Telemetry Study Summary Framework

This summary sheet will facilitate coordination for telemetry studies that will be implemented within the geographic extent of the Core Array. The Core Array consists of key receiver locations for meeting salmon and sturgeon management objectives identified by the Interagency Ecological Program (IEP). Detection data collected by the Array will be available on an open database. Coordination of tag ID codes will ensure that each study uses unique ID codes and that study codes will not be identified as false positives and removed during the initial processing phase. ITAG plans to share completed summary sheets with IEP to identify opportunities for cooperation and collaboration.

Primary Investigator:

Name: Arnold Ammann Email: arnold.ammann@noaa.gov Phone: 831-420-3968

Study objective(s): Estimate survival of acoustically tagged Livingston stone winter-run Chinook salmon juveniles to the USFWS trawl sampling stations at Sacramento and Chipps Island. These estimates will be used in the CWT-Acoustic Tag paired release hybrid design to determine trawl capture efficiency and abundance estimates for other runs of salmon. Tag life tests on a 5% sample of tags and tag retention trials in 50 fish will be done each year.

State hypothesis (if applicable):

Study Type:

☒ Reach-specific survival estimate

☐ Route selection

☐ Habitat use/preference

☐ Entrainment/fish passage evaluation

☐ Technology testing

☒ Other: Methodology development

Study Timing:

Study Duration (years): 3 Years

Release Dates (range; if applicable): Feb 2021

Study site(s): (If applicable)

Collection site(s): LSNFH

Release location(s): Caldwell Park on Sacramento R.

Fish/Species of Interest

Species-race: Winter-run Chinook salmon
Length (range): 87-110mm FL
Life stage: Juvenile, pre-smolts

Source/quantity: LSNFH 600 fish
Status of fish request (if applicable): approved

Tagging Information (if applicable)

Transmitter Information

Type/model: ATS SS300 (2018, 2019) and SS400 (2020)
Weight (gm): 0.30/0.42
PRI/life of tag: 10 Second PRI. JSATS 60-80 day life.

Implant procedure

☒ Surgical ☐ Gastric ☐ Injected

Has staff completed a standard tagging training? (**Y/N**).
If yes, when? Yes. 2013, 2015.

Telemetry Receivers:

- Non-Core Receivers Deployed/Duration: November to July each year
- Identify mission critical Core receiver locations (general description): SacTrawl – dual array, 2 lines of 3 receivers, Chipps Island – dual array, 2 lines of 5 receivers
- Desired frequency of download (If Real-time data is required, indicate management directive): every 3 months

Environmental/operating conditions (if applicable)

- Relevant discharge indices: varying flow
- Temperature: 8-20 deg C
- TDG:
- Treatment(s): year and CWT group

Unique study characteristics: Use of acoustic telemetry survival estimates to improve abundance estimates derived from another sampling methods. Tag effects trial will be performed by dummy tagging 50 fish and keeping 50 untagged controls. Fish will be kept at LSNFH for 60 days post surgery. A tag life trial will be done by randomly sampling 5% of the tag order and recording tag function for as long as the tags run.