

Proposed Action

The proposed modifications to the Drought Operations Plan include adding the following under Section VII Proposed Delta Operations – June Through November 15:

E. Water Transfer Window

- Water transfer window
 - Extend the transfer window through November 15, 2014, to allow the conveyance of approximately 75 to 90 TAF of transfer water (excluding carriage water) that has been retained in Shasta and Folsom reservoirs for diversion from the south Delta at the Jones Pumping Plant
 - Include triggers related to the presence of listed threatened or endangered fish species that will reduce or eliminate conveyance of transfer water (similar to DCC gate closure triggers)

Conceptual Model, Life History, and Status of Species

Life History

In California, longfin smelt (*Spirinchus thaleichthys*) occur in the San Francisco Estuary, Humboldt Bay, Eel River estuary, and the Klamath River estuary (Moyle 2002). In the San Francisco Estuary they are usually distributed west of Rio Vista or Medford Island in the Delta in Suisun, San Pablo, and San Francisco bays. Adults have been found seasonally as far downstream as the South Bay. Longfin smelt are mostly observed outside the Golden Gate in the Gulf of the Farallones in wet years. Longfin smelt in California are anadromous and can adapt to a wide range of salinities. They usually have a two-year life cycle, but can live up to three years. Most of their growth occurs in the first year when they typically reach 6-7cm standard length and again in the second summer and fall, when they reach 9-11cm. Largest individuals measure 12-15cm. Larger individuals prefer opossum shrimp (*Acanthomysis* spp.) and *Neomysis mercedis* when they are available (Hobbs et al. 2006). When Opossum shrimp are scarce, adults return to feeding on copepods with juveniles (Feyrer et al. 2003, Hobbs et al. 2006). They are mostly found in open water estuaries in the middle to lower range of the water column in salinities that range from 15-30 ppt. While they can tolerate water up to 20°C, preferred summer water temperatures range from 16-18°C. The center of their distribution moves down the San Francisco Estuary during summer from San Pablo Bay (April-June) into central San Francisco Bay in late summer. The population gradually shifts back upstream in fall and winter as yearlings move upstream to spawn. The exact distribution varies yearly depending on the extent of outflows. During high outflows, upstream migration

may be limited to San Francisco Bay whereas in dry years they will be distributed in Suisun Bay.

Current status

Longfin smelt abundance, as indexed by the California Department of Fish and Wildlife (CDFW) Fall Mid-Water Trawl survey, has declined precipitously since monitoring began in 1967 (Figure 1). A modest, short-lived rebound in the FMWT index in 2011 indicates that the population can respond to favorable conditions, but the most recent index was among the lowest on record.

Analytical Framework

Methods and Metrics

Evaluation of the potential effects of the proposed action on longfin smelt habitat, abundance, spatial distribution, productivity and diversity was based primarily on data on the population's historical distribution during the September-December period from 2008 through 2013. This range of years includes one critical year (2008), two dry years (2009, 2013), two below-normal years (2010, 2012) and one wet year (2011). The assessment was also based on reviews of peer-reviewed literature and the Effects Analysis performed by the California Department of Fish and Wildlife for the State Water Project's Incidental Take Permit for longfin smelt.

Biological Analysis of Action

Delta Habitat Effect

Based on historical data, it is almost certain that during the expanded water transfer period (September-November), the longfin smelt population will continue to reside primarily in San Pablo and Suisun bays. Here they will grow and mature in preparation for movement to upstream spawning areas in the lower Sacramento River. Historically, this movement does not occur until well into December or until the first flush event of the winter. During first flush conditions, the chances that some of the population will move into the central and south Delta are increased due to a combination of factors, particularly higher turbidity and lower water temperature. The most recent 60-day weather forecast predicts continued DRY weather conditions for northern California. If these dry conditions persist, there is an extremely low probability that the low turbidity/high water temperature conditions that currently prevail in the central and south Delta will improve enough to attract smelt into any areas of the Delta subject to entrainment, particularly at

the moderate projected levels of export pumping. There is a low level of uncertainty in this conclusion.

Predicted Effect

The just-completed 2014 California Department of Fish and Wildlife (CDFW) Summer Tow Net Survey indicates that the longfin smelt population continues to reside in eastern San Pablo Bay and in Suisun Bay. No longfin smelt were captured in the central and south delta. This spatial distribution is typical for late summer and fall months. Fall Mid-Water Trawl (FMWT) surveys conducted during September, October, November and December from 2008 through 2013 (see tables below) had zero captures at stations located in the central and south Delta. Given that longfin smelt will not be mature enough to begin moving upstream to spawn by November 15 and the extremely low probability of a first flush event before November 15, it is concluded that there is a near-zero probability that any longfin smelt will be adversely affected by the proposed action.

Conclusion

The Expanded Transfer Window project will not have any adverse effects on the longfin smelt population or its critical habitat. During the September-November time period, the population is distributed outside areas subject to entrainment by CVP-SWP export facilities and the levels of pumping during this period will have no effect on the amount or quality of longfin smelt habitat.

References

- Moyle, P. B. 2002. *Inland fishes of California*. University of California Press, Berkeley.
- Hobbs, J. A., W. A. Bennett, and J. E. Burton. 2006. Assessing nursery habitat quality for native smelts (Osmeridae) in the low-salinity zone of the San Francisco Estuary. *Journal of Fish Biology* 69:907–922.
- Feyrer, F., B. Herbold, S. A. Matern, and P. B. Moyle. 2003. Dietary shifts in a stressed fish assemblage: consequences of a bivalve invasion in the San Francisco Estuary. *Environmental Biology of Fishes* 67:277–288.

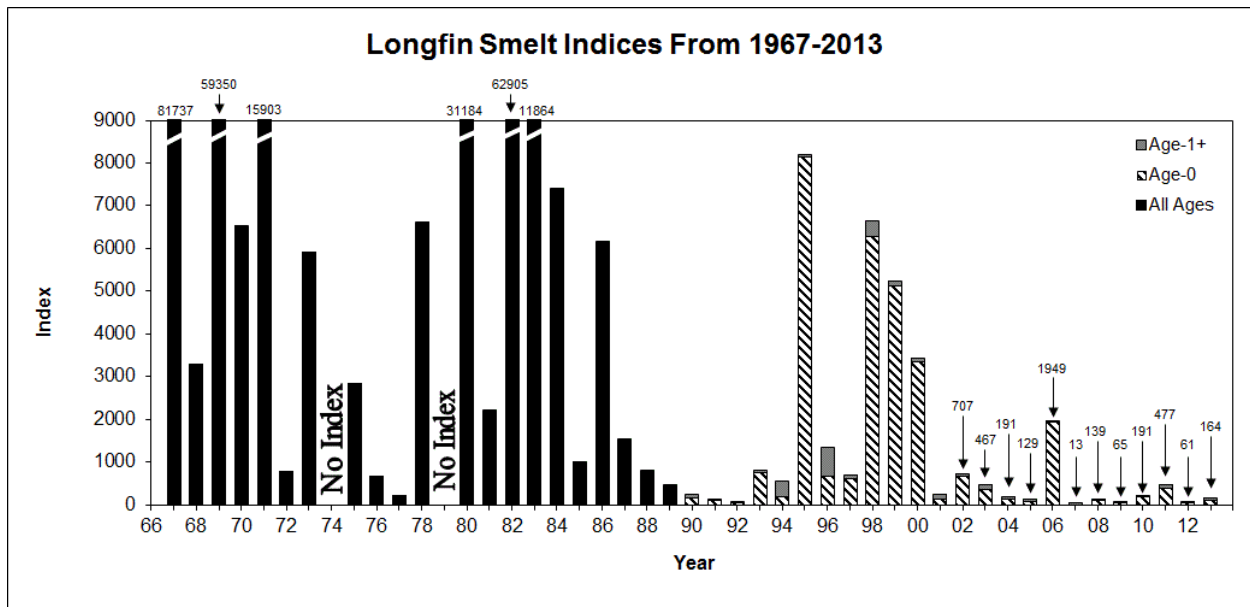


Figure 1. Fall Mid-Water Trawl index for longfin smelt, 1967-2013.

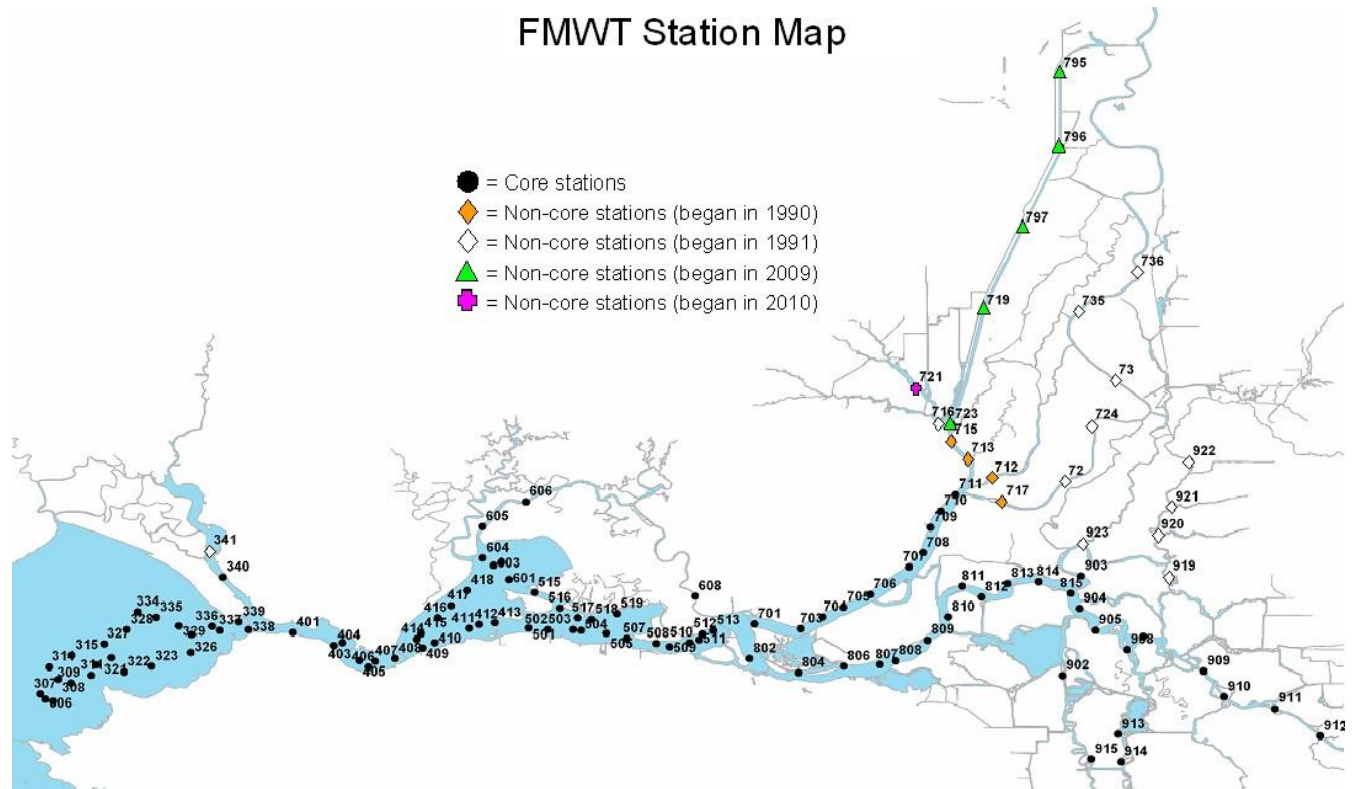


Figure 2. Location of Fall Mid-Water Trawl sampling stations.

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Table 1. Location of non-zero longfin smelt catches in Fall Mid-Water Trawl surveys, 2008-2013.

Date	Station	Temp (°C)	Top EC (µS/cm)	Surface Salinity (ppt)	Secchi (m)	Age 0	Age 1	Age 2
10/7/2008	336	20.5	29980	18.5	0.95	1	3	0
10/9/2008	414	17.7	20560	12.3	0.67	2	0	0
10/9/2008	415	18.5	20360	12.1	0.57	1	0	0
10/9/2008	416	18.5	20030	11.9	0.63	0	1	0
10/10/2008	509	18.3	15090	8.8	0.59	1	0	0
10/9/2008	601	19	20810	12.4	0.42	1	0	0
10/16/2008	704	16.1	4774	2.5	0.48	1	0	0
10/16/2008	705	16.1	2829	1.4	0.47	2	0	0
11/5/2008	408	15.3	28900	17.8	0.75	1	0	0
11/6/2008	417	15.4	22300	13.4	0.66	1	0	0
11/6/2008	418	15.3	19670	11.7	0.52	4	1	0
11/10/2008	508	15	12670	7.3	0.52	3	0	0
11/10/2008	510	15.3	12750	7.3	0.46	3	0	0
11/10/2008	512	15.7	11230	6.4	0.42	0	1	0
11/10/2008	516	14.6	14870	8.6	0.58	13	0	0
11/10/2008	518	14.8	13440	7.7	0.67	0	1	0
11/7/2008	705	15.2	533	0.2	0.63	8	0	0
12/4/2008	305	13.1	42280	27.1	1.21	12	0	0
12/4/2008	315	12.9	41500	26.6	0.99	0	1	0
12/3/2008	340	13.2	29610	18.3	1.02	1	0	0
12/8/2008	415	11.9	27340	16.8	0.94	0	2	0
12/8/2008	416	11.6	26250	16.0	0.99	1	0	0
12/8/2008	418	11.6	26840	16.4	0.68	1	1	0
12/10/2008	502	11.7	25100	15.3	0.5	1	1	0
12/10/2008	504	11.8	21060	12.6	0.5	3	0	0
12/9/2008	507	11.5	19250	11.4	0.54	0	1	0
12/9/2008	508	11.4	18230	10.8	0.59	2	0	0
12/9/2008	510	11.3	17570	10.3	0.62	4	1	0
12/9/2008	511	11.3	17190	10.1	0.53	0	2	0
12/9/2008	512	11.5	17730	10.4	0.62	0	2	0
12/9/2008	513	10.8	16320	9.5	0.58	1	0	0
12/8/2008	517	11.8	20560	12.3	0.51	1	0	0
12/8/2008	518	11.8	21220	12.7	0.26	0	1	0
12/8/2008	519	11.9	16010	9.3	0.6	1	0	0
12/8/2008	603	11.9	24910	15.1	0.38	2	1	0
12/16/2008	701	9.3	12160	6.9		0	1	0
12/16/2008	705	9.1	3667	1.9		2	0	0

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Date	Station	Temp (°C)	Top EC (µS/cm)	Surface Salinity (ppt)	Secchi (m)	Age 0	Age 1	Age 2
10/12/2009	411	16.1	23010	13.9	0.67	0	0	1
10/12/2009	413	16.1	21920	13.2	0.9	2	0	0
10/14/2009	604	15.8	18400	10.9	0.25	5	0	0
11/02/2009	310	15.3	45020	29.1	0.86	1	0	0
11/03/2009	339	16.2	33640	21.1	0.73	1	0	0
11/04/2009	502	16	18860	11.2	0.59	1	0	0
11/09/2009	512	15.1	9250	5.2	0.62	1	0	0
11/09/2009	518	16.6	10540	5.9	0.78	1	0	0
11/10/2009	704	15.1	2812	1.4	0.44	2	0	0
12/01/2009	327	11.7	40600	25.9	0.32	1	0	0
12/02/2009	340	11.8	37120	23.5	0.3	1	0	0
12/02/2009	341	11.8	37000	23.4	0.25	1	0	0
12/02/2009	404	12	37080	23.5	0.65	1	0	0
12/03/2009	411	11.7	24080	14.6	0.7	1	0	0
12/03/2009	412	11.9	27330	16.7	0.53	1	0	0
12/03/2009	413	11.7	25890	15.8	0.59	1	1	0
12/03/2009	414	12	32940	20.6	0.54	1	1	0
12/03/2009	415	12.2	33970	21.3	0.63	2	0	0
12/03/2009	416	12.4	33610	21.0	0.67	0	1	0
12/03/2009	417	12.2	33660	21.1	0.66	1	0	0
12/08/2009	501	9.6	23380	14.1	0.48	0	3	0
12/08/2009	502	9.7	19400	11.5	0.4	1	0	0
12/08/2009	504	9.7	18940	11.2	0.5	1	0	0
12/09/2009	507	9.3	12400	7.1	0.4	1	1	0
12/09/2009	508	9.2	13570	7.8	0.46	0	1	0
12/09/2009	509	8.8	13410	7.7	0.49	1	0	0
12/09/2009	510	9.3	13900	8.0	0.5	2	0	0
12/07/2009	516	10.5	16220	9.5	0.64	1	0	0
12/10/2009	703	9.2	4492	2.4	0.38	1	0	0
12/10/2009	705	8.9	3011	1.5	0.37	0	0	1
12/10/2009	709	8.7	431	0.2	0.77	0	3	1
12/17/2009	723	8.6	244	0.1	0.96	0	0	2
12/09/2009	802	9.8	8600	4.8	0.72	0	0	1
12/15/2009	810	9.3	1452	0.7	0.98	0	2	0

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Date	Station	Temp (°C)	Top EC (µS/cm)	Surface Salinity (ppt)	Secchi (m)	Age 0	Age 1	Age 2
09/14/2010	414	19.3	21080	12.6	0.52	1	0	0
09/15/2010	504	19	8420	4.7	0.94	1	0	0
10/06/2010	413	19.2	11700	6.7	0.72	1	0	0
10/07/2010	515	19	11150	6.3	0.53	4	1	0
10/07/2010	604	18.1	13810	8.0	0.39	1	0	0
11/02/2010	339	15.8	32870	20.5	0.59	0	1	0
11/04/2010	518	16.8	10170	5.7	0.78	1	0	0
11/04/2010	601	16.6	14410	8.3	0.7	1	0	0
12/01/2010	305	11.3	37240	23.6	0.63	1	0	0
12/01/2010	306	11.3	36980	23.4	0.98	1	0	0
12/01/2010	308	11.2	32160	20.0	0.37	4	0	0
12/01/2010	309	11.4	34350	21.5	0.5	3	0	0
12/02/2010	310	10.9	37960	24.1	1.21	2	0	0
12/01/2010	315	11.3	33260	20.8	0.71	9	0	0
12/02/2010	322	10.7	34910	21.9	0.78	9	0	0
12/01/2010	328	11	30460	18.9	0.71	1	0	0
12/02/2010	336	10.4	32240	20.1	0.59	15	0	0
12/02/2010	338	11	29400	18.1	0.68	1	0	0
12/03/2010	407	10.8	25280	15.4	0.58	1	0	0
12/03/2010	409	10.9	25640	15.6	0.68	3	0	0
12/03/2010	410	11	26250	16.0	0.71	1	0	0
12/03/2010	413	10.9	19510	11.6	0.5	1	0	0
12/06/2010	414	11	19610	11.6	0.62	3	0	0
12/06/2010	415	11.1	17250	10.1	0.6	2	0	0
12/06/2010	417	11	13970	8.1	0.69	3	1	0
12/06/2010	418	11.2	16590	9.7	0.53	7	0	0
12/03/2010	501	11	19570	11.6	0.52	1	0	0
12/03/2010	503	10.7	14310	8.3	0.59	2	0	0
12/03/2010	504	10.6	14590	8.4	0.42	6	0	0
12/07/2010	507	10.7	4684	2.5	0.79	0	0	1
12/06/2010	601	11.4	15860	9.2	0.62	1	0	0
12/06/2010	605	11.3	9910	5.6	0.47	2	0	0
12/06/2010	606	11.5	5610	3.0	0.34	2	1	0
12/06/2010	703	10.4	1346	0.7	0.76	1	0	0

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Date	Station	Temp (°C)	Top EC (µS/cm)	Surface Salinity (ppt)	Secchi (m)	Age 0	Age 1	Age 2
09/06/2011	314	17.9	35040	22.0	0.75	7	0	0
09/06/2011	315	18.4	30360	18.8	0.93	1	0	0
09/07/2011	339	20	19790	11.8	0.44	1	0	0
09/08/2011	407	19.4	9760	5.5	0.29	1	0	0
09/08/2011	411	19.7	8150	4.5	0.66	1	1	0
09/08/2011	412	19.8	7770	4.3	0.32	1	1	0
09/08/2011	413	20	7380	4.0	0.38	5	1	0
09/12/2011	416	19.2	7930	4.4	0.27	1	0	0
09/08/2011	501	20	6960	3.8	0.31	2	0	0
09/08/2011	502	20.1	6550	3.6	0.32	1	0	0
09/08/2011	504	20.6	5120	2.7	0.39	2	0	0
09/08/2011	505	20.3	3639	1.9	0.32	0	1	0
09/12/2011	601	20.1	7980	4.4	0.26	1	0	0
10/03/2011	310	18.5	33330	20.8	1.08	1	0	0
10/05/2011	413	19.1	9300	5.2	0.34	1	0	0
10/06/2011	416	18.1	8900	5.0	0.41	2	0	0
10/06/2011	417	18.4	9730	5.5	0.34	1	0	0
10/06/2011	418	18.1	7990	4.4	0.16	1	1	0
10/05/2011	503	18.5	6100	3.3	0.49	2	0	0
10/05/2011	504	18.6	5300	2.8	0.42	1	0	0
10/06/2011	602	18.2	7380	4.0	0.29	2	0	0
10/06/2011	603	19.1	7310	4.0	0.31	1	0	0
11/07/2011	307	14.2	34590	21.7	1.12	4	0	0
11/08/2011	329	14.5	25120	15.3	0.92	1	0	0
11/08/2011	334	14.2	28150	17.3	0.86	1	0	0
11/08/2011	336	14.3	27950	17.2	0.68	1	0	0
11/09/2011	412	14.5	13360	7.7	0.72	1	0	0
11/10/2011	416	13.7	14630	8.5	0.51	1	0	0
11/10/2011	418	13.4	11530	6.5	0.55	1	0	0
11/09/2011	503	14.6	9420	5.3	0.58	2	0	0
11/09/2011	504	14.5	10540	5.9	0.61	2	0	0
11/14/2011	507	13.9	7380	4.0	0.69	1	0	0
11/14/2011	509	14.1	6350	3.4	0.72	5	1	0
11/14/2011	510	14	4394	2.3	0.77	8	1	0
11/14/2011	511	14	4504	2.4	0.68	9	0	0
11/14/2011	513	14.3	3850	2.0	0.69	10	2	0
11/14/2011	517	13.5	10820	6.1	0.67	1	0	0
11/10/2011	601	14.4	13990	8.1	0.66	0	1	0
11/10/2011	602	13.9	12110	6.9	0.8	0	1	0
11/10/2011	604	13.9	11930	6.8	0.64	3	0	0
11/14/2011	608	14.3	5550	3.0	0.48	3	0	0
11/15/2011	701	13.4	3901	2.0	0.57	3	1	0
11/15/2011	704	13.4	1988	1.0	0.48	1	0	0
11/15/2011	705	13	883	0.4	0.52	5	0	0
11/10/2011	802	14.7	3361	1.7	0.48	1	2	0

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11/16/2011	807	13.7	777	0.4	0.72	1	0	0
12/05/2011	310	11.4	35240	22.2	0.88	8	0	0
12/05/2011	311	11.3	35030	22.0	0.66	1	0	0
12/05/2011	314	11.1	37500	23.7	1.02	3	0	0
12/05/2011	315	10.9	35360	22.2	0.9	1	0	0
12/06/2011	325	10.4	26230	16.0	0.82	1	0	0
12/05/2011	326	11.3	32340	20.2	0.31	1	0	0
12/05/2011	327	10.6	33340	20.8	1.2	3	1	0
12/06/2011	328	9.8	28600	17.6	1.02	1	0	0
12/06/2011	336	10.3	29300	18.1	0.57	11	0	0
12/06/2011	401	11	29220	18.0	0.62	8	0	0
12/06/2011	404	11.1	22910	13.8	0.69	1	0	0
12/07/2011	406	9.2	18550	11.0	0.77	2	0	0
12/07/2011	411	10.6	20360	12.1	0.74	0	1	0
12/07/2011	413	10.3	15920	9.3	0.57	0	2	0
12/08/2011	414	10.5	21160	12.7	0.72	6	5	0
12/08/2011	415	10.1	18070	10.7	0.77	2	3	0
12/08/2011	417	10.3	18050	10.6	0.63	0	2	0
12/08/2011	418	10.6	19430	11.5	0.59	4	1	0
12/07/2011	501	10.4	17010	10.0	0.74	5	0	0
12/07/2011	502	10.6	13570	7.8	0.72	1	0	0
12/07/2011	503	10.9	12950	7.4	0.52	10	6	0
12/07/2011	504	10.6	13180	7.6	0.58	1	1	0
12/09/2011	507	9.8	7840	4.3	0.65	12	8	0
12/09/2011	508	10	4844	2.6	0.68	1	0	0
12/09/2011	509	10.2	6110	3.3	0.72	2	4	0
12/09/2011	511	10.2	6400	3.5	0.78	13	0	0
12/09/2011	512	10.3	6690	3.6	0.7	20	4	0
12/09/2011	513	10.5	8200	4.5	0.63	2	3	0
12/09/2011	515	9.3	12800	7.3	0.63	1	3	0
12/09/2011	516	9.5	10300	5.8	0.61	1	0	0
12/08/2011	602	10.9	17430	10.2	0.49	1	0	0
12/08/2011	603	10.7	17380	10.2	0.39	5	1	0
12/08/2011	604	11.2	15140	8.8	0.48	2	0	0
12/12/2011	701	9.9	7220	4.0	0.82	1	7	0
12/12/2011	703	9.7	4268	2.2	0.48	8	2	0
12/12/2011	704	9.5	1233	0.6	0.82	17	3	0
12/16/2011	719	8.9	309	0.1	0.32	0	1	0
12/16/2011	723	8.6	166	0.1	0.83	0	0	1
12/09/2011	802	10.8	5500	2.9	0.78	1	1	0

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Date	Station	Temp (°C)	Top EC (µS/cm)	Surface Salinity (ppt)	Secchi (m)	Age 0	Age 1	Age 2
09/04/2012	314	18.5	39210	25.0		1	0	0
09/10/2012	415	18.4	17180	10.1	0.75	0	1	0
10/03/2012	501	19.5	12710	07.3	0.7	1	0	0
10/03/2012	503	20	10380	05.8	0.57	1	0	0
11/05/2012	307	16.8	41740	26.7	0.55	2	0	0
11/06/2012	339	17.4	32570	20.3	0.5	2	0	0
11/08/2012	414	15.9	26110	15.9	1.1	0	1	0
11/08/2012	415	16.4	27220	16.7	0.8	1	0	0
11/08/2012	417	16.3	26130	15.9	0.6	0	1	0
11/13/2012	510	15.3	13680	07.9	0.55	1	1	1
12/03/2012	305	14.3	37350	23.6	0.61	1	0	0
12/03/2012	322	13.8	29860	18.5	0.71	1	0	0
12/04/2012	334	14	24930	15.1	0.76	1	0	0
12/04/2012	338	14.2	20080	12.0	0.76	1	0	0
12/04/2012	404	14.3	14170	08.2	0.61	0	1	0
12/05/2012	408	14.2	15300	08.9	0.44	1	0	0
12/05/2012	412	14	6510	03.5	0.62	1	0	0
12/06/2012	414	13.8	1899	00.9	0.37	0	1	0
12/06/2012	416	13.9	1096	00.5	0.45	1	1	0
12/06/2012	417	13.9	1061	00.5	0.48	2	0	0
12/07/2012	516	13	2120	01.1	0.27	0	1	0
12/07/2012	517	13.2	2467	01.2	0.24	1	0	0
12/06/2012	604	14.1	3830	02.0	0.39	1	0	0
12/12/2012	701	11.9	316	00.1	0.2	0	1	0
12/12/2012	703	11.5	195	00.1	0.2	0	1	0
12/12/2012	705	11.5	119	00.0	0.2	0	1	0
12/12/2012	706	11.6	204	00.1	0.25	0	2	0
12/12/2012	710	11.6	208	00.1	0.23	0	1	0
12/12/2012	721	11.8	313	00.1	0.24	0	1	0

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Date	Station	Temp (°C)	Top EC (µS/cm)	Surface Salinity (ppt)	Secchi (m)	Age 0	Age 1	Age 2
9/3/2013	308	20.9	42105	27.01	0.77	1	0	0
9/9/2013	416	21.1	23358	14.10	0.51	1	0	0
9/9/2013	417	21.5	16236	9.49	0.39	1	0	0
9/9/2013	418	21.4	16585	9.71	0.4	1	0	0
9/9/2013	605	24.7	15598	9.08	0.37	0	1	0
10/3/2013	407	17.6	20932	12.51	0.3	9	1	0
10/3/2013	503	19.3	11738	6.68	0.6	0	1	0
10/9/2013	701	17.6	9033	5.03	0.32	0	1	0
10/9/2013	704	17.3	5454	2.92	0.4	1	1	0
11/5/2013	328	14	37002	23.40	0.43	1	0	0
11/5/2013	339	14.9	31675	19.70	0.68	1	0	0
11/5/2013	404	15.7	30410	18.83	0.66	1	0	0
11/6/2013	407	14.7	24725	15.01	0.58	1	0	0
11/6/2013	412	15.1	19832	11.79	0.71	1	0	0
11/12/2013	507	15.3	14338	8.29	0.29	0	1	0
11/12/2013	508	15.1	14994	8.70	0.49	1	1	0
11/12/2013	510	15.5	15006	8.71	0.56	2	0	0
11/12/2013	511	15.8	15226	8.85	0.64	1	0	0
11/12/2013	512	15.2	14361	8.30	0.63	0	1	0
11/12/2013	517	14.8	16711	9.79	0.37	0	1	0
11/13/2013	701	14.4	4434	2.34	0.64	0	1	0
11/13/2013	703	14.3	2329	1.17	0.49	0	1	0
11/19/2013	797	13.6	575	0.26	0.25	0	1	0
12/3/2013	325	12.1	36904	23.33	0.41	0	0	1
12/3/2013	334	11.7	38644	24.55	0.18	0	1	1
12/3/2013	335	11.8	38373	24.36	0.15	1	0	0
12/3/2013	336	11.3	39168	24.92	0.1	1	0	0
12/3/2013	340	12.2	38530	24.47	0.27	3	1	0
12/3/2013	401	12.2	39740	25.33	0.25	1	0	0
12/3/2013	403	12.4	36256	22.87	0.6	1	0	0
12/3/2013	404	12.3	38515	24.46	0.74	5	3	1
12/4/2013	407	10.7	27202	16.66	0.47	0	1	0
12/4/2013	409	11	20320	12.11	0.52	1	0	0
12/4/2013	410	11	23579	14.25	0.62	3	0	0
12/4/2013	412	11.3	19941	11.86	0.41	1	0	0
12/4/2013	413	11.7	18958	11.23	0.46	0	1	0
12/5/2013	418	10.1	19991	11.90	0.39	2	0	0
12/4/2013	505	12.2	14786	8.57	0.54	0	1	0
12/9/2013	507	8.7	15622	9.10	0.26	1	0	0
12/9/2013	508	9.2	14714	8.53	0.34	1	1	0
12/9/2013	510	9.9	10373	5.84	0.45	0	1	0
12/9/2013	512	9.9	10059	5.65	0.5	1	0	0
12/9/2013	515	8.1	19035	11.28	0.22	2	0	0
12/9/2013	516	8.3	18361	10.84	0.3	0	1	0
12/9/2013	517	8.3	18668	11.04	0.22	2	0	0

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12/9/2013	518	8.7	18845	11.16	0.24	1	0	0
12/9/2013	519	8.6	16903	9.91	0.19	2	0	0
12/5/2013	606	10.2	12070	6.88	0.26	1	0	0
12/10/2013	701	8.6	6704	3.65	0.31	1	2	1
12/10/2013	703	8.5	5363	2.87	0.3	0	1	0
12/10/2013	704	8.4	3789	1.98	0.3	2	0	0
12/10/2013	709	8.6	410	0.18	0.72	0	2	0
