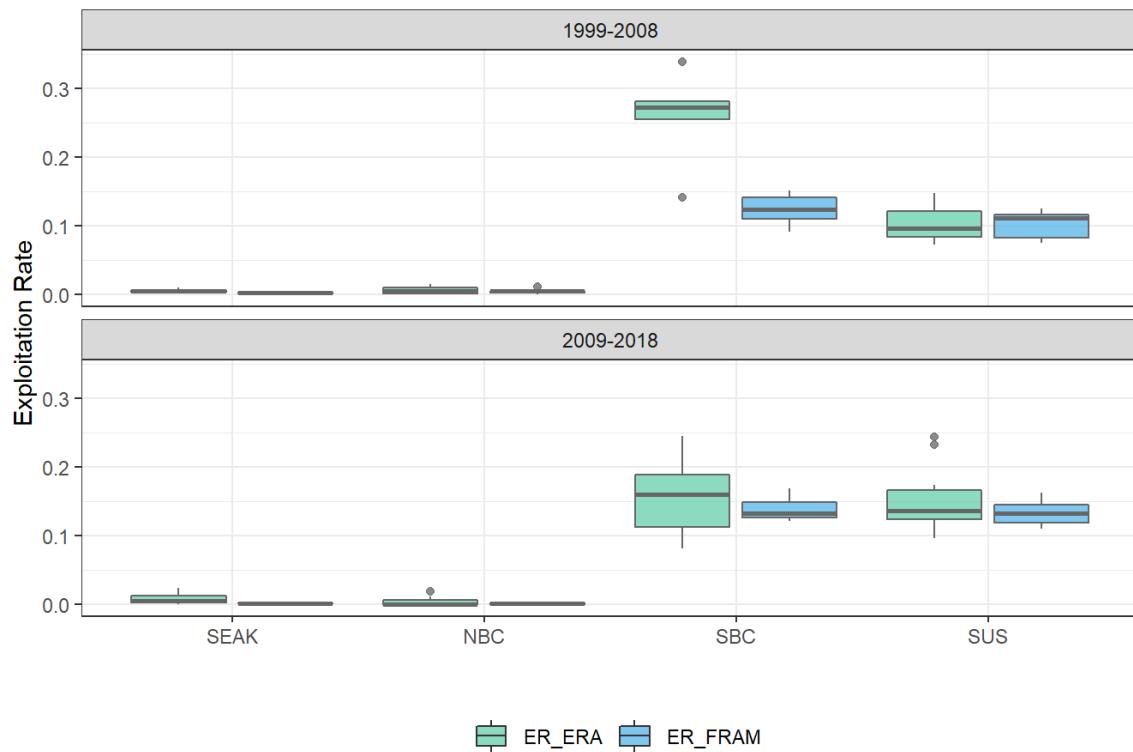
Note: gray shaded area corresponds to base period return years



### Snohomish Fall Fingerling

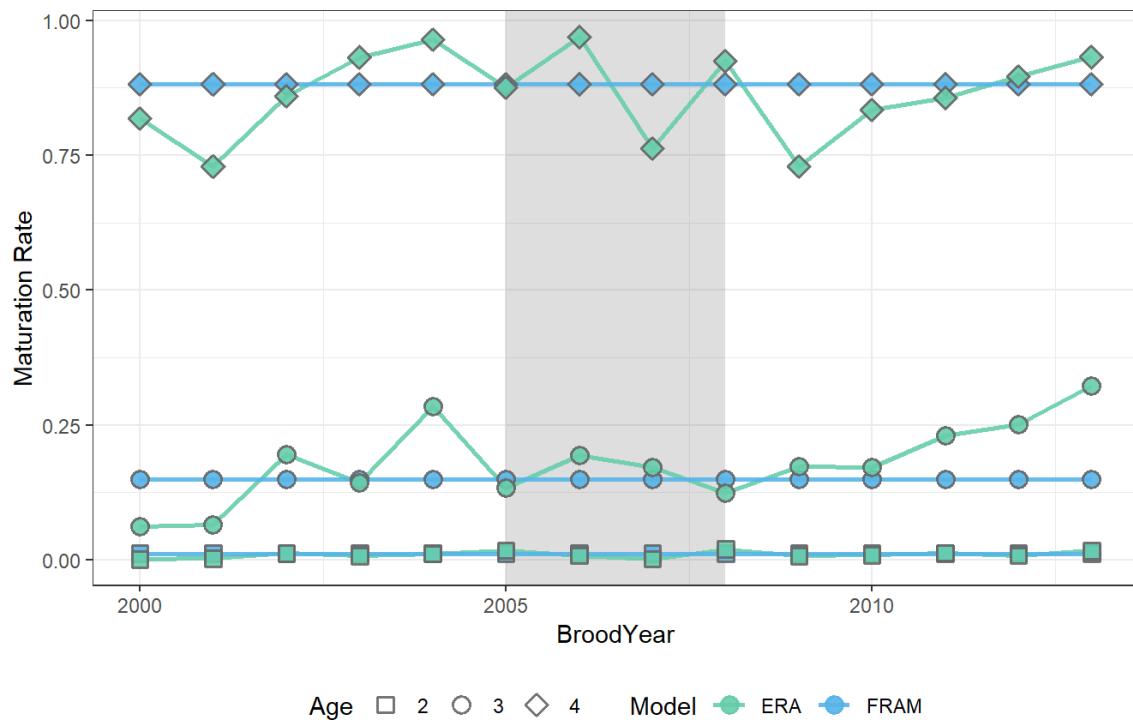


### Snohomish Fall Fingerling; Ocean Exploitation Rates by Region



### Snohomish Fall Fingerling; Maturation Rates

Note: gray shaded area corresponds to base period brood years

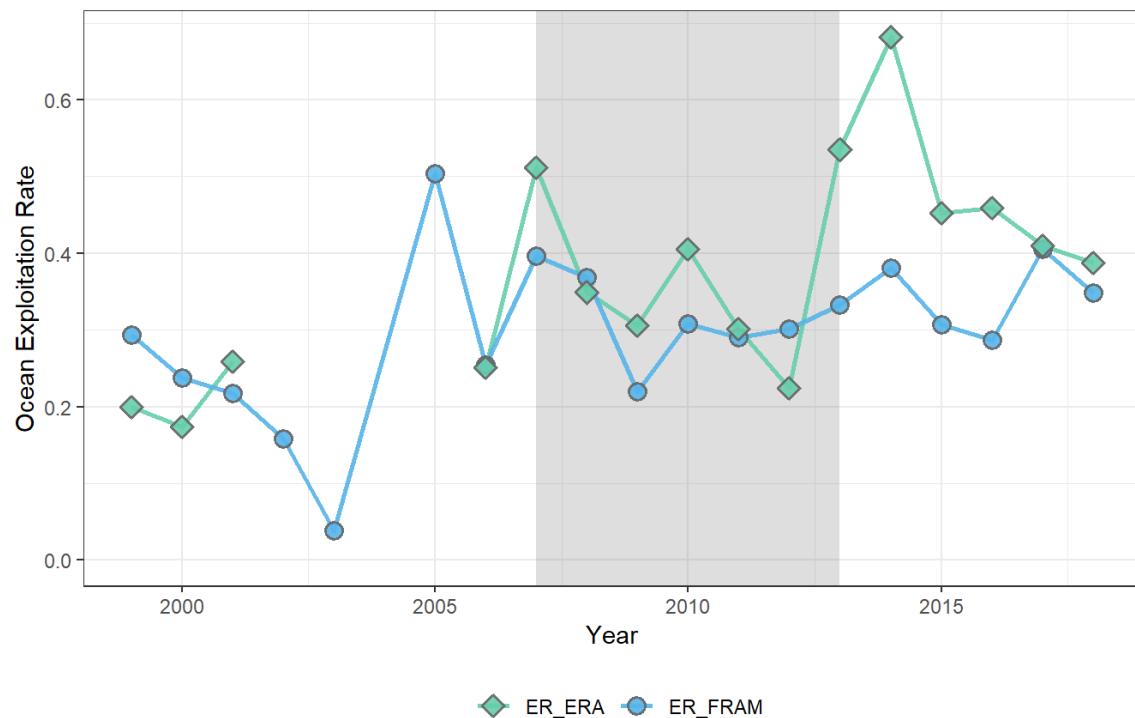


## Stillaguamish Fall Fingerling

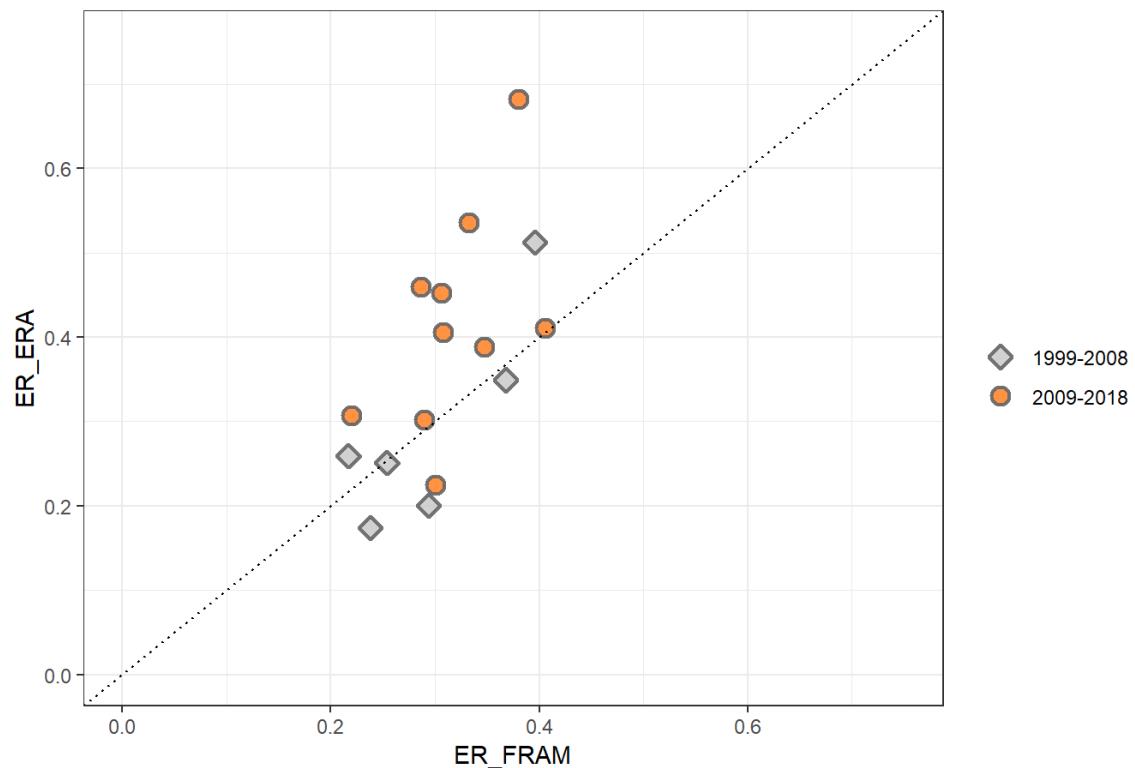
<b>BroodYear</b>	<b>TagCode</b>	<b>Stock_ERA</b>	<b>ERA</b>	<b>FRAM</b>
2005	210684	STL	x	x
2006	210733	STL	x	x
2006	210743	STL	x	x
2007	210741	STL	x	x
2007	210787	STL	x	x
2008	210840	STL	x	x

### Stillaguamish Fall Fingerling; Ocean Exploitation Rates

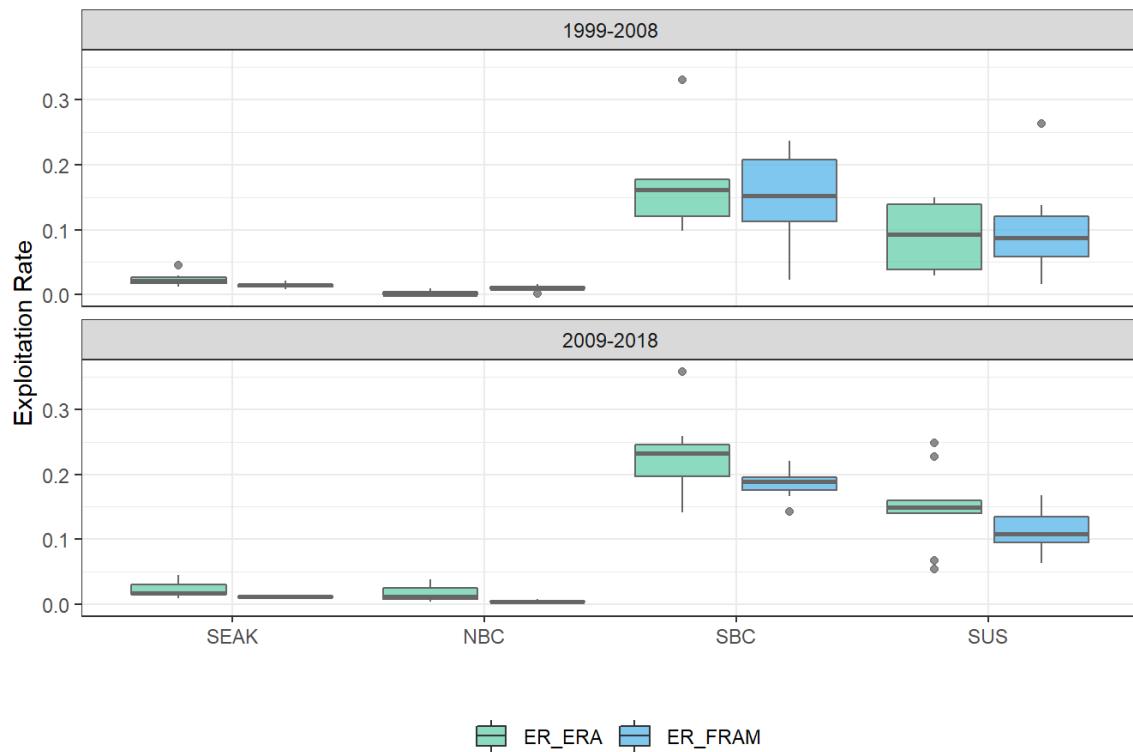
Note: gray shaded area corresponds to base period return years



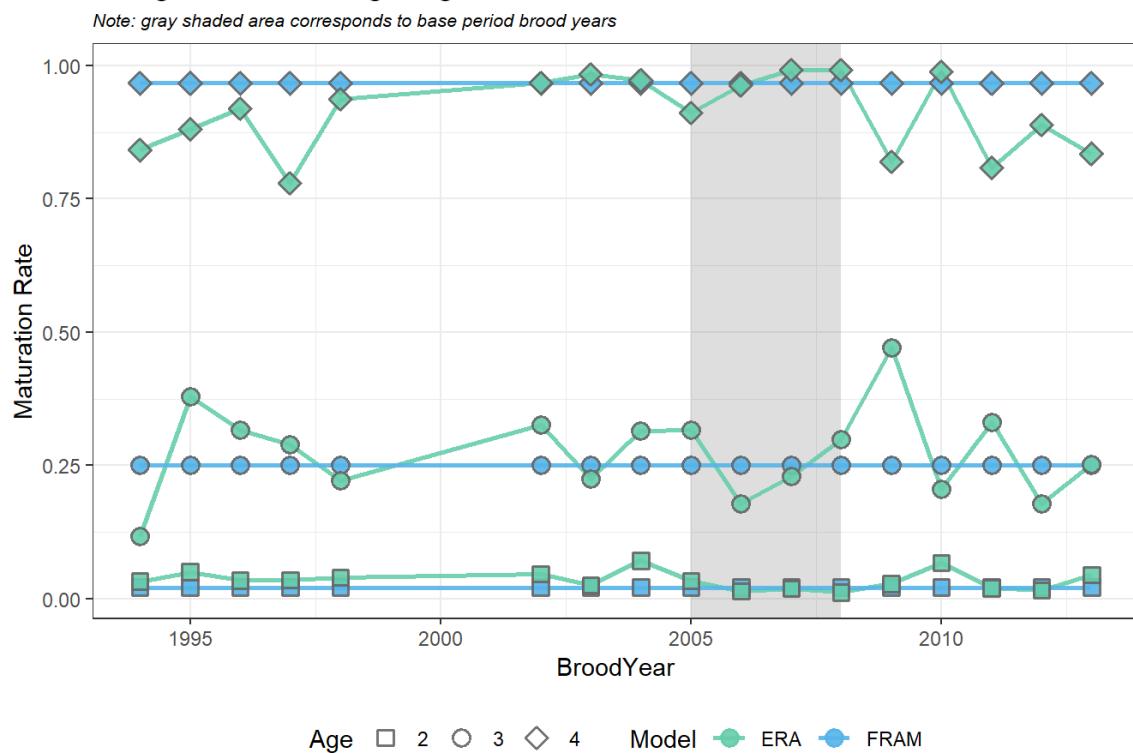
### Stillaguamish Fall Fingerling



### Stillaguamish Fall Fingerling; Ocean Exploitation Rates by Region



### Stillaguamish Fall Fingerling; Maturation Rates

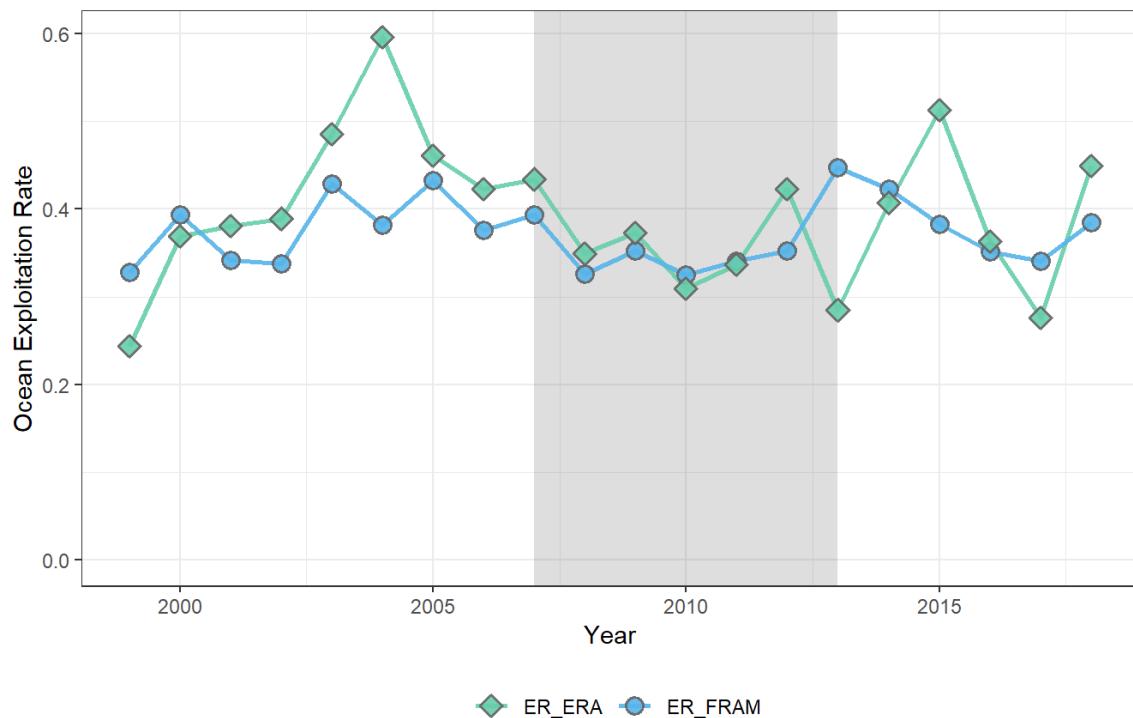


## Mid Puget Sound Fall Fingerling

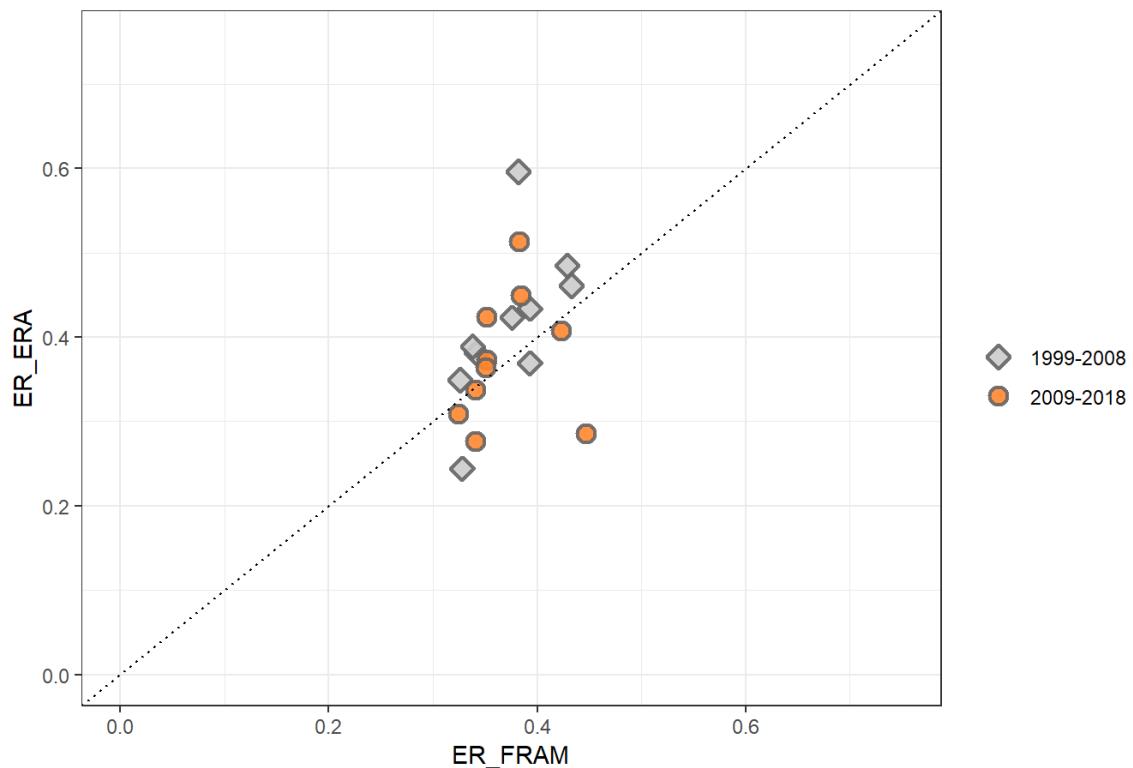
<b>BroodYear</b>	<b>TagCode</b>	<b>Stock_ERA</b>	<b>ERA</b>	<b>FRAM</b>
2005	633285	SPS	x	x
2005	633372	SPS	x	x
2005	633375	NA		x
2005	633383	NA		x
2006	633882	SPS	x	x
2006	633579	SPS	x	x
2006	633885	NA		x
2006	633889	NA		x
2007	634286	SPS	x	x
2007	210790	SPS	x	x
2007	634284	NA		x
2008	634864	SPS	x	x
2008	210822	SPS	x	x

### Mid Puget Sound Fall Fingerling; Ocean Exploitation Rates

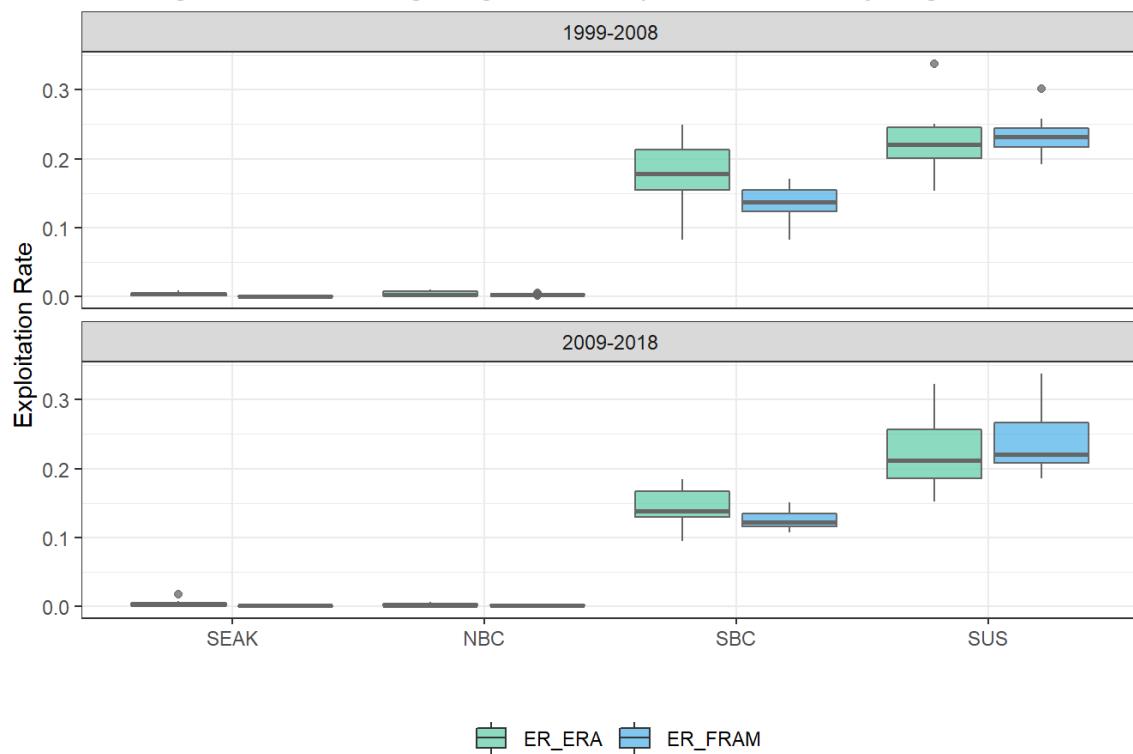
Note: gray shaded area corresponds to base period return years



### Mid Puget Sound Fall Fingerling

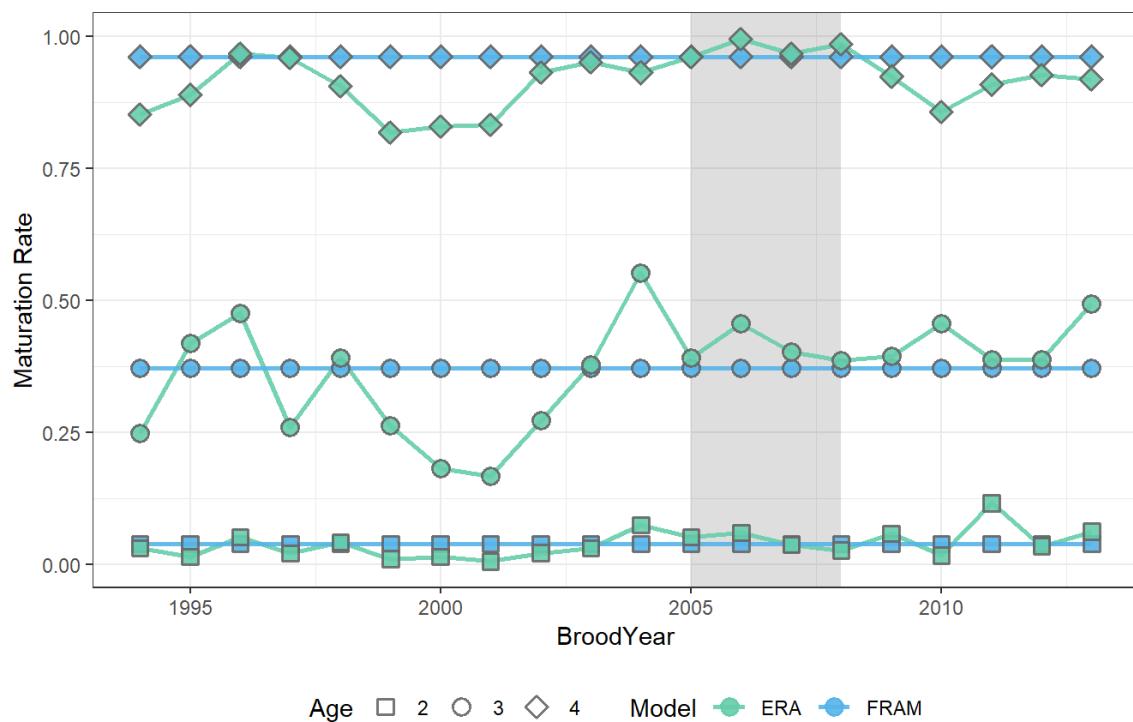


### Mid Puget Sound Fall Fingerling; Ocean Exploitation Rates by Region



### Mid Puget Sound Fall Fingerling; Maturation Rates

Note: gray shaded area corresponds to base period brood years

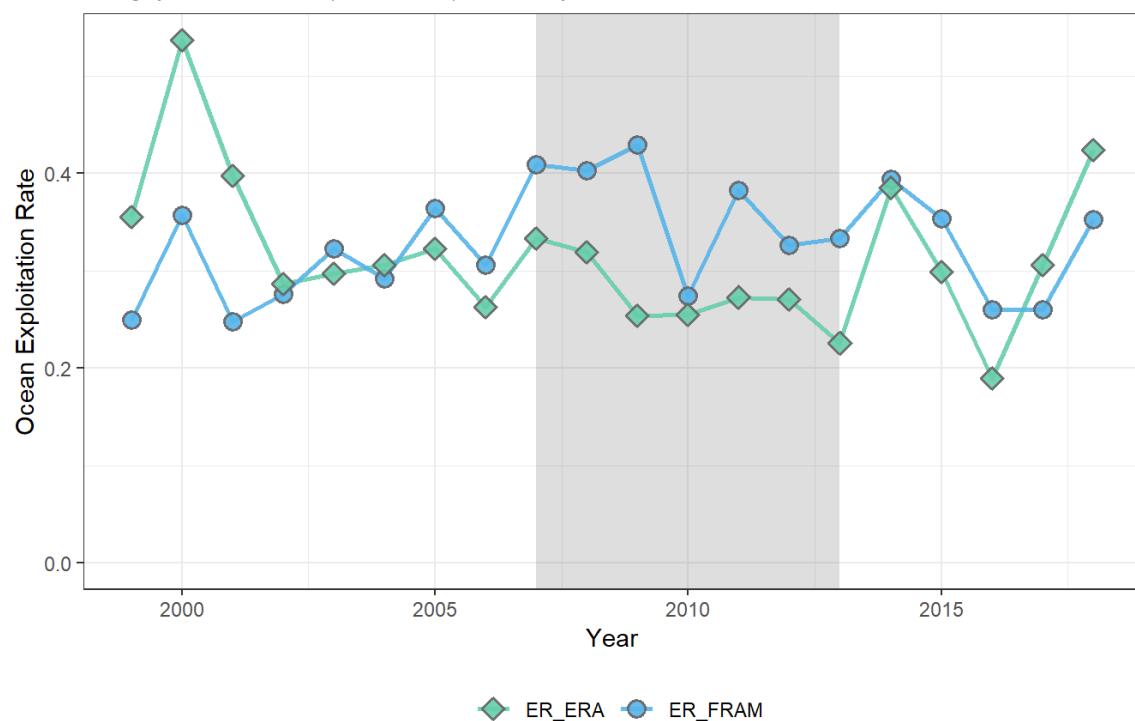


## South Puget Sound Fall Fingerling

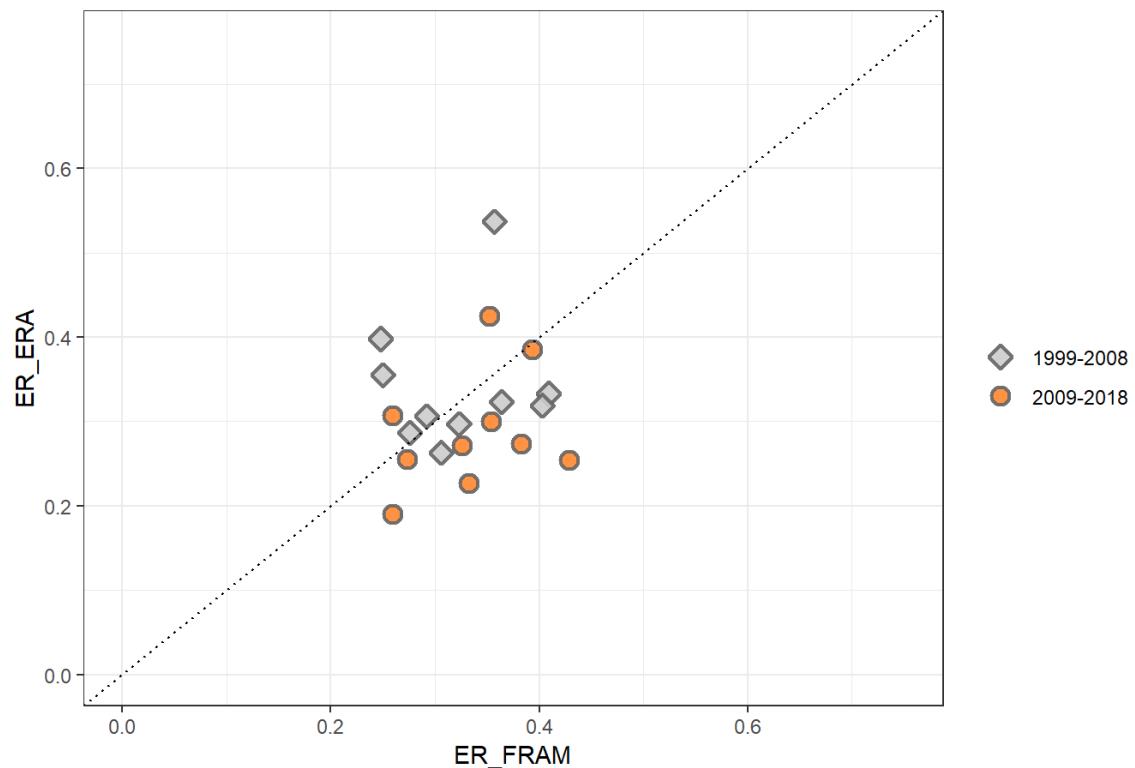
<b>BroodYear</b>	<b>TagCode</b>	<b>Stock_ERA</b>	<b>ERA</b>	<b>FRAM</b>
2005	633286	NIS	x	x
2005	632979	NA		x
2005	210671	NA		x
2005	632894	NA		x
2006	633391	NIS	x	x
2006	210744	NA		x
2006	633964	NA		x
2006	633968	NA		x
2007	210788	NIS	x	x
2007	210801	NA		x
2007	633466	NA		x
2007	634364	NA		x
2008	210824	NIS	x	x

### South Puget Sound Fall Fingerling; Ocean Exploitation Rates

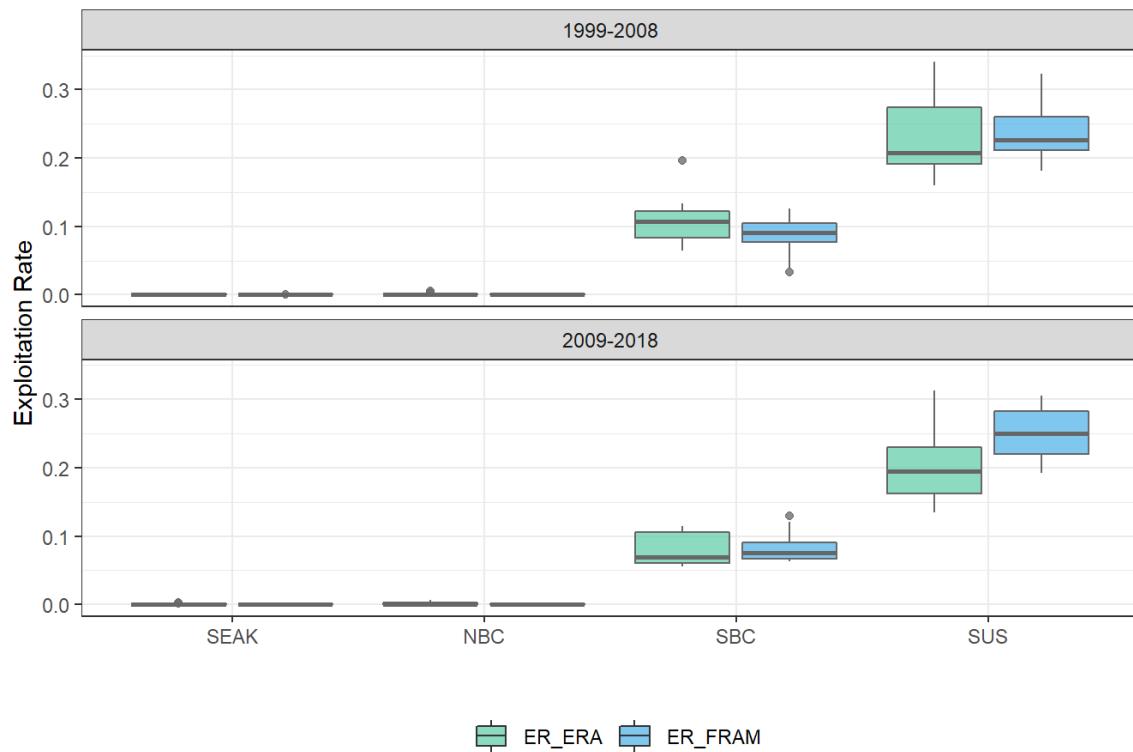
Note: gray shaded area corresponds to base period return years



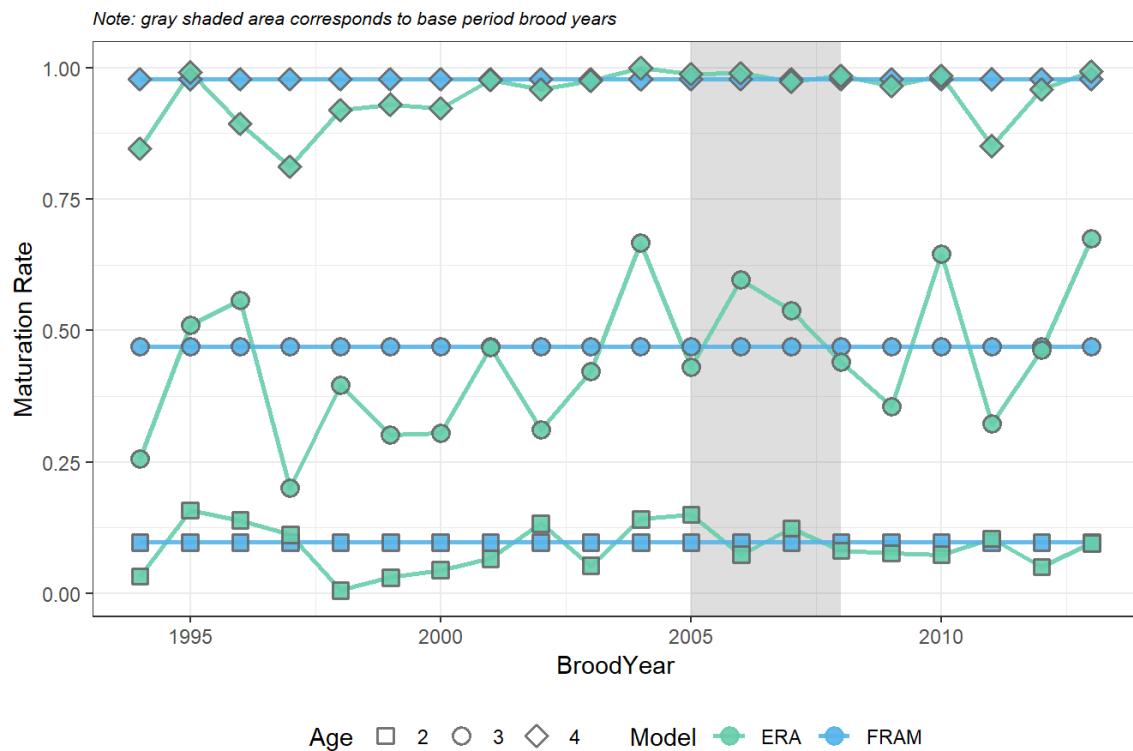
### South Puget Sound Fall Fingerling



### South Puget Sound Fall Fingerling; Ocean Exploitation Rates by Region



### South Puget Sound Fall Fingerling; Maturation Rates

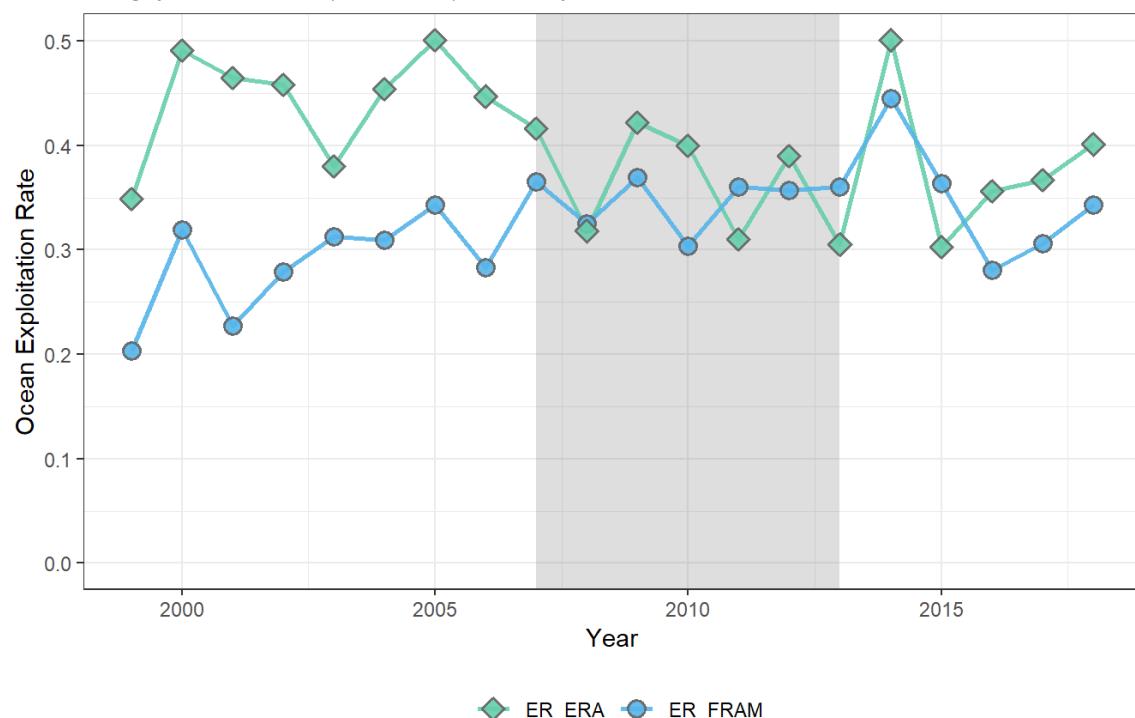


## Hood Canal Fall Fingerling

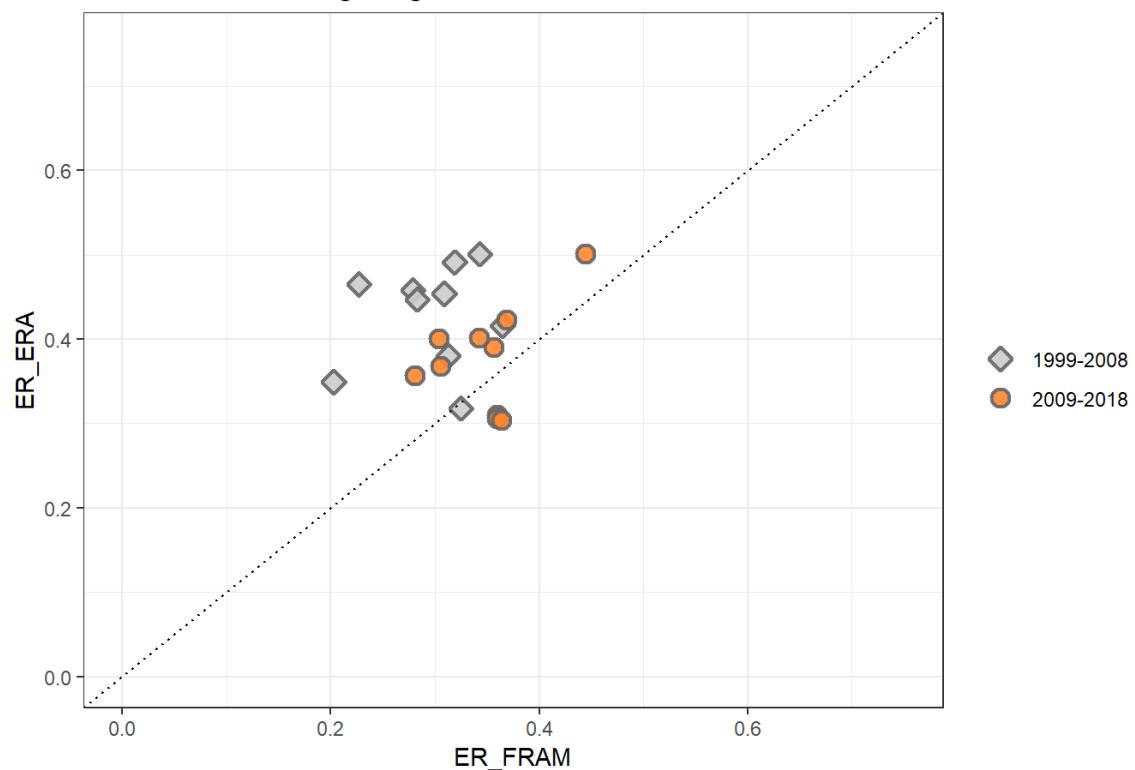
BroodYear	TagCode	Stock_ERA	ERA	FRAM
2005	633366	GAD	x	x
2005	633382	NA		x
2005	633471	NA		x
2006	633875	GAD	x	x
2006	633886	NA		x
2006	633965	NA		x
2007	634271	GAD	x	x
2007	634283	NA		x
2008	634873	GAD	x	x
2008	634867	NA		x

### Hood Canal Fall Fingerling; Ocean Exploitation Rates

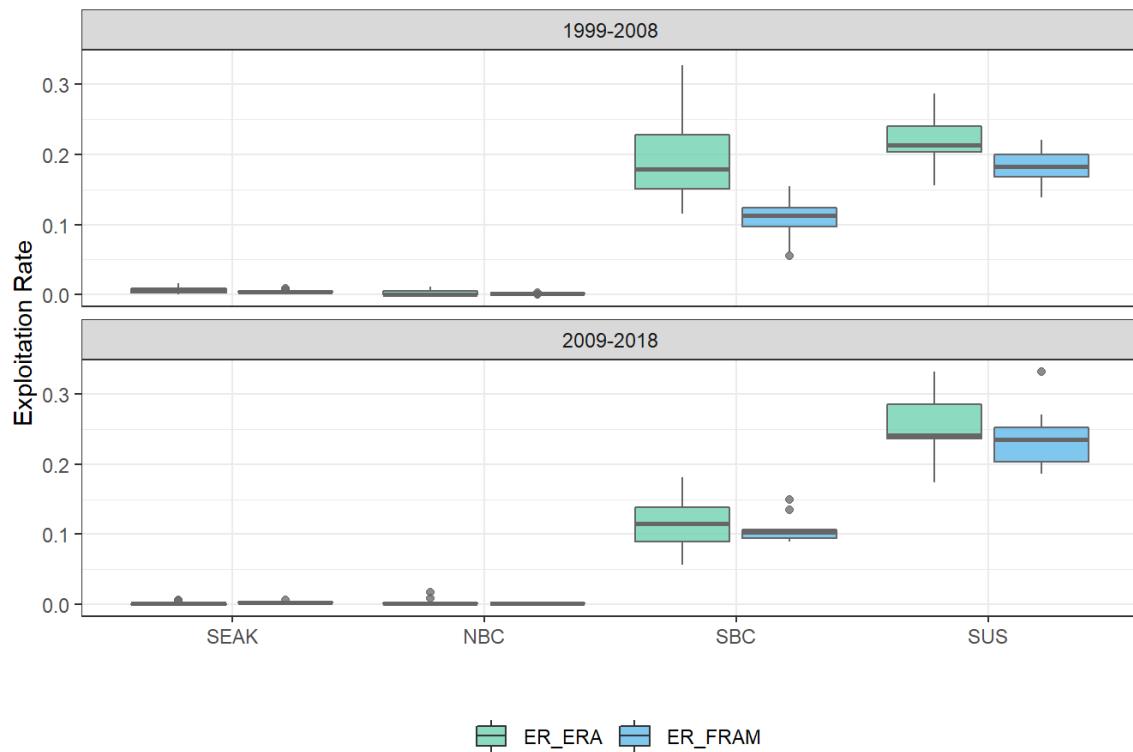
Note: gray shaded area corresponds to base period return years



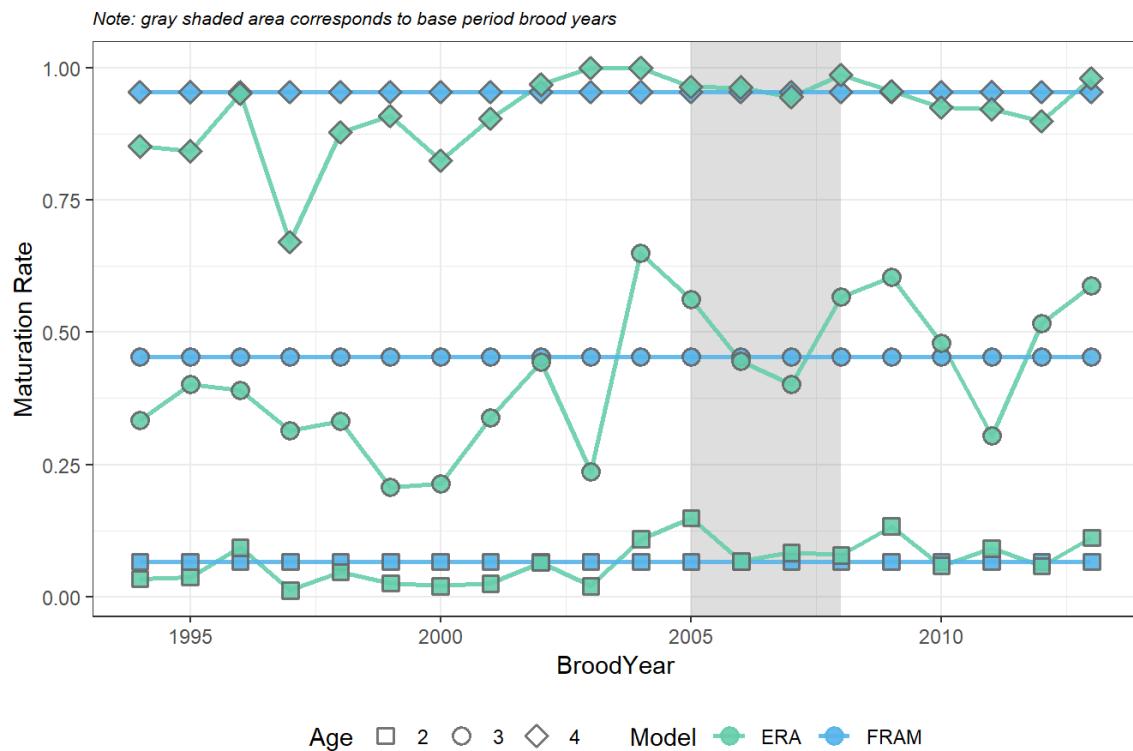
### Hood Canal Fall Fingerling



### Hood Canal Fall Fingerling; Ocean Exploitation Rates by Region



### Hood Canal Fall Fingerling; Maturation Rates

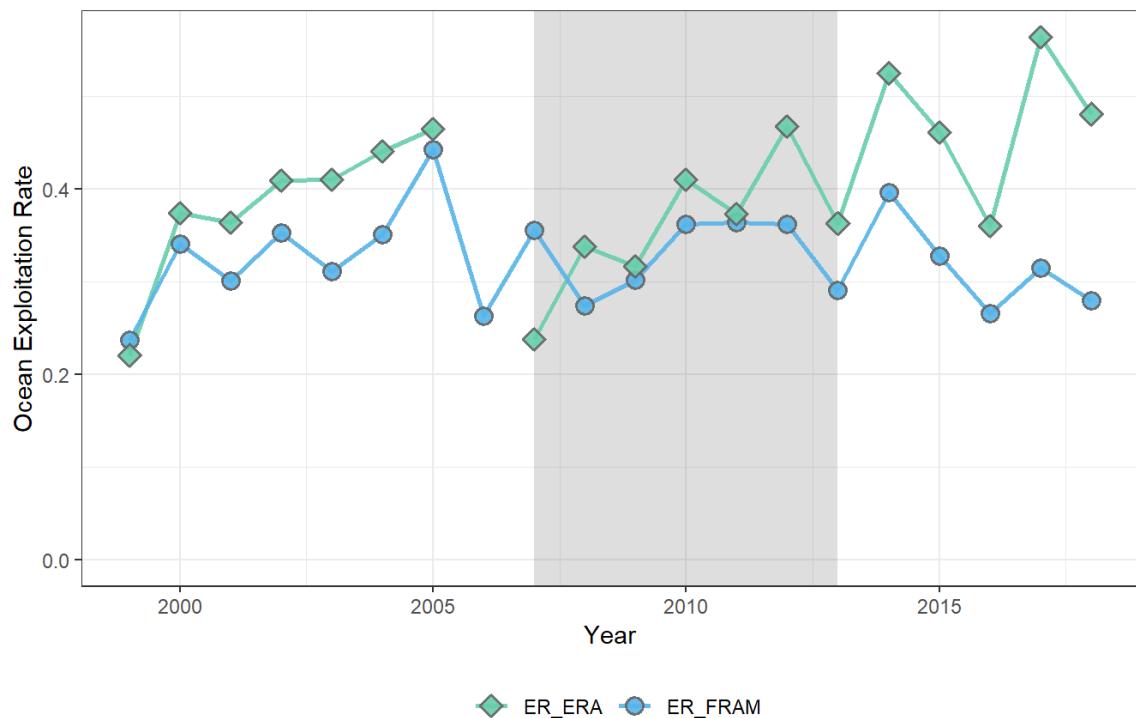


## OR Hatchery Tule

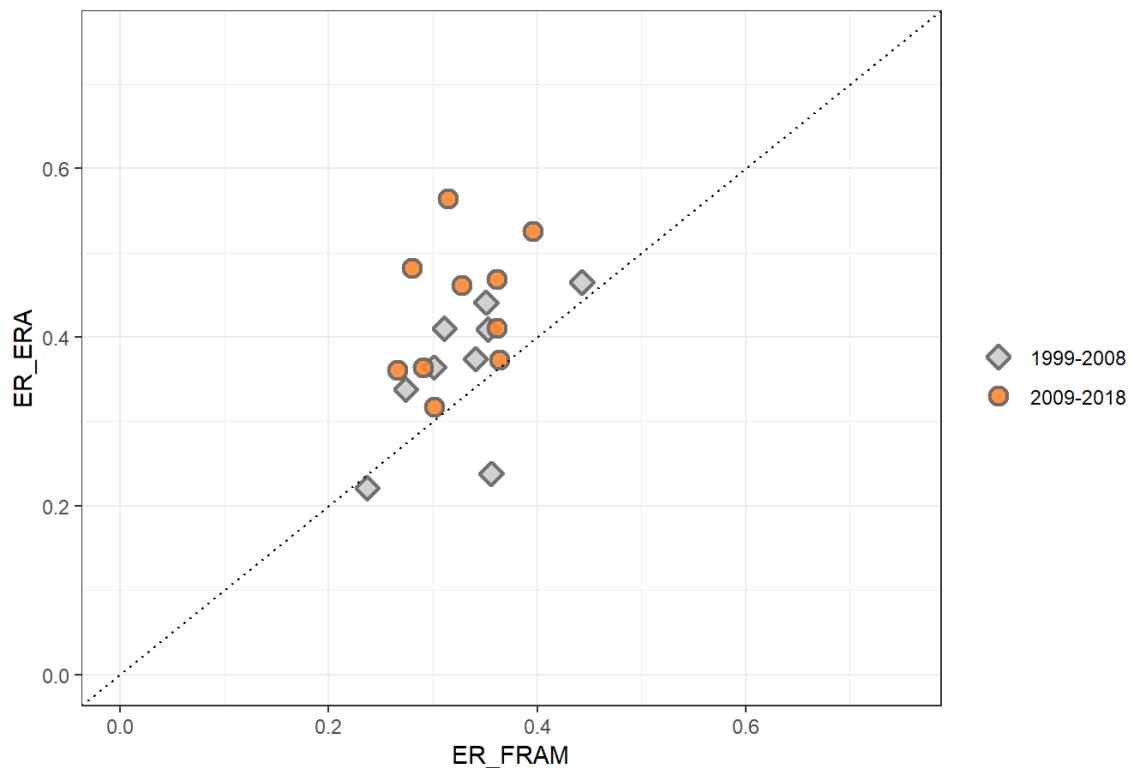
<b>BroodYear</b>	<b>TagCode</b>	<b>Stock_ERA</b>	<b>ERA</b>	<b>FRAM</b>
2005	094423	LRH	x	x
2006	094526	LRH	x	x
2007	094646	LRH	x	x
2008	090199	LRH	x	x

## OR Hatchery Tule; Ocean Exploitation Rates

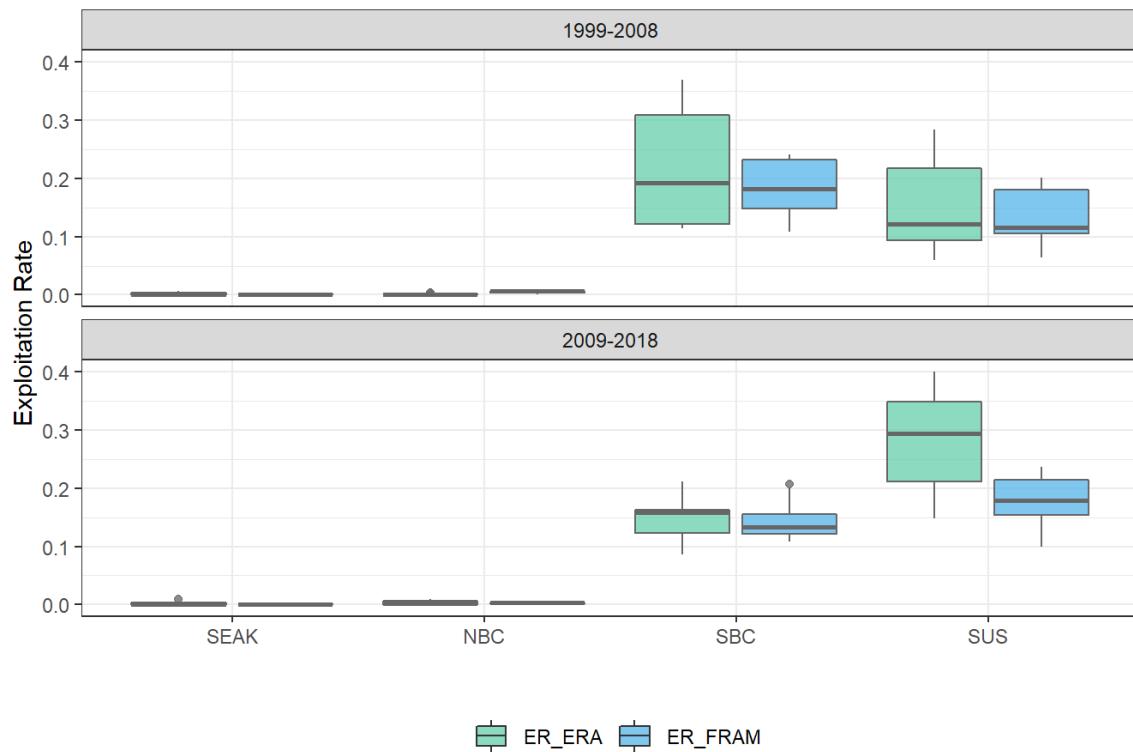
Note: gray shaded area corresponds to base period return years



## OR Hatchery Tule

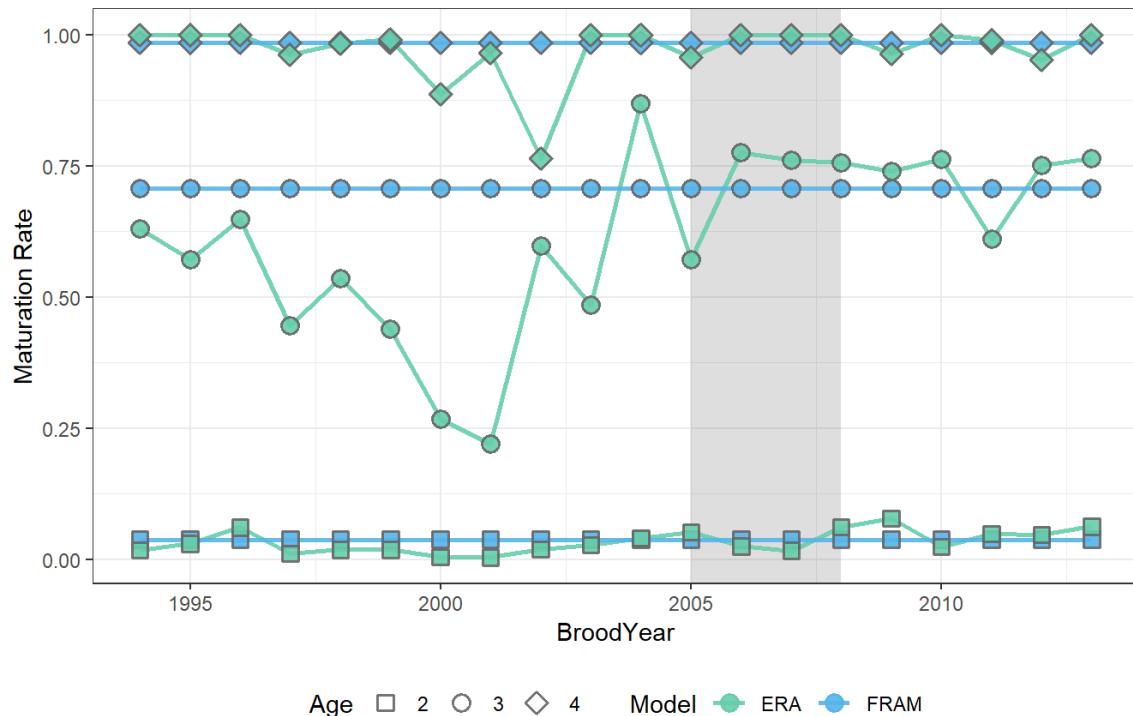


### OR Hatchery Tule; Ocean Exploitation Rates by Region



### OR Hatchery Tule; Maturation Rates

Note: gray shaded area corresponds to base period brood years

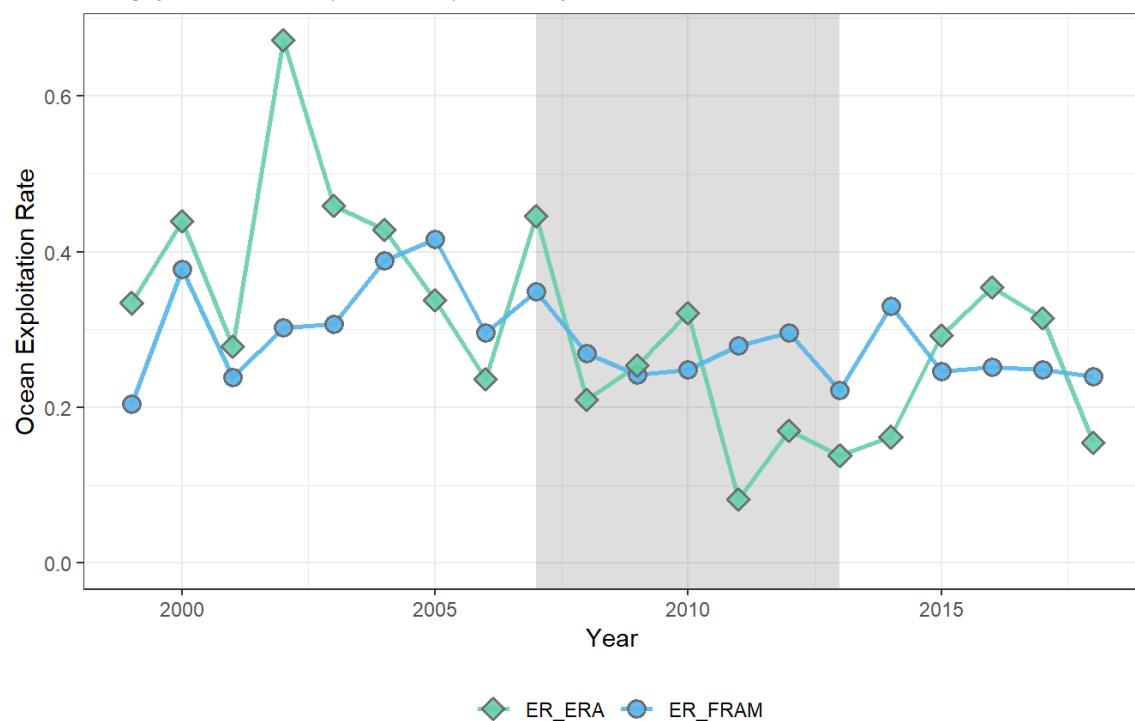


## WA Hatchery Tule

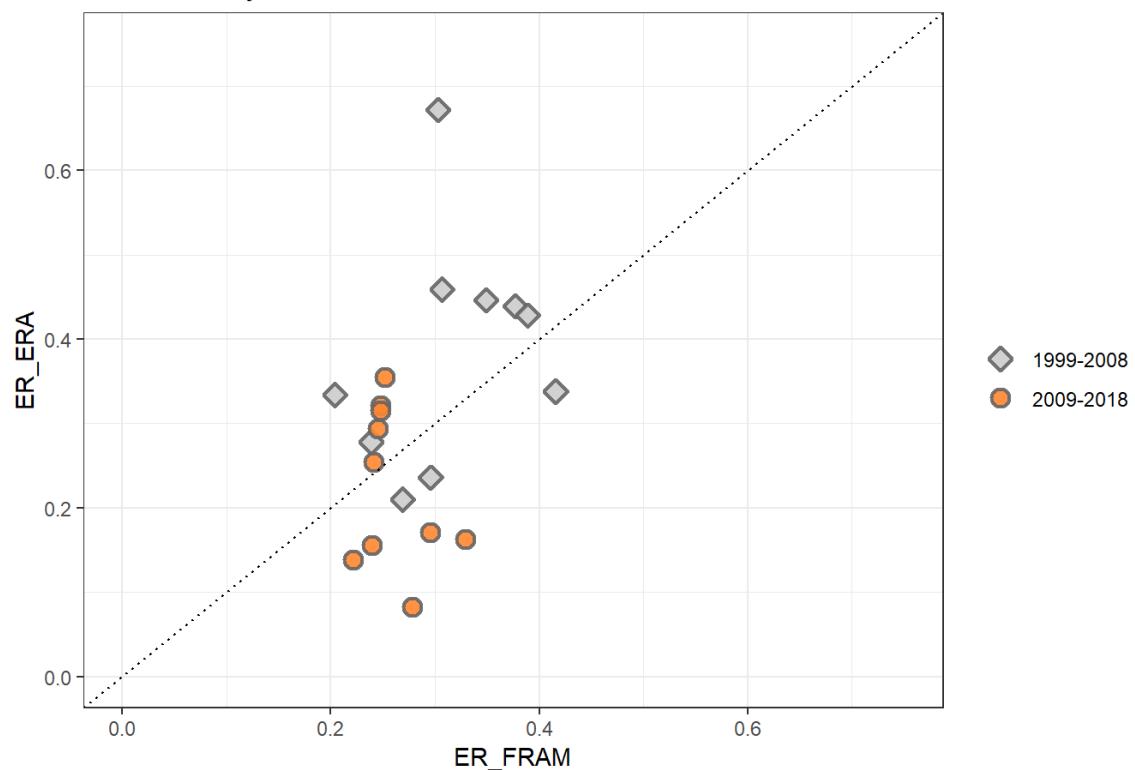
<b>BroodYear</b>	<b>TagCode</b>	<b>Stock_ERA</b>	<b>ERA</b>	<b>FRAM</b>
2005	633287	CWF	x	x
2005	632883	NA		x
2005	632886	NA		x
2006	633877	CWF	x	x
2006	633976	NA		x
2006	633977	NA		x
2007	634280	CWF	x	x
2007	634369	NA		x
2007	634372	NA		x
2008	634279	CWF	x	x
2008	634774	NA		x
2008	634775	NA		x
2008	634385	NA		x

### WA Hatchery Tule; Ocean Exploitation Rates

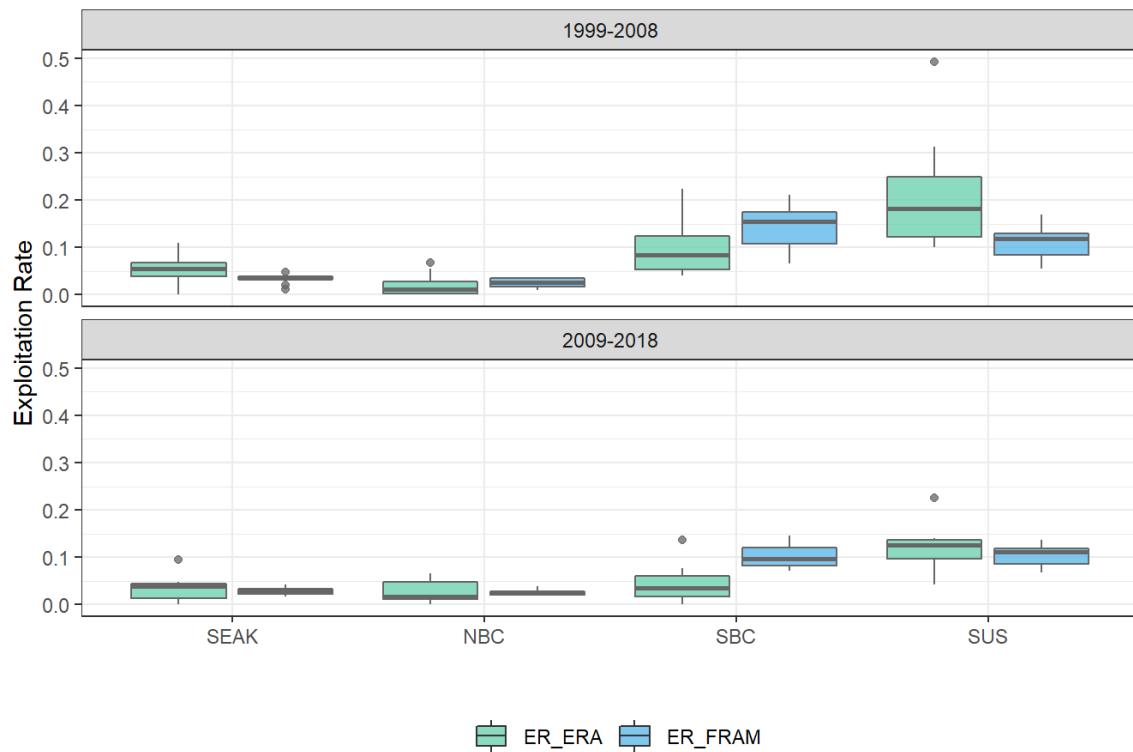
Note: gray shaded area corresponds to base period return years



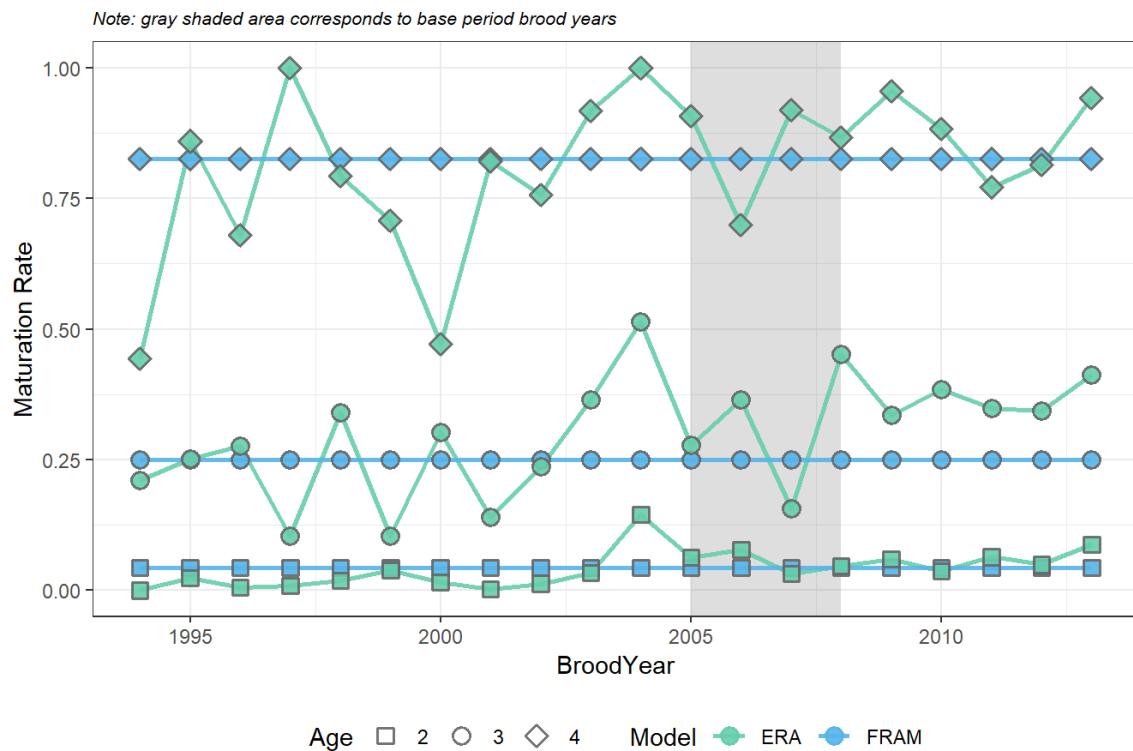
### WA Hatchery Tule



### WA Hatchery Tule; Ocean Exploitation Rates by Region



### WA Hatchery Tule; Maturation Rates

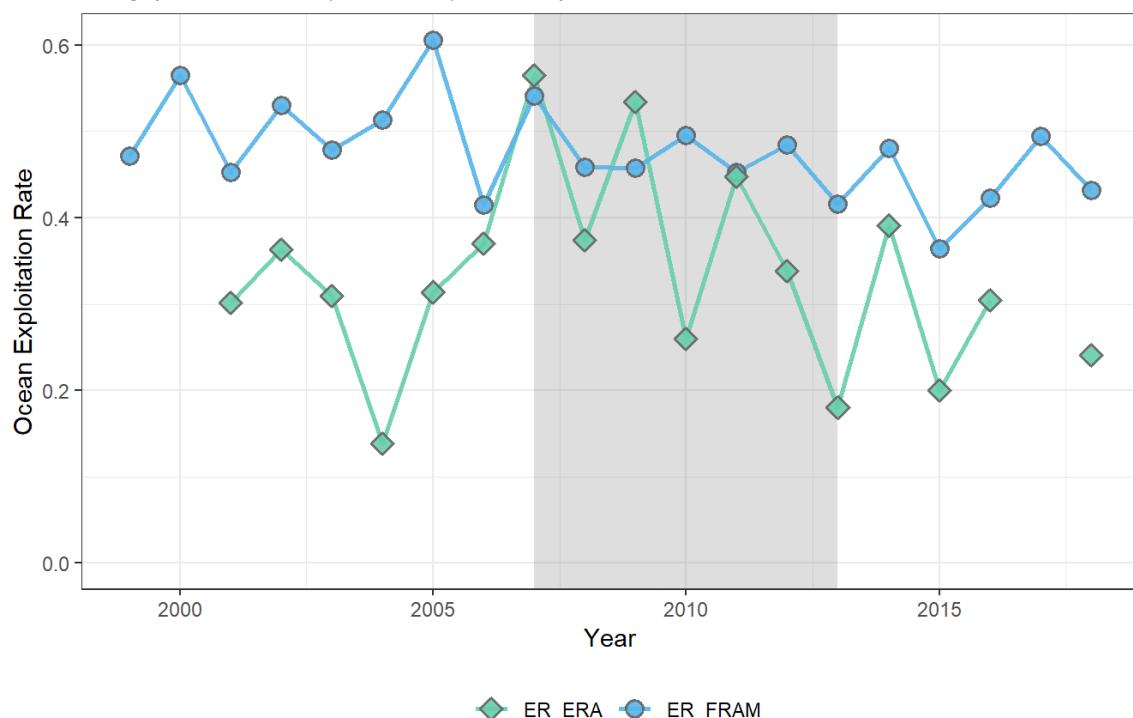


## Lower Columbia River Wild

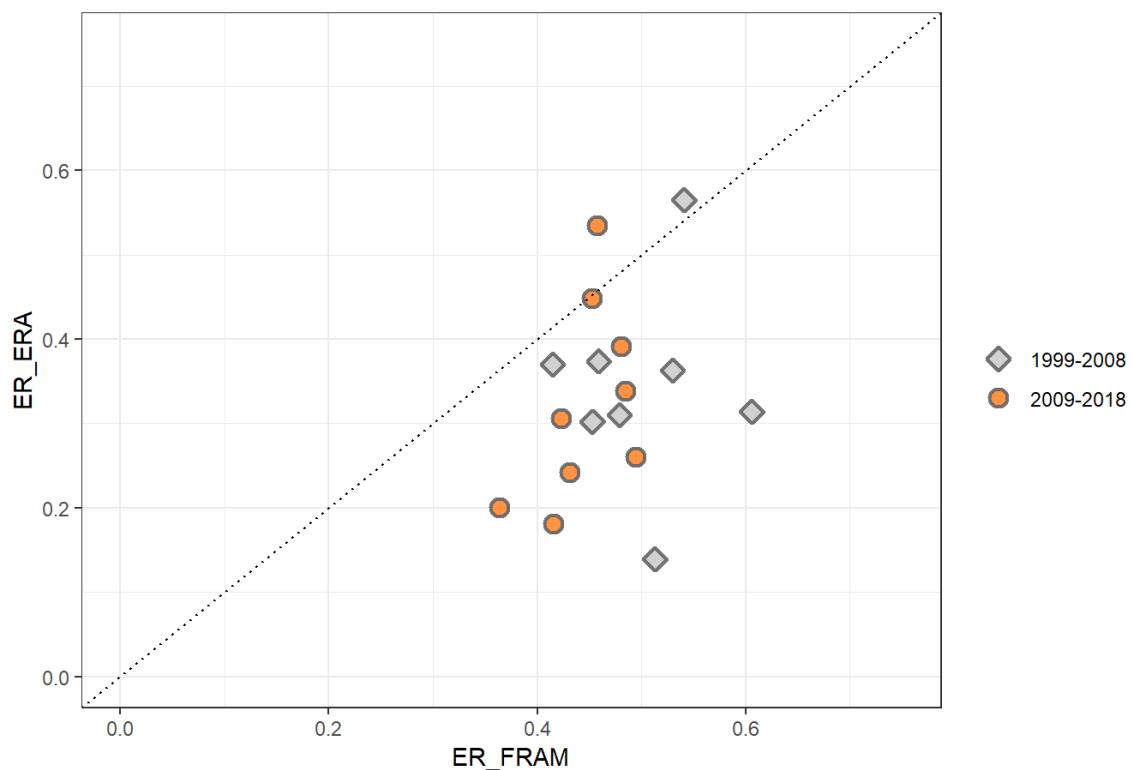
<b>BroodYear</b>	<b>TagCode</b>	<b>Stock_ERA</b>	<b>ERA</b>	<b>FRAM</b>
2005	632986	LRW	x	
2005	632987	LRW	x	x
2006	633492	LRW	x	x
2006	633979	LRW	x	x
2007	634186	LRW	x	x
2008	634382	LRW	x	x

### Lower Columbia River Wild; Ocean Exploitation Rates

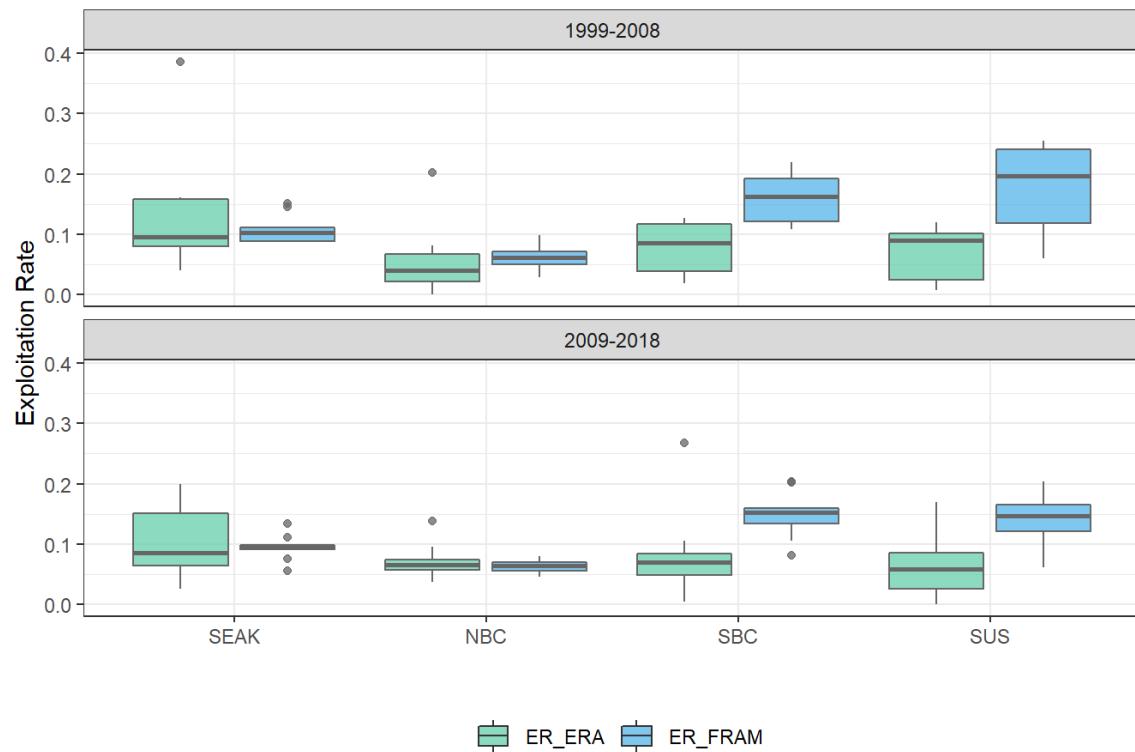
Note: gray shaded area corresponds to base period return years



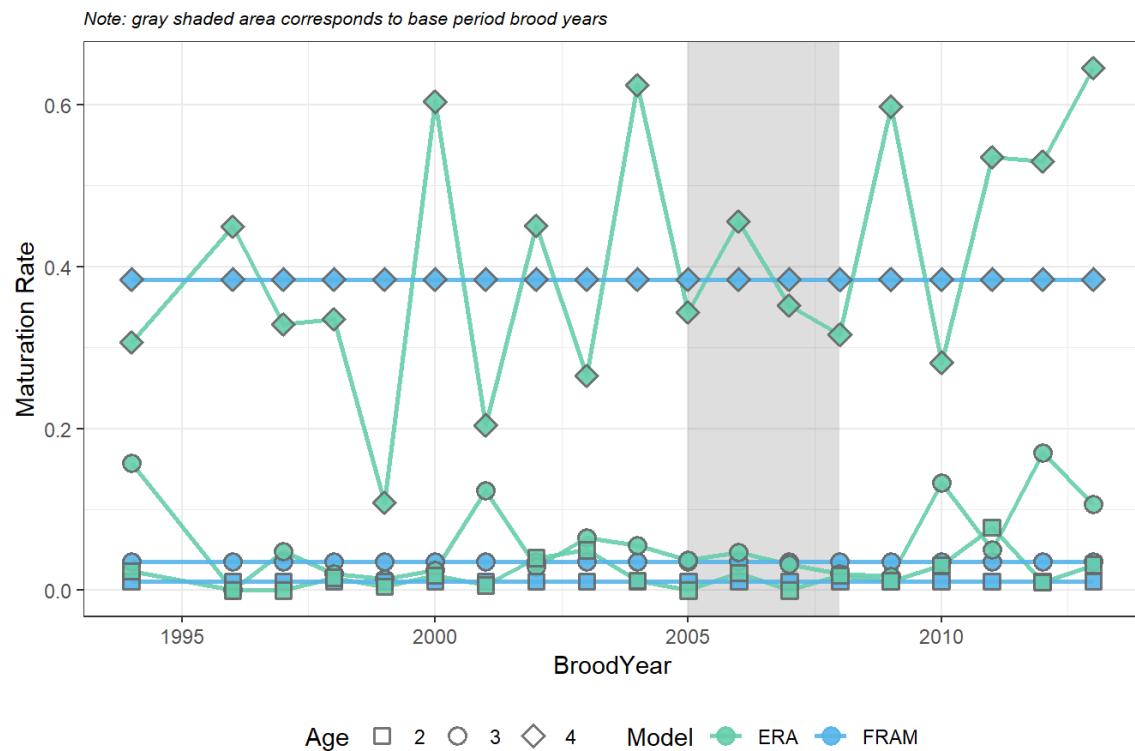
### Lower Columbia River Wild



### Lower Columbia River Wild; Ocean Exploitation Rates by Region



### Lower Columbia River Wild; Maturation Rates

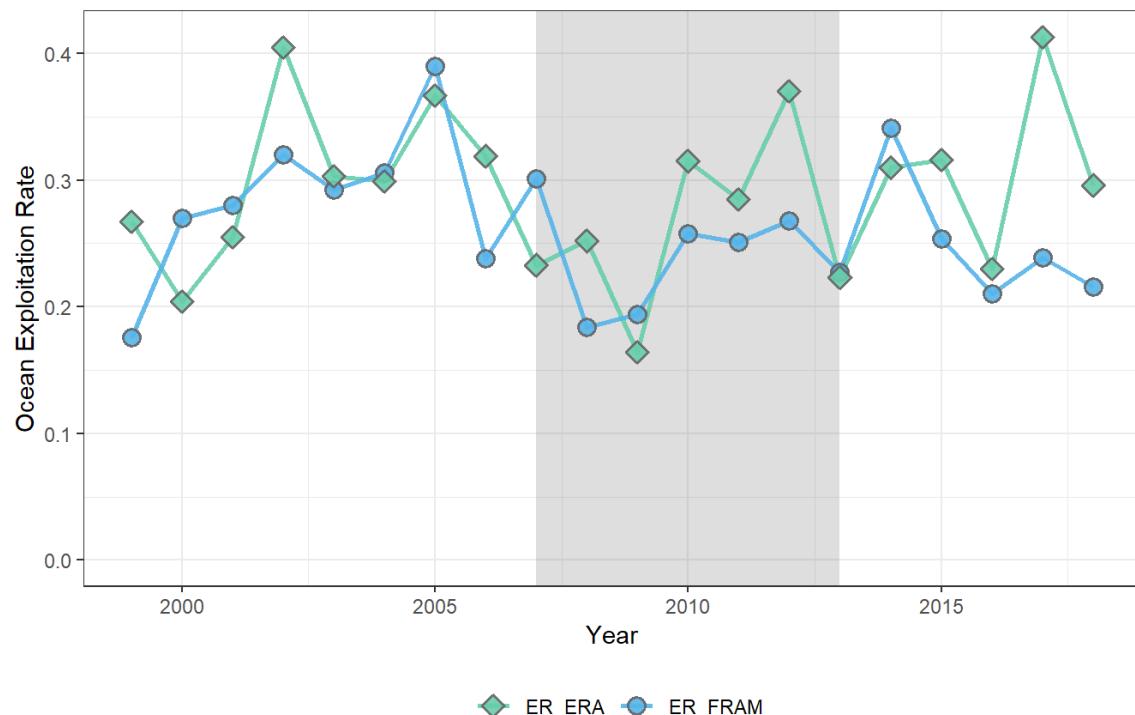


## Spring Creek

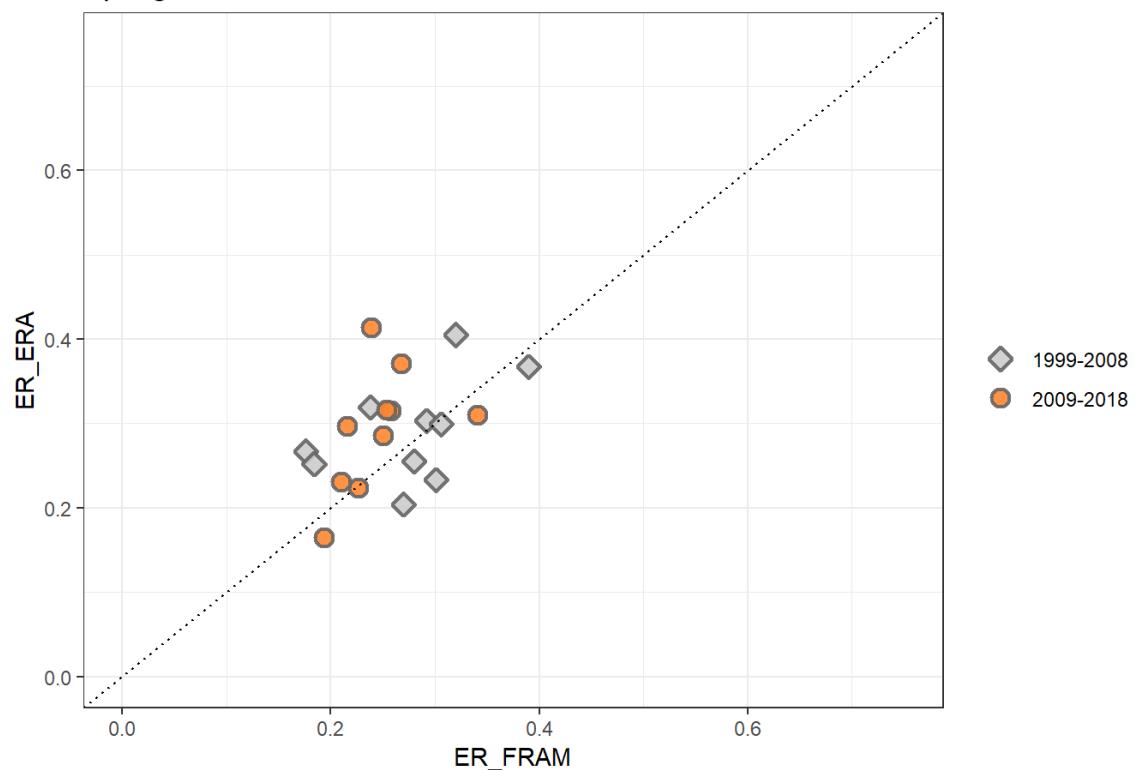
<b>BroodYear</b>	<b>TagCode</b>	<b>Stock_ERA</b>	<b>ERA</b>	<b>FRAM</b>
2005	052873	SPR	x	x
2005	052874	SPR	x	x
2005	052971	SPR	x	x
2005	052972	SPR	x	x
2006	052570	SPR	x	x
2006	052577	SPR	x	x
2006	052588	SPR	x	x
2006	052895	SPR	x	x
2006	052897	SPR	x	x
2006	053592	SPR	x	x
2006	054318	SPR	x	x
2006	054336	SPR	x	x
2007	050685	SPR	x	x
2007	052978	SPR	x	x
2007	053767	SPR	x	x
2007	053776	SPR	x	x
2007	053778	SPR	x	x
2007	053780	SPR	x	x
2007	053782	SPR	x	x
2007	053874	SPR	x	x
2007	054274	SPR	x	x
2007	054276	SPR	x	x
2008	054864	SPR	x	x
2008	054866	SPR	x	x

### Spring Creek; Ocean Exploitation Rates

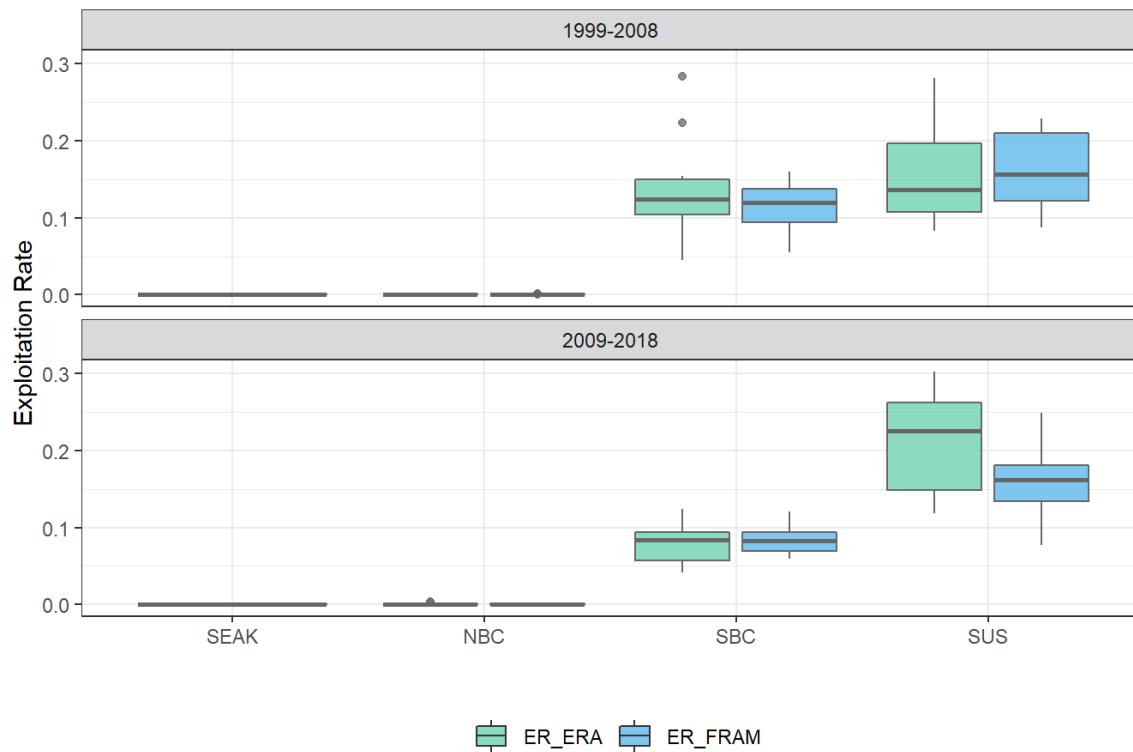
Note: gray shaded area corresponds to base period return years



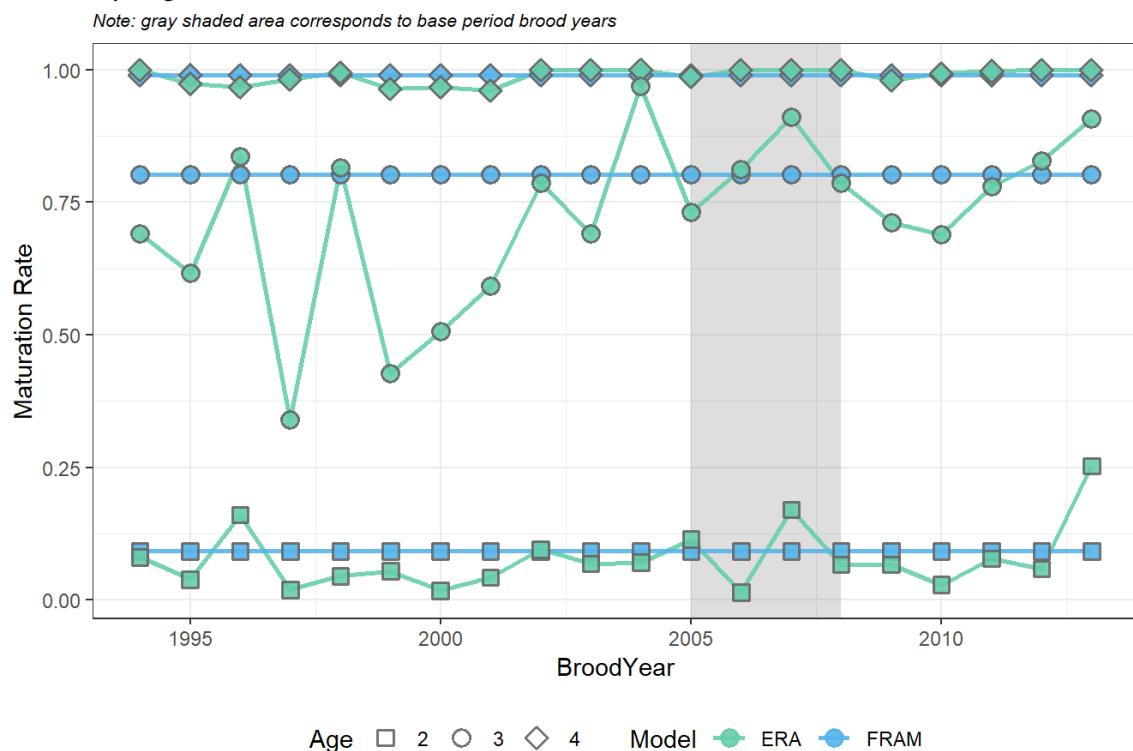
### Spring Creek



### Spring Creek; Ocean Exploitation Rates by Region



### Spring Creek; Maturation Rates

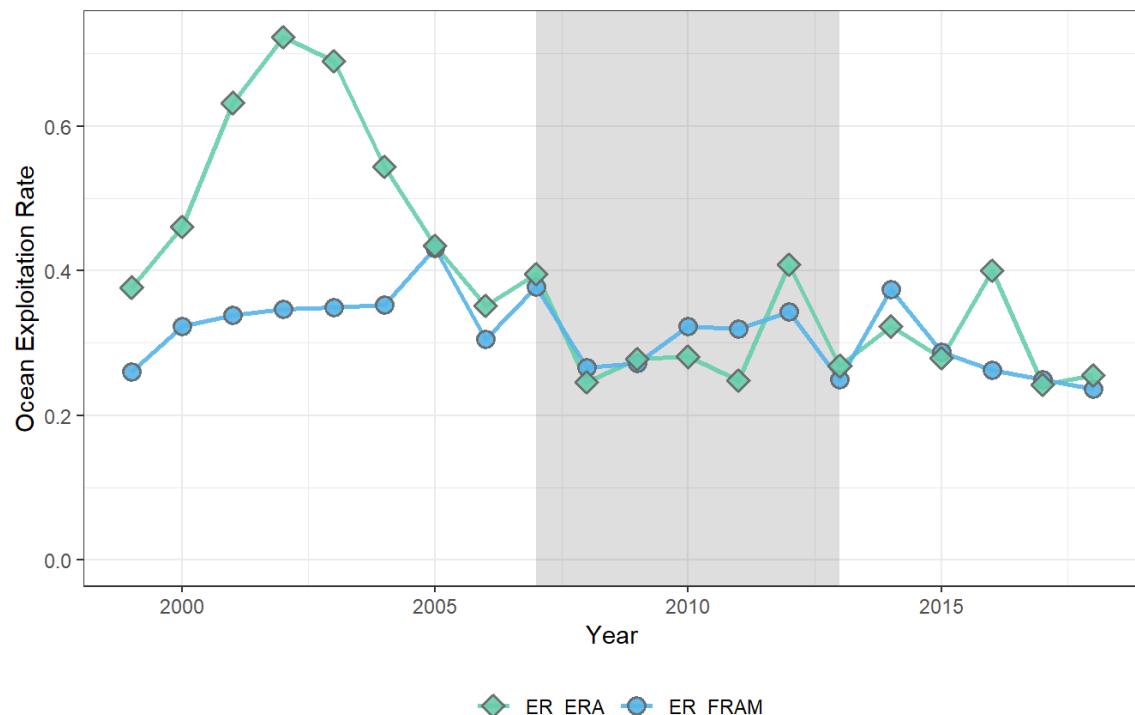


## Columbia River Summer

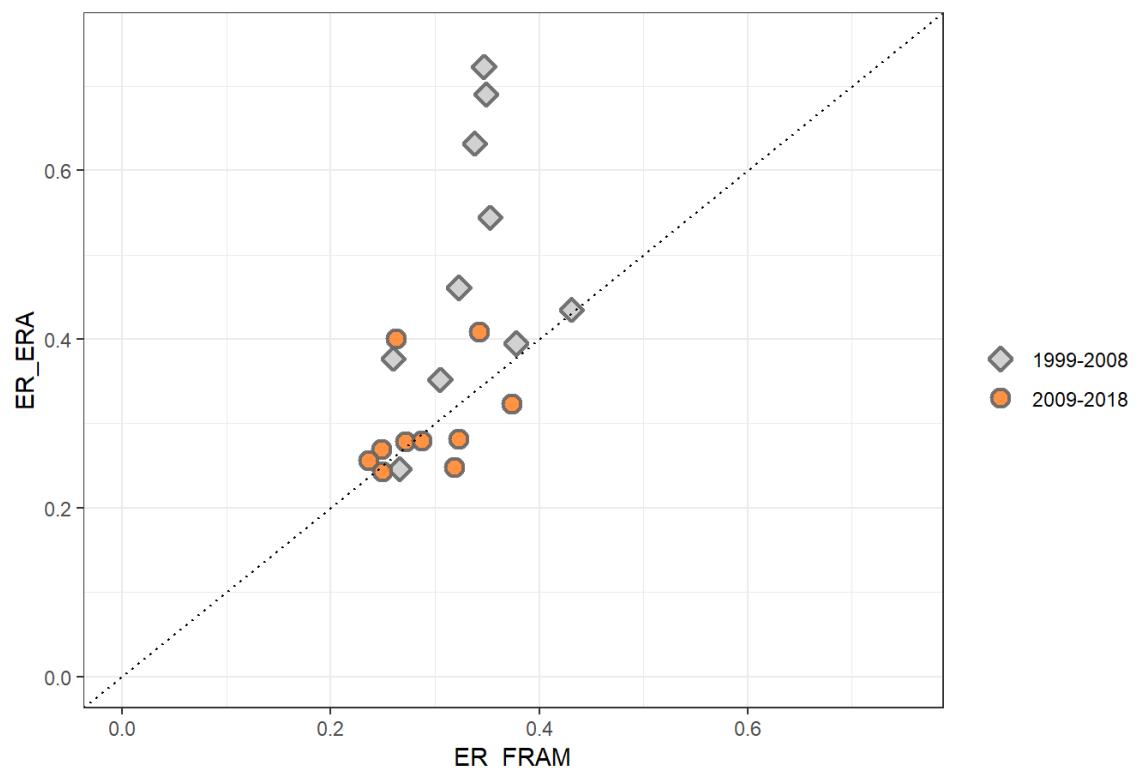
<b>BroodYear</b>	<b>TagCode</b>	<b>Stock_ERA</b>	<b>ERA</b>	<b>FRAM</b>
2005	633298	SUM	x	x
2005	633299	SUM	x	x
2005	633596	SUM	x	x
2006	633385	SUM	x	x
2006	633386	SUM	x	x
2006	633799	SUM	x	x
2007	633871	SUM	x	x
2007	633872	SUM	x	x
2007	634287	SUM	x	x
2007	634390	SUM	x	x
2008	634876	SUM	x	x
2008	635092	SUM	x	x
2008	635093	SUM	x	x

### Columbia River Summer; Ocean Exploitation Rates

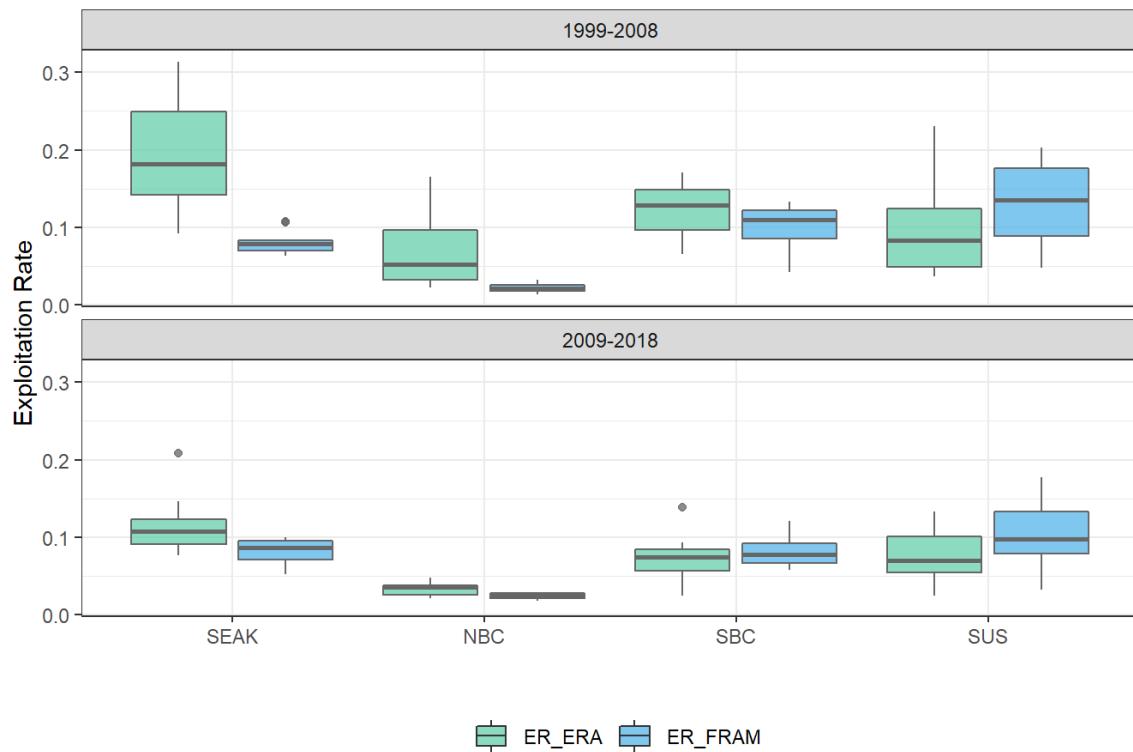
Note: gray shaded area corresponds to base period return years



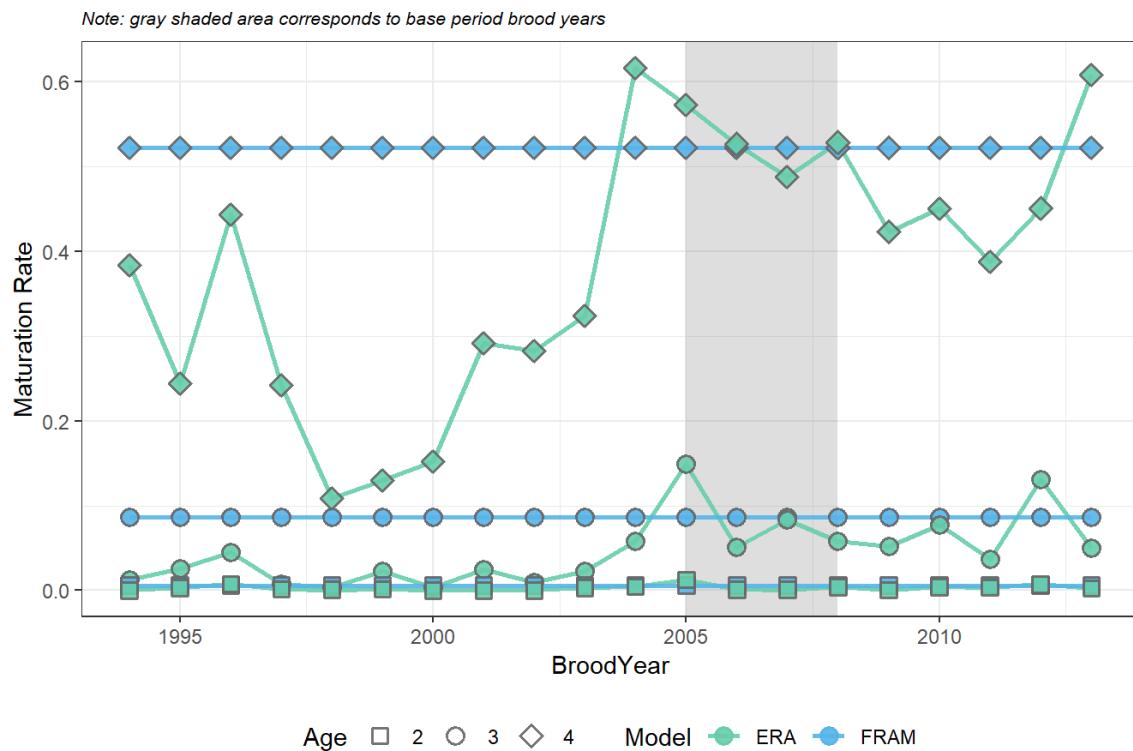
### Columbia River Summer



### Columbia River Summer; Ocean Exploitation Rates by Region



### Columbia River Summer; Maturation Rates

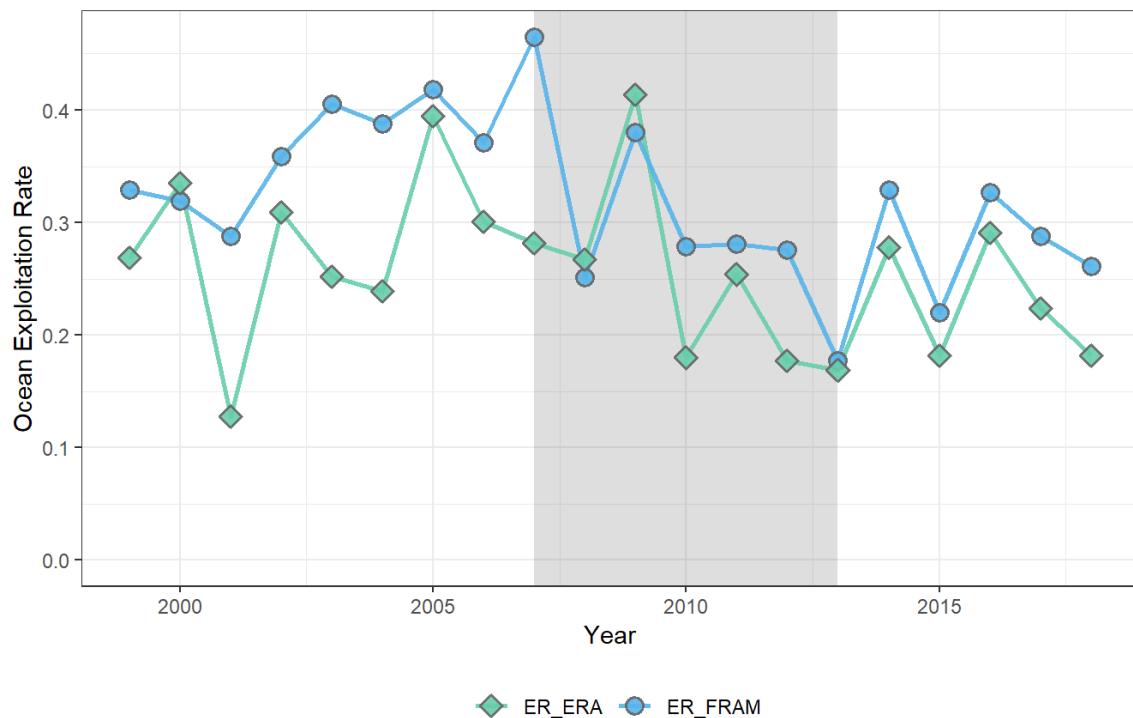


## Upriver Bright

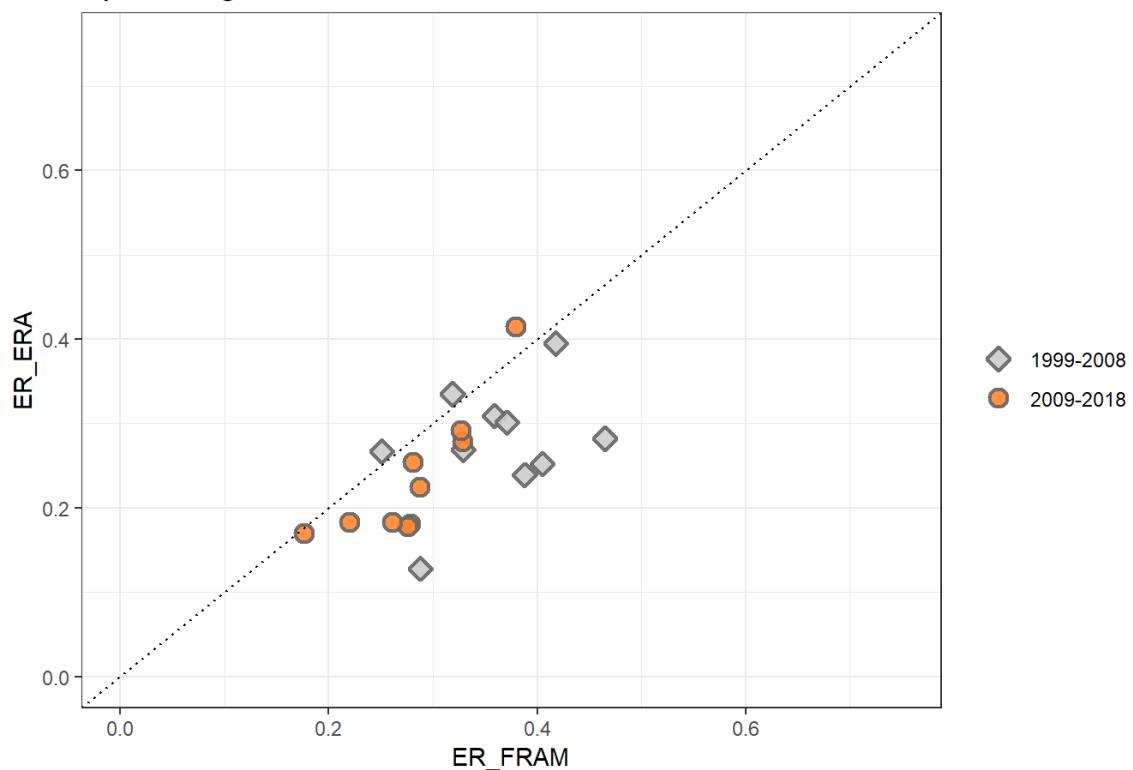
BroodYear	TagCode	Stock_ERA	ERA	FRAM
2005	633173	URB	x	x
2006	094504	URB	x	x
2006	633894	URB	x	x
2007	094663	URB	x	x
2007	634391	URB	x	x
2008	634799	URB	x	x

### Upriver Bright; Ocean Exploitation Rates

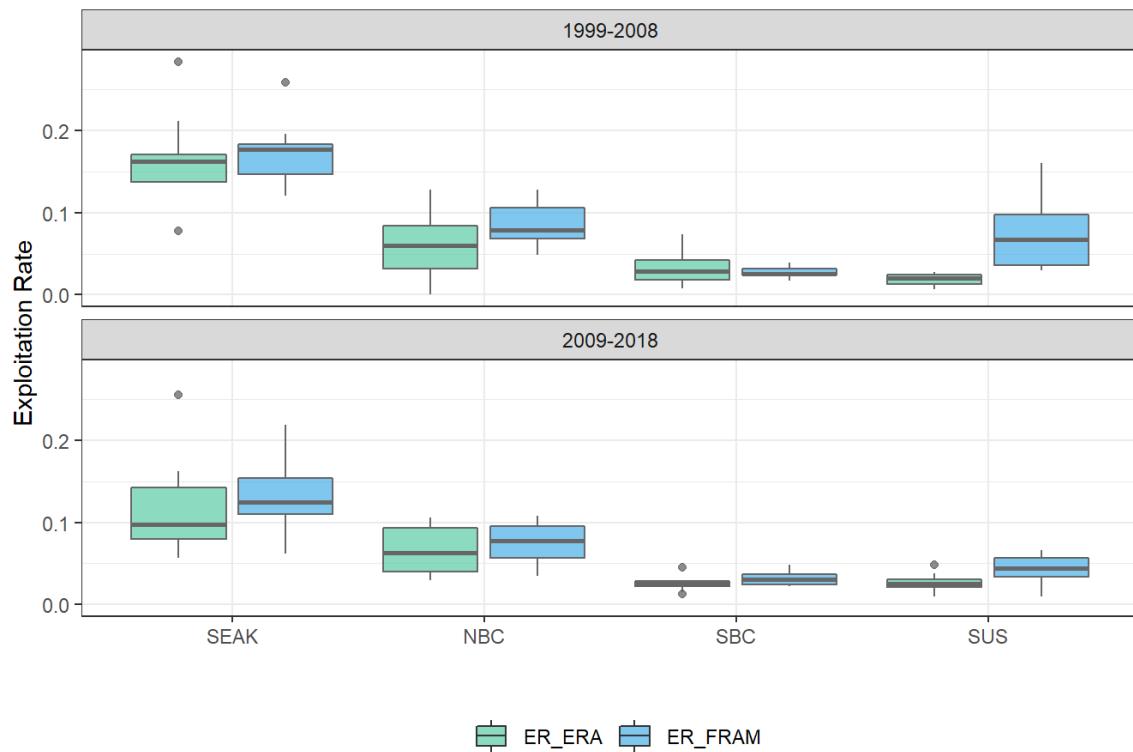
Note: gray shaded area corresponds to base period return years



### Upriver Bright

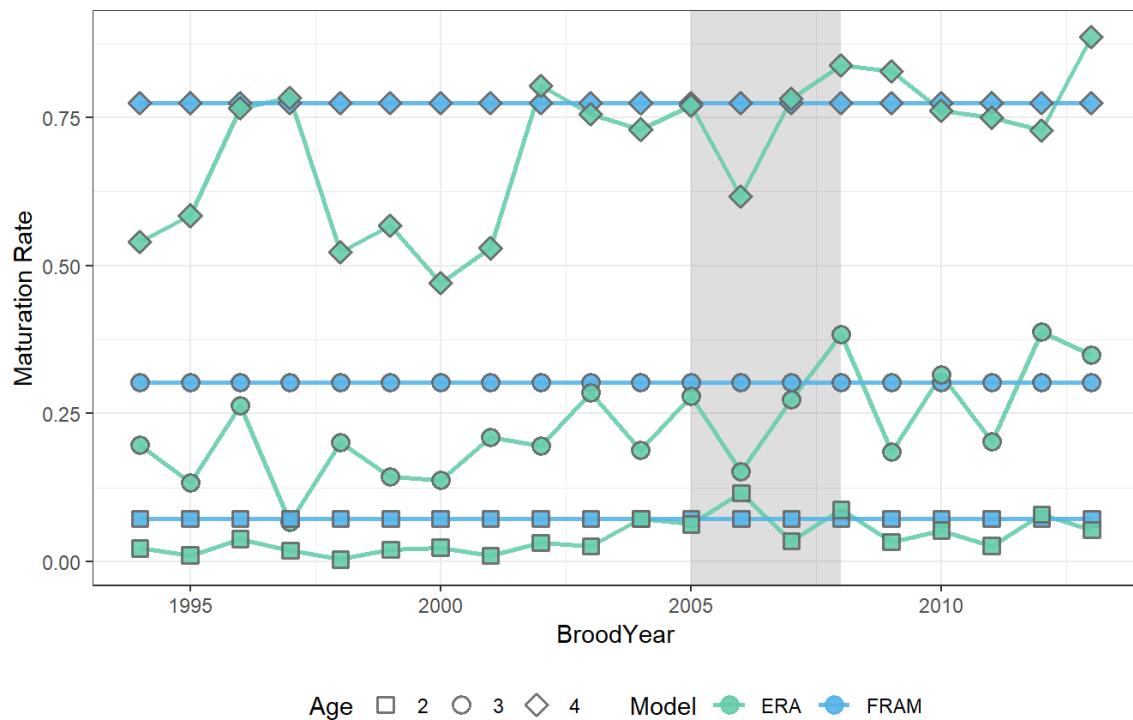


### Upriver Bright; Ocean Exploitation Rates by Region



### Upriver Bright; Maturation Rates

Note: gray shaded area corresponds to base period brood years



## Willamette Spring

<b>BroodYear</b>	<b>TagCode</b>	<b>Stock_ERA</b>	<b>ERA</b>	<b>FRAM</b>
2005	094422	WSH	x	x
2005	092734	WSH	x	x
2005	094143	WSH	x	x
2005	094453	WSH	x	x
2005	094142	WSH	x	x
2005	094344	WSH	x	x
2005	094436	WSH	x	x
2005	094438	WSH	x	x
2005	094345	WSH	x	x
2005	094019	WSH	x	
2005	094348	WSH	x	x
2005	094349	WSH	x	x
2005	094347	WSH	x	x
2005	094425	WSH	x	x
2005	094335	NA		x
2005	094346	NA		x
2005	094437	NA		x
2005	094333	NA		x
2005	094140	NA		x
2005	094439	NA		x
2005	094139	NA		x
2006	094549	WSH	x	x
2006	094556	WSH	x	x
2006	094557	WSH	x	x

<b>BroodYear</b>	<b>TagCode</b>	<b>Stock_ERAS</b>	<b>ERA</b>	<b>FRAM</b>
2006	094558	WSH	x	x
2006	094559	WSH	x	x
2006	094560	WSH	x	x
2006	094561	WSH	x	x
2006	094562	WSH	x	x
2006	094563	WSH	x	x
2006	094601	WSH	x	x
2006	094602	WSH	x	x
2006	094603	WSH	x	x
2006	094609	WSH	x	x
2006	094610	WSH	x	x
2006	094612	WSH	x	x
2006	094614	WSH	x	x
2006	094615	WSH	x	x
2006	094616	WSH	x	x
2006	094617	WSH	x	
2006	094627	WSH	x	x
2007	094650	WSH	x	x
2007	094529	WSH	x	x
2007	090169	WSH	x	x
2007	090171	WSH	x	x
2007	090177	WSH	x	x
2007	090178	WSH	x	x
2007	090188	WSH	x	x
2007	090190	WSH	x	x

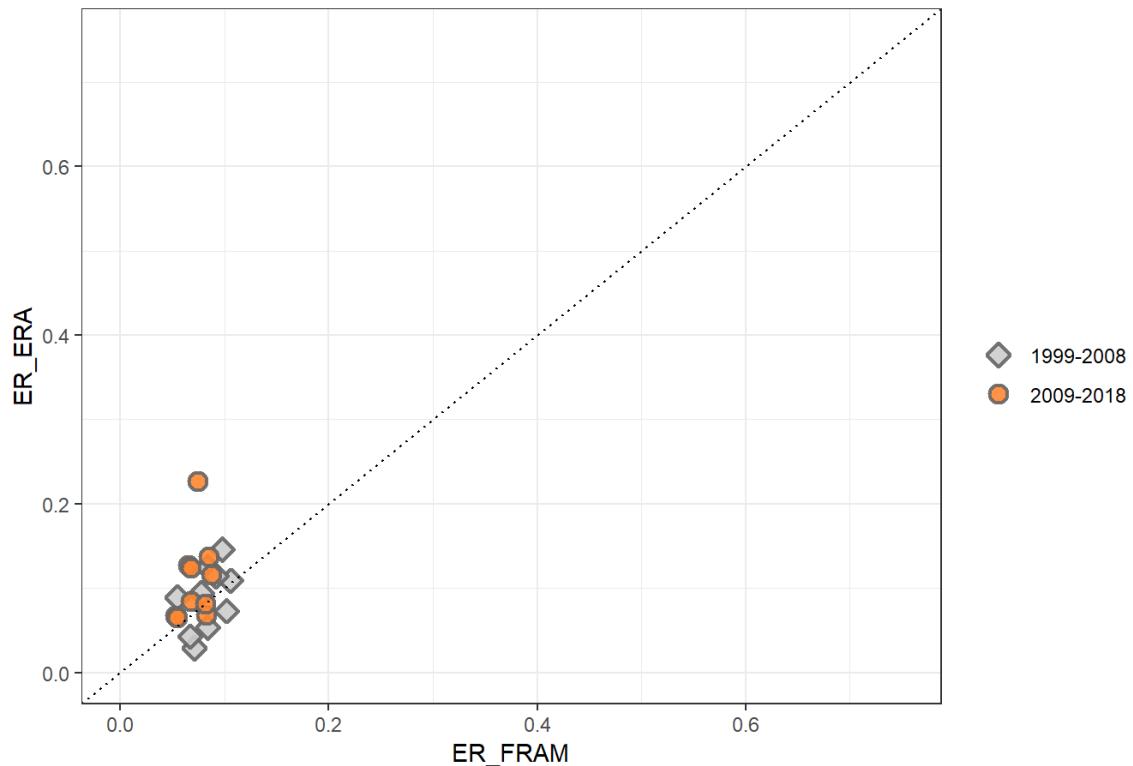
<b>BroodYear</b>	<b>TagCode</b>	<b>Stock_ERA</b>	<b>ERA</b>	<b>FRAM</b>
2007	090189	WSH	x	x
2007	090187	WSH	x	x
2007	094657	WSH	x	x
2007	094652	NA		x
2007	094651	NA		x
2008	090193	WSH	x	x
2008	090269	WSH	x	x
2008	090238	WSH	x	x
2008	090237	WSH	x	x
2008	090197	WSH	x	x
2008	090239	WSH	x	x
2008	090196	WSH	x	x
2008	090280	WSH	x	x
2008	090194	WSH	x	x
2008	090271	WSH	x	x
2008	090279	WSH	x	x
2008	094653	WSH	x	x
2008	090278	WSH	x	x

### Willamette Spring; Ocean Exploitation Rates

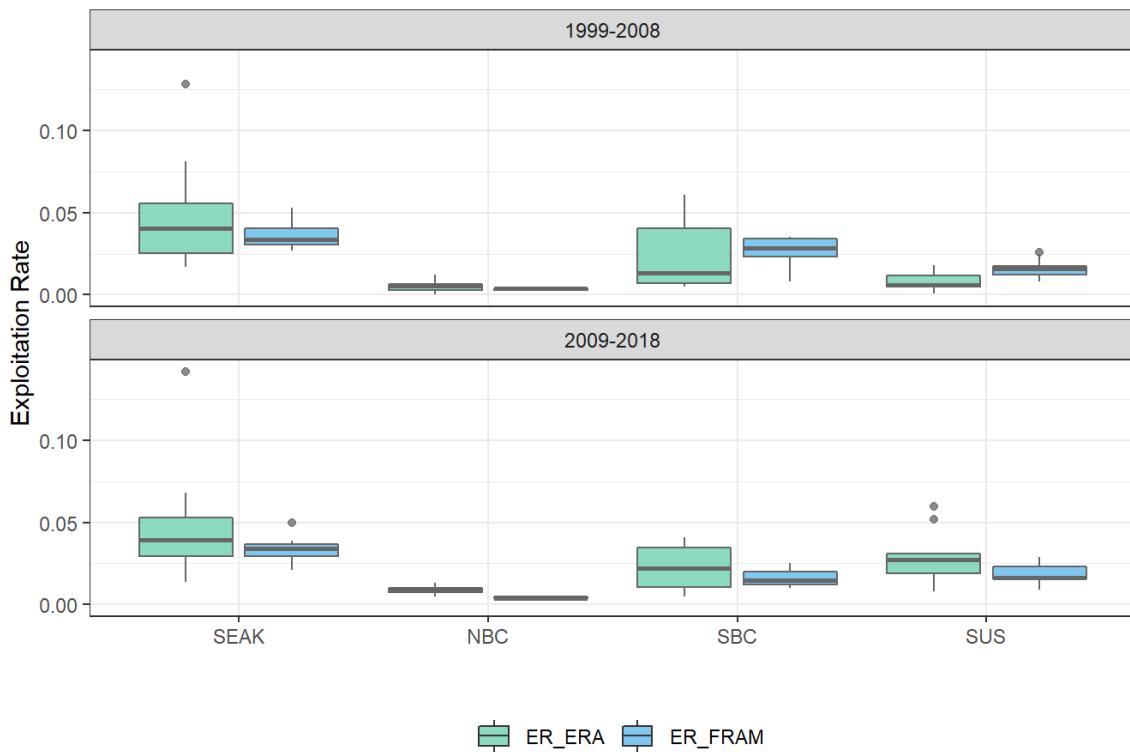
Note: gray shaded area corresponds to base period return years



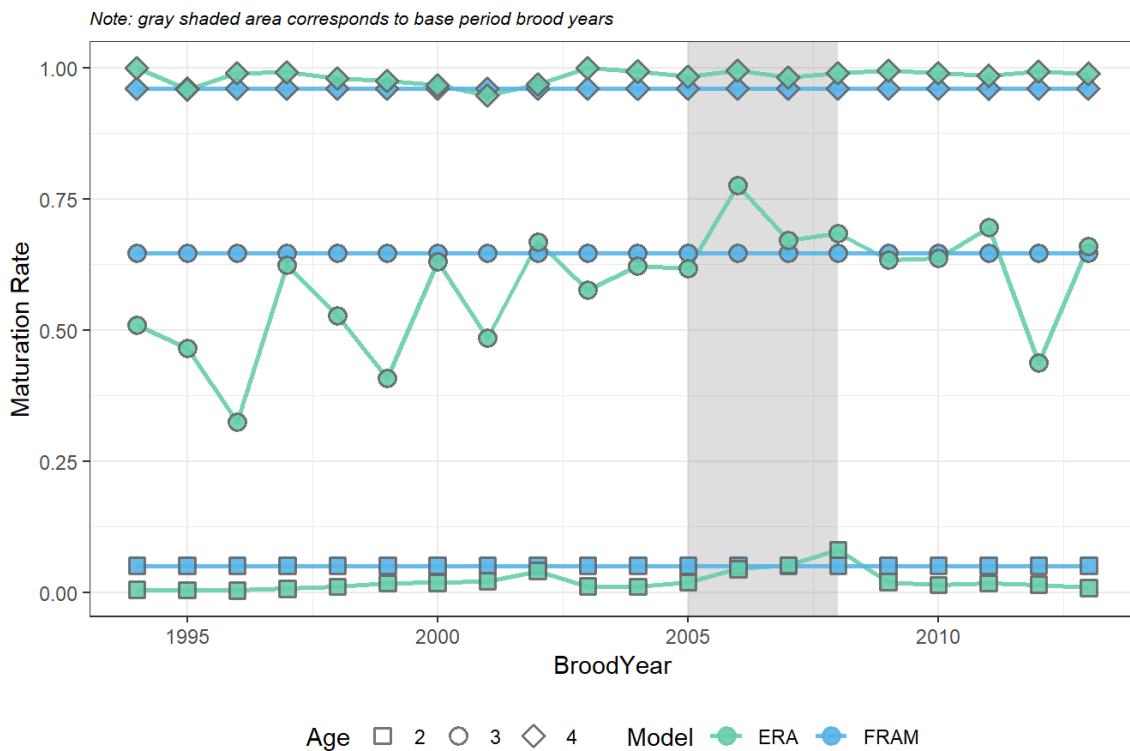
### Willamette Spring



### Willamette Spring; Ocean Exploitation Rates by Region



### Willamette Spring; Maturation Rates

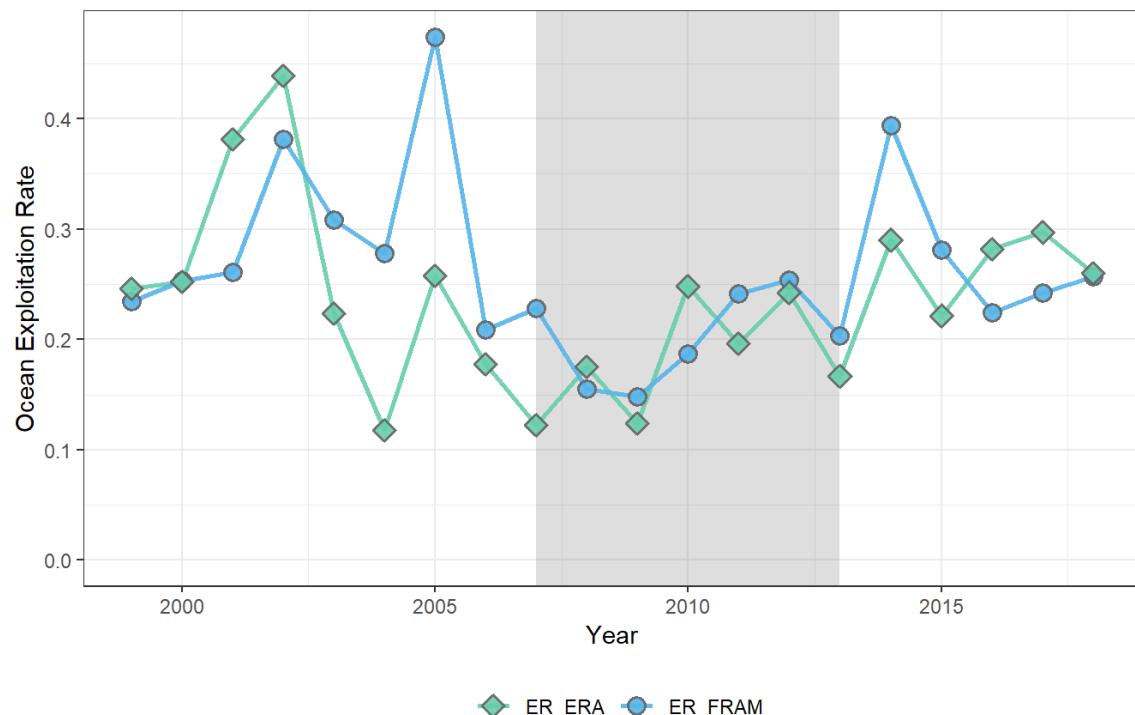


## Snake River Fall

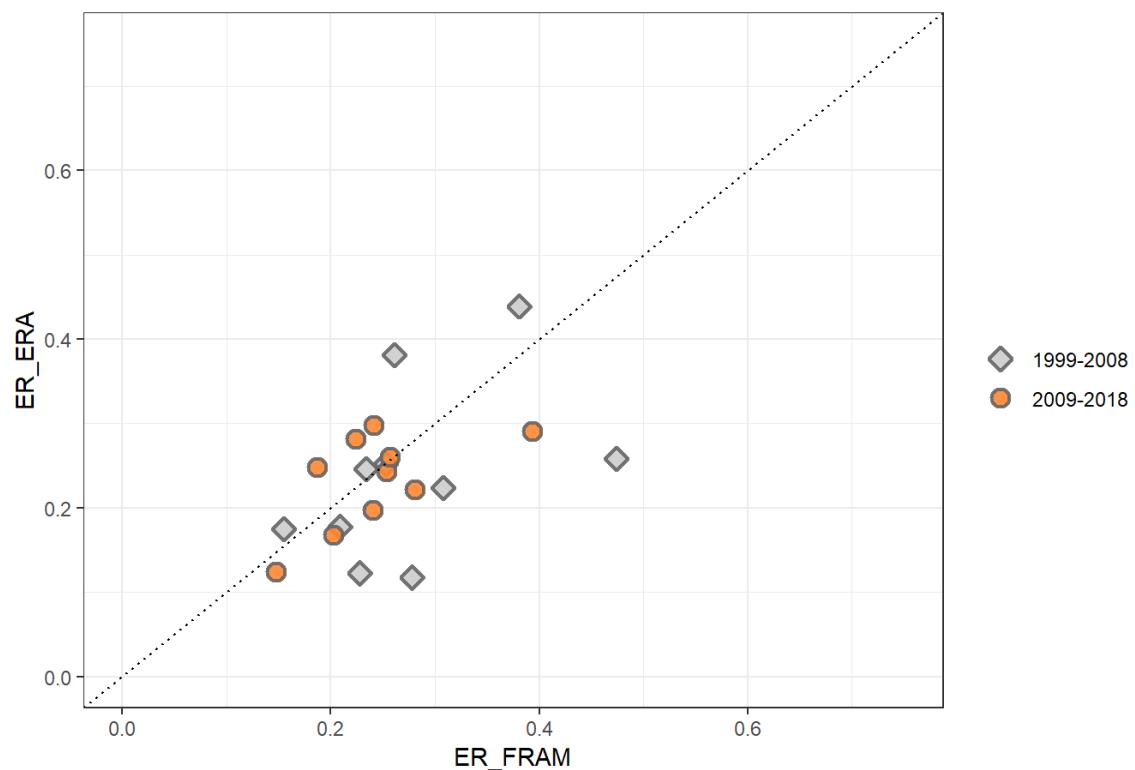
<b>BroodYear</b>	<b>TagCode</b>	<b>Stock_ERA</b>	<b>ERA</b>	<b>FRAM</b>
2005	633582	LYF	x	x
2005	633598	LYY	x	x
2006	633986	LYF	x	x
2006	633987	LYY	x	x
2007	634672	LYF	x	x
2007	634680	LYY	x	x
2007	634671	NA		x
2008	634995	LYF	x	x
2008	635166	LYY	x	x

### Snake River Fall; Ocean Exploitation Rates

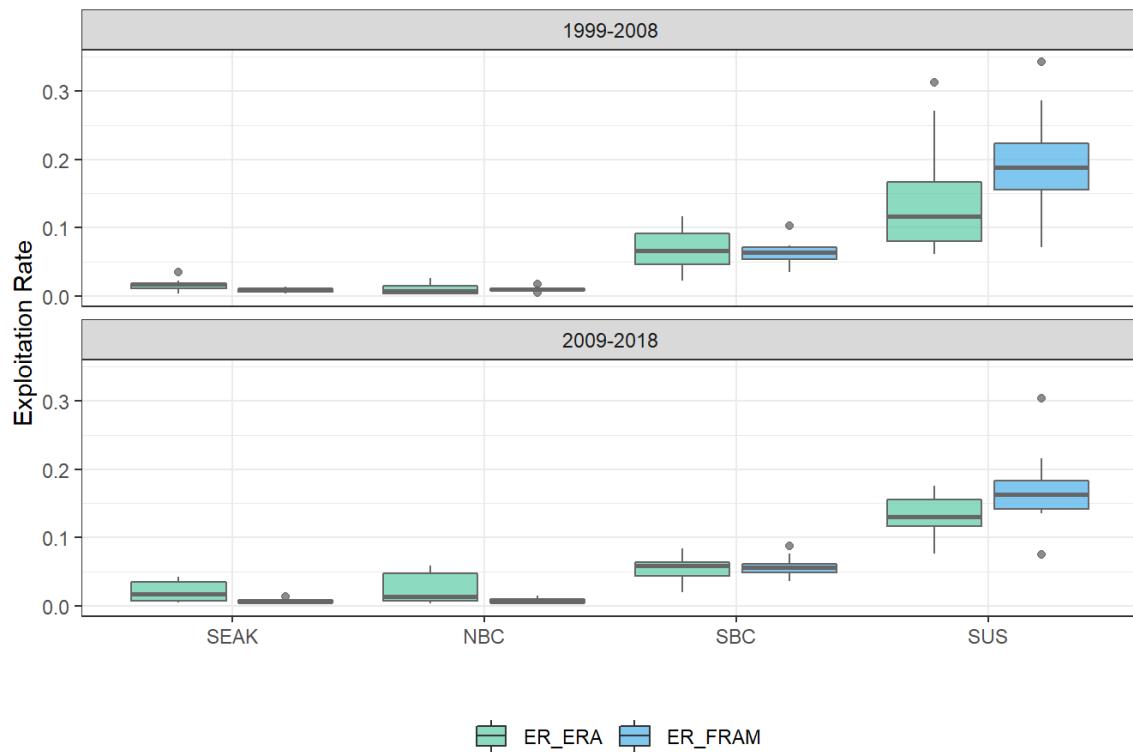
Note: gray shaded area corresponds to base period return years



### Snake River Fall

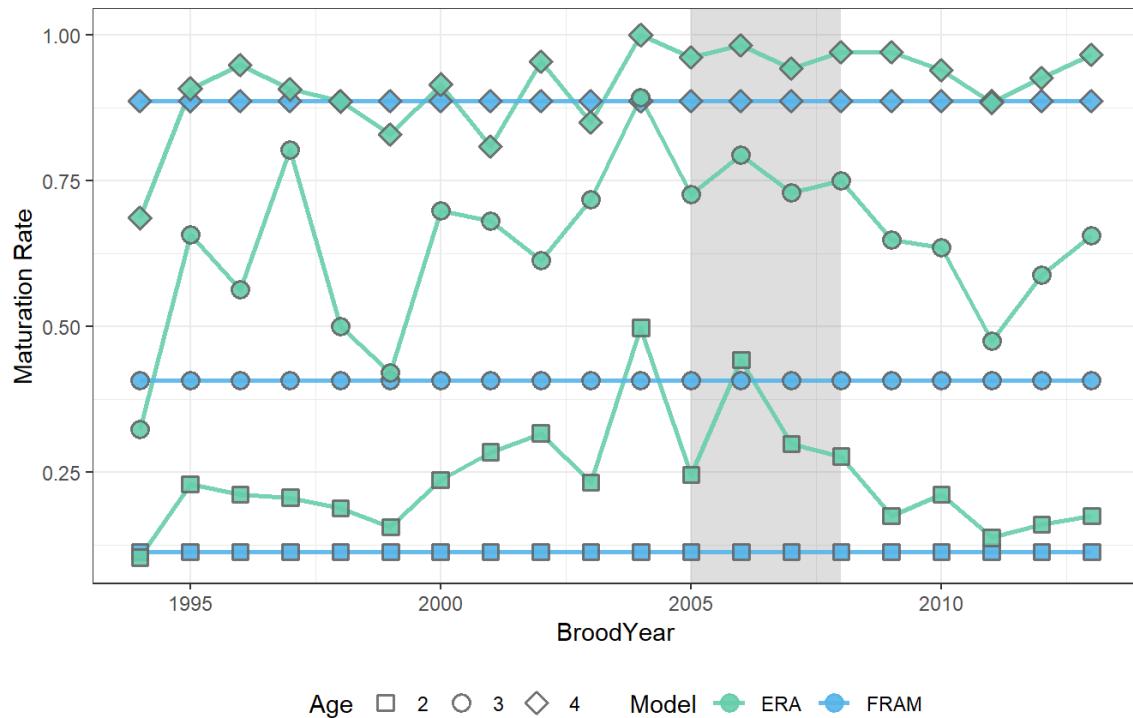


### Snake River Fall; Ocean Exploitation Rates by Region



### Snake River Fall; Maturation Rates

Note: gray shaded area corresponds to base period brood years

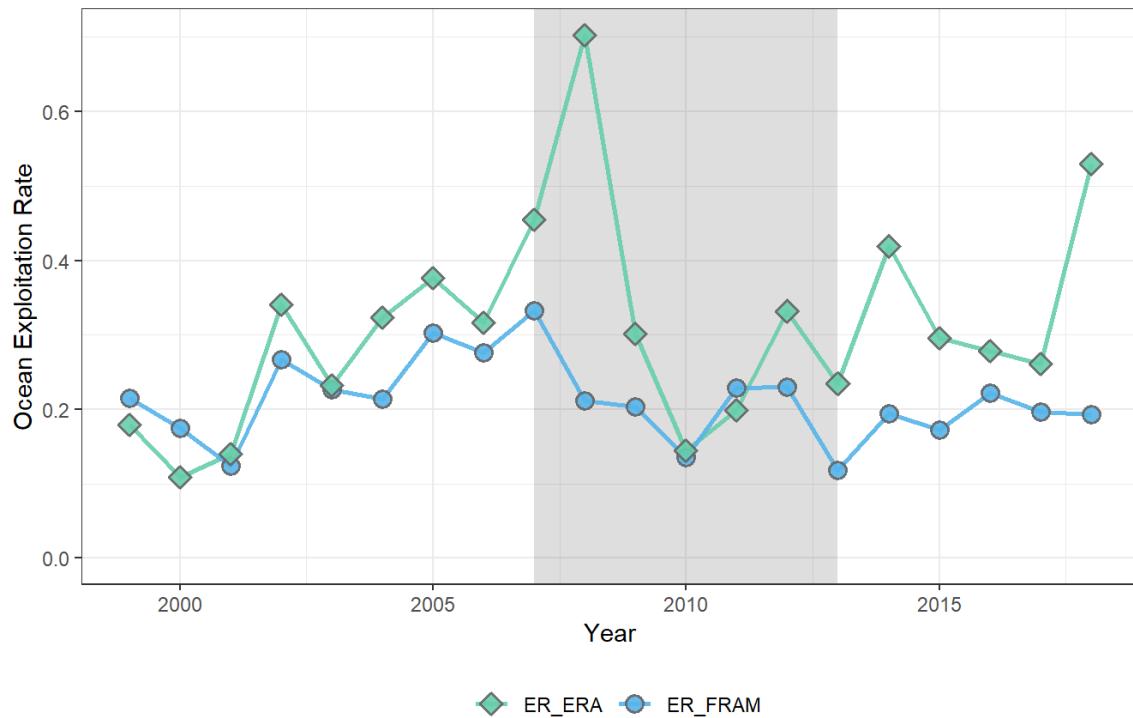


## Hoko

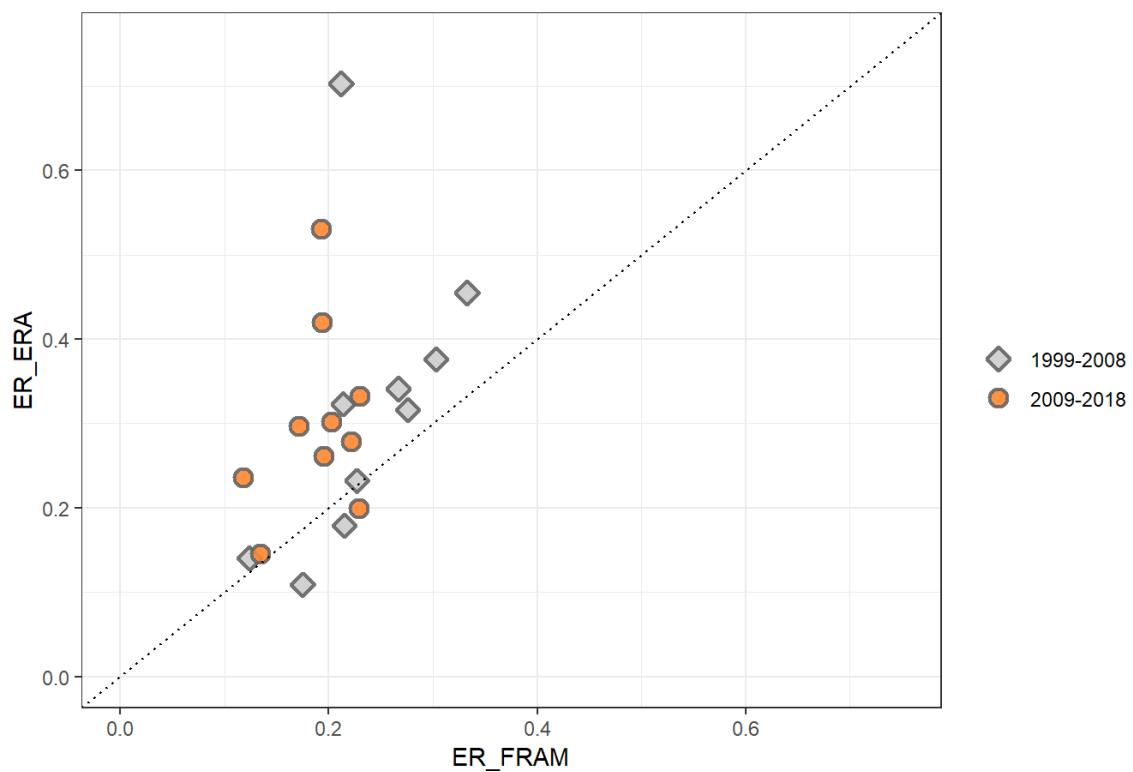
<b>BroodYear</b>	<b>TagCode</b>	<b>Stock_ERA</b>	<b>ERA</b>	<b>FRAM</b>
2005	210678	HOK	x	x
2006	210739	HOK	x	x
2007	210786	HOK	x	x
2008	210841	HOK	x	x

### Hoko; Ocean Exploitation Rates

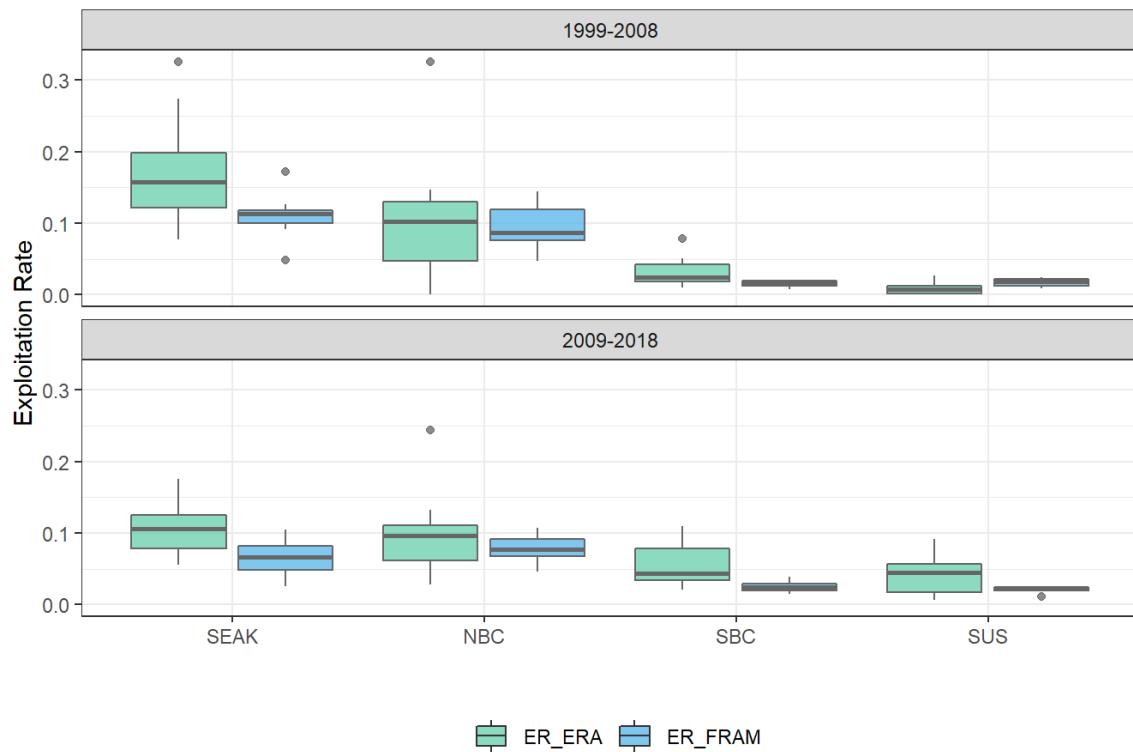
Note: gray shaded area corresponds to base period return years



### Hoko

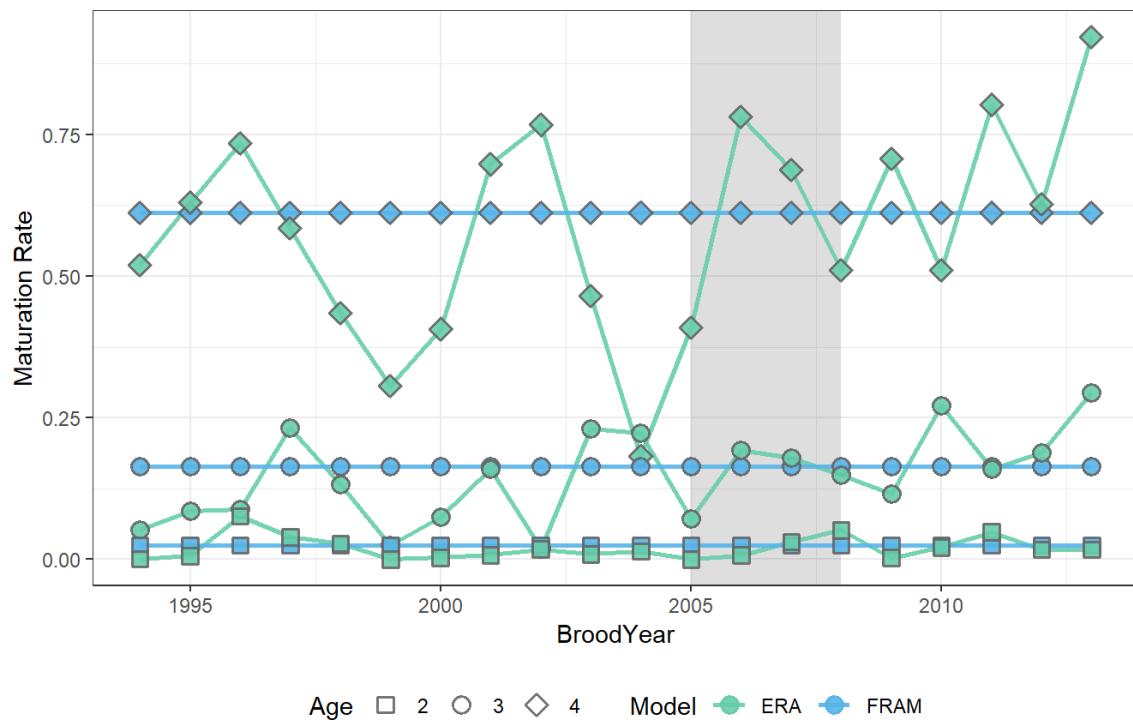


### Hoko; Ocean Exploitation Rates by Region



### Hoko; Maturation Rates

Note: gray shaded area corresponds to base period brood years

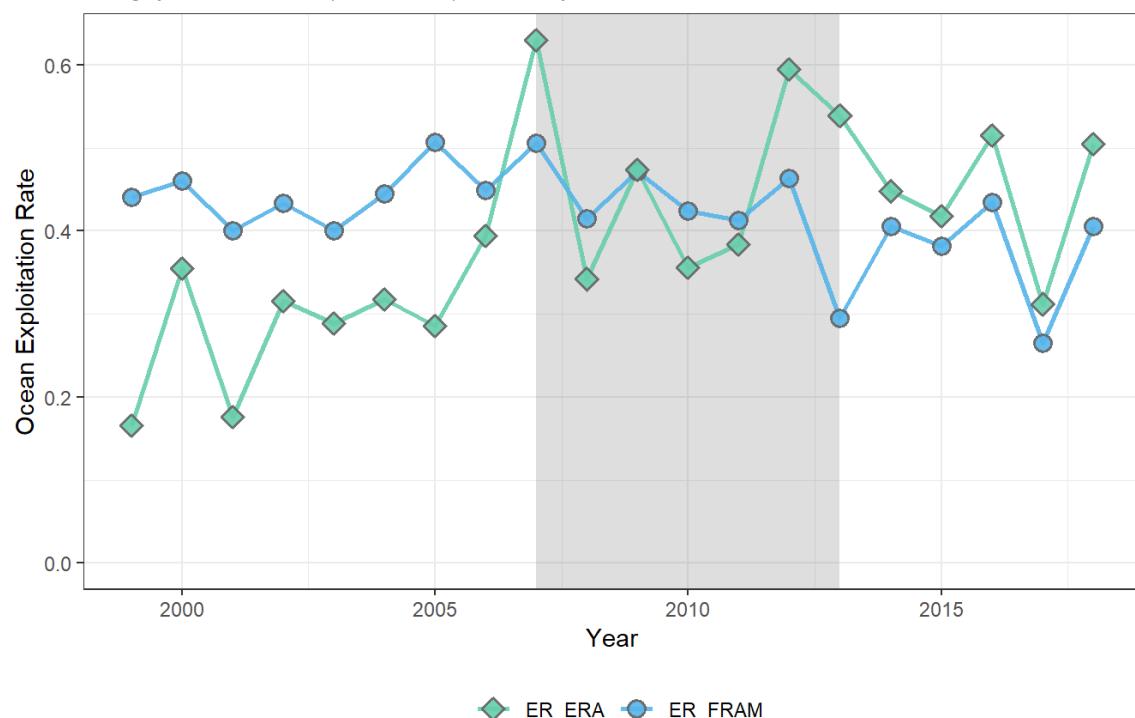


## WA North Coast

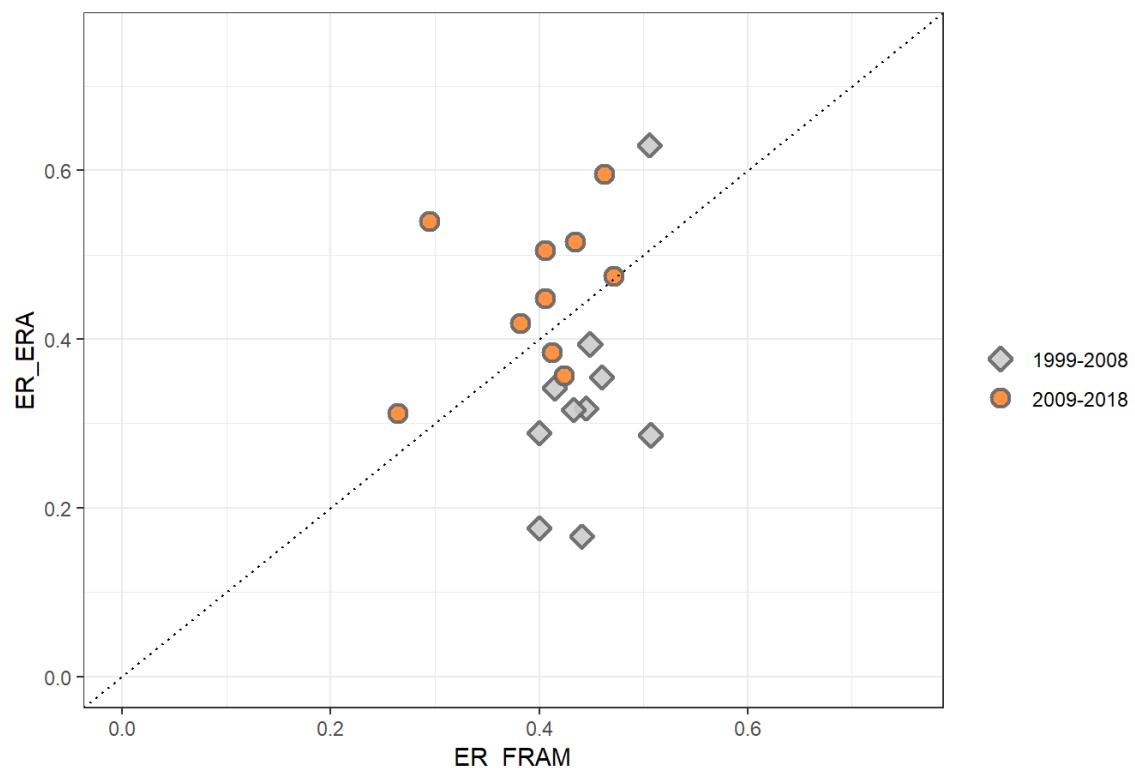
<b>BroodYear</b>	<b>TagCode</b>	<b>Stock_ERA</b>	<b>ERA</b>	<b>FRAM</b>
2005	210679	QUE	x	x
2006	210738	QUE	x	x
2007	210791	QUE	x	x
2008	210843	QUE	x	x

### WA North Coast; Ocean Exploitation Rates

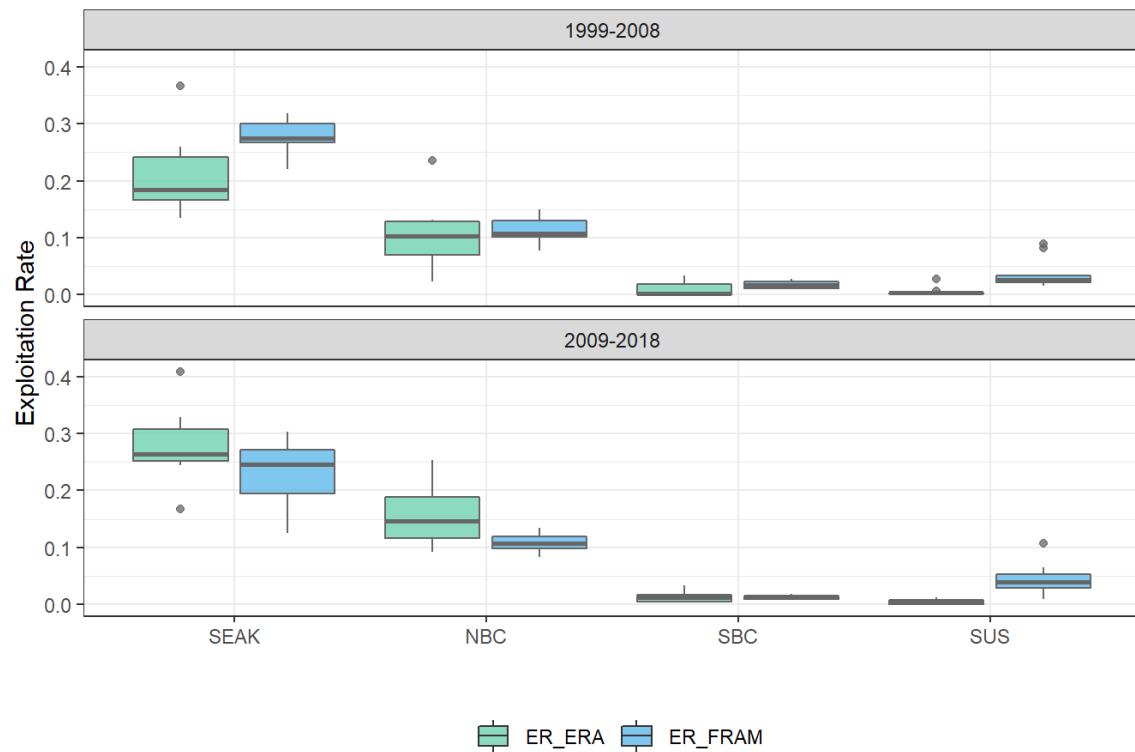
Note: gray shaded area corresponds to base period return years



### WA North Coast



### WA North Coast; Ocean Exploitation Rates by Region



### WA North Coast; Maturation Rates

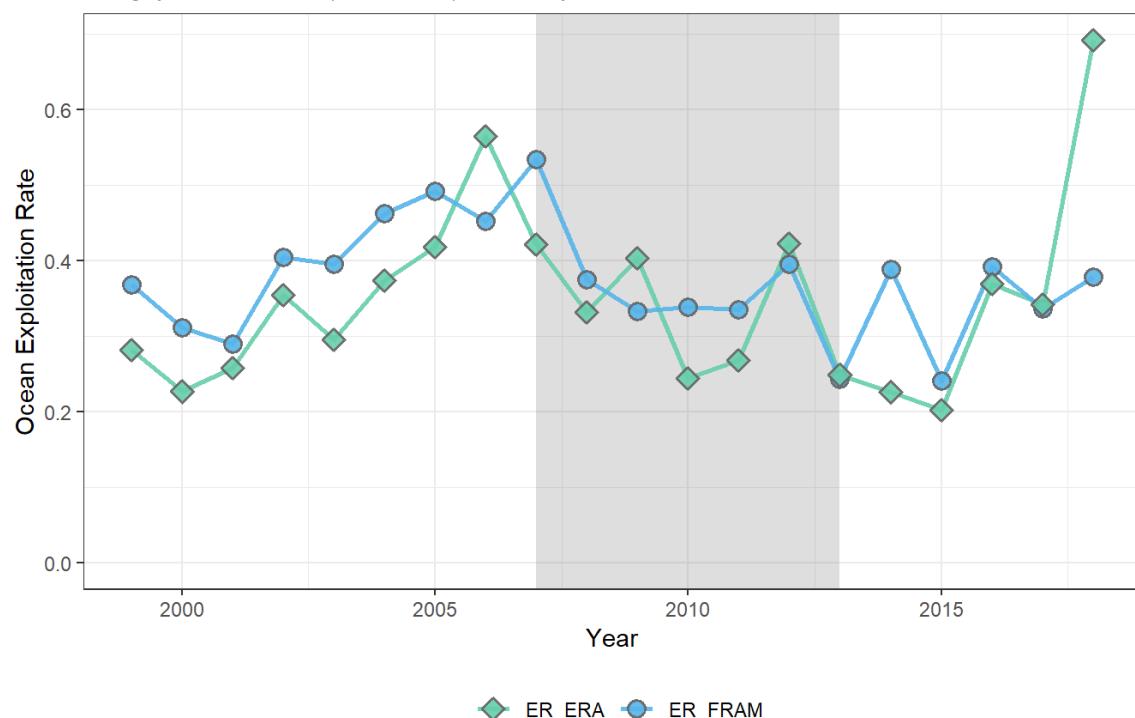


## North OR Coast

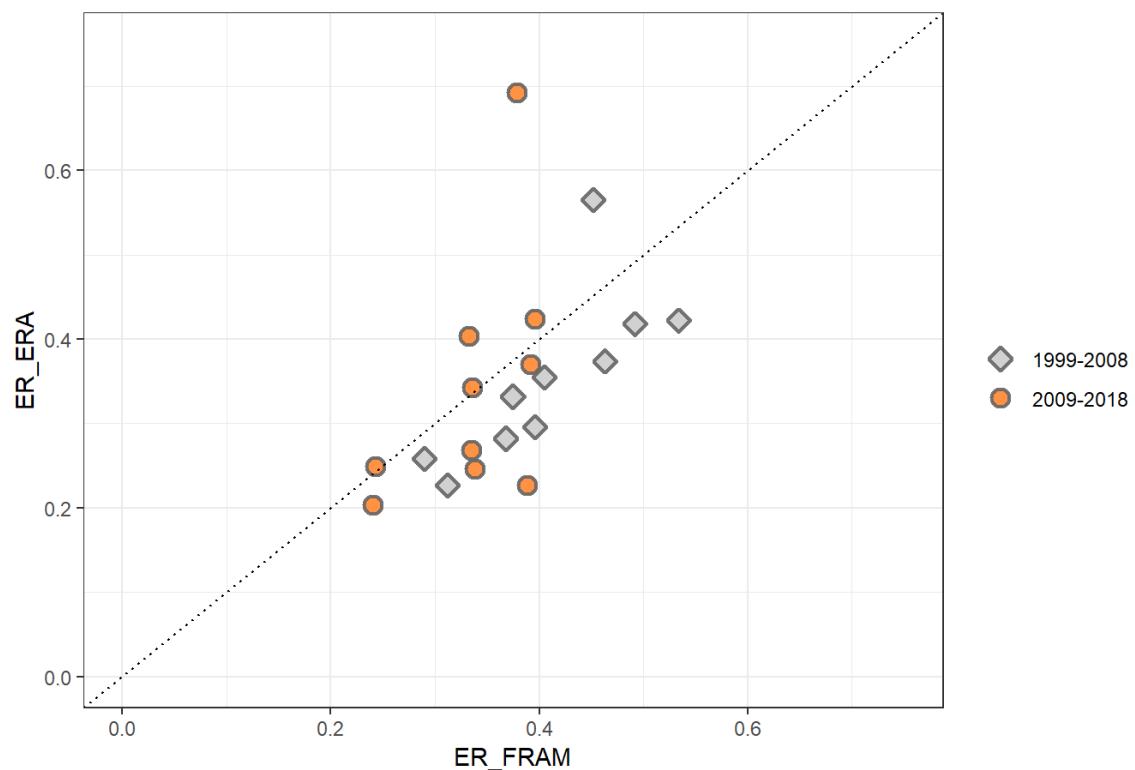
<b>BroodYear</b>	<b>TagCode</b>	<b>Stock_ERA</b>	<b>ERA</b>	<b>FRAM</b>
2005	094428	SRH	x	x
2006	094525	SRH	x	x
2007	094645	SRH	x	x
2008	094701	SRH	x	x

### North OR Coast; Ocean Exploitation Rates

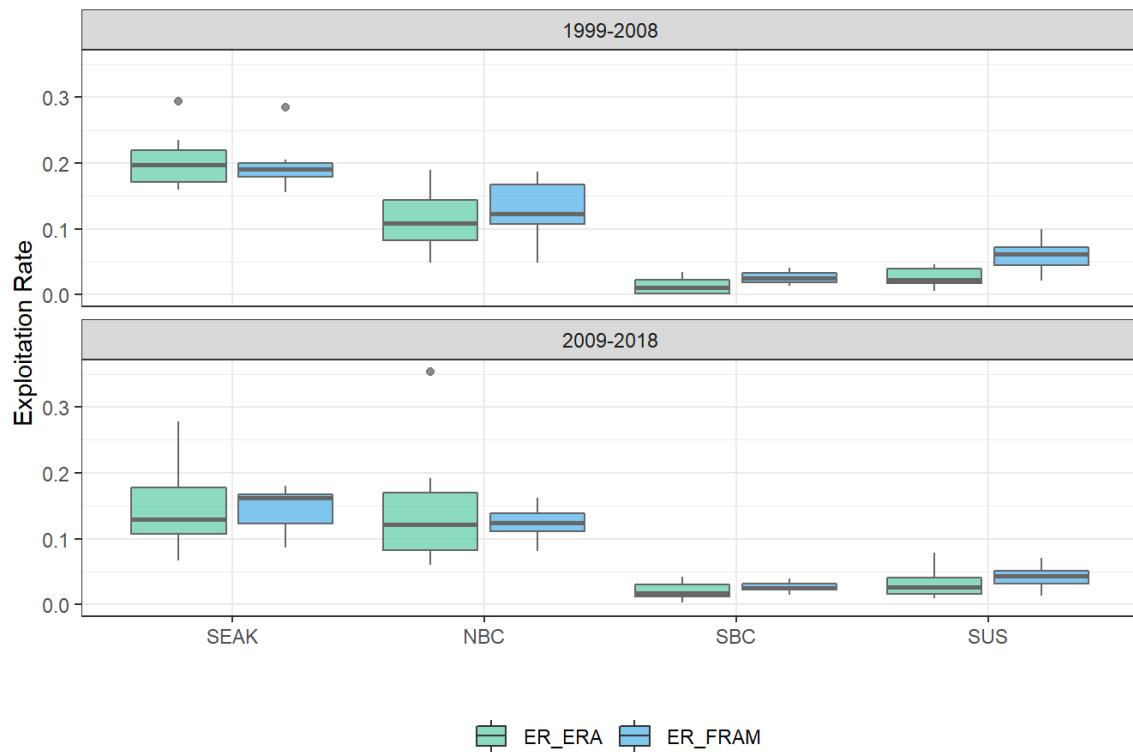
Note: gray shaded area corresponds to base period return years



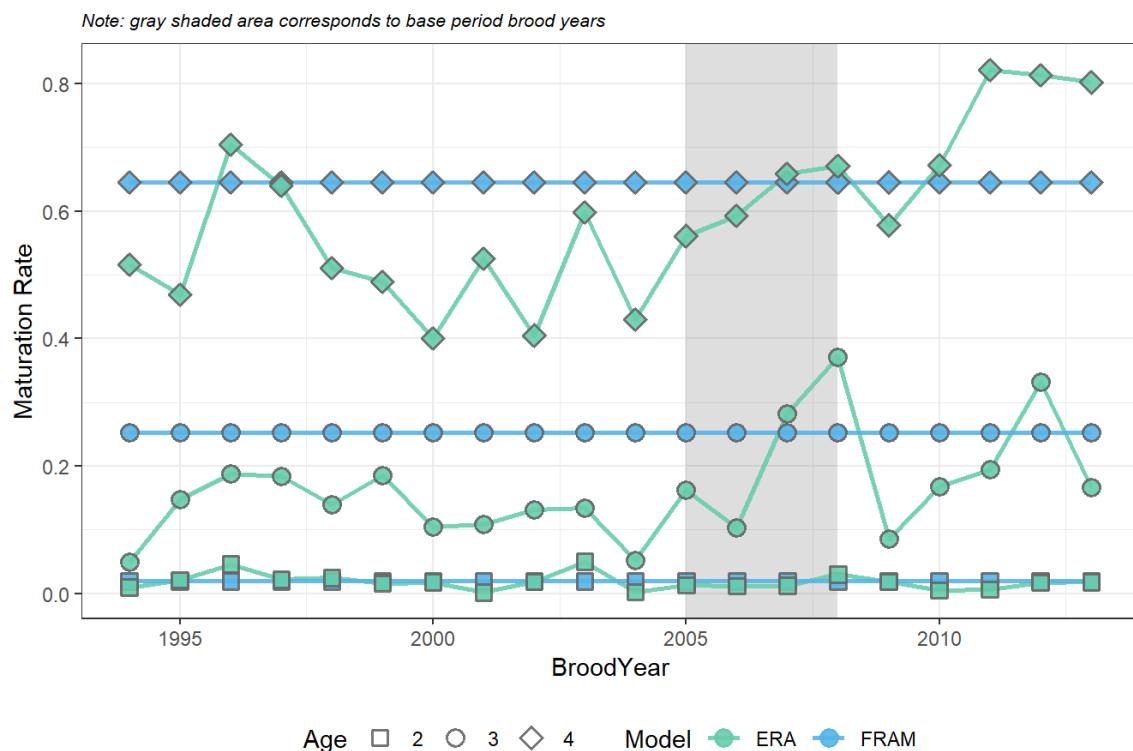
### North OR Coast



### North OR Coast; Ocean Exploitation Rates by Region



### North OR Coast; Maturation Rates

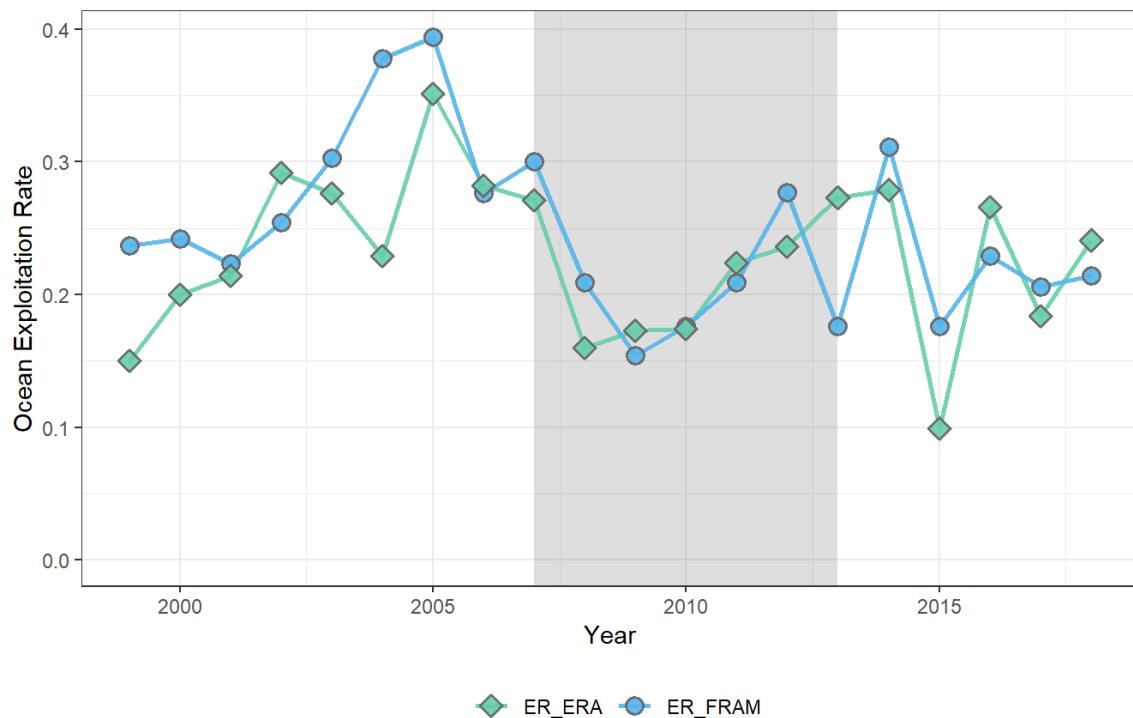


## Mid OR Coast

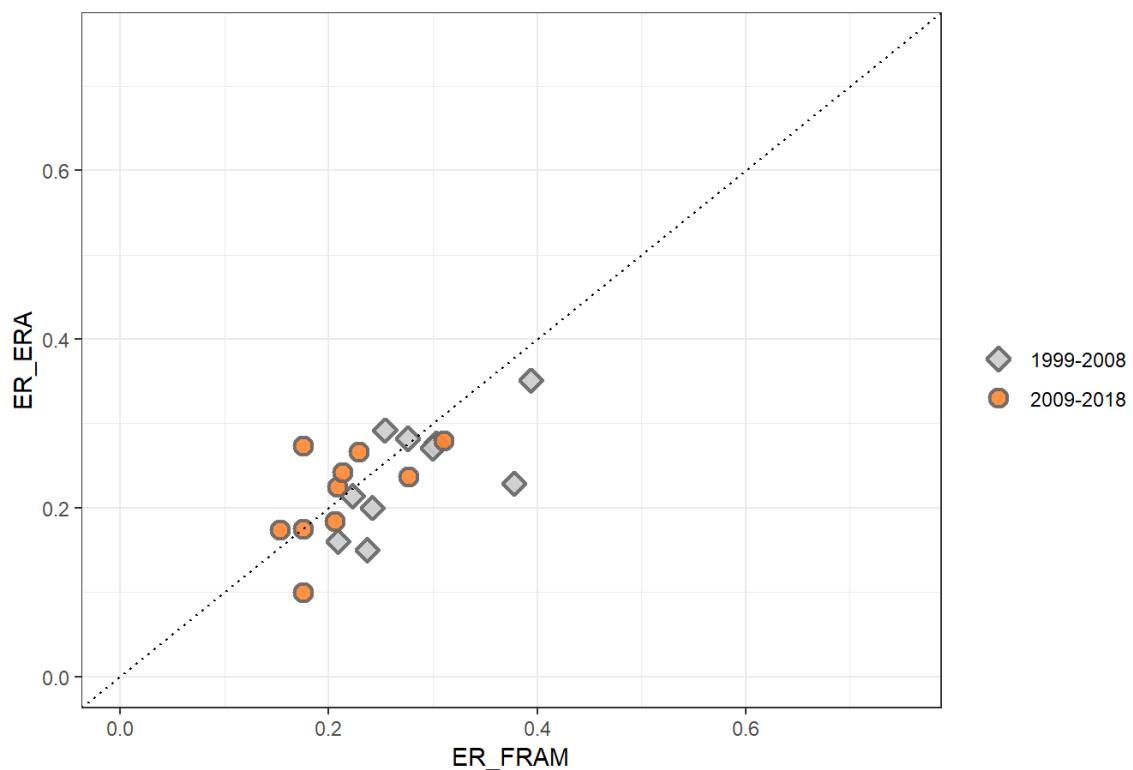
<b>BroodYear</b>	<b>TagCode</b>	<b>Stock_ERA</b>	<b>ERA</b>	<b>FRAM</b>
2005	094343	ELK	x	x
2006	094643	ELK	x	x
2007	090157	ELK	x	x
2007	090165	ELK	x	x
2008	093938	ELK	x	x

### Mid OR Coast; Ocean Exploitation Rates

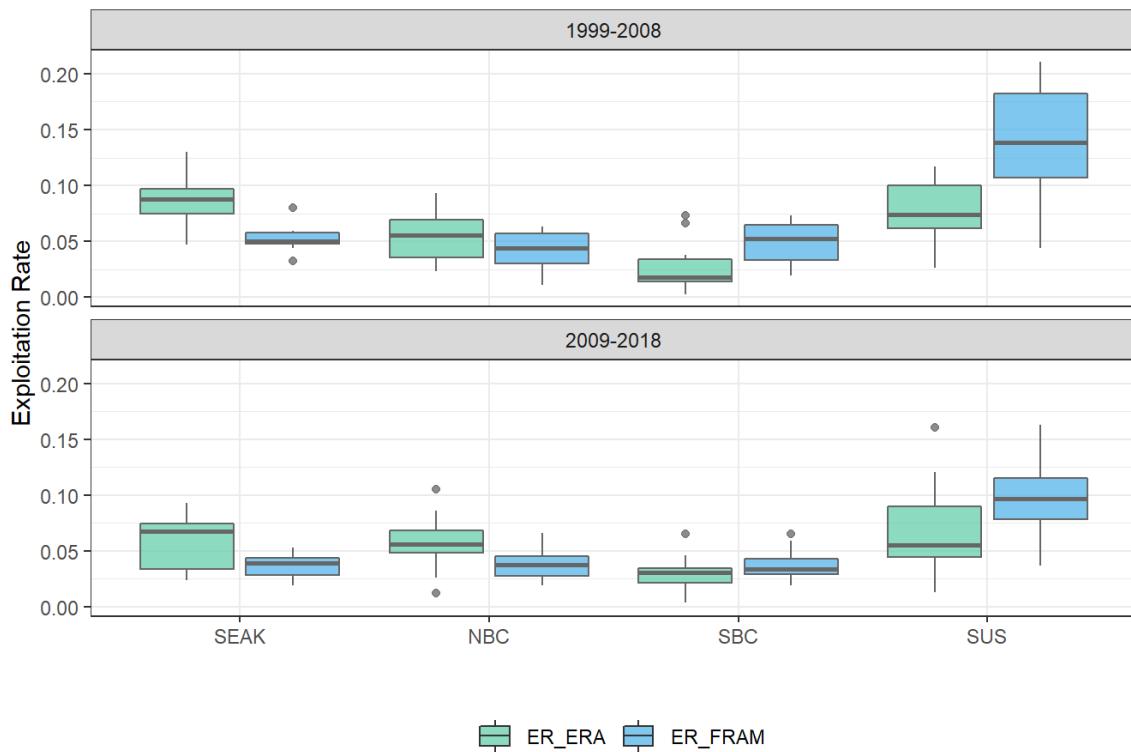
Note: gray shaded area corresponds to base period return years



### Mid OR Coast

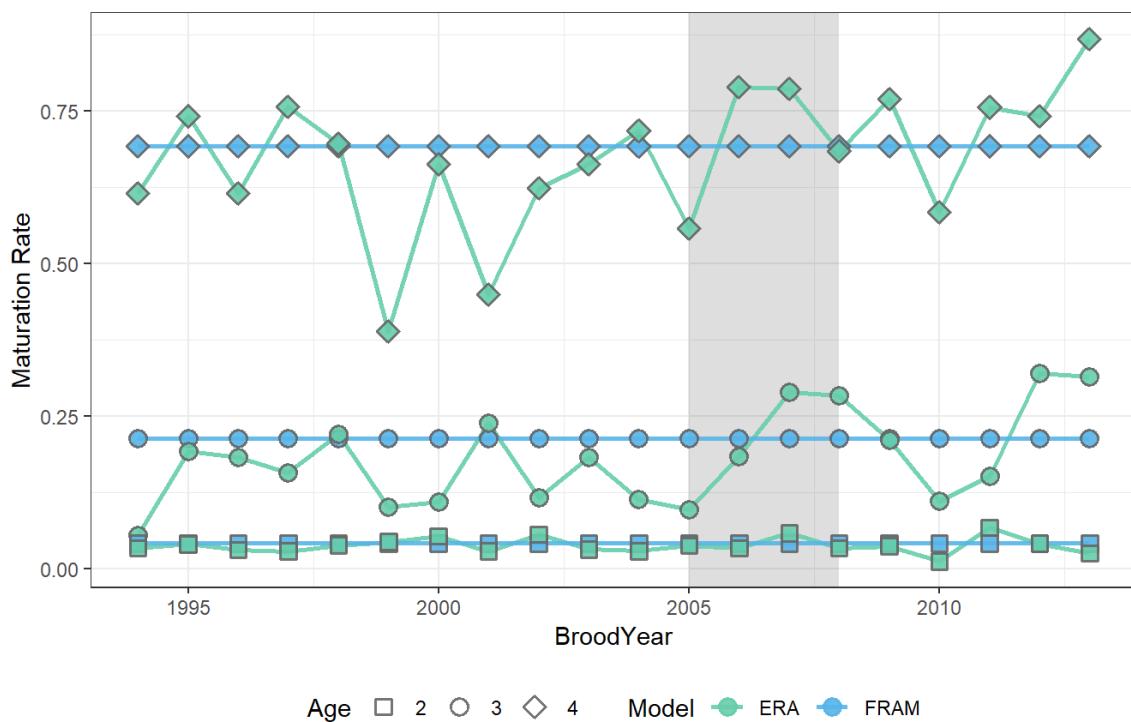


### Mid OR Coast; Ocean Exploitation Rates by Region



### Mid OR Coast; Maturation Rates

Note: gray shaded area corresponds to base period brood years



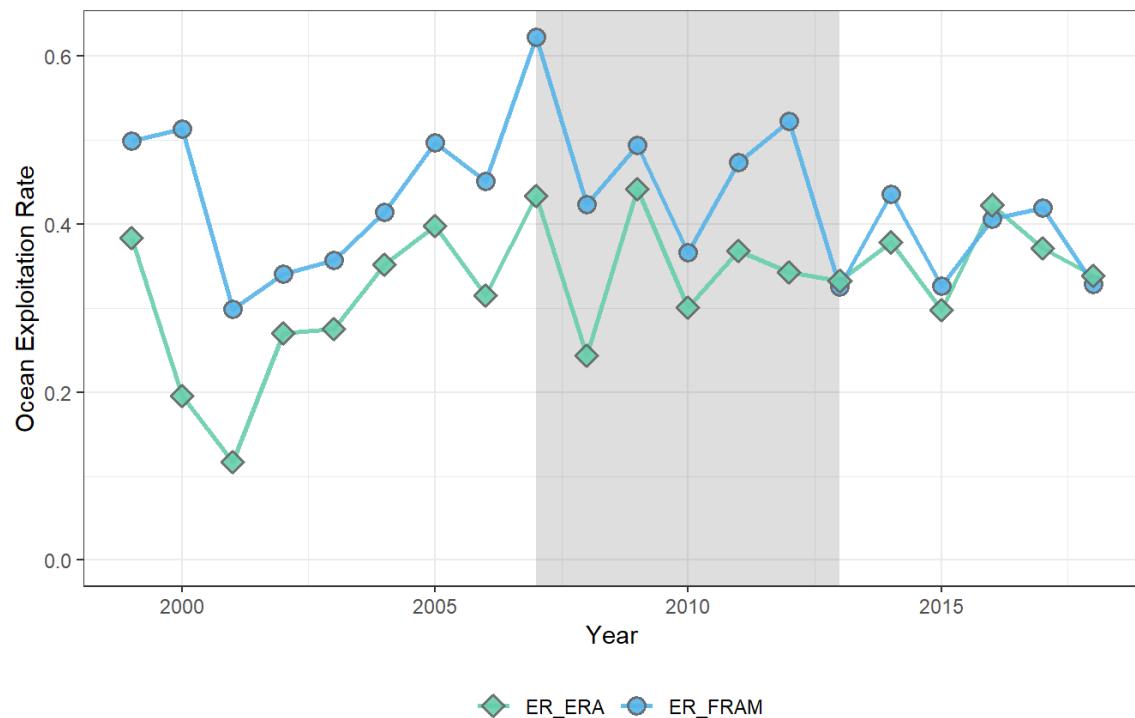
## WCVI

<b>BroodYear</b>	<b>TagCode</b>	<b>Stock_ERA</b>	<b>ERA</b>	<b>FRAM</b>
2005	185257	RBT	x	x
2005	185258	RBT	x	x
2005	185259	RBT	x	x
2005	185260	RBT	x	x
2005	185948	RBT	x	x
2005	185949	RBT	x	x
2005	185950	RBT	x	x
2005	185951	RBT	x	x
2006	185821	RBT	x	x
2006	185822	RBT	x	x
2006	185823	RBT	x	x
2006	185824	RBT	x	x
2006	185825	RBT	x	x
2006	185826	RBT	x	x
2006	185827	RBT	x	x
2006	185828	RBT	x	x
2007	186134	RBT	x	x
2007	186301	RBT	x	x
2007	186302	RBT	x	x
2007	186303	RBT	x	x
2007	186304	RBT	x	x
2007	186305	RBT	x	x
2007	186306	RBT	x	x
2007	186343	RBT	x	x

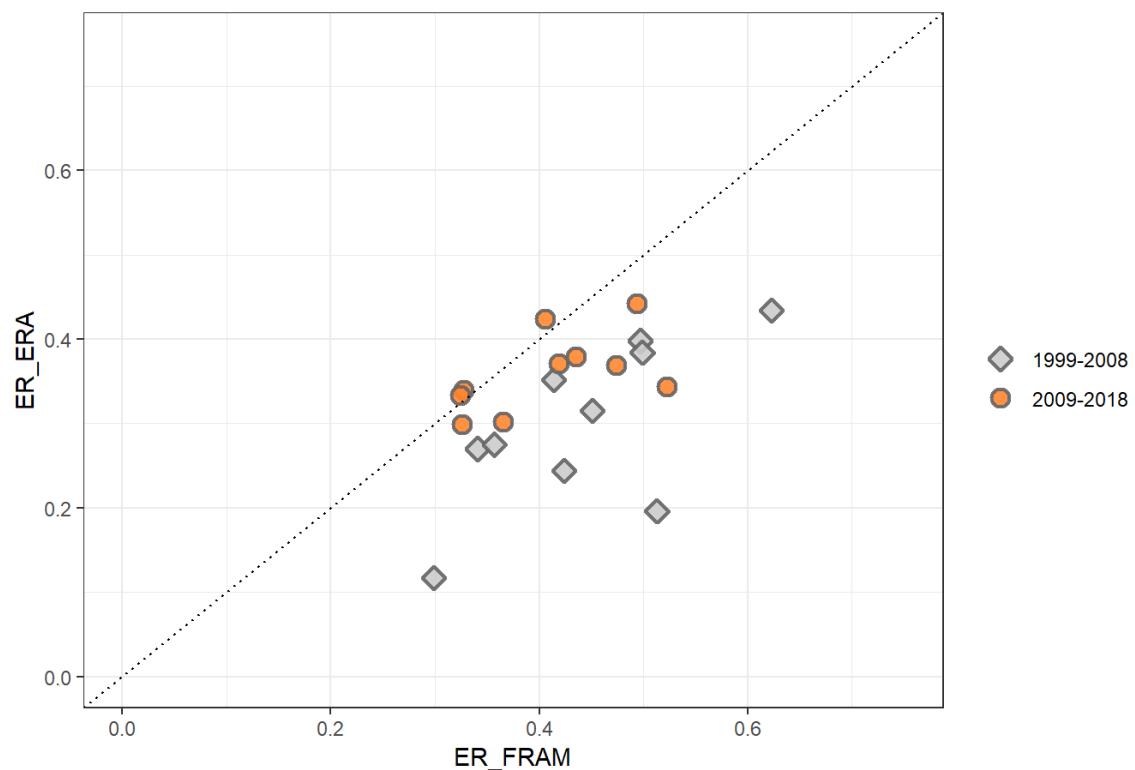
<b>BroodYear</b>	<b>TagCode</b>	<b>Stock_ERA</b>	<b>ERA</b>	<b>FRAM</b>
2007	186344	RBT	x	x
2008	180386	RBT	x	x
2008	180387	RBT	x	x
2008	180388	RBT	x	x
2008	180389	RBT	x	x
2008	180390	RBT	x	x
2008	180391	RBT	x	x
2008	180392	RBT	x	x
2008	180393	RBT	x	x
2008	180394	RBT	x	x
2008	180685	RBT	x	x
2008	180881	RBT	x	x
2008	180882	RBT	x	x
2008	180883	RBT	x	x
2008	180884	RBT	x	x
2008	180885	RBT	x	x
2008	185960	RBT	x	x
2008	185961	RBT	x	x
2008	185962	RBT	x	x

### WCVI; Ocean Exploitation Rates

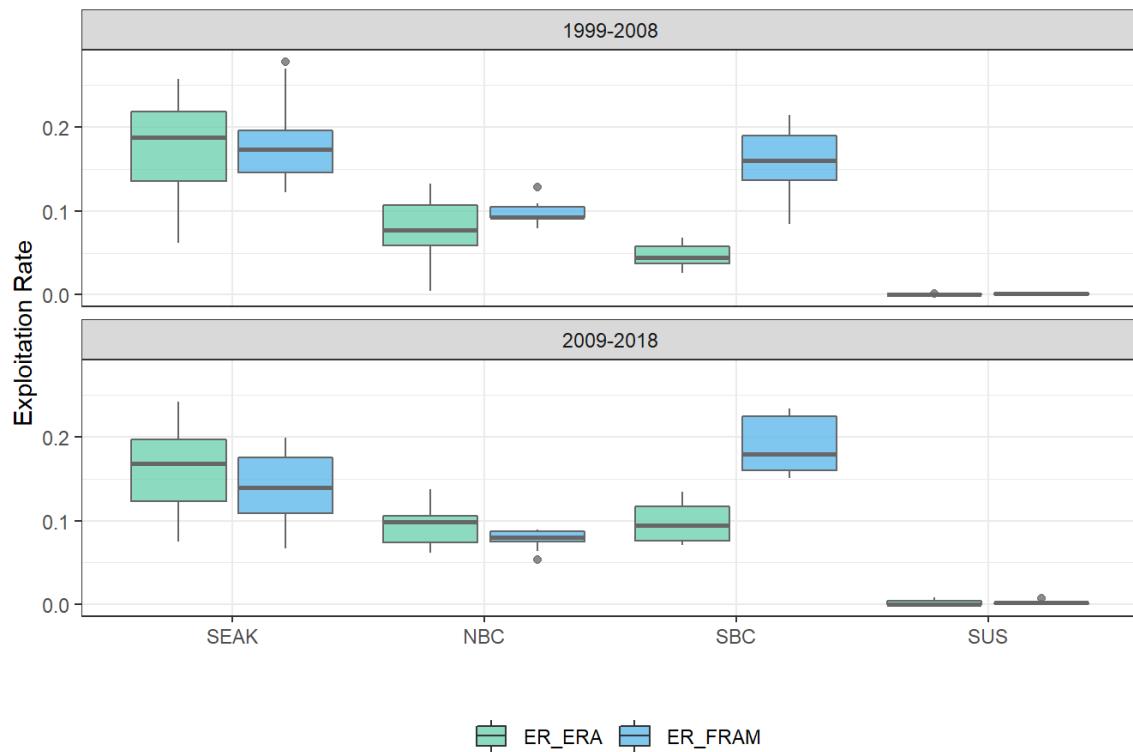
Note: gray shaded area corresponds to base period return years



### WCVI

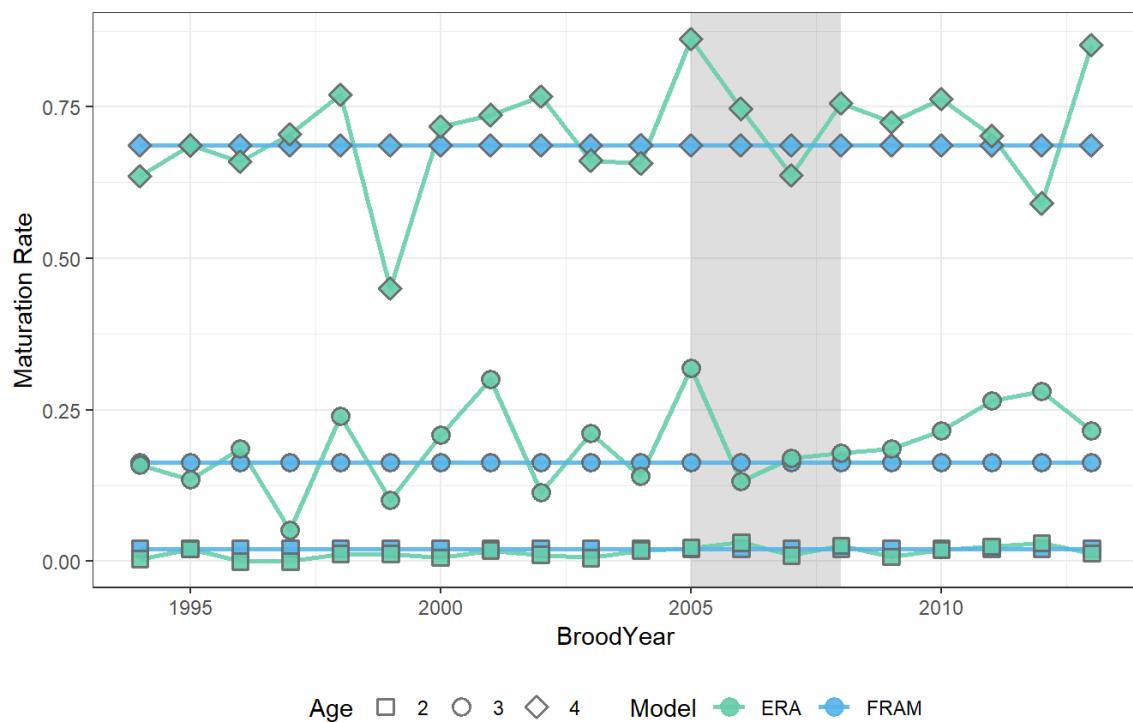


### WCVI; Ocean Exploitation Rates by Region



### WCVI; Maturation Rates

Note: gray shaded area corresponds to base period brood years



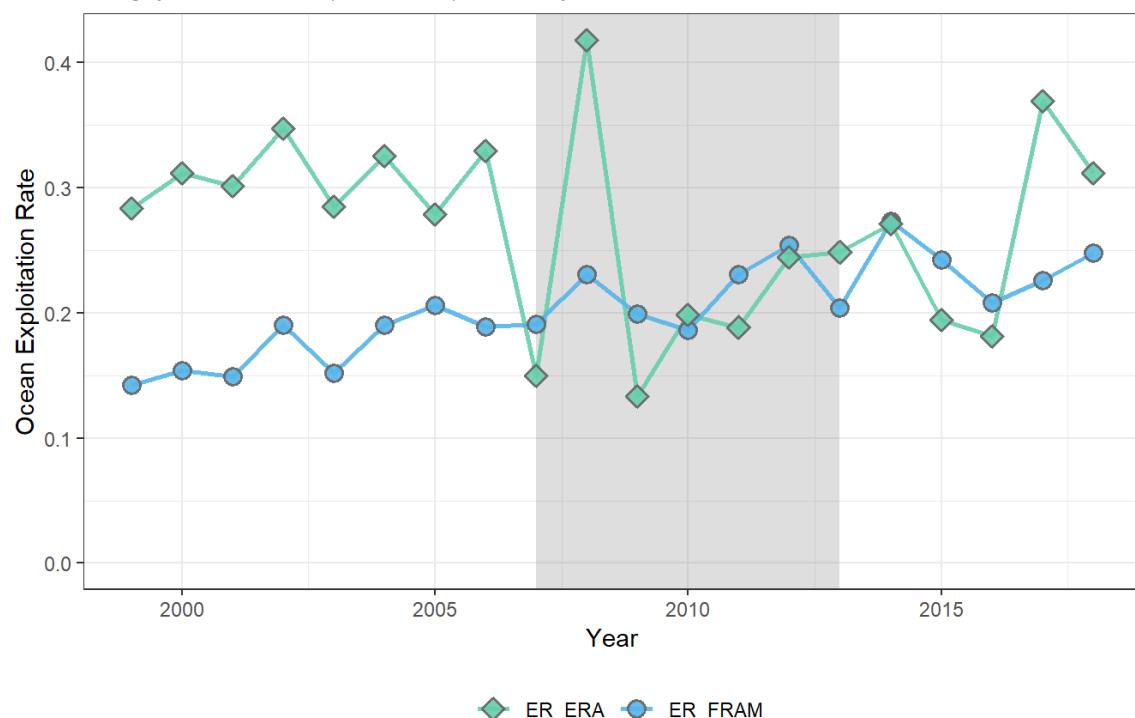
## Fraser River Late

<b>BroodYear</b>	<b>TagCode</b>	<b>Stock_ERA</b>	<b>ERA</b>	<b>FRAM</b>
2005	185030	CHI	x	x
2005	185032	CHI	x	x
2005	185238	CHI	x	x
2005	185240	CHI	x	x
2005	025641	HAR	x	x
2005	025650	HAR	x	x
2006	185658	CHI	x	x
2006	185706	CHI	x	x
2006	185708	CHI	x	x
2006	185710	CHI	x	x
2006	184922	HAR	x	x
2006	185221	HAR	x	x
2006	185242	HAR	x	x
2006	185263	HAR	x	x
2006	186030	HAR	x	x
2006	186031	HAR	x	x
2006	186032	HAR	x	x
2007	186240	CHI	x	x
2007	186242	CHI	x	x
2007	185001	HAR	x	x
2007	185002	HAR	x	x
2007	185040	HAR	x	x
2007	185556	HAR	x	x
2007	185557	HAR	x	x

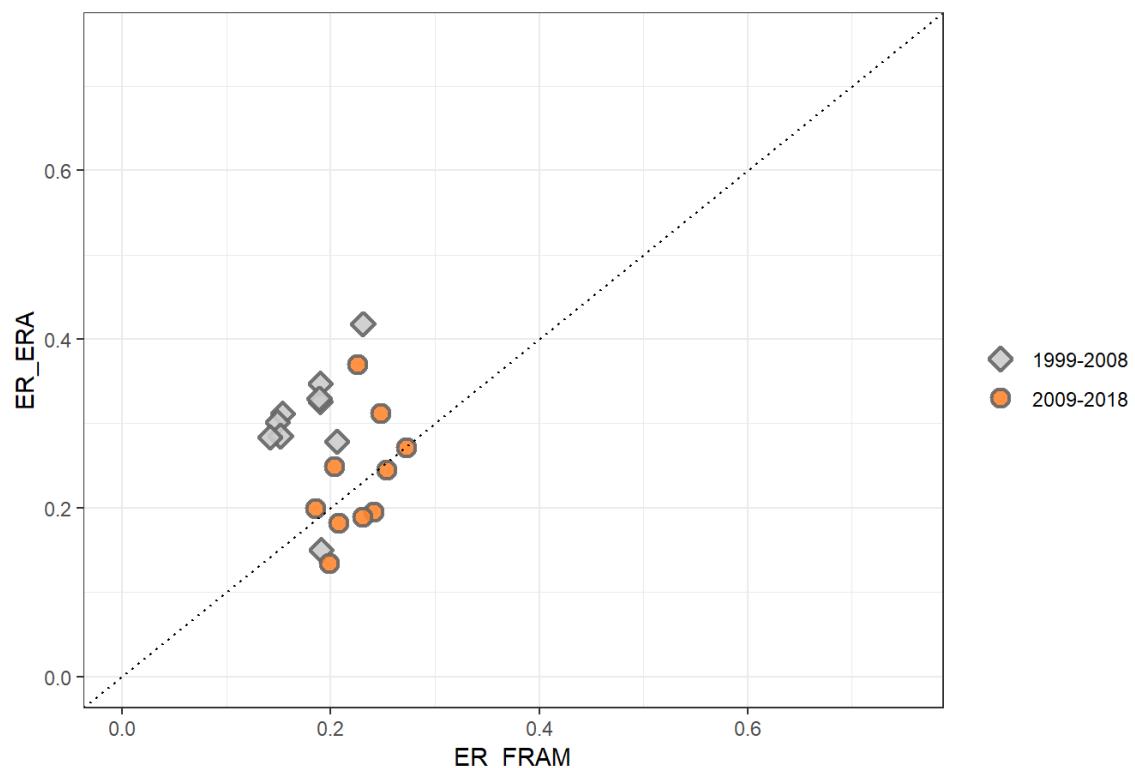
<b>BroodYear</b>	<b>TagCode</b>	<b>Stock_ERA</b>	<b>ERA</b>	<b>FRAM</b>
2007	185558	HAR	x	x
2007	185612	HAR	x	x
2007	185707	HAR	x	x
2008	180480	CHI	x	x
2008	180482	CHI	x	x
2008	180484	HAR	x	x
2008	180485	HAR	x	x
2008	180486	HAR	x	x
2008	180487	HAR	x	x

### Fraser River Late; Ocean Exploitation Rates

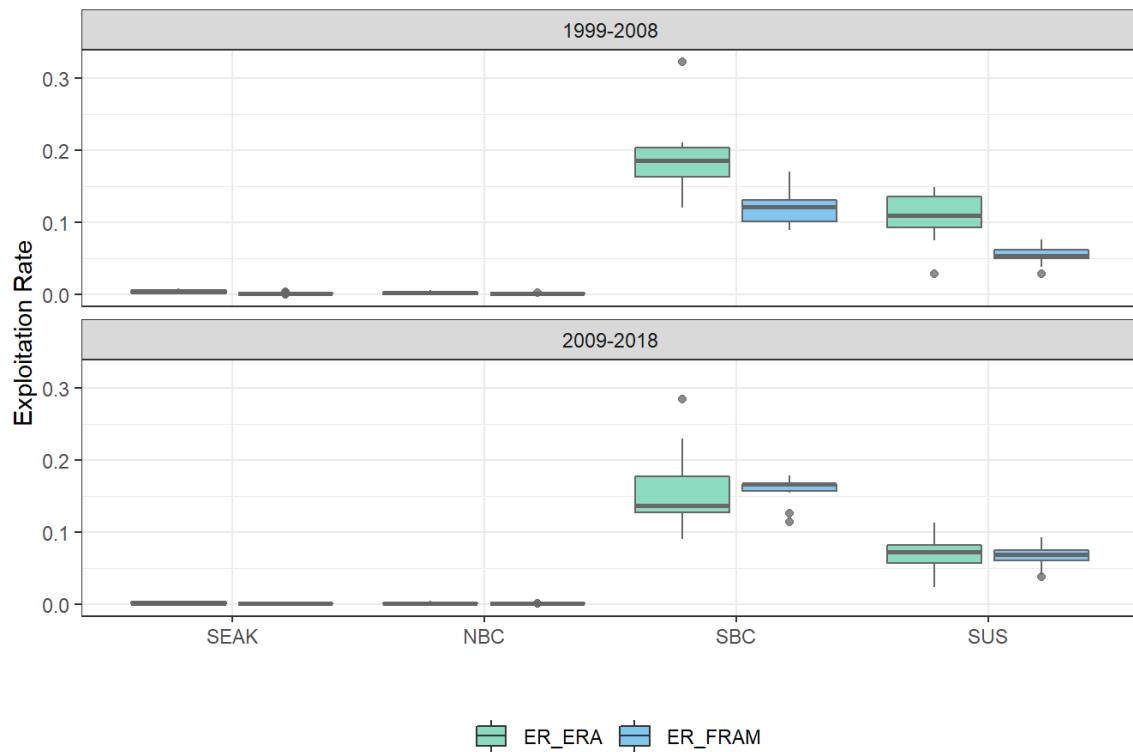
Note: gray shaded area corresponds to base period return years



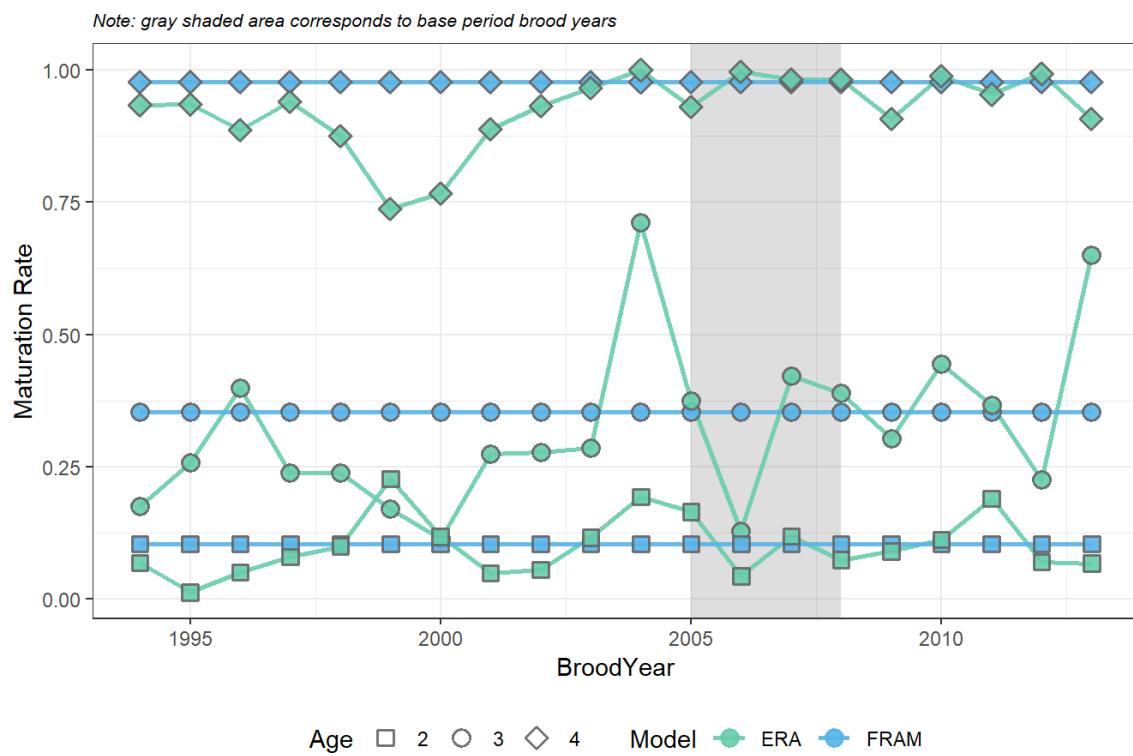
### Fraser River Late



### Fraser River Late; Ocean Exploitation Rates by Region



### Fraser River Late; Maturation Rates



## Fraser River Early

<b>BroodYear</b>	<b>TagCode</b>	<b>Stock_ERA</b>	<b>ERA</b>	<b>FRAM</b>
2005	025652	SHU	x	x
2005	025659	SHU	x	x
2005	184907	SHU	x	x
2005	185054	SHU	x	x
2005	185055	SHU	x	x
2005	185234	NIC	x	x
2005	185235	NIC	x	x
2005	185236	NIC	x	x
2005	185237	NIC	x	x
2005	185728	NIC	x	x
2006	185222	SHU	x	x
2006	185223	SHU	x	x
2006	185224	SHU	x	x
2006	185225	SHU	x	x
2006	186061	SHU	x	x
2006	186062	SHU	x	x
2006	185926	NIC	x	x
2006	185935	NIC	x	x
2006	185936	NIC	x	x
2007	186162	SHU	x	x
2007	186352	SHU	x	x
2007	186353	SHU	x	x
2007	186354	SHU	x	x
2007	186355	SHU	x	x

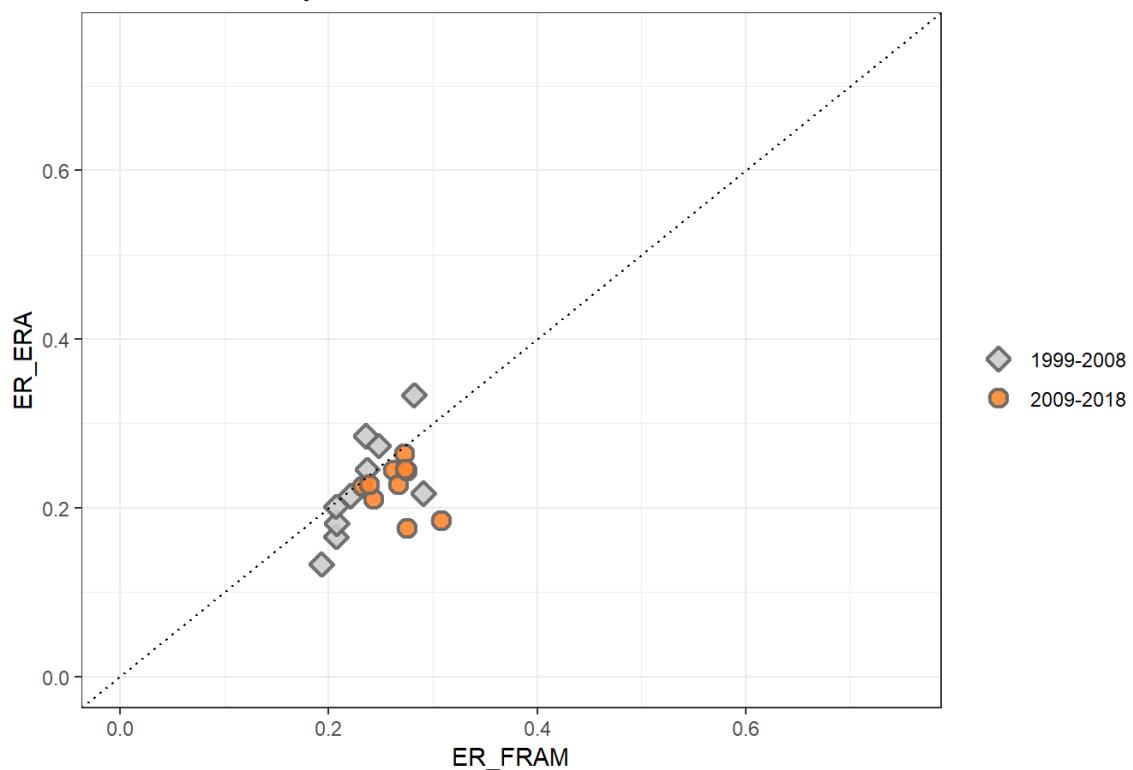
<b>BroodYear</b>	<b>TagCode</b>	<b>Stock_ERA</b>	<b>ERA</b>	<b>FRAM</b>
2007	186356	SHU	x	x
2007	186357	SHU	x	x
2007	186358	SHU	x	x
2007	186359	SHU	x	x
2007	186360	SHU	x	x
2007	186361	SHU	x	x
2007	180183	NIC	x	x
2007	180184	NIC	x	x
2007	180189	NIC	x	x
2008	180276	SHU	x	x
2008	180277	SHU	x	x
2008	180380	SHU	x	x
2008	180381	SHU	x	x
2008	180382	SHU	x	x
2008	180383	SHU	x	x
2008	180384	SHU	x	x
2008	180385	SHU	x	x
2008	180965	NIC	x	x
2008	180966	NIC	x	x
2008	180990	NIC	x	x

### Fraser River Early; Ocean Exploitation Rates

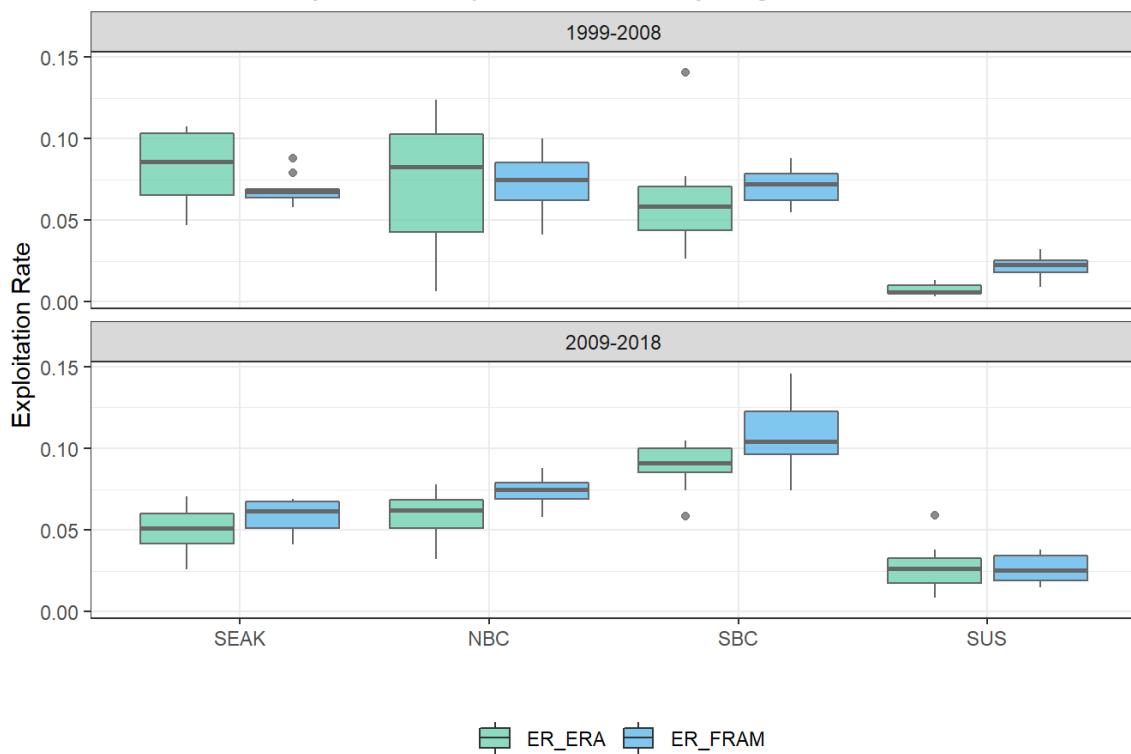
Note: gray shaded area corresponds to base period return years



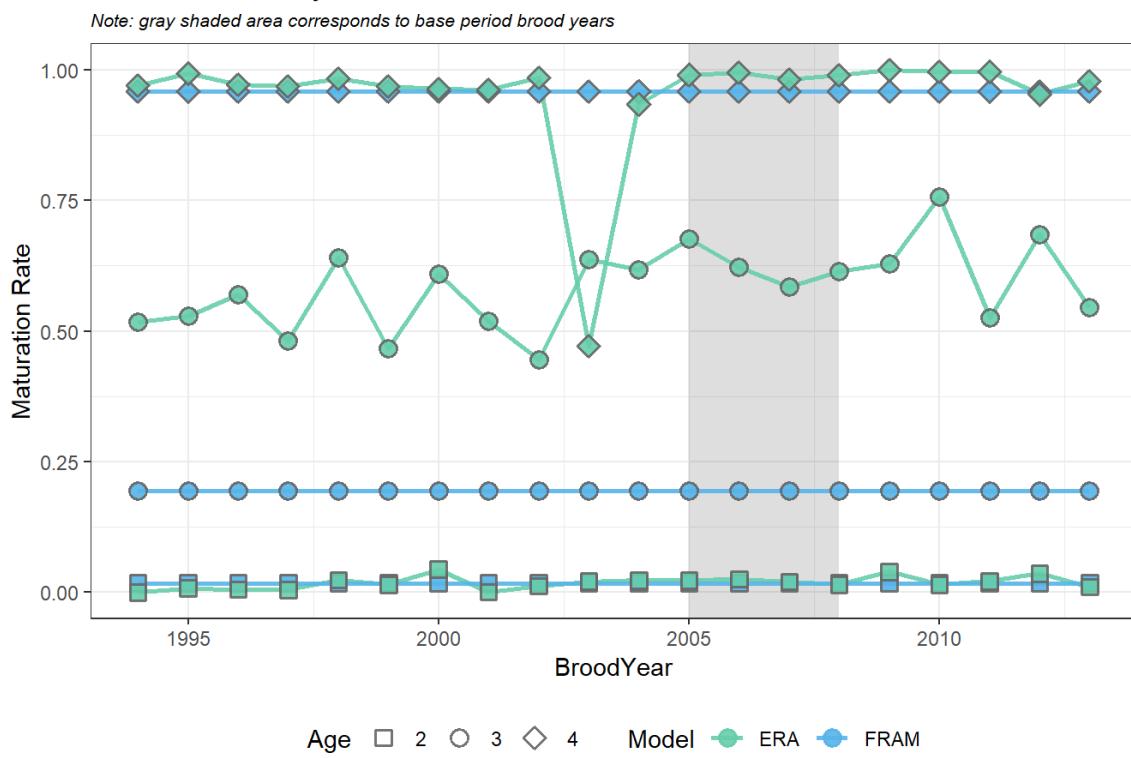
### Fraser River Early



### Fraser River Early; Ocean Exploitation Rates by Region



### Fraser River Early; Maturation Rates



## Lower Georgia Strait

<b>BroodYear</b>	<b>TagCode</b>	<b>Stock_ERA</b>	<b>ERA</b>	<b>FRAM</b>
2005	184304	BQR	x	x
2005	184840	BQR	x	x
2005	185301	BQR	x	x
2005	185302	BQR	x	x
2005	185303	BQR	x	x
2005	185649	BQR	x	x
2005	185650	BQR	x	x
2005	185651	BQR	x	x
2005	185817	BQR	x	x
2005	184422	COW	x	x
2005	184836	COW	x	x
2005	185810	COW	x	x
2005	185811	COW	x	x
2005	185812	COW	x	x
2005	185818	COW	x	x
2005	185819	COW	x	x
2005	185820	COW	x	x
2005	082339	PPS	x	x
2005	082343	PPS	x	x
2005	082344	PPS	x	x
2005	082345	PPS	x	x
2005	082350	PPS	x	x
2005	082414	PPS	x	x
2005	084327	PPS	x	x

<b>BroodYear</b>	<b>TagCode</b>	<b>Stock_ERA</b>	<b>ERA</b>	<b>FRAM</b>
2005	084328	PPS	x	x
2005	185808	PPS	x	x
2005	185809	PPS	x	x
2006	185644	BQR	x	x
2006	185743	BQR	x	x
2006	185744	BQR	x	x
2006	185745	BQR	x	x
2006	185746	BQR	x	x
2006	185813	BQR	x	x
2006	185814	BQR	x	x
2006	185815	BQR	x	x
2006	185832	COW	x	x
2006	185833	COW	x	x
2006	185834	COW	x	x
2006	186035	COW	x	x
2006	186036	COW	x	x
2006	186037	COW	x	x
2006	186039	COW	x	x
2006	186042	COW	x	x
2006	185910	PPS	x	x
2006	185911	PPS	x	x
2006	185912	PPS	x	x
2006	185913	PPS	x	x
2006	185914	PPS	x	x
2006	185915	PPS	x	x

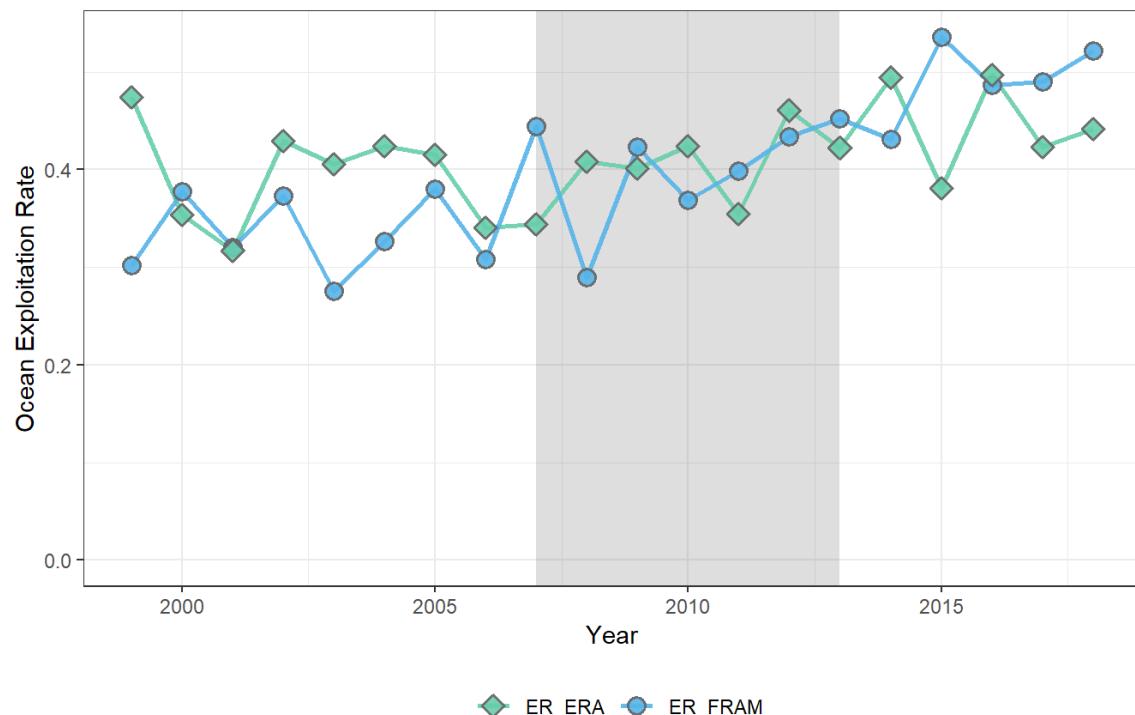
<b>BroodYear</b>	<b>TagCode</b>	<b>Stock_ERA</b>	<b>ERA</b>	<b>FRAM</b>
2006	185916	PPS	x	x
2006	185917	PPS	x	x
2007	186161	BQR	x	x
2007	186345	BQR	x	x
2007	186346	BQR	x	x
2007	186347	BQR	x	x
2007	186348	BQR	x	x
2007	186349	BQR	x	x
2007	186350	BQR	x	x
2007	186351	BQR	x	x
2007	185339	COW	x	x
2007	185355	COW	x	x
2007	185356	COW	x	x
2007	185357	COW	x	x
2007	185358	COW	x	x
2007	185359	COW	x	x
2007	186015	COW	x	x
2007	186016	COW	x	x
2007	186219	COW	x	x
2007	186220	COW	x	x
2007	186225	COW	x	x
2007	186226	COW	x	x
2007	186227	COW	x	x
2007	180170	PPS	x	x
2007	186235	PPS	x	x

<b>BroodYear</b>	<b>TagCode</b>	<b>Stock_ERA</b>	<b>ERA</b>	<b>FRAM</b>
2007	186236	PPS	x	x
2007	186237	PPS	x	x
2007	186238	PPS	x	x
2007	186239	PPS	x	x
2008	180273	BQR	x	x
2008	183855	BQR	x	x
2008	185360	BQR	x	x
2008	185956	BQR	x	x
2008	185957	BQR	x	x
2008	185958	BQR	x	x
2008	185959	BQR	x	x
2008	180377	COW	x	x
2008	180395	COW	x	x
2008	180396	COW	x	x
2008	180469	COW	x	x
2008	180470	COW	x	x
2008	180471	COW	x	x
2008	180472	COW	x	x
2008	180473	COW	x	x
2008	185344	COW	x	x
2008	185345	COW	x	x
2008	185705	COW	x	x
2008	186137	COW	x	x
2008	186311	COW	x	x
2008	186312	COW	x	x

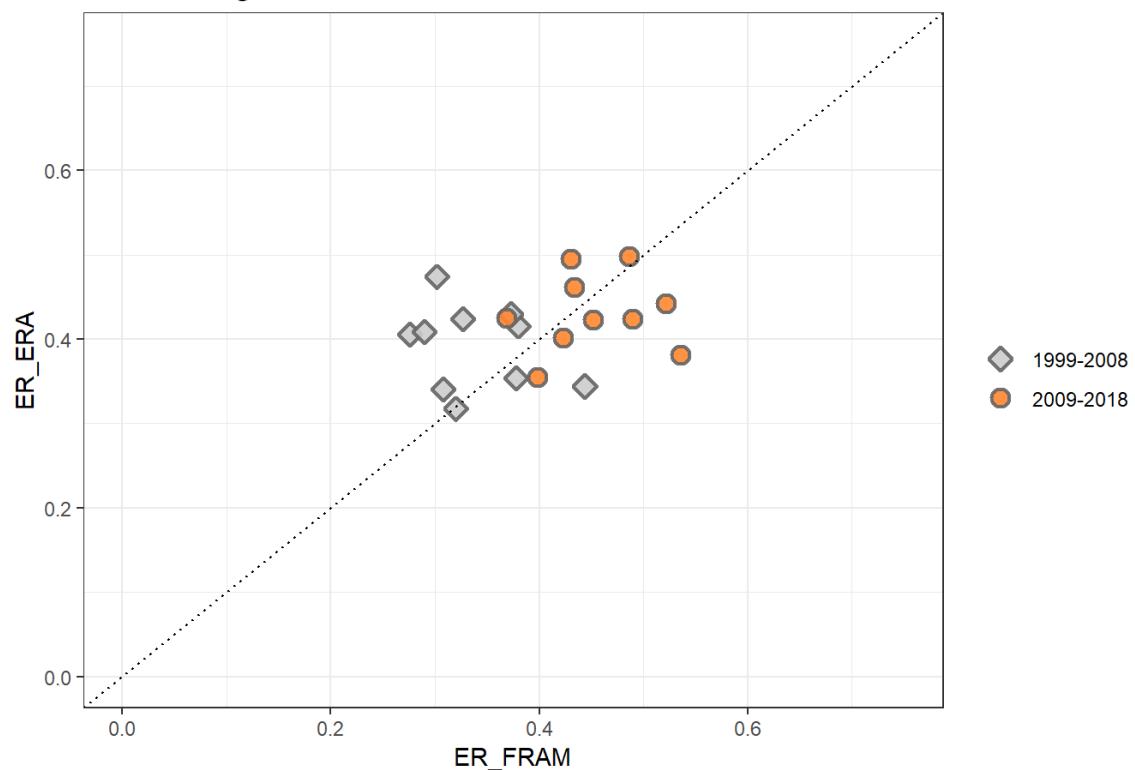
<b>BroodYear</b>	<b>TagCode</b>	<b>Stock_ERA</b>	<b>ERA</b>	<b>FRAM</b>
2008	186313	COW	x	x
2008	186314	COW	x	x
2008	186315	COW	x	x
2008	186316	COW	x	x
2008	186317	COW	x	x
2008	186318	COW	x	x
2008	180474	PPS	x	x
2008	180475	PPS	x	x
2008	180491	PPS	x	x

### Lower Georgia Strait; Ocean Exploitation Rates

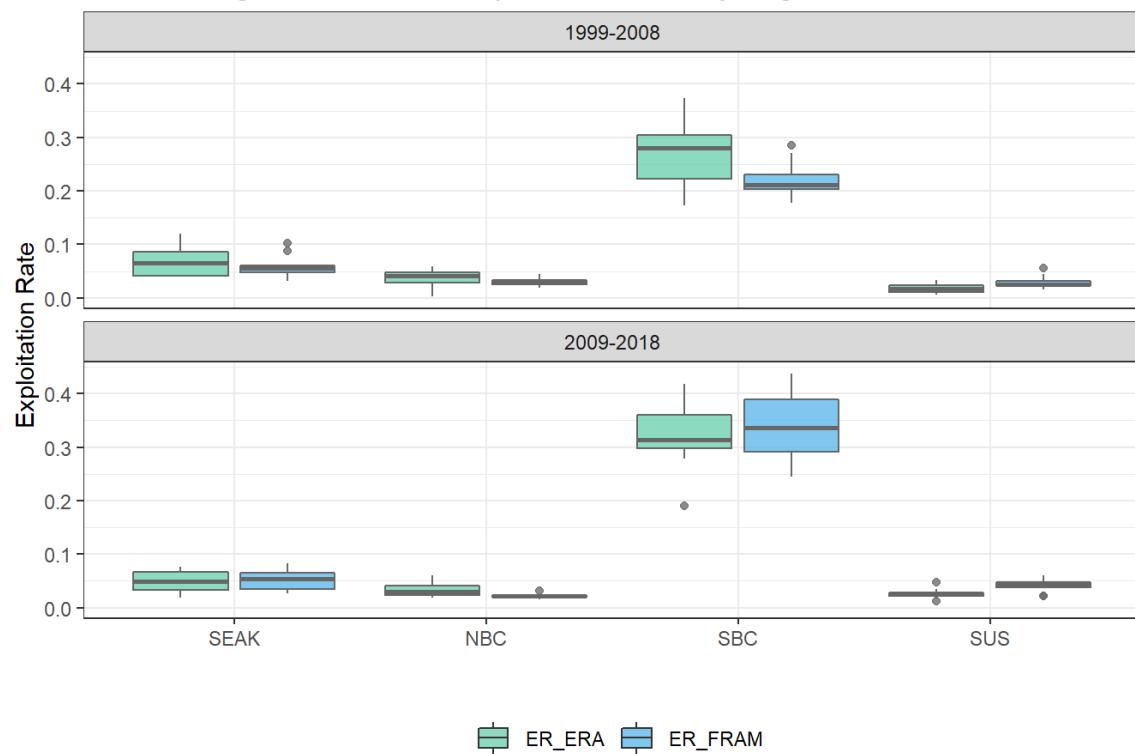
Note: gray shaded area corresponds to base period return years



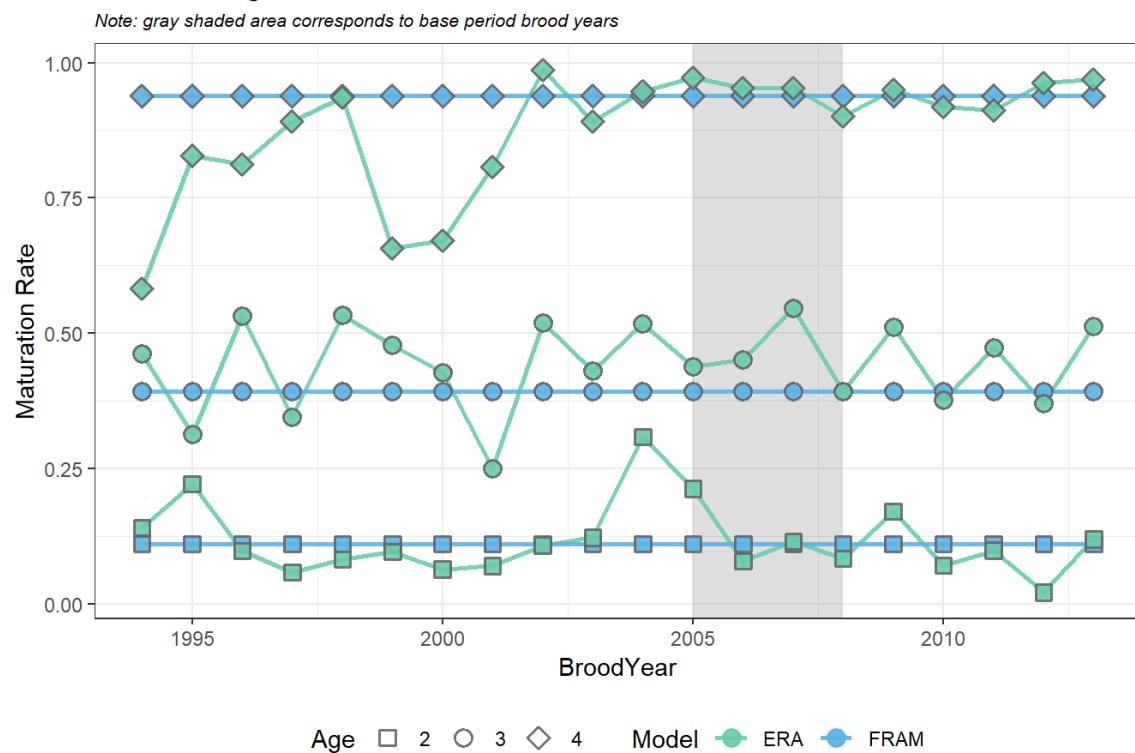
### Lower Georgia Strait



### Lower Georgia Strait; Ocean Exploitation Rates by Region



### Lower Georgia Strait; Maturation Rates



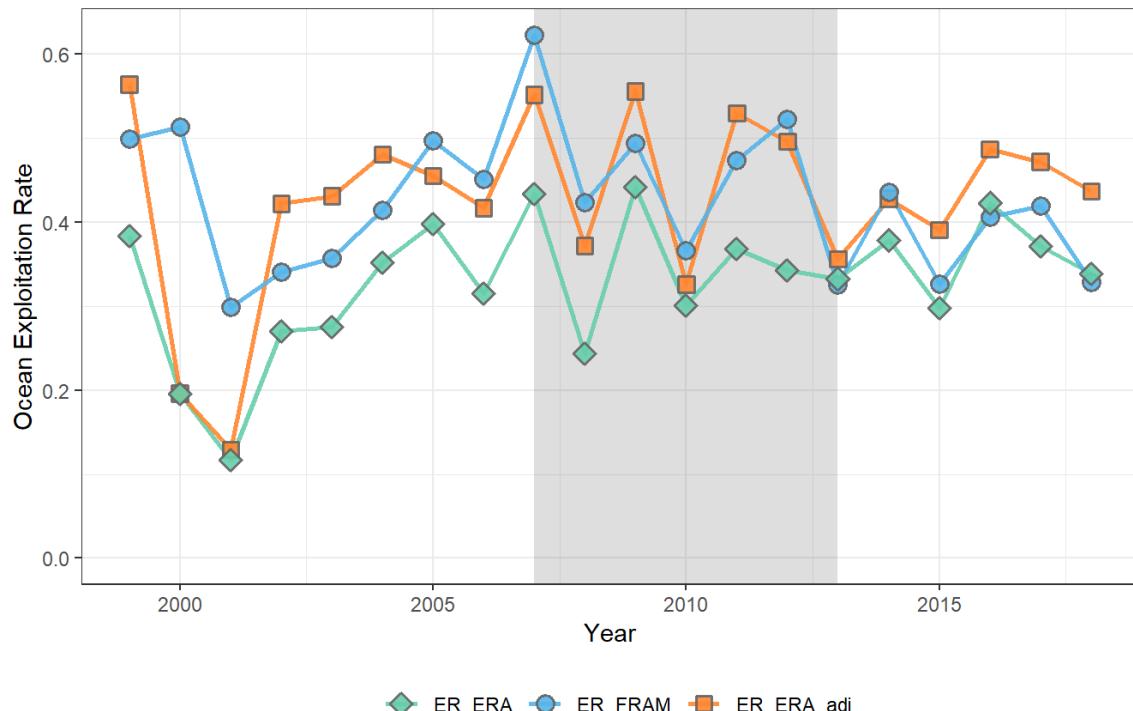
# Case Studies

## WCVI

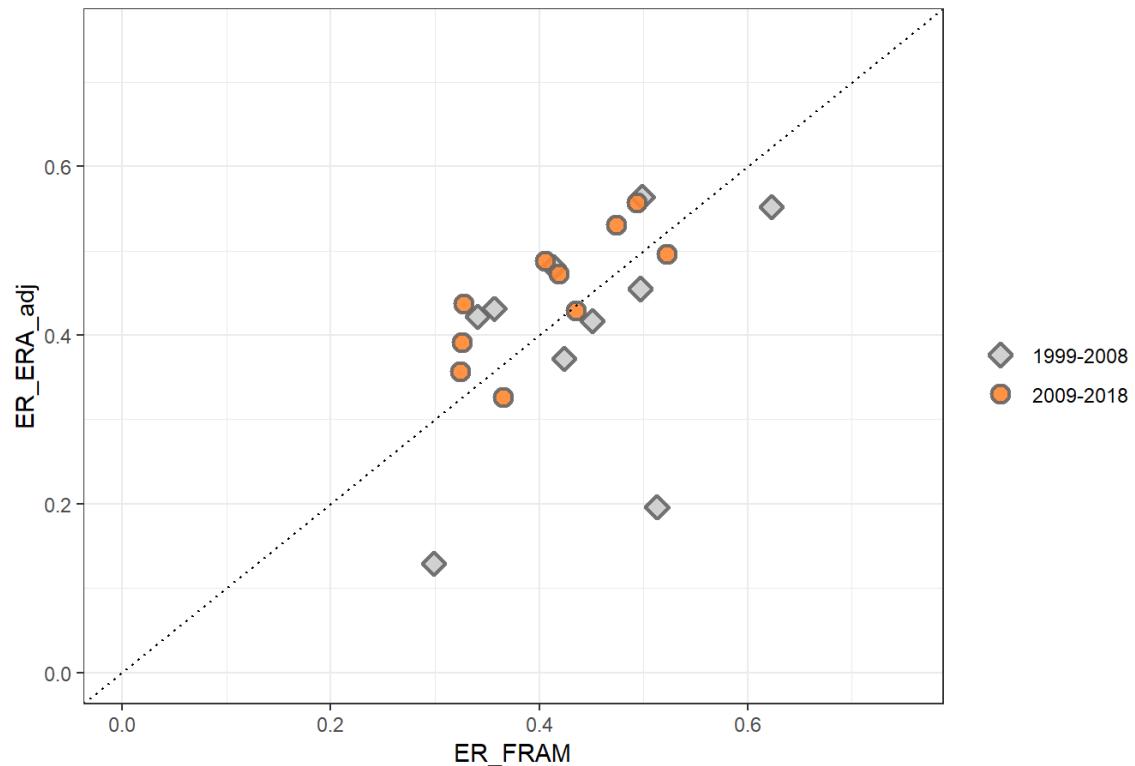
In comparing ocean exploitation rates across stocks, WCVI stood out as one of the stocks with the largest differences (mean FRAM ocean ER = 43%, mean ERA ocean ER = 33%). It was clear from looking at exploitation rates by region that the source of the disconnect was in SBC fisheries (mean FRAM SBC ER = 17%, mean ERA SBC ER = 7%). Through further investigation of the fishery mapping, we identified a mismatch in how the part of the terminal marine catch of the WCVI sport fishery was being mapped between the two models. In FRAM, these recoveries are mapped to the WCVI sport fishery and included in the ocean exploitation rates. In the ERA, however, these terminal sport recoveries are mapped to the terminal Canada sport fishery in the mortality distribution tables, and thus excluded from the ocean exploitation rates. To align these fisheries for comparative purposes, we reproduced a set of mortality distribution tables using the same results of the ERA cohort analyses, but with a modified fishery mapping structure that assigned the relevant terminal sport fishery to the "Southern B.C. ISBM sport" fishery.

### WCVI; Ocean Exploitation Rates

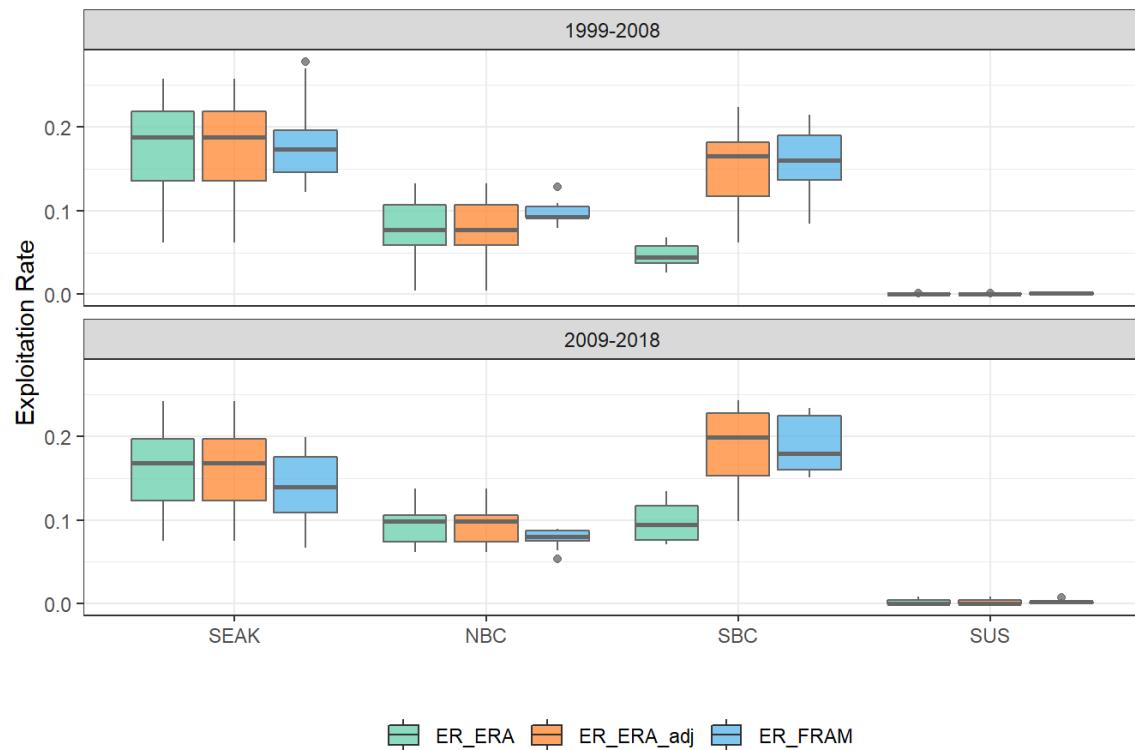
*Note: gray shaded area corresponds to base period return years*



## WCVI



## WCVI; Ocean Exploitation Rates by Region

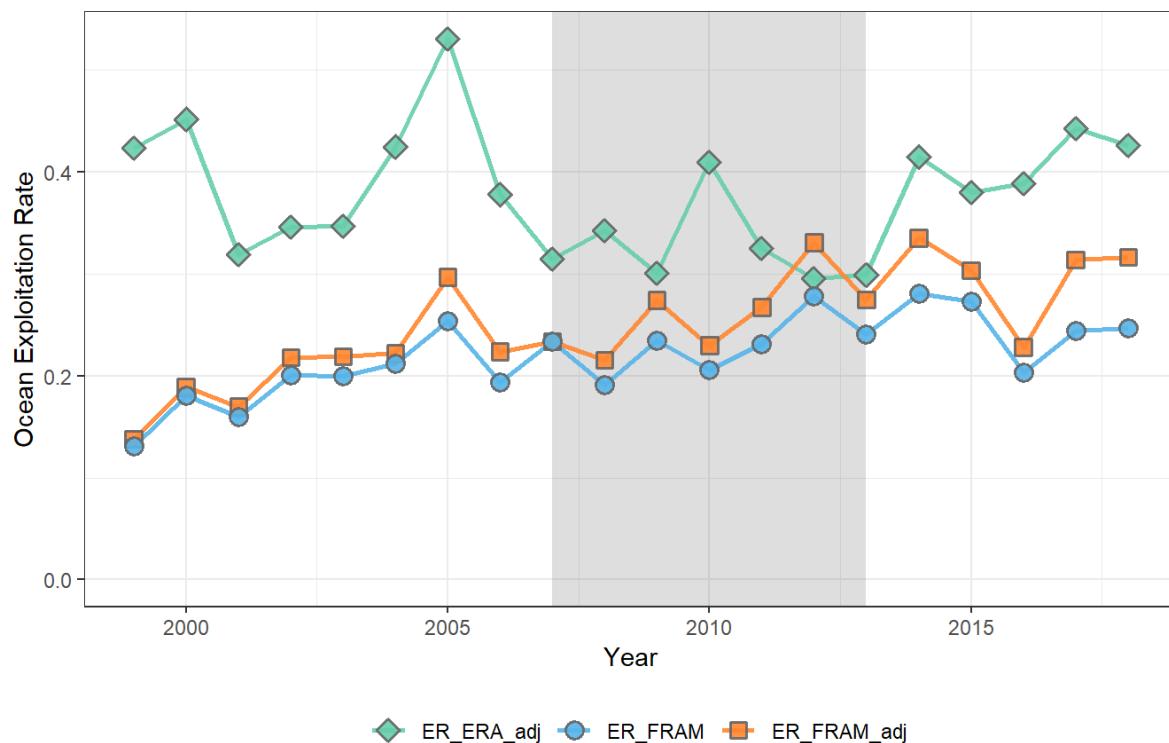


## Nooksack/Samish Fall

Unlike for WCVI, there does not appear to be a single factor that can explain the majority of the difference between FRAM and ERA ocean exploitation rates for Nooksack/Samish Fall Chinook. There is a substantial freshwater sport fishery that occurs in the Samish River each year, however, this fishery is not regularly sampled for CWT recoveries. In an effort to account for these missing CWT recoveries during the FRAM base period cohort analysis, freshwater sport recoveries were imputed using information from the rate of CWT recoveries in escapement. Accounting for these missing CWT recoveries results in more accurate cohort sizes during the cohort analysis. Currently, these unaccounted for freshwater sport CWT recoveries are not included in the ERA, as no process is in place to impute these recoveries across the entire time series. This likely results in cohort sizes that are biased low and ocean exploitation rates that are biased high. In an effort to identify the magnitude of effect this issue has on ocean exploitation rates, we re-computed FRAM exploitation rates using abundances (the denominator of the ER calculation) that excluded the relevant freshwater sport catch. These re-computed "FRAM adjusted" ocean exploitation rates are included in the figures below for years where freshwater sport fisheries occurred but no CWT recoveries were included in the ERA. While investigating this, we also identified a fishery mapping error in the ERA ocean exploitation rates for 2007. In this year there were 117 Samish CWT recoveries designated as freshwater sport recovered in the Samish River, however, they were mapped to the North of Falcon sport fishery. Similar to the exercise for WCVI above, this error was corrected by reproducing a set of mortality distribution tables using the same results of the ERA cohort analyses, but with a modified fishery mapping structure that assigned the relevant freshwater sport fishery to the "Southern U.S. terminal sport" fishery. This corrected "ERA adjusted" ocean exploitation rate is also included in the figures below.

### Nooksack Samish Fall; Ocean Exploitation Rates

*Note: gray shaded area corresponds to base period return years*

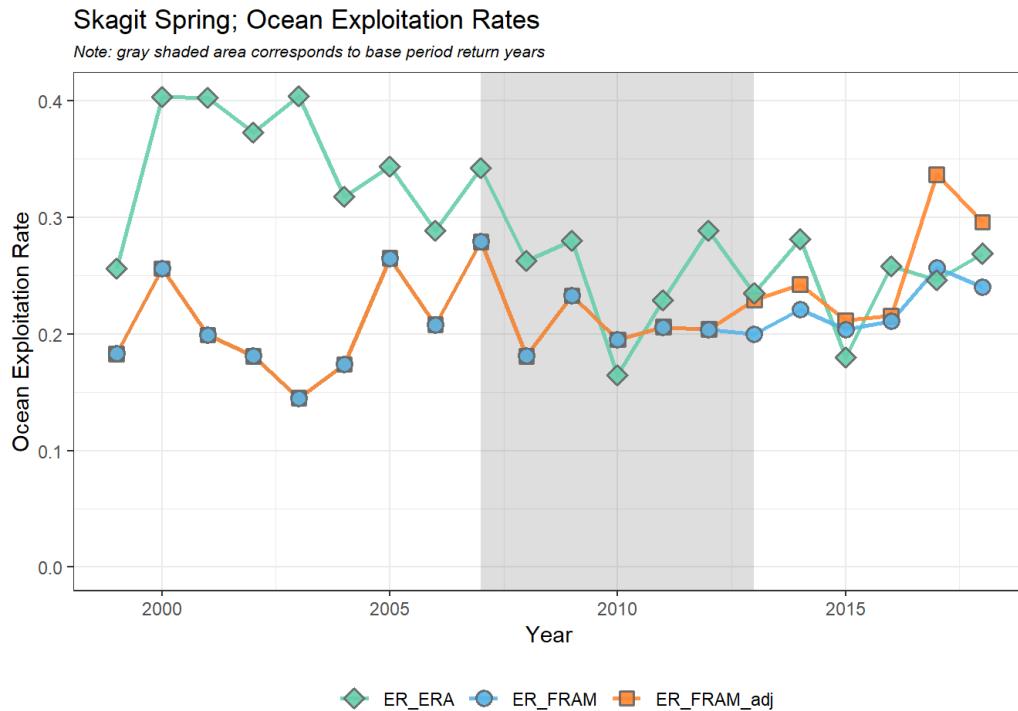


While this exercise of removing freshwater sport catch from the FRAM abundances used to calculate exploitation rates in order to generate a set of ocean exploitation rates that was more comparable to the ERA ocean exploitation rates, this problem would be better addressed by imputing and incorporating freshwater sport recoveries into the ERA. As evidenced in the above figure, this issue explains part but not all of the discrepancy between the FRAM and ERA ocean exploitation rates. Examinations at a finer scale fishery level suggest that the main source of remaining difference occurs in SBC sport fisheries (mean ER across the time series of 17% and 8% for ERA and FRAM, respectively). This appears to be a re-occurring theme for numerous other stocks as well, where estimated exploitation rates in SBC sport fisheries are notably higher in the ERA than in FRAM. We recommend continued investigation into the source of these differences.

### Other Puget Sound stocks with inadequate freshwater sport sampling

The issue with un-sampled or inadequately sampled Puget Sound freshwater sport fisheries is not unique to the Nooksack/Samish fall stock. We selected four additional stocks to examine the benefits of adjusting FRAM abundance denominators to account for missing ERA freshwater sport recoveries. These stocks were selected because they were exposed to sizeable freshwater sport fisheries and display notable differences between FRAM and ERA exploitation rates. The stocks were Skagit Spring, Snohomish Fall Fingerling, South Puget Sound Fall Fingerling, and Hood Canal Fall Fingerling.

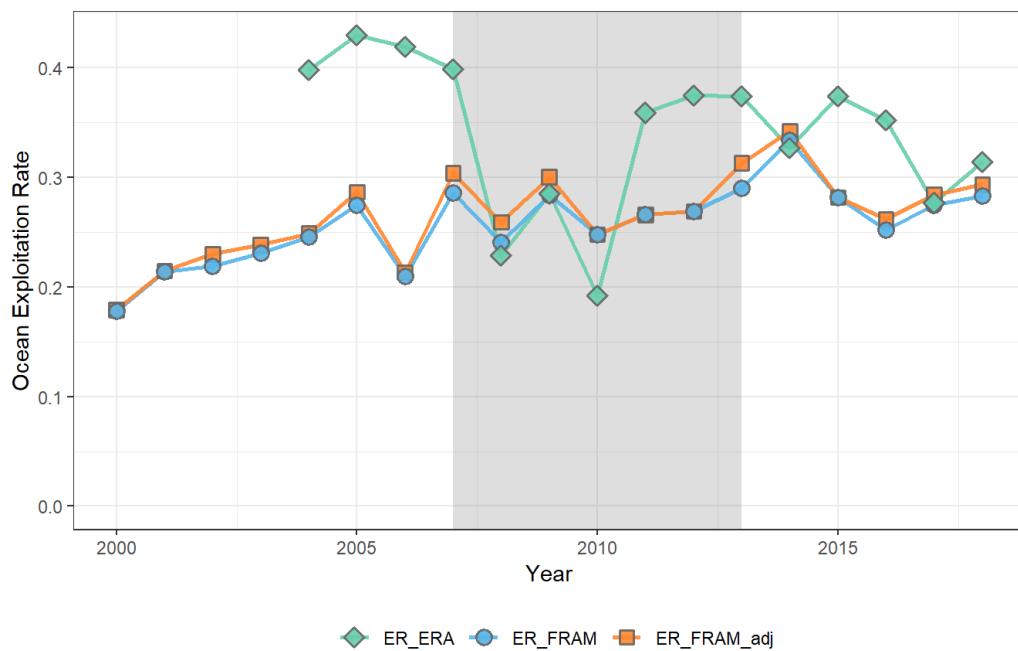
For Skagit Spring, sampling of freshwater sport fisheries occurred and CWT recoveries are included in the ERA for 2005 (the year the fishery was first implemented) through 2012, however, these recoveries are currently mapped to escapement rather than to the freshwater sport fishery, presumably due to the fact that this fishery is mark-selective. Once the CTC implements MSF algorithms into the ERA, they might consider correcting this fishery mapping so that the recoveries can be appropriately processed.



For Snohomish, sampling of freshwater sport recoveries occurred and CWT recoveries are included in the ERA for 2010 through 2012. For Hood Canal, freshwater sport sampling appears to have occurred in 2000 through 2007 and in 2011 through 2015, as CWTs are included in the ERA for these years. In all other years, FRAM adjusted exploitation rates were calculated using modified abundances in the denominator (freshwater sport removed). For both of these stocks, the adjusted exploitation rates result in slightly improved agreement between the two models.

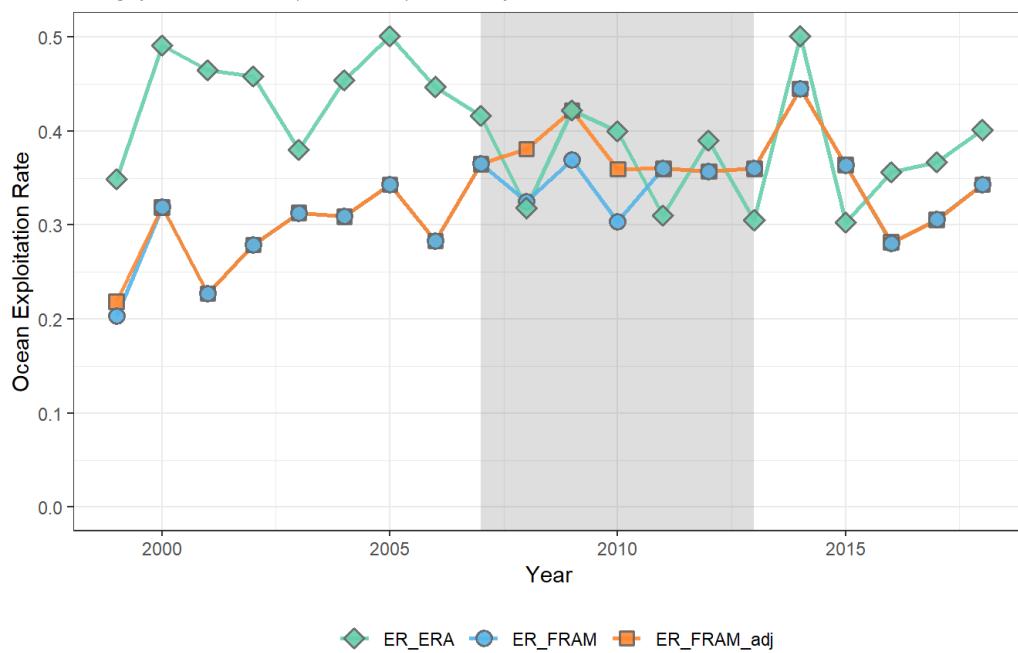
### Snohomish Fall Fingerling; Ocean Exploitation Rates

Note: gray shaded area corresponds to base period return years



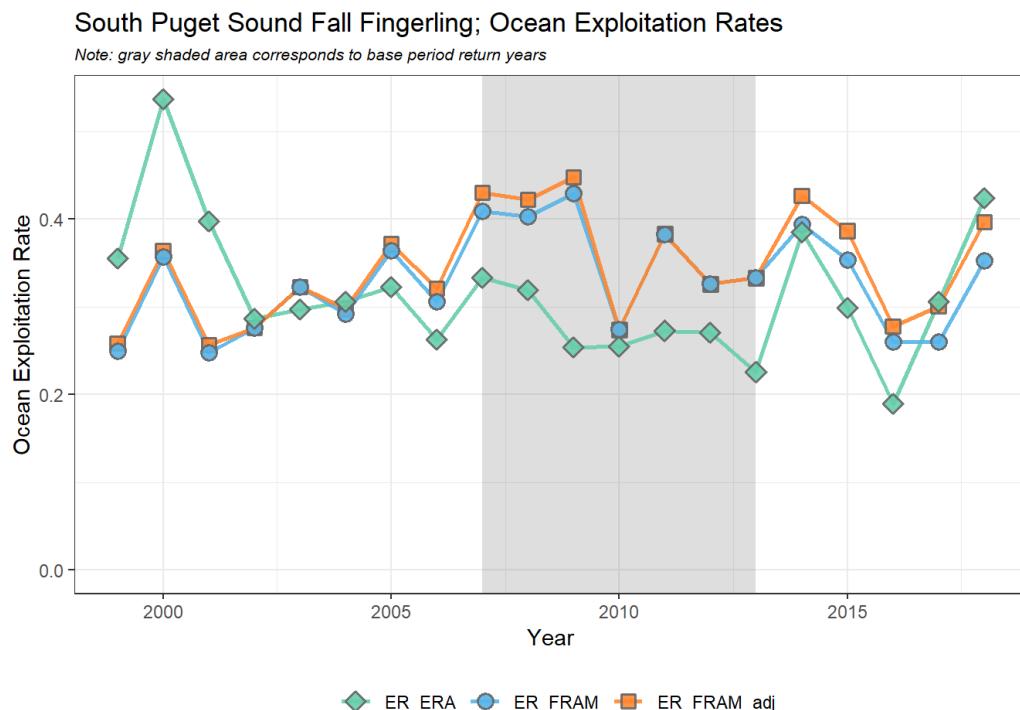
### Hood Canal Fall Fingerling; Ocean Exploitation Rates

Note: gray shaded area corresponds to base period return years



For South Puget Sound Fall Fingerlings, freshwater sport CWT recoveries were included in the ERA in 2002, 2003, and 2010 through 2013. For all other years, FRAM adjusted exploitation rates were calculated, but actually correlate less with ERA rates than unadjusted values. A preliminary investigation into the cause for this finding point towards a mismatch of stock definitions.

The FRAM uses Nisqually and Chambers hatchery tag codes to represent this stock, while the ERA only uses Nisqually hatchery Chinook. Nisqually exploitation rates in Chambers Bay and other deep South Puget Sound net areas are considerably smaller than exploitation rates of Chambers Chinook. If adjusted, initial estimates show FRAM exploitation rate reduction for the Nisqually stock in the range of 2%-10% depending on the year examined.



## Conclusions and Next Steps

This analysis compares ERA to FRAM exploitation and maturation rates. While there is good agreement for many stocks (Nooksack Springs, Mid Puget Sound, WA Hatchery Tules) this exercise also highlights stock/fishery combinations with significant differences. Further analysis is needed to explore the causes of these differences in depth. This work is expected to result in improvements to both methods. Based on preliminary examinations, likely causes are inadequate sampling and/or catch reporting, fisheries mismatches, insufficient tagging, and a lack of methods to account for impacts to untagged fish.

While differences in stock-specific exploitation rates in the FRAM and ERA vary in magnitude, bias across all the stocks modeled in FRAM and the ERA does not seem to trend strongly in a particular direction (see the "ER Scatterplots" subheading in the "Results" section). 15 of 25 stocks examined had higher average exploitation rates in the ERA analysis and 10 of 25 stocks

examined had higher average exploitation rates in the FRAM analysis. When filtering to recent years (2009 through 2018), which are closer in temporal proximity to the base period years used in FRAM, it does appear that there is a linear relationship between exploitation rates in the ERA and in FRAM. Further exploration into ERA and FRAM exploitation rate differences may consider specifically examining calendar years 2007 through 2013, which represent the FRAM base period years and may have a greater relationship with the ERA exploitation rates. Additionally, examinations of stock-specific bias versus stock abundance may be of value to ensure that there isn't a consistent trend in bias for the most abundant stocks in the modeling, which could have an effect on exploitation rates in FRAM.

In general, we noted a greater variability in ERA exploitation rates than FRAM exploitation rates across stocks. This trend is likely to be caused by the use of base period exploitation rates (average across a particular set of years) in FRAM versus individual year exploitation rates in the ERA. Using individual years to examine exploitation rates can be advantageous because it may better capture yearly fluctuations in fish distribution relative to presuming an average exploitation rate distribution across multiple years. However, using individual years in an analysis has the disadvantage of decreasing tag sample sizes and, if sample sizes were small, it is possible that there would not be enough tags to accurately represent stock-mortality distributions. In an attempt to address this, the CTC has established minimum criteria for reporting of ERA calendar year mortality distributions, requiring at least three ages and 105 total estimated CWT recoveries (expanded for sampling rates) in a given year.

We note a trend towards increasing modeled maturation rates over time for many stocks, based on the maturation rates derived from the ERA (see the "Maturation Rates" subheading in the "Results" section). A similar trend was noted by the FRAM base period workgroup during the development of the new base period and in a recent publication by [Ohlberger et al., 2018](#). In FRAM, the increasing maturation rates are driven by a different age composition in returning fish during the new base period years (2007-2013), where a greater portion of the returns are comprised of younger fish than those that returned during the old base period years (1979-1982). Recent publications have suggested that sources of Chinook predation have increased ([Chasco et al., 2017](#)) and may have a substantial effect on the age and size structure of Chinook ([Ohlberger et al., 2019](#)). Additional research would be required to determine if changing predation patterns are the primary cause of changing age compositions in FRAM.

Future efforts could consider a sensitivity analysis to evaluate the effect of maturation rates on exploitation rates. While the effect of maturation rates on exploitation rates may be minor for some stocks/fisheries, maturation rates greatly influence estimates of pre-fishing abundances. This is particularly worth noting in relation to recent work conducted by the PFMC's Ad-Hoc Southern Resident Killer Whale Workgroup, which used FRAM-based pre-fishing cohort sizes to estimate Chinook abundances in across ocean regions. As maturation rates change and differ from the static rates assumed by the FRAM base period data set, it could affect the accuracy of stock-specific pre-fishing cohort sizes.

The CTC is currently investigating and intends to implement MSF algorithms into its ERA analysis. Once this occurs, it may be possible to compare FRAM and ERA unmarked stock exploitation rates. We recommend that this may be a useful comparison to further assess differences in the FRAM and ERA analyses.

## Acknowledgements

The authors would like to thank the Pacific Salmon Commission's Chinook Technical Committee for their permission and help in providing the relevant output data from their Exploitation Rate analysis for use in this assessment.

# Appendices

Please see the accompanying excel file for supporting data. Appendix A contains a list of CWT tag codes used for brood years 2005 - 2008 in development of the FRAM base period and in the ERA. An 'x' indicates whether the tag code was included in each model. An ERA stock of "NA" indicates tag codes used in the development of the FRAM base period that are not associated with an ERA stock. Appendix B contains the exploitation rate estimates used in generation of report figures. Total ocean exploitation rate is the result of summing the exploitation rate across all regions for a given stock, year, and model. Appendix C contains the maturation rate estimates used in generation of report figures.

# References

Chasco B., Kaplan I.C., Ward E.J., Thomas A., Acevedo-Gutierrez A., Noren D.P., Ford M.J., Hanson M.B., Scordino J., Jeffries S.J., Pearson S.F., Marshall K.N. (2017) Estimates of Chinook salmon consumption in Washington State inland waters by four marine mammal predators from 1970-2015. Canadian Journal of Fisheries and Aquatic Sciences  
[\[https://www.nature.com/articles/s41598-017-14984-8\]](https://www.nature.com/articles/s41598-017-14984-8)

CTC (Chinook Technical Committee). 1988. 1987 annual report. Pacific Salmon Commission Joint Chinook Technical Committee Report TCCHINOOK (88)-2. Vancouver, B.C.  
[\[https://www.psc.org/download/35/chinook-technical-committee/2148/tcchinook88-2.pdf\]](https://www.psc.org/download/35/chinook-technical-committee/2148/tcchinook88-2.pdf)

CTC. 2021. 2020 Exploitation Rate Analysis. Pacific Salmon Commission Joint Chinook Technical Committee Report TCCHINOOK (21)-5. Vancouver, B.C.  
[\[https://www.psc.org/download/35/chinook-technical-committee/14106/tcchinook-21-05.pdf\]](https://www.psc.org/download/35/chinook-technical-committee/14106/tcchinook-21-05.pdf)

Ohlberger, J., Ward, E. J., Schindler, D. E., and Lewis, B. 2018. Demographic changes in Chinook salmon across the Northeast Pacific Ocean. Fish and Fisheries 19:533-546.  
[\[https://onlinelibrary.wiley.com/doi/full/10.1111/faf.12272\]](https://onlinelibrary.wiley.com/doi/full/10.1111/faf.12272)

Ohlberger, J., Schindler, D. E., Ward, E. J., Wadsworth, T.E., and Essington, T.E. 2019. Resurgence of an apex marine predator and the decline in prey body size. Proceedings of the National Academy of Sciences 116(52):26682-26689. [\[https://www.pnas.org/content/116/52/26682\]](https://www.pnas.org/content/116/52/26682)

## Appendix A. Coded-wire Tag Codes

Stock_Name	BroodYear	TagCode	Stock_ERA	ERA	FRAM
Nooksack Samish Fall	2005	633369	SAM	x	x
Nooksack Samish Fall	2005	633591	NA		x
Nooksack Samish Fall	2006	633389	SAM	x	x
Nooksack Samish Fall	2006	634080	NA		x
Nooksack Samish Fall	2007	634272	SAM	x	x
Nooksack Samish Fall	2007	634583	NA		x
Nooksack Samish Fall	2008	634841	SAM	x	x
Nooksack Samish Fall	2008	635081	NA		x
Nooksack Spring	2005	633172	NSF	x	x
Nooksack Spring	2006	633387	NSF	x	x
Nooksack Spring	2007	634274	NSF	x	x
Nooksack Spring	2008	634797	NSF	x	x
Skagit Summer Fall	2005	212827	SSF	x	x
Skagit Summer Fall	2005	210677	SSF	x	x
Skagit Summer Fall	2005	210685	NA		x
Skagit Summer Fall	2006	210735	SSF	x	x
Skagit Summer Fall	2006	210745	NA		x
Skagit Summer Fall	2007	210789	SSF	x	x
Skagit Summer Fall	2007	210278	NA		x
Skagit Summer Fall	2008	210842	SSF	x	x
Skagit Summer Fall	2008	210831	NA		x
Skagit Spring	2005	633364	SKF	x	x
Skagit Spring	2005	633176	SKS	x	x
Skagit Spring	2006	633867	SKF	x	x
Skagit Spring	2006	633487	SKS	x	x
Skagit Spring	2006	633488	SKS	x	x
Skagit Spring	2006	633486	SKS	x	x
Skagit Spring	2007	633869	SKF	x	x
Skagit Spring	2007	634373	SKS	x	x
Skagit Spring	2008	634395	SKF	x	x
Skagit Spring	2008	634769	SKS	x	x
Snohomish Fall Fingerling	2005	633381	SKY	x	x
Snohomish Fall Fingerling	2006	633887	SKY	x	x
Snohomish Fall Fingerling	2007	634281	SKY	x	x
Snohomish Fall Fingerling	2008	634844	SKY	x	x
Stillaguamish Fall Fingerling	2005	210684	STL	x	x
Stillaguamish Fall Fingerling	2006	210733	STL	x	x
Stillaguamish Fall Fingerling	2006	210743	STL	x	x
Stillaguamish Fall Fingerling	2007	210787	STL	x	x
Stillaguamish Fall Fingerling	2007	210741	STL	x	x
Stillaguamish Fall Fingerling	2008	210840	STL	x	x
Mid Puget Sound Fall Fingerling	2005	633285	SPS	x	x
Mid Puget Sound Fall Fingerling	2005	633372	SPS	x	x
Mid Puget Sound Fall Fingerling	2005	633375	NA		x

Mid Puget Sound Fall Fingerling	2005	633383	NA	x
Mid Puget Sound Fall Fingerling	2006	633882	SPS	x x
Mid Puget Sound Fall Fingerling	2006	633579	SPS	x x
Mid Puget Sound Fall Fingerling	2006	633889	NA	x
Mid Puget Sound Fall Fingerling	2006	633885	NA	x
Mid Puget Sound Fall Fingerling	2007	634286	SPS	x x
Mid Puget Sound Fall Fingerling	2007	210790	SPS	x x
Mid Puget Sound Fall Fingerling	2007	634284	NA	x
Mid Puget Sound Fall Fingerling	2008	210822	SPS	x x
Mid Puget Sound Fall Fingerling	2008	634864	SPS	x x
South Puget Sound Fall Fingerling	2005	633286	NIS	x x
South Puget Sound Fall Fingerling	2005	210671	NA	x
South Puget Sound Fall Fingerling	2005	632894	NA	x
South Puget Sound Fall Fingerling	2005	632979	NA	x
South Puget Sound Fall Fingerling	2006	633391	NIS	x x
South Puget Sound Fall Fingerling	2006	210744	NA	x
South Puget Sound Fall Fingerling	2006	633968	NA	x
South Puget Sound Fall Fingerling	2006	633964	NA	x
South Puget Sound Fall Fingerling	2007	210788	NIS	x x
South Puget Sound Fall Fingerling	2007	634364	NA	x
South Puget Sound Fall Fingerling	2007	210801	NA	x
South Puget Sound Fall Fingerling	2007	633466	NA	x
South Puget Sound Fall Fingerling	2008	210824	NIS	x x
Hood Canal Fall Fingerling	2005	633366	GAD	x x
Hood Canal Fall Fingerling	2005	633471	NA	x
Hood Canal Fall Fingerling	2005	633382	NA	x
Hood Canal Fall Fingerling	2006	633875	GAD	x x
Hood Canal Fall Fingerling	2006	633886	NA	x
Hood Canal Fall Fingerling	2006	633965	NA	x
Hood Canal Fall Fingerling	2007	634271	GAD	x x
Hood Canal Fall Fingerling	2007	634283	NA	x
Hood Canal Fall Fingerling	2008	634873	GAD	x x
Hood Canal Fall Fingerling	2008	634867	NA	x
OR Hatchery Tule	2005	94423	LRH	x x
OR Hatchery Tule	2006	94526	LRH	x x
OR Hatchery Tule	2007	94646	LRH	x x
OR Hatchery Tule	2008	90199	LRH	x x
WA Hatchery Tule	2005	633287	CWF	x x
WA Hatchery Tule	2005	632886	NA	x
WA Hatchery Tule	2005	632883	NA	x
WA Hatchery Tule	2006	633877	CWF	x x
WA Hatchery Tule	2006	633976	NA	x
WA Hatchery Tule	2006	633977	NA	x
WA Hatchery Tule	2007	634280	CWF	x x
WA Hatchery Tule	2007	634369	NA	x

WA Hatchery Tule	2007	634372	NA	x
WA Hatchery Tule	2008	634279	CWF	x x
WA Hatchery Tule	2008	634385	NA	x
WA Hatchery Tule	2008	634775	NA	x
WA Hatchery Tule	2008	634774	NA	x
Lower Columbia River Wild	2005	632987	LRW	x x
Lower Columbia River Wild	2005	632986	LRW	x
Lower Columbia River Wild	2006	633492	LRW	x x
Lower Columbia River Wild	2006	633979	LRW	x x
Lower Columbia River Wild	2007	634186	LRW	x x
Lower Columbia River Wild	2008	634382	LRW	x x
Spring Creek	2005	52873	SPR	x x
Spring Creek	2005	52971	SPR	x x
Spring Creek	2005	52972	SPR	x x
Spring Creek	2005	52874	SPR	x x
Spring Creek	2006	54318	SPR	x x
Spring Creek	2006	54336	SPR	x x
Spring Creek	2006	52897	SPR	x x
Spring Creek	2006	53592	SPR	x x
Spring Creek	2006	52588	SPR	x x
Spring Creek	2006	52895	SPR	x x
Spring Creek	2006	52570	SPR	x x
Spring Creek	2006	52577	SPR	x x
Spring Creek	2007	53767	SPR	x x
Spring Creek	2007	54276	SPR	x x
Spring Creek	2007	53776	SPR	x x
Spring Creek	2007	50685	SPR	x x
Spring Creek	2007	52978	SPR	x x
Spring Creek	2007	53874	SPR	x x
Spring Creek	2007	53778	SPR	x x
Spring Creek	2007	53780	SPR	x x
Spring Creek	2007	53782	SPR	x x
Spring Creek	2007	54274	SPR	x x
Spring Creek	2008	54864	SPR	x x
Spring Creek	2008	54866	SPR	x x
Columbia River Summer	2005	633298	SUM	x x
Columbia River Summer	2005	633299	SUM	x x
Columbia River Summer	2005	633596	SUM	x x
Columbia River Summer	2006	633385	SUM	x x
Columbia River Summer	2006	633799	SUM	x x
Columbia River Summer	2006	633386	SUM	x x
Columbia River Summer	2007	633871	SUM	x x
Columbia River Summer	2007	634287	SUM	x x
Columbia River Summer	2007	634390	SUM	x x
Columbia River Summer	2007	633872	SUM	x x

Columbia River Summer	2008	634876	SUM	x	x
Columbia River Summer	2008	635092	SUM	x	x
Columbia River Summer	2008	635093	SUM	x	x
Upriver Bright	2005	633173	URB	x	x
Upriver Bright	2006	94504	URB	x	x
Upriver Bright	2006	633894	URB	x	x
Upriver Bright	2007	94663	URB	x	x
Upriver Bright	2007	634391	URB	x	x
Upriver Bright	2008	634799	URB	x	x
Willamette Spring	2005	94422	WSH	x	x
Willamette Spring	2005	92734	WSH	x	x
Willamette Spring	2005	94143	WSH	x	x
Willamette Spring	2005	94453	WSH	x	x
Willamette Spring	2005	94142	WSH	x	x
Willamette Spring	2005	94344	WSH	x	x
Willamette Spring	2005	94436	WSH	x	x
Willamette Spring	2005	94438	WSH	x	x
Willamette Spring	2005	94345	WSH	x	x
Willamette Spring	2005	94019	WSH	x	
Willamette Spring	2005	94348	WSH	x	x
Willamette Spring	2005	94349	WSH	x	x
Willamette Spring	2005	94347	WSH	x	x
Willamette Spring	2005	94425	WSH	x	x
Willamette Spring	2005	94335	NA		x
Willamette Spring	2005	94346	NA		x
Willamette Spring	2005	94437	NA		x
Willamette Spring	2005	94333	NA		x
Willamette Spring	2005	94140	NA		x
Willamette Spring	2005	94439	NA		x
Willamette Spring	2005	94139	NA		x
Willamette Spring	2006	94603	WSH	x	x
Willamette Spring	2006	94609	WSH	x	x
Willamette Spring	2006	94610	WSH	x	x
Willamette Spring	2006	94612	WSH	x	x
Willamette Spring	2006	94549	WSH	x	x
Willamette Spring	2006	94556	WSH	x	x
Willamette Spring	2006	94557	WSH	x	x
Willamette Spring	2006	94558	WSH	x	x
Willamette Spring	2006	94559	WSH	x	x
Willamette Spring	2006	94560	WSH	x	x
Willamette Spring	2006	94561	WSH	x	x
Willamette Spring	2006	94562	WSH	x	x
Willamette Spring	2006	94563	WSH	x	x
Willamette Spring	2006	94601	WSH	x	x
Willamette Spring	2006	94602	WSH	x	x

Willamette Spring	2006	94614	WSH	x	x
Willamette Spring	2006	94615	WSH	x	x
Willamette Spring	2006	94616	WSH	x	x
Willamette Spring	2006	94617	WSH	x	
Willamette Spring	2006	94627	WSH	x	x
Willamette Spring	2007	90189	WSH	x	x
Willamette Spring	2007	90190	WSH	x	x
Willamette Spring	2007	90171	WSH	x	x
Willamette Spring	2007	90178	WSH	x	x
Willamette Spring	2007	90188	WSH	x	x
Willamette Spring	2007	90177	WSH	x	x
Willamette Spring	2007	94657	WSH	x	x
Willamette Spring	2007	90187	WSH	x	x
Willamette Spring	2007	94650	WSH	x	x
Willamette Spring	2007	94529	WSH	x	x
Willamette Spring	2007	90169	WSH	x	x
Willamette Spring	2007	94652	NA		x
Willamette Spring	2007	94651	NA		x
Willamette Spring	2008	90196	WSH	x	x
Willamette Spring	2008	90280	WSH	x	x
Willamette Spring	2008	90239	WSH	x	x
Willamette Spring	2008	90194	WSH	x	x
Willamette Spring	2008	90269	WSH	x	x
Willamette Spring	2008	90238	WSH	x	x
Willamette Spring	2008	90237	WSH	x	x
Willamette Spring	2008	90197	WSH	x	x
Willamette Spring	2008	90271	WSH	x	x
Willamette Spring	2008	90279	WSH	x	x
Willamette Spring	2008	94653	WSH	x	x
Willamette Spring	2008	90193	WSH	x	x
Willamette Spring	2008	90278	WSH	x	x
Snake River Fall	2005	633582	LYF	x	x
Snake River Fall	2005	633598	LYY	x	x
Snake River Fall	2006	633986	LYF	x	x
Snake River Fall	2006	633987	LYY	x	x
Snake River Fall	2007	634672	LYF	x	x
Snake River Fall	2007	634680	LYY	x	x
Snake River Fall	2007	634671	NA		x
Snake River Fall	2008	634995	LYF	x	x
Snake River Fall	2008	635166	LYY	x	x
North OR Coast	2005	94428	SRH	x	x
North OR Coast	2006	94525	SRH	x	x
North OR Coast	2007	94645	SRH	x	x
North OR Coast	2008	94701	SRH	x	x
WCVI	2005	185257	RBT	x	x

WCVI	2005	185258	RBT	x	x
WCVI	2005	185259	RBT	x	x
WCVI	2005	185260	RBT	x	x
WCVI	2005	185948	RBT	x	x
WCVI	2005	185949	RBT	x	x
WCVI	2005	185950	RBT	x	x
WCVI	2005	185951	RBT	x	x
WCVI	2006	185827	RBT	x	x
WCVI	2006	185828	RBT	x	x
WCVI	2006	185826	RBT	x	x
WCVI	2006	185821	RBT	x	x
WCVI	2006	185822	RBT	x	x
WCVI	2006	185823	RBT	x	x
WCVI	2006	185824	RBT	x	x
WCVI	2006	185825	RBT	x	x
WCVI	2007	186134	RBT	x	x
WCVI	2007	186301	RBT	x	x
WCVI	2007	186302	RBT	x	x
WCVI	2007	186303	RBT	x	x
WCVI	2007	186304	RBT	x	x
WCVI	2007	186305	RBT	x	x
WCVI	2007	186306	RBT	x	x
WCVI	2007	186343	RBT	x	x
WCVI	2007	186344	RBT	x	x
WCVI	2008	180386	RBT	x	x
WCVI	2008	180387	RBT	x	x
WCVI	2008	180388	RBT	x	x
WCVI	2008	180389	RBT	x	x
WCVI	2008	180390	RBT	x	x
WCVI	2008	180391	RBT	x	x
WCVI	2008	180392	RBT	x	x
WCVI	2008	180393	RBT	x	x
WCVI	2008	180394	RBT	x	x
WCVI	2008	180685	RBT	x	x
WCVI	2008	180881	RBT	x	x
WCVI	2008	180882	RBT	x	x
WCVI	2008	180883	RBT	x	x
WCVI	2008	180884	RBT	x	x
WCVI	2008	180885	RBT	x	x
WCVI	2008	185960	RBT	x	x
WCVI	2008	185961	RBT	x	x
WCVI	2008	185962	RBT	x	x
Fraser River Late	2005	185030	CHI	x	x
Fraser River Late	2005	185032	CHI	x	x
Fraser River Late	2005	185238	CHI	x	x

Fraser River Late	2005	185240	CHI	x	x
Fraser River Late	2005	25641	HAR	x	x
Fraser River Late	2005	25650	HAR	x	x
Fraser River Late	2006	185658	CHI	x	x
Fraser River Late	2006	185706	CHI	x	x
Fraser River Late	2006	185708	CHI	x	x
Fraser River Late	2006	185710	CHI	x	x
Fraser River Late	2006	186030	HAR	x	x
Fraser River Late	2006	186031	HAR	x	x
Fraser River Late	2006	186032	HAR	x	x
Fraser River Late	2006	184922	HAR	x	x
Fraser River Late	2006	185221	HAR	x	x
Fraser River Late	2006	185242	HAR	x	x
Fraser River Late	2006	185263	HAR	x	x
Fraser River Late	2007	186240	CHI	x	x
Fraser River Late	2007	186242	CHI	x	x
Fraser River Late	2007	185001	HAR	x	x
Fraser River Late	2007	185002	HAR	x	x
Fraser River Late	2007	185040	HAR	x	x
Fraser River Late	2007	185556	HAR	x	x
Fraser River Late	2007	185557	HAR	x	x
Fraser River Late	2007	185558	HAR	x	x
Fraser River Late	2007	185612	HAR	x	x
Fraser River Late	2007	185707	HAR	x	x
Fraser River Late	2008	180480	CHI	x	x
Fraser River Late	2008	180482	CHI	x	x
Fraser River Late	2008	180484	HAR	x	x
Fraser River Late	2008	180485	HAR	x	x
Fraser River Late	2008	180486	HAR	x	x
Fraser River Late	2008	180487	HAR	x	x
Fraser River Early	2005	185234	NIC	x	x
Fraser River Early	2005	185235	NIC	x	x
Fraser River Early	2005	185236	NIC	x	x
Fraser River Early	2005	185237	NIC	x	x
Fraser River Early	2005	185728	NIC	x	x
Fraser River Early	2005	25652	SHU	x	x
Fraser River Early	2005	25659	SHU	x	x
Fraser River Early	2005	184907	SHU	x	x
Fraser River Early	2005	185054	SHU	x	x
Fraser River Early	2005	185055	SHU	x	x
Fraser River Early	2006	185936	NIC	x	x
Fraser River Early	2006	185926	NIC	x	x
Fraser River Early	2006	185935	NIC	x	x
Fraser River Early	2006	185222	SHU	x	x
Fraser River Early	2006	185223	SHU	x	x

Fraser River Early	2006	185224	SHU	x	x
Fraser River Early	2006	185225	SHU	x	x
Fraser River Early	2006	186061	SHU	x	x
Fraser River Early	2006	186062	SHU	x	x
Fraser River Early	2007	180183	NIC	x	x
Fraser River Early	2007	180184	NIC	x	x
Fraser River Early	2007	180189	NIC	x	x
Fraser River Early	2007	186360	SHU	x	x
Fraser River Early	2007	186361	SHU	x	x
Fraser River Early	2007	186162	SHU	x	x
Fraser River Early	2007	186352	SHU	x	x
Fraser River Early	2007	186353	SHU	x	x
Fraser River Early	2007	186354	SHU	x	x
Fraser River Early	2007	186355	SHU	x	x
Fraser River Early	2007	186356	SHU	x	x
Fraser River Early	2007	186357	SHU	x	x
Fraser River Early	2007	186358	SHU	x	x
Fraser River Early	2007	186359	SHU	x	x
Fraser River Early	2008	180965	NIC	x	x
Fraser River Early	2008	180966	NIC	x	x
Fraser River Early	2008	180990	NIC	x	x
Fraser River Early	2008	180276	SHU	x	x
Fraser River Early	2008	180277	SHU	x	x
Fraser River Early	2008	180380	SHU	x	x
Fraser River Early	2008	180381	SHU	x	x
Fraser River Early	2008	180382	SHU	x	x
Fraser River Early	2008	180383	SHU	x	x
Fraser River Early	2008	180384	SHU	x	x
Fraser River Early	2008	180385	SHU	x	x
Lower Georgia Strait	2005	184304	BQR	x	x
Lower Georgia Strait	2005	184840	BQR	x	x
Lower Georgia Strait	2005	185301	BQR	x	x
Lower Georgia Strait	2005	185302	BQR	x	x
Lower Georgia Strait	2005	185303	BQR	x	x
Lower Georgia Strait	2005	185649	BQR	x	x
Lower Georgia Strait	2005	185650	BQR	x	x
Lower Georgia Strait	2005	185651	BQR	x	x
Lower Georgia Strait	2005	185817	BQR	x	x
Lower Georgia Strait	2005	184422	COW	x	x
Lower Georgia Strait	2005	184836	COW	x	x
Lower Georgia Strait	2005	185810	COW	x	x
Lower Georgia Strait	2005	185811	COW	x	x
Lower Georgia Strait	2005	185812	COW	x	x
Lower Georgia Strait	2005	185818	COW	x	x
Lower Georgia Strait	2005	185819	COW	x	x

Lower Georgia Strait	2005	185820	COW	x	x
Lower Georgia Strait	2005	82339	PPS	x	x
Lower Georgia Strait	2005	82343	PPS	x	x
Lower Georgia Strait	2005	82344	PPS	x	x
Lower Georgia Strait	2005	82345	PPS	x	x
Lower Georgia Strait	2005	82350	PPS	x	x
Lower Georgia Strait	2005	82414	PPS	x	x
Lower Georgia Strait	2005	84327	PPS	x	x
Lower Georgia Strait	2005	84328	PPS	x	x
Lower Georgia Strait	2005	185808	PPS	x	x
Lower Georgia Strait	2005	185809	PPS	x	x
Lower Georgia Strait	2006	185644	BQR	x	x
Lower Georgia Strait	2006	185743	BQR	x	x
Lower Georgia Strait	2006	185744	BQR	x	x
Lower Georgia Strait	2006	185745	BQR	x	x
Lower Georgia Strait	2006	185746	BQR	x	x
Lower Georgia Strait	2006	185813	BQR	x	x
Lower Georgia Strait	2006	185814	BQR	x	x
Lower Georgia Strait	2006	185815	BQR	x	x
Lower Georgia Strait	2006	185832	COW	x	x
Lower Georgia Strait	2006	185833	COW	x	x
Lower Georgia Strait	2006	185834	COW	x	x
Lower Georgia Strait	2006	186035	COW	x	x
Lower Georgia Strait	2006	186036	COW	x	x
Lower Georgia Strait	2006	186037	COW	x	x
Lower Georgia Strait	2006	186039	COW	x	x
Lower Georgia Strait	2006	186042	COW	x	x
Lower Georgia Strait	2006	185910	PPS	x	x
Lower Georgia Strait	2006	185911	PPS	x	x
Lower Georgia Strait	2006	185912	PPS	x	x
Lower Georgia Strait	2006	185913	PPS	x	x
Lower Georgia Strait	2006	185914	PPS	x	x
Lower Georgia Strait	2006	185915	PPS	x	x
Lower Georgia Strait	2006	185916	PPS	x	x
Lower Georgia Strait	2006	185917	PPS	x	x
Lower Georgia Strait	2007	186161	BQR	x	x
Lower Georgia Strait	2007	186345	BQR	x	x
Lower Georgia Strait	2007	186346	BQR	x	x
Lower Georgia Strait	2007	186347	BQR	x	x
Lower Georgia Strait	2007	186348	BQR	x	x
Lower Georgia Strait	2007	186349	BQR	x	x
Lower Georgia Strait	2007	186350	BQR	x	x
Lower Georgia Strait	2007	186351	BQR	x	x
Lower Georgia Strait	2007	185339	COW	x	x
Lower Georgia Strait	2007	185355	COW	x	x

Lower Georgia Strait	2007	185356	COW	x	x
Lower Georgia Strait	2007	185357	COW	x	x
Lower Georgia Strait	2007	185358	COW	x	x
Lower Georgia Strait	2007	185359	COW	x	x
Lower Georgia Strait	2007	186015	COW	x	x
Lower Georgia Strait	2007	186016	COW	x	x
Lower Georgia Strait	2007	186219	COW	x	x
Lower Georgia Strait	2007	186220	COW	x	x
Lower Georgia Strait	2007	186225	COW	x	x
Lower Georgia Strait	2007	186226	COW	x	x
Lower Georgia Strait	2007	186227	COW	x	x
Lower Georgia Strait	2007	180170	PPS	x	x
Lower Georgia Strait	2007	186235	PPS	x	x
Lower Georgia Strait	2007	186236	PPS	x	x
Lower Georgia Strait	2007	186237	PPS	x	x
Lower Georgia Strait	2007	186238	PPS	x	x
Lower Georgia Strait	2007	186239	PPS	x	x
Lower Georgia Strait	2008	180273	BQR	x	x
Lower Georgia Strait	2008	183855	BQR	x	x
Lower Georgia Strait	2008	185360	BQR	x	x
Lower Georgia Strait	2008	185956	BQR	x	x
Lower Georgia Strait	2008	185957	BQR	x	x
Lower Georgia Strait	2008	185958	BQR	x	x
Lower Georgia Strait	2008	185959	BQR	x	x
Lower Georgia Strait	2008	185705	COW	x	x
Lower Georgia Strait	2008	186137	COW	x	x
Lower Georgia Strait	2008	186311	COW	x	x
Lower Georgia Strait	2008	186312	COW	x	x
Lower Georgia Strait	2008	186313	COW	x	x
Lower Georgia Strait	2008	186314	COW	x	x
Lower Georgia Strait	2008	186315	COW	x	x
Lower Georgia Strait	2008	186316	COW	x	x
Lower Georgia Strait	2008	186317	COW	x	x
Lower Georgia Strait	2008	186318	COW	x	x
Lower Georgia Strait	2008	180377	COW	x	x
Lower Georgia Strait	2008	180395	COW	x	x
Lower Georgia Strait	2008	180396	COW	x	x
Lower Georgia Strait	2008	180469	COW	x	x
Lower Georgia Strait	2008	180470	COW	x	x
Lower Georgia Strait	2008	180471	COW	x	x
Lower Georgia Strait	2008	180472	COW	x	x
Lower Georgia Strait	2008	180473	COW	x	x
Lower Georgia Strait	2008	185344	COW	x	x
Lower Georgia Strait	2008	185345	COW	x	x
Lower Georgia Strait	2008	180474	PPS	x	x

Lower Georgia Strait	2008	180475	PPS	x	x
Lower Georgia Strait	2008	180491	PPS	x	x
WA North Coast	2005	210679	QUE	x	x
WA North Coast	2006	210738	QUE	x	x
WA North Coast	2007	210791	QUE	x	x
WA North Coast	2008	210843	QUE	x	x
Hoko	2005	210678	HOK	x	x
Hoko	2006	210739	HOK	x	x
Hoko	2007	210786	HOK	x	x
Hoko	2008	210841	HOK	x	x
Mid OR Coast	2005	94343	ELK	x	x
Mid OR Coast	2006	94643	ELK	x	x
Mid OR Coast	2007	90157	ELK	x	x
Mid OR Coast	2007	90165	ELK	x	x
Mid OR Coast	2008	93938	ELK	x	x

## Appendix B. Exploitation Rates

<b>Stock_Name</b>	<b>Year</b>	<b>Region</b>	<b>ER_FRAM</b>	<b>ER_ERA</b>
Nooksack Samish Fall	1999	NBC	0.002	0.051
Nooksack Samish Fall	1999	SBC	0.056	0.26
Nooksack Samish Fall	1999	SEAK	0.002	0.04
Nooksack Samish Fall	1999	SUS	0.071	0.073
Nooksack Samish Fall	2000	NBC	0.003	0
Nooksack Samish Fall	2000	SBC	0.123	0.381
Nooksack Samish Fall	2000	SEAK	0.002	0
Nooksack Samish Fall	2000	SUS	0.053	0.071
Nooksack Samish Fall	2001	NBC	0.003	0.005
Nooksack Samish Fall	2001	SBC	0.075	0.199
Nooksack Samish Fall	2001	SEAK	0.002	0.002
Nooksack Samish Fall	2001	SUS	0.08	0.113
Nooksack Samish Fall	2002	NBC	0.002	0.007
Nooksack Samish Fall	2002	SBC	0.107	0.232
Nooksack Samish Fall	2002	SEAK	0.001	0.009
Nooksack Samish Fall	2002	SUS	0.091	0.098
Nooksack Samish Fall	2003	NBC	0.002	0
Nooksack Samish Fall	2003	SBC	0.097	0.229
Nooksack Samish Fall	2003	SEAK	0.001	0.008
Nooksack Samish Fall	2003	SUS	0.1	0.11
Nooksack Samish Fall	2004	NBC	0.003	0
Nooksack Samish Fall	2004	SBC	0.108	0.198
Nooksack Samish Fall	2004	SEAK	0.002	0.004
Nooksack Samish Fall	2004	SUS	0.099	0.223
Nooksack Samish Fall	2005	NBC	0.003	0.003
Nooksack Samish Fall	2005	SBC	0.125	0.366
Nooksack Samish Fall	2005	SEAK	0.001	0.004
Nooksack Samish Fall	2005	SUS	0.125	0.158
Nooksack Samish Fall	2006	NBC	0.003	0.001
Nooksack Samish Fall	2006	SBC	0.101	0.204
Nooksack Samish Fall	2006	SEAK	0.002	0.005
Nooksack Samish Fall	2006	SUS	0.088	0.168
Nooksack Samish Fall	2007	NBC	0.004	0
Nooksack Samish Fall	2007	SBC	0.139	0.211
Nooksack Samish Fall	2007	SEAK	0.002	0.005
Nooksack Samish Fall	2007	SUS	0.089	0.3
Nooksack Samish Fall	2008	NBC	0.001	0
Nooksack Samish Fall	2008	SBC	0.096	0.175
Nooksack Samish Fall	2008	SEAK	0.002	0.002
Nooksack Samish Fall	2008	SUS	0.092	0.166
Nooksack Samish Fall	2009	NBC	0.003	0
Nooksack Samish Fall	2009	SBC	0.134	0.131
Nooksack Samish Fall	2009	SEAK	0.001	0.001
Nooksack Samish Fall	2009	SUS	0.097	0.169

Nooksack Samish Fall	2010	NBC	0.002	0
Nooksack Samish Fall	2010	SBC	0.098	0.199
Nooksack Samish Fall	2010	SEAK	0.002	0.001
Nooksack Samish Fall	2010	SUS	0.104	0.21
Nooksack Samish Fall	2011	NBC	0.001	0
Nooksack Samish Fall	2011	SBC	0.123	0.201
Nooksack Samish Fall	2011	SEAK	0.002	0.001
Nooksack Samish Fall	2011	SUS	0.105	0.123
Nooksack Samish Fall	2012	NBC	0.002	0.008
Nooksack Samish Fall	2012	SBC	0.113	0.139
Nooksack Samish Fall	2012	SEAK	0.002	0.003
Nooksack Samish Fall	2012	SUS	0.161	0.146
Nooksack Samish Fall	2013	NBC	0.001	0
Nooksack Samish Fall	2013	SBC	0.096	0.135
Nooksack Samish Fall	2013	SEAK	0.001	0
Nooksack Samish Fall	2013	SUS	0.143	0.164
Nooksack Samish Fall	2014	NBC	0.002	0.006
Nooksack Samish Fall	2014	SBC	0.108	0.219
Nooksack Samish Fall	2014	SEAK	0.001	0.008
Nooksack Samish Fall	2014	SUS	0.17	0.182
Nooksack Samish Fall	2015	NBC	0.001	0.011
Nooksack Samish Fall	2015	SBC	0.117	0.186
Nooksack Samish Fall	2015	SEAK	0.001	0.006
Nooksack Samish Fall	2015	SUS	0.154	0.177
Nooksack Samish Fall	2016	NBC	0.003	0.015
Nooksack Samish Fall	2016	SBC	0.103	0.243
Nooksack Samish Fall	2016	SEAK	0.002	0.009
Nooksack Samish Fall	2016	SUS	0.095	0.122
Nooksack Samish Fall	2017	NBC	0.002	0.004
Nooksack Samish Fall	2017	SBC	0.112	0.318
Nooksack Samish Fall	2017	SEAK	0.001	0.009
Nooksack Samish Fall	2017	SUS	0.129	0.112
Nooksack Samish Fall	2018	NBC	0.003	0.018
Nooksack Samish Fall	2018	SBC	0.107	0.267
Nooksack Samish Fall	2018	SEAK	0.001	0.002
Nooksack Samish Fall	2018	SUS	0.136	0.139
Nooksack Spring	1999	NBC	0.003	0.007
Nooksack Spring	1999	SBC	0.188	0.128
Nooksack Spring	1999	SEAK	0.04	0.022
Nooksack Spring	1999	SUS	0.052	0.026
Nooksack Spring	2000	NBC	0.002	0
Nooksack Spring	2000	SBC	0.428	0.396
Nooksack Spring	2000	SEAK	0.058	0.054
Nooksack Spring	2000	SUS	0.028	0.009
Nooksack Spring	2001	NBC	0.001	0

Nooksack Spring	2001	SBC	0.26	0.207
Nooksack Spring	2001	SEAK	0.044	0.018
Nooksack Spring	2001	SUS	0.047	0.028
Nooksack Spring	2002	NBC	0.003	0.021
Nooksack Spring	2002	SBC	0.333	0.21
Nooksack Spring	2002	SEAK	0.023	0.066
Nooksack Spring	2002	SUS	0.057	0.014
Nooksack Spring	2003	NBC	0.002	0.006
Nooksack Spring	2003	SBC	0.305	0.235
Nooksack Spring	2003	SEAK	0.029	0.036
Nooksack Spring	2003	SUS	0.046	0.034
Nooksack Spring	2004	NBC	0.003	0.003
Nooksack Spring	2004	SBC	0.409	0.472
Nooksack Spring	2004	SEAK	0.031	0.013
Nooksack Spring	2004	SUS	0.045	0.048
Nooksack Spring	2005	NBC	0.002	0.007
Nooksack Spring	2005	SBC	0.465	0.452
Nooksack Spring	2005	SEAK	0.028	0.039
Nooksack Spring	2005	SUS	0.08	0.019
Nooksack Spring	2006	NBC	0.002	0.011
Nooksack Spring	2006	SBC	0.396	0.472
Nooksack Spring	2006	SEAK	0.035	0.034
Nooksack Spring	2006	SUS	0.043	0.045
Nooksack Spring	2007	NBC	0.004	0.005
Nooksack Spring	2007	SBC	0.43	0.429
Nooksack Spring	2007	SEAK	0.038	0.066
Nooksack Spring	2007	SUS	0.054	0.063
Nooksack Spring	2008	NBC	0.003	0.004
Nooksack Spring	2008	SBC	0.364	0.473
Nooksack Spring	2008	SEAK	0.022	0.017
Nooksack Spring	2008	SUS	0.065	0.091
Nooksack Spring	2009	NBC	0.002	0
Nooksack Spring	2009	SBC	0.302	0.33
Nooksack Spring	2009	SEAK	0.034	0.036
Nooksack Spring	2009	SUS	0.055	0.044
Nooksack Spring	2010	NBC	0.003	0.01
Nooksack Spring	2010	SBC	0.293	0.323
Nooksack Spring	2010	SEAK	0.035	0.033
Nooksack Spring	2010	SUS	0.067	0.058
Nooksack Spring	2011	NBC	0.001	0.012
Nooksack Spring	2011	SBC	0.321	0.344
Nooksack Spring	2011	SEAK	0.038	0.031
Nooksack Spring	2011	SUS	0.053	0.05
Nooksack Spring	2012	NBC	0.002	0
Nooksack Spring	2012	SBC	0.302	0.356

Nooksack Spring	2012	SEAK	0.039	0.064
Nooksack Spring	2012	SUS	0.089	0.158
Nooksack Spring	2013	NBC	0.001	0.011
Nooksack Spring	2013	SBC	0.273	0.293
Nooksack Spring	2013	SEAK	0.021	0.034
Nooksack Spring	2013	SUS	0.082	0.08
Nooksack Spring	2014	NBC	0.002	0.03
Nooksack Spring	2014	SBC	0.337	0.305
Nooksack Spring	2014	SEAK	0.032	0.043
Nooksack Spring	2014	SUS	0.112	0.074
Nooksack Spring	2015	NBC	0.001	0.009
Nooksack Spring	2015	SBC	0.226	0.136
Nooksack Spring	2015	SEAK	0.033	0.031
Nooksack Spring	2015	SUS	0.102	0.047
Nooksack Spring	2016	NBC	0.001	0.014
Nooksack Spring	2016	SBC	0.233	0.182
Nooksack Spring	2016	SEAK	0.052	0.042
Nooksack Spring	2016	SUS	0.063	0.018
Nooksack Spring	2017	NBC	0.004	0.02
Nooksack Spring	2017	SBC	0.35	0.325
Nooksack Spring	2017	SEAK	0.016	0.015
Nooksack Spring	2017	SUS	0.093	0.033
Nooksack Spring	2018	NBC	0.003	0.023
Nooksack Spring	2018	SBC	0.258	0.197
Nooksack Spring	2018	SEAK	0.023	0.024
Nooksack Spring	2018	SUS	0.081	0.028
Skagit Summer Fall	1999	NBC	0.033	0
Skagit Summer Fall	1999	SBC	0.115	0.296
Skagit Summer Fall	1999	SEAK	0.071	0.112
Skagit Summer Fall	1999	SUS	0.026	0
Skagit Summer Fall	2000	NBC	0.085	0
Skagit Summer Fall	2000	SBC	0.138	0.186
Skagit Summer Fall	2000	SEAK	0.079	0.115
Skagit Summer Fall	2000	SUS	0.033	0.141
Skagit Summer Fall	2001	NBC	0.042	0.005
Skagit Summer Fall	2001	SBC	0.127	0.246
Skagit Summer Fall	2001	SEAK	0.074	0.13
Skagit Summer Fall	2001	SUS	0.043	0.028
Skagit Summer Fall	2002	NBC	0.031	0.025
Skagit Summer Fall	2002	SBC	0.151	0.146
Skagit Summer Fall	2002	SEAK	0.077	0.139
Skagit Summer Fall	2002	SUS	0.032	0.004
Skagit Summer Fall	2003	NBC	0.029	0.059
Skagit Summer Fall	2003	SBC	0.121	0.233
Skagit Summer Fall	2003	SEAK	0.064	0.073

Skagit Summer Fall	2003	SUS	0.04	0.017
Skagit Summer Fall	2004	NBC	0.036	0.028
Skagit Summer Fall	2004	SBC	0.186	0.157
Skagit Summer Fall	2004	SEAK	0.074	0.055
Skagit Summer Fall	2004	SUS	0.031	0.023
Skagit Summer Fall	2005	NBC	0.035	0.044
Skagit Summer Fall	2005	SBC	0.211	0.165
Skagit Summer Fall	2005	SEAK	0.088	0.09
Skagit Summer Fall	2005	SUS	0.059	0.012
Skagit Summer Fall	2006	NBC	0.039	0.018
Skagit Summer Fall	2006	SBC	0.157	0.122
Skagit Summer Fall	2006	SEAK	0.075	0.05
Skagit Summer Fall	2006	SUS	0.035	0.013
Skagit Summer Fall	2007	NBC	0.055	0.02
Skagit Summer Fall	2007	SBC	0.202	0.132
Skagit Summer Fall	2007	SEAK	0.093	0.072
Skagit Summer Fall	2007	SUS	0.044	0.018
Skagit Summer Fall	2008	NBC	0.033	0.028
Skagit Summer Fall	2008	SBC	0.165	0.13
Skagit Summer Fall	2008	SEAK	0.08	0.056
Skagit Summer Fall	2008	SUS	0.043	0.015
Skagit Summer Fall	2009	NBC	0.034	0.029
Skagit Summer Fall	2009	SBC	0.178	0.166
Skagit Summer Fall	2009	SEAK	0.071	0.095
Skagit Summer Fall	2009	SUS	0.07	0.035
Skagit Summer Fall	2010	NBC	0.031	0.069
Skagit Summer Fall	2010	SBC	0.135	0.116
Skagit Summer Fall	2010	SEAK	0.09	0.092
Skagit Summer Fall	2010	SUS	0.049	0.044
Skagit Summer Fall	2011	NBC	0.029	0.007
Skagit Summer Fall	2011	SBC	0.177	0.181
Skagit Summer Fall	2011	SEAK	0.076	0.054
Skagit Summer Fall	2011	SUS	0.064	0.086
Skagit Summer Fall	2012	NBC	0.029	0.023
Skagit Summer Fall	2012	SBC	0.165	0.077
Skagit Summer Fall	2012	SEAK	0.093	0.103
Skagit Summer Fall	2012	SUS	0.067	0.013
Skagit Summer Fall	2013	NBC	0.023	0.036
Skagit Summer Fall	2013	SBC	0.14	0.173
Skagit Summer Fall	2013	SEAK	0.058	0.064
Skagit Summer Fall	2013	SUS	0.093	0.049
Skagit Summer Fall	2014	NBC	0.025	0.019
Skagit Summer Fall	2014	SBC	0.157	0.254
Skagit Summer Fall	2014	SEAK	0.059	0.183
Skagit Summer Fall	2014	SUS	0.09	0.057

Skagit Summer Fall	2015	NBC	0.025	0.038
Skagit Summer Fall	2015	SBC	0.154	0.19
Skagit Summer Fall	2015	SEAK	0.078	0.155
Skagit Summer Fall	2015	SUS	0.104	0.067
Skagit Summer Fall	2016	NBC	0.033	0.046
Skagit Summer Fall	2016	SBC	0.141	0.294
Skagit Summer Fall	2016	SEAK	0.087	0.093
Skagit Summer Fall	2016	SUS	0.059	0.07
Skagit Summer Fall	2017	NBC	0.033	0.051
Skagit Summer Fall	2017	SBC	0.166	0.462
Skagit Summer Fall	2017	SEAK	0.057	0.082
Skagit Summer Fall	2017	SUS	0.094	0.073
Skagit Summer Fall	2018	NBC	0.036	0.027
Skagit Summer Fall	2018	SBC	0.169	0.262
Skagit Summer Fall	2018	SEAK	0.045	0.059
Skagit Summer Fall	2018	SUS	0.101	0.119
Skagit Spring	1999	NBC	0.011	0.004
Skagit Spring	1999	SBC	0.118	0.166
Skagit Spring	1999	SEAK	0.006	0.008
Skagit Spring	1999	SUS	0.048	0.077
Skagit Spring	2000	NBC	0.043	0.003
Skagit Spring	2000	SBC	0.17	0.256
Skagit Spring	2000	SEAK	0.005	0.016
Skagit Spring	2000	SUS	0.038	0.128
Skagit Spring	2001	NBC	0.029	0.004
Skagit Spring	2001	SBC	0.106	0.198
Skagit Spring	2001	SEAK	0.004	0.012
Skagit Spring	2001	SUS	0.06	0.19
Skagit Spring	2002	NBC	0.01	0.006
Skagit Spring	2002	SBC	0.112	0.252
Skagit Spring	2002	SEAK	0.005	0.023
Skagit Spring	2002	SUS	0.054	0.091
Skagit Spring	2003	NBC	0.004	0.014
Skagit Spring	2003	SBC	0.093	0.305
Skagit Spring	2003	SEAK	0.003	0.016
Skagit Spring	2003	SUS	0.045	0.069
Skagit Spring	2004	NBC	0.008	0.002
Skagit Spring	2004	SBC	0.126	0.252
Skagit Spring	2004	SEAK	0.003	0.001
Skagit Spring	2004	SUS	0.037	0.062
Skagit Spring	2005	NBC	0.009	0.012
Skagit Spring	2005	SBC	0.182	0.266
Skagit Spring	2005	SEAK	0.004	0.014
Skagit Spring	2005	SUS	0.07	0.051
Skagit Spring	2006	NBC	0.009	0.002

Skagit Spring	2006	SBC	0.151	0.229
Skagit Spring	2006	SEAK	0.004	0.005
Skagit Spring	2006	SUS	0.044	0.054
Skagit Spring	2007	NBC	0.024	0
Skagit Spring	2007	SBC	0.189	0.207
Skagit Spring	2007	SEAK	0.008	0.003
Skagit Spring	2007	SUS	0.058	0.133
Skagit Spring	2008	NBC	0.002	0.003
Skagit Spring	2008	SBC	0.096	0.142
Skagit Spring	2008	SEAK	0.004	0.002
Skagit Spring	2008	SUS	0.079	0.116
Skagit Spring	2009	NBC	0.006	0
Skagit Spring	2009	SBC	0.156	0.168
Skagit Spring	2009	SEAK	0.005	0.008
Skagit Spring	2009	SUS	0.066	0.104
Skagit Spring	2010	NBC	0.004	0.006
Skagit Spring	2010	SBC	0.123	0.085
Skagit Spring	2010	SEAK	0.004	0.002
Skagit Spring	2010	SUS	0.064	0.072
Skagit Spring	2011	NBC	0.006	0.005
Skagit Spring	2011	SBC	0.144	0.123
Skagit Spring	2011	SEAK	0.004	0.002
Skagit Spring	2011	SUS	0.052	0.098
Skagit Spring	2012	NBC	0.002	0.004
Skagit Spring	2012	SBC	0.124	0.152
Skagit Spring	2012	SEAK	0.003	0.004
Skagit Spring	2012	SUS	0.075	0.128
Skagit Spring	2013	NBC	0.002	0.002
Skagit Spring	2013	SBC	0.122	0.146
Skagit Spring	2013	SEAK	0.002	0.01
Skagit Spring	2013	SUS	0.074	0.076
Skagit Spring	2014	NBC	0.001	0.015
Skagit Spring	2014	SBC	0.109	0.161
Skagit Spring	2014	SEAK	0.003	0.023
Skagit Spring	2014	SUS	0.108	0.082
Skagit Spring	2015	NBC	0.003	0.003
Skagit Spring	2015	SBC	0.102	0.081
Skagit Spring	2015	SEAK	0.002	0.007
Skagit Spring	2015	SUS	0.097	0.089
Skagit Spring	2016	NBC	0.006	0.013
Skagit Spring	2016	SBC	0.137	0.143
Skagit Spring	2016	SEAK	0.005	0.016
Skagit Spring	2016	SUS	0.063	0.086
Skagit Spring	2017	NBC	0.009	0.005
Skagit Spring	2017	SBC	0.168	0.18

Skagit Spring	2017	SEAK	0.004	0.01
Skagit Spring	2017	SUS	0.076	0.051
Skagit Spring	2018	NBC	0.008	0.013
Skagit Spring	2018	SBC	0.155	0.188
Skagit Spring	2018	SEAK	0.003	0.008
Skagit Spring	2018	SUS	0.074	0.06
Snohomish Fall Fingerling	2000	NBC	0.001	NA
Snohomish Fall Fingerling	2000	SBC	0.092	NA
Snohomish Fall Fingerling	2000	SEAK	0.002	NA
Snohomish Fall Fingerling	2000	SUS	0.083	NA
Snohomish Fall Fingerling	2001	NBC	0.006	NA
Snohomish Fall Fingerling	2001	SBC	0.093	NA
Snohomish Fall Fingerling	2001	SEAK	0.002	NA
Snohomish Fall Fingerling	2001	SUS	0.113	NA
Snohomish Fall Fingerling	2002	NBC	0.005	NA
Snohomish Fall Fingerling	2002	SBC	0.137	NA
Snohomish Fall Fingerling	2002	SEAK	0.002	NA
Snohomish Fall Fingerling	2002	SUS	0.075	NA
Snohomish Fall Fingerling	2003	NBC	0.005	NA
Snohomish Fall Fingerling	2003	SBC	0.11	NA
Snohomish Fall Fingerling	2003	SEAK	0.004	NA
Snohomish Fall Fingerling	2003	SUS	0.112	NA
Snohomish Fall Fingerling	2004	NBC	0.007	0.015
Snohomish Fall Fingerling	2004	SBC	0.144	0.281
Snohomish Fall Fingerling	2004	SEAK	0.004	0.005
Snohomish Fall Fingerling	2004	SUS	0.091	0.097
Snohomish Fall Fingerling	2005	NBC	0.005	0.011
Snohomish Fall Fingerling	2005	SBC	0.141	0.339
Snohomish Fall Fingerling	2005	SEAK	0.004	0.007
Snohomish Fall Fingerling	2005	SUS	0.125	0.073
Snohomish Fall Fingerling	2006	NBC	0.003	0.005
Snohomish Fall Fingerling	2006	SBC	0.124	0.255
Snohomish Fall Fingerling	2006	SEAK	0.003	0.011
Snohomish Fall Fingerling	2006	SUS	0.08	0.148
Snohomish Fall Fingerling	2007	NBC	0.012	0.002
Snohomish Fall Fingerling	2007	SBC	0.152	0.272
Snohomish Fall Fingerling	2007	SEAK	0.006	0.004
Snohomish Fall Fingerling	2007	SUS	0.116	0.121
Snohomish Fall Fingerling	2008	NBC	0.002	0
Snohomish Fall Fingerling	2008	SBC	0.111	0.142
Snohomish Fall Fingerling	2008	SEAK	0.003	0.003
Snohomish Fall Fingerling	2008	SUS	0.125	0.084
Snohomish Fall Fingerling	2009	NBC	0.003	0
Snohomish Fall Fingerling	2009	SBC	0.147	0.111
Snohomish Fall Fingerling	2009	SEAK	0.004	0

Snohomish Fall Fingerling	2009	SUS	0.13	0.174
Snohomish Fall Fingerling	2010	NBC	0.001	0
Snohomish Fall Fingerling	2010	SBC	0.127	0.081
Snohomish Fall Fingerling	2010	SEAK	0.002	0.002
Snohomish Fall Fingerling	2010	SUS	0.118	0.109
Snohomish Fall Fingerling	2011	NBC	0.004	0
Snohomish Fall Fingerling	2011	SBC	0.149	0.12
Snohomish Fall Fingerling	2011	SEAK	0.003	0.006
Snohomish Fall Fingerling	2011	SUS	0.11	0.233
Snohomish Fall Fingerling	2012	NBC	0.001	0.003
Snohomish Fall Fingerling	2012	SBC	0.13	0.225
Snohomish Fall Fingerling	2012	SEAK	0.003	0.003
Snohomish Fall Fingerling	2012	SUS	0.135	0.144
Snohomish Fall Fingerling	2013	NBC	0.001	0
Snohomish Fall Fingerling	2013	SBC	0.169	0.245
Snohomish Fall Fingerling	2013	SEAK	0.001	0.006
Snohomish Fall Fingerling	2013	SUS	0.119	0.123
Snohomish Fall Fingerling	2014	NBC	0.002	0.002
Snohomish Fall Fingerling	2014	SBC	0.168	0.171
Snohomish Fall Fingerling	2014	SEAK	0.002	0.012
Snohomish Fall Fingerling	2014	SUS	0.162	0.142
Snohomish Fall Fingerling	2015	NBC	0.001	0.008
Snohomish Fall Fingerling	2015	SBC	0.122	0.104
Snohomish Fall Fingerling	2015	SEAK	0.002	0.018
Snohomish Fall Fingerling	2015	SUS	0.157	0.244
Snohomish Fall Fingerling	2016	NBC	0.002	0.012
Snohomish Fall Fingerling	2016	SBC	0.125	0.191
Snohomish Fall Fingerling	2016	SEAK	0.004	0.024
Snohomish Fall Fingerling	2016	SUS	0.121	0.125
Snohomish Fall Fingerling	2017	NBC	0.002	0.019
Snohomish Fall Fingerling	2017	SBC	0.127	0.149
Snohomish Fall Fingerling	2017	SEAK	0.001	0.013
Snohomish Fall Fingerling	2017	SUS	0.145	0.096
Snohomish Fall Fingerling	2018	NBC	0.003	0
Snohomish Fall Fingerling	2018	SBC	0.135	0.18
Snohomish Fall Fingerling	2018	SEAK	0.002	0.004
Snohomish Fall Fingerling	2018	SUS	0.143	0.13
Stillaguamish Fall Fingerling	1999	NBC	0.012	0.006
Stillaguamish Fall Fingerling	1999	SBC	0.155	0.147
Stillaguamish Fall Fingerling	1999	SEAK	0.017	0.013
Stillaguamish Fall Fingerling	1999	SUS	0.11	0.034
Stillaguamish Fall Fingerling	2000	NBC	0.016	0
Stillaguamish Fall Fingerling	2000	SBC	0.146	0.098
Stillaguamish Fall Fingerling	2000	SEAK	0.017	0.046
Stillaguamish Fall Fingerling	2000	SUS	0.059	0.03

Stillaguamish Fall Fingerling	2001	NBC	0.01	0
Stillaguamish Fall Fingerling	2001	SBC	0.109	0.111
Stillaguamish Fall Fingerling	2001	SEAK	0.011	0.016
Stillaguamish Fall Fingerling	2001	SUS	0.087	0.132
Stillaguamish Fall Fingerling	2002	NBC	0.002	NA
Stillaguamish Fall Fingerling	2002	SBC	0.112	NA
Stillaguamish Fall Fingerling	2002	SEAK	0.008	NA
Stillaguamish Fall Fingerling	2002	SUS	0.036	NA
Stillaguamish Fall Fingerling	2003	SBC	0.023	NA
Stillaguamish Fall Fingerling	2003	SUS	0.016	NA
Stillaguamish Fall Fingerling	2005	NBC	0.01	NA
Stillaguamish Fall Fingerling	2005	SBC	0.217	NA
Stillaguamish Fall Fingerling	2005	SEAK	0.014	NA
Stillaguamish Fall Fingerling	2005	SUS	0.263	NA
Stillaguamish Fall Fingerling	2006	NBC	0.008	0
Stillaguamish Fall Fingerling	2006	SBC	0.152	0.175
Stillaguamish Fall Fingerling	2006	SEAK	0.015	0.022
Stillaguamish Fall Fingerling	2006	SUS	0.079	0.054
Stillaguamish Fall Fingerling	2007	NBC	0.017	0.01
Stillaguamish Fall Fingerling	2007	SBC	0.237	0.33
Stillaguamish Fall Fingerling	2007	SEAK	0.022	0.022
Stillaguamish Fall Fingerling	2007	SUS	0.12	0.15
Stillaguamish Fall Fingerling	2008	NBC	0.01	0
Stillaguamish Fall Fingerling	2008	SBC	0.207	0.178
Stillaguamish Fall Fingerling	2008	SEAK	0.013	0.029
Stillaguamish Fall Fingerling	2008	SUS	0.138	0.142
Stillaguamish Fall Fingerling	2009	NBC	0.003	0.009
Stillaguamish Fall Fingerling	2009	SBC	0.143	0.142
Stillaguamish Fall Fingerling	2009	SEAK	0.011	0.016
Stillaguamish Fall Fingerling	2009	SUS	0.063	0.139
Stillaguamish Fall Fingerling	2010	NBC	0.005	0.005
Stillaguamish Fall Fingerling	2010	SBC	0.191	0.246
Stillaguamish Fall Fingerling	2010	SEAK	0.014	0.01
Stillaguamish Fall Fingerling	2010	SUS	0.098	0.144
Stillaguamish Fall Fingerling	2011	NBC	0.006	0.028
Stillaguamish Fall Fingerling	2011	SBC	0.186	0.189
Stillaguamish Fall Fingerling	2011	SEAK	0.013	0.016
Stillaguamish Fall Fingerling	2011	SUS	0.085	0.068
Stillaguamish Fall Fingerling	2012	NBC	0.004	0.008
Stillaguamish Fall Fingerling	2012	SBC	0.179	0.141
Stillaguamish Fall Fingerling	2012	SEAK	0.014	0.02
Stillaguamish Fall Fingerling	2012	SUS	0.104	0.055
Stillaguamish Fall Fingerling	2013	NBC	0.004	0.011
Stillaguamish Fall Fingerling	2013	SBC	0.208	0.259
Stillaguamish Fall Fingerling	2013	SEAK	0.008	0.038

Stillaguamish Fall Fingerling	2013	SUS	0.113	0.227
Stillaguamish Fall Fingerling	2014	NBC	0.005	0.031
Stillaguamish Fall Fingerling	2014	SBC	0.195	0.358
Stillaguamish Fall Fingerling	2014	SEAK	0.013	0.045
Stillaguamish Fall Fingerling	2014	SUS	0.168	0.248
Stillaguamish Fall Fingerling	2015	NBC	0.004	0.02
Stillaguamish Fall Fingerling	2015	SBC	0.166	0.24
Stillaguamish Fall Fingerling	2015	SEAK	0.011	0.035
Stillaguamish Fall Fingerling	2015	SUS	0.126	0.157
Stillaguamish Fall Fingerling	2016	NBC	0.004	0.039
Stillaguamish Fall Fingerling	2016	SBC	0.174	0.245
Stillaguamish Fall Fingerling	2016	SEAK	0.015	0.014
Stillaguamish Fall Fingerling	2016	SUS	0.094	0.161
Stillaguamish Fall Fingerling	2017	NBC	0.008	0.013
Stillaguamish Fall Fingerling	2017	SBC	0.221	0.224
Stillaguamish Fall Fingerling	2017	SEAK	0.012	0.019
Stillaguamish Fall Fingerling	2017	SUS	0.165	0.154
Stillaguamish Fall Fingerling	2018	NBC	0.006	0.005
Stillaguamish Fall Fingerling	2018	SBC	0.196	0.221
Stillaguamish Fall Fingerling	2018	SEAK	0.009	0.017
Stillaguamish Fall Fingerling	2018	SUS	0.137	0.145
Mid Puget Sound Fall Fingerling	1999	NBC	0.003	0.003
Mid Puget Sound Fall Fingerling	1999	SBC	0.083	0.082
Mid Puget Sound Fall Fingerling	1999	SEAK	0.001	0.006
Mid Puget Sound Fall Fingerling	1999	SUS	0.241	0.153
Mid Puget Sound Fall Fingerling	2000	NBC	0.004	0
Mid Puget Sound Fall Fingerling	2000	SBC	0.143	0.167
Mid Puget Sound Fall Fingerling	2000	SEAK	0.002	0.005
Mid Puget Sound Fall Fingerling	2000	SUS	0.244	0.197
Mid Puget Sound Fall Fingerling	2001	NBC	0.003	0
Mid Puget Sound Fall Fingerling	2001	SBC	0.093	0.15
Mid Puget Sound Fall Fingerling	2001	SEAK	0.001	0.002
Mid Puget Sound Fall Fingerling	2001	SUS	0.245	0.229
Mid Puget Sound Fall Fingerling	2002	NBC	0.003	0.011
Mid Puget Sound Fall Fingerling	2002	SBC	0.124	0.194
Mid Puget Sound Fall Fingerling	2002	SEAK	0.001	0.009
Mid Puget Sound Fall Fingerling	2002	SUS	0.21	0.175
Mid Puget Sound Fall Fingerling	2003	NBC	0.002	0.008
Mid Puget Sound Fall Fingerling	2003	SBC	0.124	0.219
Mid Puget Sound Fall Fingerling	2003	SEAK	0.001	0.007
Mid Puget Sound Fall Fingerling	2003	SUS	0.302	0.251
Mid Puget Sound Fall Fingerling	2004	NBC	0.003	0.006
Mid Puget Sound Fall Fingerling	2004	SBC	0.157	0.249
Mid Puget Sound Fall Fingerling	2004	SEAK	0.002	0.004
Mid Puget Sound Fall Fingerling	2004	SUS	0.22	0.337

Mid Puget Sound Fall Fingerling	2005	NBC	0.003	0.004
Mid Puget Sound Fall Fingerling	2005	SBC	0.171	0.245
Mid Puget Sound Fall Fingerling	2005	SEAK	0.001	0
Mid Puget Sound Fall Fingerling	2005	SUS	0.258	0.212
Mid Puget Sound Fall Fingerling	2006	NBC	0.003	0.009
Mid Puget Sound Fall Fingerling	2006	SBC	0.147	0.178
Mid Puget Sound Fall Fingerling	2006	SEAK	0.002	0.005
Mid Puget Sound Fall Fingerling	2006	SUS	0.224	0.231
Mid Puget Sound Fall Fingerling	2007	NBC	0.005	0.002
Mid Puget Sound Fall Fingerling	2007	SBC	0.17	0.18
Mid Puget Sound Fall Fingerling	2007	SEAK	0.002	0.002
Mid Puget Sound Fall Fingerling	2007	SUS	0.216	0.25
Mid Puget Sound Fall Fingerling	2008	NBC	0.002	0.003
Mid Puget Sound Fall Fingerling	2008	SBC	0.131	0.136
Mid Puget Sound Fall Fingerling	2008	SEAK	0.001	0
Mid Puget Sound Fall Fingerling	2008	SUS	0.192	0.21
Mid Puget Sound Fall Fingerling	2009	NBC	0.003	0.002
Mid Puget Sound Fall Fingerling	2009	SBC	0.145	0.181
Mid Puget Sound Fall Fingerling	2009	SEAK	0.002	0.001
Mid Puget Sound Fall Fingerling	2009	SUS	0.202	0.189
Mid Puget Sound Fall Fingerling	2010	NBC	0.002	0.007
Mid Puget Sound Fall Fingerling	2010	SBC	0.115	0.134
Mid Puget Sound Fall Fingerling	2010	SEAK	0.002	0.001
Mid Puget Sound Fall Fingerling	2010	SUS	0.206	0.167
Mid Puget Sound Fall Fingerling	2011	NBC	0.002	0
Mid Puget Sound Fall Fingerling	2011	SBC	0.151	0.128
Mid Puget Sound Fall Fingerling	2011	SEAK	0.002	0.004
Mid Puget Sound Fall Fingerling	2011	SUS	0.186	0.205
Mid Puget Sound Fall Fingerling	2012	NBC	0.002	0.001
Mid Puget Sound Fall Fingerling	2012	SBC	0.135	0.143
Mid Puget Sound Fall Fingerling	2012	SEAK	0.001	0
Mid Puget Sound Fall Fingerling	2012	SUS	0.214	0.279
Mid Puget Sound Fall Fingerling	2013	NBC	0.001	0.001
Mid Puget Sound Fall Fingerling	2013	SBC	0.107	0.095
Mid Puget Sound Fall Fingerling	2013	SEAK	0.001	0.005
Mid Puget Sound Fall Fingerling	2013	SUS	0.338	0.184
Mid Puget Sound Fall Fingerling	2014	NBC	0.002	0.002
Mid Puget Sound Fall Fingerling	2014	SBC	0.134	0.168
Mid Puget Sound Fall Fingerling	2014	SEAK	0.002	0.018
Mid Puget Sound Fall Fingerling	2014	SUS	0.285	0.219
Mid Puget Sound Fall Fingerling	2015	NBC	0.001	0.002
Mid Puget Sound Fall Fingerling	2015	SBC	0.117	0.184
Mid Puget Sound Fall Fingerling	2015	SEAK	0.001	0.005
Mid Puget Sound Fall Fingerling	2015	SUS	0.264	0.322
Mid Puget Sound Fall Fingerling	2016	NBC	0.003	0.005

Mid Puget Sound Fall Fingerling	2016	SBC	0.12	0.135
Mid Puget Sound Fall Fingerling	2016	SEAK	0.002	0.002
Mid Puget Sound Fall Fingerling	2016	SUS	0.226	0.221
Mid Puget Sound Fall Fingerling	2017	NBC	0.003	0.003
Mid Puget Sound Fall Fingerling	2017	SBC	0.125	0.119
Mid Puget Sound Fall Fingerling	2017	SEAK	0.001	0.002
Mid Puget Sound Fall Fingerling	2017	SUS	0.212	0.152
Mid Puget Sound Fall Fingerling	2018	NBC	0.003	0.006
Mid Puget Sound Fall Fingerling	2018	SBC	0.114	0.166
Mid Puget Sound Fall Fingerling	2018	SEAK	0.001	0.008
Mid Puget Sound Fall Fingerling	2018	SUS	0.267	0.269
South Puget Sound Fall Fingerling	1999	NBC	0	0
South Puget Sound Fall Fingerling	1999	SBC	0.039	0.064
South Puget Sound Fall Fingerling	1999	SEAK	0.001	0
South Puget Sound Fall Fingerling	1999	SUS	0.21	0.291
South Puget Sound Fall Fingerling	2000	NBC	0.001	0
South Puget Sound Fall Fingerling	2000	SBC	0.126	0.196
South Puget Sound Fall Fingerling	2000	SEAK	0.001	0
South Puget Sound Fall Fingerling	2000	SUS	0.229	0.341
South Puget Sound Fall Fingerling	2001	NBC	0.001	0
South Puget Sound Fall Fingerling	2001	SBC	0.033	0.073
South Puget Sound Fall Fingerling	2001	SEAK	0	0.002
South Puget Sound Fall Fingerling	2001	SUS	0.214	0.323
South Puget Sound Fall Fingerling	2002	NBC	0.002	0
South Puget Sound Fall Fingerling	2002	SBC	0.089	0.113
South Puget Sound Fall Fingerling	2002	SEAK	0.001	0
South Puget Sound Fall Fingerling	2002	SUS	0.184	0.174
South Puget Sound Fall Fingerling	2003	NBC	0.002	0.005
South Puget Sound Fall Fingerling	2003	SBC	0.095	0.083
South Puget Sound Fall Fingerling	2003	SEAK	0.001	0.001
South Puget Sound Fall Fingerling	2003	SUS	0.225	0.208
South Puget Sound Fall Fingerling	2004	NBC	0.002	0
South Puget Sound Fall Fingerling	2004	SBC	0.108	0.084
South Puget Sound Fall Fingerling	2004	SEAK	0.001	0.001
South Puget Sound Fall Fingerling	2004	SUS	0.181	0.221
South Puget Sound Fall Fingerling	2005	NBC	0.001	0.003
South Puget Sound Fall Fingerling	2005	SBC	0.092	0.114
South Puget Sound Fall Fingerling	2005	SEAK	0.001	0
South Puget Sound Fall Fingerling	2005	SUS	0.27	0.206
South Puget Sound Fall Fingerling	2006	NBC	0.001	0
South Puget Sound Fall Fingerling	2006	SBC	0.077	0.102
South Puget Sound Fall Fingerling	2006	SEAK	0.001	0.001
South Puget Sound Fall Fingerling	2006	SUS	0.227	0.16
South Puget Sound Fall Fingerling	2007	NBC	0.002	0.001
South Puget Sound Fall Fingerling	2007	SBC	0.118	0.125

South Puget Sound Fall Fingerling	2007	SEAK	0.001	0
South Puget Sound Fall Fingerling	2007	SUS	0.288	0.207
South Puget Sound Fall Fingerling	2008	NBC	0.001	0
South Puget Sound Fall Fingerling	2008	SBC	0.078	0.133
South Puget Sound Fall Fingerling	2008	SEAK	0.001	0
South Puget Sound Fall Fingerling	2008	SUS	0.323	0.186
South Puget Sound Fall Fingerling	2009	NBC	0.002	0
South Puget Sound Fall Fingerling	2009	SBC	0.121	0.069
South Puget Sound Fall Fingerling	2009	SEAK	0.001	0
South Puget Sound Fall Fingerling	2009	SUS	0.305	0.185
South Puget Sound Fall Fingerling	2010	NBC	0	0
South Puget Sound Fall Fingerling	2010	SBC	0.064	0.098
South Puget Sound Fall Fingerling	2010	SEAK	0	0.002
South Puget Sound Fall Fingerling	2010	SUS	0.21	0.155
South Puget Sound Fall Fingerling	2011	NBC	0.003	0.003
South Puget Sound Fall Fingerling	2011	SBC	0.13	0.068
South Puget Sound Fall Fingerling	2011	SEAK	0.001	0
South Puget Sound Fall Fingerling	2011	SUS	0.249	0.202
South Puget Sound Fall Fingerling	2012	NBC	0.001	0
South Puget Sound Fall Fingerling	2012	SBC	0.076	0.057
South Puget Sound Fall Fingerling	2012	SEAK	0	0
South Puget Sound Fall Fingerling	2012	SUS	0.249	0.214
South Puget Sound Fall Fingerling	2013	NBC	0.001	0
South Puget Sound Fall Fingerling	2013	SBC	0.082	0.071
South Puget Sound Fall Fingerling	2013	SEAK	0	0
South Puget Sound Fall Fingerling	2013	SUS	0.25	0.155
South Puget Sound Fall Fingerling	2014	NBC	0.001	0.007
South Puget Sound Fall Fingerling	2014	SBC	0.093	0.112
South Puget Sound Fall Fingerling	2014	SEAK	0.001	0.003
South Puget Sound Fall Fingerling	2014	SUS	0.299	0.263
South Puget Sound Fall Fingerling	2015	NBC	0.002	0.003
South Puget Sound Fall Fingerling	2015	SBC	0.075	0.059
South Puget Sound Fall Fingerling	2015	SEAK	0	0.001
South Puget Sound Fall Fingerling	2015	SUS	0.277	0.236
South Puget Sound Fall Fingerling	2016	NBC	0.001	0
South Puget Sound Fall Fingerling	2016	SBC	0.066	0.055
South Puget Sound Fall Fingerling	2016	SEAK	0.001	0
South Puget Sound Fall Fingerling	2016	SUS	0.192	0.135
South Puget Sound Fall Fingerling	2017	NBC	0	0.002
South Puget Sound Fall Fingerling	2017	SBC	0.063	0.115
South Puget Sound Fall Fingerling	2017	SEAK	0.001	0
South Puget Sound Fall Fingerling	2017	SUS	0.196	0.189
South Puget Sound Fall Fingerling	2018	NBC	0	0.003
South Puget Sound Fall Fingerling	2018	SBC	0.068	0.108
South Puget Sound Fall Fingerling	2018	SEAK	0	0

South Puget Sound Fall Fingerling	2018	SUS	0.285	0.313
Hood Canal Fall Fingerling	1999	NBC	0.001	0
Hood Canal Fall Fingerling	1999	SBC	0.06	0.131
Hood Canal Fall Fingerling	1999	SEAK	0.004	0.004
Hood Canal Fall Fingerling	1999	SUS	0.138	0.214
Hood Canal Fall Fingerling	2000	NBC	0.002	0.005
Hood Canal Fall Fingerling	2000	SBC	0.132	0.327
Hood Canal Fall Fingerling	2000	SEAK	0.009	0.003
Hood Canal Fall Fingerling	2000	SUS	0.176	0.156
Hood Canal Fall Fingerling	2001	NBC	0.002	0
Hood Canal Fall Fingerling	2001	SBC	0.056	0.17
Hood Canal Fall Fingerling	2001	SEAK	0.004	0.008
Hood Canal Fall Fingerling	2001	SUS	0.165	0.287
Hood Canal Fall Fingerling	2002	NBC	0.002	0.012
Hood Canal Fall Fingerling	2002	SBC	0.125	0.234
Hood Canal Fall Fingerling	2002	SEAK	0.005	0.016
Hood Canal Fall Fingerling	2002	SUS	0.147	0.196
Hood Canal Fall Fingerling	2003	NBC	0.002	0
Hood Canal Fall Fingerling	2003	SBC	0.122	0.167
Hood Canal Fall Fingerling	2003	SEAK	0.004	0.01
Hood Canal Fall Fingerling	2003	SUS	0.185	0.203
Hood Canal Fall Fingerling	2004	NBC	0.002	0.006
Hood Canal Fall Fingerling	2004	SBC	0.11	0.209
Hood Canal Fall Fingerling	2004	SEAK	0.003	0.008
Hood Canal Fall Fingerling	2004	SUS	0.194	0.231
Hood Canal Fall Fingerling	2005	NBC	0.002	0.001
Hood Canal Fall Fingerling	2005	SBC	0.116	0.285
Hood Canal Fall Fingerling	2005	SEAK	0.004	0.003
Hood Canal Fall Fingerling	2005	SUS	0.221	0.212
Hood Canal Fall Fingerling	2006	NBC	0.002	0.009
Hood Canal Fall Fingerling	2006	SBC	0.096	0.188
Hood Canal Fall Fingerling	2006	SEAK	0.005	0.007
Hood Canal Fall Fingerling	2006	SUS	0.18	0.243
Hood Canal Fall Fingerling	2007	NBC	0.003	0
Hood Canal Fall Fingerling	2007	SBC	0.154	0.145
Hood Canal Fall Fingerling	2007	SEAK	0.007	0.011
Hood Canal Fall Fingerling	2007	SUS	0.201	0.26
Hood Canal Fall Fingerling	2008	NBC	0.001	0
Hood Canal Fall Fingerling	2008	SBC	0.102	0.115
Hood Canal Fall Fingerling	2008	SEAK	0.004	0
Hood Canal Fall Fingerling	2008	SUS	0.218	0.203
Hood Canal Fall Fingerling	2009	NBC	0.002	0.002
Hood Canal Fall Fingerling	2009	SBC	0.135	0.181
Hood Canal Fall Fingerling	2009	SEAK	0.006	0
Hood Canal Fall Fingerling	2009	SUS	0.226	0.239

Hood Canal Fall Fingerling	2010	NBC	0.001	0
Hood Canal Fall Fingerling	2010	SBC	0.104	0.169
Hood Canal Fall Fingerling	2010	SEAK	0.004	0.002
Hood Canal Fall Fingerling	2010	SUS	0.195	0.229
Hood Canal Fall Fingerling	2011	NBC	0.002	0
Hood Canal Fall Fingerling	2011	SBC	0.149	0.071
Hood Canal Fall Fingerling	2011	SEAK	0.005	0
Hood Canal Fall Fingerling	2011	SUS	0.204	0.239
Hood Canal Fall Fingerling	2012	NBC	0.001	0.001
Hood Canal Fall Fingerling	2012	SBC	0.101	0.088
Hood Canal Fall Fingerling	2012	SEAK	0.003	0.002
Hood Canal Fall Fingerling	2012	SUS	0.252	0.299
Hood Canal Fall Fingerling	2013	NBC	0.001	0.002
Hood Canal Fall Fingerling	2013	SBC	0.104	0.124
Hood Canal Fall Fingerling	2013	SEAK	0.003	0.005
Hood Canal Fall Fingerling	2013	SUS	0.252	0.174
Hood Canal Fall Fingerling	2014	NBC	0.002	0.018
Hood Canal Fall Fingerling	2014	SBC	0.108	0.144
Hood Canal Fall Fingerling	2014	SEAK	0.004	0.007
Hood Canal Fall Fingerling	2014	SUS	0.331	0.332
Hood Canal Fall Fingerling	2015	NBC	0.001	0.003
Hood Canal Fall Fingerling	2015	SBC	0.09	0.057
Hood Canal Fall Fingerling	2015	SEAK	0.003	0
Hood Canal Fall Fingerling	2015	SUS	0.27	0.243
Hood Canal Fall Fingerling	2016	NBC	0.001	0.009
Hood Canal Fall Fingerling	2016	SBC	0.091	0.11
Hood Canal Fall Fingerling	2016	SEAK	0.003	0.001
Hood Canal Fall Fingerling	2016	SUS	0.186	0.236
Hood Canal Fall Fingerling	2017	NBC	0.002	0.002
Hood Canal Fall Fingerling	2017	SBC	0.098	0.12
Hood Canal Fall Fingerling	2017	SEAK	0.003	0.001
Hood Canal Fall Fingerling	2017	SUS	0.203	0.244
Hood Canal Fall Fingerling	2018	NBC	0.001	0.003
Hood Canal Fall Fingerling	2018	SBC	0.094	0.092
Hood Canal Fall Fingerling	2018	SEAK	0.003	0.001
Hood Canal Fall Fingerling	2018	SUS	0.245	0.305
OR Hatchery Tule	1999	NBC	0.003	0
OR Hatchery Tule	1999	SBC	0.119	0.115
OR Hatchery Tule	1999	SEAK	0	0
OR Hatchery Tule	1999	SUS	0.115	0.106
OR Hatchery Tule	2000	NBC	0.003	0
OR Hatchery Tule	2000	SBC	0.239	0.315
OR Hatchery Tule	2000	SEAK	0	0
OR Hatchery Tule	2000	SUS	0.099	0.059
OR Hatchery Tule	2001	NBC	0.002	0

OR Hatchery Tule	2001	SBC	0.108	0.114
OR Hatchery Tule	2001	SEAK	0	0
OR Hatchery Tule	2001	SUS	0.191	0.25
OR Hatchery Tule	2002	NBC	0.006	0
OR Hatchery Tule	2002	SBC	0.146	0.121
OR Hatchery Tule	2002	SEAK	0	0.004
OR Hatchery Tule	2002	SUS	0.201	0.284
OR Hatchery Tule	2003	NBC	0.007	0
OR Hatchery Tule	2003	SBC	0.154	0.192
OR Hatchery Tule	2003	SEAK	0	0
OR Hatchery Tule	2003	SUS	0.15	0.218
OR Hatchery Tule	2004	NBC	0.007	0.003
OR Hatchery Tule	2004	SBC	0.228	0.309
OR Hatchery Tule	2004	SEAK	0	0.005
OR Hatchery Tule	2004	SUS	0.116	0.124
OR Hatchery Tule	2005	NBC	0.007	0.003
OR Hatchery Tule	2005	SBC	0.241	0.369
OR Hatchery Tule	2005	SEAK	0	0
OR Hatchery Tule	2005	SUS	0.195	0.093
OR Hatchery Tule	2006	NBC	0.006	NA
OR Hatchery Tule	2006	SBC	0.193	NA
OR Hatchery Tule	2006	SEAK	0	NA
OR Hatchery Tule	2006	SUS	0.064	NA
OR Hatchery Tule	2007	NBC	0.007	0
OR Hatchery Tule	2007	SBC	0.234	0.143
OR Hatchery Tule	2007	SEAK	0	0.006
OR Hatchery Tule	2007	SUS	0.115	0.089
OR Hatchery Tule	2008	NBC	0.001	0
OR Hatchery Tule	2008	SBC	0.171	0.216
OR Hatchery Tule	2008	SEAK	0	0
OR Hatchery Tule	2008	SUS	0.102	0.122
OR Hatchery Tule	2009	NBC	0.004	0
OR Hatchery Tule	2009	SBC	0.199	0.158
OR Hatchery Tule	2009	SEAK	0	0
OR Hatchery Tule	2009	SUS	0.099	0.159
OR Hatchery Tule	2010	NBC	0.001	0.003
OR Hatchery Tule	2010	SBC	0.136	0.158
OR Hatchery Tule	2010	SEAK	0	0.003
OR Hatchery Tule	2010	SUS	0.225	0.246
OR Hatchery Tule	2011	NBC	0.004	0.01
OR Hatchery Tule	2011	SBC	0.207	0.163
OR Hatchery Tule	2011	SEAK	0	0
OR Hatchery Tule	2011	SUS	0.153	0.2
OR Hatchery Tule	2012	NBC	0.001	0.005
OR Hatchery Tule	2012	SBC	0.152	0.124

OR Hatchery Tule	2012	SEAK	0	0
OR Hatchery Tule	2012	SUS	0.209	0.339
OR Hatchery Tule	2013	NBC	0.003	0.006
OR Hatchery Tule	2013	SBC	0.111	0.086
OR Hatchery Tule	2013	SEAK	0	0
OR Hatchery Tule	2013	SUS	0.177	0.271
OR Hatchery Tule	2014	NBC	0.003	0
OR Hatchery Tule	2014	SBC	0.157	0.122
OR Hatchery Tule	2014	SEAK	0	0.002
OR Hatchery Tule	2014	SUS	0.236	0.401
OR Hatchery Tule	2015	NBC	0.003	0.008
OR Hatchery Tule	2015	SBC	0.108	0.095
OR Hatchery Tule	2015	SEAK	0	0.003
OR Hatchery Tule	2015	SUS	0.217	0.355
OR Hatchery Tule	2016	NBC	0.004	0
OR Hatchery Tule	2016	SBC	0.124	0.203
OR Hatchery Tule	2016	SEAK	0	0.009
OR Hatchery Tule	2016	SUS	0.138	0.148
OR Hatchery Tule	2017	NBC	0.002	0
OR Hatchery Tule	2017	SBC	0.131	0.212
OR Hatchery Tule	2017	SEAK	0	0
OR Hatchery Tule	2017	SUS	0.182	0.352
OR Hatchery Tule	2018	NBC	0.002	0
OR Hatchery Tule	2018	SBC	0.121	0.163
OR Hatchery Tule	2018	SEAK	0	0
OR Hatchery Tule	2018	SUS	0.157	0.318
WA Hatchery Tule	1999	NBC	0.022	0.068
WA Hatchery Tule	1999	SBC	0.066	0.041
WA Hatchery Tule	1999	SEAK	0.035	0.109
WA Hatchery Tule	1999	SUS	0.081	0.116
WA Hatchery Tule	2000	NBC	0.015	0
WA Hatchery Tule	2000	SBC	0.203	0.224
WA Hatchery Tule	2000	SEAK	0.042	0.037
WA Hatchery Tule	2000	SUS	0.117	0.178
WA Hatchery Tule	2001	NBC	0.013	0
WA Hatchery Tule	2001	SBC	0.083	0.051
WA Hatchery Tule	2001	SEAK	0.021	0.008
WA Hatchery Tule	2001	SUS	0.122	0.219
WA Hatchery Tule	2002	NBC	0.025	0.011
WA Hatchery Tule	2002	SBC	0.104	0.097
WA Hatchery Tule	2002	SEAK	0.032	0.071
WA Hatchery Tule	2002	SUS	0.142	0.493
WA Hatchery Tule	2003	NBC	0.029	0.013
WA Hatchery Tule	2003	SBC	0.117	0.133
WA Hatchery Tule	2003	SEAK	0.036	0.053

WA Hatchery Tule	2003	SUS	0.125	0.26
WA Hatchery Tule	2004	NBC	0.035	0.009
WA Hatchery Tule	2004	SBC	0.147	0.06
WA Hatchery Tule	2004	SEAK	0.038	0.047
WA Hatchery Tule	2004	SUS	0.169	0.312
WA Hatchery Tule	2005	NBC	0.037	0.026
WA Hatchery Tule	2005	SBC	0.212	0.077
WA Hatchery Tule	2005	SEAK	0.036	0.103
WA Hatchery Tule	2005	SUS	0.131	0.132
WA Hatchery Tule	2006	NBC	0.037	0.029
WA Hatchery Tule	2006	SBC	0.164	0.05
WA Hatchery Tule	2006	SEAK	0.039	0.057
WA Hatchery Tule	2006	SUS	0.056	0.1
WA Hatchery Tule	2007	NBC	0.035	0.055
WA Hatchery Tule	2007	SBC	0.17	0.144
WA Hatchery Tule	2007	SEAK	0.048	0.062
WA Hatchery Tule	2007	SUS	0.096	0.185
WA Hatchery Tule	2008	NBC	0.009	0
WA Hatchery Tule	2008	SBC	0.176	0.092
WA Hatchery Tule	2008	SEAK	0.012	0
WA Hatchery Tule	2008	SUS	0.072	0.118
WA Hatchery Tule	2009	NBC	0.023	0.011
WA Hatchery Tule	2009	SBC	0.12	0.065
WA Hatchery Tule	2009	SEAK	0.031	0.048
WA Hatchery Tule	2009	SUS	0.068	0.13
WA Hatchery Tule	2010	NBC	0.018	0.014
WA Hatchery Tule	2010	SBC	0.081	0.044
WA Hatchery Tule	2010	SEAK	0.022	0.038
WA Hatchery Tule	2010	SUS	0.127	0.225
WA Hatchery Tule	2011	NBC	0.026	0.009
WA Hatchery Tule	2011	SBC	0.146	0.017
WA Hatchery Tule	2011	SEAK	0.03	0.013
WA Hatchery Tule	2011	SUS	0.077	0.043
WA Hatchery Tule	2012	NBC	0.029	0.015
WA Hatchery Tule	2012	SBC	0.121	0.034
WA Hatchery Tule	2012	SEAK	0.035	0
WA Hatchery Tule	2012	SUS	0.111	0.121
WA Hatchery Tule	2013	NBC	0.02	0
WA Hatchery Tule	2013	SBC	0.071	0.019
WA Hatchery Tule	2013	SEAK	0.019	0.016
WA Hatchery Tule	2013	SUS	0.112	0.103
WA Hatchery Tule	2014	NBC	0.03	0.02
WA Hatchery Tule	2014	SBC	0.128	0.035
WA Hatchery Tule	2014	SEAK	0.036	0.044
WA Hatchery Tule	2014	SUS	0.136	0.063

WA Hatchery Tule	2015	NBC	0.021	0.052
WA Hatchery Tule	2015	SBC	0.079	0.007
WA Hatchery Tule	2015	SEAK	0.026	0.095
WA Hatchery Tule	2015	SUS	0.12	0.139
WA Hatchery Tule	2016	NBC	0.038	0.036
WA Hatchery Tule	2016	SBC	0.089	0.137
WA Hatchery Tule	2016	SEAK	0.042	0.041
WA Hatchery Tule	2016	SUS	0.083	0.14
WA Hatchery Tule	2017	NBC	0.022	0.066
WA Hatchery Tule	2017	SBC	0.096	0.077
WA Hatchery Tule	2017	SEAK	0.017	0.04
WA Hatchery Tule	2017	SUS	0.113	0.132
WA Hatchery Tule	2018	NBC	0.026	0.06
WA Hatchery Tule	2018	SBC	0.099	0
WA Hatchery Tule	2018	SEAK	0.024	0
WA Hatchery Tule	2018	SUS	0.091	0.095
Lower Columbia River Wild	1999	NBC	0.047	NA
Lower Columbia River Wild	1999	SBC	0.152	NA
Lower Columbia River Wild	1999	SEAK	0.145	NA
Lower Columbia River Wild	1999	SUS	0.128	NA
Lower Columbia River Wild	2000	NBC	0.029	NA
Lower Columbia River Wild	2000	SBC	0.189	NA
Lower Columbia River Wild	2000	SEAK	0.098	NA
Lower Columbia River Wild	2000	SUS	0.249	NA
Lower Columbia River Wild	2001	NBC	0.034	0
Lower Columbia River Wild	2001	SBC	0.11	0.126
Lower Columbia River Wild	2001	SEAK	0.093	0.084
Lower Columbia River Wild	2001	SUS	0.216	0.092
Lower Columbia River Wild	2002	NBC	0.059	0
Lower Columbia River Wild	2002	SBC	0.109	0.114
Lower Columbia River Wild	2002	SEAK	0.111	0.161
Lower Columbia River Wild	2002	SUS	0.251	0.088
Lower Columbia River Wild	2003	NBC	0.062	0.029
Lower Columbia River Wild	2003	SBC	0.114	0.061
Lower Columbia River Wild	2003	SEAK	0.088	0.107
Lower Columbia River Wild	2003	SUS	0.215	0.113
Lower Columbia River Wild	2004	NBC	0.072	0.038
Lower Columbia River Wild	2004	SBC	0.174	0.024
Lower Columbia River Wild	2004	SEAK	0.088	0.069
Lower Columbia River Wild	2004	SUS	0.179	0.008
Lower Columbia River Wild	2005	NBC	0.07	0.203
Lower Columbia River Wild	2005	SBC	0.194	0.044
Lower Columbia River Wild	2005	SEAK	0.087	0.041
Lower Columbia River Wild	2005	SUS	0.255	0.026
Lower Columbia River Wild	2006	NBC	0.099	0.082

Lower Columbia River Wild	2006	SBC	0.145	0.111
Lower Columbia River Wild	2006	SEAK	0.111	0.157
Lower Columbia River Wild	2006	SUS	0.06	0.02
Lower Columbia River Wild	2007	NBC	0.078	0.063
Lower Columbia River Wild	2007	SBC	0.197	0.019
Lower Columbia River Wild	2007	SEAK	0.151	0.386
Lower Columbia River Wild	2007	SUS	0.115	0.097
Lower Columbia River Wild	2008	NBC	0.061	0.042
Lower Columbia River Wild	2008	SBC	0.219	0.127
Lower Columbia River Wild	2008	SEAK	0.107	0.085
Lower Columbia River Wild	2008	SUS	0.072	0.12
Lower Columbia River Wild	2009	NBC	0.059	0.057
Lower Columbia River Wild	2009	SBC	0.203	0.267
Lower Columbia River Wild	2009	SEAK	0.134	0.199
Lower Columbia River Wild	2009	SUS	0.062	0.011
Lower Columbia River Wild	2010	NBC	0.061	0.075
Lower Columbia River Wild	2010	SBC	0.155	0.035
Lower Columbia River Wild	2010	SEAK	0.094	0.065
Lower Columbia River Wild	2010	SUS	0.185	0.085
Lower Columbia River Wild	2011	NBC	0.055	0.138
Lower Columbia River Wild	2011	SBC	0.202	0.084
Lower Columbia River Wild	2011	SEAK	0.091	0.133
Lower Columbia River Wild	2011	SUS	0.105	0.093
Lower Columbia River Wild	2012	NBC	0.068	0.066
Lower Columbia River Wild	2012	SBC	0.157	0.066
Lower Columbia River Wild	2012	SEAK	0.094	0.151
Lower Columbia River Wild	2012	SUS	0.166	0.055
Lower Columbia River Wild	2013	NBC	0.046	0.046
Lower Columbia River Wild	2013	SBC	0.15	0.049
Lower Columbia River Wild	2013	SEAK	0.056	0.026
Lower Columbia River Wild	2013	SUS	0.164	0.059
Lower Columbia River Wild	2014	NBC	0.054	0.066
Lower Columbia River Wild	2014	SBC	0.131	0.07
Lower Columbia River Wild	2014	SEAK	0.092	0.085
Lower Columbia River Wild	2014	SUS	0.204	0.17
Lower Columbia River Wild	2015	NBC	0.077	0.096
Lower Columbia River Wild	2015	SBC	0.082	0.005
Lower Columbia River Wild	2015	SEAK	0.076	0.073
Lower Columbia River Wild	2015	SUS	0.129	0.026
Lower Columbia River Wild	2016	NBC	0.08	0.038
Lower Columbia River Wild	2016	SBC	0.106	0.105
Lower Columbia River Wild	2016	SEAK	0.111	0.162
Lower Columbia River Wild	2016	SUS	0.126	0
Lower Columbia River Wild	2017	NBC	0.07	NA
Lower Columbia River Wild	2017	SBC	0.161	NA

Lower Columbia River Wild	2017	SEAK	0.099	NA
Lower Columbia River Wild	2017	SUS	0.164	NA
Lower Columbia River Wild	2018	NBC	0.069	0.066
Lower Columbia River Wild	2018	SBC	0.145	0.08
Lower Columbia River Wild	2018	SEAK	0.098	0.029
Lower Columbia River Wild	2018	SUS	0.12	0.066
Spring Creek	1999	NBC	0.001	0
Spring Creek	1999	SBC	0.055	0.045
Spring Creek	1999	SEAK	NA	0
Spring Creek	1999	SUS	0.12	0.222
Spring Creek	2000	NBC	0.002	0
Spring Creek	2000	SBC	0.14	0.104
Spring Creek	2000	SEAK	NA	0
Spring Creek	2000	SUS	0.128	0.1
Spring Creek	2001	NBC	0.001	0
Spring Creek	2001	SBC	0.06	0.048
Spring Creek	2001	SEAK	NA	0
Spring Creek	2001	SUS	0.219	0.207
Spring Creek	2002	NBC	0.001	0
Spring Creek	2002	SBC	0.093	0.124
Spring Creek	2002	SEAK	NA	0
Spring Creek	2002	SUS	0.226	0.281
Spring Creek	2003	NBC	0.001	0
Spring Creek	2003	SBC	0.118	0.136
Spring Creek	2003	SEAK	NA	0
Spring Creek	2003	SUS	0.173	0.167
Spring Creek	2004	NBC	0.001	0
Spring Creek	2004	SBC	0.122	0.154
Spring Creek	2004	SEAK	NA	0
Spring Creek	2004	SUS	0.183	0.145
Spring Creek	2005	NBC	0.001	0
Spring Creek	2005	SBC	0.16	0.284
Spring Creek	2005	SEAK	NA	0
Spring Creek	2005	SUS	0.229	0.083
Spring Creek	2006	NBC	0.001	0
Spring Creek	2006	SBC	0.129	0.224
Spring Creek	2006	SEAK	NA	0
Spring Creek	2006	SUS	0.108	0.095
Spring Creek	2007	NBC	0.001	0
Spring Creek	2007	SBC	0.159	0.105
Spring Creek	2007	SEAK	NA	0
Spring Creek	2007	SUS	0.141	0.128
Spring Creek	2008	NBC	0	0
Spring Creek	2008	SBC	0.096	0.124
Spring Creek	2008	SEAK	NA	0

Spring Creek	2008	SUS	0.088	0.128
Spring Creek	2009	NBC	0.001	0.003
Spring Creek	2009	SBC	0.116	0.042
Spring Creek	2009	SEAK	NA	0
Spring Creek	2009	SUS	0.077	0.119
Spring Creek	2010	NBC	0	0
Spring Creek	2010	SBC	0.074	0.088
Spring Creek	2010	SEAK	NA	0
Spring Creek	2010	SUS	0.184	0.227
Spring Creek	2011	NBC	0.001	0
Spring Creek	2011	SBC	0.121	0.124
Spring Creek	2011	SEAK	NA	0
Spring Creek	2011	SUS	0.129	0.161
Spring Creek	2012	NBC	0.001	0
Spring Creek	2012	SBC	0.095	0.095
Spring Creek	2012	SEAK	NA	0
Spring Creek	2012	SUS	0.172	0.275
Spring Creek	2013	NBC	0	0
Spring Creek	2013	SBC	0.065	0.079
Spring Creek	2013	SEAK	NA	0
Spring Creek	2013	SUS	0.162	0.144
Spring Creek	2014	NBC	0	0.004
Spring Creek	2014	SBC	0.092	0.053
Spring Creek	2014	SEAK	NA	0
Spring Creek	2014	SUS	0.249	0.253
Spring Creek	2015	NBC	0	0
Spring Creek	2015	SBC	0.059	0.05
Spring Creek	2015	SEAK	NA	0
Spring Creek	2015	SUS	0.195	0.266
Spring Creek	2016	NBC	0.001	0
Spring Creek	2016	SBC	0.09	0.092
Spring Creek	2016	SEAK	NA	0
Spring Creek	2016	SUS	0.119	0.138
Spring Creek	2017	NBC	0	0
Spring Creek	2017	SBC	0.076	0.11
Spring Creek	2017	SEAK	NA	0
Spring Creek	2017	SUS	0.163	0.303
Spring Creek	2018	NBC	0	0
Spring Creek	2018	SBC	0.068	0.071
Spring Creek	2018	SEAK	NA	0
Spring Creek	2018	SUS	0.148	0.225
Columbia River Summer	1999	NBC	0.025	0.034
Columbia River Summer	1999	SBC	0.042	0.065
Columbia River Summer	1999	SEAK	0.083	0.181
Columbia River Summer	1999	SUS	0.11	0.097

Columbia River Summer	2000	NBC	0.014	0.031
Columbia River Summer	2000	SBC	0.127	0.102
Columbia River Summer	2000	SEAK	0.106	0.285
Columbia River Summer	2000	SUS	0.076	0.043
Columbia River Summer	2001	NBC	0.013	0.023
Columbia River Summer	2001	SBC	0.074	0.171
Columbia River Summer	2001	SEAK	0.073	0.207
Columbia River Summer	2001	SUS	0.178	0.231
Columbia River Summer	2002	NBC	0.02	0.16
Columbia River Summer	2002	SBC	0.088	0.167
Columbia River Summer	2002	SEAK	0.069	0.263
Columbia River Summer	2002	SUS	0.17	0.133
Columbia River Summer	2003	NBC	0.017	0.165
Columbia River Summer	2003	SBC	0.085	0.126
Columbia River Summer	2003	SEAK	0.063	0.314
Columbia River Summer	2003	SUS	0.184	0.085
Columbia River Summer	2004	NBC	0.02	0.078
Columbia River Summer	2004	SBC	0.109	0.153
Columbia River Summer	2004	SEAK	0.063	0.174
Columbia River Summer	2004	SUS	0.161	0.139
Columbia River Summer	2005	NBC	0.026	0.102
Columbia River Summer	2005	SBC	0.125	0.134
Columbia River Summer	2005	SEAK	0.077	0.117
Columbia River Summer	2005	SUS	0.203	0.082
Columbia River Summer	2006	NBC	0.026	0.049
Columbia River Summer	2006	SBC	0.111	0.132
Columbia River Summer	2006	SEAK	0.084	0.131
Columbia River Summer	2006	SUS	0.084	0.04
Columbia River Summer	2007	NBC	0.032	0.055
Columbia River Summer	2007	SBC	0.133	0.092
Columbia River Summer	2007	SEAK	0.108	0.182
Columbia River Summer	2007	SUS	0.105	0.066
Columbia River Summer	2008	NBC	0.023	0.022
Columbia River Summer	2008	SBC	0.114	0.095
Columbia River Summer	2008	SEAK	0.081	0.092
Columbia River Summer	2008	SUS	0.048	0.037
Columbia River Summer	2009	NBC	0.029	0.023
Columbia River Summer	2009	SBC	0.111	0.138
Columbia River Summer	2009	SEAK	0.1	0.093
Columbia River Summer	2009	SUS	0.032	0.024
Columbia River Summer	2010	NBC	0.026	0.034
Columbia River Summer	2010	SBC	0.093	0.078
Columbia River Summer	2010	SEAK	0.098	0.09
Columbia River Summer	2010	SUS	0.106	0.079
Columbia River Summer	2011	NBC	0.022	0.025

Columbia River Summer	2011	SBC	0.121	0.056
Columbia River Summer	2011	SEAK	0.087	0.109
Columbia River Summer	2011	SUS	0.089	0.058
Columbia River Summer	2012	NBC	0.025	0.046
Columbia River Summer	2012	SBC	0.085	0.083
Columbia River Summer	2012	SEAK	0.092	0.146
Columbia River Summer	2012	SUS	0.141	0.133
Columbia River Summer	2013	NBC	0.018	0.036
Columbia River Summer	2013	SBC	0.07	0.06
Columbia River Summer	2013	SEAK	0.052	0.076
Columbia River Summer	2013	SUS	0.109	0.097
Columbia River Summer	2014	NBC	0.021	0.025
Columbia River Summer	2014	SBC	0.091	0.084
Columbia River Summer	2014	SEAK	0.085	0.112
Columbia River Summer	2014	SUS	0.177	0.102
Columbia River Summer	2015	NBC	0.018	0.021
Columbia River Summer	2015	SBC	0.061	0.024
Columbia River Summer	2015	SEAK	0.067	0.127
Columbia River Summer	2015	SUS	0.142	0.107
Columbia River Summer	2016	NBC	0.027	0.038
Columbia River Summer	2016	SBC	0.066	0.093
Columbia River Summer	2016	SEAK	0.096	0.208
Columbia River Summer	2016	SUS	0.074	0.061
Columbia River Summer	2017	NBC	0.028	0.037
Columbia River Summer	2017	SBC	0.07	0.07
Columbia River Summer	2017	SEAK	0.073	0.084
Columbia River Summer	2017	SUS	0.079	0.051
Columbia River Summer	2018	NBC	0.028	0.048
Columbia River Summer	2018	SBC	0.058	0.048
Columbia River Summer	2018	SEAK	0.071	0.107
Columbia River Summer	2018	SUS	0.08	0.053
Upriver Bright	1999	NBC	0.085	0.085
Upriver Bright	1999	SBC	0.026	0.008
Upriver Bright	1999	SEAK	0.184	0.169
Upriver Bright	1999	SUS	0.034	0.007
Upriver Bright	2000	NBC	0.067	0
Upriver Bright	2000	SBC	0.026	0.042
Upriver Bright	2000	SEAK	0.196	0.284
Upriver Bright	2000	SUS	0.03	0.009
Upriver Bright	2001	NBC	0.048	0.006
Upriver Bright	2001	SBC	0.017	0.018
Upriver Bright	2001	SEAK	0.128	0.078
Upriver Bright	2001	SUS	0.095	0.026
Upriver Bright	2002	NBC	0.071	0.026
Upriver Bright	2002	SBC	0.028	0.043

Upriver Bright	2002	SEAK	0.179	0.212
Upriver Bright	2002	SUS	0.081	0.028
Upriver Bright	2003	NBC	0.072	0.068
Upriver Bright	2003	SBC	0.025	0.014
Upriver Bright	2003	SEAK	0.148	0.159
Upriver Bright	2003	SUS	0.16	0.011
Upriver Bright	2004	NBC	0.092	0.053
Upriver Bright	2004	SBC	0.022	0.024
Upriver Bright	2004	SEAK	0.146	0.136
Upriver Bright	2004	SUS	0.128	0.026
Upriver Bright	2005	NBC	0.112	0.128
Upriver Bright	2005	SBC	0.033	0.074
Upriver Bright	2005	SEAK	0.175	0.172
Upriver Bright	2005	SUS	0.098	0.021
Upriver Bright	2006	NBC	0.11	0.083
Upriver Bright	2006	SBC	0.025	0.033
Upriver Bright	2006	SEAK	0.183	0.166
Upriver Bright	2006	SUS	0.053	0.019
Upriver Bright	2007	NBC	0.128	0.109
Upriver Bright	2007	SBC	0.038	0.018
Upriver Bright	2007	SEAK	0.259	0.137
Upriver Bright	2007	SUS	0.04	0.018
Upriver Bright	2008	NBC	0.059	0.049
Upriver Bright	2008	SBC	0.039	0.057
Upriver Bright	2008	SEAK	0.121	0.139
Upriver Bright	2008	SUS	0.032	0.022
Upriver Bright	2009	NBC	0.105	0.106
Upriver Bright	2009	SBC	0.046	0.025
Upriver Bright	2009	SEAK	0.219	0.255
Upriver Bright	2009	SUS	0.01	0.028
Upriver Bright	2010	NBC	0.077	0.03
Upriver Bright	2010	SBC	0.024	0.022
Upriver Bright	2010	SEAK	0.129	0.08
Upriver Bright	2010	SUS	0.049	0.048
Upriver Bright	2011	NBC	0.056	0.063
Upriver Bright	2011	SBC	0.048	0.045
Upriver Bright	2011	SEAK	0.138	0.12
Upriver Bright	2011	SUS	0.039	0.026
Upriver Bright	2012	NBC	0.059	0.037
Upriver Bright	2012	SBC	0.037	0.027
Upriver Bright	2012	SEAK	0.114	0.081
Upriver Bright	2012	SUS	0.066	0.032
Upriver Bright	2013	NBC	0.035	0.045
Upriver Bright	2013	SBC	0.023	0.029
Upriver Bright	2013	SEAK	0.062	0.057

Upriver Bright	2013	SUS	0.057	0.038
Upriver Bright	2014	NBC	0.079	0.064
Upriver Bright	2014	SBC	0.036	0.029
Upriver Bright	2014	SEAK	0.159	0.162
Upriver Bright	2014	SUS	0.055	0.023
Upriver Bright	2015	NBC	0.047	0.039
Upriver Bright	2015	SBC	0.022	0.013
Upriver Bright	2015	SEAK	0.094	0.106
Upriver Bright	2015	SUS	0.057	0.024
Upriver Bright	2016	NBC	0.1	0.094
Upriver Bright	2016	SBC	0.027	0.027
Upriver Bright	2016	SEAK	0.17	0.15
Upriver Bright	2016	SUS	0.03	0.02
Upriver Bright	2017	NBC	0.108	0.093
Upriver Bright	2017	SBC	0.028	0.025
Upriver Bright	2017	SEAK	0.12	0.09
Upriver Bright	2017	SUS	0.032	0.016
Upriver Bright	2018	NBC	0.08	0.095
Upriver Bright	2018	SBC	0.033	0.015
Upriver Bright	2018	SEAK	0.109	0.062
Upriver Bright	2018	SUS	0.039	0.01
Willamette Spring	1999	NBC	0.003	0
Willamette Spring	1999	SBC	0.008	0.007
Willamette Spring	1999	SEAK	0.032	0.081
Willamette Spring	1999	SUS	0.012	0.001
Willamette Spring	2000	NBC	0.003	0.006
Willamette Spring	2000	SBC	0.034	0.007
Willamette Spring	2000	SEAK	0.053	0.128
Willamette Spring	2000	SUS	0.008	0.005
Willamette Spring	2001	NBC	0.003	0.002
Willamette Spring	2001	SBC	0.02	0.005
Willamette Spring	2001	SEAK	0.032	0.017
Willamette Spring	2001	SUS	0.016	0.005
Willamette Spring	2002	NBC	0.004	0.011
Willamette Spring	2002	SBC	0.024	0.007
Willamette Spring	2002	SEAK	0.03	0.023
Willamette Spring	2002	SUS	0.026	0.012
Willamette Spring	2003	NBC	0.003	0.006
Willamette Spring	2003	SBC	0.024	0.026
Willamette Spring	2003	SEAK	0.035	0.057
Willamette Spring	2003	SUS	0.016	0.005
Willamette Spring	2004	NBC	0.004	0.007
Willamette Spring	2004	SBC	0.034	0.058
Willamette Spring	2004	SEAK	0.03	0.042
Willamette Spring	2004	SUS	0.016	0.018

Willamette Spring	2005	NBC	0.004	0.005
Willamette Spring	2005	SBC	0.035	0.061
Willamette Spring	2005	SEAK	0.042	0.032
Willamette Spring	2005	SUS	0.025	0.011
Willamette Spring	2006	NBC	0.005	0.012
Willamette Spring	2006	SBC	0.034	0.045
Willamette Spring	2006	SEAK	0.035	0.039
Willamette Spring	2006	SUS	0.018	0.018
Willamette Spring	2007	NBC	0.004	0
Willamette Spring	2007	SBC	0.033	0.014
Willamette Spring	2007	SEAK	0.052	0.052
Willamette Spring	2007	SUS	0.013	0.007
Willamette Spring	2008	NBC	0.005	0.005
Willamette Spring	2008	SBC	0.023	0.013
Willamette Spring	2008	SEAK	0.027	0.023
Willamette Spring	2008	SUS	0.012	0.002
Willamette Spring	2009	NBC	0.005	0.005
Willamette Spring	2009	SBC	0.022	0.035
Willamette Spring	2009	SEAK	0.031	0.036
Willamette Spring	2009	SUS	0.01	0.008
Willamette Spring	2010	NBC	0.005	0.007
Willamette Spring	2010	SBC	0.018	0.006
Willamette Spring	2010	SEAK	0.037	0.031
Willamette Spring	2010	SUS	0.023	0.024
Willamette Spring	2011	NBC	0.004	0.01
Willamette Spring	2011	SBC	0.025	0.013
Willamette Spring	2011	SEAK	0.037	0.043
Willamette Spring	2011	SUS	0.016	0.015
Willamette Spring	2012	NBC	0.004	0.005
Willamette Spring	2012	SBC	0.017	0.034
Willamette Spring	2012	SEAK	0.039	0.068
Willamette Spring	2012	SUS	0.025	0.03
Willamette Spring	2013	NBC	0.003	0.008
Willamette Spring	2013	SBC	0.012	0.013
Willamette Spring	2013	SEAK	0.021	0.029
Willamette Spring	2013	SUS	0.017	0.017
Willamette Spring	2014	NBC	0.004	0.009
Willamette Spring	2014	SBC	0.021	0.031
Willamette Spring	2014	SEAK	0.034	0.05
Willamette Spring	2014	SUS	0.029	0.025
Willamette Spring	2015	NBC	0.003	0.008
Willamette Spring	2015	SBC	0.011	0.005
Willamette Spring	2015	SEAK	0.029	0.054
Willamette Spring	2015	SUS	0.023	0.06
Willamette Spring	2016	NBC	0.004	0.013

Willamette Spring	2016	SBC	0.012	0.041
Willamette Spring	2016	SEAK	0.05	0.142
Willamette Spring	2016	SUS	0.009	0.03
Willamette Spring	2017	NBC	0.005	0.01
Willamette Spring	2017	SBC	0.013	0.036
Willamette Spring	2017	SEAK	0.034	0.026
Willamette Spring	2017	SUS	0.016	0.052
Willamette Spring	2018	NBC	0.005	0.01
Willamette Spring	2018	SBC	0.01	0.01
Willamette Spring	2018	SEAK	0.024	0.014
Willamette Spring	2018	SUS	0.016	0.031
Snake River Fall	1999	NBC	0.009	0.014
Snake River Fall	1999	SBC	0.035	0.032
Snake River Fall	1999	SEAK	0.012	0.023
Snake River Fall	1999	SUS	0.178	0.177
Snake River Fall	2000	NBC	0.012	0.002
Snake River Fall	2000	SBC	0.053	0.117
Snake River Fall	2000	SEAK	0.011	0.019
Snake River Fall	2000	SUS	0.177	0.114
Snake River Fall	2001	NBC	0.008	0.004
Snake River Fall	2001	SBC	0.039	0.096
Snake River Fall	2001	SEAK	0.007	0.01
Snake River Fall	2001	SUS	0.207	0.271
Snake River Fall	2002	NBC	0.01	0.015
Snake River Fall	2002	SBC	0.074	0.093
Snake River Fall	2002	SEAK	0.011	0.018
Snake River Fall	2002	SUS	0.286	0.313
Snake River Fall	2003	NBC	0.01	0.009
Snake River Fall	2003	SBC	0.059	0.06
Snake River Fall	2003	SEAK	0.01	0.035
Snake River Fall	2003	SUS	0.229	0.12
Snake River Fall	2004	NBC	0.009	0.004
Snake River Fall	2004	SBC	0.066	0.022
Snake River Fall	2004	SEAK	0.005	0.014
Snake River Fall	2004	SUS	0.198	0.076
Snake River Fall	2005	NBC	0.015	0.026
Snake River Fall	2005	SBC	0.103	0.074
Snake River Fall	2005	SEAK	0.013	0.019
Snake River Fall	2005	SUS	0.343	0.139
Snake River Fall	2006	NBC	0.017	0.026
Snake River Fall	2006	SBC	0.066	0.046
Snake River Fall	2006	SEAK	0.014	0.018
Snake River Fall	2006	SUS	0.112	0.088
Snake River Fall	2007	NBC	0.01	0.004
Snake River Fall	2007	SBC	0.063	0.048

Snake River Fall	2007	SEAK	0.006	0.008
Snake River Fall	2007	SUS	0.149	0.062
Snake River Fall	2008	NBC	0.005	0.007
Snake River Fall	2008	SBC	0.074	0.086
Snake River Fall	2008	SEAK	0.004	0.004
Snake River Fall	2008	SUS	0.072	0.078
Snake River Fall	2009	NBC	0.005	0.004
Snake River Fall	2009	SBC	0.062	0.04
Snake River Fall	2009	SEAK	0.006	0.005
Snake River Fall	2009	SUS	0.075	0.076
Snake River Fall	2010	NBC	0.005	0.012
Snake River Fall	2010	SBC	0.043	0.076
Snake River Fall	2010	SEAK	0.004	0.007
Snake River Fall	2010	SUS	0.135	0.154
Snake River Fall	2011	NBC	0.005	0.008
Snake River Fall	2011	SBC	0.088	0.064
Snake River Fall	2011	SEAK	0.005	0.007
Snake River Fall	2011	SUS	0.143	0.116
Snake River Fall	2012	NBC	0.005	0.007
Snake River Fall	2012	SBC	0.061	0.062
Snake River Fall	2012	SEAK	0.005	0.012
Snake River Fall	2012	SUS	0.183	0.162
Snake River Fall	2013	NBC	0.004	0.006
Snake River Fall	2013	SBC	0.036	0.036
Snake River Fall	2013	SEAK	0.003	0.007
Snake River Fall	2013	SUS	0.16	0.118
Snake River Fall	2014	NBC	0.007	0.02
Snake River Fall	2014	SBC	0.077	0.058
Snake River Fall	2014	SEAK	0.007	0.036
Snake River Fall	2014	SUS	0.303	0.175
Snake River Fall	2015	NBC	0.008	0.016
Snake River Fall	2015	SBC	0.048	0.02
Snake River Fall	2015	SEAK	0.009	0.042
Snake River Fall	2015	SUS	0.216	0.144
Snake River Fall	2016	NBC	0.015	0.057
Snake River Fall	2016	SBC	0.053	0.084
Snake River Fall	2016	SEAK	0.014	0.041
Snake River Fall	2016	SUS	0.142	0.098
Snake River Fall	2017	NBC	0.012	0.059
Snake River Fall	2017	SBC	0.058	0.059
Snake River Fall	2017	SEAK	0.007	0.023
Snake River Fall	2017	SUS	0.165	0.156
Snake River Fall	2018	NBC	0.011	0.056
Snake River Fall	2018	SBC	0.055	0.058
Snake River Fall	2018	SEAK	0.009	0.03

Snake River Fall	2018	SUS	0.182	0.116
North OR Coast	2007	SUS	0.04	0.006
North OR Coast	1999	NBC	0.104	0.085
North OR Coast	1999	SBC	0.014	0
North OR Coast	1999	SEAK	0.205	0.179
North OR Coast	1999	SUS	0.045	0.018
North OR Coast	2000	NBC	0.049	0.049
North OR Coast	2000	SBC	0.021	0.001
North OR Coast	2000	SEAK	0.18	0.16
North OR Coast	2000	SUS	0.062	0.017
North OR Coast	2001	NBC	0.054	0.052
North OR Coast	2001	SBC	0.019	0.004
North OR Coast	2001	SEAK	0.155	0.161
North OR Coast	2001	SUS	0.062	0.041
North OR Coast	2002	NBC	0.117	0.098
North OR Coast	2002	SBC	0.018	0.001
North OR Coast	2002	SEAK	0.197	0.221
North OR Coast	2002	SUS	0.073	0.035
North OR Coast	2003	NBC	0.118	0.082
North OR Coast	2003	SBC	0.02	0.002
North OR Coast	2003	SEAK	0.17	0.17
North OR Coast	2003	SUS	0.088	0.042
North OR Coast	2004	NBC	0.154	0.119
North OR Coast	2004	SBC	0.032	0.023
North OR Coast	2004	SEAK	0.178	0.217
North OR Coast	2004	SUS	0.099	0.015
North OR Coast	2005	NBC	0.187	0.151
North OR Coast	2005	SBC	0.033	0.025
North OR Coast	2005	SEAK	0.2	0.215
North OR Coast	2005	SUS	0.072	0.027
North OR Coast	2006	NBC	0.172	0.19
North OR Coast	2006	SBC	0.034	0.035
North OR Coast	2006	SEAK	0.2	0.294
North OR Coast	2006	SUS	0.046	0.046
North OR Coast	2007	NBC	0.18	0.161
North OR Coast	2007	SBC	0.03	0.02
North OR Coast	2007	SEAK	0.284	0.235
North OR Coast	2017	SEAK	0.112	0.116
North OR Coast	2017	SUS	0.047	0.017
North OR Coast	2018	NBC	0.142	0.354
North OR Coast	2018	SBC	0.025	0.033
North OR Coast	2018	SEAK	0.164	0.278
North OR Coast	2018	SUS	0.048	0.027
North OR Coast	2008	SUS	0.021	0.018
North OR Coast	2009	NBC	0.119	0.171

North OR Coast	2009	SBC	0.027	0.007
North OR Coast	2009	SEAK	0.174	0.215
North OR Coast	2009	SUS	0.013	0.01
North OR Coast	2010	NBC	0.127	0.086
North OR Coast	2010	SBC	0.021	0.003
North OR Coast	2010	SEAK	0.16	0.143
North OR Coast	2010	SUS	0.031	0.013
North OR Coast	2011	NBC	0.109	0.082
North OR Coast	2011	SBC	0.039	0.036
North OR Coast	2011	SEAK	0.154	0.117
North OR Coast	2011	SUS	0.033	0.033
North OR Coast	2012	NBC	0.124	0.121
North OR Coast	2012	SBC	0.033	0.042
North OR Coast	2012	SEAK	0.168	0.181
North OR Coast	2012	SUS	0.071	0.079
North OR Coast	2013	NBC	0.088	0.122
North OR Coast	2013	SBC	0.015	0.016
North OR Coast	2013	SEAK	0.087	0.067
North OR Coast	2013	SUS	0.053	0.044
North OR Coast	2014	NBC	0.125	0.077
North OR Coast	2014	SBC	0.04	0.018
North OR Coast	2014	SEAK	0.164	0.104
North OR Coast	2014	SUS	0.06	0.027
North OR Coast	2015	NBC	0.081	0.06
North OR Coast	2015	SBC	0.022	0.011
North OR Coast	2015	SEAK	0.097	0.084
North OR Coast	2015	SUS	0.041	0.048
North OR Coast	2016	NBC	0.162	0.165
North OR Coast	2016	SBC	0.022	0.021
North OR Coast	2016	SEAK	0.18	0.168
North OR Coast	2016	SUS	0.028	0.015
North OR Coast	2017	NBC	0.152	0.192
North OR Coast	2017	SBC	0.025	0.017
North OR Coast	2008	SEAK	0.185	0.176
North OR Coast	2008	NBC	0.128	0.12
North OR Coast	2008	SBC	0.041	0.018
WCVI	2017	SEAK	0.119	0.131
WCVI	2017	SUS	0.002	0.001
WCVI	2018	NBC	0.081	0.136
WCVI	1999	NBC	0.109	0.128
WCVI	1999	SBC	0.193	0.043
WCVI	1999	SEAK	0.197	0.213
WCVI	1999	SUS	0	0
WCVI	2000	NBC	0.092	0.055
WCVI	2000	SBC	0.151	0.068

WCVI	2000	SEAK	0.269	0.073
WCVI	2000	SUS	0.001	0
WCVI	2001	NBC	0.093	0.005
WCVI	2001	SBC	0.084	0.05
WCVI	2001	SEAK	0.122	0.062
WCVI	2001	SUS	0	0
WCVI	2002	NBC	0.084	0.081
WCVI	2002	SBC	0.12	0.039
WCVI	2002	SEAK	0.136	0.15
WCVI	2002	SUS	0.001	0
WCVI	2003	NBC	0.079	0.053
WCVI	2003	SBC	0.132	0.026
WCVI	2003	SEAK	0.144	0.196
WCVI	2003	SUS	0.002	0
WCVI	2004	NBC	0.093	0.072
WCVI	2004	SBC	0.164	0.037
WCVI	2004	SEAK	0.156	0.242
WCVI	2004	SUS	0.001	0.001
WCVI	2005	NBC	0.107	0.132
WCVI	2005	SBC	0.196	0.046
WCVI	2005	SEAK	0.191	0.22
WCVI	2005	SUS	0.003	0
WCVI	2006	NBC	0.098	0.075
WCVI	2006	SBC	0.157	0.06
WCVI	2006	SEAK	0.193	0.18
WCVI	2006	SUS	0.003	0
WCVI	2007	NBC	0.128	0.116
WCVI	2007	SBC	0.214	0.061
WCVI	2007	SEAK	0.278	0.257
WCVI	2007	SUS	0.003	0
WCVI	2008	NBC	0.093	0.08
WCVI	2008	SBC	0.18	0.033
WCVI	2008	SEAK	0.151	0.131
WCVI	2008	SUS	0	0
WCVI	2009	NBC	0.086	0.137
WCVI	2009	SBC	0.234	0.071
WCVI	2009	SEAK	0.173	0.234
WCVI	2009	SUS	0.001	0
WCVI	2010	NBC	0.077	0.105
WCVI	2010	SBC	0.159	0.075
WCVI	2010	SEAK	0.128	0.121
WCVI	2010	SUS	0.002	0
WCVI	2011	NBC	0.088	0.106
WCVI	2011	SBC	0.229	0.081
WCVI	2011	SEAK	0.15	0.175

WCVI	2011	SUS	0.007	0.006
WCVI	2012	NBC	0.089	0.086
WCVI	2012	SBC	0.232	0.074
WCVI	2012	SEAK	0.199	0.183
WCVI	2012	SUS	0.003	0
WCVI	2013	NBC	0.064	0.07
WCVI	2013	SBC	0.157	0.101
WCVI	2013	SEAK	0.102	0.162
WCVI	2013	SUS	0.002	0
WCVI	2014	NBC	0.075	0.062
WCVI	2014	SBC	0.179	0.107
WCVI	2014	SEAK	0.177	0.201
WCVI	2014	SUS	0.005	0.009
WCVI	2015	NBC	0.054	0.064
WCVI	2015	SBC	0.164	0.12
WCVI	2015	SEAK	0.106	0.105
WCVI	2015	SUS	0.002	0.009
WCVI	2016	NBC	0.079	0.093
WCVI	2016	SBC	0.151	0.088
WCVI	2016	SEAK	0.176	0.242
WCVI	2016	SUS	0	0
WCVI	2017	NBC	0.088	0.105
WCVI	2017	SBC	0.21	0.134
WCVI	2018	SEAK	0.067	0.075
WCVI	2018	SUS	0.001	0.001
WCVI	2018	SBC	0.179	0.127
Fraser River Late	2008	NBC	0.002	0
Fraser River Late	2007	SEAK	0.004	0
Fraser River Late	2007	SUS	0.038	0.028
Fraser River Late	1999	NBC	0.002	0.005
Fraser River Late	1999	SBC	0.089	0.126
Fraser River Late	1999	SEAK	0.002	0.004
Fraser River Late	1999	SUS	0.049	0.149
Fraser River Late	2000	NBC	0.002	0.004
Fraser River Late	2000	SBC	0.12	0.198
Fraser River Late	2000	SEAK	0.003	0.009
Fraser River Late	2000	SUS	0.029	0.1
Fraser River Late	2001	NBC	0.003	0.001
Fraser River Late	2001	SBC	0.092	0.164
Fraser River Late	2001	SEAK	0.001	0.002
Fraser River Late	2001	SUS	0.053	0.134
Fraser River Late	2002	NBC	0.002	0.002
Fraser River Late	2002	SBC	0.132	0.206
Fraser River Late	2002	SEAK	0.002	0.004
Fraser River Late	2002	SUS	0.054	0.136

Fraser River Late	2003	NBC	0.002	0.001
Fraser River Late	2003	SBC	0.095	0.162
Fraser River Late	2003	SEAK	0.002	0.009
Fraser River Late	2003	SUS	0.053	0.113
Fraser River Late	2004	NBC	0.002	0.006
Fraser River Late	2004	SBC	0.123	0.173
Fraser River Late	2004	SEAK	0.002	0.007
Fraser River Late	2004	SUS	0.063	0.14
Fraser River Late	2005	NBC	0.002	0.004
Fraser River Late	2005	SBC	0.126	0.2
Fraser River Late	2005	SEAK	0.002	0
Fraser River Late	2005	SUS	0.076	0.076
Fraser River Late	2006	NBC	0.002	0.006
Fraser River Late	2006	SBC	0.119	0.21
Fraser River Late	2006	SEAK	0.002	0.006
Fraser River Late	2006	SUS	0.066	0.108
Fraser River Late	2007	NBC	0.002	0.001
Fraser River Late	2007	SBC	0.147	0.121
Fraser River Late	2017	SEAK	0.001	0
Fraser River Late	2017	SUS	0.061	0.082
Fraser River Late	2018	NBC	0.001	0.005
Fraser River Late	2008	SBC	0.17	0.322
Fraser River Late	2008	SEAK	0.001	0.005
Fraser River Late	2008	SUS	0.058	0.091
Fraser River Late	2009	NBC	0.001	0.002
Fraser River Late	2009	SBC	0.155	0.091
Fraser River Late	2009	SEAK	0.002	0
Fraser River Late	2009	SUS	0.041	0.041
Fraser River Late	2010	NBC	0.001	0.002
Fraser River Late	2010	SBC	0.114	0.122
Fraser River Late	2010	SEAK	0.001	0.005
Fraser River Late	2010	SUS	0.07	0.07
Fraser River Late	2011	NBC	0.002	0.005
Fraser River Late	2011	SBC	0.166	0.126
Fraser River Late	2011	SEAK	0.002	0.002
Fraser River Late	2011	SUS	0.061	0.056
Fraser River Late	2012	NBC	0.001	0
Fraser River Late	2012	SBC	0.167	0.13
Fraser River Late	2012	SEAK	0.002	0.001
Fraser River Late	2012	SUS	0.084	0.114
Fraser River Late	2013	NBC	0.001	0.002
Fraser River Late	2013	SBC	0.126	0.144
Fraser River Late	2013	SEAK	0.001	0.002
Fraser River Late	2013	SUS	0.076	0.102
Fraser River Late	2014	NBC	0.001	0

Fraser River Late	2014	SBC	0.178	0.186
Fraser River Late	2014	SEAK	0.001	0.004
Fraser River Late	2014	SUS	0.093	0.082
Fraser River Late	2015	NBC	0.001	0.002
Fraser River Late	2015	SBC	0.167	0.13
Fraser River Late	2015	SEAK	0.001	0.001
Fraser River Late	2015	SUS	0.073	0.061
Fraser River Late	2016	NBC	0.001	0.001
Fraser River Late	2016	SBC	0.167	0.152
Fraser River Late	2016	SEAK	0.002	0.004
Fraser River Late	2016	SUS	0.038	0.024
Fraser River Late	2017	NBC	0.002	0.004
Fraser River Late	2017	SBC	0.162	0.284
Fraser River Late	2018	SEAK	0.001	0.002
Fraser River Late	2018	SUS	0.068	0.075
Fraser River Late	2018	SBC	0.178	0.229
Fraser River Early	2008	SEAK	0.068	0.047
Fraser River Early	2008	NBC	0.079	0.09
Fraser River Early	2008	SBC	0.065	0.064
Fraser River Early	1999	NBC	0.06	0.028
Fraser River Early	1999	SBC	0.06	0.026
Fraser River Early	1999	SEAK	0.067	0.108
Fraser River Early	1999	SUS	0.02	0.004
Fraser River Early	2000	NBC	0.041	0.034
Fraser River Early	2000	SBC	0.076	0.04
Fraser River Early	2000	SEAK	0.079	0.104
Fraser River Early	2000	SUS	0.012	0.003
Fraser River Early	2001	NBC	0.045	0.006
Fraser River Early	2001	SBC	0.068	0.072
Fraser River Early	2001	SEAK	0.063	0.048
Fraser River Early	2001	SUS	0.017	0.006
Fraser River Early	2002	NBC	0.071	0.103
Fraser River Early	2002	SBC	0.076	0.033
Fraser River Early	2002	SEAK	0.068	0.104
Fraser River Early	2002	SUS	0.022	0.005
Fraser River Early	2003	NBC	0.068	0.076
Fraser River Early	2003	SBC	0.055	0.056
Fraser River Early	2003	SEAK	0.058	0.062
Fraser River Early	2003	SUS	0.026	0.007
Fraser River Early	2004	NBC	0.084	0.102
Fraser River Early	2004	SBC	0.079	0.06
Fraser River Early	2004	SEAK	0.059	0.1
Fraser River Early	2004	SUS	0.026	0.011
Fraser River Early	2005	NBC	0.1	0.103
Fraser River Early	2005	SBC	0.081	0.14

Fraser River Early	2005	SEAK	0.069	0.084
Fraser River Early	2005	SUS	0.032	0.006
Fraser River Early	2006	NBC	0.086	0.124
Fraser River Early	2006	SBC	0.061	0.077
Fraser River Early	2006	SEAK	0.066	0.074
Fraser River Early	2006	SUS	0.023	0.011
Fraser River Early	2007	NBC	0.092	0.068
Fraser River Early	2007	SBC	0.088	0.056
Fraser River Early	2007	SEAK	0.088	0.087
Fraser River Early	2007	SUS	0.023	0.006
Fraser River Early	2018	SBC	0.146	0.105
Fraser River Early	2018	SEAK	0.05	0.026
Fraser River Early	2008	SUS	0.009	0.013
Fraser River Early	2009	NBC	0.075	0.054
Fraser River Early	2009	SBC	0.102	0.1
Fraser River Early	2009	SEAK	0.069	0.052
Fraser River Early	2009	SUS	0.016	0.038
Fraser River Early	2010	NBC	0.075	0.078
Fraser River Early	2010	SBC	0.074	0.058
Fraser River Early	2010	SEAK	0.069	0.059
Fraser River Early	2010	SUS	0.025	0.014
Fraser River Early	2011	NBC	0.068	0.065
Fraser River Early	2011	SBC	0.079	0.084
Fraser River Early	2011	SEAK	0.06	0.05
Fraser River Early	2011	SUS	0.026	0.026
Fraser River Early	2012	NBC	0.075	0.07
Fraser River Early	2012	SBC	0.1	0.088
Fraser River Early	2012	SEAK	0.063	0.047
Fraser River Early	2012	SUS	0.035	0.059
Fraser River Early	2013	NBC	0.059	0.064
Fraser River Early	2013	SBC	0.107	0.092
Fraser River Early	2013	SEAK	0.041	0.04
Fraser River Early	2013	SUS	0.032	0.031
Fraser River Early	2014	NBC	0.071	0.05
Fraser River Early	2014	SBC	0.095	0.09
Fraser River Early	2014	SEAK	0.063	0.06
Fraser River Early	2014	SUS	0.038	0.028
Fraser River Early	2015	NBC	0.058	0.032
Fraser River Early	2015	SBC	0.128	0.074
Fraser River Early	2015	SEAK	0.054	0.036
Fraser River Early	2015	SUS	0.035	0.033
Fraser River Early	2016	NBC	0.085	0.07
Fraser River Early	2016	SBC	0.106	0.104
Fraser River Early	2016	SEAK	0.069	0.062
Fraser River Early	2016	SUS	0.015	0.008

Fraser River Early	2017	NBC	0.08	0.061
Fraser River Early	2017	SBC	0.128	0.098
Fraser River Early	2017	SEAK	0.049	0.07
Fraser River Early	2017	SUS	0.017	0.016
Fraser River Early	2018	NBC	0.088	0.032
Fraser River Early	2018	SUS	0.024	0.022
Lower Georgia Strait	2018	SEAK	0.026	0.029
Lower Georgia Strait	2018	SUS	0.037	0.022
Lower Georgia Strait	1999	NBC	0.024	0.052
Lower Georgia Strait	1999	SBC	0.214	0.374
Lower Georgia Strait	1999	SEAK	0.046	0.04
Lower Georgia Strait	1999	SUS	0.018	0.008
Lower Georgia Strait	2000	NBC	0.043	0.002
Lower Georgia Strait	2000	SBC	0.231	0.24
Lower Georgia Strait	2000	SEAK	0.088	0.1
Lower Georgia Strait	2000	SUS	0.016	0.012
Lower Georgia Strait	2001	NBC	0.033	0.034
Lower Georgia Strait	2001	SBC	0.207	0.209
Lower Georgia Strait	2001	SEAK	0.055	0.064
Lower Georgia Strait	2001	SUS	0.025	0.01
Lower Georgia Strait	2002	NBC	0.026	0.059
Lower Georgia Strait	2002	SBC	0.285	0.276
Lower Georgia Strait	2002	SEAK	0.038	0.067
Lower Georgia Strait	2002	SUS	0.024	0.027
Lower Georgia Strait	2003	NBC	0.019	0.045
Lower Georgia Strait	2003	SBC	0.201	0.302
Lower Georgia Strait	2003	SEAK	0.031	0.044
Lower Georgia Strait	2003	SUS	0.025	0.014
Lower Georgia Strait	2004	NBC	0.031	0.027
Lower Georgia Strait	2004	SBC	0.207	0.285
Lower Georgia Strait	2004	SEAK	0.055	0.091
Lower Georgia Strait	2004	SUS	0.034	0.021
Lower Georgia Strait	2005	NBC	0.032	0.048
Lower Georgia Strait	2005	SBC	0.231	0.304
Lower Georgia Strait	2005	SEAK	0.061	0.039
Lower Georgia Strait	2005	SUS	0.056	0.024
Lower Georgia Strait	2006	NBC	0.028	0.02
Lower Georgia Strait	2006	SBC	0.177	0.217
Lower Georgia Strait	2006	SEAK	0.059	0.07
Lower Georgia Strait	2006	SUS	0.044	0.033
Lower Georgia Strait	2007	NBC	0.045	0.045
Lower Georgia Strait	2007	SBC	0.271	0.173
Lower Georgia Strait	2007	SEAK	0.102	0.119
Lower Georgia Strait	2007	SUS	0.026	0.007
Lower Georgia Strait	2008	NBC	0.024	0.037

Lower Georgia Strait	2008	SBC	0.189	0.311
Lower Georgia Strait	2008	SEAK	0.053	0.039
Lower Georgia Strait	2008	SUS	0.024	0.022
Lower Georgia Strait	2009	NBC	0.031	0.018
Lower Georgia Strait	2009	SBC	0.287	0.298
Lower Georgia Strait	2009	SEAK	0.083	0.06
Lower Georgia Strait	2009	SUS	0.022	0.025
Lower Georgia Strait	2010	NBC	0.022	0.025
Lower Georgia Strait	2010	SBC	0.245	0.317
Lower Georgia Strait	2010	SEAK	0.059	0.055
Lower Georgia Strait	2010	SUS	0.043	0.028
Lower Georgia Strait	2011	NBC	0.024	0.06
Lower Georgia Strait	2011	SBC	0.272	0.19
Lower Georgia Strait	2011	SEAK	0.049	0.076
Lower Georgia Strait	2011	SUS	0.054	0.029
Lower Georgia Strait	2012	NBC	0.023	0.041
Lower Georgia Strait	2012	SBC	0.303	0.299
Lower Georgia Strait	2012	SEAK	0.065	0.074
Lower Georgia Strait	2012	SUS	0.043	0.047
Lower Georgia Strait	2013	NBC	0.017	0.028
Lower Georgia Strait	2013	SBC	0.352	0.341
Lower Georgia Strait	2013	SEAK	0.036	0.019
Lower Georgia Strait	2013	SUS	0.047	0.034
Lower Georgia Strait	2014	NBC	0.015	0.021
Lower Georgia Strait	2014	SBC	0.321	0.418
Lower Georgia Strait	2014	SEAK	0.035	0.032
Lower Georgia Strait	2014	SUS	0.06	0.024
Lower Georgia Strait	2015	NBC	0.022	0.033
Lower Georgia Strait	2015	SBC	0.407	0.279
Lower Georgia Strait	2015	SEAK	0.063	0.045
Lower Georgia Strait	2015	SUS	0.044	0.025
Lower Georgia Strait	2016	NBC	0.023	0.039
Lower Georgia Strait	2016	SBC	0.37	0.376
Lower Georgia Strait	2016	SEAK	0.072	0.07
Lower Georgia Strait	2016	SUS	0.022	0.012
Lower Georgia Strait	2017	NBC	0.019	0.056
Lower Georgia Strait	2017	SBC	0.395	0.31
Lower Georgia Strait	2017	SEAK	0.028	0.039
Lower Georgia Strait	2017	SUS	0.048	0.018
Lower Georgia Strait	2018	NBC	0.021	0.024
Lower Georgia Strait	2018	SBC	0.438	0.367
WA North Coast	2008	SUS	0.023	0
WA North Coast	2010	SBC	0.012	0.005
WA North Coast	2010	SEAK	0.257	0.254
WA North Coast	2010	SUS	0.037	0.005

WA North Coast	2011	NBC	0.098	0.109
WA North Coast	2011	SBC	0.016	0.004
WA North Coast	2011	SEAK	0.234	0.268
WA North Coast	2011	SUS	0.065	0.003
WA North Coast	2012	NBC	0.114	0.16
WA North Coast	2012	SBC	0.019	0.018
WA North Coast	2012	SEAK	0.277	0.409
WA North Coast	2012	SUS	0.053	0.008
WA North Coast	2013	NBC	0.092	0.253
WA North Coast	2013	SBC	0.009	0.014
WA North Coast	2013	SEAK	0.152	0.26
WA North Coast	2013	SUS	0.042	0.012
WA North Coast	2014	NBC	0.1	0.136
WA North Coast	2014	SBC	0.015	0.013
WA North Coast	2014	SEAK	0.24	0.289
WA North Coast	2014	SUS	0.051	0.01
WA North Coast	2015	NBC	0.084	0.158
WA North Coast	2015	SBC	0.009	0.007
WA North Coast	2015	SEAK	0.182	0.244
WA North Coast	2015	SUS	0.107	0.009
WA North Coast	2016	NBC	0.126	0.199
WA North Coast	2016	SBC	0.009	0.003
WA North Coast	2016	SEAK	0.278	0.313
WA North Coast	2016	SUS	0.022	0
WA North Coast	2017	NBC	0.098	0.111
WA North Coast	2017	SBC	0.015	0.033
WA North Coast	2017	SEAK	0.125	0.168
WA North Coast	2017	SUS	0.027	0
WA North Coast	2018	NBC	0.134	0.232
WA North Coast	2018	SBC	0.01	0.019
WA North Coast	2018	SEAK	0.253	0.252
WA North Coast	2018	SUS	0.009	0.002
WA North Coast	2009	NBC	0.119	0.132
WA North Coast	2009	SBC	0.017	0.013
WA North Coast	2009	SEAK	0.303	0.329
WA North Coast	2009	SUS	0.033	0
WA North Coast	2010	NBC	0.118	0.092
WA North Coast	2000	NBC	0.079	0.096
WA North Coast	2000	SBC	0.022	0
WA North Coast	2000	SEAK	0.277	0.259
WA North Coast	2000	SUS	0.082	0
WA North Coast	2001	NBC	0.078	0.023
WA North Coast	2001	SBC	0.011	0
WA North Coast	2001	SEAK	0.221	0.146
WA North Coast	2001	SUS	0.09	0.007

WA North Coast	2002	NBC	0.104	0.065
WA North Coast	2002	SBC	0.009	0.002
WA North Coast	2002	SEAK	0.302	0.247
WA North Coast	2002	SUS	0.018	0.002
WA North Coast	2003	NBC	0.105	0.111
WA North Coast	2003	SBC	0.011	0.002
WA North Coast	2003	SEAK	0.268	0.172
WA North Coast	2003	SUS	0.016	0.004
WA North Coast	2004	NBC	0.128	0.129
WA North Coast	2004	SBC	0.024	0.02
WA North Coast	2004	SEAK	0.266	0.166
WA North Coast	2004	SUS	0.027	0.003
WA North Coast	2005	NBC	0.149	0.083
WA North Coast	2005	SBC	0.026	0.031
WA North Coast	2005	SEAK	0.308	0.169
WA North Coast	2005	SUS	0.024	0.003
WA North Coast	2006	NBC	0.13	0.132
WA North Coast	2006	SBC	0.027	0.034
WA North Coast	2006	SEAK	0.271	0.224
WA North Coast	2006	SUS	0.021	0.004
WA North Coast	2007	NBC	0.139	0.236
WA North Coast	2007	SBC	0.017	0
WA North Coast	2007	SEAK	0.318	0.367
WA North Coast	2007	SUS	0.032	0.027
WA North Coast	2008	NBC	0.111	0.128
WA North Coast	2008	SBC	0.018	0.017
WA North Coast	2008	SEAK	0.263	0.197
WA North Coast	1999	SUS	0.035	0.003
WA North Coast	1999	NBC	0.1	0.028
WA North Coast	1999	SBC	0.011	0
WA North Coast	1999	SEAK	0.295	0.135
Hoko	2000	SBC	0.02	0.01
Hoko	2000	SEAK	0.099	0.091
Hoko	2000	SUS	0.009	0.008
Hoko	2001	NBC	0.047	0
Hoko	2001	SBC	0.013	0.017
Hoko	2001	SEAK	0.049	0.117
Hoko	2001	SUS	0.015	0.006
Hoko	2002	NBC	0.098	0.088
Hoko	2002	SBC	0.021	0.034
Hoko	2002	SEAK	0.126	0.208
Hoko	2002	SUS	0.022	0.011
Hoko	2003	NBC	0.085	0.035
Hoko	2003	SBC	0.014	0.027
Hoko	2003	SEAK	0.104	0.17

Hoko	2003	SUS	0.024	0
Hoko	2004	NBC	0.089	0.119
Hoko	2004	SBC	0.012	0.045
Hoko	2004	SEAK	0.092	0.151
Hoko	2004	SUS	0.021	0.008
Hoko	2005	NBC	0.144	0.147
Hoko	2005	SBC	0.018	0.079
Hoko	2005	SEAK	0.119	0.135
Hoko	2005	SUS	0.022	0.015
Hoko	2006	NBC	0.126	0.117
Hoko	2006	SBC	0.019	0.021
Hoko	2006	SEAK	0.11	0.165
Hoko	2006	SUS	0.021	0.013
Hoko	2007	NBC	0.127	0.133
Hoko	2007	SBC	0.02	0.021
Hoko	2007	SEAK	0.172	0.274
Hoko	2007	SUS	0.014	0.027
Hoko	2008	NBC	0.077	0.326
Hoko	2008	SBC	0.008	0.051
Hoko	2008	SEAK	0.117	0.326
Hoko	2008	SUS	0.01	0
Hoko	2009	NBC	0.075	0.112
Hoko	2009	SBC	0.039	0.037
Hoko	2009	SEAK	0.067	0.126
Hoko	2009	SUS	0.022	0.026
Hoko	2010	NBC	0.055	0.055
Hoko	2010	SBC	0.03	0.021
Hoko	2010	SEAK	0.025	0.057
Hoko	2010	SUS	0.025	0.012
Hoko	2011	NBC	0.076	0.036
Hoko	2011	SBC	0.033	0.023
Hoko	2011	SEAK	0.101	0.126
Hoko	2011	SUS	0.019	0.014
Hoko	2012	NBC	0.086	0.132
Hoko	2012	SBC	0.015	0.033
Hoko	2012	SEAK	0.105	0.122
Hoko	2012	SUS	0.024	0.045
Hoko	2013	NBC	0.046	0.028
Hoko	2013	SBC	0.023	0.078
Hoko	2013	SEAK	0.025	0.055
Hoko	2013	SUS	0.024	0.074
Hoko	2014	NBC	0.078	0.107
Hoko	2014	SBC	0.025	0.091
Hoko	2014	SEAK	0.065	0.176
Hoko	2014	SUS	0.026	0.045

Hoko	2015	NBC	0.065	0.087
Hoko	2015	SBC	0.015	0.035
Hoko	2015	SEAK	0.072	0.083
Hoko	2015	SUS	0.02	0.091
Hoko	2016	NBC	0.107	0.105
Hoko	2016	SBC	0.019	0.049
Hoko	2016	SEAK	0.085	0.077
Hoko	2016	SUS	0.011	0.047
Hoko	2017	NBC	0.102	0.081
Hoko	2017	SBC	0.023	0.078
Hoko	2017	SEAK	0.051	0.096
Hoko	2017	SUS	0.02	0.006
Hoko	2018	NBC	0.093	0.244
Hoko	2018	SBC	0.029	0.11
Hoko	2018	SEAK	0.048	0.116
Hoko	2018	SUS	0.023	0.06
Hoko	1999	SUS	0.012	0.001
Hoko	1999	NBC	0.075	0.085
Hoko	1999	SBC	0.012	0.016
Hoko	1999	SEAK	0.116	0.077
Hoko	2000	NBC	0.047	0
Mid OR Coast	2009	SEAK	0.044	0.075
Mid OR Coast	2009	SBC	0.036	0.03
Mid OR Coast	2000	SEAK	0.049	0.084
Mid OR Coast	2000	SUS	0.134	0.084
Mid OR Coast	2001	NBC	0.011	0.025
Mid OR Coast	2001	SBC	0.037	0.013
Mid OR Coast	2001	SEAK	0.032	0.059
Mid OR Coast	2001	SUS	0.143	0.117
Mid OR Coast	2002	NBC	0.028	0.076
Mid OR Coast	2002	SBC	0.027	0.017
Mid OR Coast	2002	SEAK	0.047	0.1
Mid OR Coast	2002	SUS	0.152	0.099
Mid OR Coast	2003	NBC	0.035	0.059
Mid OR Coast	2003	SBC	0.032	0.015
Mid OR Coast	2003	SEAK	0.044	0.091
Mid OR Coast	2003	SUS	0.192	0.111
Mid OR Coast	2004	NBC	0.053	0.045
Mid OR Coast	2004	SBC	0.064	0.038
Mid OR Coast	2004	SEAK	0.05	0.085
Mid OR Coast	2004	SUS	0.211	0.061
Mid OR Coast	2005	NBC	0.063	0.093
Mid OR Coast	2005	SBC	0.073	0.066
Mid OR Coast	2005	SEAK	0.057	0.13
Mid OR Coast	2005	SUS	0.201	0.062

Mid OR Coast	2006	NBC	0.059	0.073
Mid OR Coast	2006	SBC	0.065	0.073
Mid OR Coast	2006	SEAK	0.058	0.072
Mid OR Coast	2006	SUS	0.094	0.064
Mid OR Coast	2007	NBC	0.058	0.053
Mid OR Coast	2007	SBC	0.057	0.019
Mid OR Coast	2007	SEAK	0.08	0.099
Mid OR Coast	2007	SUS	0.105	0.1
Mid OR Coast	2008	NBC	0.042	0.058
Mid OR Coast	2008	SBC	0.073	0.022
Mid OR Coast	2008	SEAK	0.05	0.047
Mid OR Coast	2008	SUS	0.044	0.033
Mid OR Coast	2009	NBC	0.037	0.055
Mid OR Coast	1999	NBC	0.045	0.032
Mid OR Coast	1999	SBC	0.019	0.002
Mid OR Coast	2009	SUS	0.037	0.013
Mid OR Coast	2010	NBC	0.037	0.049
Mid OR Coast	2010	SBC	0.028	0.004
Mid OR Coast	2010	SEAK	0.036	0.064
Mid OR Coast	2010	SUS	0.075	0.057
Mid OR Coast	2011	NBC	0.024	0.048
Mid OR Coast	2011	SBC	0.059	0.032
Mid OR Coast	2011	SEAK	0.044	0.071
Mid OR Coast	2011	SUS	0.082	0.073
Mid OR Coast	2012	NBC	0.039	0.026
Mid OR Coast	2012	SBC	0.045	0.065
Mid OR Coast	2012	SEAK	0.045	0.024
Mid OR Coast	2012	SUS	0.148	0.121
Mid OR Coast	2013	NBC	0.019	0.057
Mid OR Coast	2013	SBC	0.019	0.021
Mid OR Coast	2013	SEAK	0.019	0.034
Mid OR Coast	2013	SUS	0.119	0.161
Mid OR Coast	2014	NBC	0.042	0.067
Mid OR Coast	2014	SBC	0.065	0.032
Mid OR Coast	2014	SEAK	0.041	0.084
Mid OR Coast	2014	SUS	0.163	0.096
Mid OR Coast	2015	NBC	0.02	0.012
Mid OR Coast	2015	SBC	0.027	0.008
Mid OR Coast	2015	SEAK	0.025	0.034
Mid OR Coast	2015	SUS	0.104	0.045
Mid OR Coast	2016	NBC	0.066	0.105
Mid OR Coast	2016	SBC	0.033	0.024
Mid OR Coast	2016	SEAK	0.053	0.093
Mid OR Coast	2016	SUS	0.077	0.044
Mid OR Coast	2017	NBC	0.046	0.086

Mid OR Coast	2017	SBC	0.034	0.035
Mid OR Coast	2017	SEAK	0.026	0.029
Mid OR Coast	2017	SUS	0.1	0.034
Mid OR Coast	2018	NBC	0.051	0.069
Mid OR Coast	2018	SBC	0.033	0.046
Mid OR Coast	2018	SEAK	0.037	0.072
Mid OR Coast	2018	SUS	0.093	0.054
Mid OR Coast	1999	SUS	0.114	0.026
Mid OR Coast	2000	NBC	0.011	0.023
Mid OR Coast	2000	SBC	0.048	0.009
Mid OR Coast	1999	SEAK	0.059	0.09

## Appendix C. Maturation Rates

Stock_Name	BroodYear	Age	FRAM	ERA
Nooksack Samish Fall	1994	2	0.023	0.057
Nooksack Samish Fall	1994	3	0.523	0.439
Nooksack Samish Fall	1994	4	0.991	0.898
Nooksack Samish Fall	1994	5	1	1
Nooksack Samish Fall	1995	2	0.023	0.02
Nooksack Samish Fall	1995	3	0.523	0.284
Nooksack Samish Fall	1995	4	0.991	0.886
Nooksack Samish Fall	1995	5	1	1
Nooksack Samish Fall	1996	2	0.023	0.02
Nooksack Samish Fall	1996	3	0.523	0.254
Nooksack Samish Fall	1996	4	0.991	0.941
Nooksack Samish Fall	1996	5	1	1
Nooksack Samish Fall	1997	2	0.023	0.008
Nooksack Samish Fall	1997	3	0.523	0.163
Nooksack Samish Fall	1997	4	0.991	1
Nooksack Samish Fall	1997	5	1	1
Nooksack Samish Fall	1998	2	0.023	0.016
Nooksack Samish Fall	1998	3	0.523	0.361
Nooksack Samish Fall	1998	4	0.991	0.89
Nooksack Samish Fall	1998	5	1	1
Nooksack Samish Fall	1999	2	0.023	0.016
Nooksack Samish Fall	1999	3	0.523	0.2
Nooksack Samish Fall	1999	4	0.991	0.911
Nooksack Samish Fall	1999	5	1	1
Nooksack Samish Fall	2000	2	0.023	0.018
Nooksack Samish Fall	2000	3	0.523	0.108
Nooksack Samish Fall	2000	4	0.991	0.825
Nooksack Samish Fall	2000	5	1	1
Nooksack Samish Fall	2001	2	0.023	0
Nooksack Samish Fall	2001	3	0.523	0.26
Nooksack Samish Fall	2001	4	0.991	0.966
Nooksack Samish Fall	2001	5	1	1
Nooksack Samish Fall	2002	2	0.023	0.009
Nooksack Samish Fall	2002	3	0.523	0.224
Nooksack Samish Fall	2002	4	0.991	0.92
Nooksack Samish Fall	2002	5	1	1
Nooksack Samish Fall	2003	2	0.023	0.005
Nooksack Samish Fall	2003	3	0.523	0.349
Nooksack Samish Fall	2003	4	0.991	0.974
Nooksack Samish Fall	2003	5	1	1
Nooksack Samish Fall	2004	2	0.023	0.035
Nooksack Samish Fall	2004	3	0.523	0.648
Nooksack Samish Fall	2004	4	0.991	0.991

Nooksack Samish Fall	2004	5	1	1
Nooksack Samish Fall	2005	2	0.023	0.074
Nooksack Samish Fall	2005	3	0.523	0.471
Nooksack Samish Fall	2005	4	0.991	0.998
Nooksack Samish Fall	2005	5	1	1
Nooksack Samish Fall	2006	2	0.023	0.004
Nooksack Samish Fall	2006	3	0.523	0.612
Nooksack Samish Fall	2006	4	0.991	0.968
Nooksack Samish Fall	2006	5	1	1
Nooksack Samish Fall	2007	2	0.023	0.048
Nooksack Samish Fall	2007	3	0.523	0.513
Nooksack Samish Fall	2007	4	0.991	0.987
Nooksack Samish Fall	2007	5	1	1
Nooksack Samish Fall	2008	2	0.023	0.019
Nooksack Samish Fall	2008	3	0.523	0.38
Nooksack Samish Fall	2008	4	0.991	1
Nooksack Samish Fall	2008	5	1	1
Nooksack Samish Fall	2009	2	0.023	0.057
Nooksack Samish Fall	2009	3	0.523	0.579
Nooksack Samish Fall	2009	4	0.991	0.99
Nooksack Samish Fall	2009	5	1	1
Nooksack Samish Fall	2010	2	0.023	0.025
Nooksack Samish Fall	2010	3	0.523	0.575
Nooksack Samish Fall	2010	4	0.991	0.94
Nooksack Samish Fall	2010	5	1	1
Nooksack Samish Fall	2011	2	0.023	0.089
Nooksack Samish Fall	2011	3	0.523	0.444
Nooksack Samish Fall	2011	4	0.991	0.916
Nooksack Samish Fall	2011	5	1	1
Nooksack Samish Fall	2012	2	0.023	0.027
Nooksack Samish Fall	2012	3	0.523	0.341
Nooksack Samish Fall	2012	4	0.991	0.981
Nooksack Samish Fall	2012	5	1	1
Nooksack Samish Fall	2013	2	0.023	0.059
Nooksack Samish Fall	2013	3	0.523	0.553
Nooksack Samish Fall	2013	4	0.991	0.979
Nooksack Samish Fall	2013	5	1	1
Nooksack Spring	1994	2	0.011	0.012
Nooksack Spring	1994	3	0.343	0.278
Nooksack Spring	1994	4	0.959	0.771
Nooksack Spring	1994	5	1	1
Nooksack Spring	1995	2	0.011	0
Nooksack Spring	1995	3	0.343	0.135
Nooksack Spring	1995	4	0.959	0.782

Nooksack Spring	1995	5	1	1
Nooksack Spring	1996	2	0.011	0.01
Nooksack Spring	1996	3	0.343	0.497
Nooksack Spring	1996	4	0.959	0.799
Nooksack Spring	1996	5	1	1
Nooksack Spring	1997	2	0.011	0.006
Nooksack Spring	1997	3	0.343	0.017
Nooksack Spring	1997	4	0.959	0.922
Nooksack Spring	1997	5	1	1
Nooksack Spring	1998	2	0.011	0.007
Nooksack Spring	1998	3	0.343	0.191
Nooksack Spring	1998	4	0.959	0.853
Nooksack Spring	1998	5	1	1
Nooksack Spring	1999	2	0.011	0.024
Nooksack Spring	1999	3	0.343	0.253
Nooksack Spring	1999	4	0.959	0.866
Nooksack Spring	1999	5	1	1
Nooksack Spring	2000	2	0.011	0.023
Nooksack Spring	2000	3	0.343	0.301
Nooksack Spring	2000	4	0.959	0.798
Nooksack Spring	2000	5	1	1
Nooksack Spring	2001	2	0.011	0.015
Nooksack Spring	2001	3	0.343	0.181
Nooksack Spring	2001	4	0.959	0.846
Nooksack Spring	2001	5	1	1
Nooksack Spring	2002	2	0.011	0.018
Nooksack Spring	2002	3	0.343	0.148
Nooksack Spring	2002	4	0.959	0.658
Nooksack Spring	2002	5	1	1
Nooksack Spring	2003	2	0.011	0.008
Nooksack Spring	2003	3	0.343	0.201
Nooksack Spring	2003	4	0.959	0.832
Nooksack Spring	2003	5	1	1
Nooksack Spring	2004	2	0.011	0.015
Nooksack Spring	2004	3	0.343	0.266
Nooksack Spring	2004	4	0.959	0.986
Nooksack Spring	2004	5	1	1
Nooksack Spring	2005	2	0.011	0.006
Nooksack Spring	2005	3	0.343	0.35
Nooksack Spring	2005	4	0.959	0.95
Nooksack Spring	2005	5	1	1
Nooksack Spring	2006	2	0.011	0.005
Nooksack Spring	2006	3	0.343	0.26
Nooksack Spring	2006	4	0.959	0.949

Nooksack Spring	2006	5	1	1
Nooksack Spring	2007	2	0.011	0.017
Nooksack Spring	2007	3	0.343	0.464
Nooksack Spring	2007	4	0.959	0.884
Nooksack Spring	2007	5	1	1
Nooksack Spring	2008	2	0.011	0.015
Nooksack Spring	2008	3	0.343	0.34
Nooksack Spring	2008	4	0.959	0.931
Nooksack Spring	2008	5	1	1
Nooksack Spring	2009	2	0.011	0.011
Nooksack Spring	2009	3	0.343	0.121
Nooksack Spring	2009	4	0.959	0.954
Nooksack Spring	2009	5	1	1
Nooksack Spring	2010	2	0.011	0.007
Nooksack Spring	2010	3	0.343	0.3
Nooksack Spring	2010	4	0.959	0.858
Nooksack Spring	2010	5	1	1
Nooksack Spring	2011	2	0.011	0.014
Nooksack Spring	2011	3	0.343	0.298
Nooksack Spring	2011	4	0.959	0.905
Nooksack Spring	2011	5	1	1
Nooksack Spring	2012	2	0.011	0.008
Nooksack Spring	2012	3	0.343	0.375
Nooksack Spring	2012	4	0.959	0.97
Nooksack Spring	2012	5	1	1
Nooksack Spring	2013	2	0.011	0.05
Nooksack Spring	2013	3	0.343	0.482
Nooksack Spring	2013	4	0.959	0.958
Nooksack Spring	2013	5	1	1
Skagit Summer Fall	1994	2	0.034	0.004
Skagit Summer Fall	1994	3	0.245	0.018
Skagit Summer Fall	1994	4	0.743	0.592
Skagit Summer Fall	1994	5	1	1
Skagit Summer Fall	1995	2	0.034	0
Skagit Summer Fall	1995	3	0.245	0.373
Skagit Summer Fall	1995	4	0.743	0.872
Skagit Summer Fall	1995	5	1	1
Skagit Summer Fall	1996	2	0.034	0
Skagit Summer Fall	1996	3	0.245	0.17
Skagit Summer Fall	1996	4	0.743	0.91
Skagit Summer Fall	1996	5	1	1
Skagit Summer Fall	1997	2	0.034	0.004
Skagit Summer Fall	1997	3	0.245	0.099
Skagit Summer Fall	1997	4	0.743	0.681

Skagit Summer Fall	1997	5	1	1
Skagit Summer Fall	1998	2	0.034	0.005
Skagit Summer Fall	1998	3	0.245	0.052
Skagit Summer Fall	1998	4	0.743	0.754
Skagit Summer Fall	1998	5	1	1
Skagit Summer Fall	1999	2	0.034	0
Skagit Summer Fall	1999	3	0.245	0.056
Skagit Summer Fall	1999	4	0.743	0.425
Skagit Summer Fall	1999	5	1	1
Skagit Summer Fall	2000	2	0.034	0.016
Skagit Summer Fall	2000	3	0.245	0.027
Skagit Summer Fall	2000	4	0.743	0.464
Skagit Summer Fall	2000	5	1	1
Skagit Summer Fall	2001	2	0.034	0
Skagit Summer Fall	2001	3	0.245	0.092
Skagit Summer Fall	2001	4	0.743	0.512
Skagit Summer Fall	2001	5	1	1
Skagit Summer Fall	2002	2	0.034	0.002
Skagit Summer Fall	2002	3	0.245	0.084
Skagit Summer Fall	2002	4	0.743	0.677
Skagit Summer Fall	2002	5	1	1
Skagit Summer Fall	2003	2	0.034	0.003
Skagit Summer Fall	2003	3	0.245	0.157
Skagit Summer Fall	2003	4	0.743	0.799
Skagit Summer Fall	2003	5	1	1
Skagit Summer Fall	2004	2	0.034	0.024
Skagit Summer Fall	2004	3	0.245	0.211
Skagit Summer Fall	2004	4	0.743	0.868
Skagit Summer Fall	2004	5	1	1
Skagit Summer Fall	2005	2	0.034	0.001
Skagit Summer Fall	2005	3	0.245	0.232
Skagit Summer Fall	2005	4	0.743	0.791
Skagit Summer Fall	2005	5	1	1
Skagit Summer Fall	2006	2	0.034	0.017
Skagit Summer Fall	2006	3	0.245	0.235
Skagit Summer Fall	2006	4	0.743	0.752
Skagit Summer Fall	2006	5	1	1
Skagit Summer Fall	2007	2	0.034	0.033
Skagit Summer Fall	2007	3	0.245	0.101
Skagit Summer Fall	2007	4	0.743	0.608
Skagit Summer Fall	2007	5	1	1
Skagit Summer Fall	2008	2	0.034	0
Skagit Summer Fall	2008	3	0.245	0.129
Skagit Summer Fall	2008	4	0.743	0.887

Skagit Summer Fall	2008	5	1	1
Skagit Summer Fall	2009	2	0.034	0.008
Skagit Summer Fall	2009	3	0.245	0.097
Skagit Summer Fall	2009	4	0.743	0.737
Skagit Summer Fall	2009	5	1	1
Skagit Summer Fall	2010	2	0.034	0.049
Skagit Summer Fall	2010	3	0.245	0.18
Skagit Summer Fall	2010	4	0.743	0.722
Skagit Summer Fall	2010	5	1	1
Skagit Summer Fall	2011	2	0.034	0.01
Skagit Summer Fall	2011	3	0.245	0.091
Skagit Summer Fall	2011	4	0.743	0.682
Skagit Summer Fall	2011	5	1	1
Skagit Summer Fall	2012	2	0.034	0.001
Skagit Summer Fall	2012	3	0.245	0.093
Skagit Summer Fall	2012	4	0.743	0.84
Skagit Summer Fall	2012	5	1	1
Skagit Summer Fall	2013	2	0.034	0.013
Skagit Summer Fall	2013	3	0.245	0.176
Skagit Summer Fall	2013	4	0.743	0.803
Skagit Summer Fall	2013	5	1	1
Skagit Spring	1994	2	0.008	0.028
Skagit Spring	1994	3	0.119	0.263
Skagit Spring	1994	4	0.789	0.683
Skagit Spring	1994	5	1	1
Skagit Spring	1995	2	0.008	0.004
Skagit Spring	1995	3	0.119	0.124
Skagit Spring	1995	4	0.789	0.889
Skagit Spring	1995	5	1	1
Skagit Spring	1996	2	0.008	0.02
Skagit Spring	1996	3	0.119	0.424
Skagit Spring	1996	4	0.789	0.933
Skagit Spring	1996	5	1	1
Skagit Spring	1997	2	0.008	0.006
Skagit Spring	1997	3	0.119	0.203
Skagit Spring	1997	4	0.789	0.878
Skagit Spring	1997	5	1	1
Skagit Spring	1998	2	0.008	0
Skagit Spring	1998	3	0.119	0.219
Skagit Spring	1998	4	0.789	0.945
Skagit Spring	1998	5	1	1
Skagit Spring	1999	2	0.008	0.001
Skagit Spring	1999	3	0.119	0.118
Skagit Spring	1999	4	0.789	0.504

Skagit Spring	1999	5	1	1
Skagit Spring	2000	2	0.008	0.001
Skagit Spring	2000	3	0.119	0.089
Skagit Spring	2000	4	0.789	0.799
Skagit Spring	2000	5	1	1
Skagit Spring	2001	2	0.008	0.003
Skagit Spring	2001	3	0.119	0.236
Skagit Spring	2001	4	0.789	0.9
Skagit Spring	2001	5	1	1
Skagit Spring	2002	2	0.008	0.004
Skagit Spring	2002	3	0.119	0.252
Skagit Spring	2002	4	0.789	0.933
Skagit Spring	2002	5	1	1
Skagit Spring	2003	2	0.008	0.011
Skagit Spring	2003	3	0.119	0.184
Skagit Spring	2003	4	0.789	0.885
Skagit Spring	2003	5	1	1
Skagit Spring	2004	2	0.008	0.013
Skagit Spring	2004	3	0.119	0.273
Skagit Spring	2004	4	0.789	0.892
Skagit Spring	2004	5	1	1
Skagit Spring	2005	2	0.008	0.002
Skagit Spring	2005	3	0.119	0.091
Skagit Spring	2005	4	0.789	0.731
Skagit Spring	2005	5	1	1
Skagit Spring	2006	2	0.008	0.004
Skagit Spring	2006	3	0.119	0.183
Skagit Spring	2006	4	0.789	0.952
Skagit Spring	2006	5	1	1
Skagit Spring	2007	2	0.008	0.015
Skagit Spring	2007	3	0.119	0.186
Skagit Spring	2007	4	0.789	0.86
Skagit Spring	2007	5	1	1
Skagit Spring	2008	2	0.008	0.018
Skagit Spring	2008	3	0.119	0.14
Skagit Spring	2008	4	0.789	0.843
Skagit Spring	2008	5	1	1
Skagit Spring	2009	2	0.008	0.007
Skagit Spring	2009	3	0.119	0.132
Skagit Spring	2009	4	0.789	0.798
Skagit Spring	2009	5	1	1
Skagit Spring	2010	2	0.008	0.003
Skagit Spring	2010	3	0.119	0.123
Skagit Spring	2010	4	0.789	0.851

Skagit Spring	2010	5	1	1
Skagit Spring	2011	2	0.008	0.001
Skagit Spring	2011	3	0.119	0.064
Skagit Spring	2011	4	0.789	0.897
Skagit Spring	2011	5	1	1
Skagit Spring	2012	2	0.008	0.01
Skagit Spring	2012	3	0.119	0.147
Skagit Spring	2012	4	0.789	0.921
Skagit Spring	2012	5	1	1
Skagit Spring	2013	2	0.008	0.028
Skagit Spring	2013	3	0.119	0.344
Skagit Spring	2013	4	0.789	0.979
Skagit Spring	2013	5	1	1
Snohomish Fall Fingerling	2000	2	0.012	0.001
Snohomish Fall Fingerling	2000	3	0.149	0.062
Snohomish Fall Fingerling	2000	4	0.882	0.818
Snohomish Fall Fingerling	2000	5	1	1
Snohomish Fall Fingerling	2001	2	0.012	0.003
Snohomish Fall Fingerling	2001	3	0.149	0.065
Snohomish Fall Fingerling	2001	4	0.882	0.73
Snohomish Fall Fingerling	2001	5	1	1
Snohomish Fall Fingerling	2002	2	0.012	0.012
Snohomish Fall Fingerling	2002	3	0.149	0.196
Snohomish Fall Fingerling	2002	4	0.882	0.859
Snohomish Fall Fingerling	2002	5	1	1
Snohomish Fall Fingerling	2003	2	0.012	0.008
Snohomish Fall Fingerling	2003	3	0.149	0.143
Snohomish Fall Fingerling	2003	4	0.882	0.932
Snohomish Fall Fingerling	2003	5	1	1
Snohomish Fall Fingerling	2004	2	0.012	0.011
Snohomish Fall Fingerling	2004	3	0.149	0.284
Snohomish Fall Fingerling	2004	4	0.882	0.964
Snohomish Fall Fingerling	2004	5	1	1
Snohomish Fall Fingerling	2005	2	0.012	0.018
Snohomish Fall Fingerling	2005	3	0.149	0.134
Snohomish Fall Fingerling	2005	4	0.882	0.876
Snohomish Fall Fingerling	2005	5	1	1
Snohomish Fall Fingerling	2006	2	0.012	0.008
Snohomish Fall Fingerling	2006	3	0.149	0.194
Snohomish Fall Fingerling	2006	4	0.882	0.97
Snohomish Fall Fingerling	2006	5	1	1
Snohomish Fall Fingerling	2007	2	0.012	0.002
Snohomish Fall Fingerling	2007	3	0.149	0.172
Snohomish Fall Fingerling	2007	4	0.882	0.762

Snohomish Fall Fingerling	2007	5	1	1
Snohomish Fall Fingerling	2008	2	0.012	0.02
Snohomish Fall Fingerling	2008	3	0.149	0.124
Snohomish Fall Fingerling	2008	4	0.882	0.925
Snohomish Fall Fingerling	2008	5	1	1
Snohomish Fall Fingerling	2009	2	0.012	0.007
Snohomish Fall Fingerling	2009	3	0.149	0.172
Snohomish Fall Fingerling	2009	4	0.882	0.73
Snohomish Fall Fingerling	2009	5	1	1
Snohomish Fall Fingerling	2010	2	0.012	0.009
Snohomish Fall Fingerling	2010	3	0.149	0.171
Snohomish Fall Fingerling	2010	4	0.882	0.834
Snohomish Fall Fingerling	2010	5	1	1
Snohomish Fall Fingerling	2011	2	0.012	0.013
Snohomish Fall Fingerling	2011	3	0.149	0.23
Snohomish Fall Fingerling	2011	4	0.882	0.856
Snohomish Fall Fingerling	2011	5	1	1
Snohomish Fall Fingerling	2012	2	0.012	0.008
Snohomish Fall Fingerling	2012	3	0.149	0.251
Snohomish Fall Fingerling	2012	4	0.882	0.896
Snohomish Fall Fingerling	2012	5	1	1
Snohomish Fall Fingerling	2013	2	0.012	0.017
Snohomish Fall Fingerling	2013	3	0.149	0.322
Snohomish Fall Fingerling	2013	4	0.882	0.932
Snohomish Fall Fingerling	2013	5	1	1
Stillaguamish Fall Fingerling	1994	2	0.021	0.033
Stillaguamish Fall Fingerling	1994	3	0.25	0.117
Stillaguamish Fall Fingerling	1994	4	0.967	0.842
Stillaguamish Fall Fingerling	1994	5	1	1
Stillaguamish Fall Fingerling	1995	2	0.021	0.05
Stillaguamish Fall Fingerling	1995	3	0.25	0.379
Stillaguamish Fall Fingerling	1995	4	0.967	0.881
Stillaguamish Fall Fingerling	1995	5	1	1
Stillaguamish Fall Fingerling	1996	2	0.021	0.035
Stillaguamish Fall Fingerling	1996	3	0.25	0.316
Stillaguamish Fall Fingerling	1996	4	0.967	0.919
Stillaguamish Fall Fingerling	1996	5	1	1
Stillaguamish Fall Fingerling	1997	2	0.021	0.036
Stillaguamish Fall Fingerling	1997	3	0.25	0.289
Stillaguamish Fall Fingerling	1997	4	0.967	0.779
Stillaguamish Fall Fingerling	1997	5	1	1
Stillaguamish Fall Fingerling	1998	2	0.021	0.04
Stillaguamish Fall Fingerling	1998	3	0.25	0.222
Stillaguamish Fall Fingerling	1998	4	0.967	0.937

Stillaguamish Fall Fingerling	1998	5	1	1
Stillaguamish Fall Fingerling	2002	2	0.021	0.046
Stillaguamish Fall Fingerling	2002	3	0.25	0.327
Stillaguamish Fall Fingerling	2002	4	0.967	0.967
Stillaguamish Fall Fingerling	2002	5	1	1
Stillaguamish Fall Fingerling	2003	2	0.021	0.025
Stillaguamish Fall Fingerling	2003	3	0.25	0.224
Stillaguamish Fall Fingerling	2003	4	0.967	0.983
Stillaguamish Fall Fingerling	2003	5	1	1
Stillaguamish Fall Fingerling	2004	2	0.021	0.072
Stillaguamish Fall Fingerling	2004	3	0.25	0.315
Stillaguamish Fall Fingerling	2004	4	0.967	0.973
Stillaguamish Fall Fingerling	2004	5	1	1
Stillaguamish Fall Fingerling	2005	2	0.021	0.034
Stillaguamish Fall Fingerling	2005	3	0.25	0.317
Stillaguamish Fall Fingerling	2005	4	0.967	0.911
Stillaguamish Fall Fingerling	2005	5	1	1
Stillaguamish Fall Fingerling	2006	2	0.021	0.015
Stillaguamish Fall Fingerling	2006	3	0.25	0.178
Stillaguamish Fall Fingerling	2006	4	0.967	0.963
Stillaguamish Fall Fingerling	2006	5	1	1
Stillaguamish Fall Fingerling	2007	2	0.021	0.019
Stillaguamish Fall Fingerling	2007	3	0.25	0.23
Stillaguamish Fall Fingerling	2007	4	0.967	0.991
Stillaguamish Fall Fingerling	2007	5	1	1
Stillaguamish Fall Fingerling	2008	2	0.021	0.012
Stillaguamish Fall Fingerling	2008	3	0.25	0.299
Stillaguamish Fall Fingerling	2008	4	0.967	0.992
Stillaguamish Fall Fingerling	2008	5	1	1
Stillaguamish Fall Fingerling	2009	2	0.021	0.028
Stillaguamish Fall Fingerling	2009	3	0.25	0.471
Stillaguamish Fall Fingerling	2009	4	0.967	0.819
Stillaguamish Fall Fingerling	2009	5	1	1
Stillaguamish Fall Fingerling	2010	2	0.021	0.067
Stillaguamish Fall Fingerling	2010	3	0.25	0.205
Stillaguamish Fall Fingerling	2010	4	0.967	0.988
Stillaguamish Fall Fingerling	2010	5	1	1
Stillaguamish Fall Fingerling	2011	2	0.021	0.02
Stillaguamish Fall Fingerling	2011	3	0.25	0.332
Stillaguamish Fall Fingerling	2011	4	0.967	0.809
Stillaguamish Fall Fingerling	2011	5	1	1
Stillaguamish Fall Fingerling	2012	2	0.021	0.016
Stillaguamish Fall Fingerling	2012	3	0.25	0.179
Stillaguamish Fall Fingerling	2012	4	0.967	0.888

Stillaguamish Fall Fingerling	2012	5	1	1
Stillaguamish Fall Fingerling	2013	2	0.021	0.045
Stillaguamish Fall Fingerling	2013	3	0.25	0.252
Stillaguamish Fall Fingerling	2013	4	0.967	0.835
Stillaguamish Fall Fingerling	2013	5	1	1
Mid Puget Sound Fall Fingerling	1994	2	0.039	0.03
Mid Puget Sound Fall Fingerling	1994	3	0.371	0.248
Mid Puget Sound Fall Fingerling	1994	4	0.962	0.853
Mid Puget Sound Fall Fingerling	1994	5	1	1
Mid Puget Sound Fall Fingerling	1995	2	0.039	0.014
Mid Puget Sound Fall Fingerling	1995	3	0.371	0.418
Mid Puget Sound Fall Fingerling	1995	4	0.962	0.89
Mid Puget Sound Fall Fingerling	1995	5	1	1
Mid Puget Sound Fall Fingerling	1996	2	0.039	0.051
Mid Puget Sound Fall Fingerling	1996	3	0.371	0.476
Mid Puget Sound Fall Fingerling	1996	4	0.962	0.967
Mid Puget Sound Fall Fingerling	1996	5	1	1
Mid Puget Sound Fall Fingerling	1997	2	0.039	0.021
Mid Puget Sound Fall Fingerling	1997	3	0.371	0.259
Mid Puget Sound Fall Fingerling	1997	4	0.962	0.959
Mid Puget Sound Fall Fingerling	1997	5	1	1
Mid Puget Sound Fall Fingerling	1998	2	0.039	0.042
Mid Puget Sound Fall Fingerling	1998	3	0.371	0.392
Mid Puget Sound Fall Fingerling	1998	4	0.962	0.907
Mid Puget Sound Fall Fingerling	1998	5	1	1
Mid Puget Sound Fall Fingerling	1999	2	0.039	0.01
Mid Puget Sound Fall Fingerling	1999	3	0.371	0.262
Mid Puget Sound Fall Fingerling	1999	4	0.962	0.818
Mid Puget Sound Fall Fingerling	1999	5	1	1
Mid Puget Sound Fall Fingerling	2000	2	0.039	0.014
Mid Puget Sound Fall Fingerling	2000	3	0.371	0.181
Mid Puget Sound Fall Fingerling	2000	4	0.962	0.829
Mid Puget Sound Fall Fingerling	2000	5	1	1
Mid Puget Sound Fall Fingerling	2001	2	0.039	0.005
Mid Puget Sound Fall Fingerling	2001	3	0.371	0.167
Mid Puget Sound Fall Fingerling	2001	4	0.962	0.834
Mid Puget Sound Fall Fingerling	2001	5	1	1
Mid Puget Sound Fall Fingerling	2002	2	0.039	0.021
Mid Puget Sound Fall Fingerling	2002	3	0.371	0.273
Mid Puget Sound Fall Fingerling	2002	4	0.962	0.932
Mid Puget Sound Fall Fingerling	2002	5	1	1
Mid Puget Sound Fall Fingerling	2003	2	0.039	0.03
Mid Puget Sound Fall Fingerling	2003	3	0.371	0.378
Mid Puget Sound Fall Fingerling	2003	4	0.962	0.952

Mid Puget Sound Fall Fingerling	2003	5	1	1
Mid Puget Sound Fall Fingerling	2004	2	0.039	0.074
Mid Puget Sound Fall Fingerling	2004	3	0.371	0.551
Mid Puget Sound Fall Fingerling	2004	4	0.962	0.931
Mid Puget Sound Fall Fingerling	2004	5	1	1
Mid Puget Sound Fall Fingerling	2005	2	0.039	0.052
Mid Puget Sound Fall Fingerling	2005	3	0.371	0.391
Mid Puget Sound Fall Fingerling	2005	4	0.962	0.962
Mid Puget Sound Fall Fingerling	2005	5	1	1
Mid Puget Sound Fall Fingerling	2006	2	0.039	0.06
Mid Puget Sound Fall Fingerling	2006	3	0.371	0.456
Mid Puget Sound Fall Fingerling	2006	4	0.962	0.996
Mid Puget Sound Fall Fingerling	2006	5	1	1
Mid Puget Sound Fall Fingerling	2007	2	0.039	0.037
Mid Puget Sound Fall Fingerling	2007	3	0.371	0.403
Mid Puget Sound Fall Fingerling	2007	4	0.962	0.968
Mid Puget Sound Fall Fingerling	2007	5	1	1
Mid Puget Sound Fall Fingerling	2008	2	0.039	0.026
Mid Puget Sound Fall Fingerling	2008	3	0.371	0.386
Mid Puget Sound Fall Fingerling	2008	4	0.962	0.986
Mid Puget Sound Fall Fingerling	2008	5	1	1
Mid Puget Sound Fall Fingerling	2009	2	0.039	0.058
Mid Puget Sound Fall Fingerling	2009	3	0.371	0.395
Mid Puget Sound Fall Fingerling	2009	4	0.962	0.925
Mid Puget Sound Fall Fingerling	2009	5	1	1
Mid Puget Sound Fall Fingerling	2010	2	0.039	0.017
Mid Puget Sound Fall Fingerling	2010	3	0.371	0.456
Mid Puget Sound Fall Fingerling	2010	4	0.962	0.857
Mid Puget Sound Fall Fingerling	2010	5	1	1
Mid Puget Sound Fall Fingerling	2011	2	0.039	0.116
Mid Puget Sound Fall Fingerling	2011	3	0.371	0.387
Mid Puget Sound Fall Fingerling	2011	4	0.962	0.909
Mid Puget Sound Fall Fingerling	2011	5	1	1
Mid Puget Sound Fall Fingerling	2012	2	0.039	0.034
Mid Puget Sound Fall Fingerling	2012	3	0.371	0.388
Mid Puget Sound Fall Fingerling	2012	4	0.962	0.927
Mid Puget Sound Fall Fingerling	2012	5	1	1
Mid Puget Sound Fall Fingerling	2013	2	0.039	0.062
Mid Puget Sound Fall Fingerling	2013	3	0.371	0.494
Mid Puget Sound Fall Fingerling	2013	4	0.962	0.919
Mid Puget Sound Fall Fingerling	2013	5	1	1
South Puget Sound Fall Fingerling	1994	2	0.097	0.032
South Puget Sound Fall Fingerling	1994	3	0.469	0.256
South Puget Sound Fall Fingerling	1994	4	0.978	0.846

South Puget Sound Fall Fingerling	1994	5	1	1
South Puget Sound Fall Fingerling	1995	2	0.097	0.158
South Puget Sound Fall Fingerling	1995	3	0.469	0.51
South Puget Sound Fall Fingerling	1995	4	0.978	0.992
South Puget Sound Fall Fingerling	1995	5	1	1
South Puget Sound Fall Fingerling	1996	2	0.097	0.139
South Puget Sound Fall Fingerling	1996	3	0.469	0.557
South Puget Sound Fall Fingerling	1996	4	0.978	0.894
South Puget Sound Fall Fingerling	1996	5	1	1
South Puget Sound Fall Fingerling	1997	2	0.097	0.111
South Puget Sound Fall Fingerling	1997	3	0.469	0.2
South Puget Sound Fall Fingerling	1997	4	0.978	0.812
South Puget Sound Fall Fingerling	1997	5	1	1
South Puget Sound Fall Fingerling	1998	2	0.097	0.005
South Puget Sound Fall Fingerling	1998	3	0.469	0.396
South Puget Sound Fall Fingerling	1998	4	0.978	0.92
South Puget Sound Fall Fingerling	1998	5	1	1
South Puget Sound Fall Fingerling	1999	2	0.097	0.03
South Puget Sound Fall Fingerling	1999	3	0.469	0.301
South Puget Sound Fall Fingerling	1999	4	0.978	0.93
South Puget Sound Fall Fingerling	1999	5	1	1
South Puget Sound Fall Fingerling	2000	2	0.097	0.044
South Puget Sound Fall Fingerling	2000	3	0.469	0.305
South Puget Sound Fall Fingerling	2000	4	0.978	0.922
South Puget Sound Fall Fingerling	2000	5	1	1
South Puget Sound Fall Fingerling	2001	2	0.097	0.066
South Puget Sound Fall Fingerling	2001	3	0.469	0.468
South Puget Sound Fall Fingerling	2001	4	0.978	0.977
South Puget Sound Fall Fingerling	2001	5	1	1
South Puget Sound Fall Fingerling	2002	2	0.097	0.133
South Puget Sound Fall Fingerling	2002	3	0.469	0.312
South Puget Sound Fall Fingerling	2002	4	0.978	0.958
South Puget Sound Fall Fingerling	2002	5	1	1
South Puget Sound Fall Fingerling	2003	2	0.097	0.052
South Puget Sound Fall Fingerling	2003	3	0.469	0.423
South Puget Sound Fall Fingerling	2003	4	0.978	0.975
South Puget Sound Fall Fingerling	2003	5	1	1
South Puget Sound Fall Fingerling	2004	2	0.097	0.141
South Puget Sound Fall Fingerling	2004	3	0.469	0.667
South Puget Sound Fall Fingerling	2004	4	0.978	1
South Puget Sound Fall Fingerling	2004	5	1	1
South Puget Sound Fall Fingerling	2005	2	0.097	0.15
South Puget Sound Fall Fingerling	2005	3	0.469	0.43
South Puget Sound Fall Fingerling	2005	4	0.978	0.989

South Puget Sound Fall Fingerling	2005	5	1	1
South Puget Sound Fall Fingerling	2006	2	0.097	0.074
South Puget Sound Fall Fingerling	2006	3	0.469	0.596
South Puget Sound Fall Fingerling	2006	4	0.978	0.989
South Puget Sound Fall Fingerling	2006	5	1	1
South Puget Sound Fall Fingerling	2007	2	0.097	0.124
South Puget Sound Fall Fingerling	2007	3	0.469	0.538
South Puget Sound Fall Fingerling	2007	4	0.978	0.974
South Puget Sound Fall Fingerling	2007	5	1	1
South Puget Sound Fall Fingerling	2008	2	0.097	0.081
South Puget Sound Fall Fingerling	2008	3	0.469	0.44
South Puget Sound Fall Fingerling	2008	4	0.978	0.985
South Puget Sound Fall Fingerling	2008	5	1	1
South Puget Sound Fall Fingerling	2009	2	0.097	0.077
South Puget Sound Fall Fingerling	2009	3	0.469	0.356
South Puget Sound Fall Fingerling	2009	4	0.978	0.966
South Puget Sound Fall Fingerling	2009	5	1	1
South Puget Sound Fall Fingerling	2010	2	0.097	0.074
South Puget Sound Fall Fingerling	2010	3	0.469	0.646
South Puget Sound Fall Fingerling	2010	4	0.978	0.985
South Puget Sound Fall Fingerling	2010	5	1	1
South Puget Sound Fall Fingerling	2011	2	0.097	0.104
South Puget Sound Fall Fingerling	2011	3	0.469	0.322
South Puget Sound Fall Fingerling	2011	4	0.978	0.852
South Puget Sound Fall Fingerling	2011	5	1	1
South Puget Sound Fall Fingerling	2012	2	0.097	0.05
South Puget Sound Fall Fingerling	2012	3	0.469	0.462
South Puget Sound Fall Fingerling	2012	4	0.978	0.959
South Puget Sound Fall Fingerling	2012	5	1	1
South Puget Sound Fall Fingerling	2013	2	0.097	0.095
South Puget Sound Fall Fingerling	2013	3	0.469	0.675
South Puget Sound Fall Fingerling	2013	4	0.978	0.994
South Puget Sound Fall Fingerling	2013	5	1	1
Hood Canal Fall Fingerling	1994	2	0.066	0.034
Hood Canal Fall Fingerling	1994	3	0.453	0.333
Hood Canal Fall Fingerling	1994	4	0.955	0.851
Hood Canal Fall Fingerling	1994	5	1	1
Hood Canal Fall Fingerling	1995	2	0.066	0.037
Hood Canal Fall Fingerling	1995	3	0.453	0.402
Hood Canal Fall Fingerling	1995	4	0.955	0.842
Hood Canal Fall Fingerling	1995	5	1	1
Hood Canal Fall Fingerling	1996	2	0.066	0.093
Hood Canal Fall Fingerling	1996	3	0.453	0.391
Hood Canal Fall Fingerling	1996	4	0.955	0.951

Hood Canal Fall Fingerling	1996	5	1	1
Hood Canal Fall Fingerling	1997	2	0.066	0.012
Hood Canal Fall Fingerling	1997	3	0.453	0.314
Hood Canal Fall Fingerling	1997	4	0.955	0.671
Hood Canal Fall Fingerling	1997	5	1	1
Hood Canal Fall Fingerling	1998	2	0.066	0.046
Hood Canal Fall Fingerling	1998	3	0.453	0.332
Hood Canal Fall Fingerling	1998	4	0.955	0.878
Hood Canal Fall Fingerling	1998	5	1	1
Hood Canal Fall Fingerling	1999	2	0.066	0.025
Hood Canal Fall Fingerling	1999	3	0.453	0.207
Hood Canal Fall Fingerling	1999	4	0.955	0.909
Hood Canal Fall Fingerling	1999	5	1	1
Hood Canal Fall Fingerling	2000	2	0.066	0.02
Hood Canal Fall Fingerling	2000	3	0.453	0.214
Hood Canal Fall Fingerling	2000	4	0.955	0.825
Hood Canal Fall Fingerling	2000	5	1	1
Hood Canal Fall Fingerling	2001	2	0.066	0.025
Hood Canal Fall Fingerling	2001	3	0.453	0.339
Hood Canal Fall Fingerling	2001	4	0.955	0.904
Hood Canal Fall Fingerling	2001	5	1	1
Hood Canal Fall Fingerling	2002	2	0.066	0.065
Hood Canal Fall Fingerling	2002	3	0.453	0.444
Hood Canal Fall Fingerling	2002	4	0.955	0.968
Hood Canal Fall Fingerling	2002	5	1	1
Hood Canal Fall Fingerling	2003	2	0.066	0.02
Hood Canal Fall Fingerling	2003	3	0.453	0.236
Hood Canal Fall Fingerling	2003	4	0.955	1
Hood Canal Fall Fingerling	2003	5	1	1
Hood Canal Fall Fingerling	2004	2	0.066	0.109
Hood Canal Fall Fingerling	2004	3	0.453	0.649
Hood Canal Fall Fingerling	2004	4	0.955	1
Hood Canal Fall Fingerling	2004	5	1	1
Hood Canal Fall Fingerling	2005	2	0.066	0.149
Hood Canal Fall Fingerling	2005	3	0.453	0.562
Hood Canal Fall Fingerling	2005	4	0.955	0.964
Hood Canal Fall Fingerling	2005	5	1	1
Hood Canal Fall Fingerling	2006	2	0.066	0.067
Hood Canal Fall Fingerling	2006	3	0.453	0.445
Hood Canal Fall Fingerling	2006	4	0.955	0.963
Hood Canal Fall Fingerling	2006	5	1	1
Hood Canal Fall Fingerling	2007	2	0.066	0.083
Hood Canal Fall Fingerling	2007	3	0.453	0.402
Hood Canal Fall Fingerling	2007	4	0.955	0.945

Hood Canal Fall Fingerling	2007	5	1	1
Hood Canal Fall Fingerling	2008	2	0.066	0.078
Hood Canal Fall Fingerling	2008	3	0.453	0.567
Hood Canal Fall Fingerling	2008	4	0.955	0.986
Hood Canal Fall Fingerling	2008	5	1	1
Hood Canal Fall Fingerling	2009	2	0.066	0.133
Hood Canal Fall Fingerling	2009	3	0.453	0.604
Hood Canal Fall Fingerling	2009	4	0.955	0.956
Hood Canal Fall Fingerling	2009	5	1	1
Hood Canal Fall Fingerling	2010	2	0.066	0.058
Hood Canal Fall Fingerling	2010	3	0.453	0.48
Hood Canal Fall Fingerling	2010	4	0.955	0.925
Hood Canal Fall Fingerling	2010	5	1	1
Hood Canal Fall Fingerling	2011	2	0.066	0.091
Hood Canal Fall Fingerling	2011	3	0.453	0.304
Hood Canal Fall Fingerling	2011	4	0.955	0.922
Hood Canal Fall Fingerling	2011	5	1	1
Hood Canal Fall Fingerling	2012	2	0.066	0.058
Hood Canal Fall Fingerling	2012	3	0.453	0.517
Hood Canal Fall Fingerling	2012	4	0.955	0.899
Hood Canal Fall Fingerling	2012	5	1	1
Hood Canal Fall Fingerling	2013	2	0.066	0.112
Hood Canal Fall Fingerling	2013	3	0.453	0.588
Hood Canal Fall Fingerling	2013	4	0.955	0.98
Hood Canal Fall Fingerling	2013	5	1	1
OR Hatchery Tule	1994	2	0.037	0.017
OR Hatchery Tule	1994	3	0.707	0.63
OR Hatchery Tule	1994	4	0.985	1
OR Hatchery Tule	1994	5	1	1
OR Hatchery Tule	1995	2	0.037	0.03
OR Hatchery Tule	1995	3	0.707	0.571
OR Hatchery Tule	1995	4	0.985	1
OR Hatchery Tule	1995	5	1	1
OR Hatchery Tule	1996	2	0.037	0.061
OR Hatchery Tule	1996	3	0.707	0.649
OR Hatchery Tule	1996	4	0.985	1
OR Hatchery Tule	1996	5	1	1
OR Hatchery Tule	1997	2	0.037	0.01
OR Hatchery Tule	1997	3	0.707	0.446
OR Hatchery Tule	1997	4	0.985	0.962
OR Hatchery Tule	1997	5	1	1
OR Hatchery Tule	1998	2	0.037	0.018
OR Hatchery Tule	1998	3	0.707	0.535
OR Hatchery Tule	1998	4	0.985	0.984

OR Hatchery Tule	1998	5	1	1
OR Hatchery Tule	1999	2	0.037	0.018
OR Hatchery Tule	1999	3	0.707	0.438
OR Hatchery Tule	1999	4	0.985	0.991
OR Hatchery Tule	1999	5	1	1
OR Hatchery Tule	2000	2	0.037	0.004
OR Hatchery Tule	2000	3	0.707	0.268
OR Hatchery Tule	2000	4	0.985	0.887
OR Hatchery Tule	2000	5	1	1
OR Hatchery Tule	2001	2	0.037	0.003
OR Hatchery Tule	2001	3	0.707	0.22
OR Hatchery Tule	2001	4	0.985	0.966
OR Hatchery Tule	2001	5	1	1
OR Hatchery Tule	2002	2	0.037	0.019
OR Hatchery Tule	2002	3	0.707	0.597
OR Hatchery Tule	2002	4	0.985	0.764
OR Hatchery Tule	2002	5	1	1
OR Hatchery Tule	2003	2	0.037	0.027
OR Hatchery Tule	2003	3	0.707	0.484
OR Hatchery Tule	2003	4	0.985	1
OR Hatchery Tule	2003	5	1	1
OR Hatchery Tule	2004	2	0.037	0.04
OR Hatchery Tule	2004	3	0.707	0.868
OR Hatchery Tule	2004	4	0.985	1
OR Hatchery Tule	2004	5	1	1
OR Hatchery Tule	2005	2	0.037	0.051
OR Hatchery Tule	2005	3	0.707	0.572
OR Hatchery Tule	2005	4	0.985	0.958
OR Hatchery Tule	2005	5	1	1
OR Hatchery Tule	2006	2	0.037	0.025
OR Hatchery Tule	2006	3	0.707	0.776
OR Hatchery Tule	2006	4	0.985	1
OR Hatchery Tule	2006	5	1	1
OR Hatchery Tule	2007	2	0.037	0.016
OR Hatchery Tule	2007	3	0.707	0.762
OR Hatchery Tule	2007	4	0.985	1
OR Hatchery Tule	2007	5	1	1
OR Hatchery Tule	2008	2	0.037	0.061
OR Hatchery Tule	2008	3	0.707	0.757
OR Hatchery Tule	2008	4	0.985	1
OR Hatchery Tule	2008	5	1	1
OR Hatchery Tule	2009	2	0.037	0.078
OR Hatchery Tule	2009	3	0.707	0.74
OR Hatchery Tule	2009	4	0.985	0.964

OR Hatchery Tule	2009	5	1	1
OR Hatchery Tule	2010	2	0.037	0.023
OR Hatchery Tule	2010	3	0.707	0.763
OR Hatchery Tule	2010	4	0.985	1
OR Hatchery Tule	2010	5	1	1
OR Hatchery Tule	2011	2	0.037	0.048
OR Hatchery Tule	2011	3	0.707	0.611
OR Hatchery Tule	2011	4	0.985	0.99
OR Hatchery Tule	2011	5	1	1
OR Hatchery Tule	2012	2	0.037	0.047
OR Hatchery Tule	2012	3	0.707	0.751
OR Hatchery Tule	2012	4	0.985	0.952
OR Hatchery Tule	2012	5	1	1
OR Hatchery Tule	2013	2	0.037	0.062
OR Hatchery Tule	2013	3	0.707	0.764
OR Hatchery Tule	2013	4	0.985	1
OR Hatchery Tule	2013	5	1	1
WA Hatchery Tule	1994	2	0.043	0
WA Hatchery Tule	1994	3	0.251	0.211
WA Hatchery Tule	1994	4	0.826	0.443
WA Hatchery Tule	1994	5	1	1
WA Hatchery Tule	1995	2	0.043	0.024
WA Hatchery Tule	1995	3	0.251	0.252
WA Hatchery Tule	1995	4	0.826	0.86
WA Hatchery Tule	1995	5	1	1
WA Hatchery Tule	1996	2	0.043	0.006
WA Hatchery Tule	1996	3	0.251	0.276
WA Hatchery Tule	1996	4	0.826	0.68
WA Hatchery Tule	1996	5	1	1
WA Hatchery Tule	1997	2	0.043	0.009
WA Hatchery Tule	1997	3	0.251	0.104
WA Hatchery Tule	1997	4	0.826	1
WA Hatchery Tule	1997	5	1	1
WA Hatchery Tule	1998	2	0.043	0.019
WA Hatchery Tule	1998	3	0.251	0.34
WA Hatchery Tule	1998	4	0.826	0.792
WA Hatchery Tule	1998	5	1	1
WA Hatchery Tule	1999	2	0.043	0.038
WA Hatchery Tule	1999	3	0.251	0.103
WA Hatchery Tule	1999	4	0.826	0.708
WA Hatchery Tule	1999	5	1	1
WA Hatchery Tule	2000	2	0.043	0.016
WA Hatchery Tule	2000	3	0.251	0.303
WA Hatchery Tule	2000	4	0.826	0.471

WA Hatchery Tule	2000	5	1	1
WA Hatchery Tule	2001	2	0.043	0.002
WA Hatchery Tule	2001	3	0.251	0.14
WA Hatchery Tule	2001	4	0.826	0.821
WA Hatchery Tule	2001	5	1	1
WA Hatchery Tule	2002	2	0.043	0.013
WA Hatchery Tule	2002	3	0.251	0.237
WA Hatchery Tule	2002	4	0.826	0.757
WA Hatchery Tule	2002	5	1	1
WA Hatchery Tule	2003	2	0.043	0.033
WA Hatchery Tule	2003	3	0.251	0.364
WA Hatchery Tule	2003	4	0.826	0.918
WA Hatchery Tule	2003	5	1	1
WA Hatchery Tule	2004	2	0.043	0.145
WA Hatchery Tule	2004	3	0.251	0.515
WA Hatchery Tule	2004	4	0.826	1
WA Hatchery Tule	2004	5	1	1
WA Hatchery Tule	2005	2	0.043	0.063
WA Hatchery Tule	2005	3	0.251	0.278
WA Hatchery Tule	2005	4	0.826	0.907
WA Hatchery Tule	2005	5	1	1
WA Hatchery Tule	2006	2	0.043	0.078
WA Hatchery Tule	2006	3	0.251	0.366
WA Hatchery Tule	2006	4	0.826	0.7
WA Hatchery Tule	2006	5	1	1
WA Hatchery Tule	2007	2	0.043	0.032
WA Hatchery Tule	2007	3	0.251	0.157
WA Hatchery Tule	2007	4	0.826	0.92
WA Hatchery Tule	2007	5	1	1
WA Hatchery Tule	2008	2	0.043	0.046
WA Hatchery Tule	2008	3	0.251	0.452
WA Hatchery Tule	2008	4	0.826	0.867
WA Hatchery Tule	2008	5	1	1
WA Hatchery Tule	2009	2	0.043	0.06
WA Hatchery Tule	2009	3	0.251	0.335
WA Hatchery Tule	2009	4	0.826	0.955
WA Hatchery Tule	2009	5	1	1
WA Hatchery Tule	2010	2	0.043	0.037
WA Hatchery Tule	2010	3	0.251	0.384
WA Hatchery Tule	2010	4	0.826	0.884
WA Hatchery Tule	2010	5	1	1
WA Hatchery Tule	2011	2	0.043	0.064
WA Hatchery Tule	2011	3	0.251	0.348
WA Hatchery Tule	2011	4	0.826	0.772

WA Hatchery Tule	2011	5	1	1
WA Hatchery Tule	2012	2	0.043	0.049
WA Hatchery Tule	2012	3	0.251	0.343
WA Hatchery Tule	2012	4	0.826	0.815
WA Hatchery Tule	2012	5	1	1
WA Hatchery Tule	2013	2	0.043	0.088
WA Hatchery Tule	2013	3	0.251	0.413
WA Hatchery Tule	2013	4	0.826	0.942
WA Hatchery Tule	2013	5	1	1
Lower Columbia River Wild	1994	2	0.011	0.024
Lower Columbia River Wild	1994	3	0.035	0.157
Lower Columbia River Wild	1994	4	0.384	0.306
Lower Columbia River Wild	1994	5	1	1
Lower Columbia River Wild	1996	2	0.011	0
Lower Columbia River Wild	1996	3	0.035	0
Lower Columbia River Wild	1996	4	0.384	0.449
Lower Columbia River Wild	1996	5	1	1
Lower Columbia River Wild	1997	2	0.011	0
Lower Columbia River Wild	1997	3	0.035	0.048
Lower Columbia River Wild	1997	4	0.384	0.329
Lower Columbia River Wild	1997	5	1	1
Lower Columbia River Wild	1998	2	0.011	0.016
Lower Columbia River Wild	1998	3	0.035	0.021
Lower Columbia River Wild	1998	4	0.384	0.336
Lower Columbia River Wild	1998	5	1	1
Lower Columbia River Wild	1999	2	0.011	0.005
Lower Columbia River Wild	1999	3	0.035	0.014
Lower Columbia River Wild	1999	4	0.384	0.109
Lower Columbia River Wild	1999	5	1	1
Lower Columbia River Wild	2000	2	0.011	0.018
Lower Columbia River Wild	2000	3	0.035	0.024
Lower Columbia River Wild	2000	4	0.384	0.604
Lower Columbia River Wild	2000	5	1	1
Lower Columbia River Wild	2001	2	0.011	0.006
Lower Columbia River Wild	2001	3	0.035	0.123
Lower Columbia River Wild	2001	4	0.384	0.204
Lower Columbia River Wild	2001	5	1	1
Lower Columbia River Wild	2002	2	0.011	0.04
Lower Columbia River Wild	2002	3	0.035	0.029
Lower Columbia River Wild	2002	4	0.384	0.45
Lower Columbia River Wild	2002	5	1	1
Lower Columbia River Wild	2003	2	0.011	0.05
Lower Columbia River Wild	2003	3	0.035	0.065
Lower Columbia River Wild	2003	4	0.384	0.265

Lower Columbia River Wild	2003	5	1	1
Lower Columbia River Wild	2004	2	0.011	0.012
Lower Columbia River Wild	2004	3	0.035	0.055
Lower Columbia River Wild	2004	4	0.384	0.624
Lower Columbia River Wild	2004	5	1	1
Lower Columbia River Wild	2005	2	0.011	0
Lower Columbia River Wild	2005	3	0.035	0.038
Lower Columbia River Wild	2005	4	0.384	0.344
Lower Columbia River Wild	2005	5	1	1
Lower Columbia River Wild	2006	2	0.011	0.021
Lower Columbia River Wild	2006	3	0.035	0.048
Lower Columbia River Wild	2006	4	0.384	0.456
Lower Columbia River Wild	2006	5	1	1
Lower Columbia River Wild	2007	2	0.011	0
Lower Columbia River Wild	2007	3	0.035	0.032
Lower Columbia River Wild	2007	4	0.384	0.352
Lower Columbia River Wild	2007	5	1	1
Lower Columbia River Wild	2008	2	0.011	0.018
Lower Columbia River Wild	2008	3	0.035	0.021
Lower Columbia River Wild	2008	4	0.384	0.316
Lower Columbia River Wild	2008	5	1	1
Lower Columbia River Wild	2009	2	0.011	0.011
Lower Columbia River Wild	2009	3	0.035	0.017
Lower Columbia River Wild	2009	4	0.384	0.598
Lower Columbia River Wild	2009	5	1	1
Lower Columbia River Wild	2010	2	0.011	0.031
Lower Columbia River Wild	2010	3	0.035	0.133
Lower Columbia River Wild	2010	4	0.384	0.282
Lower Columbia River Wild	2010	5	1	1
Lower Columbia River Wild	2011	2	0.011	0.078
Lower Columbia River Wild	2011	3	0.035	0.05
Lower Columbia River Wild	2011	4	0.384	0.535
Lower Columbia River Wild	2011	5	1	1
Lower Columbia River Wild	2012	2	0.011	0.01
Lower Columbia River Wild	2012	3	0.035	0.17
Lower Columbia River Wild	2012	4	0.384	0.53
Lower Columbia River Wild	2012	5	1	1
Lower Columbia River Wild	2013	2	0.011	0.032
Lower Columbia River Wild	2013	3	0.035	0.106
Lower Columbia River Wild	2013	4	0.384	0.646
Lower Columbia River Wild	2013	5	1	1
Spring Creek	1994	2	0.092	0.081
Spring Creek	1994	3	0.802	0.69
Spring Creek	1994	4	0.99	1

Spring Creek	1994	5	1	1
Spring Creek	1995	2	0.092	0.039
Spring Creek	1995	3	0.802	0.617
Spring Creek	1995	4	0.99	0.974
Spring Creek	1995	5	1	1
Spring Creek	1996	2	0.092	0.161
Spring Creek	1996	3	0.802	0.836
Spring Creek	1996	4	0.99	0.967
Spring Creek	1996	5	1	1
Spring Creek	1997	2	0.092	0.019
Spring Creek	1997	3	0.802	0.34
Spring Creek	1997	4	0.99	0.982
Spring Creek	1997	5	1	1
Spring Creek	1998	2	0.092	0.045
Spring Creek	1998	3	0.802	0.815
Spring Creek	1998	4	0.99	0.995
Spring Creek	1998	5	1	1
Spring Creek	1999	2	0.092	0.054
Spring Creek	1999	3	0.802	0.428
Spring Creek	1999	4	0.99	0.965
Spring Creek	1999	5	1	1
Spring Creek	2000	2	0.092	0.018
Spring Creek	2000	3	0.802	0.506
Spring Creek	2000	4	0.99	0.968
Spring Creek	2000	5	1	1
Spring Creek	2001	2	0.092	0.043
Spring Creek	2001	3	0.802	0.592
Spring Creek	2001	4	0.99	0.961
Spring Creek	2001	5	1	1
Spring Creek	2002	2	0.092	0.095
Spring Creek	2002	3	0.802	0.786
Spring Creek	2002	4	0.99	1
Spring Creek	2002	5	1	1
Spring Creek	2003	2	0.092	0.069
Spring Creek	2003	3	0.802	0.691
Spring Creek	2003	4	0.99	1
Spring Creek	2003	5	1	1
Spring Creek	2004	2	0.092	0.071
Spring Creek	2004	3	0.802	0.969
Spring Creek	2004	4	0.99	1
Spring Creek	2004	5	1	1
Spring Creek	2005	2	0.092	0.114
Spring Creek	2005	3	0.802	0.731
Spring Creek	2005	4	0.99	0.987

Spring Creek	2005	5	1	1
Spring Creek	2006	2	0.092	0.014
Spring Creek	2006	3	0.802	0.812
Spring Creek	2006	4	0.99	1
Spring Creek	2006	5	1	1
Spring Creek	2007	2	0.092	0.171
Spring Creek	2007	3	0.802	0.911
Spring Creek	2007	4	0.99	1
Spring Creek	2007	5	1	1
Spring Creek	2008	2	0.092	0.067
Spring Creek	2008	3	0.802	0.786
Spring Creek	2008	4	0.99	1
Spring Creek	2008	5	1	1
Spring Creek	2009	2	0.092	0.067
Spring Creek	2009	3	0.802	0.712
Spring Creek	2009	4	0.99	0.981
Spring Creek	2009	5	1	1
Spring Creek	2010	2	0.092	0.028
Spring Creek	2010	3	0.802	0.69
Spring Creek	2010	4	0.99	0.994
Spring Creek	2010	5	1	1
Spring Creek	2011	2	0.092	0.078
Spring Creek	2011	3	0.802	0.779
Spring Creek	2011	4	0.99	0.997
Spring Creek	2011	5	1	1
Spring Creek	2012	2	0.092	0.058
Spring Creek	2012	3	0.802	0.829
Spring Creek	2012	4	0.99	1
Spring Creek	2012	5	1	1
Spring Creek	2013	2	0.092	0.252
Spring Creek	2013	3	0.802	0.908
Spring Creek	2013	4	0.99	1
Spring Creek	2013	5	1	1
Columbia River Summer	1994	2	0.006	0
Columbia River Summer	1994	3	0.087	0.012
Columbia River Summer	1994	4	0.522	0.384
Columbia River Summer	1994	5	1	1
Columbia River Summer	1995	2	0.006	0.003
Columbia River Summer	1995	3	0.087	0.026
Columbia River Summer	1995	4	0.522	0.244
Columbia River Summer	1995	5	1	1
Columbia River Summer	1996	2	0.006	0.007
Columbia River Summer	1996	3	0.087	0.045
Columbia River Summer	1996	4	0.522	0.443

Columbia River Summer	1996	5	1	1
Columbia River Summer	1997	2	0.006	0.001
Columbia River Summer	1997	3	0.087	0.008
Columbia River Summer	1997	4	0.522	0.242
Columbia River Summer	1997	5	1	1
Columbia River Summer	1998	2	0.006	0.001
Columbia River Summer	1998	3	0.087	0.004
Columbia River Summer	1998	4	0.522	0.108
Columbia River Summer	1998	5	1	1
Columbia River Summer	1999	2	0.006	0.002
Columbia River Summer	1999	3	0.087	0.022
Columbia River Summer	1999	4	0.522	0.13
Columbia River Summer	1999	5	1	1
Columbia River Summer	2000	2	0.006	0
Columbia River Summer	2000	3	0.087	0.003
Columbia River Summer	2000	4	0.522	0.152
Columbia River Summer	2000	5	1	1
Columbia River Summer	2001	2	0.006	0
Columbia River Summer	2001	3	0.087	0.025
Columbia River Summer	2001	4	0.522	0.292
Columbia River Summer	2001	5	1	1
Columbia River Summer	2002	2	0.006	0
Columbia River Summer	2002	3	0.087	0.01
Columbia River Summer	2002	4	0.522	0.283
Columbia River Summer	2002	5	1	1
Columbia River Summer	2003	2	0.006	0.003
Columbia River Summer	2003	3	0.087	0.023
Columbia River Summer	2003	4	0.522	0.324
Columbia River Summer	2003	5	1	1
Columbia River Summer	2004	2	0.006	0.004
Columbia River Summer	2004	3	0.087	0.058
Columbia River Summer	2004	4	0.522	0.616
Columbia River Summer	2004	5	1	1
Columbia River Summer	2005	2	0.006	0.013
Columbia River Summer	2005	3	0.087	0.149
Columbia River Summer	2005	4	0.522	0.573
Columbia River Summer	2005	5	1	1
Columbia River Summer	2006	2	0.006	0.001
Columbia River Summer	2006	3	0.087	0.051
Columbia River Summer	2006	4	0.522	0.527
Columbia River Summer	2006	5	1	1
Columbia River Summer	2007	2	0.006	0.001
Columbia River Summer	2007	3	0.087	0.083
Columbia River Summer	2007	4	0.522	0.488

Columbia River Summer	2007	5	1	1
Columbia River Summer	2008	2	0.006	0.004
Columbia River Summer	2008	3	0.087	0.058
Columbia River Summer	2008	4	0.522	0.529
Columbia River Summer	2008	5	1	1
Columbia River Summer	2009	2	0.006	0
Columbia River Summer	2009	3	0.087	0.052
Columbia River Summer	2009	4	0.522	0.423
Columbia River Summer	2009	5	1	1
Columbia River Summer	2010	2	0.006	0.004
Columbia River Summer	2010	3	0.087	0.077
Columbia River Summer	2010	4	0.522	0.45
Columbia River Summer	2010	5	1	1
Columbia River Summer	2011	2	0.006	0.003
Columbia River Summer	2011	3	0.087	0.037
Columbia River Summer	2011	4	0.522	0.387
Columbia River Summer	2011	5	1	1
Columbia River Summer	2012	2	0.006	0.007
Columbia River Summer	2012	3	0.087	0.131
Columbia River Summer	2012	4	0.522	0.451
Columbia River Summer	2012	5	1	1
Columbia River Summer	2013	2	0.006	0.002
Columbia River Summer	2013	3	0.087	0.05
Columbia River Summer	2013	4	0.522	0.608
Columbia River Summer	2013	5	1	1
Upriver Bright	1994	2	0.072	0.023
Upriver Bright	1994	3	0.303	0.197
Upriver Bright	1994	4	0.775	0.539
Upriver Bright	1994	5	1	1
Upriver Bright	1995	2	0.072	0.011
Upriver Bright	1995	3	0.303	0.134
Upriver Bright	1995	4	0.775	0.584
Upriver Bright	1995	5	1	1
Upriver Bright	1996	2	0.072	0.038
Upriver Bright	1996	3	0.303	0.263
Upriver Bright	1996	4	0.775	0.766
Upriver Bright	1996	5	1	1
Upriver Bright	1997	2	0.072	0.019
Upriver Bright	1997	3	0.303	0.067
Upriver Bright	1997	4	0.775	0.784
Upriver Bright	1997	5	1	1
Upriver Bright	1998	2	0.072	0.004
Upriver Bright	1998	3	0.303	0.201
Upriver Bright	1998	4	0.775	0.523

Upriver Bright	1998	5	1	1
Upriver Bright	1999	2	0.072	0.021
Upriver Bright	1999	3	0.303	0.143
Upriver Bright	1999	4	0.775	0.568
Upriver Bright	1999	5	1	1
Upriver Bright	2000	2	0.072	0.024
Upriver Bright	2000	3	0.303	0.137
Upriver Bright	2000	4	0.775	0.471
Upriver Bright	2000	5	1	1
Upriver Bright	2001	2	0.072	0.01
Upriver Bright	2001	3	0.303	0.21
Upriver Bright	2001	4	0.775	0.529
Upriver Bright	2001	5	1	1
Upriver Bright	2002	2	0.072	0.032
Upriver Bright	2002	3	0.303	0.196
Upriver Bright	2002	4	0.775	0.803
Upriver Bright	2002	5	1	1
Upriver Bright	2003	2	0.072	0.026
Upriver Bright	2003	3	0.303	0.286
Upriver Bright	2003	4	0.775	0.755
Upriver Bright	2003	5	1	1
Upriver Bright	2004	2	0.072	0.072
Upriver Bright	2004	3	0.303	0.189
Upriver Bright	2004	4	0.775	0.73
Upriver Bright	2004	5	1	1
Upriver Bright	2005	2	0.072	0.063
Upriver Bright	2005	3	0.303	0.279
Upriver Bright	2005	4	0.775	0.77
Upriver Bright	2005	5	1	1
Upriver Bright	2006	2	0.072	0.116
Upriver Bright	2006	3	0.303	0.152
Upriver Bright	2006	4	0.775	0.616
Upriver Bright	2006	5	1	1
Upriver Bright	2007	2	0.072	0.035
Upriver Bright	2007	3	0.303	0.273
Upriver Bright	2007	4	0.775	0.781
Upriver Bright	2007	5	1	1
Upriver Bright	2008	2	0.072	0.088
Upriver Bright	2008	3	0.303	0.383
Upriver Bright	2008	4	0.775	0.838
Upriver Bright	2008	5	1	1
Upriver Bright	2009	2	0.072	0.034
Upriver Bright	2009	3	0.303	0.185
Upriver Bright	2009	4	0.775	0.828

Upriver Bright	2009	5	1	1
Upriver Bright	2010	2	0.072	0.053
Upriver Bright	2010	3	0.303	0.316
Upriver Bright	2010	4	0.775	0.762
Upriver Bright	2010	5	1	1
Upriver Bright	2011	2	0.072	0.027
Upriver Bright	2011	3	0.303	0.203
Upriver Bright	2011	4	0.775	0.75
Upriver Bright	2011	5	1	1
Upriver Bright	2012	2	0.072	0.079
Upriver Bright	2012	3	0.303	0.388
Upriver Bright	2012	4	0.775	0.728
Upriver Bright	2012	5	1	1
Upriver Bright	2013	2	0.072	0.054
Upriver Bright	2013	3	0.303	0.349
Upriver Bright	2013	4	0.775	0.886
Upriver Bright	2013	5	1	1
Willamette Spring	1994	2	0.051	0.005
Willamette Spring	1994	3	0.646	0.51
Willamette Spring	1994	4	0.96	1
Willamette Spring	1994	5	1	1
Willamette Spring	1995	2	0.051	0.004
Willamette Spring	1995	3	0.646	0.465
Willamette Spring	1995	4	0.96	0.959
Willamette Spring	1995	5	1	1
Willamette Spring	1996	2	0.051	0.003
Willamette Spring	1996	3	0.646	0.325
Willamette Spring	1996	4	0.96	0.99
Willamette Spring	1996	5	1	1
Willamette Spring	1997	2	0.051	0.007
Willamette Spring	1997	3	0.646	0.624
Willamette Spring	1997	4	0.96	0.992
Willamette Spring	1997	5	1	1
Willamette Spring	1998	2	0.051	0.01
Willamette Spring	1998	3	0.646	0.527
Willamette Spring	1998	4	0.96	0.981
Willamette Spring	1998	5	1	1
Willamette Spring	1999	2	0.051	0.017
Willamette Spring	1999	3	0.646	0.408
Willamette Spring	1999	4	0.96	0.975
Willamette Spring	1999	5	1	1
Willamette Spring	2000	2	0.051	0.018
Willamette Spring	2000	3	0.646	0.63
Willamette Spring	2000	4	0.96	0.967

Willamette Spring	2000	5	1	1
Willamette Spring	2001	2	0.051	0.021
Willamette Spring	2001	3	0.646	0.485
Willamette Spring	2001	4	0.96	0.947
Willamette Spring	2001	5	1	1
Willamette Spring	2002	2	0.051	0.041
Willamette Spring	2002	3	0.646	0.669
Willamette Spring	2002	4	0.96	0.968
Willamette Spring	2002	5	1	1
Willamette Spring	2003	2	0.051	0.011
Willamette Spring	2003	3	0.646	0.576
Willamette Spring	2003	4	0.96	1
Willamette Spring	2003	5	1	1
Willamette Spring	2004	2	0.051	0.011
Willamette Spring	2004	3	0.646	0.622
Willamette Spring	2004	4	0.96	0.994
Willamette Spring	2004	5	1	1
Willamette Spring	2005	2	0.051	0.019
Willamette Spring	2005	3	0.646	0.618
Willamette Spring	2005	4	0.96	0.984
Willamette Spring	2005	5	1	1
Willamette Spring	2006	2	0.051	0.044
Willamette Spring	2006	3	0.646	0.776
Willamette Spring	2006	4	0.96	0.995
Willamette Spring	2006	5	1	1
Willamette Spring	2007	2	0.051	0.051
Willamette Spring	2007	3	0.646	0.671
Willamette Spring	2007	4	0.96	0.982
Willamette Spring	2007	5	1	1
Willamette Spring	2008	2	0.051	0.081
Willamette Spring	2008	3	0.646	0.684
Willamette Spring	2008	4	0.96	0.99
Willamette Spring	2008	5	1	1
Willamette Spring	2009	2	0.051	0.02
Willamette Spring	2009	3	0.646	0.633
Willamette Spring	2009	4	0.96	0.995
Willamette Spring	2009	5	1	1
Willamette Spring	2010	2	0.051	0.014
Willamette Spring	2010	3	0.646	0.637
Willamette Spring	2010	4	0.96	0.99
Willamette Spring	2010	5	1	1
Willamette Spring	2011	2	0.051	0.017
Willamette Spring	2011	3	0.646	0.696
Willamette Spring	2011	4	0.96	0.985

Willamette Spring	2011	5	1	1
Willamette Spring	2012	2	0.051	0.015
Willamette Spring	2012	3	0.646	0.437
Willamette Spring	2012	4	0.96	0.993
Willamette Spring	2012	5	1	1
Willamette Spring	2013	2	0.051	0.008
Willamette Spring	2013	3	0.646	0.66
Willamette Spring	2013	4	0.96	0.989
Willamette Spring	2013	5	1	NA
Snake River Fall	1994	2	0.112	0.103
Snake River Fall	1994	3	0.407	0.323
Snake River Fall	1994	4	0.887	0.686
Snake River Fall	1994	5	1	1
Snake River Fall	1995	2	0.112	0.228
Snake River Fall	1995	3	0.407	0.657
Snake River Fall	1995	4	0.887	0.908
Snake River Fall	1995	5	1	1
Snake River Fall	1996	2	0.112	0.211
Snake River Fall	1996	3	0.407	0.563
Snake River Fall	1996	4	0.887	0.949
Snake River Fall	1996	5	1	1
Snake River Fall	1997	2	0.112	0.206
Snake River Fall	1997	3	0.407	0.803
Snake River Fall	1997	4	0.887	0.906
Snake River Fall	1997	5	1	1
Snake River Fall	1998	2	0.112	0.187
Snake River Fall	1998	3	0.407	0.5
Snake River Fall	1998	4	0.887	0.886
Snake River Fall	1998	5	1	1
Snake River Fall	1999	2	0.112	0.155
Snake River Fall	1999	3	0.407	0.42
Snake River Fall	1999	4	0.887	0.829
Snake River Fall	1999	5	1	1
Snake River Fall	2000	2	0.112	0.236
Snake River Fall	2000	3	0.407	0.698
Snake River Fall	2000	4	0.887	0.915
Snake River Fall	2000	5	1	1
Snake River Fall	2001	2	0.112	0.284
Snake River Fall	2001	3	0.407	0.68
Snake River Fall	2001	4	0.887	0.809
Snake River Fall	2001	5	1	1
Snake River Fall	2002	2	0.112	0.316
Snake River Fall	2002	3	0.407	0.613
Snake River Fall	2002	4	0.887	0.954

Snake River Fall	2002	5	1	1
Snake River Fall	2003	2	0.112	0.232
Snake River Fall	2003	3	0.407	0.718
Snake River Fall	2003	4	0.887	0.85
Snake River Fall	2003	5	1	1
Snake River Fall	2004	2	0.112	0.497
Snake River Fall	2004	3	0.407	0.892
Snake River Fall	2004	4	0.887	1
Snake River Fall	2004	5	1	1
Snake River Fall	2005	2	0.112	0.245
Snake River Fall	2005	3	0.407	0.725
Snake River Fall	2005	4	0.887	0.962
Snake River Fall	2005	5	1	1
Snake River Fall	2006	2	0.112	0.442
Snake River Fall	2006	3	0.407	0.794
Snake River Fall	2006	4	0.887	0.982
Snake River Fall	2006	5	1	1
Snake River Fall	2007	2	0.112	0.298
Snake River Fall	2007	3	0.407	0.729
Snake River Fall	2007	4	0.887	0.943
Snake River Fall	2007	5	1	1
Snake River Fall	2008	2	0.112	0.277
Snake River Fall	2008	3	0.407	0.749
Snake River Fall	2008	4	0.887	0.971
Snake River Fall	2008	5	1	1
Snake River Fall	2009	2	0.112	0.175
Snake River Fall	2009	3	0.407	0.648
Snake River Fall	2009	4	0.887	0.971
Snake River Fall	2009	5	1	1
Snake River Fall	2010	2	0.112	0.211
Snake River Fall	2010	3	0.407	0.635
Snake River Fall	2010	4	0.887	0.939
Snake River Fall	2010	5	1	1
Snake River Fall	2011	2	0.112	0.137
Snake River Fall	2011	3	0.407	0.475
Snake River Fall	2011	4	0.887	0.884
Snake River Fall	2011	5	1	1
Snake River Fall	2012	2	0.112	0.16
Snake River Fall	2012	3	0.407	0.588
Snake River Fall	2012	4	0.887	0.926
Snake River Fall	2012	5	1	1
Snake River Fall	2013	2	0.112	0.174
Snake River Fall	2013	3	0.407	0.655
Snake River Fall	2013	4	0.887	0.965

Snake River Fall	2013	5	1	NA
North OR Coast	1994	2	0.019	0.01
North OR Coast	1994	3	0.253	0.049
North OR Coast	1994	4	0.646	0.516
North OR Coast	1994	5	1	1
North OR Coast	1995	2	0.019	0.021
North OR Coast	1995	3	0.253	0.148
North OR Coast	1995	4	0.646	0.469
North OR Coast	1995	5	1	1
North OR Coast	1996	2	0.019	0.046
North OR Coast	1996	3	0.253	0.189
North OR Coast	1996	4	0.646	0.705
North OR Coast	1996	5	1	1
North OR Coast	1997	2	0.019	0.022
North OR Coast	1997	3	0.253	0.184
North OR Coast	1997	4	0.646	0.639
North OR Coast	1997	5	1	1
North OR Coast	1998	2	0.019	0.025
North OR Coast	1998	3	0.253	0.14
North OR Coast	1998	4	0.646	0.51
North OR Coast	1998	5	1	1
North OR Coast	1999	2	0.019	0.016
North OR Coast	1999	3	0.253	0.185
North OR Coast	1999	4	0.646	0.489
North OR Coast	1999	5	1	1
North OR Coast	2000	2	0.019	0.018
North OR Coast	2000	3	0.253	0.105
North OR Coast	2000	4	0.646	0.4
North OR Coast	2000	5	1	1
North OR Coast	2001	2	0.019	0.002
North OR Coast	2001	3	0.253	0.109
North OR Coast	2001	4	0.646	0.526
North OR Coast	2001	5	1	1
North OR Coast	2002	2	0.019	0.018
North OR Coast	2002	3	0.253	0.132
North OR Coast	2002	4	0.646	0.405
North OR Coast	2002	5	1	1
North OR Coast	2003	2	0.019	0.05
North OR Coast	2003	3	0.253	0.134
North OR Coast	2003	4	0.646	0.599
North OR Coast	2003	5	1	1
North OR Coast	2004	2	0.019	0.002
North OR Coast	2004	3	0.253	0.052
North OR Coast	2004	4	0.646	0.43

North OR Coast	2004	5	1	1
North OR Coast	2005	2	0.019	0.013
North OR Coast	2005	3	0.253	0.163
North OR Coast	2005	4	0.646	0.561
North OR Coast	2005	5	1	1
North OR Coast	2006	2	0.019	0.012
North OR Coast	2006	3	0.253	0.103
North OR Coast	2006	4	0.646	0.593
North OR Coast	2006	5	1	1
North OR Coast	2007	2	0.019	0.012
North OR Coast	2007	3	0.253	0.282
North OR Coast	2007	4	0.646	0.658
North OR Coast	2007	5	1	1
North OR Coast	2008	2	0.019	0.03
North OR Coast	2008	3	0.253	0.371
North OR Coast	2008	4	0.646	0.671
North OR Coast	2008	5	1	1
North OR Coast	2009	2	0.019	0.019
North OR Coast	2009	3	0.253	0.086
North OR Coast	2009	4	0.646	0.578
North OR Coast	2009	5	1	1
North OR Coast	2010	2	0.019	0.005
North OR Coast	2010	3	0.253	0.167
North OR Coast	2010	4	0.646	0.673
North OR Coast	2010	5	1	1
North OR Coast	2011	2	0.019	0.006
North OR Coast	2011	3	0.253	0.195
North OR Coast	2011	4	0.646	0.822
North OR Coast	2011	5	1	1
North OR Coast	2012	2	0.019	0.018
North OR Coast	2012	3	0.253	0.332
North OR Coast	2012	4	0.646	0.813
North OR Coast	2012	5	1	1
North OR Coast	2013	2	0.019	0.018
North OR Coast	2013	3	0.253	0.167
North OR Coast	2013	4	0.646	0.802
North OR Coast	2013	5	1	1
WCVI	1994	2	0.021	0.004
WCVI	1994	3	0.164	0.159
WCVI	1994	4	0.686	0.636
WCVI	1994	5	1	1
WCVI	1995	2	0.021	0.02
WCVI	1995	3	0.164	0.136
WCVI	1995	4	0.686	0.686

WCVI	1995	5	1	1
WCVI	1996	2	0.021	0
WCVI	1996	3	0.164	0.185
WCVI	1996	4	0.686	0.66
WCVI	1996	5	1	1
WCVI	1997	2	0.021	0
WCVI	1997	3	0.164	0.052
WCVI	1997	4	0.686	0.704
WCVI	1997	5	1	1
WCVI	1998	2	0.021	0.012
WCVI	1998	3	0.164	0.239
WCVI	1998	4	0.686	0.77
WCVI	1998	5	1	1
WCVI	1999	2	0.021	0.012
WCVI	1999	3	0.164	0.101
WCVI	1999	4	0.686	0.45
WCVI	1999	5	1	1
WCVI	2000	2	0.021	0.006
WCVI	2000	3	0.164	0.208
WCVI	2000	4	0.686	0.717
WCVI	2000	5	1	1
WCVI	2001	2	0.021	0.018
WCVI	2001	3	0.164	0.3
WCVI	2001	4	0.686	0.736
WCVI	2001	5	1	1
WCVI	2002	2	0.021	0.011
WCVI	2002	3	0.164	0.114
WCVI	2002	4	0.686	0.767
WCVI	2002	5	1	1
WCVI	2003	2	0.021	0.006
WCVI	2003	3	0.164	0.212
WCVI	2003	4	0.686	0.662
WCVI	2003	5	1	1
WCVI	2004	2	0.021	0.018
WCVI	2004	3	0.164	0.14
WCVI	2004	4	0.686	0.656
WCVI	2004	5	1	1
WCVI	2005	2	0.021	0.022
WCVI	2005	3	0.164	0.318
WCVI	2005	4	0.686	0.862
WCVI	2005	5	1	1
WCVI	2006	2	0.021	0.031
WCVI	2006	3	0.164	0.132
WCVI	2006	4	0.686	0.746

WCVI	2006	5	1	1
WCVI	2007	2	0.021	0.01
WCVI	2007	3	0.164	0.17
WCVI	2007	4	0.686	0.637
WCVI	2007	5	1	1
WCVI	2008	2	0.021	0.026
WCVI	2008	3	0.164	0.179
WCVI	2008	4	0.686	0.756
WCVI	2008	5	1	1
WCVI	2009	2	0.021	0.008
WCVI	2009	3	0.164	0.186
WCVI	2009	4	0.686	0.724
WCVI	2009	5	1	1
WCVI	2010	2	0.021	0.019
WCVI	2010	3	0.164	0.215
WCVI	2010	4	0.686	0.763
WCVI	2010	5	1	1
WCVI	2011	2	0.021	0.024
WCVI	2011	3	0.164	0.265
WCVI	2011	4	0.686	0.701
WCVI	2011	5	1	1
WCVI	2012	2	0.021	0.03
WCVI	2012	3	0.164	0.281
WCVI	2012	4	0.686	0.591
WCVI	2012	5	1	1
WCVI	2013	2	0.021	0.013
WCVI	2013	3	0.164	0.215
WCVI	2013	4	0.686	0.851
WCVI	2013	5	1	1
Fraser River Late	1994	2	0.104	0.068
Fraser River Late	1994	3	0.354	0.175
Fraser River Late	1994	4	0.976	0.934
Fraser River Late	1994	5	1	1
Fraser River Late	1995	2	0.104	0.013
Fraser River Late	1995	3	0.354	0.258
Fraser River Late	1995	4	0.976	0.935
Fraser River Late	1995	5	1	1
Fraser River Late	1996	2	0.104	0.05
Fraser River Late	1996	3	0.354	0.399
Fraser River Late	1996	4	0.976	0.886
Fraser River Late	1996	5	1	1
Fraser River Late	1997	2	0.104	0.08
Fraser River Late	1997	3	0.354	0.239
Fraser River Late	1997	4	0.976	0.94

Fraser River Late	1997	5	1	1
Fraser River Late	1998	2	0.104	0.1
Fraser River Late	1998	3	0.354	0.238
Fraser River Late	1998	4	0.976	0.875
Fraser River Late	1998	5	1	1
Fraser River Late	1999	2	0.104	0.227
Fraser River Late	1999	3	0.354	0.17
Fraser River Late	1999	4	0.976	0.737
Fraser River Late	1999	5	1	1
Fraser River Late	2000	2	0.104	0.118
Fraser River Late	2000	3	0.354	0.114
Fraser River Late	2000	4	0.976	0.766
Fraser River Late	2000	5	1	1
Fraser River Late	2001	2	0.104	0.049
Fraser River Late	2001	3	0.354	0.274
Fraser River Late	2001	4	0.976	0.888
Fraser River Late	2001	5	1	1
Fraser River Late	2002	2	0.104	0.056
Fraser River Late	2002	3	0.354	0.277
Fraser River Late	2002	4	0.976	0.932
Fraser River Late	2002	5	1	1
Fraser River Late	2003	2	0.104	0.116
Fraser River Late	2003	3	0.354	0.286
Fraser River Late	2003	4	0.976	0.966
Fraser River Late	2003	5	1	1
Fraser River Late	2004	2	0.104	0.193
Fraser River Late	2004	3	0.354	0.711
Fraser River Late	2004	4	0.976	1
Fraser River Late	2004	5	1	1
Fraser River Late	2005	2	0.104	0.165
Fraser River Late	2005	3	0.354	0.375
Fraser River Late	2005	4	0.976	0.93
Fraser River Late	2005	5	1	1
Fraser River Late	2006	2	0.104	0.044
Fraser River Late	2006	3	0.354	0.128
Fraser River Late	2006	4	0.976	0.997
Fraser River Late	2006	5	1	1
Fraser River Late	2007	2	0.104	0.118
Fraser River Late	2007	3	0.354	0.422
Fraser River Late	2007	4	0.976	0.982
Fraser River Late	2007	5	1	1
Fraser River Late	2008	2	0.104	0.074
Fraser River Late	2008	3	0.354	0.389
Fraser River Late	2008	4	0.976	0.982

Fraser River Late	2008	5	1	1
Fraser River Late	2009	2	0.104	0.091
Fraser River Late	2009	3	0.354	0.303
Fraser River Late	2009	4	0.976	0.907
Fraser River Late	2009	5	1	1
Fraser River Late	2010	2	0.104	0.113
Fraser River Late	2010	3	0.354	0.444
Fraser River Late	2010	4	0.976	0.988
Fraser River Late	2010	5	1	1
Fraser River Late	2011	2	0.104	0.19
Fraser River Late	2011	3	0.354	0.366
Fraser River Late	2011	4	0.976	0.954
Fraser River Late	2011	5	1	1
Fraser River Late	2012	2	0.104	0.07
Fraser River Late	2012	3	0.354	0.226
Fraser River Late	2012	4	0.976	0.992
Fraser River Late	2012	5	1	1
Fraser River Late	2013	2	0.104	0.067
Fraser River Late	2013	3	0.354	0.65
Fraser River Late	2013	4	0.976	0.907
Fraser River Late	2013	5	1	1
Fraser River Early	1994	2	0.018	0
Fraser River Early	1994	3	0.195	0.518
Fraser River Early	1994	4	0.958	0.97
Fraser River Early	1994	5	1	1
Fraser River Early	1995	2	0.018	0.008
Fraser River Early	1995	3	0.195	0.53
Fraser River Early	1995	4	0.958	0.994
Fraser River Early	1995	5	1	1
Fraser River Early	1996	2	0.018	0.005
Fraser River Early	1996	3	0.195	0.569
Fraser River Early	1996	4	0.958	0.972
Fraser River Early	1996	5	1	1
Fraser River Early	1997	2	0.018	0.005
Fraser River Early	1997	3	0.195	0.481
Fraser River Early	1997	4	0.958	0.969
Fraser River Early	1997	5	1	1
Fraser River Early	1998	2	0.018	0.023
Fraser River Early	1998	3	0.195	0.64
Fraser River Early	1998	4	0.958	0.983
Fraser River Early	1998	5	1	1
Fraser River Early	1999	2	0.018	0.015
Fraser River Early	1999	3	0.195	0.466
Fraser River Early	1999	4	0.958	0.969

Fraser River Early	1999	5	1	1
Fraser River Early	2000	2	0.018	0.044
Fraser River Early	2000	3	0.195	0.609
Fraser River Early	2000	4	0.958	0.964
Fraser River Early	2000	5	1	1
Fraser River Early	2001	2	0.018	0.001
Fraser River Early	2001	3	0.195	0.52
Fraser River Early	2001	4	0.958	0.962
Fraser River Early	2001	5	1	1
Fraser River Early	2002	2	0.018	0.012
Fraser River Early	2002	3	0.195	0.446
Fraser River Early	2002	4	0.958	0.985
Fraser River Early	2002	5	1	1
Fraser River Early	2003	2	0.018	0.021
Fraser River Early	2003	3	0.195	0.637
Fraser River Early	2003	4	0.958	0.472
Fraser River Early	2003	5	1	1
Fraser River Early	2004	2	0.018	0.023
Fraser River Early	2004	3	0.195	0.618
Fraser River Early	2004	4	0.958	0.934
Fraser River Early	2004	5	1	1
Fraser River Early	2005	2	0.018	0.023
Fraser River Early	2005	3	0.195	0.676
Fraser River Early	2005	4	0.958	0.991
Fraser River Early	2005	5	1	1
Fraser River Early	2006	2	0.018	0.025
Fraser River Early	2006	3	0.195	0.623
Fraser River Early	2006	4	0.958	0.995
Fraser River Early	2006	5	1	1
Fraser River Early	2007	2	0.018	0.02
Fraser River Early	2007	3	0.195	0.584
Fraser River Early	2007	4	0.958	0.982
Fraser River Early	2007	5	1	1
Fraser River Early	2008	2	0.018	0.015
Fraser River Early	2008	3	0.195	0.614
Fraser River Early	2008	4	0.958	0.99
Fraser River Early	2008	5	1	1
Fraser River Early	2009	2	0.018	0.04
Fraser River Early	2009	3	0.195	0.628
Fraser River Early	2009	4	0.958	1
Fraser River Early	2009	5	1	1
Fraser River Early	2010	2	0.018	0.015
Fraser River Early	2010	3	0.195	0.757
Fraser River Early	2010	4	0.958	0.997

Fraser River Early	2010	5	1	1
Fraser River Early	2011	2	0.018	0.021
Fraser River Early	2011	3	0.195	0.526
Fraser River Early	2011	4	0.958	0.996
Fraser River Early	2011	5	1	1
Fraser River Early	2012	2	0.018	0.036
Fraser River Early	2012	3	0.195	0.685
Fraser River Early	2012	4	0.958	0.953
Fraser River Early	2012	5	1	1
Fraser River Early	2013	2	0.018	0.011
Fraser River Early	2013	3	0.195	0.545
Fraser River Early	2013	4	0.958	0.978
Fraser River Early	2013	5	1	1
Lower Georgia Strait	1994	2	0.111	0.141
Lower Georgia Strait	1994	3	0.393	0.462
Lower Georgia Strait	1994	4	0.938	0.582
Lower Georgia Strait	1994	5	1	1
Lower Georgia Strait	1995	2	0.111	0.222
Lower Georgia Strait	1995	3	0.393	0.313
Lower Georgia Strait	1995	4	0.938	0.828
Lower Georgia Strait	1995	5	1	1
Lower Georgia Strait	1996	2	0.111	0.098
Lower Georgia Strait	1996	3	0.393	0.532
Lower Georgia Strait	1996	4	0.938	0.812
Lower Georgia Strait	1996	5	1	1
Lower Georgia Strait	1997	2	0.111	0.059
Lower Georgia Strait	1997	3	0.393	0.345
Lower Georgia Strait	1997	4	0.938	0.892
Lower Georgia Strait	1997	5	1	1
Lower Georgia Strait	1998	2	0.111	0.082
Lower Georgia Strait	1998	3	0.393	0.534
Lower Georgia Strait	1998	4	0.938	0.937
Lower Georgia Strait	1998	5	1	1
Lower Georgia Strait	1999	2	0.111	0.097
Lower Georgia Strait	1999	3	0.393	0.478
Lower Georgia Strait	1999	4	0.938	0.657
Lower Georgia Strait	1999	5	1	1
Lower Georgia Strait	2000	2	0.111	0.064
Lower Georgia Strait	2000	3	0.393	0.427
Lower Georgia Strait	2000	4	0.938	0.672
Lower Georgia Strait	2000	5	1	1
Lower Georgia Strait	2001	2	0.111	0.07
Lower Georgia Strait	2001	3	0.393	0.249
Lower Georgia Strait	2001	4	0.938	0.807

Lower Georgia Strait	2001	5	1	1
Lower Georgia Strait	2002	2	0.111	0.108
Lower Georgia Strait	2002	3	0.393	0.519
Lower Georgia Strait	2002	4	0.938	0.987
Lower Georgia Strait	2002	5	1	1
Lower Georgia Strait	2003	2	0.111	0.123
Lower Georgia Strait	2003	3	0.393	0.43
Lower Georgia Strait	2003	4	0.938	0.891
Lower Georgia Strait	2003	5	1	1
Lower Georgia Strait	2004	2	0.111	0.309
Lower Georgia Strait	2004	3	0.393	0.517
Lower Georgia Strait	2004	4	0.938	0.947
Lower Georgia Strait	2004	5	1	1
Lower Georgia Strait	2005	2	0.111	0.213
Lower Georgia Strait	2005	3	0.393	0.439
Lower Georgia Strait	2005	4	0.938	0.972
Lower Georgia Strait	2005	5	1	1
Lower Georgia Strait	2006	2	0.111	0.079
Lower Georgia Strait	2006	3	0.393	0.452
Lower Georgia Strait	2006	4	0.938	0.953
Lower Georgia Strait	2006	5	1	1
Lower Georgia Strait	2007	2	0.111	0.116
Lower Georgia Strait	2007	3	0.393	0.547
Lower Georgia Strait	2007	4	0.938	0.954
Lower Georgia Strait	2007	5	1	1
Lower Georgia Strait	2008	2	0.111	0.084
Lower Georgia Strait	2008	3	0.393	0.392
Lower Georgia Strait	2008	4	0.938	0.901
Lower Georgia Strait	2008	5	1	1
Lower Georgia Strait	2009	2	0.111	0.171
Lower Georgia Strait	2009	3	0.393	0.511
Lower Georgia Strait	2009	4	0.938	0.95
Lower Georgia Strait	2009	5	1	1
Lower Georgia Strait	2010	2	0.111	0.071
Lower Georgia Strait	2010	3	0.393	0.376
Lower Georgia Strait	2010	4	0.938	0.919
Lower Georgia Strait	2010	5	1	1
Lower Georgia Strait	2011	2	0.111	0.099
Lower Georgia Strait	2011	3	0.393	0.473
Lower Georgia Strait	2011	4	0.938	0.912
Lower Georgia Strait	2011	5	1	1
Lower Georgia Strait	2012	2	0.111	0.021
Lower Georgia Strait	2012	3	0.393	0.37
Lower Georgia Strait	2012	4	0.938	0.962

Lower Georgia Strait	2012	5	1	1
Lower Georgia Strait	2013	2	0.111	0.12
Lower Georgia Strait	2013	3	0.393	0.512
Lower Georgia Strait	2013	4	0.938	0.97
Lower Georgia Strait	2013	5	1	1
WA North Coast	1994	2	0	0
WA North Coast	1994	3	0.103	0.02
WA North Coast	1994	4	0.422	0.031
WA North Coast	1994	5	1	1
WA North Coast	1995	2	0	0
WA North Coast	1995	3	0.103	0.015
WA North Coast	1995	4	0.422	0.478
WA North Coast	1995	5	1	1
WA North Coast	1996	2	0	0.003
WA North Coast	1996	3	0.103	0.055
WA North Coast	1996	4	0.422	0.424
WA North Coast	1996	5	1	1
WA North Coast	1997	2	0	0.013
WA North Coast	1997	3	0.103	0.048
WA North Coast	1997	4	0.422	0.344
WA North Coast	1997	5	1	1
WA North Coast	1998	2	0	0
WA North Coast	1998	3	0.103	0.057
WA North Coast	1998	4	0.422	0.231
WA North Coast	1998	5	1	1
WA North Coast	1999	2	0	0
WA North Coast	1999	3	0.103	0.046
WA North Coast	1999	4	0.422	0.177
WA North Coast	1999	5	1	1
WA North Coast	2000	2	0	0
WA North Coast	2000	3	0.103	0.067
WA North Coast	2000	4	0.422	0.348
WA North Coast	2000	5	1	1
WA North Coast	2001	2	0	0
WA North Coast	2001	3	0.103	0.11
WA North Coast	2001	4	0.422	0.521
WA North Coast	2001	5	1	1
WA North Coast	2002	2	0	0
WA North Coast	2002	3	0.103	0.103
WA North Coast	2002	4	0.422	0.219
WA North Coast	2002	5	1	1
WA North Coast	2003	2	0	0
WA North Coast	2003	3	0.103	0.046
WA North Coast	2003	4	0.422	0.234

WA North Coast	2003	5	1	1
WA North Coast	2004	2	0	0
WA North Coast	2004	3	0.103	0.043
WA North Coast	2004	4	0.422	0.35
WA North Coast	2004	5	1	1
WA North Coast	2005	2	0	0
WA North Coast	2005	3	0.103	0.053
WA North Coast	2005	4	0.422	0.249
WA North Coast	2005	5	1	1
WA North Coast	2006	2	0	0
WA North Coast	2006	3	0.103	0.083
WA North Coast	2006	4	0.422	0.481
WA North Coast	2006	5	1	1
WA North Coast	2007	2	0	0
WA North Coast	2007	3	0.103	0.098
WA North Coast	2007	4	0.422	0.453
WA North Coast	2007	5	1	1
WA North Coast	2008	2	0	0
WA North Coast	2008	3	0.103	0.15
WA North Coast	2008	4	0.422	0.476
WA North Coast	2008	5	1	1
WA North Coast	2009	2	0	0
WA North Coast	2009	3	0.103	0.065
WA North Coast	2009	4	0.422	0.292
WA North Coast	2009	5	1	1
WA North Coast	2010	2	0	0
WA North Coast	2010	3	0.103	0.073
WA North Coast	2010	4	0.422	0.411
WA North Coast	2010	5	1	1
WA North Coast	2011	2	0	0
WA North Coast	2011	3	0.103	0.048
WA North Coast	2011	4	0.422	0.599
WA North Coast	2011	5	1	1
WA North Coast	2012	2	0	0
WA North Coast	2012	3	0.103	0.084
WA North Coast	2012	4	0.422	0.48
WA North Coast	2012	5	1	1
WA North Coast	2013	2	0	0
WA North Coast	2013	3	0.103	0.022
WA North Coast	2013	4	0.422	0.522
WA North Coast	2013	5	1	1
Hoko	1994	2	0.024	0
Hoko	1994	3	0.164	0.052
Hoko	1994	4	0.612	0.52

Hoko	1994	5	1	0.997
Hoko	1995	2	0.024	0.006
Hoko	1995	3	0.164	0.085
Hoko	1995	4	0.612	0.63
Hoko	1995	5	1	1
Hoko	1996	2	0.024	0.076
Hoko	1996	3	0.164	0.088
Hoko	1996	4	0.612	0.734
Hoko	1996	5	1	1
Hoko	1997	2	0.024	0.039
Hoko	1997	3	0.164	0.232
Hoko	1997	4	0.612	0.584
Hoko	1997	5	1	0.938
Hoko	1998	2	0.024	0.028
Hoko	1998	3	0.164	0.132
Hoko	1998	4	0.612	0.435
Hoko	1998	5	1	0.915
Hoko	1999	2	0.024	0
Hoko	1999	3	0.164	0.025
Hoko	1999	4	0.612	0.306
Hoko	1999	5	1	0.835
Hoko	2000	2	0.024	0.003
Hoko	2000	3	0.164	0.075
Hoko	2000	4	0.612	0.407
Hoko	2000	5	1	0.447
Hoko	2001	2	0.024	0.008
Hoko	2001	3	0.164	0.16
Hoko	2001	4	0.612	0.697
Hoko	2001	5	1	0.4
Hoko	2002	2	0.024	0.018
Hoko	2002	3	0.164	0.018
Hoko	2002	4	0.612	0.767
Hoko	2002	5	1	0.987
Hoko	2003	2	0.024	0.009
Hoko	2003	3	0.164	0.231
Hoko	2003	4	0.612	0.465
Hoko	2003	5	1	0.422
Hoko	2004	2	0.024	0.014
Hoko	2004	3	0.164	0.223
Hoko	2004	4	0.612	0.182
Hoko	2004	5	1	0.804
Hoko	2005	2	0.024	0
Hoko	2005	3	0.164	0.072
Hoko	2005	4	0.612	0.409

Hoko	2005	5	1	0.93
Hoko	2006	2	0.024	0.007
Hoko	2006	3	0.164	0.193
Hoko	2006	4	0.612	0.781
Hoko	2006	5	1	1
Hoko	2007	2	0.024	0.031
Hoko	2007	3	0.164	0.179
Hoko	2007	4	0.612	0.687
Hoko	2007	5	1	0.899
Hoko	2008	2	0.024	0.051
Hoko	2008	3	0.164	0.149
Hoko	2008	4	0.612	0.51
Hoko	2008	5	1	1
Hoko	2009	2	0.024	0.003
Hoko	2009	3	0.164	0.115
Hoko	2009	4	0.612	0.707
Hoko	2009	5	1	1
Hoko	2010	2	0.024	0.021
Hoko	2010	3	0.164	0.271
Hoko	2010	4	0.612	0.51
Hoko	2010	5	1	0.992
Hoko	2011	2	0.024	0.048
Hoko	2011	3	0.164	0.159
Hoko	2011	4	0.612	0.803
Hoko	2011	5	1	1
Hoko	2012	2	0.024	0.017
Hoko	2012	3	0.164	0.188
Hoko	2012	4	0.612	0.627
Hoko	2012	5	1	0.981
Hoko	2013	2	0.024	0.017
Hoko	2013	3	0.164	0.294
Hoko	2013	4	0.612	0.922
Hoko	2013	5	1	0.979
Mid OR Coast	1994	2	0.041	0.033
Mid OR Coast	1994	3	0.213	0.054
Mid OR Coast	1994	4	0.693	0.616
Mid OR Coast	1994	5	1	1
Mid OR Coast	1995	2	0.041	0.04
Mid OR Coast	1995	3	0.213	0.192
Mid OR Coast	1995	4	0.693	0.742
Mid OR Coast	1995	5	1	1
Mid OR Coast	1996	2	0.041	0.031
Mid OR Coast	1996	3	0.213	0.183
Mid OR Coast	1996	4	0.693	0.615

Mid OR Coast	1996	5	1	1
Mid OR Coast	1997	2	0.041	0.028
Mid OR Coast	1997	3	0.213	0.157
Mid OR Coast	1997	4	0.693	0.757
Mid OR Coast	1997	5	1	1
Mid OR Coast	1998	2	0.041	0.038
Mid OR Coast	1998	3	0.213	0.221
Mid OR Coast	1998	4	0.693	0.697
Mid OR Coast	1998	5	1	1
Mid OR Coast	1999	2	0.041	0.044
Mid OR Coast	1999	3	0.213	0.102
Mid OR Coast	1999	4	0.693	0.39
Mid OR Coast	1999	5	1	1
Mid OR Coast	2000	2	0.041	0.053
Mid OR Coast	2000	3	0.213	0.109
Mid OR Coast	2000	4	0.693	0.664
Mid OR Coast	2000	5	1	1
Mid OR Coast	2001	2	0.041	0.029
Mid OR Coast	2001	3	0.213	0.239
Mid OR Coast	2001	4	0.693	0.45
Mid OR Coast	2001	5	1	1
Mid OR Coast	2002	2	0.041	0.056
Mid OR Coast	2002	3	0.213	0.116
Mid OR Coast	2002	4	0.693	0.624
Mid OR Coast	2002	5	1	1
Mid OR Coast	2003	2	0.041	0.032
Mid OR Coast	2003	3	0.213	0.182
Mid OR Coast	2003	4	0.693	0.663
Mid OR Coast	2003	5	1	1
Mid OR Coast	2004	2	0.041	0.029
Mid OR Coast	2004	3	0.213	0.114
Mid OR Coast	2004	4	0.693	0.718
Mid OR Coast	2004	5	1	1
Mid OR Coast	2005	2	0.041	0.038
Mid OR Coast	2005	3	0.213	0.097
Mid OR Coast	2005	4	0.693	0.558
Mid OR Coast	2005	5	1	1
Mid OR Coast	2006	2	0.041	0.034
Mid OR Coast	2006	3	0.213	0.184
Mid OR Coast	2006	4	0.693	0.79
Mid OR Coast	2006	5	1	1
Mid OR Coast	2007	2	0.041	0.058
Mid OR Coast	2007	3	0.213	0.29
Mid OR Coast	2007	4	0.693	0.787

Mid OR Coast	2007	5	1	1
Mid OR Coast	2008	2	0.041	0.034
Mid OR Coast	2008	3	0.213	0.284
Mid OR Coast	2008	4	0.693	0.685
Mid OR Coast	2008	5	1	1
Mid OR Coast	2009	2	0.041	0.037
Mid OR Coast	2009	3	0.213	0.211
Mid OR Coast	2009	4	0.693	0.77
Mid OR Coast	2009	5	1	1
Mid OR Coast	2010	2	0.041	0.012
Mid OR Coast	2010	3	0.213	0.111
Mid OR Coast	2010	4	0.693	0.585
Mid OR Coast	2010	5	1	1
Mid OR Coast	2011	2	0.041	0.067
Mid OR Coast	2011	3	0.213	0.152
Mid OR Coast	2011	4	0.693	0.757
Mid OR Coast	2011	5	1	1
Mid OR Coast	2012	2	0.041	0.041
Mid OR Coast	2012	3	0.213	0.32
Mid OR Coast	2012	4	0.693	0.742
Mid OR Coast	2012	5	1	1
Mid OR Coast	2013	2	0.041	0.025
Mid OR Coast	2013	3	0.213	0.315
Mid OR Coast	2013	4	0.693	0.869
Mid OR Coast	2013	5	1	1