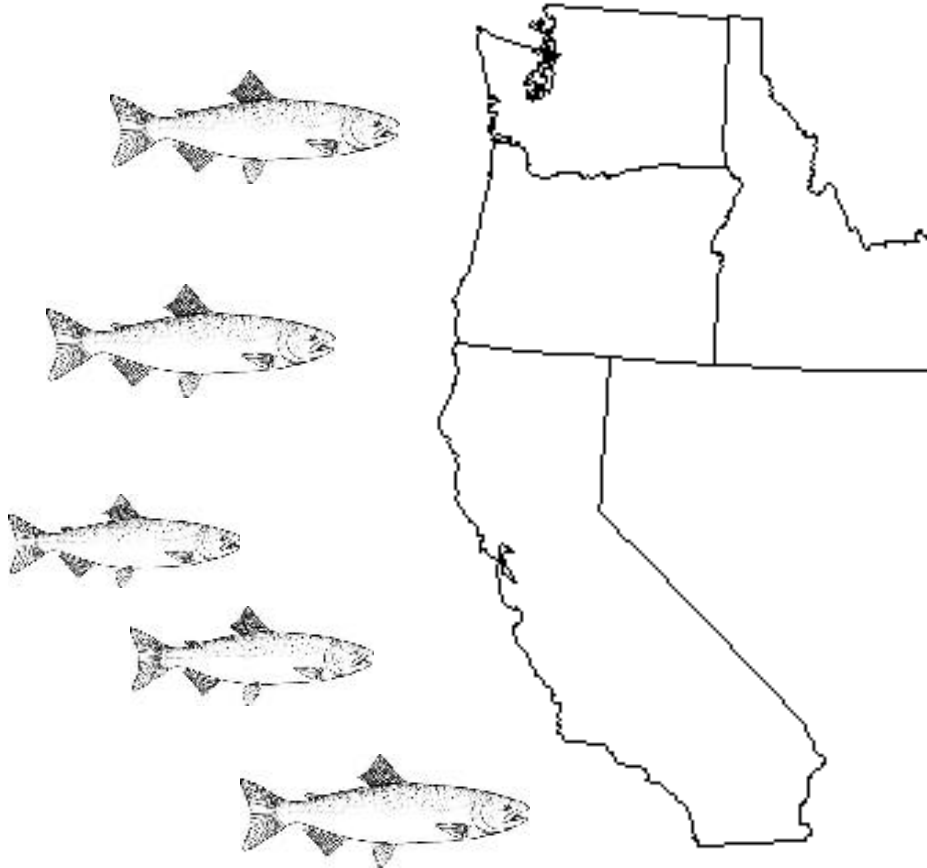


REVIEW OF 2001 OCEAN SALMON FISHERIES



Pacific Fishery Management Council
7700 NE Ambassador Place, Suite 200
Portland, OR 97220-1384
(503) 326-6352
www.pcouncil.org

FEBRUARY 2002

ACKNOWLEDGMENTS

SALMON TECHNICAL TEAM

Mr. Dell Simmons, Chair

National Marine Fisheries Service, Lacey, Washington

Mr. Allen Grover, Vice-Chair

California Department of Fish and Game, Healdsburg, California

Mr. Doug Milward

Washington Department of Fish and Wildlife, Olympia, Washington

Dr. Robert Kope

National Marine Fisheries Service, Seattle Washington

Dr. Gary Morishima

Indian Tribes, Mercer Island, Washington

Mr. Michael Mohr

National Marine Fisheries Service, Santa Cruz, California

Mr. Mike Burner

Oregon Department of Fish and Game, Portland, Oregon

PACIFIC FISHERY MANAGEMENT COUNCIL STAFF

Mr. Chuck Tracy

Mr. James Seger

Ms. Jennifer Gilden

Ms. Kerry Aden

Ms. Donde Hayes

Ms. Renee Heyden

The Salmon Technical Team and the Council staff express their thanks for the expert assistance provided by Ms. Wendy Beeghley, WDFW; Mr. Chris Carter, ODFW; Ms. Melodie Palmer-Zwahlen, CDFG; and numerous other agency and tribal personnel in completing this report.

This document may be cited in the following manner:

Pacific Fishery Management Council. 2002. *Review of 2001 Ocean Salmon Fisheries*. (Document prepared for the Council and its advisory entities.) Pacific Fishery Management Council, 7700 NE Ambassador Place, Suite 200, Portland, Oregon 97220-1384.



A report of the Pacific Fishery Management Council pursuant to National Oceanic and Atmospheric Administration Award Number NA17FC2235.

TABLE OF CONTENTS

	<u>Page</u>
LIST OF TABLES	iv
LIST OF FIGURES	vii
ACRONYMS AND ABBREVIATIONS	viii
INTRODUCTION	1
COMMON TABLE CONVENTIONS	1
CHAPTER I COASTWIDE OCEAN FISHING SUMMARY	I-1
COUNCIL-AREA REGULATIONS AND LANDINGS	I-1
REGULATORY OBJECTIVES BY MANAGEMENT AREA	I-14
Horse Mountain to U.S.-Mexico Border	I-14
Chinook Fisheries	I-14
Coho Fisheries	I-14
Humbug Mountain to Horse Mountain	I-14
Chinook Fisheries	I-14
Coho Fisheries	I-15
Cape Falcon to Humbug Mountain	I-15
Chinook Fisheries	I-15
Coho Fisheries	I-16
U.S.-Canada Border to Cape Falcon	I-16
Chinook Fisheries	I-16
Coho Fisheries	I-17
SELECTIVE COHO FISHERIES AND SALMON BYCATCH	I-17
PACIFIC SALMON COMMISSION	I-17
Chinook Fisheries	I-17
Coho Fisheries	I-23
CHAPTER II CHINOOK SALMON MANAGEMENT	II-1
CENTRAL VALLEY CHINOOK STOCKS	II-1
Management Objectives	II-1
Regulations to Achieve Objectives	II-1
Commercial Troll	II-1
Recreational	II-1
Inside Harvest	II-1
Escapement and Management Performance	II-2
Sacramento River Fall Chinook	II-2
Sacramento River Winter and Spring Chinook	II-2
San Joaquin River Fall Chinook	II-2
NORTHERN CALIFORNIA COAST CHINOOK STOCKS	II-2
Management Objectives	II-2
Regulations to Achieve Objectives	II-5
Inside Harvest	II-5
Escapement and Management Performance	II-5
Threatened California North Coast Chinook	II-5
Klamath River Fall Chinook	II-5
Allocation	II-7
OREGON COAST CHINOOK STOCKS	II-7
Management Objectives	II-7
Regulations to Achieve Objectives	II-7
Inside Harvest	II-9

TABLE OF CONTENTS

(continued)

	<u>Page</u>
Escapement and Goal Assessment	II-9
North Migrating Chinook	II-9
South/Local Migrating Chinook	II-9
Coastal Hatchery Chinook	II-9
COLUMBIA RIVER BASIN CHINOOK STOCKS	II-9
Management Objectives	II-14
Inside Harvest	II-14
Escapement and Management Performance	II-14
WASHINGTON COASTAL CHINOOK STOCKS	II-17
Management Objectives	II-17
Regulations to Achieve Objectives	II-17
Willapa Bay Chinook	II-17
Inside Harvest	II-18
Escapement and Management Performance	II-18
Grays Harbor Chinook	II-18
Inside Harvest	II-18
Escapement and Management Performance	II-18
Quinault River Chinook	II-18
Inside Harvest	II-18
Escapement and Management Performance	II-19
Queets River Chinook	II-19
Inside Harvest	II-19
Escapement and Management Performance	II-19
Hoh River Chinook	II-19
Inside Harvest	II-19
Escapement and Management Performance	II-20
Quillayute River Chinook	II-20
Inside Harvest	II-20
Escapement and Goal Assessment	II-20
PUGET SOUND CHINOOK STOCKS	II-20
Management Objectives	II-20
Regulations to Achieve Objectives	II-21
Inside Harvest	II-21
Escapement and Management Performance	II-21
COASTWIDE GOAL ASSESSMENT SUMMARY	II-21
CHAPTER III COHO SALMON MANAGEMENT	III-1
OREGON PRODUCTION INDEX AREA COHO STOCKS	III-1
Management Objectives	III-1
Regulations to Achieve Objectives	III-1
Commercial Troll	III-1
Recreational	III-2
Inside Harvest	III-2
Escapement and Management Performance	III-2
Central California Coast and Northern California Coho	III-2
Oregon Coast Coho	III-6
Columbia River Coho	III-6
WASHINGTON COASTAL COHO STOCKS	III-6
Management Objectives	III-6
Regulations to Achieve Objectives	III-6
Willapa Bay Coho	III-9
Inside Harvest	III-9

TABLE OF CONTENTS

(continued)

	<u>Page</u>
Escapement and Management Performance	III-9
Grays Harbor Coho	III-9
Inside Harvest	III-9
Escapement and Management Performance	III-9
Quinault River Coho	III-9
Inside Harvest	III-9
Escapement and Management Performance	III-10
Queets River Coho	III-10
Inside Harvest	III-10
Escapement and Management Performance	III-10
Hoh River Coho	III-10
Inside Harvest	III-10
Escapement and Management Performance	III-10
Quillayute River Coho	III-11
Inside Harvest	III-11
Escapement and Goal Assessment	III-11
PUGET SOUND COHO STOCKS	III-11
Management Objectives	III-11
Regulations to Achieve Objectives	III-12
Inside Harvest	III-12
Escapement and Management Performance	III-12
COASTWIDE GOAL ASSESSMENT SUMMARY	III-12
CHAPTER IV SOCIOECONOMIC ASSESSMENT OF THE 2001 OCEAN SALMON FISHERIES ...	IV-1
ALLOCATION OF THE SALMON RESOURCE	IV-1
COMMERCIAL SALMON FISHERIES	IV-1
West Coast Non-Indian Ocean Troll Fishery	IV-1
Inseason Price Trends	IV-1
Annual Trends (Seasons, Value, Prices, and Pounds)	IV-1
Ocean Commercial Salmon Harvesters	IV-8
West Coast Treaty Indian Commercial Ocean Fishery	IV-14
Columbia River Commercial Fishery	IV-14
Other Inside Commercial Fisheries	IV-14
Puget Sound and Washington Coastal Inside Fisheries	IV-14
Klamath River Fisheries	IV-16
CEREMONIAL AND SUBSISTENCE SALMON FISHERIES	IV-16
RECREATIONAL SALMON FISHERIES	IV-16
Ocean	IV-16
California	IV-16
Oregon	IV-16
Washington	IV-25
Buoy 10 and Area 4B Add-on Fisheries	IV-25
SALMON FISHERY INCOME IMPACTS AND COMMUNITY DEPENDENCE	IV-30
Interpretation of State and Coastal Community Income Impacts	IV-30
West Coast Ocean Fishery Income Impacts	IV-30
Selected Inside Fisheries	IV-30
Columbia River Commercial Fisheries	IV-30
Buoy 10 and Area 4B Add-On	IV-31

TABLE OF CONTENTS

(continued)

		<u>Page</u>
APPENDIX A	HISTORICAL RECORD OF OCEAN SALMON FISHERY EFFORT AND LANDINGS	A-i
APPENDIX B	HISTORICAL RECORD OF ESCAPEMENTS TO INLAND FISHERIES AND SPAWNING AREAS	B-i
APPENDIX C	HISTORICAL RECORD OF OCEAN SALMON FISHERY REGULATIONS AND A CHRONOLOGY OF 2001 EVENTS	C-i
APPENDIX D	HISTORICAL ECONOMIC DATA	D-i

LIST OF TABLES

		<u>Page</u>
Table I-1.	Summary of actual ocean non-Indian commercial troll salmon fishing regulations for 2001	I-2
Table I-2.	Summary of actual treaty Indian commercial ocean and Area 4B troll salmon seasons for 2001	I-4
Table I-3.	Summary of actual ocean recreational salmon fishing regulations for 2001	I-5
Table I-4.	Council area commercial and recreational ocean salmon fishing effort and landings by state	I-7
Table I-5.	Council area commercial and recreational ocean salmon fishing effort and landings by management area	I-12
Table I-6.	Coho and chinook harvest quotas for 2001 compared with actual harvest in thousands of fish by management area and fishery	I-13
Table I-7.	Summary of 2001 recreational and commercial fisheries selective for marked hatchery coho	I-18
Table I-8.	Estimated incidental mortality of chinook and coho in 2001 ocean salmon fisheries	I-19
Table I-9.	Chinook catch by Southeast Alaska marine fisheries	I-20
Table I-10.	Chinook and coho catches by Canadian marine fisheries in thousands of fish	I-21
Table II-1.	Sacramento River natural and hatchery adult fall chinook escapements in thousands of fish	II-3
Table II-2.	Klamath River adult inriver fall chinook run size, spawning escapement, recreational catch, Indian net harvest and non-landed fishing mortalities in numbers of fish and percent of the total inriver run size	II-6

LIST OF TABLES

(continued)

		<u>Page</u>
Table II-3.	Oregon coastal spring and fall chinook hatchery return and harvest in estuary and freshwater fisheries	II-10
Table II-4.	Spawner indices for naturally produced Oregon coastal fall chinook and south migrating/localized spring chinook	II-11
Table II-5.	Performance of chinook salmon stocks in relation to 2001 conservation objectives (preliminary data)	II-15
Table III-1.	Estimated returns to Oregon coastal streams and lakes in thousands of adult coho	III-3
Table III-2.	Estimated weekly effort (in angler trips) and catches of chinook and coho in the 2001 Buoy 10 recreational fisheries	III-5
Table III-3.	OCN adult coho salmon conservation objective, fishery impacts, and spawner escapement, based on SRS methodology	III-7
Table III-4.	Performance of coho salmon stocks in relation to 2001 conservation objectives	III-13
Table IV-1.	Average monthly exvessel troll salmon price in dollars per dressed pound for California, Oregon, and Washington in 2001	IV-3
Table IV-2.	Troll chinook and coho landed in California, estimates of exvessel value and average price	IV-4
Table IV-3.	Troll chinook and coho landed in Oregon, estimates of exvessel value and average price	IV-5
Table IV-4.	Non-Indian troll chinook and coho landed in Washington, estimates of exvessel value and average price	IV-6
Table IV-5.	Non-Indian troll caught pink salmon landed in Oregon and Washington, estimates of exvessel value and average price	IV-7
Table IV-6.	Pounds of salmon landed by the commercial troll ocean salmon fishery for major California port areas	IV-9
Table IV-7.	Pounds of salmon landed by the commercial troll ocean salmon fishery for major Oregon port areas	IV-10
Table IV-8.	Pounds of salmon landed by the non-Indian commercial troll ocean salmon fishery for major Washington port areas	IV-11
Table IV-9.	Exvessel values of inriver commercial harvest of Columbia River salmon	IV-15

LIST OF TABLES

(continued)

	<u>Page</u>
Table IV-10. California, Oregon and Washington ocean recreational salmon effort in thousands of angler trips and catch in thousands of fish by boat type	IV-18
Table IV-11. Estimates of California recreational ocean salmon angler trips by port area and boat type	IV-20
Table IV-12. Estimates of Oregon recreational ocean salmon angler trips by port area and boat type	IV-22
Table IV-13. Estimates of Washington recreational ocean salmon angler trips by port area	IV-24
Table IV-14. Oregon and Washington recreational salmon, bottomfish, and sturgeon angler trips by ocean port area and boat type for the area north of Cape Falcon	IV-26
Table IV-15. Buoy 10 and Area 4B add-on recreational salmon angler trips and catch by boat type	IV-28
Table IV-16. Estimates of California coastal community and state personal income impacts of the troll and recreational ocean salmon fishery for major port areas	IV-32
Table IV-17. Estimates of Oregon coastal community and state personal income impacts of the troll and recreational ocean salmon fishery for major port areas	IV-33
Table IV-18. Estimates of Washington coastal community and state personal income impacts of the non-Indian troll and recreational ocean salmon fishery for major port areas	IV-34
Table IV-19. Local personal income impacts of the commercial salmon gillnet fishery on Oregon and Washington Columbia River communities	IV-35
Table IV-20. Local personal income impacts of the Buoy 10 recreational fishery in Oregon and Washington and the Area 4B add-on fishery in Washington	IV-36

LIST OF FIGURES

	<u>Page</u>
Figure II-1.	Sacramento River adult fall chinook spawning escapements, 1970-2001 II-4
Figure II-2.	Klamath River fall chinook salmon inriver run and spawning escapements, 1978-2001 II-8
Figure II-3.	Spawner indices for naturally produced Oregon Coastal fall chinook II-13
Figure II-4.	Escapement indices for naturally produced Oregon coastal south/local migrating spring chinook, 1941-2001 II-13
Figure III-1.	Oregon production area coho salmon abundance estimates by stratified random survey (SRS) accounting methods, 1970-2001 III-4
Figure III-2.	Oregon coastal natural adult coho salmon spawners per spawner habitat mile by coastal region based on SRS, 1990-2001 III-8
Figure IV-1.	West Coast non-Indian ocean commercial troll chinook and coho harvest IV-2
Figure IV-2.	West Coast recreational ocean chinook and coho harvest IV-2
Figure IV-3.	West Coast non-Indian ocean troll exvessel salmon annual price trends IV-12
Figure IV-4.	Exvessel value of troll chinook and coho landings by state of landing IV-13
Figure IV-5a.	Total recreational ocean salmon trips for California IV-17
Figure IV-5b.	Total recreational ocean salmon trips for Oregon IV-17
Figure IV-5c.	Total recreational ocean salmon trips for Washington IV-17

LIST OF ACRONYMS AND ABBREVIATIONS

AABM	aggregate abundance-based management
ADFG	Alaska Department of Fish and Game
AEQ	adult equivalents
CCC	central California coast (coho)
CDFG	California Department of Fish and Game
Council	Pacific Fishery Management Council
CRFMP	Columbia River Fishery Management Plan
CRTAC	Columbia River Technical Advisory Committee
CVI	Central Valley Index
CWT	coded-wire tag
EEZ	exclusive economic zone (from 3-200 miles from shore)
ESA	Endangered Species Act
ESU	evolutionarily significant unit
FMP	fishery management plan
FRAM	Fisheries Regulatory Assessment Model
GSI	genetic stock identification
HRM	Harvest Rate Model
ISBM	individual stock-based management
KMZ	Klamath management zone (ocean zone between Humbug Mountain and Horse Mountain where management emphasis is on Klamath River fall chinook)
KRTAT	Klamath River Technical Advisory Team
LFI	Lyons Ferry age three/four fall chinook index
LRH	lower Columbia River hatchery (tule fall chinook returning to hatcheries below Bonneville Dam)
LRW	lower Columbia River wild (bright fall chinook spawning naturally in tributaries below Bonneville Dam)
MCB	mid-Columbia River brights (bright hatchery fall chinook released below McNary Dam)
MOC	mid-Oregon coast
MSY	maximum sustainable yield
NA	not available
NMFS	National Marine Fisheries Service
NOC	north Oregon coast
ODFW	Oregon Department of Fish and Wildlife
OC	Oregon coast (coho)
OCN	Oregon coastal natural (coho)
OPI	Oregon Production Index (coho salmon stock index south of Leadbetter Point)
PacFIN	Pacific Coast Fisheries Information Network
PSC	Pacific Salmon Commission
PST	Pacific Salmon Treaty
RER	rebuilding exploitation rate
RK	Rogue/Klamath (coho)
SCH	Spring Creek Hatchery (tule fall chinook returning to Spring Creek Hatchery)
SEAK	Southeast Alaska
SONC	southern Oregon/northern California (coho)
SRFI	Snake River Fall Index
SRS	Stratified Random Sampling
STEP	Salmon Trout Enhancement Program

LIST OF ACRONYMS AND ABBREVIATIONS

(continued)

STT	Salmon Technical Team (formerly the Salmon Plan Development Team)
TAC	total allowable catch
URB	upper river brights (naturally spawning bright fall chinook normally migrating past McNary Dam)
USFWS	U.S. Fish and Wildlife Service
VSI	visual stock identification
WCVI	West Coast Vancouver Island
WDFW	Washington Department of Fish and Wildlife
WFMP	Willamette Fish Management Plan