276
JB

State of Alaska
Department of Fish and Game
Division of Sport Fish

Nomination Form
Anadromous Waters Catalog

Region: Southcentral

USGS Quad(s): Anchorage A-2

Anadromous Waters Catalog Number of Waterway: 222-50-12440

Name of Waterway: Miner's River

☑ USGS Name ☐ Local Name

☐ Addition ☐ Deletion ☐ Correction ☑ Backup Information

For Office Use

Nomination # 100134

Revision Year: 2011

Revision to: Atlas ____ Catalog ____ Both ____

Revision Code: F-1

Fisheries Scientist ____ Date ____

Habitat Operations Manager ____ Date ____

AWC Project Biologist ____ Date 19Feb10

Cartographer ____ Date ____

OBSERVATION INFORMATION

Species	Date(s) Observed	Spawning	Rearing	Present	Anadromous
Pink	1979-2006			X	☑
Chum	1979-2006			X	☑
					☐
					☐
					☐

IMPORTANT: Provide all supporting documentation that this water body is important for the spawning, rearing or migration of anadromous fish, including: number of fish and life stages observed; sampling methods, sampling duration and area sampled; copies of field notes; etc. Attach a copy of a map showing location of mouth and observed upper extent of each species, as well as other information such as: specific stream reaches observed as spawning or rearing habitat; locations, types, and heights of any barriers; etc.

Comments: Aerial surveys have been conducted on this system since 1979 and observers have documented the presence of chum and pink salmon. See the attached aerial survey spreadsheets for substantiation.

local # 244

Name of Observer (please print): Cordova CF Staff

Signature: Alaska Department of Fish & Game

Agency: PO Box 669

Address: Cordova, AK 99574

Date: 11/2/2009

Date: ____

This certifies that in my best professional judgment and belief the above information is evidence that this waterbody should be included in or deleted from the Anadromous Waters Catalog.

Signature of Area Biologist: ____ Date: ____

Name of Area Biologist (please print):

Revision 05/08

Pink and chum salmon aerial survey data, 1979-2006.

Most data from export from Rbase using un_Hist_AUC.cmd. Column headings highlighted in yellow were added after import to Excel.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Distict	SubDist	Strnum	Strname	Index Stream?	NrSurveys	Stream Life	Survdate	Year	Base date	Julian Day	SurvNum	s between sur	Observer	Pstream	P_AUC	Cstream	C_AUC
229	10	244	Miners River	0	1	#NAME?	6/26/1987	1987	1/1/1987	176	1		Jackson, Mike	0	NA	0	NA
229	10	244	Miners River	0	4	#NAME?	7/31/1990	1990	1/1/1990	211	1	1131	Morstad, Slim	0	0	0	0
229	10	244	Miners River	0	4	#NAME?	8/7/1990	1990	1/1/1990	218	2	7	Haley, Beth	0	0	0	0
229	10	244	Miners River	0	4	#NAME?	8/15/1990	1990	1/1/1990	226	3	8	Haley, Beth	0	0	0	0
229	10	244	Miners River	0	4	#NAME?	8/28/1990	1990	1/1/1990	239	4	13	Haley, Beth	0	0	0	0
229	10	244	Miners River	0	11	#NAME?	6/27/1991	1991	1/1/1991	177	1	303	-0-	0	0	0	0
229	10	244	Miners River	0	11	#NAME?	7/13/1991	1991	1/1/1991	193	2	16	-0-	0	0	0	0
229	10	244	Miners River	0	11	#NAME?	7/18/1991	1991	1/1/1991	198	3	5	-0-	0	0	0	0
229	10	244	Miners River	0	11	#NAME?	7/22/1991	1991	1/1/1991	202	4	4	-0-	0	0	0	0
229	10	244	Miners River	0	11	#NAME?	8/3/1991	1991	1/1/1991	214	5	12	-0-	0	0	0	0
229	10	244	Miners River	0	11	#NAME?	8/5/1991	1991	1/1/1991	216	6	2	-0-	0	0	0	0
229	10	244	Miners River	0	11	#NAME?	8/8/1991	1991	1/1/1991	219	7	3	-0-	0	0	0	0
229	10	244	Miners River	0	11	#NAME?	8/12/1991	1991	1/1/1991	223	8	4	-0-	0	0	0	0
229	10	244	Miners River	0	11	#NAME?	8/20/1991	1991	1/1/1991	231	9	8	-0-	0	0	0	0
229	10	244	Miners River	0	11	#NAME?	8/26/1991	1991	1/1/1991	237	10	6	-0-	0	0	0	0
229	10	244	Miners River	0	11	#NAME?	9/12/1991	1991	1/1/1991	254	11	17	-0-	0	0	0	0
229	10	244	Miners River	0	8	#NAME?	7/14/1992	1992	1/1/1992	195	1	306	Donaldson, Wayne	0	0	0	0
229	10	244	Miners River	0	8	#NAME?	7/21/1992	1992	1/1/1992	202	2	7	Morstad, Slim	0	0	0	0
229	10	244	Miners River	0	8	#NAME?	8/3/1992	1992	1/1/1992	215	3	13	Simpson, Ellen	0	0	0	0
229	10	244	Miners River	0	8	#NAME?	8/7/1992	1992	1/1/1992	219	4	4	Haley, Beth	0	0	0	0
229	10	244	Miners River	0	8	#NAME?	8/10/1992	1992	1/1/1992	222	5	3	Morstad, Slim	0	0	0	0
229	10	244	Miners River	0	8	#NAME?	8/17/1992	1992	1/1/1992	229	6	7	Simpson, Ellen	0	0	0	0
229	10	244	Miners River	0	8	#NAME?	9/1/1992	1992	1/1/1992	244	7	15	Donaldson, Wayne	0	0	0	0
229	10	244	Miners River	0	8	#NAME?	9/11/1992	1992	1/1/1992	254	8	10	Simpson, Ellen	0	0	0	0
229	10	244	Miners River	0	8	#NAME?	7/5/1993	1993	1/1/1993	185	1	297	Simpson, Ellen	0	0	0	0
229	10	244	Miners River	0	8	#NAME?	7/11/1993	1993	1/1/1993	191	2	6	Donaldson, Wayne	0	0	0	0
229	10	244	Miners River	0	8	#NAME?	7/25/1993	1993	1/1/1993	205	3	14	Donaldson, Wayne	0	0	0	0
229	10	244	Miners River	0	8	#NAME?	8/1/1993	1993	1/1/1993	212	4	7	Morstad, Slim	0	0	300	1,050
229	10	244	Miners River	0	8	#NAME?	8/6/1993	1993	1/1/1993	217	5	5	Simpson, Ellen	0	0	0	750
229	10	244	Miners River	0	8	#NAME?	8/12/1993	1993	1/1/1993	223	6	6	Sharp, Dan	0	0	0	0
229	10	244	Miners River	0	8	#NAME?	8/18/1993	1993	1/1/1993	229	7	6	Simpson, Ellen	0	0	0	0
229	10	244	Miners River	0	8	#NAME?	9/2/1993	1993	1/1/1993	244	8	15	Donaldson, Wayne	0	0	0	0
229	10	244	Miners River	0	10	#NAME?	7/6/1994	1994	1/1/1994	186	1	307	Sharp, Dan	0	0	0	0
229	10	244	Miners River	0	10	#NAME?	7/13/1994	1994	1/1/1994	193	2	7	Sharp, Dan	0	0	0	0
229	10	244	Miners River	0	10	#NAME?	7/19/1994	1994	1/1/1994	199	3	6	Sharp, Dan	0	0	0	0
229	10	244	Miners River	0	10	#NAME?	7/23/1994	1994	1/1/1994	203	4	4	Morstad, Slim	0	0	0	0
229	10	244	Miners River	0	10	#NAME?	7/28/1994	1994	1/1/1994	208	5	5	Donaldson, Wayne	0	0	0	0
229	10	244	Miners River	0	10	#NAME?	8/2/1994	1994	1/1/1994	213	6	5	Sharp, Dan	0	0	0	0
229	10	244	Miners River	0	10	#NAME?	8/8/1994	1994	1/1/1994	219	7	6	Morstad, Slim	0	0	0	0
229	10	244	Miners River	0	10	#NAME?	8/14/1994	1994	1/1/1994	225	8	6	Sharp, Dan	30	90	0	0
229	10	244	Miners River	0	10	#NAME?	8/23/1994	1994	1/1/1994	234	9	9	Donaldson, Wayne	0	135	0	0
229	10	244	Miners River	0	10	#NAME?	9/7/1994	1994	1/1/1994	249	10	15	Donaldson, Wayne	0	0	0	0
229	10	244	Miners River	0	9	#NAME?	7/17/1995	1995	1/1/1995	197	1	313	Sharp, Dan	0	0	0	0
229	10	244	Miners River	0	9	#NAME?	7/25/1995	1995	1/1/1995	205	2	8	Morstad, Slim	0	0	0	0
229	10	244	Miners River	0	9	#NAME?	8/2/1995	1995	1/1/1995	213	3	8	Sharp, Dan	0	0	0	0
229	10	244	Miners River	0	9	#NAME?	8/7/1995	1995	1/1/1995	218	4	5	Sharp, Dan	0	0	0	0
229	10	244	Miners River	0	9	#NAME?	8/11/1995	1995	1/1/1995	222	5	4	Johnson, Jay	0	0	0	0
229	10	244	Miners River	0	9	#NAME?	8/17/1995	1995	1/1/1995	228	6	6	Sharp, Dan	100	300	0	0
229	10	244	Miners River	0	9	#NAME?	8/23/1995	1995	1/1/1995	234	7	6	Johnson, Jay	50	450	0	0
229	10	244	Miners River	0	9	#NAME?	8/28/1995	1995	1/1/1995	239	8	5	Johnson, Jay	0	125	0	0
229	10	244	Miners River	0	9	#NAME?	9/14/1995	1995	1/1/1995	256	9	17	Sharp, Dan	0	0	0	0
229	10	244	Miners River	0	6	#NAME?	7/19/1996	1996	1/1/1996	200	1	309	Sharp, Dan	0	0	0	0
229	10	244	Miners River	0	6	#NAME?	7/27/1996	1996	1/1/1996	208	2	8	Sharp, Dan	0	0	0	0
229	10	244	Miners River	0	6	#NAME?	8/6/1996	1996	1/1/1996	218	3	10	Sharp, Dan	0	0	0	0
229	10	244	Miners River	0	6	#NAME?	8/12/1996	1996	1/1/1996	224	4	6	Sharp, Dan	0	0	0	0
229	10	244	Miners River	0	6	#NAME?	8/19/1996	1996	1/1/1996	231	5	7	Sharp, Dan	0	0	0	0
229	10	244	Miners River	0	6	#NAME?	9/3/1996	1996	1/1/1996	246	6	15	Johnson, Jay	0	0	0	0
229	10	244	Miners River	0	8	#NAME?	7/15/1997	1997	1/1/1997	195	1	315	Johnson, Jay	0	0	0	0
229	10	244	Miners River	0	8	#NAME?	7/22/1997	1997	1/1/1997	202	2	7	Johnson, Jay	0	0	0	0
229	10	244	Miners River	0	8	#NAME?	7/24/1997	1997	1/1/1997	204	3	2	Sharp, Dan	0	0	0	0
229	10	244	Miners River	0	8	#NAME?	8/1/1997	1997	1/1/1997	212	4	8	Johnson, Jay	0	0	0	0
229	10	244	Miners River	0	8	#NAME?	8/14/1997	1997	1/1/1997	225	5	13	Johnson, Jay	0	0	0	0
229	10	244	Miners River	0	8	#NAME?	8/20/1997	1997	1/1/1997	231	6	6	Sharp, Dan	0	0	0	0
229	10	244	Miners River	0	8	#NAME?	8/28/1997	1997	1/1/1997	239	7	8	Johnson, Jay	0	0	0	0
229	10	244	Miners River	0	8	#NAME?	9/17/1997	1997	1/1/1997	259	8	20	Sharp, Dan	20	#NAME?	0	0
229	10	244	Miners River	0	7	#NAME?	7/9/1998	1998	1/1/1998	189	1	295	Johnson, Jay	0	0	0	0
229	10	244	Miners River	0	7	#NAME?	7/15/1998	1998	1/1/1998	195	2	6	Johnson, Jay	0	0	0	0
229	10	244	Miners River	0	7	#NAME?	7/17/1998	1998	1/1/1998	197	3	2	Sharp, Dan	0	0	0	0
229	10	244	Miners River	0	7	#NAME?	7/28/1998	1998	1/1/1998	208	4	11	Sharp, Dan	0	0	0	0
229	10	244	Miners River	0	7	#NAME?	8/3/1998	1998	1/1/1998	214	5	6	Sharp, Dan	0	0	0	0
229	10	244	Miners River	0	7	#NAME?	8/14/1998	1998	1/1/1998	225	6	11	Johnson, Jay	0	0	0	0
229	10	244	Miners River	0	7	#NAME?	9/3/1998	1998	1/1/1998	245	7	20	Johnson, Jay	0	0	0	0
229	10	244	Miners River	0	7	#NAME?	7/19/1999	1999	1/1/1999	199	1	319	Joyce, Tim	0	0	0	0
229	10	244	Miners River	0	7	#NAME?	7/31/1999	1999	1/1/1999	211	2	12	Joyce, Tim	0	0	0	0
229	10	244	Miners River	0	7	#NAME?	8/6/1999	1999	1/1/1999	217	3	6	Joyce, Tim	0	0	0	0

Pink and chum salmon aerial survey data, 1979-2006.

Most data from export from Rbase using un_Hist_AUC.cmd. Column headings highlighted in yellow were added after import to Excel.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Distict	SubDist	Strnum	Strname	Index Stream?	NrSurveys	Stream Life	Survdate	Year	Base date	Julian Day	SurvNum	s between sur	Observer	Pstream	P_AUC	Cstream	C_AUC
229	10	244	Miners River	0	7	#NAME?	8/14/1999	1999	1/1/1999	225	4	8	Joyce, Tim	0	0	0	0
229	10	244	Miners River	0	7	#NAME?	8/20/1999	1999	1/1/1999	231	5	6	Joyce, Tim	0	0	0	0
229	10	244	Miners River	0	7	#NAME?	8/26/1999	1999	1/1/1999	237	6	6	Joyce, Tim	0	0	0	0
229	10	244	Miners River	0	7	#NAME?	9/9/1999	1999	1/1/1999	251	7	14	Joyce, Tim	200	#NAME?	0	0
229	10	244	Miners River	0	7	#NAME?	7/23/2000	2000	1/1/2000	204	1	318	Joyce, Tim	0	0	0	0
229	10	244	Miners River	0	7	#NAME?	7/31/2000	2000	1/1/2000	212	2	8	Joyce, Tim	0	0	0	0
229	10	244	Miners River	0	7	#NAME?	8/6/2000	2000	1/1/2000	218	3	6	Joyce, Tim	0	0	0	0
229	10	244	Miners River	0	7	#NAME?	8/16/2000	2000	1/1/2000	228	4	10	Joyce, Tim	10	50	0	0
229	10	244	Miners River	0	7	#NAME?	8/25/2000	2000	1/1/2000	237	5	9	Joyce, Tim	50	270	0	0
229	10	244	Miners River	0	7	#NAME?	8/30/2000	2000	1/1/2000	242	6	5	Joyce, Tim	0	125	0	0
229	10	244	Miners River	0	7	#NAME?	9/14/2000	2000	1/1/2000	257	7	15	Joyce, Tim	100	#NAME?	0	0
229	10	244	Miners River	0	8	#NAME?	7/12/2001	2001	1/1/2001	192	1	301	Gray, Dan	0	0	0	0
229	10	244	Miners River	0	8	#NAME?	7/18/2001	2001	1/1/2001	198	2	6	Johnson, Jay	0	0	0	0
229	10	244	Miners River	0	8	#NAME?	7/28/2001	2001	1/1/2001	208	3	10	Joyce, Tim	0	0	0	0
229	10	244	Miners River	0	8	#NAME?	8/2/2001	2001	1/1/2001	213	4	5	Johnson, Jay	0	0	0	0
229	10	244	Miners River	0	8	#NAME?	8/8/2001	2001	1/1/2001	219	5	6	Johnson, Jay	0	0	0	0
229	10	244	Miners River	0	8	#NAME?	8/23/2001	2001	1/1/2001	234	6	15	Gray, Dan	0	0	0	0
229	10	244	Miners River	0	8	#NAME?	9/1/2001	2001	1/1/2001	243	7	9	Gray, Dan	2	9	0	0
229	10	244	Miners River	0	8	#NAME?	9/27/2001	2001	1/1/2001	269	8	26	Gray, Dan	0	26	0	0
229	10	244	Miners River	0	5	#NAME?	7/15/2002	2002	1/1/2002	195	1	291	Johnson, Jay	0	0	0	0
229	10	244	Miners River	0	5	#NAME?	7/31/2002	2002	1/1/2002	211	2	16	Johnson, Jay	0	0	0	0
229	10	244	Miners River	0	5	#NAME?	8/9/2002	2002	1/1/2002	220	3	9	Johnson, Jay	0	0	0	0
229	10	244	Miners River	0	5	#NAME?	8/16/2002	2002	1/1/2002	227	4	7	Gray, Dan	0	0	0	0
229	10	244	Miners River	0	5	#NAME?	8/27/2002	2002	1/1/2002	238	5	11	Johnson, Jay	0	0	0	0
229	10	244	Miners River	0	6	#NAME?	7/18/2003	2003	1/1/2003	198	1	325	Gray, Dan	0	0	0	0
229	10	244	Miners River	0	6	#NAME?	7/29/2003	2003	1/1/2003	209	2	11	Lewis, Bert	0	0	0	0
229	10	244	Miners River	0	6	#NAME?	8/4/2003	2003	1/1/2003	215	3	6	Gray, Dan	0	0	0	0
229	10	244	Miners River	0	6	#NAME?	8/18/2003	2003	1/1/2003	229	4	14	Lewis, Bert	0	0	0	0
229	10	244	Miners River	0	6	#NAME?	8/31/2003	2003	1/1/2003	242	5	13	Gray, Dan	300	1,950	0	0
229	10	244	Miners River	0	6	#NAME?	9/10/2003	2003	1/1/2003	252	6	10	Lewis, Bert	500	#NAME?	0	0
229	10	244	Miners River	0	8	#NAME?	7/7/2004	2004	1/1/2004	188	1	301	Lewis, Bert	0	0	0	0
229	10	244	Miners River	0	8	#NAME?	7/14/2004	2004	1/1/2004	195	2	7	Lewis, Bert	0	0	0	0
229	10	244	Miners River	0	8	#NAME?	7/23/2004	2004	1/1/2004	204	3	9	Gray, Dan	0	0	0	0
229	10	244	Miners River	0	8	#NAME?	8/3/2004	2004	1/1/2004	215	4	11	Gray, Dan	0	0	0	0
229	10	244	Miners River	0	8	#NAME?	8/9/2004	2004	1/1/2004	221	5	6	Gray, Dan	0	0	0	0
229	10	244	Miners River	0	8	#NAME?	8/16/2004	2004	1/1/2004	228	6	7	Gray, Dan	10	35	0	0
229	10	244	Miners River	0	8	#NAME?	8/23/2004	2004	1/1/2004	235	7	7	Kampshoff, Matt	400	1,435	0	0
229	10	244	Miners River	0	8	#NAME?	9/1/2004	2004	1/1/2004	244	8	9	Lewis, Bert	500	#NAME?	0	0
229	10	244	Miners River	0	9	#NAME?	7/6/2005	2005	1/1/2005	186	1	308	Kampshoff, Matthew	5	#NAME?	0	0
229	10	244	Miners River	0	9	#NAME?	7/13/2005	2005	1/1/2005	193	2	7	Hollowell, Glenn	0	18	0	0
229	10	244	Miners River	0	9	#NAME?	7/22/2005	2005	1/1/2005	202	3	9	Hollowell, Glenn	0	0	0	0
229	10	244	Miners River	0	9	#NAME?	8/2/2005	2005	1/1/2005	213	4	11	Kampshoff, Matthew	2,500	13,750	0	0
229	10	244	Miners River	0	9	#NAME?	8/16/2005	2005	1/1/2005	227	5	14	Lewis, Bert	5,000	52,500	0	0
229	10	244	Miners River	0	9	#NAME?	8/24/2005	2005	1/1/2005	235	6	8	Hollowell, Glenn	0	20,000	0	0
229	10	244	Miners River	0	9	#NAME?	9/1/2005	2005	1/1/2005	243	7	8	Hollowell, Glenn	500	2,000	0	0
229	10	244	Miners River	0	9	#NAME?	9/13/2005	2005	1/1/2005	255	8	12	Hollowell, Glenn	0	3,000	0	0
229	10	244	Miners River	0	9	#NAME?	9/30/2005	2005	1/1/2005	272	9	17	Kampshoff, Matthew	0	0	0	0
229	10	244	Miners River	0	8	#NAME?	7/8/2006	2006	1/1/2006	188	1	281	Botz, Jeremy	0	0	0	0
229	10	244	Miners River	0	8	#NAME?	7/14/2006	2006	1/1/2006	194	2	6	Botz, Jeremy	0	0	0	0
229	10	244	Miners River	0	8	#NAME?	7/20/2006	2006	1/1/2006	200	3	6	Marston, Brian	0	0	0	0
229	10	244	Miners River	0	8	#NAME?	7/27/2006	2006	1/1/2006	207	4	7	Lewis, Bert	0	0	0	0
229	10	244	Miners River	0	8	#NAME?	8/2/2006	2006	1/1/2006	213	5	6	Marston, Brian	0	0	0	0
229	10	244	Miners River	0	8	#NAME?	8/23/2006	2006	1/1/2006	234	6	21	Botz, Jeremy	400	4,200	0	0
229	10	244	Miners River	0	8	#NAME?	9/1/2006	2006	1/1/2006	243	7	9	Lewis, Bert	50	2,025	0	0
229	10	244	Miners River	0	8	#NAME?	9/12/2006	2006	1/1/2006	254	8	11	Lewis, Bert	400	#NAME?	0	0

Other	Other SP		Comments
-0-	-0-		-0-
2600		420	2600 Sockeye, N end Miners Lake
160		420	160 tired sockeye
25		420	25 sockeye
27		420	27 sockeye (?)
-0-	-0-		-0-
-0-	-0-		-0-
-0-	-0-		-0-
-0-	-0-		-0-
-0-	-0-		-0-
-0-	-0-		-0-
-0-	-0-		-0-
-0-	-0-		-0-
-0-	-0-		-0-
-0-	-0-		-0-
-0-	-0-		-0-
-0-	-0-		-0-
-0-	-0-		-0-
-0-	-0-		-0-
-0-	-0-		-0-
-0-	-0-		-0-
-0-	-0-		-0-
-0-	-0-		-0-
-0-		420	more sock in lake not counted
-0-	-0-		-0-
-0-	-0-		-0-
-0-	-0-		-0-
-0-	-0-		-0-
-0-		420	sock at head of lake
-0-	-0-		very poor survey cond.
-0-	-0-		-0-
-0-	-0-		-0-
-0-	-0-		-0-
-0-	-0-		creek muddy
-0-	-0-		-0-
-0-	-0-		-0-
-0-		420	sock in lake & feeder streams
-0-	-0-		glacial
-0-		420	sockeye are spawning
-0-	-0-		-0-
-0-	-0-		-0-
-0-	-0-		0 Fish seen in lake
-0-	-0-		
-0-		420	Reds on lakeshore and in stream at head
-0-	-0-		Streams glacial
-0-		420	Likely no pinks ? Reds, jumpers
-0-	-0-		
-0-	-0-		low clouds
-0-		420	Reds in mouth
-0-	-0-		
300		420	
1400		420	
1600		420	Reds - More still in lake
3500		420	
2350		420	Reds in feeder streams
300		420	
2500		420	silty. reds past lake
5000		420	Reds in stream above lake
2101		420	more in lake under silt layer
0			
0			muddy
2200		420	
500		420	mud, high h2o, fish above lake
0			
20		420	glacial
150		420	glacial
220		420	
1250		420	lake glacial as usual
750		420	reds in lake
0			glacial
50		420	silty
0		420	lake & inlet
450		420	reds; Glacial bay, river & lake
600		420	-0-

19		20		21
Other	Other SP		Comments	
700		420	reds 1 black bear	
850		420	Reds	
350		420	reds	
200		420	-0-	
550		420		
525		420		
450		420		
550		420		
350		420		
200		420		
50		420	1 black bear	
100		420	Sockeye at inlet to lake	
250		420		
500		420		
500		420		
650		420		
700		420		
50		420		
2		420		
750		420	-0-	
0	-0-		-0-	
600		420	-0-	
350		420	-0-	
210		420	-0-	
1450		420		
2000		420		
1100		420		
1500		420		
1100		420		
800		420		
250		420	-0-	
300		420	-0-	
0	-0-		-0-	
750		420	-0-	
750	sockeye		-0-	
700		420	-0-	
2000		420	-0-	
450		420	-0-	
0	-0-		-0-	
400		420	-0-	
1600		420	-0-	
800		420	-0-	
5000		420	turbid	
1350		420	clear view of sockeye	
3500		420	excellent look at sockeye numbers	
220		420	Sockeye	
0	-0-		-0-	
0	-0-		-0-	
30		420	-0-	
45		420	-0-	
450		420	-0-	
300		420	-0-	
30		420	-0-	
300		420	-0-	
40		420	-0-	