Southern Oregon/Northern California Coast Coho Workgroup: Preliminary risk assessment

SONCC Workgroup

- Established by the Council in April 2020
- TORs adopted June 2020
- Workgroup has held meetings in June, August, and October
- Submitted for November PFMC:
  - Progress Report
  - Supplemental Workgroup Report 2

Purpose and Need (paraphrased)

Develop a proposed harvest control rule for the SONCC Coho Evolutionarily Significant Unit (ESU) for Council consideration that would:

1. allow fishing on abundant salmon stocks while not impeding the recovery of SONCC coho;

2. establish harvest control rules in the form of fixed or tiered exploitation rates including consideration of control rules which reduce exploitation rates at low abundance levels, and which may include minimum or target spawner levels;

3. assess a range of control rules including marine and freshwater fisheries combined, the marine and freshwater fisheries components, and marine fisheries only, affecting SONCC coho as appropriate, given potential data limitations, and what is feasible to accomplish within the timeline;

4. evaluate the feasibility of considering the status of subcomponents of the ESU (e.g., Rogue River, Klamath and Trinity Rivers, Eel River), marine and freshwater environmental conditions and other relevant factors as appropriate and as supported by the data available.

Tasks for November PFMC (from TOR):

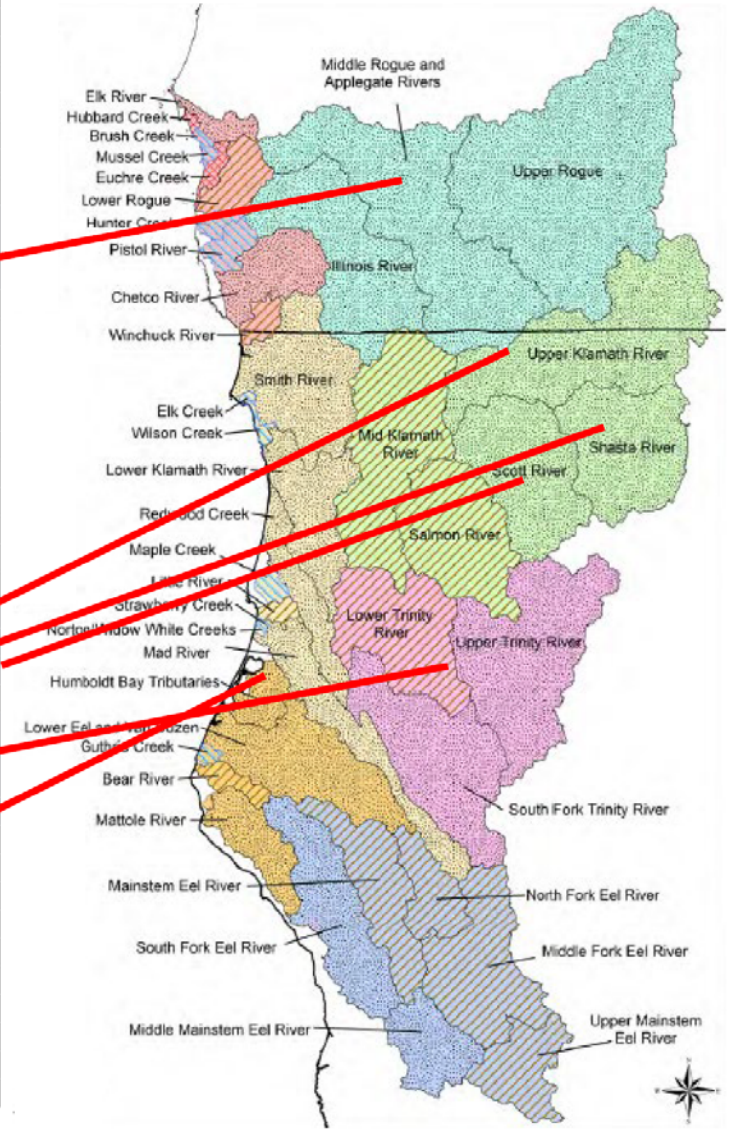
“prepare document with range of alternatives, preliminary recommendation and draft report for Chair and Vice-Chair to present Workgroup report to the Council at the November 2020 Council meeting”

Workgroup progress:

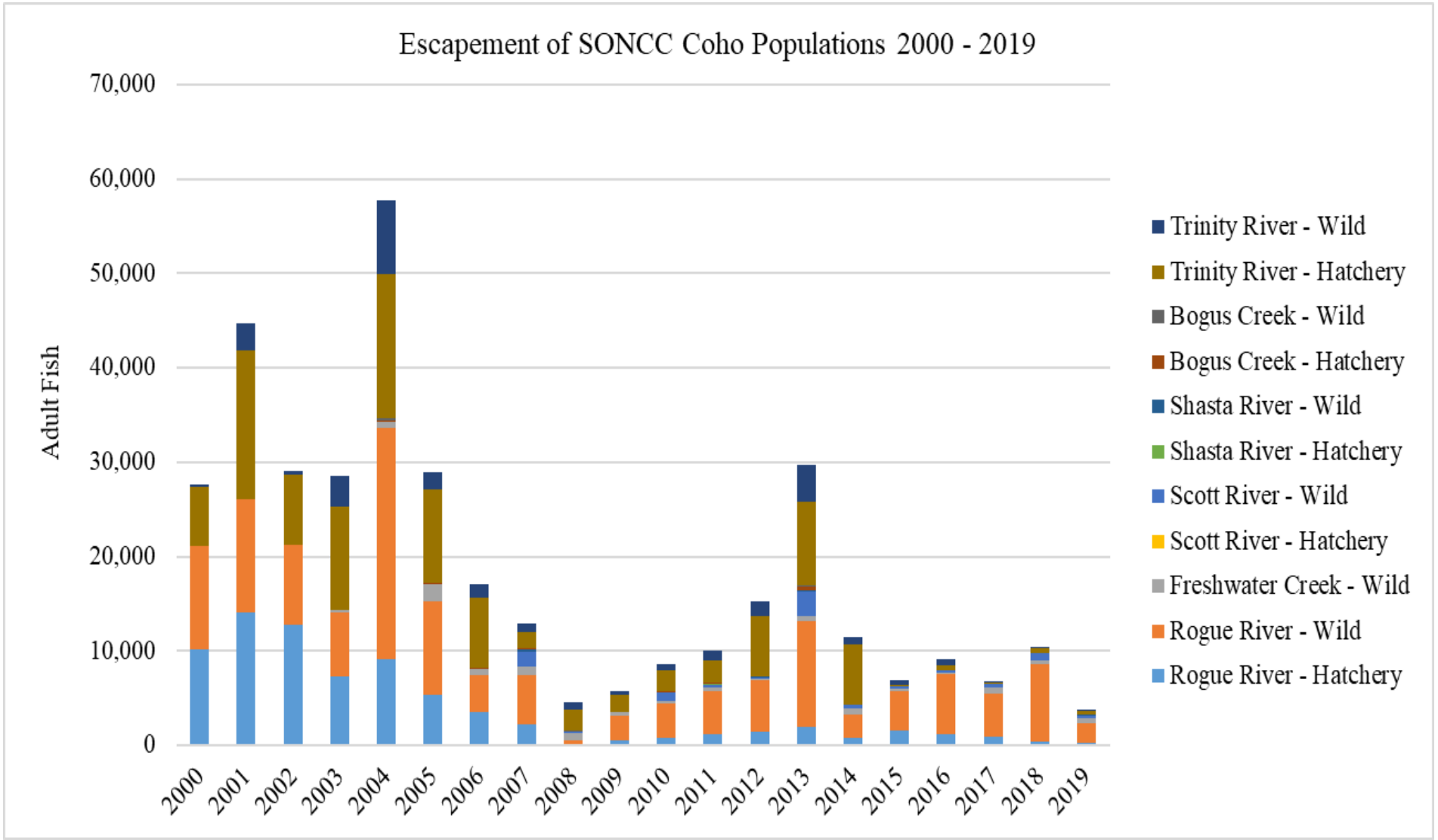
- Described status of the ESU, available data, description of fisheries
- Preliminary assessment of abundance forecast feasibility
- Developed preliminary range of control rules
- Made a preliminary assessment of a subset of the control rules
- Developed supplemental Workgroup report
  - Very preliminary, update of work to date, illustration of methods

SONCC coho ESU: populations with sufficient data

Stratum	Populations	Risk status	Risk goal	Recovery role	Recovery criteria	Depensation threshold[a]	Intrinsic potential	Analysis populations
Northern Coastal Basin	Elk R	High	Low	Core	2,400	63		--
	Brush Crk	High	Juveniles	Dependent	--	--		--
	Mussel Crk	High	Juveniles	Dependent	--	--		--
	Lower Rogue R	High	Moderate	Non-core 1	320	81		--
	Hunter Crk	High	Juveniles	Dependent	--	--		--
	Pistol Crk	High	Juveniles	Dependent	--	--		--
	Chetco R	High	Low	Core	4,500	135		--
	Winchuck R	High	Moderate	Non-core 1	230	57		--
Interior Rogue R	Illinois R	High	Low	Core	11,800	590		Rogue
	Middle Rogue/Applegate R	High	Moderate	Non-core 1	2,400	603		
	Upper Rogue R	Moderate	Low	Core	13,800	689		
Central Coastal Basin	Smith R	High	Low	Core	6,800	325		--
	Elk Crk	High	Juveniles	Dependent	--	--		--
	Wilson Crk	High	Juveniles	Dependent	--	--		--
	Lower Klamath R	High	Low	Core	5,900	205		--
	Redwood Crk	High	Low	Core	4,900	151		--
	Maple Crk/Big Lagoon	--	Juveniles	Dependent	--	--		--
	Little R	Moderate	Moderate	Non-core 1	140	34		--
	Strawberry Crk	--	Juveniles	Dependent	--	--		--
	Norton/Widow White Crk	--	Juveniles	Dependent	--	--		--
	Mad R	High	Moderate	Non-core 1	550	136		--
Interior Klamath	Middle Klamath R	Moderate	Moderate	Non-core 1	450	113		--
	Upper Klamath R	High	Low	Core	8,500	425		Bogus Crk
	Shasta R	High	Low	Core	4,700	144		Shasta R
	Scott R	Moderate	Low	Core	6,500	250		Scott R
	Salmon R	High	Moderate	Non-core 1	450	114		--
Interior Trinity	Lower Trinity R	High	Low	Core	3,600	112		Trinity R
	South Fork Trinity R	High	Moderate	Non-core 1	970	242		
	Upper Trinity R	Moderate	Low	Core	5,800	365		
Southern Coastal Basin	Humboldt Bay tributaries	Moderate	Low	Core	5,700	191		Freshwater Crk.
	Lower Eel/Van Duzen R	High	Low	Core	7,900	394		--
	Guthrie Crk	--	Juveniles	Dependent	--	--		--
	Bear R	High	Juveniles	Non-core 2	--	--		--
	Mattole R	High	Moderate	Non-core 1	1,000	250		--
Interior Eel	Mainstem Eel R	High	Low	Core	2,600	68		--
	Middle Mainstem Eel R	High	Low	Core	6,300	232		--
	Upper Mainstem Eel R	High	Juveniles	Non-core 2	--	--		--
	Middle Fork Eel R	High	Juveniles	Non-core 2	--	--		--
	South Fork Eel R	Moderate	Low	Core	9,300	464		--
	North Fork Eel R	High	Juveniles	Non-core 2	--	--		--

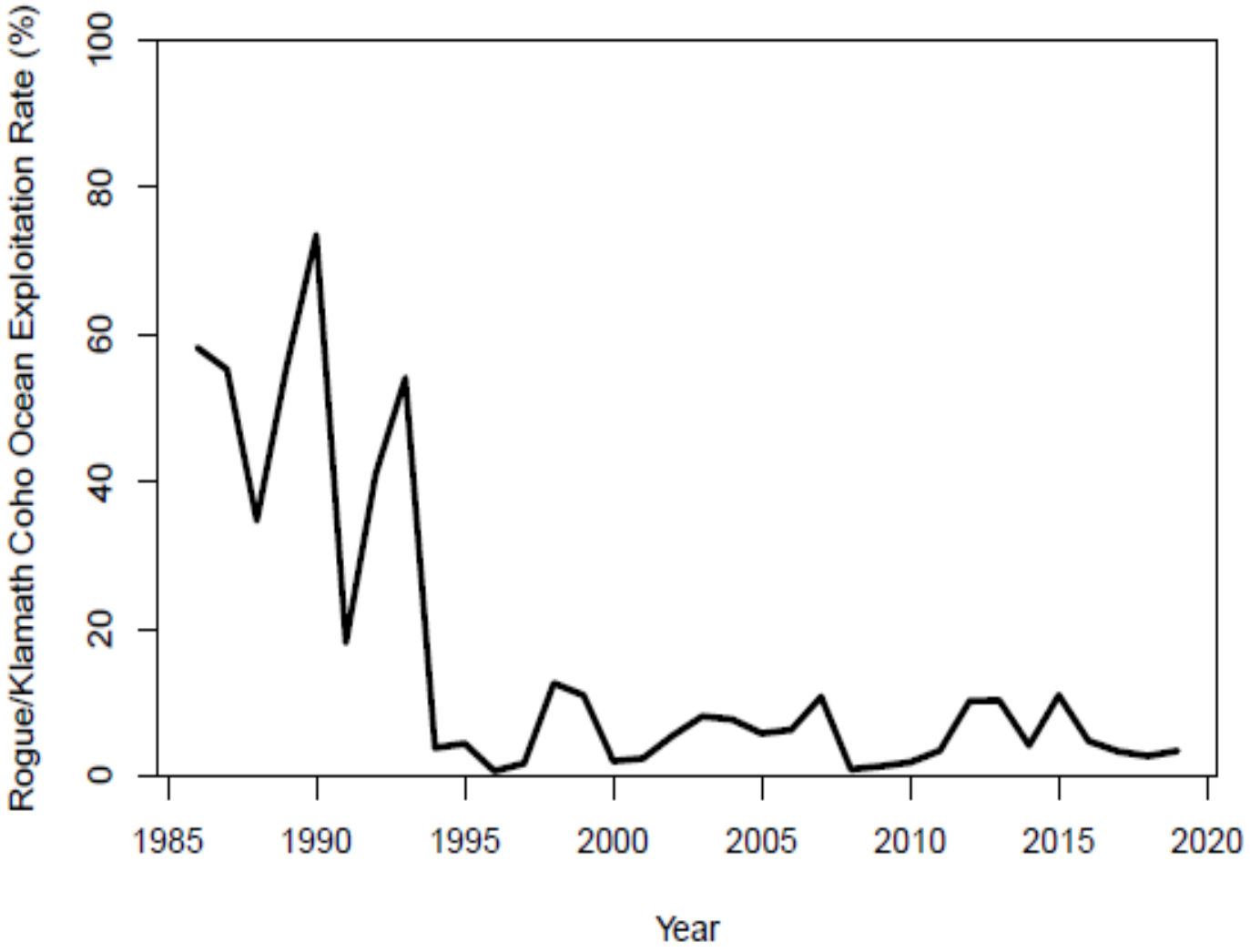


SONCC coho escapement trends

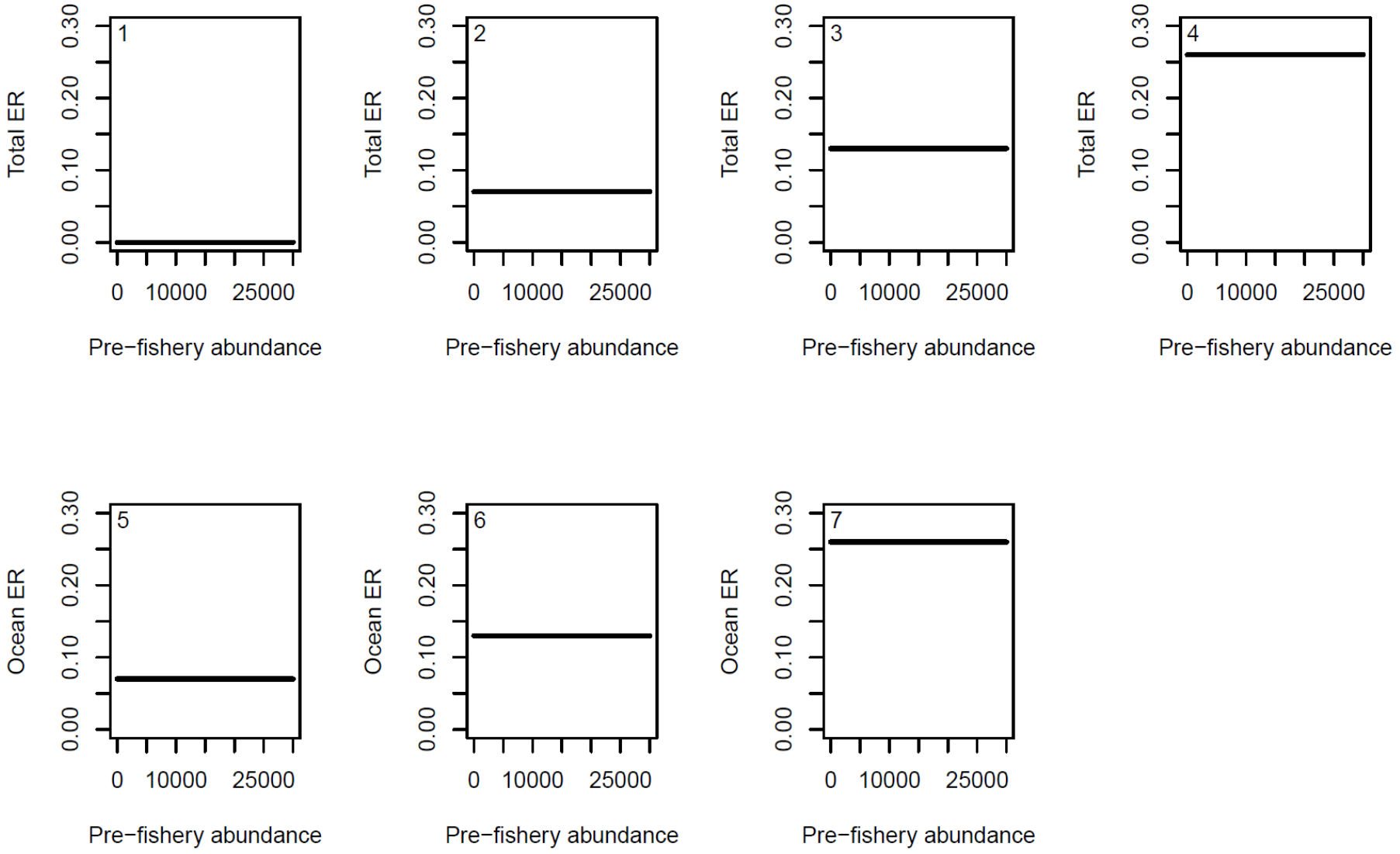


Fisheries:

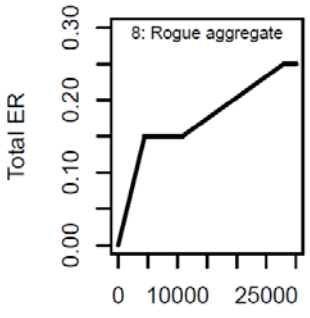
- **Ocean fisheries: largely incidental impacts**
- **Tribal fisheries in Klamath/Trinity Basin**
- **Mark-selective sport fisheries in Rogue Basin**
- **No coho retention allowed in California fisheries (ocean and freshwater)**

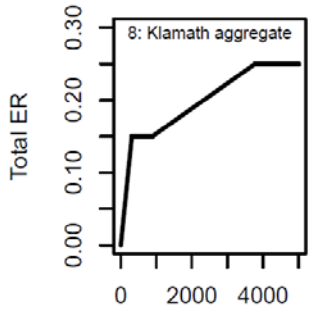


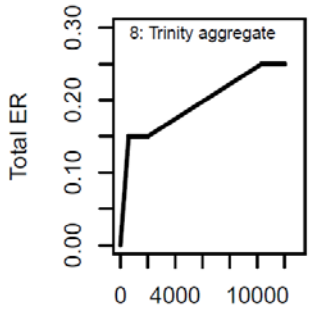
Preliminary control rules 1-7 (constant ER)

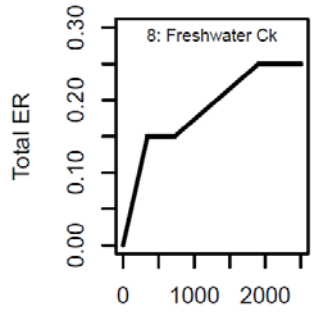


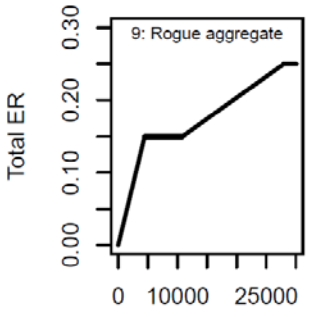
Preliminary control rules 8-12 (N-based)

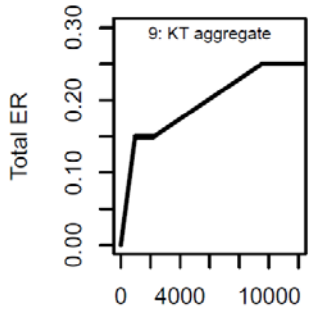


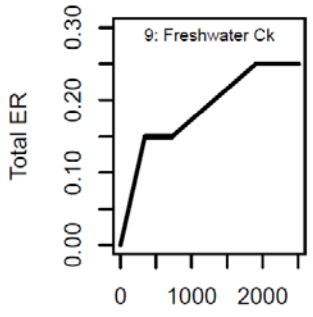


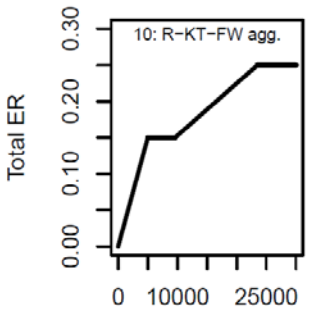


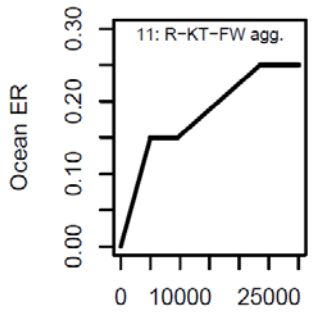


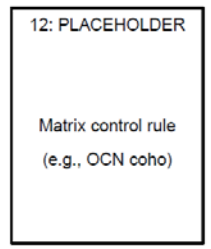








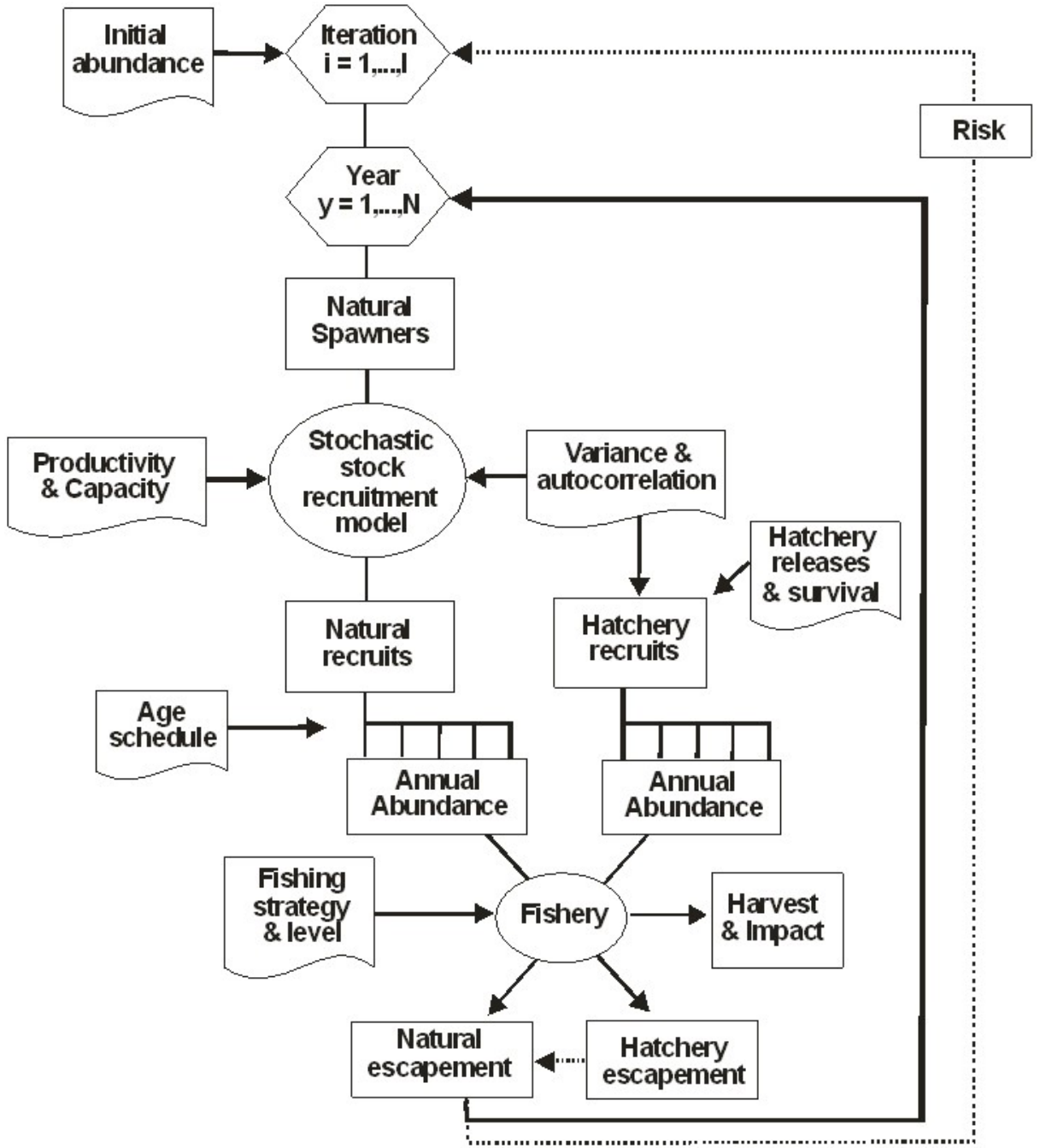




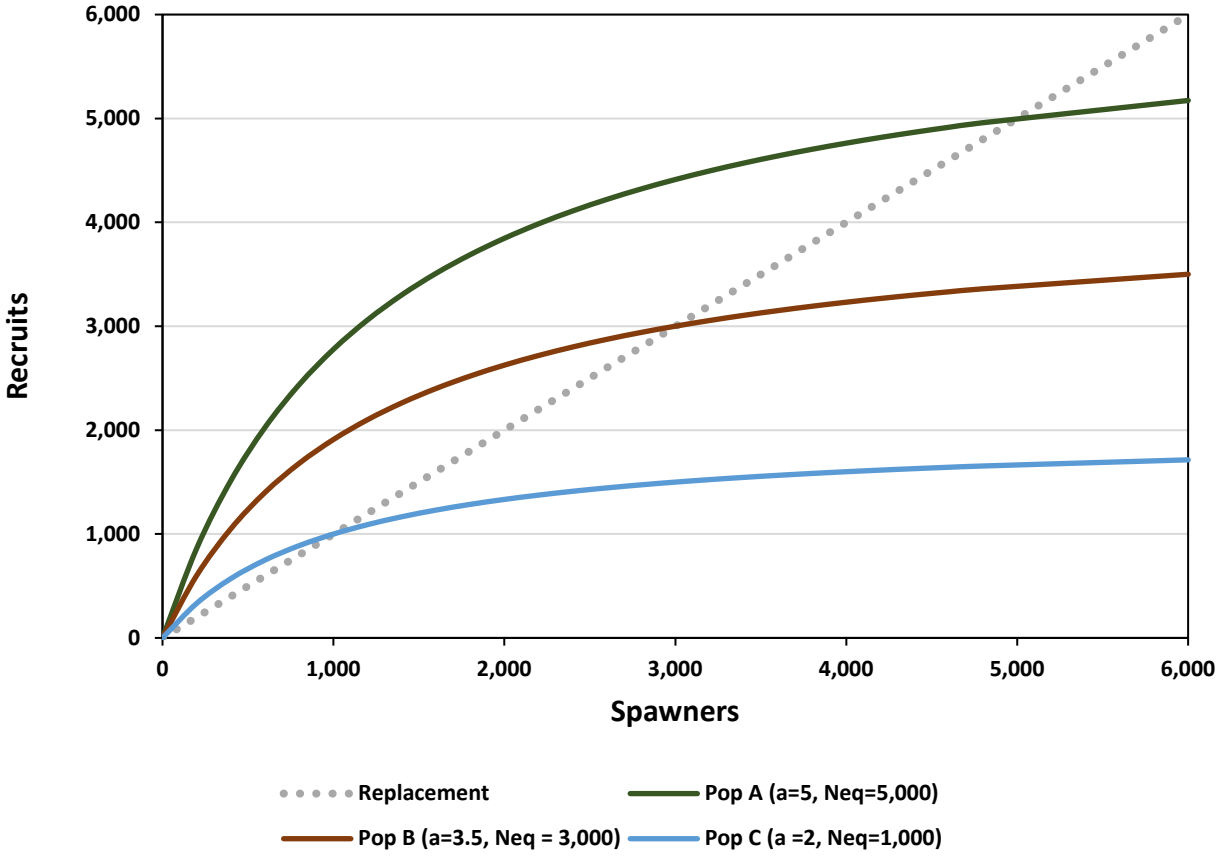
Summary of preliminary control rules

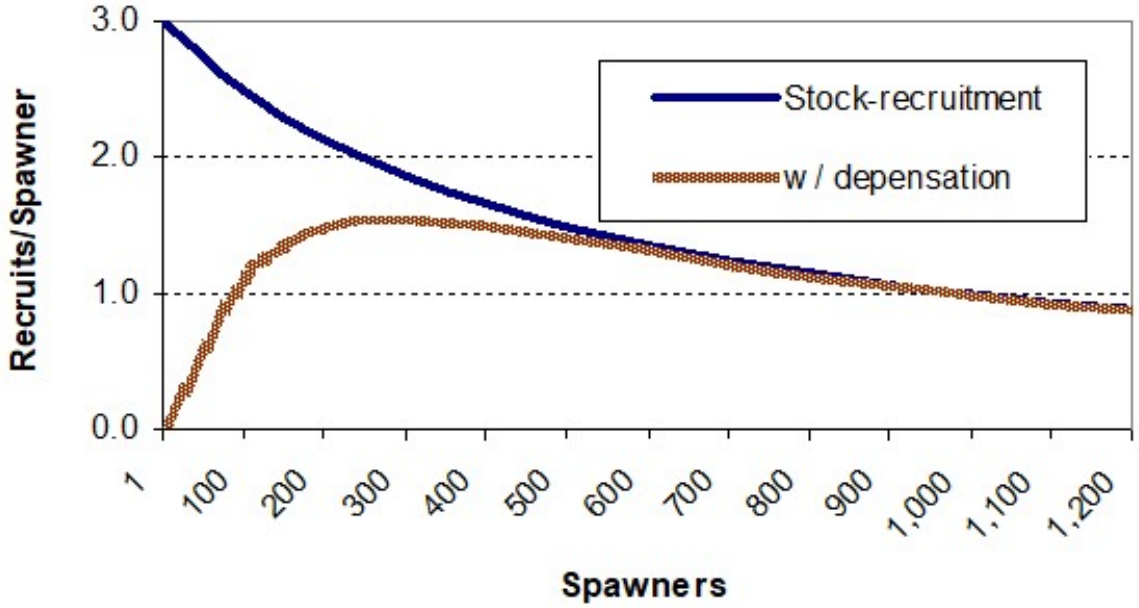
Control Rule	Form	Number of separate components	ER type	Minimum ER	Maximum ER	ER at median abundance
1	constant ER	1	Ocean and FW	0.00	0.00	0.00
2	constant ER	1	Ocean and FW	0.07	0.07	0.07
3	constant ER	1	Ocean and FW	0.13	0.13	0.13
4	constant ER	1	Ocean and FW	0.26	0.26	0.26
5	constant ER	1	Ocean	0.07	0.07	0.07
6	constant ER	1	Ocean	0.13	0.13	0.13
7	constant ER	1	Ocean	0.26	0.26	0.26
8	N-based ER	4	Ocean and FW	0	0.25	0.15
9	N-based ER	3	Ocean and FW	0	0.25	0.15
10	N-based ER	1	Ocean and FW	0	0.25	0.15
11	N-based ER	1	Ocean	0	0.25	0.15
12	matrix-based ER	placeholder: not yet developed				

Evaluation of control rules: risk assessment model

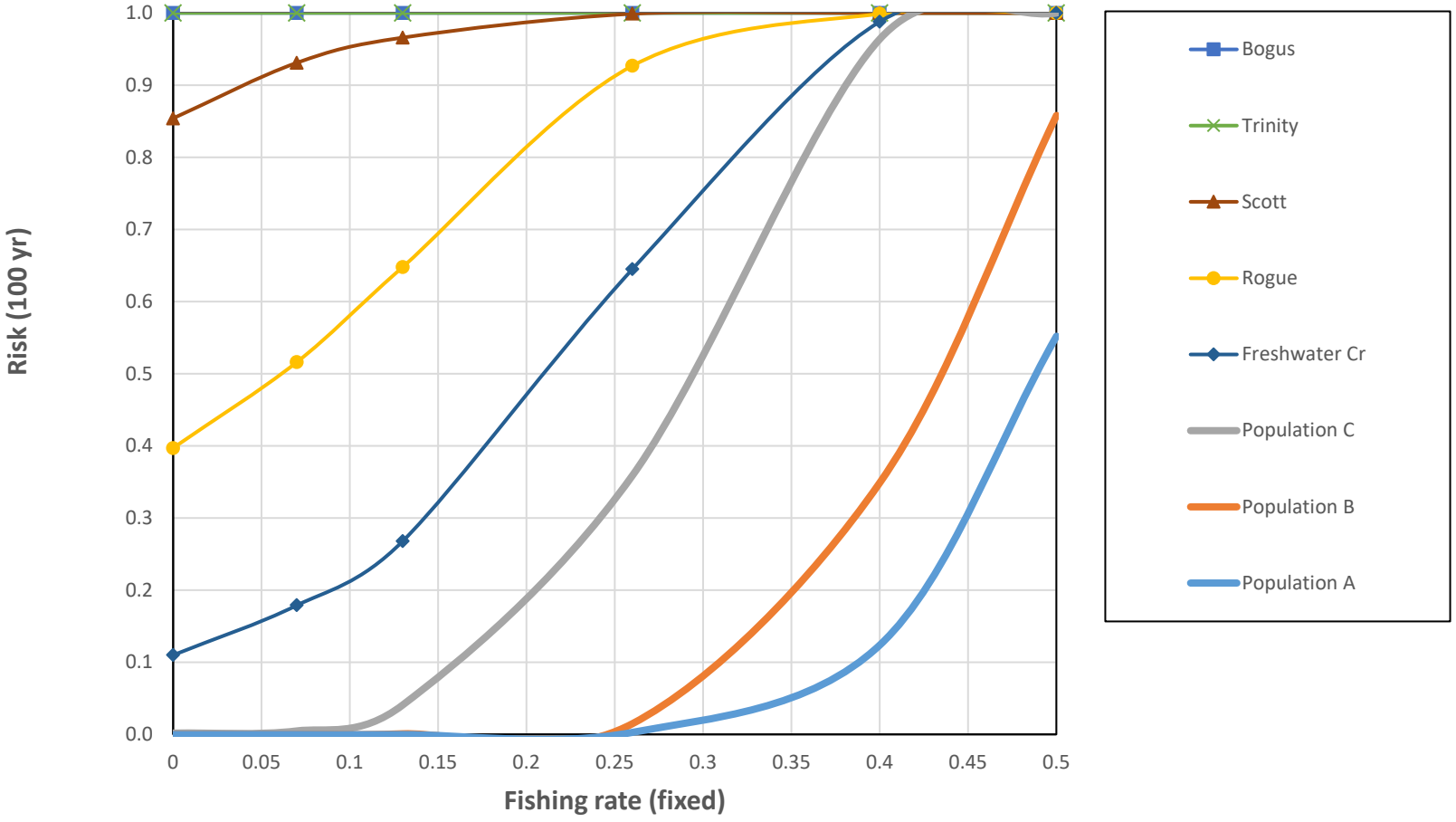


Key components of risk assessment model: productivity and capacity of populations





Population risk profiles



Summary

- Data has been assembled and checked
- A suite of control rules has been developed
- A very preliminary risk assessment model has been parameterized and run
  - Similar approach used on other salmon stocks
  - Risk assessment not applied to all control rules yet
  - Substantial changes to the results likely with more work
  - Presented as an illustration of the approach
- Progress has been slowed due to a variety of factors

Next steps

Workgroup Winter Goals - next meeting January 5, 2020

- Review Council guidance and revise the range alternative control rules as appropriate
- Continue examining forecast feasibility
- Continue development of the risk assessment model, and application to all control rules

Spring 2021 and April Council Meeting

- Workgroup reviews preliminary results with Advisory Bodies and Council
- Consider revisions to harvest control rules
- Council adopt range of alternatives and a preliminary preferred alternative, as appropriate

Summer/Fall 2021

- Revise alternatives per Council guidance and update Risk Assessment
- Continue to solicit input from the SAS and other stakeholders
- September Council meeting progress update if needed
- November Council meeting final action