

MEMORANDUM

DATE: Jun 1, 2015

TO: Nick Hetrick, Arcata FWO

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SUBJECT: 2015 Klamath River Juvenile Chinook Salmon Health Monitoring,
Ceratonova shasta Prevalence Data

As a component of Klamath River fish health assessment, the California-Nevada Fish Health Center is examining juvenile Klamath River Chinook salmon to monitor the prevalence of *Ceratonova shasta* and *Parvicapsula minibicornis* infection. Fish are collected by biologists with the Karuk Tribe, Yurok Tribe, and US Fish and Wildlife Service. The CA-NV Fish Health Center is coordinating disease monitoring efforts and providing laboratory support for the project.

To date, QPCR testing has been performed for fish collected from 29 March through 10 May for the Shasta to Scott (K4) reach and 12 April to 17 May for the Scott to Salmon (K3) reach. Note that 2014 data for both reaches have been included in the graphs to provide a relative comparison of infection onset and prevalence from the previous monitoring year.

Ceratonova shasta has been detected in 70.5% (186/264) of fish tested to date. *Parvicapsula minibicornis* data is still pending. While few clinical disease signs were observed early in the season during necropsy, clinical signs have been more pronounced in the later weeks, especially weeks 4-6 in the K4 reach and week 7 in the K3 reach. All data are preliminary and subject to revision.

Table 1. *Ceratonova shasta* prevalence of infection (POI) by Quantitative Polymerase Chain Reaction (QPCR).

Reach	Sample Week	Date	Total Number Samples	Number <i>C. shasta</i> Positive	<i>C. shasta</i> POI
Shasta to Scott (K4)	1	29-Mar	20	0	0%
	2	5-Apr	20	4	20%
	3	12-Apr	20	7	35%
	4	19-Apr	20	18	90%
	5	26-Apr	20	20	100%
	6	3-May	20	20	100%
	7	10-May	20	17	85%
Scott to Salmon (K3)	1	29-Mar	NS ¹	NS	NS
	2	5-Apr	NS	NS	NS
	3	12-Apr	20	5	25%
	4	19-Apr	20	20	100%
	5	26-Apr	21	20	95%
	6	3-May	21	21	100%
	7	10-May	22	20	91%
	8	17-May	20	14	70%

¹ NS – Not Sampled.

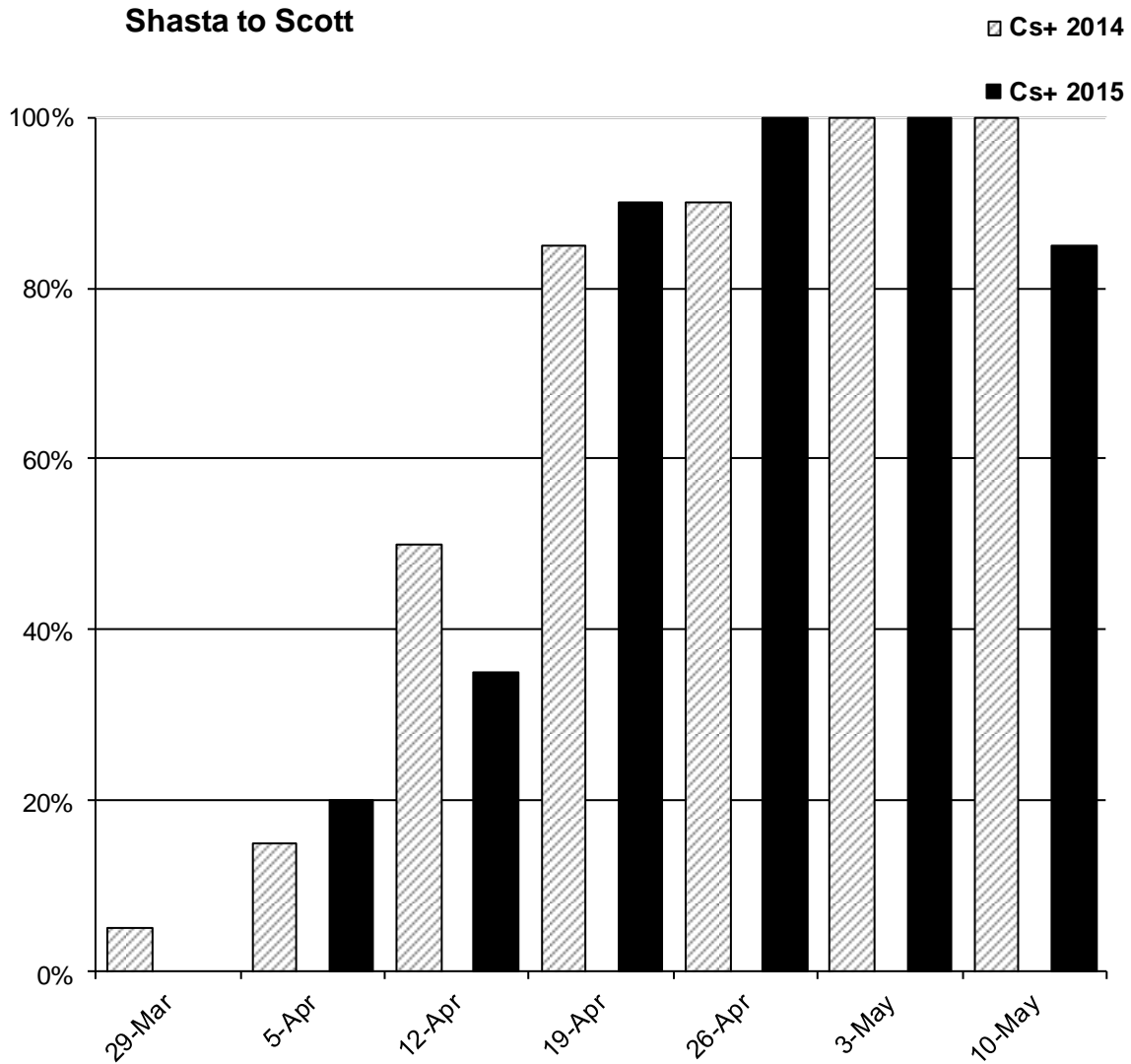


Figure 1. Weekly prevalence of *Ceratonova shasta* infection in juvenile Chinook salmon captured in the Shasta to Scott (K4) reach on the Klamath River from 29 March to 10 May. Twenty fish were sampled during these weeks, therefore the absence of a bar means that fish were sampled but were negative for *C. shasta*.

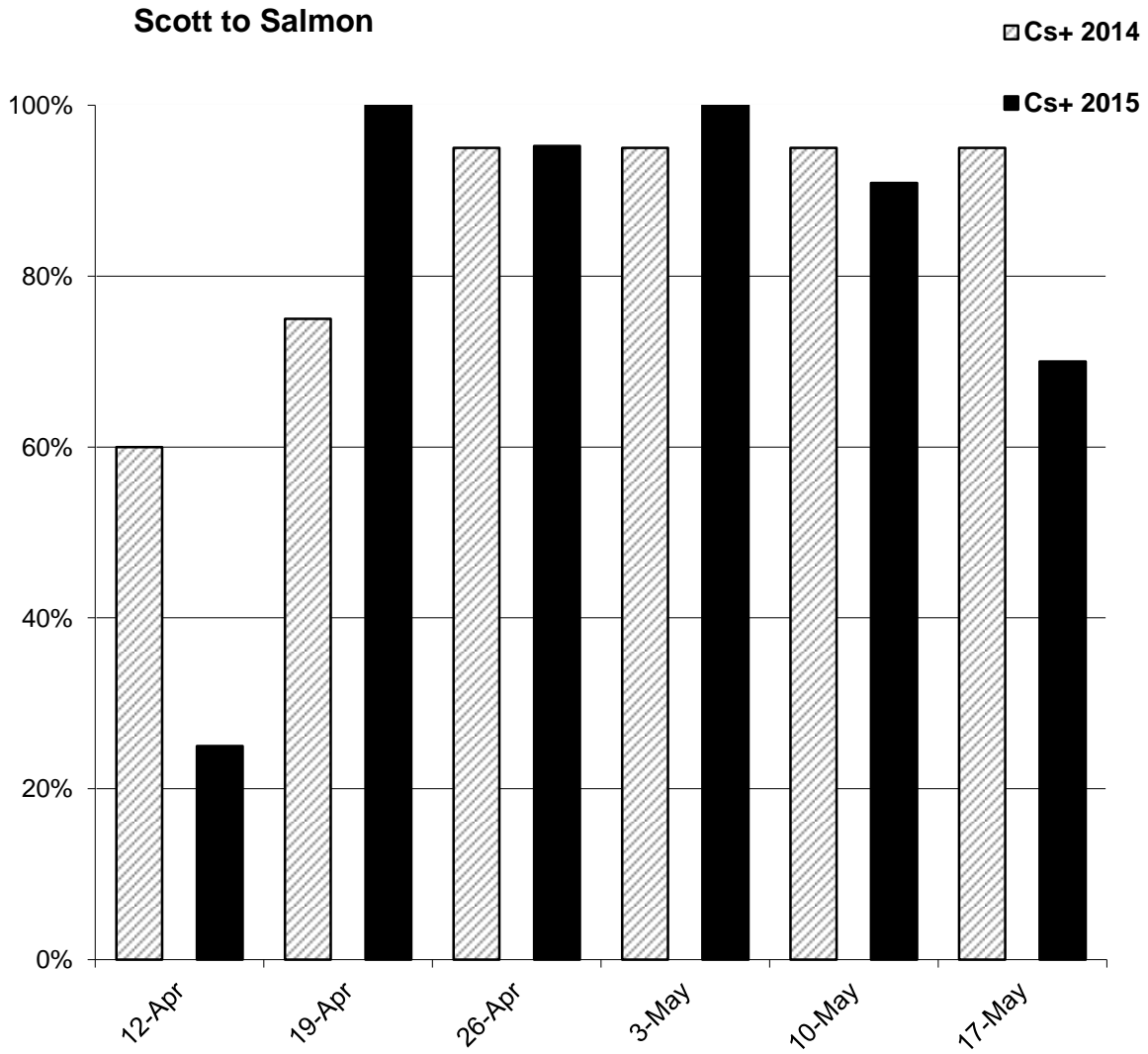


Figure 2. Weekly prevalence of *Ceratonova Shasta* infection in juvenile Chinook salmon captured in the Scott to Salmon (K3) reach on the Klamath River from 12 Apr to 17 May. Twenty fish were sampled for all weeks shown on the graph.