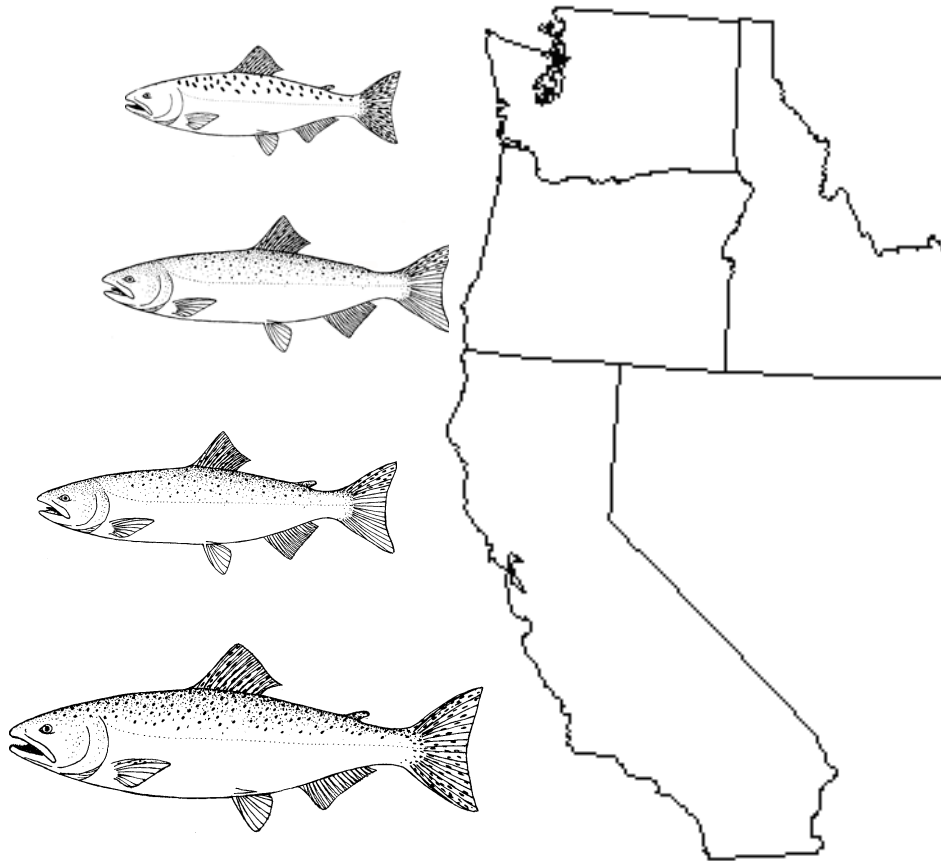


REVIEW OF 2010 OCEAN SALMON FISHERIES



Pacific Fishery Management Council
7700 NE Ambassador Place, Suite 101
Portland, OR 97220-1384
(503) 820-2280

www.pcouncil.org

FEBRUARY 2011

ACKNOWLEDGMENTS

SALMON TECHNICAL TEAM

DR. ROBERT KOPE, CHAIR

National Marine Fisheries Service, Seattle, Washington

DR. MICHAEL O'FARRELL, VICE-CHAIR

National Marine Fisheries Service, Santa Cruz, California

MR. CRAIG FOSTER

Oregon Department of Fish and Wildlife, Clackamas, Oregon

MR. LARRIE LAVOY

National Marine Fisheries Service, Seattle, Washington

MR. KEITH LUTZ

Northwest Indian Fisheries Commission, Olympia, Washington

MR. DOUG MILWARD

Washington Department of Fish and Wildlife, Olympia, Washington

MS. MELODIE PALMER-ZWAHLEN

California Department of Fish and Game, Santa Rosa, California

MR. HENRY YUEN

U.S. Fish and Wildlife Service, Vancouver, Washington

PACIFIC FISHERY MANAGEMENT COUNCIL STAFF

MR. CHUCK TRACY

MR. JAMES SEGER

MS. RENEE DORVAL

MS. KIM MERYDITH

MR. KRIS KLEINSCHMIDT

The Salmon Technical Team and the Council staff express their thanks for the expert assistance provided by Ms. Wendy Beeghley, Ms. Cindy LeFleur, and Ms. Robin Ehlke, Washington Department of Fish and Wildlife; Ms. Cindy Pease and Mr. Eric Schindler, Oregon Department of Fish and Wildlife; Ms. Jennifer Simon, California Department of Fish and Game; Ms. Sandy Zeiner, Northwest Indian Fisheries Commission; Mr. Ed Waters, and numerous other agency and tribal personnel in completing this report.

This document may be cited in the following manner:

Pacific Fishery Management Council. 2011. *Review of 2010 Ocean Salmon Fisheries*. (Document prepared for the Council and its advisory entities.) Pacific Fishery Management Council, 7700 NE Ambassador Place, Suite 101, Portland, Oregon 97220-1384.

A report of the Pacific Fishery Management Council pursuant to National Oceanic and Atmospheric Administration Award Number NA10NMF4410014.



TABLE OF CONTENTS

	<u>Page</u>
LIST OF TABLES	iv
LIST OF FIGURES	vi
LIST OF ACRONYMS AND ABBREVIATIONS.....	vii
INTRODUCTION	1
COMMON TABLE CONVENTIONS	2
CHAPTER I	3
COASTWIDE OCEAN FISHING SUMMARY	3
COUNCIL-AREA REGULATIONS AND LANDINGS.....	3
REGULATORY OBJECTIVES BY MANAGEMENT AREA.....	3
Horse Mountain to U.S./Mexico Border.....	3
Chinook Fisheries	3
Coho Fisheries	5
Humbug Mountain to Horse Mountain.....	5
Chinook Fisheries	5
Coho Fisheries	6
Cape Falcon to Humbug Mountain.....	6
Chinook Fisheries	6
Coho Fisheries	7
U.S./Canada Border to Cape Falcon	7
Chinook Fisheries	7
Coho Fisheries	8
SELECTIVE FISHERIES AND SALMON BYCATCH.....	8
Selective Chinook Fisheries.....	9
Selective Coho Fisheries.....	9
PACIFIC SALMON COMMISSION	9
Chinook Fisheries	10
Coho Fisheries	11
CHAPTER II	33
CHINOOK SALMON MANAGEMENT	33
CENTRAL VALLEY CHINOOK STOCKS	33
Management Objectives.....	33
Escapement and Management Performance	34
NORTHERN CALIFORNIA COAST CHINOOK STOCKS	35
Management Objectives.....	35
Escapement and Management Performance	36
OREGON COAST CHINOOK STOCKS	37
Management Objectives.....	37
Escapement and Management Performance	38
COLUMBIA RIVER BASIN CHINOOK STOCKS.....	38
Management Objectives.....	39
Escapement and Management Performance	41

TABLE OF CONTENTS (continued)

	<u>Page</u>
WASHINGTON COASTAL CHINOOK STOCKS	41
Management Objectives.....	41
PUGET SOUND CHINOOK STOCKS	46
Management Objectives.....	46
Escapement and Management Performance	47
COASTWIDE GOAL ASSESSMENT SUMMARY	48
 CHAPTER III	 61
COHO SALMON MANAGEMENT.....	61
OREGON PRODUCTION INDEX AREA COHO STOCKS	61
Management Objectives.....	61
Escapement and Management Performance	63
WASHINGTON COASTAL COHO STOCKS	64
Management Objectives.....	64
PUGET SOUND COHO STOCKS	68
Management Objectives.....	68
Escapement and Management Performance	69
BRITISH COLUMBIA COHO STOCKS	70
Management Objectives.....	70
Escapement and Management Performance	70
COASTWIDE GOAL ASSESSMENT SUMMARY	70
 CHAPTER IV	 79
SOCIOECONOMIC ASSESSMENT OF THE 2010 OCEAN SALMON FISHERIES.....	79
ALLOCATION OF THE SALMON RESOURCE	79
COMMERCIAL SALMON FISHERIES	80
West Coast Non-Indian Commercial Ocean Fishery	80
West Coast Treaty Indian Commercial Ocean Fishery.....	82
Columbia River Commercial Fishery	82
Puget Sound and Washington Coastal Inside Fisheries	82
Klamath River Fisheries.....	83
CEREMONIAL AND SUBSISTENCE SALMON FISHERIES.....	83
RECREATIONAL SALMON FISHERIES	83
Ocean	83
Buoy 10 and Area 4B Add-On Fisheries	85
SALMON FISHERY INCOME IMPACTS AND COMMUNITY DEPENDENCE	85
West Coast Ocean Fishery Income Impacts.....	85
Selected Inside Fisheries	86

TABLE OF CONTENTS (continued)

	<u>Page</u>
APPENDIX A	
HISTORICAL RECORD OF OCEAN SALMON FISHERY EFFORT AND LANDINGS	117
APPENDIX B	
HISTORICAL RECORD OF ESCAPEMENTS TO INLAND FISHERIES AND SPAWNING AREAS	189
APPENDIX C	
HISTORICAL RECORD OF OCEAN SALMON FISHERY REGULATIONS AND A CHRONOLOGY OF 2010 EVENTS	247
APPENDIX D	
HISTORICAL ECONOMIC DATA	301

LIST OF TABLES

		<u>Page</u>
TABLE I-1.	Summary of actual ocean non-Indian commercial troll salmon fishing regulations for 2010.....	13
TABLE I-2.	Summary of actual treaty Indian commercial ocean and Area 4B troll salmon seasons for 2010.....	17
TABLE I-3.	Summary of actual ocean recreational salmon fishing regulations for 2010.....	18
TABLE I-4.	Council area commercial and recreational ocean salmon fishing effort and landings by state.....	20
TABLE I-5.	Council area commercial and recreational ocean salmon fishing effort and landings by management area.....	24
TABLE I-6.	Coho and Chinook harvest quotas and guidelines (*) for 2010 Council managed fisheries compared with actual harvest by management area and fishery.....	25
TABLE I-7.	Estimated incidental mortality of Chinook and coho in 2010 ocean salmon fisheries.....	26
TABLE I-8.	Summary of 2010 recreational fisheries selective for marked hatchery Chinook.....	27
TABLE I-9.	Summary of 2010 recreational and commercial fisheries selective for marked hatchery coho.....	28
TABLE I-10.	Chinook catch by Southeast Alaska marine fisheries in thousands of fish.....	29
TABLE I-11.	Chinook and coho catches by Canadian marine fisheries in thousands of fish.....	30
TABLE I-12.	West Coast Vancouver Island aggregate abundance based management troll Chinook salmon catch by month.....	31
TABLE I-13.	Summary of 2010 coho catch and release in British Columbia commercial fisheries.....	31
TABLE I-14.	Summary of 2010 coho catch and release in British Columbia recreational fisheries.....	31
TABLE II-1.	Sacramento River natural and hatchery adult fall Chinook escapement in numbers of fish.....	49
TABLE II-2.	Klamath River adult inriver fall Chinook run size, spawning escapement, recreational catch, Indian gillnet harvest, and non-landed fishing mortalities in numbers of fish and percent of the total inriver run size.....	50
TABLE II-3.	Oregon coastal spring and fall Chinook hatchery return and harvest in estuary and freshwater fisheries.....	51
TABLE II-4.	Spawner indices for naturally produced Oregon coastal fall Chinook and south migrating/localized spring Chinook.....	52
TABLE II-5.	Performance of Chinook salmon stocks in relation to 2010 conservation objectives.....	53
TABLE III-1.	Estimated returns to Oregon coastal streams and lakes in thousands of adult coho.....	71
TABLE III-2.	Estimated weekly effort (in angler trips) and catches of Chinook and coho in the 2010 Buoy 10 recreational fisheries.....	72
TABLE III-4.	OCN adult coho salmon conservation objective, fishery impacts, and spawner escapement.....	74
TABLE III-5.	Performance of coho salmon stocks in relation to 2010 conservation objectives (preliminary data).....	75
TABLE IV-1.	Average monthly exvessel troll salmon price in dollars per dressed pound for California, Oregon, and Washington in 2010.....	87
TABLE IV-2.	Troll Chinook and coho landed in California, estimates of exvessel value, and average price (dollars per dressed pound) in nominal and real (inflation adjusted, 2010) dollars.....	88
TABLE IV-3.	Troll Chinook and coho landed in Oregon, estimates of exvessel value, and average price (dollars per dressed pound) in nominal and real (inflation adjusted, 2010) dollars.....	89

LIST OF TABLES (continued)

	<u>Page</u>
TABLE IV-4. Non-Indian troll Chinook and coho landed in Washington, estimates of exvessel value, and average price (dollars per dressed pound) in nominal and real (inflation adjusted, 2010) dollars	90
TABLE IV-5. Non-Indian troll pink salmon landed in Oregon and Washington, estimates of exvessel value, and average price (dollars per dressed pound) in nominal and real (inflation adjusted, 2010) dollars	91
TABLE IV-6. Pounds of salmon landed by the commercial troll ocean fishery for major California port areas.....	92
TABLE IV-7. Pounds of salmon landed by the commercial troll ocean fishery for major Oregon port areas.....	93
TABLE IV-8. Pounds of salmon landed by the non-Indian commercial troll ocean fishery for major Washington port areas	94
TABLE IV-9. Exvessel values (inflation adjusted, 2010 dollars) of inriver commercial harvest of Columbia River salmon	95
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.....	97
TABLE IV-11. Estimates of California recreational ocean salmon angler trips (thousands) by port area and boat type	99
TABLE IV-12. Estimates of Oregon recreational ocean salmon angler trips (thousands) by port area and boat type	100
TABLE IV-13. Estimates of Washington recreational ocean salmon angler trips (thousands) by port area and boat type.....	101
TABLE IV-14. Oregon and Washington recreational salmon, bottomfish, and sturgeon angler trips (thousands) by ocean port area and boat type for the area north of Cape Falcon	102
TABLE IV-15. Buoy 10 ^{a/b} and Area 4B add-on recreational salmon angler trips and catch by boat type	105
TABLE IV-16. Estimates of California coastal community and state personal income impacts in thousands of real (inflation adjusted, 2010) dollars of the troll and recreational ocean salmon fishery for major port areas.....	107
TABLE IV-17. Estimates of Oregon coastal community and state personal income impacts in thousands of real (inflation adjusted, 2010) dollars of the troll and recreational ocean salmon fishery for major port areas.....	108
TABLE IV-18. Estimates of Washington coastal community and state personal income impacts in thousands of real (inflation adjusted, 2010) dollars of the troll and recreational ocean salmon fishery for major port areas.....	109
TABLE IV-19. Local personal income impacts in real (inflation adjusted, 2010) dollars of the inriver commercial salmon fishery on Oregon and Washington Columbia River communities.....	110
TABLE IV-20. Local personal income impacts in real (inflation adjusted, 2010) dollars of the Buoy 10 recreational fishery in Oregon and Washington and the Area 4B add-on fishery in Washington.....	111

LIST OF FIGURES

		<u>Page</u>
Figure II-1.	Sacramento River adult fall Chinook spawning escapement, 1970-2010.....	55
Figure II-2.	Klamath River adult fall Chinook returns and spawning escapement, 1978-2010.....	56
Figure II-3.	Spawner indices for naturally produced Oregon coastal fall Chinook, 1961-2010.	57
Figure II-4.	Escapement indices for naturally produced Oregon coastal south/local migrating spring Chinook, 1942-2010.	58
Figure II-5.	Columbia River mouth adult returns of the five major fall Chinook stock groups, 1976-2010	59
Figure III-1.	Oregon Production Index (OPI) area coho abundance estimates by stratified random surveys (SRS) accounting methods, 1970-2010.....	77
Figure III-2.	Oregon coastal natural (OCN) adult coho spawners per habitat mile by coastal region based on SRS accounting methods, 1990-2010.....	78
Figure IV-1.	West Coast ocean non-Indian commercial Chinook and coho harvest.....	112
Figure IV-2.	West Coast ocean recreational Chinook and coho harvest	115
Figure IV-3.	West Coast non-Indian ocean commercial salmon annual exvessel prices (inflation adjusted, 2010 dollars).....	114
Figure IV-4.	Exvessel value of West Coast non-Indian ocean commercial Chinook and coho landings by state of landing (inflation adjusted, 2010 dollars).....	115
Figure IV-5.	Total recreational ocean salmon trips for California, Oregon, and Washington, with proportion of charter trips shown above each bar	116

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
CVI	Central Valley Index
CWT	coded-wire tag
EEZ	exclusive economic zone (from 3-200 miles from shore)
EMAP	Environmental Monitoring and Assessment Program
ESA	Endangered Species Act
ESU	evolutionarily significant unit
FEAM	Fishery Economic Assessment Model
FMP	fishery management plan
FRAM	Fisheries Regulatory Assessment Model
ISBM	individual stock-based management
KMZ	Klamath management zone (ocean zone between Humbug Mountain and Horse Mountain where management emphasis is on KRFC)
KRFC	Klamath River Fall Chinook
LCN	Lower Columbia Natural (coho)
LCR	Lower Columbia River (natural tule Chinook)
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
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
SONCC	southern Oregon/northern California coastal (coho)
SRFC	Sacramento River fall Chinook
SRFI	Snake River Fall Index
SRS	Stratified Random Sampling
STEP	Salmon Trout Enhancement Program
STT	Salmon Technical Team (formerly the Salmon Plan Development Team)
SUS	Southern United States
TAC	total allowable catch
URB	upper river brights (naturally spawning fall Chinook normally migrating past McNary Dam)
USFWS	U.S. Fish and Wildlife Service
WCVI	West Coast Vancouver Island
WDFW	Washington Department of Fish and Wildlife

Page Intentionally Left Blank