Chignik Lagoon Sockeye Salmon Test Fishery Operational Plan, 2010

by

Todd J. Anderson

April 2010

Alaska Department of Fish and Game **Divisions of Sport Fish and Commercial Fisheries**

Symbols and Abbreviations

The following symbols and abbreviations, and others approved for the Système International d'Unités (SI), are used without definition in the following reports by the Divisions of Sport Fish and of Commercial Fisheries: Fishery Manuscripts, Fishery Data Series Reports, Fishery Management Reports, and Special Publications. All others, including deviations from definitions listed below, are noted in the text at first mention, as well as in the titles or footnotes of tables, and in figure or figure captions.

Weights and measures (metric)

centimeter	cm
deciliter	dL
gram	g
hectare	ha
kilogram	kg
kilometer	km
liter	L
meter	m
milliliter	mL
millimeter	mm

Weights and measures (English)

cubic feet per second	ft^3/s
foot	ft
gallon	gal
inch	in
mile	mi
nautical mile	nmi
ounce	oz
pound	lb
quart	qt
yard	yd

Time and temperature

day	d
degrees Celsius	°C
degrees Fahrenheit	°F
degrees kelvin	K
hour	h
minute	min
second	s

Physics and chemistry

all atomic symbols	
alternating current	AC
ampere	A
calorie	cal
direct current	DC
hertz	Hz
horsepower	hp
hydrogen ion activity (negative log of)	pH
parts per million	ppm
parts per thousand	ppt, ‰
volts	V
watts	W

General

Alaska Administrative Code	AAC
all commonly accepted abbreviations	e.g., Mr., Mrs., AM, PM, etc.
all commonly accepted professional titles	e.g., Dr., Ph.D., R.N., etc.
at	@
compass directions:	
east	E
north	N
south	S
west	W
copyright	©
corporate suffixes:	
Company	Co.
Corporation	Corp.
Incorporated	Inc.
Limited	Ltd.
District of Columbia	D.C.
et alii (and others)	et al.
et cetera (and so forth)	etc.
exempli gratia (for example)	e.g.
Federal Information Code	FIC
id est (that is)	i.e.
latitude or longitude	lat. or long.
monetary symbols (U.S.)	$, ¢
months (tables and figures): first three letters	Jan,...,Dec
registered trademark	®
trademark	™
United States (adjective)	U.S.
United States of America (noun)	USA
U.S.C.	United States Code
U.S. state	use two-letter abbreviations (e.g., AK, WA)

Measures (fisheries)

fork length	FL
mideye to fork	MEF
mideye to tail fork	METF
standard length	SL
total length	TL

Mathematics, statistics

all standard mathematical signs, symbols and abbreviations	
alternate hypothesis	H_A
base of natural logarithm	*e*
catch per unit effort	CPUE
coefficient of variation	CV
common test statistics	(F, t, χ^2, etc.)
confidence interval	CI
correlation coefficient (multiple)	R
correlation coefficient (simple)	r
covariance	cov
degree (angular)	°
degrees of freedom	df
expected value	*E*
greater than	>
greater than or equal to	≥
harvest per unit effort	HPUE
less than	<
less than or equal to	≤
logarithm (natural)	ln
logarithm (base 10)	log
logarithm (specify base)	$log_{2,}$ etc.
minute (angular)	'
not significant	NS
null hypothesis	H_O
percent	%
probability	P
probability of a type I error (rejection of the null hypothesis when true)	α
probability of a type II error (acceptance of the null hypothesis when false)	β
second (angular)	"
standard deviation	SD
standard error	SE
variance	
population	Var
sample	var

CHIGNIK LAGOON SOCKEYE SALMON TEST FISHERY OPERATIONAL PLAN, 2010

by
Todd J. Anderson
Alaska Department of Fish and Game, Division of Commercial Fisheries, Kodiak

Alaska Department of Fish and Game
Division of Sport Fish, Research and Technical Services
333 Raspberry Road, Anchorage, Alaska, 99518-1565

April 2010

The Regional Information Report Series was established in 1987 and was redefined in 2006 to meet the Division of Commercial Fisheries regional need for publishing and archiving information such as project operational plans, area management plans, budgetary information, staff comments and opinions to Board of Fisheries proposals, interim or preliminary data and grant agency reports, special meeting or minor workshop results and other regional information not generally reported elsewhere. Reports in this series may contain raw data and preliminary results. Reports in this series receive varying degrees of regional, biometric, and editorial review; information in this series may be subsequently finalized and published in a different department reporting series or in the formal literature. Please contact the author or the Division of Commercial Fisheries if in doubt of the level of review or preliminary nature of the data reported. Regional Information Reports are available through the Alaska State Library and on the Internet at: http://www.sf.adfg.ak.us/statewide/divreports/html/intersearch.cfm..

Todd J. Anderson,
Alaska Department of Fish and Game, Division of Commercial Fisheries,
211 Mission Road, Kodiak, AK 99615, USA

This document should be cited as:
Anderson, T. J. 2010. Chignik Lagoon sockeye salmon test fishery operational plan, 2010. [*In*] *Salmon operational plans for the Chignik area, 2010. Alaska Department of Fish and Game, Division of Commercial Fisheries, Regional Information Report 4K10-01, Kodiak.*

The Alaska Department of Fish and Game (ADF&G) administers all programs and activities free from discrimination based on race, color, national origin, age, sex, religion, marital status, pregnancy, parenthood, or disability. The department administers all programs and activities in compliance with Title VI of the Civil Rights Act of 1964, Section 504 of the Rehabilitation Act of 1973, Title II of the Americans with Disabilities Act (ADA) of 1990, the Age Discrimination Act of 1975, and Title IX of the Education Amendments of 1972.

If you believe you have been discriminated against in any program, activity, or facility please write:
ADF&G ADA Coordinator, P.O. Box 115526, Juneau, AK 99811-5526
U.S. Fish and Wildlife Service, 4401 N. Fairfax Drive, MS 2042, Arlington, VA 22203
Office of Equal Opportunity, U.S. Department of the Interior, 1849 C Street NW MS 5230, Washington DC 20240

The department's ADA Coordinator can be reached via phone at the following numbers:
(VOICE) 907-465-6077, (Statewide Telecommunication Device for the Deaf) 1-800-478-3648, (Juneau TDD) 907-465-3646, or (FAX) 907-465-6078

For information on alternative formats and questions on this publication, please contact:
ADF&G Division of Sport Fish, Research and Technical Services, 333 Raspberry Road, Anchorage AK 99518 (907) 267-2375.

TABLE OF CONTENTS

Page

LIST OF FIGURES ii
LIST OF APPENDICIES ii
ABSTRACT 1
INTRODUCTION 1
GOALS 1
2010 TEST FISHERY 1
Establishment of Charter Vessel Selection List 1
Requirements for Charter Contract 2
Test Fishing Scheduling 2
Seining Procedures 2
Data Analysis 3
FIGURES 5
APPENDIX A: STATE OF ALASKA SHORT TERM VESSEL CHARTER AGREEMENT. 9

LIST OF FIGURES

Figure **Page**

1. Chignik Lagoon test fishing locations. 6
2. Chignik Lagoon test fishery data form 7

LIST OF APPENDICIES

Appendix **Page**

A1. State of Alaska Short Term Vessel Charter Agreement. 10

ABSTRACT

The Alaska Department of Fish and Game (AGF&G) annually conducts test fisheries in Chignik Lagoon primarily to determine the relative abundance of Chignik River-bound sockeye salmon *Oncorhynchus nerka* prior to the first commercial salmon fishery in the Chignik Management Area (CMA). To conduct test fisheries, the department charters interested local fishing vessels from the CMA and follows established test fishing protocols. This report documents the purpose of test fishing in Chignik Lagoon and summarizes the specific procedures for the Chignik test fishery program.

Key words: Chignik Management Area, CMA, Chignik Lagoon, test fishery, sockeye salmon, salmon management, Oncorhynchus nerka

INTRODUCTION

Commercial salmon fishing periods in the Chignik Management Area (CMA) are primarily based on achieving Chignik River sockeye salmon *Oncorhynchus nerka* interim escapement objectives throughout the season. Sockeye salmon return to the Chignik River in two distinct, but overlapping runs; the early run returns primarily to Black Lake during June, and the late run returns primarily to Chignik Lake during July and August.

To ensure the interim objectives for both runs are achieved, the Alaska Department of Fish and Game (ADF&G) uses the Chignik River weir to enumerate escapement in addition to assessing run strength using commercial catch data. When catch data are not available due to commercial fishery closures, test fisheries are conducted to evaluate inseason run strength in the Chignik Lagoon.

Under current regulation, 5 AAC 15.357 (b)(1), the CMA may open to commercial salmon fishing when there is an expectation that 20,000 sockeye salmon will escape into the Chignik River. Based on this regulation, the department conducts a test fishery in Chignik Lagoon during early June to assess the early-season run strength of the sockeye salmon returning to the Chignik River.

GOALS

The CMA test fishery program has the following goals:

1) Obtain relative abundance estimates of sockeye salmon in Chignik Lagoon, and
2) Provide partial funding for the management of the Chignik Management Area salmon fishery.

2010 TEST FISHERY

ESTABLISHMENT OF CHARTER VESSEL SELECTION LIST

To conduct test fisheries, the department charters commercial fishing vessels from the Chignik Management Area. A list of vessel operators interested in participating in the program will be established prior to all test fisheries. The initial enrollment period will open on approximately May 15 and will close just before the first test fishing date. Interested vessel operators can enroll by calling the Chignik weir at (907) 845-2243 during this period. At the close of this initial enrollment period, the department will perform a random drawing to determine the sequence of the participating vessel operators. This sequential list will be maintained throughout the season. Additional vessel operators may enroll after the initial enrollment and drawing; however, these operators will be placed at the end of the established list in the order they are received. If a vessel

operator is unable to participate when their opportunity arises, the department will contact the next vessel operator on the established list. The vessel operator that was unable to participate will be reassigned to the bottom of the established list.

REQUIREMENTS FOR CHARTER CONTRACT

Fishermen wishing to participate in the department's test fishing program must agree to the terms of the department's short term vessel charter agreement (Appendix A1) and meet the following minimum requirements. Vessel operators must have a minimum of three years commercial fishing experience within Chignik Lagoon. All vessels must contain sufficient ice or a refrigerated seawater (RSW) system to chill the catch. Legal Chignik Lagoon seine gear is required, as is vessel compliance with U.S. Coast Guard safety regulations and insurance requirements.

A Chignik Commercial Fisheries Entry Commission (CFEC) permit is not required as the department is chartering the vessel and operating under the department's test fishing permit. An ADF&G observer will be onboard the test fishing vessel for the duration of the charter. Prior to test fishing, vessel operators are required to complete the *State of Alaska Short Term Vessel Charter Agreement* (Appendix A1). Test fishing vessel operators will be paid $1,800 per day to cover the boat, crew, fuel, lubricants, gear, and transportation of the catch to the appropriate processor.

TEST FISHING SCHEDULING

The department will schedule the time and date of the 2010 sockeye salmon test fishery based upon inseason data and funding requirements. The first test fishery is expected to take place on or about June 2. Subsequent test fishing may be necessary during times when harvest data are not available due to extended closures or low fishing effort.

SEINING PROCEDURES

Department policy requires notification of the U.S. Coast Guard (USCG) prior to beginning test fishing activities. Chignik weir staff will contact Dave Mitchell by phone ((907) 465-4131) or e-mail (dave.mitchell@alaska.gov) to provide the name of the fishing vessel, the duration, and location of the charter. This information will then be provided to the USCG.

The set locations for the test fishery are distributed throughout Chignik Lagoon (Figure 1). Typically, the first set is made at Mensis Point (1) and the last set is made at Ocean Beach (8). The alternative site location (Figure 1) will be fished when it is determined by the vessel operator and department observer that seas are too rough to fish the Ocean Beach site. Department staff will meet the charter vessel near the location of the first set on a morning flood tide. The first set will be made as soon as the vessel operator determines there is enough water to make the set. The seine will be fished for 10 minutes, as measured from the time the skiff begins pulling the net off the deck of the fishing vessel to the time the skiff returns the net back to the vessel. The skipper and the biologist will estimate the number of sockeye salmon caught. The biologist will record the estimate of catch at each location on the *Chignik Lagoon Test Fishery Data Form* (Figure 2).

Upon completion of the final set, the vessel will transport the catch to a processor. All fish are sold using the department's test fish permit card and the revenue will be deposited into the Chignik Test Fish Account.

DATA ANALYSIS

Chignik management biologists use information collected from the test fishery in conjunction with escapement data to estimate sockeye salmon abundance. The following factors are considered when estimating abundance: 1) environmental and tidal conditions, 2) observed sockeye salmon activity, 3) abundance estimate from the vessel skipper and onboard biologist, and 4) test fishery catches and escapement estimates from previous years.

The department will distribute the results of test fishing activities with a news release at the end of each test fishery and during regularly scheduled radio updates.

FIGURES

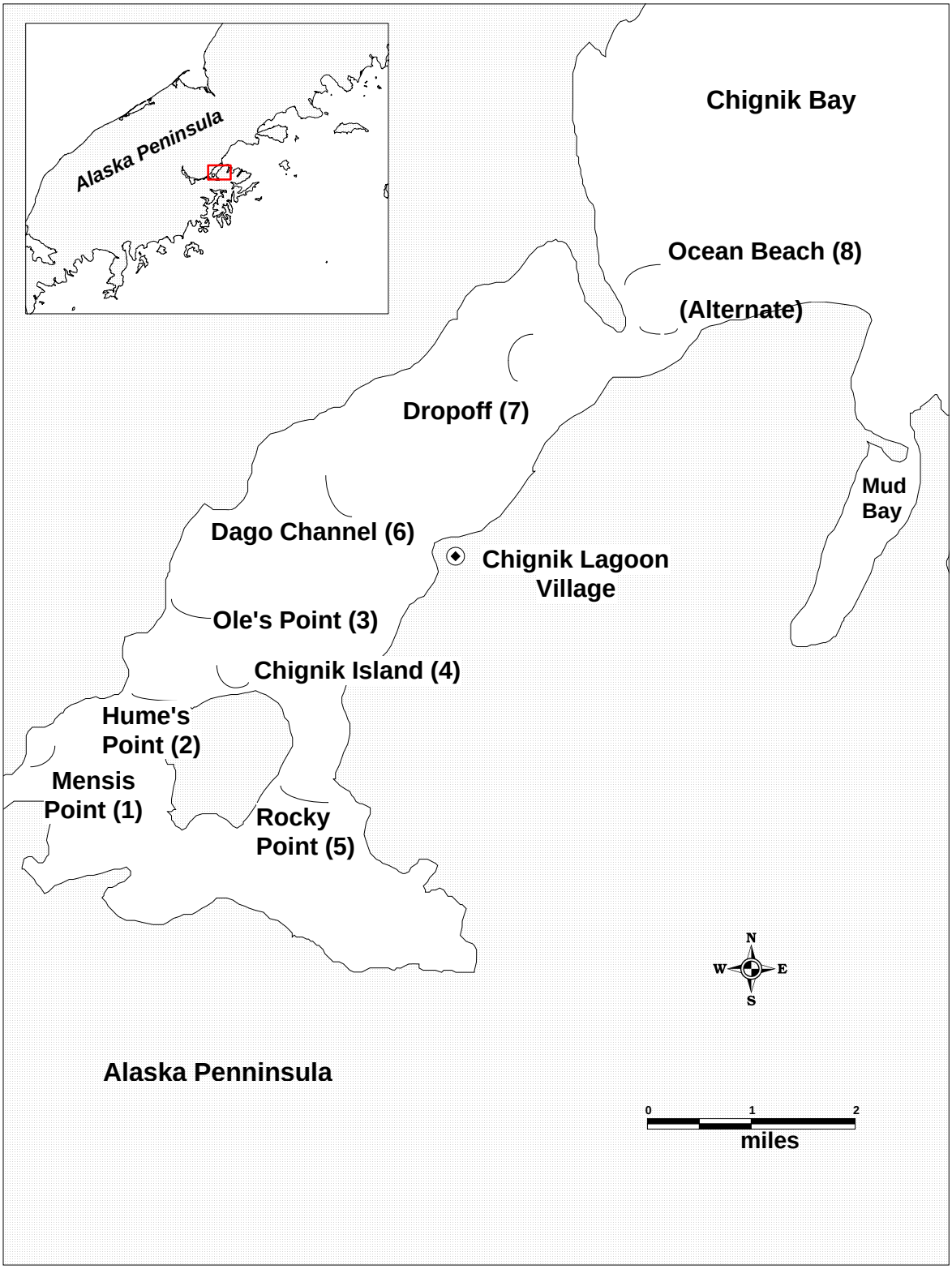

Figure 1.–Chignik Lagoon test fishing locations.

rev 3/05 Page ___ of ____

Chignik Lagoon Test Fishery Data Form

Date_____ Kodiak High Tide Vessel_____

Time_____ Observer_____

Height_____ Processor_____

SET _____ Lat._____ Long._____

Wind dir/vel_____ H20 Temp_____ Cloud Cover_____

Time Out_____ Time Closed_____

Catch			Bycatch		
	Caught	Sold		Caught	Sold
Sockeye					
Chinook					
Pink					
Chum					
Coho					
Total			Total		

Comments:

SET _____ Lat._____ Long._____

Wind dir/vel_____ H20 Temp_____ Cloud Cover_____

Time Out_____ Time Closed_____

Catch			Bycatch		
	Caught	Sold		Caught	Sold
Sockeye					
Chinook					
Pink					
Chum					
Coho					
Total			Total		

Comments:

Figure 2.–Chignik Lagoon test fishery data form.

APPENDIX A: STATE OF ALASKA SHORT TERM VESSEL CHARTER AGREEMENT

Appendix A1.–State of Alaska Short Term Vessel Charter Agreement.

State of Alaska

Department of Fish and Game

SHORT TERM VESSEL CHARTER AGREEMENT

This agreement shall cover chartering of the vessel described and under the conditions set forth below between the State of Alaska, Department of Fish and Game and:

Name_____ Mailing address _____

Telephone_____ City/State/Zip_____

VESSEL S.S.# or Tax ID_____

Name and/or Number_____ Type & Keel length_____

Equipment & supplies needed provided by the contractor (food, bait, skiff, etc.)_____

_____

Fishing gear provided by contractor_____

Fuel _____will be _____ will not be provided by the State of Alaska.

PURPOSE OF CHARTER_____

_____

Charter will begin at _____ on _____ and end at _____ on _____.

(Location) (Date) (Location) (Date)

(Agreement cannot exceed fourteen (14) working days. No extension or sequential contract allowed.)

Cost of Charter: $_____ (cannot exceed $30,000)

TERMS AND CONDITIONS

1. The state will have general direction of activities of the vessel, but contractor (if aboard) will be responsible for safe operation of vessel.
2. The contractor will hold the State harmless from any liability caused by loss of vessel or damage caused to or by the vessel, and against any loss, damage, and/or liability occasioned by or arising from, any negligent act on the part of the contractor.
3. The State will provide insurance coverage for the state employees only.
4. The length of the charter shown above is estimated and can be terminated at anytime by the State but cannot exceed fourteen (14) days.
5. Vessel may be required to submit to an inspection by the U.S. Coast Guard (State's option).
6. Upon completion of the contract, Department of Fish and Game representatives will initiate payment processing. A warrant will be mailed to the above address after processing.
7. Special conditions _____
_____.

The terms and conditions are understood and agreed to.

/s/_____ /s/_____

Department of Fish and Game Representative Owner or Master of Vessel

INSURACE INFORMATION

1. Value of hull insurance $_____

2. Amount of protection and indemnity insurance $_____

3. Name of Insurance Carrier _____

4. Expiration date of policy _____

5. Number of Contractors _____

6. Name(s) of Department of Fish and Game personnel aboard: _____