

EXPERIMENTAL REINTRODUCTION OF SOCKEYE SALMON INTO SKAHA LAKE							
PROPOSED WORKPLAN (YEARS 1-4) FOR EVALUATION AND MONITORING OF SOCKEYE, KOKANEE, MYSIS AND OTHER LIMNETIC FISHES IN SKAHA AND OSOYOOS LAKES							
Workplan	Task	Information Yield	Rationale	year 1	year 2	year 3	year 4
Monitoring							
Juvenile Rearing (sockeye, kokanee)	RST Estimate of fry Abundance	abundance, size, timing, egg to fry survival	Calibration of ATS fry survey; egg-fry survival	Yes	Yes	Yes	No
	3 x 7 m Acoustic and Trawl Survey (ATS)						
	May ATS	density and size, ratio of sk/ko, diet		Yes	Yes	Yes	Yes
	Summer (Aug) Survey	density and size, ratio of sk/ko, diet, growth		Yes	Yes	Yes	Yes
	Fall Survey	density and size, ratio of sk/ko, diet, growth, survival		Yes	Yes	Yes	Yes
	Winter Survey	density and size, ratio of sk/ko, diet, growth, survival, pre-smolt estimate		Yes	Yes	Yes	Yes
Older Age Classes of Kokanee and other Limnetic Fishes (e.g. Whitefish)							
	Additional trawling with 3 x 7 m net in Skaha only to coincide with summer ATS	size, ratios of relative abundance, age structure	estimate biomass of larger limnetic fish, partitioning mechanism	Yes	Yes	Yes	Yes
	Gill netting in Skaha only to coincide with summer ATS	size, ratios of relative abundance, age structure	estimate biomass of larger limnetic fish, partitioning mechanism	Yes	Yes	Yes	Yes
Sockeye Migration							
	RST for Skaha smolts	age and size information, timing		Yes	Yes	Yes	Yes
	RST for Osoyoos smolts	age and size information; ratio of Osoyoos to Skaha smolt numbers	ratio will suggest whether to invest in Pit tags to measure survival through Vaseux Lake	Yes	Yes	Yes	Yes
Adult Monitoring							
Kokanee	Calibrate and Standardize WLAP escapement monitoring in Penticton Channel & increase frequency	escapement estimate, residency timing	used to develop a standardized dataset of adult escapement of WLAP 1989-present	Yes	Yes	Yes	Yes
	Biosampling	fecundity, size at age, sex ratio, residualization of sk		Yes	Yes	Yes	Yes
	Shingle Creek Biosampling	escapement estimate, residency timing		Yes	Yes	Yes	Yes
		fecundity, size at age, sex ratio, residualization of sk		Yes	Yes	Yes	Yes
Sockeye	Annual enumeration -- standardized	adult escapement and no. of marked fish returning		Yes	Yes	Yes	Yes
	Biosampling of broodstock collection	fecundity, size at age, sex ratio		Yes	Yes	Yes	Yes
General Lake Limnology							
	Chemical limnology during ATS			Yes	Yes	Yes	Yes
	Physical limnology (secchi and TDO) during ATS			Yes	Yes	Yes	Yes
Mysis relicta	Sample 10 sites at time of ATS to reduce cost.	Biomass, size and numbers at different life stages		Yes	Yes	Yes	Yes
Zooplankton	Sample 10 sites at time of ATS and Mysis surveys to reduce cost	genus density, biomass, size		Yes	Yes	Yes	Yes
Baseline data development							
Juvenile Rearing	ATS surveys 1999-2003	partitioning of age 0+ Sk (Osoyoos) and Ko (Skaha) and larger limnetic fishes. Determine baseline growth & survival from 2002 trawl work	baseline estimates of total limnetic fish biomass and growth rates and survival when available	Yes	No	No	No
Adult Monitoring	Review WLAP escapement 1989-present and compare with 2004-06	standardized dataset of adult escapement of WLAP 1989-present	Part of CNAT analysis/publication on Okanagan River kokanee	Yes	No	No	No
Biosampling	Compile WLAP historical data 1989-present	baseline estimates of size at age	Part of CNAT analysis/publication on Okanagan River kokanee	Yes	No	No	No
Mysis relicta	Compile historical data 1999-2002, and process 2003 samples	Baseline estimates of density by life stage (adult, sub-adult), plus size and biomass		Yes	No	No	No
	Egg counts (1999-2003) and current for productivity analysis	production changes in mysid	understand the resource partitioning, sink or source, trophic triangle information	Yes	No	No	No
Zooplankton	Compile historical data 1999-2002 and process 2003 samples - check WLAP information	baseline estimates genus density, biomass, size		Yes	No	No	No
	Egg counts (1999-2003) and current for productivity analysis	production changes in major zooplankton genus	understand partitioning mechanisms i.e. energy sink or energy source, and trophic triangle dynamics.	Yes	Yes	No	No
Chemistry	Spring P level 1989-pres.	baseline P levels	For fish biomass/TP production estimate	Yes	No	No	No
Baseline Data Summary	Prepare data for yearly & long term comparisons			Yes	Yes	Yes	Yes
Hatchery Operations							
	Two broodstock collection stations						
	Hatchery preparation			Yes	Yes	Yes	Yes
	Broodstock collection (6 people per crew for 10 days)			Yes	Yes	Yes	Yes
	Egg take (4 people per crew for 10 days)			Yes	Yes	Yes	Yes
	Egg picking and Inventory			Yes	Yes	Yes	Yes
	Disease Screening (2 crews of 2 people)			Yes	Yes	Yes	Yes
	Fry ponding, rearing and release, Mar-May			Yes	Yes	Yes	Yes
	Fry marking (adipose clip-sub contract)			Yes	Yes	Yes	Yes
	Overall hatchery management	Year end hatchery report		Yes	Yes	Yes	Yes
Reporting/Analysis							
Part 1. Hatchery report				Yes	Yes	Yes	Yes
Part 2. M&E report							
	Chemical and Physical limnology, Adult enumeration, ATS, Smolt sampling, Data synthesis	Report with analysis, results and interpretation, and progress on hypothesis testing provided to COBTWG. Year end report will include Feb. smolt estimates for presentation at annual April meetings		Yes	Yes	Yes	Yes
Year end meeting	Coordinate and communicate information to COBTWG			Yes	Yes	Yes	Yes
Implementation quarterly meeting	Coordinate and communicate information to COBTWG and public			No	No	No	Yes
ABBREVIATIONS USED IN WORKPLAN							
CNAT - Core Numbers and Traits				TP - Total Phosphorous			
ATS - Acoustic, and Trawl Surveys				T/DO - Total Dissolved Oxygen			
RST - Rotary Screw Trap (for juvenile fish)				Sk-Sockeye;Ko-Kokanee.			
WLAP - Ministry of Water, Land and Air Protection				COBTWG - Canadian Okanagan Basin Technical Working Group			