

Jacoby Estuary, Thence Jacoby Creek, Thence Humboldt Bay
 City of Arcata Property
March 2016 – December 2016

On April 13, 2012 CA Department of Fish and Game's (DFG) Natural Stocks Assessment Project (NSA) and City of Arcata staff conducted the first in a series of fish and water quality (WQ) sampling in Jacoby Estuary. This field note describes subsequent fish and WQ sampling from March 2016 – December 2016. Monthly fish and WQ sampling was conducted to determine if resident/anadromous juvenile salmonids and other fish species utilize the estuary and lower watershed for rearing and if water quality is adequate to support juvenile salmonids. A comparison site on Jacoby Creek about 150 feet downstream from the estuary mouth (just upstream of the highway 101 bridge) was added to verify the presence of juvenile salmonids in the adjacent creek. An additional comparison site on Jacoby Creek about one-half mile upstream from the estuary mouth was added starting on April 29th 2016 to further verify the presence of juvenile salmonids in the adjacent creek. This information will help us to assess the success of estuarine habitat restoration measures in Jacoby Creek.

Comparison of the number of juvenile salmonids captured by month in Jacoby Creek Estuary, March 17, 2016 to December 9, 2016.

Date	Coho YOY	Coho PS	Steelhead Juvenile
3-17-2016	6	11	0
4-29-2016	422	0	24
6-3-2016	0	1	0
6-17-2016	0	0	0
7-15-2016	0	0	0
8-19-2016	0	0	0
9-9-2016	0	0	0
10-7-2016	0	0	0
11-28-16	0	0	0
12-9-16	0	0	0

Comparison of the number of juvenile salmonids captured by month at Jacoby Creek Bridge 101 Site, March 17, 2016 to December 9, 2016.

Date	Coho YOY	Coho PS	Steelhead Juvenile
3-17-2016	2	0	0
4-29-2016	8	0	0
6-3-2016	40	1	0
6-17-2016	0	0	0
7-15-2016	0	0	0
8-19-2016	0	0	0
9-9-2016	0	0	0
10-7-2016	0	0	0
11-28-16	0	0	0
12-9-16	0	0	0

Comparison of the number of juvenile salmonids captured by month at Jacoby Creek Minnow Trap Site, May 3, 2016 to December 9, 2016.

Date	Coho YOY	Coho PS	Steelhead Juvenile
4-29-16	0	0	1
6-3-2016	1	0	1
6-17-16	1	0	0
7-15-2016	0	0	0
8-19-2016	0	0	0
9-9-2016	0	0	1
10-7-2016	0	0	2
11-28-16	6	0	0
12-9-16	1	0	3

March 17, 2016

Estuary Fish Sampling

We fished a minnow trap baited with frozen salmon roe for 215 minutes at the tidegate pool and captured no fish. We conducted eight seine hauls with a 30 X 4 foot beach seine and captured 17 juvenile coho. We made one seine haul in the main channel at the tidegate pool immediately downstream from the tidegate and captured two coho smolts with a mean fork length of 110 mm (range 108-112). We applied a pit tag to both coho. We also captured four staghorn sculpin. We made our first seine haul in the main channel and captured two staghorn sculpin. We made our second seine haul in the main channel and captured one young-of-year coho with a fork length of 39 mm. We did not apply a PIT tag to this fish. We also captured one threespine stickleback and staghorn sculpin <10. We made our third seine haul in the main channel and captured one coho smolt with a fork length of 94 mm. We applied a PIT tag to this fish. We also captured one staghorn sculpin and one threespine stickleback. We made a seine haul in the bottom west side channel and captured a total of seven coho. Five of these coho were pre-smolts or smolts with a mean fork length of 98 mm (range 87-106). We applied a PIT tag to all five of these coho. One of these coho at 103 mm FL was later recaptured in a different restoration area in Janes Creek Site 2 on 4-22-16. This coho had grown to a fork length of 109 mm. So in its 36 days at large it had grown 6 mm or 0.17 mm/day. Two of these coho were young-of-year coho with a mean fork length of 36 mm (range 35-37). We did not apply a PIT tag to these two coho. We also captured one staghorn sculpin. We made our fourth seine haul in the main channel and captured three coho smolts with a mean fork length of 101 mm (range 95-110). We applied a PIT tag to all three coho. We also captured one threespine stickleback. We made our fifth seine haul in the main channel and captured three coho young-of-year with a mean fork length of 36 mm (range 35-36). We did not apply a PIT tag to these coho. We also captured one staghorn sculpin. We made a seine haul in the bottom east side channel and captured no fish.

Jacoby Creek 101 Bridge Site

We conducted two seine hauls with a 30 X 4 foot beach seine and captured two coho young-of-year with a mean fork length of 36 mm (range 35-37). We did not apply a PIT tag to these coho.

Water Quality Sampling

CDFG collected water quality samples at four locations within the Jacoby Estuary main channel, in two Jacoby Estuary side channel sites and in Jacoby Creek at the 101 bridge seine site using a Yellow Springs Instruments Professional Plus meter. The tide was outgoing. Our first site was in the pool just below the estuary tidegate. Our second site was in the top reach of the estuary main channel. Our third site was in the middle reach of the estuary main channel. Our fourth site was in the bottom west estuary side channel. Our fifth site was in the bottom east estuary side channel. Our sixth site was in the bottom reach of the estuary main channel. Our seventh site was in Jacoby Creek at the 101 bridge seine site.

Water quality measurements collected in Jacoby Creek and Jacoby Creek Estuary, March 17, 2016.

Time	Conductivity (uS/cm)	Salinity (ppt)	Dissolved		Depth (ft)	Site
			Oxygen (mg/L)	Temperature (C)		
11:14:37 AM	8888	6.99	8.68	10.8	3	JAC EST TIDEGATE BOTTOM
11:14:51 AM	8389	6.58	8.86	10.8	1.5	JAC EST TIDEGATE MIDDLE
11:15:19 AM	2033	1.33	8.86	14.3	0.5	JAC EST TIDEGATE TOP
11:17:36 AM	5765	4.34	9.06	11.3	1	JAC EST MAIN TOP BOTTOM
11:20:26 AM	3937	2.88	10.78	11.5	1.25	JAC EST MAIN MIDDLE BOTTOM
11:22:31 AM	2193	1.48	9.9	13.1	1	J. EST BOTTOM WEST SC BOTTOM
11:25:32 AM	3957	2.74	9.5	13.5	1	JAC EST BOTTOM EAST SC BOTTOM
11:28:07 AM	3288	2.34	9.84	12	1.75	JAC EST MAIN BOTTOM BOTTOM
11:28:57 AM	2289	1.55	9.73	13.2	0.5	JAC EST MAIN BOTTOM SURFACE
11:32:13 AM	231.8	0.16	10.49	9.7	2.5	JACOBY 101 BRIDGE BOTTOM
11:32:47 AM	202.4	0.14	10.41	9.7	0.5	JACOBY 101 BRIDGE TOP

April 29, 2016

Estuary Fish Sampling

We fished a minnow trap baited with frozen salmon roe for 265 minutes at the tidegate pool and captured three yellow shore crab. We conducted eight seine hauls with a 30 X 4 foot beach seine. We made one seine haul in the tidegate pool immediately downstream from the tidegate and captured one threespine stickleback and one staghorn sculpin. We made our first seine haul in the main channel and captured one staghorn sculpin and threespine stickleback <100. We made our second seine haul in the main channel and captured two steelhead trout young-of-year each with a fork length of 30 mm. We did not apply a PIT tag to these fish. We also captured threespine stickleback <10. We made our third seine haul in the main channel and captured one coho young-of-year with a fork length of 54 mm and one steelhead trout young-of-year with a fork length of 30 mm. We did not tag these two fish. We made a seine haul in the bottom west side channel and captured two steelhead trout young-of-year with a mean fork length of 30 mm (range 30-31). We did not tag these two fish. We also captured staghorn sculpin <10 and threespine stickleback <50. We made our fourth seine haul in the main channel and captured 162 young-of-year coho with a mean fork length of 44 mm (range 35- 58) and 13 young-of-year steelhead trout with a mean fork length of 35 mm (range 29-37). We did not apply a PIT tag to these fish. We also captured one threespine stickleback. We made our fifth seine haul in the main channel and captured 259 young-of-year coho with a mean fork length of 46 mm (range 36-60), and 6 young-of-year steelhead trout with a mean fork length of 36 mm (range 35-37). We did not apply PIT tags to these fish. We made a seine haul in the bottom east side channel and captured one yellow shore crab and threespine stickleback <10.

Jacoby 101 Bridge Seine

We conducted two seine hauls with a 30 X 4 foot beach seine and captured eight coho young-of-year with a mean fork length of 44 mm (range 40-50). We did not apply a PIT tag to these coho.

Jacoby Creek Minnow Trap

We fished a minnow trap baited with frozen salmon roe for 365 minutes and captured one juvenile steelhead trout with a fork length of 98 mm and a weight of 12.1 grams. We applied a PIT tag to this fish with the number 986112100298576. We also captured threespine stickleback <10.

Water Quality Sampling

CDFG collected water quality samples at the minnow trap site in Jacoby Creek, at the 101 bridge seine site in Jacoby Creek, at four locations within the Jacoby Estuary main channel and in two Jacoby Estuary side channel sites using a Yellow Springs Instruments Professional Plus meter. The tide was incoming. Our first estuary site was in the pool just below the tidegate. Our second estuary site was in the top reach of the main channel. Our third estuary site was in the middle reach of the main channel. Our fourth estuary site was in the bottom west side channel. Our fifth estuary site was in the bottom east side channel. Our sixth estuary site was in the bottom reach of the main channel.

Water quality measurements collected in Jacoby Creek and Jacoby Creek Estuary, April 29, 2016.

Time	Conductivity (uS/cm)	Salinity (ppt)	Dissolved		Depth (ft)	Site
			Oxygen (mg/L)	Temperature (C)		
10:14:51 AM	101.8	0.07	9.37	10.8	1	JACOBY CREEK MT TOP
10:35:53 AM	139.2	0.09	9.91	11	3	JACOBY 101 BRIDGE BOTTOM
10:36:23 AM	139.5	0.09	9.81	11	1.5	JACOBY 101 BRIDGE MIDDLE
10:37:00 AM	132.5	0.09	9.63	11.1	0.5	JACOBY 101 BRIDGE TOP
11:21:07 AM	34179	25.02	3.75	18.3	2.5	JAC EST TIDEGATE BOTTOM
11:22:04 AM	4765	3.04	6.08	17.2	0.5	JAC EST TIDEGATE TOP
11:24:47 AM	3725	2.31	7.97	17.9	0.25	JAC EST MAIN TOP BOTTOM
11:28:33 AM	5097	3.3	9.86	16.8	1	JAC EST MAIN MIDDLE BOTTOM
11:30:16 AM	2092	1.28	9.13	17.1	0.5	J. EST BOTTOM WEST SC BOTTOM
11:33:24 AM	1452	0.91	6.48	15.2	1.5	JAC EST MAIN BOTTOM BOTTOM
11:34:12 AM	937	0.59	8.36	14.5	0.5	JAC EST MAIN BOTTOM SURFACE
11:38:18 AM	2262	1.35	8.37	18.3	0.25	JAC EST BOTTOM EAST SC BOTTOM

June 3, 2016

Estuary Fish Sampling

We fished a minnow trap baited with frozen salmon roe at the tidegate pool for 95 minutes and captured yellow shore crab <50. We conducted five seine hauls with a 30 X 4 foot beach seine. The first seine was in the pool just below the tidegate and we captured one coho smolt with a fork length of 91 mm. We did not apply a PIT tag to this fish. We also captured yellow shore crab <100, northern anchovy <100, one walleye surf perch, one threespine stickleback and one starry flounder. The second seine was in the main channel upper reach and we captured one threespine stickleback. The third seine was in the top west side channel and we captured two longjaw mudsucker, one

threespine stickleback, one pacific staghorn sculpin and one unidentified larval fish. Our fourth seine was in the main channel middle reach and we captured one yellow shore crab, one threespine stickleback, one unidentified larval fish and pacific staghorn sculpin <10. Our fifth seine was in the main channel bottom reach and we captured one yellow shore crab.

Jacoby 101 Bridge Seine

We conducted two seine hauls with a 30 X 4 foot beach seine and captured 40 coho young-of-year with a mean fork length of 66.5 mm (range 54-82). We did not apply a PIT tag to these coho. We also captured one coho smolt with a fork length of 109 mm. We did not apply a PIT tag to this fish.

Jacoby Creek Minnow Trap

We fished a minnow trap baited with frozen salmon roe at the Jacoby Creek minnow trap site for 470 minutes and captured one young-of-year coho and one juvenile steelhead trout. The coho had a fork length of 61 mm. We did not apply a PIT tag to this fish. The steelhead had a fork length of 94 mm. We applied a PIT tag to this fish.

Water Quality Sampling

CDFG collected water quality samples at the minnow trap site in Jacoby Creek, at four locations within the Jacoby Estuary and at the 101 bridge seine site in Jacoby Creek using a Yellow Springs Instruments Professional Plus meter. The tide was incoming. Our first site was the Jacoby Creek minnow trap site. Our second site was in the pool just below the estuary tidegate. Our third site was in the middle reach of the estuary main channel. Our fourth site was in the bottom west side channel of the estuary. Our fifth site was in the estuary main channel bottom reach. Our sixth site was in Jacoby Creek at the 101 bridge.

Water quality measurements collected in Jacoby Creek and Jacoby Creek Estuary, June 3, 2016.

Time	Conductivity (uS/cm)	Salinity (ppt)	Dissolved		Depth (ft)	Site
			Oxygen (mg/L)	Temperature (C)		
6:47:39 AM	142.5	0.09	7.5	14.2	0.25	JACOBY CREEK MT BOTTOM
7:21:12 AM	50823	35.4	2.46	22.3	2	JAC EST TIDEGATE BOTTOM
7:21:53 AM	38091	27.66	3.18	19.1	0.5	JAC EST TIDEGATE TOP
7:26:54 AM	8150	5.73	7.43	14.9	0.5	JAC EST MAIN MIDDLE BOTTOM
7:29:04 AM	31983	24.09	3.21	16.9	0.25	J. EST BOTTOM WEST SC BOTTOM
7:33:33 AM	2664	1.7	4.83	15.8	1	JAC EST MAIN BOTTOM BOTTOM
7:37:17 AM	40844	30.15	2.14	18.8	1.5	JACOBY 101 BRIDGE BOTTOM
7:38:28 AM	3286	2.19	6.47	14.6	0.5	JACOBY 101 BRIDGE TOP

June 17, 2016

Estuary Fish Sampling

We fished a minnow trap baited with frozen salmon roe at the tidegate pool for 75 minutes and captured yellow shore crab <50 and two beautiful longjaw mudsuckers. We conducted eight seine hauls with a 30 X 4 foot beach seine. In our first main channel seine haul we captured one staghorn sculpin, threespine stickleback <10 and one topsmelt. In our bottom east side channel seine we captured one staghorn sculpin, one threespine stickleback and one yellow shore crab. In our second main channel seine we

captured one threespine stickleback. In our bottom west side channel seine we captured threespine stickleback <10, yellow shore crab <50 and one staghorn sculpin. In our third main channel seine we captured threespine stickleback <10, two yellow shore crab and two staghorn sculpin. In our fourth main channel seine we captured threespine stickleback <50, one yellow shore crab and one staghorn sculpin. In our fifth main channel seine we captured yellow shore crab <10 and threespine stickleback <50. In our tidegate pool seine we captured yellow shore crab <100, staghorn sculpin <10 and threespine stickleback <100.

Jacoby 101 Bridge Seine

We conducted two seine hauls with a 30 X 4 foot beach seine and captured threespine stickleback <10 and two staghorn sculpin.

Jacoby Creek Minnow Trap

We fished a minnow trap baited with frozen salmon roe at the Jacoby Creek minnow trap site for 225 minutes and captured one coho young-of-the-year with a fork length of 61 mm. We applied a PIT tag to this fish. We also captured one threespine stickleback.

Water Quality Sampling

CDFG collected water quality samples at the minnow trap site in Jacoby Creek, at the 101 bridge seine site in Jacoby Creek and at six locations within the Jacoby Estuary using a Yellow Springs Instruments Professional Plus meter. The tide was incoming. Our first site was the Jacoby Creek minnow trap site. Our second site was in Jacoby Creek at the 101 bridge. Our third site was in the pool just below the estuary tidegate. Our fourth site was in the top reach of the estuary main channel. Our fifth site was in the bottom west side channel of the estuary. Our sixth site was in the middle reach of the estuary main channel. Our seventh site was in the bottom east side channel of the estuary. Our eighth site was in the bottom reach of the estuary main channel.

Water quality measurements collected in Jacoby Creek and Jacoby Creek Estuary, June 17, 2016.

Time	Conductivity (uS/cm)	Salinity (ppt)	Dissolved		Depth (ft)	Site
			Oxygen (mg/L)	Temperature (C)		
9:55:28 AM	163.2	0.1	7.7	13.7	0.5	JACOBY CREEK MT
10:53:30 AM	38845	28.22	1.16	19.2	2.25	JACOBY 101 BRIDGE BOTTOM
10:55:09 AM	4126	2.74	7.01	15.3	0.5	JACOBY 101 BRIDGE TOP
11:21:34 AM	50947	35.44	3.73	22.4	2.5	JAC EST TIDEGATE BOTTOM
11:22:17 AM	3358	2.04	6.47	18.4	0.5	JAC EST TIDEGATE TOP
11:28:23 AM	3946	2.52	8.27	16.8	0.5	JAC EST MAIN TOP BOTTOM
11:32:45 AM	7596	5.04	5.97	17	0.5	J. EST BOTTOM WEST SC BOTTOM
11:34:52 AM	10972	7.43	5.69	17.3	1.25	JAC EST MAIN MIDDLE BOTTOM
11:38:35 AM	7607	4.99	7.23	17.5	0.25	JAC EST BOTTOM EAST SC BOTTOM
11:41:32 AM	11121	7.45	5.32	17.8	1.5	JAC EST MAIN BOTTOM BOTTOM
11:42:32 AM	8716	5.72	7.23	17.8	0.5	JAC EST MAIN BOTTOM SURFACE

July 15, 2016

Estuary Fish Sampling

We fished a minnow trap baited with frozen salmon roe at the tidegate pool for 50 minutes and captured yellow shore crab <50. We conducted five seine hauls with a 30 X 4 foot beach seine. Our first seine haul was in the bottom reach of the main channel and we captured threespine stickleback <10, two yellow shore crab and one longjaw mudsucker. Our second seine haul was in the main channel and we captured threespine stickleback <10. Our third seine haul was in the bottom west side channel and we captured no fish. Our fourth seine haul was in the main channel and we captured one threespine stickleback. Our fifth seine haul was in the tidegate pool and we captured threespine stickleback <200, yellow shore crab <50, one unidentified sculpin species and topsmelt <10.

Jacoby 101 Bridge Seine

We conducted two seine hauls with a 30 X 4 foot beach seine and captured no fish.

Jacoby Creek Minnow Trap

We fished a minnow trap baited with frozen salmon roe at the Jacoby Creek minnow trap site for 340 minutes and captured one threespine stickleback.

Water Quality Sampling

CDFG collected water quality samples at the minnow trap site in Jacoby Creek, at the 101 bridge seine site in Jacoby Creek and at six locations within the Jacoby Estuary using a Yellow Springs Instruments Professional Plus meter. The tide was high. Our first site was the Jacoby Creek minnow trap site. Our second site was in Jacoby Creek at the 101 bridge. Our third site was in the pool just below the estuary tidegate. Our fourth site was in the top reach of the estuary main channel. Our fifth site was in the bottom west side channel of the estuary. Our sixth site was in the middle reach of the estuary main channel. Our seventh site was in the bottom east side channel of the estuary. Our eighth site was in the bottom reach of the estuary main channel.

Water quality measurements collected in Jacoby Creek and Jacoby Creek Estuary, July 15, 2016.

Time	Conductivity (uS/cm)	Salinity (ppt)	Dissolved		Depth (ft)	Site
			Oxygen (mg/L)	Temperature (C)		
8:21:05 AM	112.5	0.07	7.49	14.3	0.25	JACOBY CREEK MT
10:25:17 AM	42893	29.49	0.84	22	2	JACOBY 101 BRIDGE BOTTOM
10:27:28 AM	3445	2.23	5.23	15.9	0.5	JACOBY 101 BRIDGE TOP
10:45:53 AM	53785	35.69	2.74	24.8	2	JAC EST TIDEGATE BOTTOM
10:47:07 AM	7300	4.57	4.34	19.3	0.5	JAC EST TIDEGATE TOP
10:51:03 AM	3556	2.22	7.92	17.4	0.25	JAC EST MAIN TOP BOTTOM
10:54:55 AM	5804	3.69	7.06	18	0.5	J. EST BOTTOM WEST SC BOTTOM
10:57:02 AM	1598	0.94	4.57	17.9	0.75	JAC EST MAIN MIDDLE BOTTOM
11:00:06 AM	8017	4.91	6.49	20.5	0.25	JAC EST BOTTOM EAST SC BOTTOM
11:03:02 AM	20336	13.55	3.23	20.1	1	JAC EST MAIN BOTTOM BOTTOM

August 19, 2016

Estuary Fish Sampling

We fished a minnow trap baited with frozen salmon roe at the tidegate pool for 60 minutes and captured yellow shore crab <10. We conducted six seine hauls with a 30 X 4 foot beach seine. Our first seine haul was in the bottom reach of the main channel and we captured arrow goby <10, one unidentified larval fish, one threespine stickleback and crangon shrimp. Our second seine haul was in the main channel and we captured threespine stickleback <100 and one arrow goby. Our third seine haul was in the tidegate pool and we captured longjaw mudsucker <10, threespine stickleback <100, anchovy <100, unidentified larval fish <100, staghorn sculpin <10 and yellow shore crab <100. Our fourth seine haul was in the bottom west side channel and we captured no fish. Our fifth seine haul was in the top reach of the main channel and we captured one yellow shore crab, topsmelt <100, threespine stickleback <100, anchovy <10 and unidentified larval fish <10. Our sixth seine was in the bottom east side channel and we captured topsmelt <50 and two arrow goby.

Jacoby 101 Bridge Seine

We conducted two seine hauls with a 30 X 4 foot beach seine and captured staghorn sculpin <10, prickly sculpin <10, anchovy <10, unidentified larval fish <50 and threespine stickleback <10.

Jacoby Creek Minnow Trap

We fished a minnow trap baited with frozen salmon roe at the Jacoby Creek minnow trap site for 240 minutes and captured no fish.

Water Quality Sampling

CDFG collected water quality samples at the minnow trap site in Jacoby Creek, at the 101 bridge seine site in Jacoby Creek and at five locations within the Jacoby Estuary using a Yellow Springs Instruments Professional Plus meter. The tide was incoming. Our first site was the Jacoby Creek minnow trap site. Our second site was in Jacoby Creek at the 101 bridge. Our third site was in the bottom reach of the estuary main channel. Our fourth site was in the middle reach of the estuary main channel. Our fifth site was in the bottom west side channel of the estuary. Our sixth site was in the pool just below the estuary tidegate. Our seventh site was in the bottom east side channel of the estuary.

Water quality measurements collected in Jacoby Creek and Jacoby Creek Estuary, August 19, 2016.

Time	Conductivity (uS/cm)	Salinity (ppt)	Dissolved		Depth (ft)	Site
			Oxygen (mg/L)	Temperature (C)		
9:51:28 AM	193.3	0.12	5.65	14.5	0.25	JACOBY CREEK MT
10:15:38 AM	47932	36.32	1.8	18.5	2.25	JACOBY 101 BRIDGE BOTTOM
10:16:34 AM	16991	11.65	2.09	18.2	0.5	JACOBY 101 BRIDGE TOP
10:47:06 AM	11273	7.55	2.9	17.8	0.5	JAC EST MAIN BOTTOM BOTTOM
10:53:03 AM	24700	17.3	2.63	18.8	0.5	JAC EST MAIN MIDDLE BOTTOM
10:55:55 AM	45454	33.11	3.03	19.8	0.25	J. EST BOTTOM WEST SC BOTTOM
11:06:32 AM	51288	37.97	2.64	19.8	2	JAC EST TIDEGATE BOTTOM
11:07:34 AM	46129	34.23	3.26	19.1	0.5	JAC EST TIDEGATE TOP

12:59:01 PM	47495	33.97	6.04	20.8	1.5	JAC EST BOTTOM EAST SC BOTTOM
12:59:39 PM	41595	28.9	6.1	21.4	0.5	JAC EST BOTTOM EAST SC SURFACE

September 9, 2016

Estuary Fish Sampling

We fished a minnow trap baited with frozen salmon roe at the tidegate pool for 45 minutes and captured yellow shore crab <50. We conducted three seine hauls with a 30 X 4 foot beach seine. Our first seine haul was in the bottom reach of the main channel and we captured two yellow shore crab and arrow goby <50. Our second seine haul was in the main channel and we captured arrow goby <50 and one longjaw mudsucker. Our third seine haul was in the tidegate pool and we captured two longjaw mudsucker, topsmelt <10, yellow shore crab <100, staghorn sculpin <10 and threespine stickleback <10.

Jacoby 101 Bridge Seine

We conducted two seine hauls with a 30 X 4 foot beach seine and captured topsmelt <50, yellow shore crab <10, prickly sculpin <10 and crangon shrimp.

Jacoby Creek Minnow Trap

We fished a minnow trap baited with frozen salmon roe at the Jacoby Creek minnow trap site for 230 minutes and captured one juvenile steelhead trout with a fork length of 104 mm. We applied a PIT tag to this fish.

Water Quality Sampling

CDFG collected water quality samples at the minnow trap site in Jacoby Creek, at the 101 bridge seine site in Jacoby Creek and at four locations within the Jacoby Estuary using a Yellow Springs Instruments Professional Plus meter. The tide was outgoing. Our first site was the Jacoby Creek minnow trap site. Our second site was in Jacoby Creek at the 101 bridge. Our third site was in the bottom reach of the estuary main channel. Our fourth site was in the middle reach of the estuary main channel. Our fifth site was in the bottom west side channel of the estuary. Our sixth site was in the pool just below the estuary tidegate.

Water quality measurements collected in Jacoby Creek and Jacoby Creek Estuary, September 9, 2016.

Time	Conductivity (uS/cm)	Salinity (ppt)	Dissolved		Depth (ft)	Site
			Oxygen (mg/L)	Temperature (C)		
8:05:42 AM	197.9	0.12	5.96	13.8	0.5	JACOBY CREEK MT
10:04:48 AM	45990	31.82	2.15	22.1	2	JACOBY 101 BRIDGE BOTTOM
10:05:14 AM	16233	10.53	2.87	20.4	0.5	JACOBY 101 BRIDGE TOP
10:21:23 AM	19032	13.26	1.6	18	0.75	JAC EST MAIN BOTTOM BOTTOM
10:24:49 AM	7750	5.04	2.13	17.9	0.5	JAC EST MAIN MIDDLE BOTTOM
10:26:55 AM	26229	17.93	4.45	20	0.25	J. EST BOTTOM WEST SC BOTTOM
10:33:59 AM	52856	36.39	1.84	23.1	2	JAC EST TIDEGATE BOTTOM
10:34:52 AM	28608	21.16	4.73	17.1	0.5	JAC EST TIDEGATE TOP

October 7, 2016

Estuary Fish Sampling

We fished a minnow trap baited with frozen salmon roe at the tidegate pool for 55 minutes and captured yellow shore crab <50. We conducted three seine hauls with a 30 X 4 foot beach seine. Our first seine haul was in the bottom reach of the main channel and we captured arrow goby <10, one threespine stickleback, crangon shrimp and one yellow shore crab. Our second seine haul was in the main channel and we captured arrow goby <10 and threespine stickleback <10. Our third seine haul was in the tidegate pool and we captured three longjaw mudsuckers, threespine stickleback <50, one anchovy, mosquitofish <10, staghorn sculpin <10 and yellow shore crab <50.

Jacoby 101 Bridge Seine

We conducted two seine hauls with a 30 X 4 foot beach seine and captured crangon shrimp, one yellow shore crab, threespine stickleback <10 and one prickly sculpin.

Jacoby Creek Minnow Trap

We fished a minnow trap baited with frozen salmon roe at the Jacoby Creek minnow trap site for 280 minutes and captured two juvenile steelhead trout with a mean fork length of 85 mm (range 81-89). We applied a PIT tag to both fish.

Water Quality Sampling

CDFG collected water quality samples at the minnow trap site in Jacoby Creek, at the 101 bridge seine site in Jacoby Creek and at four locations within the Jacoby Estuary using a Yellow Springs Instruments Professional Plus meter. The tide was low. Our first site was the Jacoby Creek minnow trap site. Our second site was in Jacoby Creek at the 101 bridge. Our third site was in the bottom reach of the estuary main channel. Our fourth site was in the middle reach of the estuary main channel. Our fifth site was in the bottom west side channel of the estuary. Our sixth site was in the pool just below the estuary tidegate.

Water quality measurements collected in Jacoby Creek and Jacoby Creek Estuary, September 9, 2016.

Time	Conductivity (uS/cm)	Salinity (ppt)	Dissolved		Depth (ft)	Site
			Oxygen (mg/L)	Temperature (C)		
8:29:37 AM	190.4	0.12	6.52	12.3	0.25	JACOBY CREEK MT
10:30:12 AM	35999	27.61	2.67	16.6	2	JACOBY 101 BRIDGE BOTTOM
10:30:55 AM	3493	2.37	3.95	14	0.5	JACOBY 101 BRIDGE TOP
10:44:34 AM	14951	11.25	2.36	14.1	0.75	JAC EST MAIN BOTTOM BOTTOM
10:48:53 AM	2075	1.38	5.7	13.5	0.5	JAC EST MAIN MIDDLE BOTTOM
10:52:38 AM	26290	18.88	1.28	18	0.25	J. EST BOTTOM WEST SC BOTTOM
10:59:12 AM	45736	33.68	3.99	19.4	2	JAC EST TIDEGATE BOTTOM
11:00:06 AM	27201	20.81	4.51	15.6	0.5	JAC EST TIDEGATE TOP

November 28, 2016

Estuary Fish Sampling

We fished a minnow trap baited with frozen salmon roe at the tidegate pool for 45 minutes and captured no fish. We conducted seine hauls with a 30 X 4 foot beach seine. Beginning near the estuary mouth we seined the entire length of the main channel (probably in four separate seine hauls). We were unable to seine the tidegate pool due to deep water. We seined the bottom east side channel site and the bottom west side channel site. The only fish we caught in the estuary were surf smelt <10 in the top reach of the estuary main channel.

Jacoby 101 Bridge Seine

We conducted two seine hauls with a 30 X 4 foot beach seine and captured yellow shore crab <10 and mosquitofish <10.

Jacoby Creek Minnow Trap

We fished a minnow trap baited with frozen salmon roe at the Jacoby Creek minnow trap site for 200 minutes and captured six coho young-of-the-year with a mean fork length of 94 mm (range 86-100). We applied a PIT tag to all six fish.

Water Quality Sampling

CDFG collected water quality samples at the minnow trap site in Jacoby Creek, at the 101 bridge seine site in Jacoby Creek and at six locations within the Jacoby Estuary using a Yellow Springs Instruments Professional Plus meter. The tide was incoming. Our first site was the Jacoby Creek minnow trap site. Our second site was in Jacoby Creek at the 101 bridge. Our third site was in the bottom reach of the estuary main channel. Our fourth site was the bottom east side channel of the estuary. Our fifth site was in the middle reach of the estuary main channel. Our sixth site was in the bottom west side channel of the estuary. Our seventh site was in the top reach of the estuary main channel. Our eighth site was in the pool just below the estuary tidegate.

Water quality measurements collected in Jacoby Creek and Jacoby Creek Estuary, November 28, 2016.

Time	Conductivity (uS/cm)	Salinity (ppt)	Dissolved		Depth (ft)	Site
			Oxygen (mg/L)	Temperature (C)		
7:54:29 AM	81.1	0.05	10.39	10.8	2	JACOBY CREEK MT BOTTOM
7:55:09 AM	81	0.05	9.99	10.8	0.5	JACOBY CREEK MT TOP
8:10:05 AM	93.8	0.06	10	10.8	2	JACOBY 101 BRIDGE BOTTOM
8:10:31 AM	91.7	0.06	10	10.8	0.5	JACOBY 101 BRIDGE TOP
9:14:01 AM	86	0.06	9.99	10.8	3	JACOBY 101 BRIDGE BOTTOM
9:14:35 AM	85.2	0.06	9.83	10.8	1.5	JACOBY 101 BRIDGE MIDDLE
9:15:12 AM	85.3	0.06	9.81	10.8	0.5	JACOBY 101 BRIDGE TOP
9:35:45 AM	172.6	0.11	9.93	10.8	2.5	JAC EST MAIN BOTTOM BOTTOM
9:36:10 AM	163.8	0.11	9.91	10.8	0.5	JAC EST MAIN BOTTOM SURFACE
9:39:27 AM	100.8	0.07	9.74	10.8	2	JAC EST BOTTOM EAST SC BOTTOM
9:39:55 AM	129.3	0.08	9.75	10.8	0.5	JAC EST BOTTOM EAST SC SURFACE
9:42:44 AM	2914	2.13	9.59	10.8	3	JAC EST MAIN MIDDLE BOTTOM
9:43:37 AM	3303	2.43	9.55	10.8	1.5	JAC EST MAIN MIDDLE MIDDLE

9:44:18 AM	3648	2.7	9.49	10.8	0.5	JAC EST MAIN MIDDLE SURFACE
9:46:20 AM	487.5	0.33	9.62	10.8	2.5	J. EST BOTTOM WEST SC BOTTOM
9:46:51 AM	177.9	0.12	9.62	10.8	0.5	J. EST BOTTOM WEST SC SURFACE
9:50:23 AM	4798	3.62	9.42	10.7	2.5	JAC EST MAIN TOP BOTTOM
9:50:52 AM	4405	3.31	9.33	10.8	0.5	JAC EST MAIN TOP SURFACE
9:56:49 AM	4550	3.39	4.64	11.1	4	JAC EST TIDEGATE BOTTOM
9:57:40 AM	3340	2.46	7.31	10.8	2	JAC EST TIDEGATE MIDDLE
9:58:16 AM	2346	1.69	8.59	10.8	0.5	JAC EST TIDEGATE TOP

December 9, 2016

Estuary Fish Sampling

We fished a minnow trap baited with frozen salmon roe at the tidegate pool for 70 minutes and captured one yellow shore crab. We conducted six seine hauls with a 30 X 4 foot beach seine. Our first seine haul was in the bottom reach of the main channel and we captured one coho young-of-the-year with a fork length of 83 mm and a weight of 6.7 grams. We applied a PIT tag to this fish with the number 989001004974785. We also captured surf smelt <10, one arrow goby and crangon shrimp. Our second seine haul was in the bottom west side channel and we captured two threespine stickleback. Our third seine haul was in the bottom east side channel and we captured threespine stickleback <10. Our fourth seine haul was in the main channel and we captured three topsmelt, crangon shrimp and one mosquitofish. Our fifth seine was in the top reach of the main channel and we captured one staghorn sculpin and one mosquitofish. Our sixth seine was in the tidegate pool and we captured one threespine stickleback and one arrow goby.

Jacoby 101 Bridge Seine

We conducted two seine hauls with a 30 X 4 foot beach seine and captured no fish.

Jacoby Creek Minnow Trap

We fished a minnow trap baited with frozen salmon roe at the Jacoby Creek minnow trap site for 315 minutes and captured one coho young-of-the-year with a fork length of 88 mm. We applied a PIT tag to this coho. We captured three juvenile steelhead trout with a mean fork length of 118 mm (range 104-127). We applied a PIT tag to one of these fish. The other two steelhead were recaptured fish. One of these steelhead at 127 mm fork length was marked at this same site on September 9, 2016 when it was 104 mm fork length. This fish spent 91 days at large and grew approximately 0.25 mm/day. The other of these steelhead at 104 mm fork length was marked at this same site on October 7, 2016 when it was 89 mm fork length. This fish spent 63 days at large and grew approximately 0.24 mm/day.

Water Quality Sampling

CDFG collected water quality samples at the minnow trap site in Jacoby Creek, at the 101 bridge seine site in Jacoby Creek and at six locations within the Jacoby Estuary using a Yellow Springs Instruments Professional Plus meter. The tide was outgoing. Our first site was the Jacoby Creek minnow trap site. Our second site was in Jacoby Creek at the 101 bridge. Our third site was in the bottom reach of the estuary main channel. Our fourth site was the bottom east side channel of the estuary. Our fifth site was in the middle reach of the estuary main channel. Our sixth site was in the bottom

west side channel of the estuary. Our seventh site was in the top reach of the estuary main channel. Our eighth site was in the pool just below the estuary tidegate.

Water quality measurements collected in Jacoby Creek and Jacoby Creek Estuary, December 9, 2016.

Time	Conductivity (uS/cm)	Salinity (ppt)	Dissolved		Depth (ft)	Site
			Oxygen (mg/L)	Temperature (C)		
8:15:00 AM	99.4	0.07	10.03	9.9	1.5	JACOBY CREEK MT BOTTOM
8:15:34 AM	99.4	0.07	9.85	9.9	0.5	JACOBY CREEK MT TOP
9:27:39 AM	8899	7.09	8.92	10.3	3	JACOBY 101 BRIDGE BOTTOM
9:28:13 AM	8452	6.72	8.94	10.3	1.5	JACOBY 101 BRIDGE MIDDLE
9:28:36 AM	8173	6.48	8.85	10.3	0.5	JACOBY 101 BRIDGE TOP
9:47:18 AM	14411	11.89	7.92	10.5	2.5	JAC EST MAIN BOTTOM BOTTOM
9:47:59 AM	11991	9.74	8.06	10.5	0.5	JAC EST MAIN BOTTOM SURFACE
9:50:44 AM	12980	10.59	7.68	10.6	1.5	JAC EST BOTTOM EAST SC BOTTOM
9:51:25 AM	12401	10.08	7.61	10.6	0.5	JAC EST BOTTOM EAST SC SURFACE
9:54:03 AM	17353	14.56	7.54	10.5	2.5	JAC EST MAIN MIDDLE BOTTOM
9:54:55 AM	5866	4.51	8.44	10.6	0.5	JAC EST MAIN MIDDLE SURFACE
9:57:03 AM	15754	13.14	7.2	10.4	1.75	J. EST BOTTOM WEST SC BOTTOM
9:57:41 AM	3383	2.51	8.03	10.5	0.5	J. EST BOTTOM WEST SC SURFACE
10:05:07 AM	16039	13.31	7.58	10.6	1.5	JAC EST MAIN TOP BOTTOM
10:05:42 AM	9200	7.3	7.97	10.6	0.5	JAC EST MAIN TOP SURFACE
10:09:08 AM	23426	20.19	7.49	10.5	3	JAC EST TIDEGATE BOTTOM
10:09:49 AM	16870	14.07	7.37	10.6	1.5	JAC EST TIDEGATE MIDDLE
10:10:31 AM	12299	9.95	7.28	10.7	0.5	JAC EST TIDEGATE TOP

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