U.S. Fish & Wildlife Service

Arcata Fish & Wildlife Office Fisheries Program

Klamath River Outmigrant Trapping Update

May 3, 2010

Synopsis: The 2010 downstream migrant monitoring season on the mainstem Klamath River is conducted jointly by the USFWS Arcata Fish and Wildlife Office (AFWO), Karuk Tribe of California (KTOC), and USGS Fort Collins Science Center. Monitoring began March 2010 at three sites on the mainstem Klamath River between Iron Gate Dam (Rkm 309.65) and the Scott River confluence (Rkm 232.95). The upstream-most site (Rkm 307.75) is on the right bank downstream of the Bogus Creek confluence on Blue Heron RV Park property. The second site (Rkm 293.55) is on the left bank downstream of the Carson Creek confluence and upstream of the I-5 bridge river crossing. The downstream-most site (Rkm 237.55) is on the left bank just upstream of the Kinsman Creek confluence. Trapping at the Bogus site is conducted using a single frame net. Two inline, upstream (UPS) and downstream (DNS), eight-foot diameter rotary screw traps (RST) and one frame net are situated at the I-5 site. Two inline, UPS and DNS, five-foot diameter RST's are situated at the Kinsman site. Traps are typically run four (Monday through Thursday) nights per week and checked once daily while in operation.

The table below summarizes average salmonid catch per day by week. Expansions have not been applied to the catches at this time. We also conduct weekly depletion seining at the Klamathon/Copco-Ager Bridge crossing (Rkm 300.70). Seine catches are not reported in this summary but fish health observations at this site are included.

The last table of this document is a summary of clinical signs of disease. We merely note external symptoms of infection, which may not always be revealed by infected fish. QPCR assays and histology analyses conducted by the USFWS California-Nevada Fish Health Center (CA-NV FHC) will provide more accurate infection rates. Percentages of live YOY Chinook salmon with distended bellies, gill fungus, and pale gills are summarized. Distended bellies may be a clinical sign of infection by the myxosporean parasites, *Ceratomyxa shasta* and *Parvicapsula minibicornis*. Gills of juvenile salmonids ≥45 mm FL are evaluated for color (red, pale/pink, white, or tan) and condition (normal, eroded, or fungal). Pale gills may be due to anemia associated with *Parvicapsula minibicornis* infection or a natural reaction to the smoltification process. Gill fungus is likely *Saprolegnia* growing upon a columnaris (*Flavobacterium columnare*) infection. The CA-NV FHC annually investigates infection rates of *C. shasta*, *P. minibicornis*, and other pathogens in juvenile salmonids in the Klamath River below Iron Gate Dam. Fish collections for these disease analyses began on April 8, 2010. Our field crew sampled YOY Chinook salmon for this study on the mainstem Klamath River between the Shasta and Scott rivers. Fish health sampling concluded once the YOY Chinook salmon had migrated downstream and samples were no longer obtainable. External signs of disease have been minimal so far. Disease might be suppressed by cooler temperatures (approximately 5°C cooler than last year at this time).

If you have any questions regarding this summary, please contact Steve Gough at (707) 825-5197.

USFWS 2010 Mainstem Klamath River Outmigrant Trap Juvenile Salmonid Catch-per-Day Summary

U.S. Fish & Wildlife Service, Arcata Fish & Wildlife Office, 1655 Heindon Road, Arcata, CA 95521, (707)822-7201

Preliminary Data - Subject to Revision

								Chinook (*O. tshawytscha*)			Coho (*O. kisutch*)			Steelhead (*O. mykiss*)		
	Calendar	Sample	IGD Q (cfs)*		Water Temp. (F)**		Trapping	YOY				Age 1 +			Age 1 +	
Trap	Week	Dates	Min	Max	Min	Max	Days	No Clip	AD Clip	Age 1+	YOY	No Clip	LM Clip	YOY	No Clip	AD Clip
Kinsman DNS RST	12	3/17-3/19	1420	1470	48.0	48.0	3	69.33	0.00	0.00	0.00	0.00	0.00	0.00	0.67	0.00
	13	3/23-3/26	1300	1300	46.9	48.7	4	34.00	0.00	0.00	0.00	0.00	0.00	0.00	0.50	0.00
	14	3/30-4/2	1310	1340	46.1	46.1	4	16.00	0.00	0.00	0.50	0.00	0.00	0.00	0.25	0.00
	15	4/6-4/9	1340	1340	45.3	51.0	4	12.75	0.00	0.00	0.25	0.00	0.00	0.00	0.25	0.00
	16	4/13-4/16	1340	1340	50.7	52.9	4	34.00	0.00	0.00	1.50	0.00	0.00	0.00	0.00	0.00
	17	4/20-4/23	1340	1340	47.4	52.6	3	19.67	0.00	0.00	0.00	0.00	0.00	0.00	0.67	0.00
	18	4/27-4/30	1350	1390	49.5	51.3	3	16.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Kinsman UPS RST	11	3/10-3/12	1470	1470	45.2	45.5	3	324.67	0.00	0.00	0.33	0.67	0.00	0.00	2.67	0.00
	12	3/16-3/19	1420	1470	48.0	48.0	4	431.00	0.00	0.00	0.75	0.50	0.00	0.00	1.50	0.00
	13	3/23-3/26	1300	1300	46.9	48.7	4	265.25	0.00	0.00	1.00	0.75	0.00	0.00	1.50	0.00
	14	3/30-4/2	1310	1340	46.1	46.1	4	184.75	0.00	0.00	8.50	0.00	0.00	0.00	5.75	0.00
	15	4/6-4/9	1340	1340	45.3	51.0	4	159.25	0.00	0.00	5.25	0.50	0.00	0.00	2.00	0.00
	16	4/13-4/16	1340	1340	50.9	52.9	4	401.50	0.00	0.00	24.00	0.25	0.00	0.00	0.75	0.00
	17	4/20-4/23	1340	1340	47.4	52.6	4	446.25	0.00	0.00	2.00	0.25	0.25	0.50	2.75	0.00
	18	4/27-4/30	1350	1390	50.9	51.3	2	185.50	0.00	0.50	0.50	2.00	0.00	0.00	3.00	0.00
I-5 Frame	11	3/11-3/12	1470	1470	44.1	44.1	2	46.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00
	12	3/16-3/19	1420	1470	44.8	49.1	4	70.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	13	3/23-3/26	1300	1300	45.5	46.9	4	40.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	14	3/30-4/2	1310	1340	45.9	47.3	4	48.25	0.00	0.00	0.50	0.00	0.00	0.00	0.00	0.00
	15	4/6-4/9	1340	1340	45.7	47.7	4	187.25	0.00	0.00	4.75	0.25	0.25	0.00	0.25	0.00
	16	4/13-4/16	1340	1340	47.2	50.2	4	230.25	0.00	0.00	8.50	0.00	1.00	0.25	0.00	0.00
	17	4/20-4/23	1340	1340	47.0	50.8	4	154.25	0.00	0.00	9.00	0.00	0.00	0.50	0.00	0.00
	18	4/27-4/30	1350	1390	48.5	51.4	4	101.00	0.00	0.00	1.25	0.00	0.00	0.00	0.00	0.00
I-5 DNS RST	11	3/11-3/12	1470	1470	44.1	44.1	2	28.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	12	3/16-3/19	1420	1470	44.8	49.1	4	53.00	0.00	0.25	0.25	0.00	0.00	0.00	0.50	0.00
	13	3/23-3/26	1300	1300	45.5	46.9	4	35.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	14	3/30-4/2	1310	1340	45.9	47.3	4	39.25	0.00	0.00	0.00	0.25	0.00	0.00	0.25	0.00
	15	4/6-4/9	1340	1340	45.7	47.7	4	124.50	0.00	0.00	0.25	0.00	14.75	0.00	0.25	0.00
	16	4/13-4/16	1340	1340	47.2	50.2	4	212.50	0.00	0.00	0.00	0.00	25.25	0.00	0.25	0.00
	17	4/20-4/23	1340	1340	47.0	50.8	4	164.50	0.00	0.00	0.75	0.00	0.75	0.00	0.25	0.00
	18	4/27-4/30	1350	1390	48.5	51.4	4	128.00	0.00	0.00	0.00	0.25	0.00	0.00	1.00	0.00
I-5 UPS RST	11	3/11-3/12	1470	1470	44.1	44.1	2	11.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	12	3/16-3/19	1420	1470	44.8	49.1	4	23.50	0.00	0.00	0.00	0.25	0.25	0.00	0.25	0.00
	13	3/23-3/26	1300	1300	45.5	46.9	3	25.67	0.00	0.00	0.00	0.33	0.00	0.00	0.67	0.00
	14	3/30-4/2	1310	1340	45.9	47.3	4	23.50	0.00	0.00	0.00	0.25	0.00	0.00	1.00	0.00
	15	4/6-4/9	1340	1340	45.7	47.7	4	58.25	0.00	0.25	0.00	0.00	22.50	0.00	0.25	0.25
	16	4/13-4/16	1340	1340	47.2	50.2	4	119.25	0.00	0.00	0.00	0.25	20.75	0.00	0.75	0.00
	17	4/20-4/23	1340	1340	47.0	50.8	4	204.00	0.00	0.00	0.50	0.50	0.25	0.00	1.00	0.00
	18	4/27-4/30	1350	1390	48.5	51.4	4	187.75	0.00	0.25	0.25	0.25	1.00	0.00	1.75	0.00
Bogus Frame	11	3/12-3/12	1470	1470	-	-	1	441.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	12	3/16-3/19	1420	1470	44.8	45.7	4	1364.25	0.00	0.25	0.25	0.25	0.00	0.00	0.50	0.00
	13	3/23-3/26	1300	1300	46.2	47.9	4	791.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	14	3/30-4/2	1310	1340	46.7	47.8	4	1067.00	0.00	0.00	2.75	0.00	0.00	0.00	0.00	0.00
	15	4/6-4/9	1340	1340	47.4	49.0	4	2110.75	0.00	0.00	3.25	0.25	5.00	0.00	0.75	1.00
	16	4/13-4/16	1340	1340	48.3	49.1	4	2556.00	0.00	0.00	21.00	0.25	0.75	1.25	0.50	0.25
	17	4/20-4/23	1340	1340	48.5	50.6	4	984.50	0.00	0.00	28.25	0.00	0.00	1.50	0.00	0.00
	18	4/27-4/30	1350	1390	50.0	50.8	4	100.75	0.00	0.00	1.75	0.00	0.00	1.25	0.00	0.00

* mean discharge from day of sampling and previous day

** temperature recorded at time of trap check

USFWS 2010 Mainstem Klamath River YOY Chinook Salmon Clinical Signs of Disease Summary

U.S. Fish & Wildlife Service, Arcata Fish & Wildlife Office, 1655 Heindon Road, Arcata, CA 95521, (707)822-7201

Preliminary Data - Subject to Revision

							Belly Condition			Gills				
											Color		Condition	
	Calendar	Sampling	IGD Flow (cfs)*		Water Temp. (F)**		Sample	Distended		Sample	Pale or Worse		Eroded or Fungal	
Site	Week	Dates	Min	Max	Min	Max	Size	n	%	Size	n	%	n	%
Kinsman	11	Mar 11	1470	1470	45.5	45.5	30	0	0.0%	1	0	0.0%	0	0.0%
	12	Mar 16-18	1470	1470	-	-	89	0	0.0%	1	0	0.0%	0	0.0%
	13	Mar 23-25	1300	1300	46.9	48.7	96	1	1.0%	14	1	7.1%	0	0.0%
	14	Mar 30 - Apr 1	1310	1340	-	-	90	0	0.0%	14	1	7.1%	0	0.0%
	15	Apr 6-8	1340	1340	45.3	51.0	90	0	0.0%	27	4	14.8%	0	0.0%
	16	Apr 13-14	1340	1340	51.3	51.3	60	0	0.0%	31	0	0.0%	0	0.0%
	17	Apr 20-22	1340	1340	47.4	50.8	90	0	0.0%	73	1	1.4%	0	0.0%
	18	Apr 27-28	1360	1390	50.9	50.9	60	0	0.0%	58	11	19.0%	0	0.0%
I-5	11	Mar 11	1470	1470	44.1	44.1	60	1	1.7%	0	-	-	-	-
	12	Mar 16-18	1470	1470	45.4	49.1	180	0	0.0%	0	-	-	-	-
	13	Mar 23-25	1300	1300	45.5	46.9	180	0	0.0%	1	0	0.0%	0	0.0%
	14	Mar 30 - Apr1	1310	1340	45.9	47.3	170	0	0.0%	8	1	12.5%	0	0.0%
	15	Apr 6-8	1340	1340	45.7	47.7	180	0	0.0%	6	1	16.7%	0	0.0%
	16	Apr 13-15	1340	1340	47.2	50.2	180	0	0.0%	14	0	0.0%	0	0.0%
	17	Apr 20-22	1340	1340	47	50.8	180	0	0.0%	17	1	5.9%	1	5.9%
	18	Apr 27-29	1360	1390	48.5	51.4	180	0	0.0%	29	1	3.4%	1	3.4%
Klamathon	12	Mar 18	1470	1470	46.6	46.6	30	0	0.0%	0	-	-	-	-
	13	Mar 25	1300	1300	47.3	47.3	30	0	0.0%	1	0	0.0%	0	0.0%
	14	Apr 1	1340	1340	50.1	50.1	30	1	3.3%	2	1	50.0%	0	0.0%
	15	Apr 8	1340	1340	48.9	48.9	30	0	0.0%	0	-	-	-	-
	16	Apr 15	1340	1340	49.3	49.3	30	0	0.0%	5	0	0.0%	0	0.0%
	17	Apr 22	1340	1340	50.4	50.4	30	0	0.0%	2	0	0.0%	0	0.0%
	18	Apr 29	1360	1360	51.6	51.6	30	0	0.0%	14	0	0.0%	0	0.0%
Bogus	12	Mar 16-18	1470	1470	44.8	45.7	90	0	0.0%	0	-	-	-	-
	13	Mar 23-25	1300	1300	46.2	47.9	90	0	0.0%	0	-	-	-	-
	14	Mar 30 - Apr1	1310	1340	46.7	47.8	90	0	0.0%	1	0	0.0%	0	0.0%
	15	Apr 6-8	1340	1340	47.4	49.0	90	0	0.0%	0	-	-	-	-
	16	Apr 13-15	1340	1340	48.3	49	90	0	0.0%	3	0	0.0%	0	0.0%
	17	Apr 20-22	1340	1340	48.5	49.5	90	0	0.0%	0	-	-	-	-
	18	Apr 27-29	1360	1390	50	50.8	90	0	0.0%	15	0	0.0%	0	0.0%

* mean discharge from day of sampling and previous day
** temperature recorded at time of trap check