



## Klamath River Outmigrant Monitoring Summary 2012

Synopsis: Annual juvenile salmonid outmigration monitoring on the mainstem Klamath River is conducted jointly by the USFWS Arcata Fish and Wildlife Office (AFWO), Karuk Tribe of California, and USGS Fort Collins Science Center.

Monitoring this season began March 2012 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) was on the right bank downstream of the Bogus Creek confluence on Blue Heron RV Park property. The second site (rkm 293.55) was 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) was on the left bank just upstream of the Kinsman Creek confluence. Trapping at the Bogus site was conducted using a single frame net. Two inline, upstream (UPS) and downstream (DNS), eight-foot diameter rotary screw traps (RST) and one frame net were situated at the I-5 site. Frame net sampling at the I-5 was postponed after April 5 due to high flows. One five-foot diameter RST was situated at the Kinsman site. Traps were typically run four nights per week (Monday through Thursday) and checked once daily while in operation. Iron Gate Hatchery began their release of young-of-the-year (YOY) Chinook salmon on June 6. With the concurrent drop off in naturally reared fish catch we ceased trapping at the Bogus and I-5 sites. Trap monitoring continued at the Kinsman site until July 11. We also conducted 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.

Table 1 below summarizes total catch of Chinook salmon, coho salmon, and steelhead at each trap by week. Table 2 summarizes the same data but is presented as average catch per day by week. Expansions to population estimates have not been applied to these raw catches at this time. The normalized proportion graphs below (Figures 1, 2, and 3) reflect outmigrant timing and peak catches of Chinook (a) and coho (b) salmon at each site and compares 2012 to the 10-year mean (only weeks with five or more years of data included).

Table 3 summarizes 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  $\geq 45$  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. 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. Our field crew samples YOY Chinook salmon for this study on the mainstem Klamath River between Iron Gate Dam and the Scott River confluence. We saw pale and/or fungal gills in a few fish at all sites in mid- to late May. We only noticed distended

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bellies in a few fish at Kinsman in late May. Overall 2012 appears to have been a low disease year in these reaches.

Table 4 summarizes Chinook and coho salmon size (fork length) data in 2012 and makes comparisons with previous years. Fish started off looking small this season but average fork lengths caught up with the 10-year mean.

Figure 4 displays daily mean discharge March through July below Iron Gate Dam (USGS Gaging Station 11516530) from 2000 to 2012.

If you have any questions regarding this summary, please contact Steve Gough at (707) 825-5197 or Bill Pinnix (707) 825-5129.



Table 1.

**USFWS 2012 Mainstem Klamath River Outmigrant Trap Juvenile Salmonid Catch Summary**

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

Preliminary Data - Subject to Revision

Trap	Survey Week	Sample Dates	IGD Q (cfs)*		Water Temp. (F)**		Trapping Days	Chinook ( <i>O. tshawytscha</i> )			Coho ( <i>O. kisutch</i> )			Steelhead ( <i>O. mykiss</i> )		
			Min	Max	Min	Max		YOY			Age 1 +			Age 1 +		
								No Clip	AD Clip	Age 1+	YOY	No Clip	LM Clip	YOY	No Clip	AD Clip
Kinsman RST	1	3/15-3/16	1310	1440	-	-	2	2	0	2	0	1	0	0	9	0
	2	3/20-3/23	1410	1420	44.0	45.0	3	4	0	1	0	13	0	0	14	0
	3	3/27-3/30	1410	1830	44.4	45.3	3	4	0	0	0	2	0	0	6	0
	4	4/3-4/5	1860	3210	-	-	2	11	0	1	1	0	2	0	8	0
	5	4/10-4/13	3480	3850	46.5	47.3	4	20	0	0	0	0	1	0	6	0
	6	4/17-4/20	2870	3050	49.1	51.2	4	31	0	1	0	0	2	0	10	1
	7	4/24-4/27	3710	3950	49.6	52.5	4	2	0	0	2	7	0	0	25	0
	8	5/1-5/4	3190	3480	51.8	54.1	4	32	0	0	0	7	5	0	18	0
	9	5/8-5/11	3180	3200	54.7	57.9	4	27	0	0	1	19	4	0	32	0
	10	5/15-5/18	2180	2750	59.0	60.3	3	29	0	0	17	3	0	2	22	0
	11	5/22-5/25	1950	2030	57.4	59.4	4	92	0	0	29	2	0	0	36	0
	12	5/29-6/1	1640	1950	59.0	64.7	4	91	0	0	49	0	0	0	21	0
	13	6/5-6/8	1560	1570	58.4	61.7	4	144	3	0	42	0	0	0	15	1
	14	6/12-6/15	1570	1570	-	-	4	189	14	0	104	0	0	0	33	0
	15	6/19-6/21	1560	1570	63.5	64.5	3	771	207	0	46	0	0	2	21	0
	16	6/27-6/28	1500	1520	63.1	65.1	2	184	72	0	9	0	0	0	11	0
	17	7/3-7/3	1030	1030	65.6	65.6	1	14	2	0	1	0	0	1	5	0
	18	7/11-7/11	1020	1020	-	-	1	5	2	0	1	0	0	0	2	0
I-5 Frame	2	3/21-3/23	1410	1420	42.6	45.5	3	17	0	0	1	0	0	0	3	0
	3	3/27-3/30	1410	1830	42.9	44.9	3	46	0	0	7	0	0	0	2	0
	4	4/3-4/5	1860	3210	44.2	46.5	3	9	0	0	4	0	1	0	0	0
I-5 DNS RST	1	3/14-3/16	1300	1440	-	-	3	9	0	0	0	0	0	0	2	0
	2	3/20-3/23	1410	1420	42.6	45.5	4	10	0	0	0	0	0	0	9	0
	3	3/27-3/30	1410	1830	42.9	44.9	3	17	0	0	0	0	0	0	1	0
	4	4/3-4/5	1860	3210	44.2	46.5	3	19	0	0	0	0	59	0	3	0
	5	4/10-4/13	3480	3850	46.7	48.3	4	30	0	0	1	0	1	0	3	0
	6	4/17-4/20	2870	3050	48.2	50.5	4	48	0	0	1	0	0	1	2	2
	7	4/24-4/27	3710	3950	54.8	56.3	4	44	0	0	3	0	2	2	2	0
	8	5/1-5/4	3190	3480	55.9	56.6	4	81	0	0	0	0	2	3	2	0
	9	5/8-5/11	3180	3200	57.7	59.1	4	76	0	0	4	1	2	8	2	1
	10	5/15-5/18	2180	2750	60.6	62.7	4	303	0	0	12	1	3	15	3	1
	11	5/22-5/25	1950	2030	60.0	62.0	4	232	0	0	23	0	1	9	6	3
	12	5/29-6/1	1640	1950	60.4	63.1	4	91	0	0	22	0	0	2	8	1
	13	6/5-6/7	1570	1570	59.7	62.0	2	92	22	0	3	0	0	0	3	0
I-5 UPS RST	1	3/14-3/16	1300	1440	-	-	3	23	0	0	0	0	0	0	9	0
	2	3/20-3/23	1410	1420	42.6	45.5	4	24	0	0	0	0	0	0	8	0
	3	3/27-3/30	1410	1830	42.9	44.9	2	40	0	0	0	0	0	0	4	0
	4	4/3-4/5	1860	3210	44.2	46.5	2	19	0	0	0	0	63	0	1	0
	5	4/10-4/13	3480	3850	46.7	48.3	4	24	0	1	0	2	2	0	1	0
	6	4/17-4/20	2870	3050	48.2	50.5	4	24	0	0	2	0	4	0	0	2
	7	4/24-4/27	3710	3950	54.6	56.3	3	11	0	0	3	0	0	0	4	1
	8	5/1-5/4	3190	3480	55.9	56.6	4	42	0	0	0	0	6	0	4	0
	9	5/8-5/11	3180	3200	57.7	59.1	4	54	0	0	1	8	12	4	8	1
	10	5/15-5/18	2180	2750	60.6	62.7	3	357	0	0	6	0	1	12	7	1
	11	5/22-5/25	1950	2030	60.0	62.0	4	254	0	0	14	0	0	5	7	1
	12	5/29-6/1	1640	1950	60.4	63.1	4	130	0	0	15	0	0	0	10	1
	13	6/5-6/7	1570	1570	59.7	62.0	2	153	30	0	8	0	0	0	4	0
Bogus Frame	1	3/15-3/16	1310	1440	-	-	2	759	0	0	0	0	0	0	4	0
	2	3/20-3/23	1410	1420	42.4	43.3	4	1533	0	0	0	0	0	0	4	0
	3	3/27-3/30	1410	1830	42.6	43.8	4	3193	0	0	16	0	78	0	0	0
	4	4/3-4/5	1860	3210	44.8	44.9	3	1113	0	0	12	0	1	0	2	0
	5	4/10-4/13	3480	3850	46.7	47.1	4	2018	0	0	21	0	0	0	0	0
	6	4/17-4/20	2870	3050	48.7	49.8	4	4302	0	0	221	0	0	0	3	6
	7	4/24-4/27	3710	3950	53.9	55.0	4	3068	0	0	137	0	0	2	1	0
	8	5/1-5/4	3190	3480	56.4	57.2	4	610	0	0	69	0	0	35	1	0
	9	5/8-5/11	3180	3200	58.2	59.0	4	546	0	0	53	0	1	97	0	0
	10	5/15-5/18	2180	2750	62.0	63.3	4	605	0	0	53	0	0	65	0	0
	11	5/22-5/25	1950	2030	62.6	63.3	4	200	0	0	9	0	0	44	0	1
	12	5/29-6/1	1640	1950	61.1	62.7	4	43	0	0	10	0	0	27	0	1

\* mean discharge from day of sampling

\*\* temperature recorded at time of trap check



Table 2.

**USFWS 2012 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

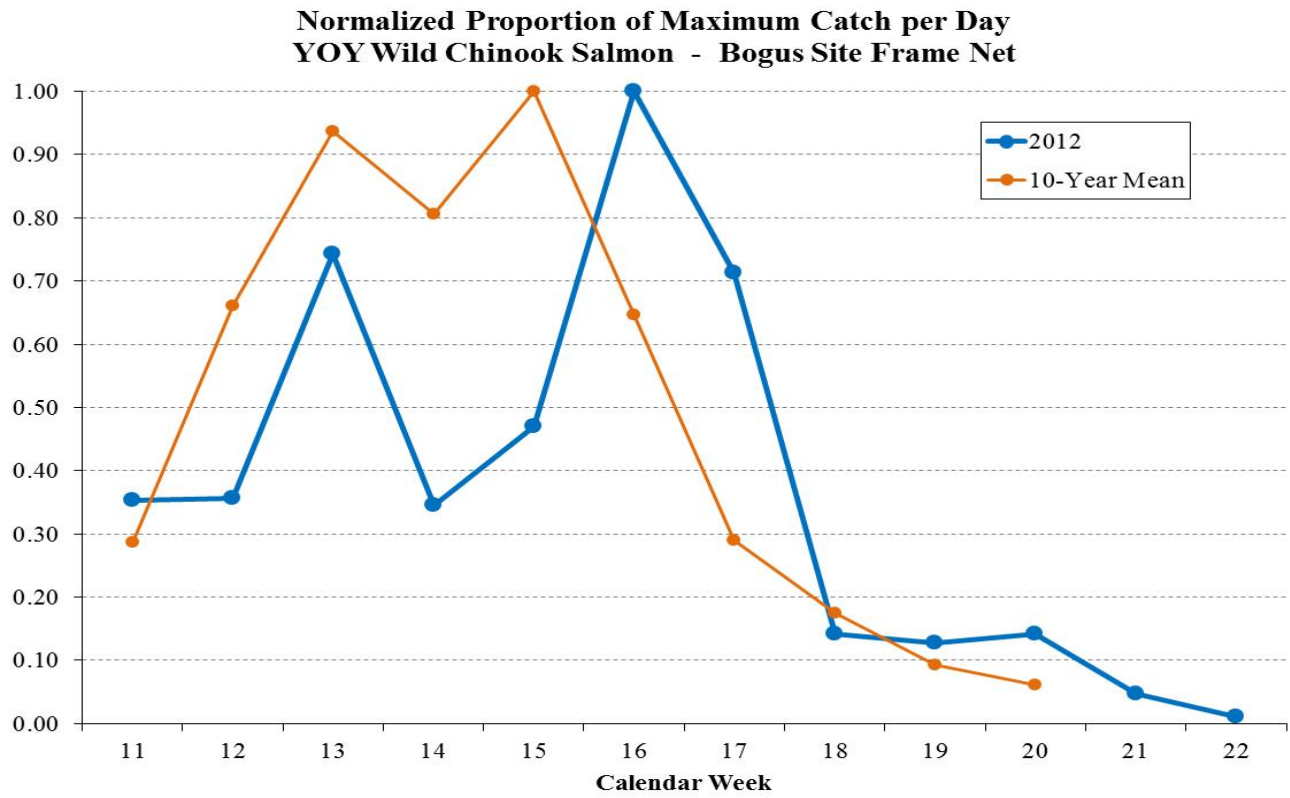
Preliminary Data - Subject to Revision

Trap	Survey Week	Sample Dates	IGD Q (cfs)*		Water Temp. (F)**		Trapping Days	Chinook ( <i>O. tshawytscha</i> )			Coho ( <i>O. kisutch</i> )			Steelhead ( <i>O. mykiss</i> )		
			Min	Max	Min	Max		YOY			Age 1 +			Age 1 +		
								No Clip	AD Clip	Age 1+	YOY	No Clip	LM Clip	YOY	No Clip	AD Clip
Kinsman RST	1	3/15-3/16	1310	1440	-	-	2	1.00	0.00	1.00	0.00	0.50	0.00	0.00	4.50	0.00
	2	3/20-3/23	1410	1420	44.0	45.0	3	1.33	0.00	0.33	0.00	4.33	0.00	0.00	4.67	0.00
	3	3/27-3/30	1410	1830	44.4	45.3	3	1.33	0.00	0.00	0.00	0.67	0.00	0.00	2.00	0.00
	4	4/3-4/5	1860	3210	-	-	2	5.50	0.00	0.50	0.50	0.00	1.00	0.00	4.00	0.00
	5	4/10-4/13	3480	3850	46.5	47.3	4	5.00	0.00	0.00	0.00	0.00	0.25	0.00	1.50	0.00
	6	4/17-4/20	2870	3050	49.1	51.2	4	7.75	0.00	0.25	0.00	0.00	0.50	0.00	2.50	0.25
	7	4/24-4/27	3710	3950	49.6	52.5	4	0.50	0.00	0.00	0.50	1.75	0.00	0.00	6.25	0.00
	8	5/1-5/4	3190	3480	51.8	54.1	4	8.00	0.00	0.00	0.00	1.75	1.25	0.00	4.50	0.00
	9	5/8-5/11	3180	3200	54.7	57.9	4	6.75	0.00	0.00	0.25	4.75	1.00	0.00	8.00	0.00
	10	5/15-5/18	2180	2750	59.0	60.3	3	9.67	0.00	0.00	5.67	1.00	0.00	0.67	7.33	0.00
	11	5/22-5/25	1950	2030	57.4	59.4	4	23.00	0.00	0.00	7.25	0.50	0.00	0.00	9.00	0.00
	12	5/29-6/1	1640	1950	59.0	64.7	4	22.75	0.00	0.00	12.25	0.00	0.00	0.00	5.25	0.00
	13	6/5-6/8	1560	1570	58.4	61.7	4	36.00	0.75	0.00	10.50	0.00	0.00	0.00	3.75	0.25
	14	6/12-6/15	1570	1570	-	-	4	47.25	3.50	0.00	26.00	0.00	0.00	0.00	8.25	0.00
	15	6/19-6/21	1560	1570	63.5	64.5	3	257.00	69.00	0.00	15.33	0.00	0.00	0.67	7.00	0.00
	16	6/27-6/28	1500	1520	63.1	65.1	2	92.00	36.00	0.00	4.50	0.00	0.00	0.00	5.50	0.00
	17	7/3-7/3	1030	1030	65.6	65.6	1	14.00	2.00	0.00	1.00	0.00	0.00	1.00	5.00	0.00
	18	7/11-7/11	1020	1020	-	-	1	5.00	2.00	0.00	1.00	0.00	0.00	0.00	2.00	0.00
I-5 Frame	2	3/21-3/23	1410	1420	42.6	45.5	3	5.67	0.00	0.00	0.33	0.00	0.00	0.00	1.00	0.00
	3	3/27-3/30	1410	1830	42.9	44.9	3	15.33	0.00	0.00	2.33	0.00	0.00	0.00	0.67	0.00
	4	4/3-4/5	1860	3210	44.2	46.5	3	3.00	0.00	0.00	1.33	0.00	0.33	0.00	0.00	0.00
I-5 DNS RST	1	3/14-3/16	1300	1440	-	-	3	3.00	0.00	0.00	0.00	0.00	0.00	0.00	0.67	0.00
	2	3/20-3/23	1410	1420	42.6	45.5	4	2.50	0.00	0.00	0.00	0.00	0.00	0.00	2.25	0.00
	3	3/27-3/30	1410	1830	42.9	44.9	3	5.67	0.00	0.00	0.00	0.00	0.00	0.00	0.33	0.00
	4	4/3-4/5	1860	3210	44.2	46.5	3	6.33	0.00	0.00	0.00	0.00	19.67	0.00	1.00	0.00
	5	4/10-4/13	3480	3850	46.7	48.3	4	7.50	0.00	0.00	0.25	0.00	0.25	0.00	0.75	0.00
	6	4/17-4/20	2870	3050	48.2	50.5	4	12.00	0.00	0.00	0.25	0.00	0.00	0.25	0.50	0.50
	7	4/24-4/27	3710	3950	54.8	56.3	4	11.00	0.00	0.00	0.75	0.00	0.50	0.50	0.50	0.00
	8	5/1-5/4	3190	3480	55.9	56.6	4	20.25	0.00	0.00	0.00	0.00	0.50	0.75	0.50	0.00
	9	5/8-5/11	3180	3200	57.7	59.1	4	19.00	0.00	0.00	1.00	0.25	0.50	2.00	0.50	0.25
	10	5/15-5/18	2180	2750	60.6	62.7	4	75.75	0.00	0.00	3.00	0.25	0.75	3.75	0.75	0.25
	11	5/22-5/25	1950	2030	60.0	62.0	4	58.00	0.00	0.00	5.75	0.00	0.25	2.25	1.50	0.75
	12	5/29-6/1	1640	1950	60.4	63.1	4	22.75	0.00	0.00	5.50	0.00	0.00	0.50	2.00	0.25
	13	6/5-6/7	1570	1570	59.7	62.0	2	46.00	11.00	0.00	1.50	0.00	0.00	0.00	1.50	0.00
I-5 UPS RST	1	3/14-3/16	1300	1440	-	-	3	7.67	0.00	0.00	0.00	0.00	0.00	0.00	3.00	0.00
	2	3/20-3/23	1410	1420	42.6	45.5	4	6.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00
	3	3/27-3/30	1410	1830	42.9	44.9	2	20.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00
	4	4/3-4/5	1860	3210	44.2	46.5	2	9.50	0.00	0.00	0.00	0.00	31.50	0.00	0.50	0.00
	5	4/10-4/13	3480	3850	46.7	48.3	4	6.00	0.00	0.25	0.00	0.50	0.50	0.00	0.25	0.00
	6	4/17-4/20	2870	3050	48.2	50.5	4	6.00	0.00	0.00	0.50	0.00	1.00	0.00	0.00	0.50
	7	4/24-4/27	3710	3950	54.6	56.3	3	3.67	0.00	0.00	1.00	0.00	0.00	0.00	1.33	0.33
	8	5/1-5/4	3190	3480	55.9	56.6	4	10.50	0.00	0.00	0.00	0.00	1.50	0.00	1.00	0.00
	9	5/8-5/11	3180	3200	57.7	59.1	4	13.50	0.00	0.00	0.25	2.00	3.00	1.00	2.00	0.25
	10	5/15-5/18	2180	2750	60.6	62.7	3	119.00	0.00	0.00	2.00	0.00	0.33	4.00	2.33	0.33
	11	5/22-5/25	1950	2030	60.0	62.0	4	63.50	0.00	0.00	3.50	0.00	0.00	1.25	1.75	0.25
	12	5/29-6/1	1640	1950	60.4	63.1	4	32.50	0.00	0.00	3.75	0.00	0.00	0.00	2.50	0.25
	13	6/5-6/7	1570	1570	59.7	62.0	2	76.50	15.00	0.00	4.00	0.00	0.00	0.00	2.00	0.00
Bogus Frame	1	3/15-3/16	1310	1440	-	-	2	379.50	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00
	2	3/20-3/23	1410	1420	42.4	43.3	4	383.25	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00
	3	3/27-3/30	1410	1830	42.6	43.8	4	798.25	0.00	0.00	4.00	0.00	19.50	0.00	0.00	0.00
	4	4/3-4/5	1860	3210	44.8	44.9	3	371.00	0.00	0.00	4.00	0.00	0.33	0.00	0.67	0.00
	5	4/10-4/13	3480	3850	46.7	47.1	4	504.50	0.00	0.00	5.25	0.00	0.00	0.00	0.00	0.00
	6	4/17-4/20	2870	3050	48.7	49.8	4	1075.50	0.00	0.00	55.25	0.00	0.00	0.00	0.75	1.50
	7	4/24-4/27	3710	3950	53.9	55.0	4	767.00	0.00	0.00	34.25	0.00	0.00	0.50	0.25	0.00
	8	5/1-5/4	3190	3480	56.4	57.2	4	152.50	0.00	0.00	17.25	0.00	0.00	8.75	0.25	0.00
	9	5/8-5/11	3180	3200	58.2	59.0	4	136.50	0.00	0.00	13.25	0.00	0.25	24.25	0.00	0.00
	10	5/15-5/18	2180	2750	62.0	63.3	4	151.25	0.00	0.00	13.25	0.00	0.00	16.25	0.00	0.00
	11	5/22-5/25	1950	2030	62.6	63.3	4	50.00	0.00	0.00	2.25	0.00	0.00	11.00	0.00	0.25
	12	5/29-6/1	1640	1950	61.1	62.7	4	10.75	0.00	0.00	2.50	0.00	0.00	6.75	0.00	0.25

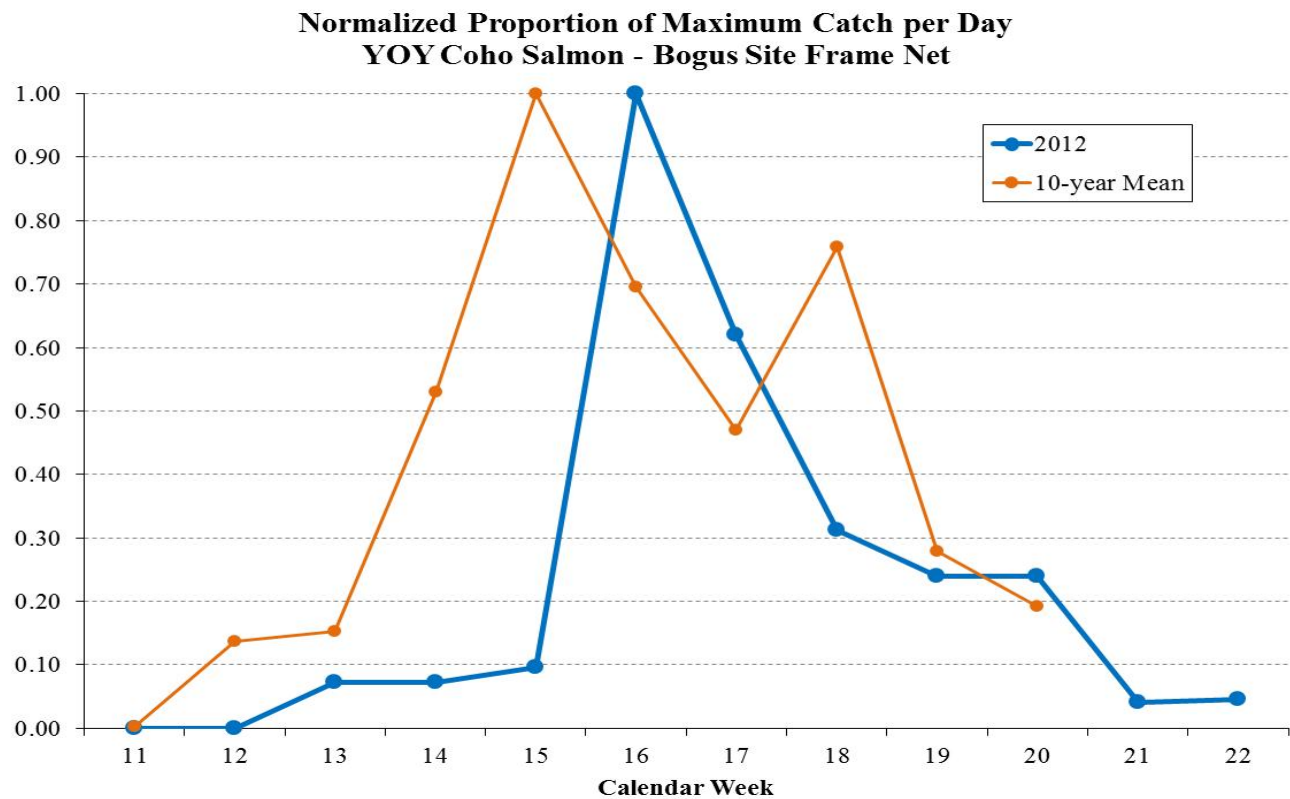
\* mean discharge from day of sampling

\*\* temperature recorded at time of trap check

Figure 1.

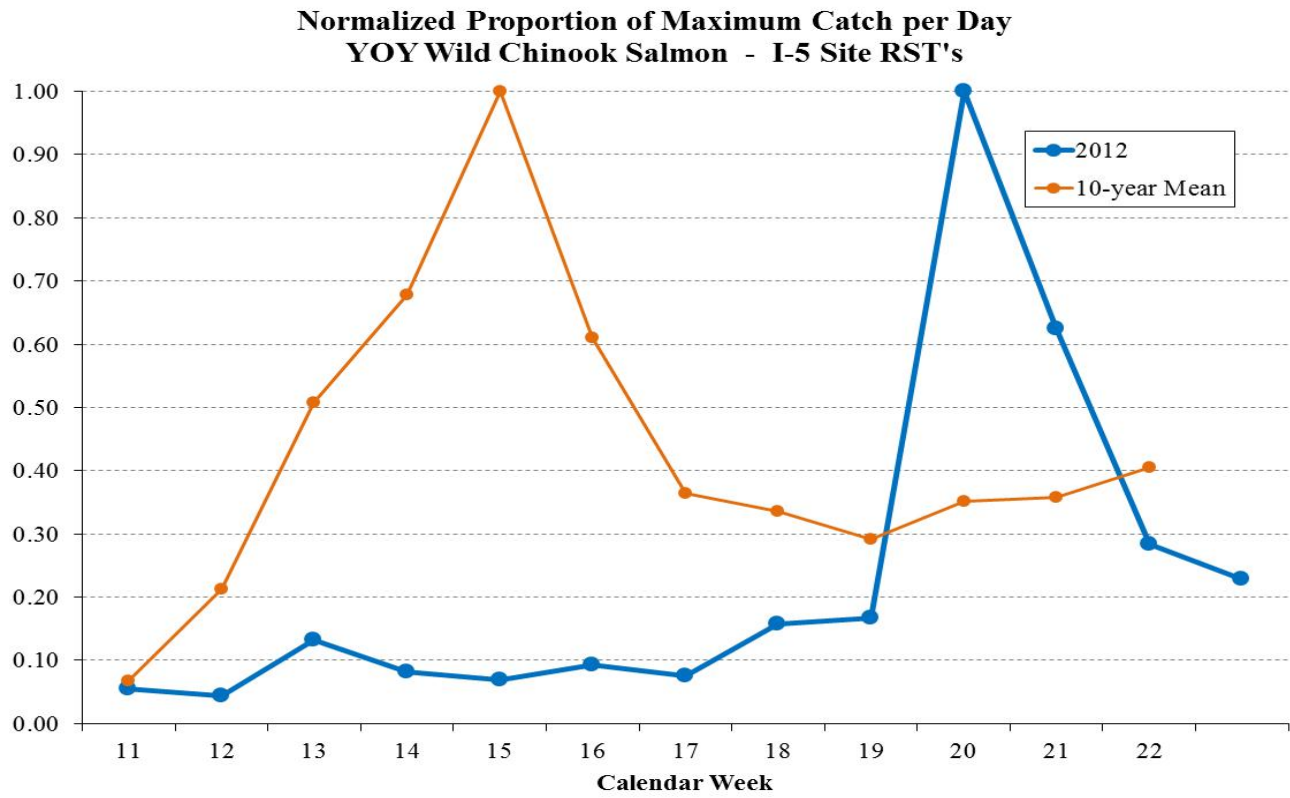


a)

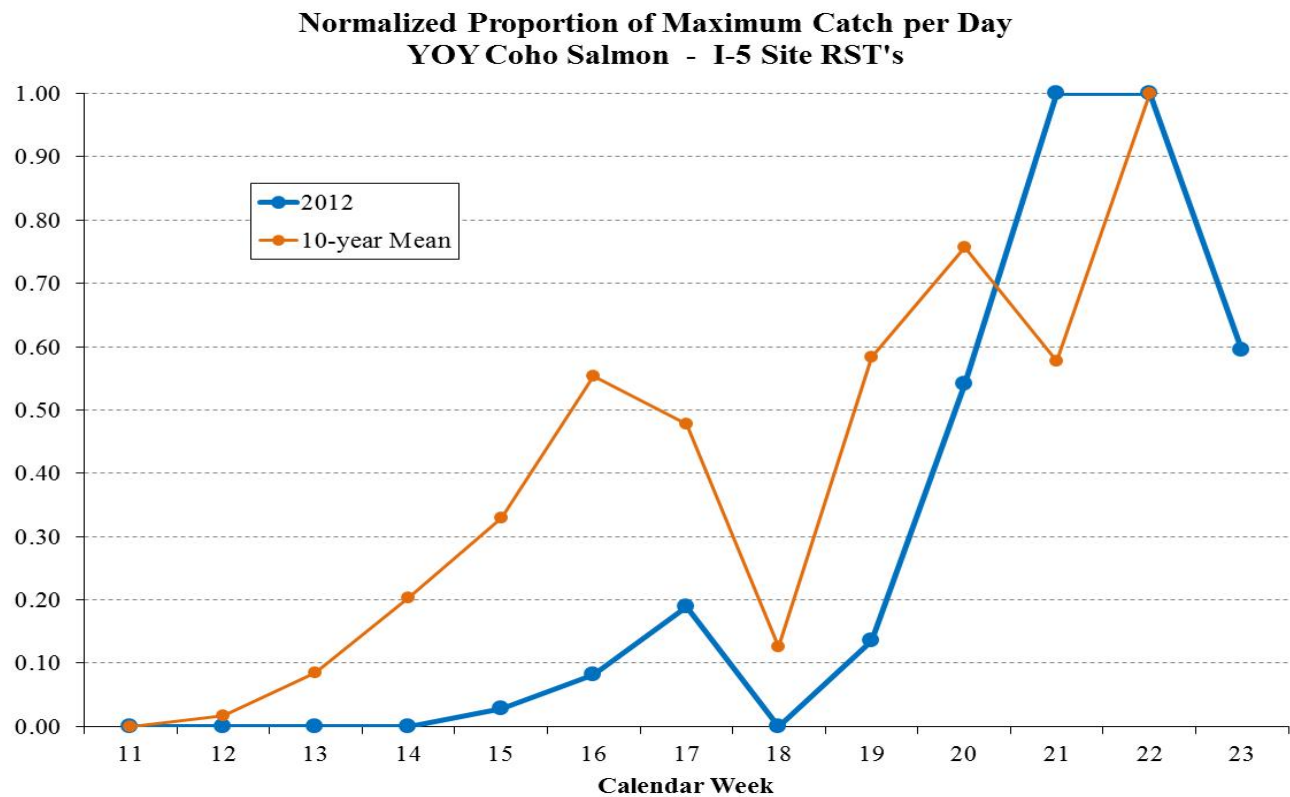


b)

Figure 2.



a)

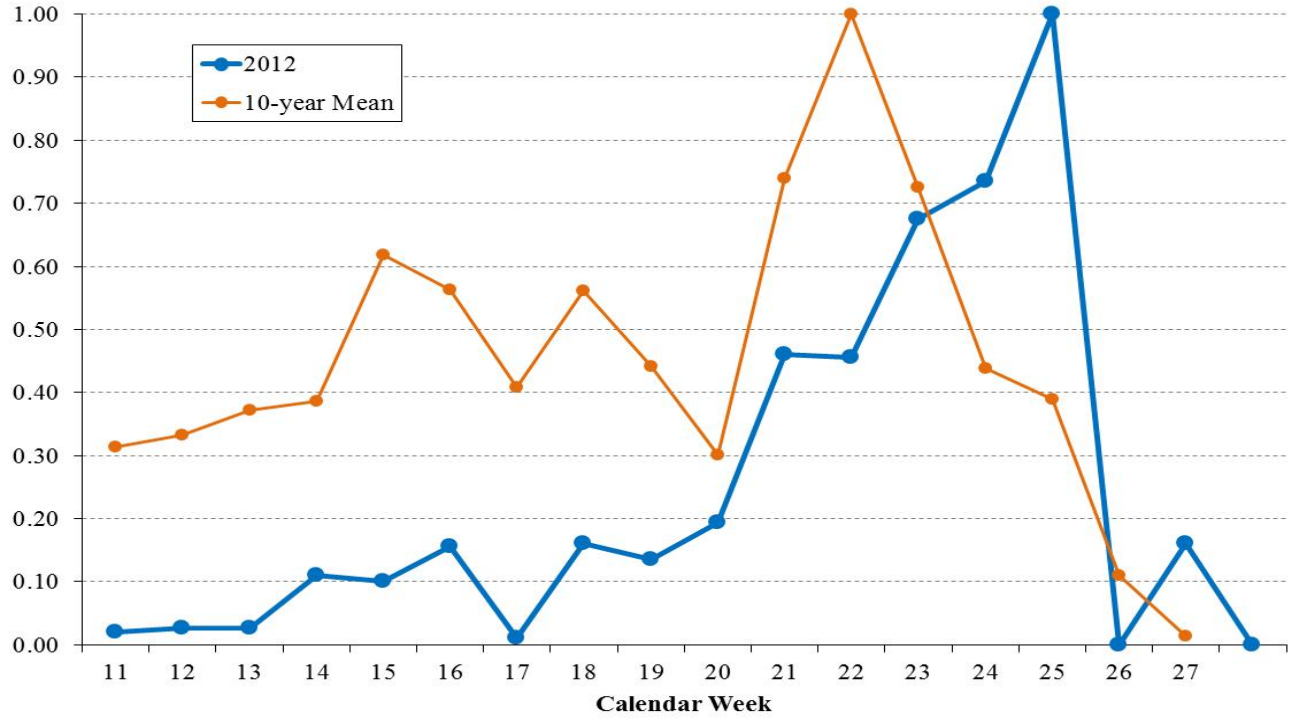


b)



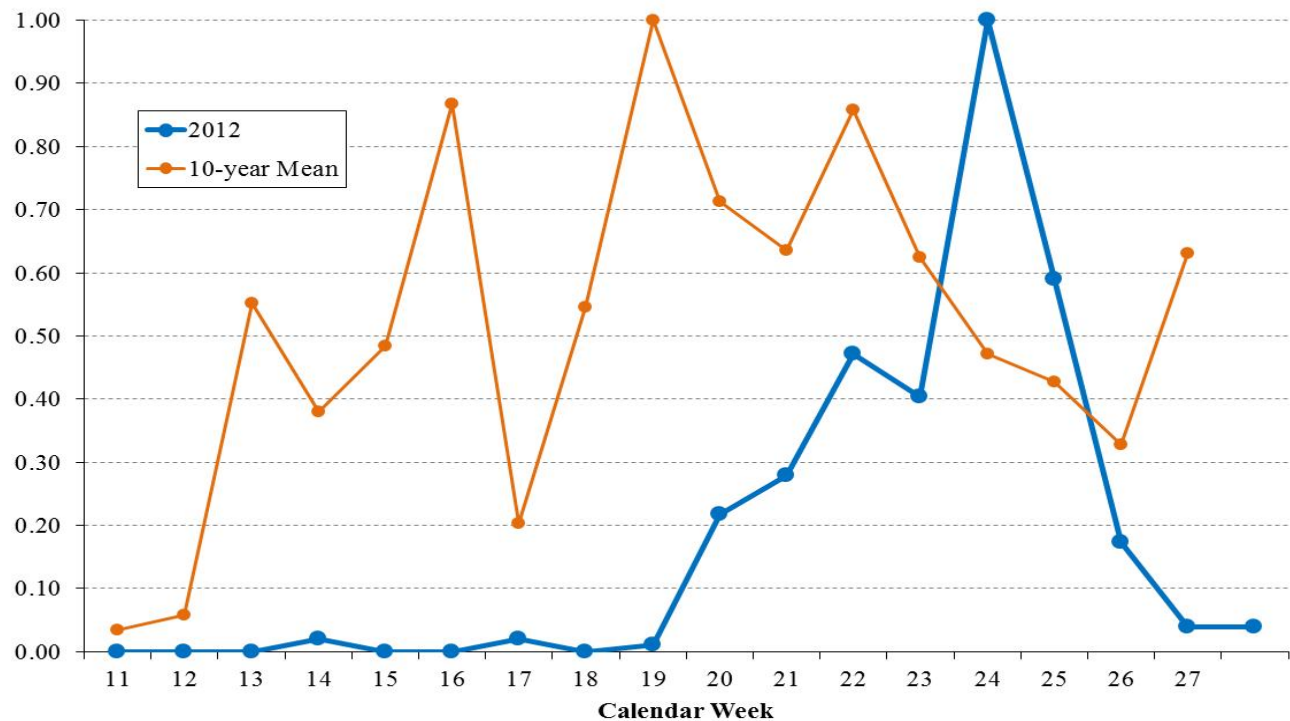
Figure 3.

**Normalized Proportion of Maximum Catch per Day  
YOY Wild Chinook Salmon - Kinsman Site RST**



a)

**Normalized Proportion of Maximum Catch per Day  
YOY Coho Salmon - Kinsman Site RST**



b)



**Table 3.**  
**USFWS 2012 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 Review

Site	Calendar Week	Sampling Dates	Weekly Mean IGD Flow (cfs)	Water Temp. (F)*		Belly Condition			Gills				
						Sample Size	Distended		Sample Size	Color		Condition	
							n	%		n	%	n	%
Kinsman	11	Mar 15	1337	-	-	2	0	0.0%	0	-	0.0%	-	-
	12	Mar 20-22	1414	44.4	45	2	0	0.0%	1	0	0.0%	0	0.0%
	13	Mar 27-29	1569	44.5	45.3	4	0	0.0%	3	0	0.0%	0	0.0%
	14	Apr 3-5	2946	-	-	12	0	0.0%	7	0	0.0%	0	0.0%
	15	Apr 10-12	3803	46.6	47.3	17	0	0.0%	4	0	0.0%	0	0.0%
	16	Apr 17-19	2976	49.1	49.3	27	0	0.0%	5	0	0.0%	0	0.0%
	17	Apr 24-26	3644	49.6	51.8	2	0	0.0%	1	0	0.0%	0	0.0%
	18	May 1-3	3421	51.8	54.1	17	0	0.0%	17	0	0.0%	0	0.0%
	19	May 8-10	3191	54.7	56.1	11	0	0.0%	10	1	10.0%	0	0.0%
	20	May 15-17	2580	60.3	60.3	15	0	0.0%	15	0	0.0%	1	6.7%
	21	May 22-24	1966	57.4	59.4	56	0	0.0%	54	1	1.9%	1	1.9%
	22	May 29-31	1810	59.0	61.3	48	5	10.4%	48	1	2.1%	0	0.0%
	23	Jun 5-7	1573	59.2	61.7	84	0	0.0%	84	0	0.0%	0	0.0%
	24	Jun 12-14	1569	-	-	84	0	0.0%	84	2	2.4%	0	0.0%
	25	Jun 19-21	1561	63.5	64.5	90	0	0.0%	90	1	1.1%	0	0.0%
	26	Jul 27	1474	63.1	63.1	30	0	0.0%	30	1	3.3%	0	0.0%
	27	Jul 3	1066	65.6	65.6	13	0	0.0%	13	0	0.0%	2	15.4%
I-5	11	Mar 14-15	1337	-	-	13	0	0.0%	0	-	-	-	-
	12	Mar 20-22	1414	43.8	45.5	36	0	0.0%	0	-	-	-	-
	13	Mar 27-29	1569	42.9	44.9	102	0	0.0%	1	0	0.0%	0	0.0%
	14	Apr 3-5	2946	44.2	46.5	47	0	0.0%	0	-	-	-	-
	15	Apr 10-12	3803	46.9	48.3	34	0	0.0%	1	0	0.0%	0	0.0%
	16	Apr 17-19	2976	48.2	50.5	42	0	0.0%	1	0	0.0%	0	0.0%
	17	Apr 24-26	3644	54.8	56.3	54	0	0.0%	2	0	0.0%	0	0.0%
	18	May 1-3	3421	55.9	56.1	35	0	0.0%	26	0	0.0%	0	0.0%
	19	May 8-10	3191	57.7	58.6	65	0	0.0%	58	1	1.7%	3	5.2%
	20	May 15-17	2576	61.3	62.7	90	0	0.0%	81	1	1.2%	10	12.3%
	21	May 22-24	1951	60.2	62.0	90	0	0.0%	86	0	0.0%	7	8.1%
22	May 29-31	1787	60.4	62.2	79	0	0.0%	78	0	0.0%	1	1.3%	
23	Jun 5-7	1543	59.7	62.0	50	0	0.0%	50	0	0.0%	0	0.0%	
Klamathon	11	Mar 15	1337	-	-	30	0	0.0%	1	0	0.0%	0	0.0%
	12	Mar 22	1414	43.5	43.5	34	0	0.0%	9	0	0.0%	0	0.0%
	13	Mar 29	1569	44.2	44.2	20	0	0.0%	8	0	0.0%	0	0.0%
	14	Apr 4	2946	45.0	45.0	2	0	0.0%	0	-	-	-	-
	15	Apr 12	3803	47.1	47.1	10	0	0.0%	1	0	0.0%	0	0.0%
	16	Apr 19	2976	49.1	49.1	30	0	0.0%	1	0	0.0%	0	0.0%
	17	Apr 26	3644	54.5	54.5	29	0	0.0%	3	0	0.0%	0	0.0%
	18	May 3	3421	56.8	56.8	30	0	0.0%	23	0	0.0%	0	0.0%
	19	May 10	3191	59.1	59.1	6	0	0.0%	2	0	0.0%	0	0.0%
	20	May 17	2576	62.2	62.2	30	0	0.0%	24	0	0.0%	0	0.0%
	21	May 24	1951	62.9	62.9	30	0	0.0%	24	0	0.0%	0	0.0%
22	May 31	1787	64.0	64.0	30	0	0.0%	25	0	0.0%	0	0.0%	
Bogus	11	Mar 15	1337	-	-	28	0	0.0%	1	0	0.0%	0	0.0%
	12	Mar 20-22	1414	42.4	43.3	90	0	0.0%	0	-	-	-	-
	13	Mar 27-29	1569	42.6	43.8	90	0	0.0%	0	-	-	-	-
	14	Apr 3-5	2946	44.8	44.9	90	0	0.0%	0	-	-	-	-
	15	Apr 10-12	3803	46.7	47.1	90	0	0.0%	0	-	-	-	-
	16	Apr 17-19	2976	48.7	49.4	90	0	0.0%	1	0	0.0%	0	0.0%
	17	Apr 24-26	3644	53.9	55.0	90	0	0.0%	5	0	0.0%	0	0.0%
	18	May 1-3	3421	56.6	57.2	90	0	0.0%	25	1	4.0%	0	0.0%
	19	May 8-10	3191	58.4	59.0	90	0	0.0%	47	3	6.4%	3	6.4%
	20	May 15-17	2576	62.0	63.3	90	0	0.0%	39	0	0.0%	7	17.9%
	21	May 22-24	1951	62.6	63.3	90	0	0.0%	25	0	0.0%	2	8.0%
22	May 29-31	1787	61.1	62.7	25	0	0.0%	14	0	0.0%	2	14.3%	

\* temperature recorded at time of trap check





Table 4.

**USFWS 2012 Mainstem Klamath River YOY Chinook and Coho Salmon Size Summary**

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

Preliminary Data - Subject to Revision

Site	2012 Calendar Week    Sampling Dates		YOY Chinook (Natural) - Fork Length Data								YOY Coho - Fork Length Data							
			2012				Last 10-years				2012				Last 10-years			
			Min.	Max.	Mean	% >	n	Years of data	Mean (mm)	Min.	Max.	Mean	% >	n	Years of data	Mean (mm)		
			(mm)	(mm)	(mm)	55 mm				(mm)	(mm)	(mm)	55 mm					
Kinsman (RST)	11	Mar 15	2	38	39	38.5	0.0%	268	8	39.7	0	-	-	-	-	0	0	-
	12	Mar 20-22	4	41	48	43.8	0.0%	459	9	41.9	0	-	-	-	-	4	2	35.3
	13	Mar 28-29	4	41	48	45.3	0.0%	472	7	43.7	0	-	-	-	-	29	2	36.1
	14	Apr 3-5	11	42	54	46.0	0.0%	553	9	46.7	1	43	43	43.0	0.0%	48	8	35.8
	15	Apr 10-12	17	36	65	41.6	11.8%	541	9	47.0	0	-	-	-	-	39	5	35.3
	16	Apr 17-19	27	35	67	40.3	7.4%	556	9	51.7	0	-	-	-	-	88	6	36.6
	17	Apr 24	2	36	51	43.5	0.0%	512	10	52.7	2	43	47	45.0	0.0%	15	4	37.7
	18	May 1-3	17	45	69	59.1	70.6%	399	8	60.2	0	-	-	-	-	20	6	39.0
	19	May 8-10	12	44	79	57.3	50.0%	541	9	58.7	1	46	46	46.0	0.0%	67	7	44.7
	20	May 15-17	15	49	87	69.3	86.7%	579	10	66.2	7	49	61	57.6	85.7%	68	8	47.8
	21	May 22-24	55	36	96	66.9	65.5%	561	10	68.2	25	41	64	56.8	68.0%	72	6	56.4
	22	May 29-31	52	52	105	81.4	98.1%	332	6	75.8	31	50	100	62.4	87.1%	87	7	54.0
	23	Jun 5-7	30	56	105	89.0	100.0%	175	5	75.1	27	56	75	65.4	100.0%	93	8	55.6
	24	Jun 12-14	0	-	-	-	-	20	1	80.7	84	40	82	65.4	92.9%	120	8	58.2
25		0	-	-	-	0.0%	24	1	90.8	0	-	-	-	0.0%	21	6	59.9	
26		0	-	-	-	0.0%	18	1	91.2	0	-	-	-	0.0%	15	3	60.0	
27		0	-	-	-	0.0%	0	0	-	0	-	-	-	0.0%	18	3	58.4	
I-5 (Frame)	12	Mar 21-22	11	30	39	35.5	0.0%	623	10	37.8	11	30	39	35.5	0.0%	49	5	34.2
	13	Mar 27-29	46	31	48	36.4	0.0%	569	9	38.2	7	33	35	34.3	0.0%	116	7	35.6
	14	Apr 3-5	8	34	38	36.4	0.0%	600	9	38.9	4	35	39	36.5	0.0%	148	8	35.3
	15		0	-	-	-	-	552	7	39.5	0	-	-	-	-	161	7	35.2
	16		0	-	-	-	-	655	7	40.8	0	-	-	-	-	203	7	35.5
	17		0	-	-	-	-	540	7	43.1	0	-	-	-	-	171	7	36.1
	18		0	-	-	-	-	522	8	44.0	0	-	-	-	-	162	7	39.4
	19		0	-	-	-	-	250	8	48.0	0	-	-	-	-	50	3	38.9
	20		0	-	-	-	-	215	4	50.1	0	-	-	-	-	19	3	46.5
	21		0	-	-	-	-	126	3	53.0	0	-	-	-	-	12	2	52.0
	22		0	-	-	-	-	78	3	59.6	0	-	-	-	-	9	2	45.9
I-5 (RST's)	11	Mar 14-15	13	33	39	36.1	0.0%	204	7	37.2	0	-	-	-	-	0	0	-
	12	Mar 20-22	25	30	39	34.8	0.0%	272	8	38.2	0	-	-	-	-	0	0	-
	13	Mar 27-29	57	30	44	36.5	0.0%	418	7	37.9	0	-	-	-	-	4	2	37.2
	14	Apr 3-5	38	33	43	37.0	0.0%	471	8	38.2	0	-	-	-	-	8	2	35.3
	15	Apr 10-12	39	32	55	38.4	0.0%	510	8	39.6	0	-	-	-	-	9	5	35.9
	16	Apr 17-19	47	32	56	37.6	2.1%	521	8	40.8	3	33	34	33.7	0.0%	27	6	34.8
	17	Apr 24-26	42	34	58	39.2	4.8%	474	8	44.2	6	33	36	34.5	0.0%	22	5	35.9
	18	May 1-3	42	35	68	48.5	28.6%	399	8	48.3	0	-	-	-	-	2	2	36.0
	19	May 8-10	67	38	79	57.9	59.7%	422	7	51.1	2	48	53	50.5	0.0%	15	5	42.9
	20	May 15-17	90	38	84	55.8	48.9%	483	7	54.5	10	42	58	51.1	20.0%	33	5	50.2
	21	May 22-24	90	39	95	59.2	52.2%	347	7	65.4	28	44	69	50.9	10.7%	50	4	54.0
22	May 29-31	87	42	111	70.7	74.7%	192	5	69.6	28	49	67	57.8	64.3%	46	2	55.9	
23	Jun 5-7	30	46	106	78.5	86.7%	65	3	82.7	3	51	72	62.8	66.7%	10	2	61.3	
Bogus (Frame)	11	Mar 15	30	33	40	37.1	0.0%	622	9	37.1	0	-	-	-	-	2	1	34.0
	12	Mar 20-22	90	31	41	37.1	0.0%	998	10	37.5	0	-	-	-	-	159	4	35.3
	13	Mar 27-29	90	32	41	37.0	0.0%	863	9	37.9	8	30	33	32.0	0.0%	132	6	34.8
	14	Apr 3-5	90	33	44	37.4	0.0%	960	10	37.9	11	31	37	33.6	0.0%	253	9	37.8
	15	Apr 10-12	90	34	42	37.5	0.0%	841	9	38.3	5	32	38	34.2	0.0%	318	9	34.7
	16	Apr 17-19	90	34	46	37.4	0.0%	937	9	39.2	86	30	42	33.8	0.0%	623	9	34.9
	17	Apr 24-26	90	34	51	38.5	0.0%	933	10	41.1	89	31	39	34.6	0.0%	516	10	37.6
	18	May 1-3	90	33	57	41.9	1.1%	987	10	44.0	51	31	44	36.2	0.0%	518	9	36.8
	19	May 8-10	90	35	63	45.5	6.7%	730	10	45.2	44	32	46	37.4	0.0%	304	8	39.7
	20	May 15-17	90	36	68	46.2	13.3%	563	7	45.7	43	33	50	41.4	0.0%	174	5	42.1
	21	May 22-24	90	35	89	45.7	15.6%	244	4	46.1	8	33	52	41.8	0.0%	31	4	42.2
22	May 29-31	33	38	103	59.1	51.5%	92	3	56.3	8	37	56	51.5	37.5%	22	3	48.4	

Figure 4.

