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May 7, 1999

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Kyle Brakensiek

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David A. McLeod  
Department of Fish and Game  
Northern California-North Coast Region  
619 Second Street  
Eureka, CA 95501

Dear Mr. McLeod,

Subject: Prairie Creek Downstream Migration Study

The following summarizes ongoing efforts to determine downstream migration of juvenile Coho salmon in Prairie, Strelow, and Boyes Creek, tributary to Redwood Creek, Humboldt County. I have included a set of tables summarizing catch and mortality totals by trap and species.

The month of April was relatively uneventful, with catches of Chinook fry significantly dropping towards the end of the month. Unfortunately the first of this month has not been so uneventful. The rain event at the first of May coincides with the worst mortality incident to date.

On the 2<sup>nd</sup> of May, 488 fish mortalities occurred at the Prairie Creek fyke trap. Mortalities were comprised of 301 and 187 chinook and coho fry respectively. The incident was due to trap debris loading, mispredicted weather, and unanticipated creek response. The decision not to pull the trap was a judgement call. Predicted rain was 0.7 inches. The staff gauge height had risen 0.5 in. by the afternoon of May 1<sup>st</sup> with the creek appearing to stabilize. Actual precipitation from the rain event was approximately 1.2 inches. Prior to the rain event, the soil had dried out and the creek had dropped to spring

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baseflow conditions. By the morning of May 2<sup>nd</sup> staff gauge height had risen a foot from the previous afternoon. Creek response was unanticipated.

The decision not to pull the traps included project research considerations. Throughout the 1998/99 winter over 1,150 juvenile coho were PIT tagged as part of the project research effort to determine trap efficiency, population abundance, habitat fidelity, and over-winter growth and survival. Immense time and effort has been involved with this research focus. Recapture of tagged fish is critical towards research objectives. We have been anticipating a pulse outmigration of juvenile coho salmon triggered by a spring rain event. The outmigration event indeed happened over the night between the 1<sup>st</sup> and 2<sup>nd</sup> of May. The decision to leave the traps fishing was a judgement call based upon considerations of creek baseflow height, predicted weather, personal observation, and project research objectives.

Despite the mortality incident, overall season mortality for chinook (0.88%) and coho (2.56%) fry remains below five percent. In addition, season mortality remains below the federally permitted take level of 600 for coho fry. We will continue trying to contact you in regards to this incident. If there are additional concerns or questions please contact myself or Dr. Walt Duffy, project leader, at 826-5644. Thank you for your time and cooperation.

Sincerely

Kyle Brakensiek

**1999 Prairie Creek Downstream Migration Study  
HSU Cooperative Fishery Research Unit**

Catch effort summary through May 3, 1999.

	catch total	mortality	(%)	catch total	mortality	(%)	catch total	mortality	(%)
0+ Coho	1907	32	1.68	6813	236	3.46	2033	8	0.39
1+ Coho	1129	7	0.62	468	8	1.71	7	0	0.00
0+ Chinook	41387	236	0.57	95192	971	1.02	321	4	1.25
Cutthroat	264	0	0.00	339	2	0.59	2	1	50.00
Steelhead	198	0	0.00	20	0	0.00	0	0	0.00
1+ Trout	496	19	3.83	78	4	5.13	1	0	0.00
0+ Trout	4	0	0.00	34	1	2.94	27	0	0.00

	catch total	mortality	(%)	catch total	mortality	(%)
0+ Coho	8	0	0.00	1	0	0.00
1+ Coho	7	0	0.00	107	2	1.87
0+ Chinook	2	0	0.00	4	0	0.00
Cutthroat	4	0	0.00	6	0	0.00
Steelhead	5	0	0.00	0	0	0.00
1+ Trout	7	0	0.00	1	0	0.00
0+ Trout	0	0	0.00	0	0	0.00

**Day Incidents of Significant Mortality (April 9 - May 3, 1999).**

Date	Trap	Species	Total Caught	Mortality	(%)
03-May-99	Prairie fyke	0+ Coho	393	187	47.58
03-May-99	Prairie fyke	0+ Chinook	631	301	47.70
03-May-99	Rotary trap	1+ Trout	47	14	29.79

### ek Stage Height 1999 (new trap above Strelow Creek confluence)

