

Operational Plan Amendment: Juneau Area Rainbow Trout Pre-stocking Assessment, 2017-2018

by

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This report is an amendment to an operational plan published as ROP.SF.1J.2017.01, which was followed by three amendments. The third amendment, published as ROP.SF.1J.2018.11, contains the text of the original plan and all subsequent amendments.

June 2017



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)		General		Mathematics, statistics	
centimeter	cm	Alaska Administrative Code	AAC	<i>all standard mathematical signs, symbols and abbreviations</i>	
deciliter	dL	all commonly accepted abbreviations	e.g., Mr., Mrs., AM, PM, etc.	alternate hypothesis	H _A
gram	g	all commonly accepted professional titles	e.g., Dr., Ph.D., R.N., etc.	base of natural logarithm	<i>e</i>
hectare	ha	at	@	catch per unit effort	CPUE
kilogram	kg	compass directions:		coefficient of variation	CV
kilometer	km	east	E	common test statistics	(F, t, χ^2 , etc.)
liter	L	north	N	confidence interval	CI
meter	m	south	S	correlation coefficient	
milliliter	mL	west	W	(multiple)	R
millimeter	mm	copyright	©	correlation coefficient	
		corporate suffixes:		(simple)	r
Weights and measures (English)		Company	Co.	covariance	cov
cubic feet per second	ft ³ /s	Corporation	Corp.	degree (angular)	°
foot	ft	Incorporated	Inc.	degrees of freedom	df
gallon	gal	Limited	Ltd.	expected value	<i>E</i>
inch	in	District of Columbia	D.C.	greater than	>
mile	mi	et alii (and others)	et al.	greater than or equal to	≥
nautical mile	nmi	et cetera (and so forth)	etc.	harvest per unit effort	HPUE
ounce	oz	exempli gratia		less than	<
pound	lb	(for example)	e.g.	less than or equal to	≤
quart	qt	Federal Information Code	FIC	logarithm (natural)	ln
yard	yd	id est (that is)	i.e.	logarithm (base 10)	log
		latitude or longitude	lat or long	logarithm (specify base)	log ₂ , etc.
Time and temperature		monetary symbols		minute (angular)	'
day	d	(U.S.)	\$, ¢	not significant	NS
degrees Celsius	°C	months (tables and figures): first three letters	Jan, ..., Dec	null hypothesis	H ₀
degrees Fahrenheit	°F	registered trademark	®	percent	%
degrees kelvin	K	trademark	™	probability	P
hour	h	United States (adjective)	U.S.	probability of a type I error	
minute	min	United States of America (noun)	USA	(rejection of the null hypothesis when true)	α
second	s	U.S.C.	United States Code	probability of a type II error	
		U.S. state	use two-letter abbreviations (e.g., AK, WA)	(acceptance of the null hypothesis when false)	β
Physics and chemistry				second (angular)	"
all atomic symbols				standard deviation	SD
alternating current	AC			standard error	SE
ampere	A			variance	
calorie	cal			population	Var
direct current	DC			sample	var
hertz	Hz				
horsepower	hp				
hydrogen ion activity	pH				
(negative log of)					
parts per million	ppm				
parts per thousand	ppt, ‰				
volts	V				
watts	W				

REGIONAL OPERATIONAL PLAN SF.1J.2017.03

**OPERATIONAL PLAN AMENDMENT: JUNEAU AREA RAINBOW
TROUT PRE-STOCKING ASSESSMENT, 2017-2018**

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Alaska Department of Fish and Game
Division of Sport Fish

June 2017

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SIGNATURE PAGE

Project Title: Juneau area rainbow trout pre-stocking assessment, 2017-2018

Project leader(s): Kercia Schroeder, Fishery Biologist II

Division, Region and Area: Sport Fish, Region I, Juneau

Project Nomenclature: F-10-32 C-1-3; F-10-33 C-1-3

Period Covered: 2017-2018

Field Dates: April-June 2017; August-September 2017; April-June 2018

Plan Type: Amendment

Approval

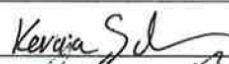

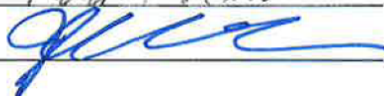
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PURPOSE

Four lakes along the Juneau roadside freshwater fishery are scheduled to be stocked with all-female triploid rainbow trout, beginning in 2018. The Statewide Stocking Plan for the Alaska Department of Fish and Game, Division of Sport Fish includes management objectives associated with stocking projects included in the plan, which are used by managers to evaluate the success of stocking efforts. These evaluations often involve some measurement of angler effort, catch, and harvest of the stocked fish. These statistics are often estimated by using the Statewide Harvest Survey for Sport Fisheries. However, it will not be possible to get an accurate measure of effort, catch, and harvest through the Statewide Harvest survey for the four lakes associated with this project for 2 primary reasons: 1) because they are grouped with most other Juneau roadside freshwater lake and stream fisheries, and 2) the Statewide Harvest Survey is only sent to licensed anglers; unlicensed anglers (those under 16 years of age) are likely to utilize these stocked fisheries, but are not counted in the survey. Since it is not logistically or financially viable to operate an onsite creel survey for these lakes, this amendment describes some low-cost indirect estimates of effort and angler success that will be used instead. Results from these techniques may provide managers with baseline information to help them evaluate whether adequate benefit is being derived by sport anglers in future years.

REASON FOR CHANGE

The operational plan for pre-release surveys did not include any work tasks associated with evaluating fishing effort, catch, or harvest at the lakes scheduled to be stocked with rainbow trout. This Amendment therefore describes how these work tasks will be carried out.

DESCRIPTION OF CHANGE

To help document fishing effort, at least one game camera will be installed at each lake scheduled to be stocked. Cameras will be set up by June 15, 2017 and will be removed November 1, 2017. Each camera will be placed in a location most likely to capture photos of people fishing at each lake and at a height and aspect to capture as much of the shoreline as possible in each photograph. Cameras will be programmed to capture one photo every hour and photos will be downloaded from the cameras once a month. A similar system has been used to estimate angler effort successfully (Fitzsimmons et al. 2010). Provided this data is of sufficient quality to accurately count anglers throughout the season, sample days will be randomly selected and sample hours within each sample day will be systematically selected to calculate angler effort within the camera coverage area as described in (Bernard et al. 1998, section 2.2.1). Using the mapped shoreline of each lake, camera coverage areas will be determined to quantify the fishing area covered by the photos in each lake. Crews will also conduct ad-hoc angler counts both within and outside of the cameras coverage area during previously scheduled sampling events to quantify angler distribution relative to the camera coverage area.

Volunteer creel drop-boxes will also be used to obtain fishing effort and harvest data at each lake scheduled to be stocked. A drop-box will be installed at each trailhead in the Dredge Lakes area and one will be installed next to the fishing dock at Twin Lakes. Drop-boxes will be installed by June 15, 2017 and will remain in place for the duration of the project. For these creel surveys, anglers will be asked to record: the date fished; how many anglers fished; and for each lake fished they will be asked the name of the lake, how much time was spent fishing, how many fish were caught by species, and how many fish were harvested by species (Appendix A1). Survey

responses will be entered into an Excel spreadsheet and will be summarized for each lake to show reported numbers of fish captured and released, as well as catch and harvest rates. Since survey responses are voluntary, unbiased estimates of catch and harvest will not be possible; however, annual changes in catch and harvest rates may help managers assess changes in angler success after stocking.

The project will follow methods identified in the original Regional Operational Plan (<http://www.adfg.alaska.gov/FedAidPDFs/ROP.SF.1J.2017.01.pdf>) and subsequent amendments (<http://www.adfg.alaska.gov/FedAidPDFs/ROP.SF.1J.2018.11.pdf>; contains text of original and all amendments).

REFERENCES CITED

- Bernard, D. R., A. E. Bingham, and M. Alexandersdottir. 1998. The mechanics of onsite creel surveys in Alaska. Alaska Department of Fish and Game, Special Publication No. 98-1, Anchorage.
- Fitzsimmons, K, W. Patterson, and C. Rasmussen. 2013. Camera-based creel surveys of Beaver, Fiesta, and Ironside lakes, Alberta, 2012. Data Report, D-2013-004, produced by the Alberta Conservation Association, Sherwood Park, Alberta, Canada.

APPENDIX A. VOLUNTEER FISHING SURVEY FORM

ADF&G Volunteer Fishing Survey

Date _____

of anglers _____

Lake fished	Time spent fishing	# of fish caught	Species caught	# of fish harvested	Species harvested