



United States Department of the Interior



FISH AND WILDLIFE SERVICE

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Memorandum

DATE: April 13, 2018

TO: Nicholas Hetrick, FAC Program Lead – Arcata Fish and Wildlife Office

FROM: Kimberly True, Assistant Project Leader – CA-NV Fish Health Center

The California-Nevada Fish Health Center (Center) works collaboratively with the Service's Arcata Fish and Wildlife Office (AFWO) and the Karuk and Yurok tribes to monitor the prevalence of *Ceratonova shasta* and *Parvicapsula minibicornis* infections in juvenile salmon in the Klamath River. The Center coordinates this annual monitoring project, provides laboratory support, and generates an annual summary report for the study. AFWO and tribal biologists are responsible for collecting and preparing fish samples for delivery to the Center.

For the 2018 outmigration season, the Center will strive to provide Quantitative Polymerase Chain Reaction (QPCR) testing of juvenile Chinook salmon collected from the Shasta to Scott (K4 or "Kinsman") reach in a time-sensitive manner. The goal is to provide weekly-stratified estimates of *C. shasta* prevalence of infection (POI) to managers on a weekly basis during the outmigration season.

Prevalence of infection is the measure used in medicine and epidemiology to define individuals affected by a disease at a particular point in time, within a given sample set. Also known as Point Prevalence, it describes the proportion (percentage) of a group that has the condition (infection) at a specific point in time. Other important factors including *C. shasta* exposure dose, pathogen burden within the fish, impact on fish tissues and the rate of disease progression have to be evaluated to assess the overall disease impacts to the group of fish that are sampled.

To date, QPCR testing has been performed for juvenile Chinook salmon collected in the K4 reach through week 3 of the study, as presented in Table 1.

Table 1. Weekly-stratified prevalence of infection (POI) of *Ceratonova shasta* in juvenile Chinook salmon captured in the Shasta to Scott River reach (K4 or Kinsman) of the Klamath River.

<i>Sample Week</i>	<i>Collection Date</i>	<i>Number of Samples Collected</i>	<i>Number of Samples Positive</i>	<i>C. shasta POI</i>
1	3/26/18	30	0	0%
2	4/02/18	30	0	0%
3	4/09/18	30	0	0%