Appendix 11A1 Juvenile Salmonid Monitoring, Sampling, and Salvage Timing Summary from SacPAS

11A1.1 Introduction

This appendix to Appendix 11A, *Aquatic Species Life History*, contains graphical summaries of juvenile salmonid monitoring, sampling, and salvage timing in the Central Valley, as produced by the Central Valley Prediction and Assessment of Salmon database (SacPAS) (Columbia Basin Research, University of Washington 2020). The appendix is organized by species, monitoring location, and hatchery origin (clipped or unclipped). The maximum number of years (25) was selected in each case, giving summaries from 1993 onwards where available. Trawl and beach seine data are presented as catch indices (trawls = 10 tows/day; beach seines = 8 hauls/day). Beach seine data represent stations in the vicinity of Sacramento (Verona, Elkhorn, Sand Cove, Miller Park, Sherwood Harbor, Discovery Park, American River, and Garcia Bend).

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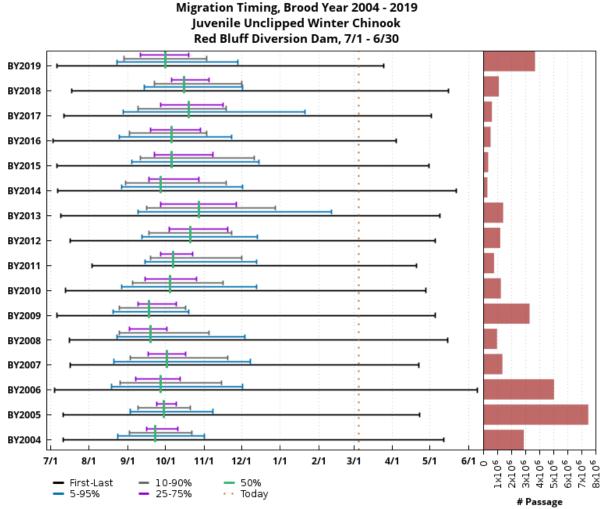
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Juvenile Salmonid Monitoring, Sampling, and Salvage Timing Summary from SacPAS

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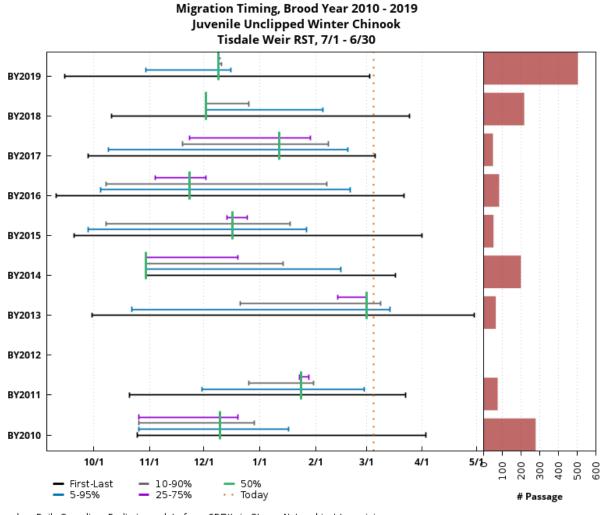
11A1.2 Winter-Run Chinook Salmon

11A1.2.1 Winter-Run Chinook Salmon: Red Bluff Diversion Dam Rotary Screw Traps



Based on Daily Estimated Passage. Preliminary data from USFWS Red Bluff; subject to revision. No sampling 3/25-6/30/2020. www.cbr.washington.edu/sacramento/ 05 Mar 2021 09:13:47 PST

Figure 11A1-1. Timing and Number of Juvenile Winter-Run Chinook Salmon in Red Bluff Diversion Dam Rotary Screw Traps

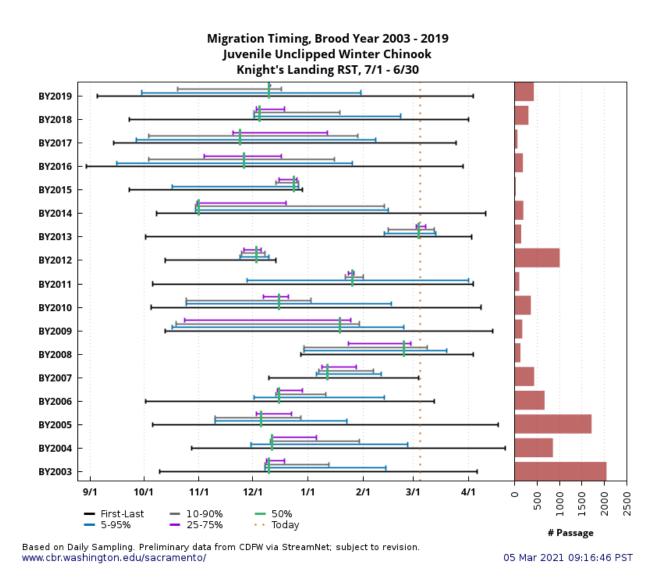


11A1.2.2 Winter-Run Chinook Salmon: Tisdale Weir Rotary Screw Traps

Based on Daily Sampling. Preliminary data from CDFW via StreamNet; subject to revision. www.cbr.washington.edu/sacramento/

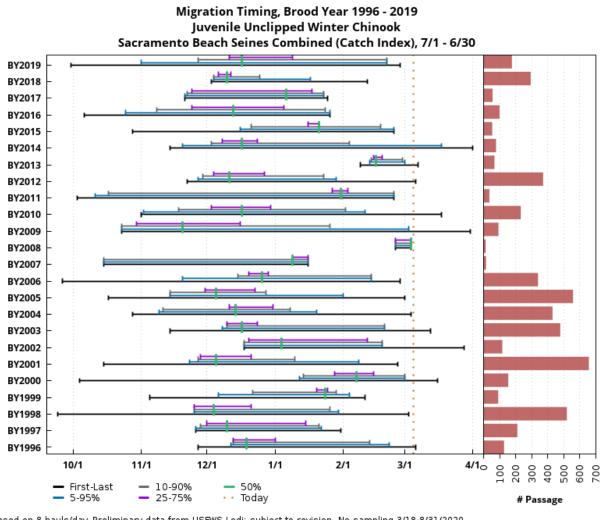
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Figure 11A1-2. Timing and Number of Juvenile Winter-Run Chinook Salmon in Tisdale Weir Rotary Screw Traps



11A1.2.3 Winter-Run Chinook Salmon: Knights Landing Rotary Screw Traps

Figure 11A1-3. Timing and Number of Juvenile Winter-Run Chinook Salmon in Knights Landing Rotary Screw Traps

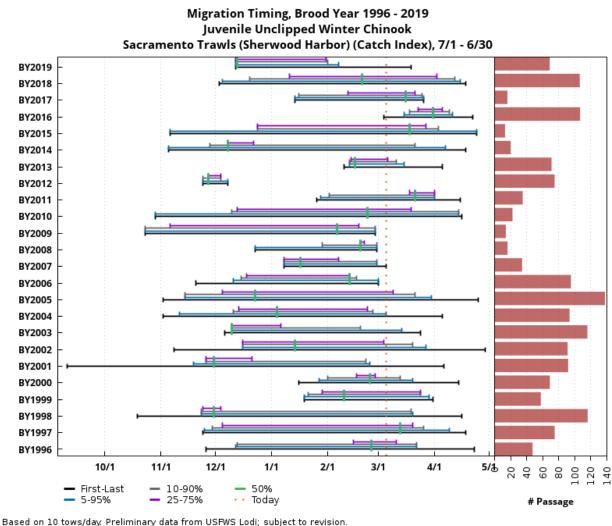


11A1.2.4 Winter-Run Chinook Salmon: Sacramento Beach Seines Combined

Based on 8 hauls/day. Preliminary data from USFWS Lodi; subject to revision. No sampling 3/18-8/31/2020. www.cbr.washington.edu/sacramento/ 05 Mar 2021 09:18:58 PST

Figure 11A1-4. Catch Index Timing and Number of Juvenile Winter-Run Chinook Salmon in Sacramento Beach Seines

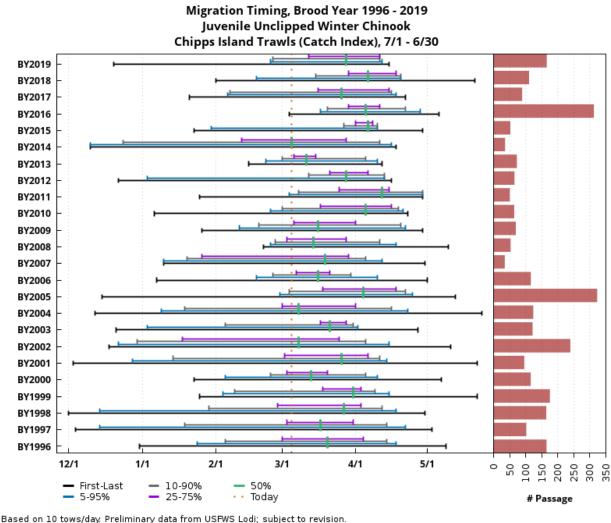




Based on 10 tows/day. Preliminary data from USFWS Lodi; subject to revisi www.cbr.washington.edu/sacramento/

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Figure 11A1-5. Catch Index Timing and Number of Juvenile Winter-Run Chinook Salmon in Sacramento Trawls at Sherwood Harbor

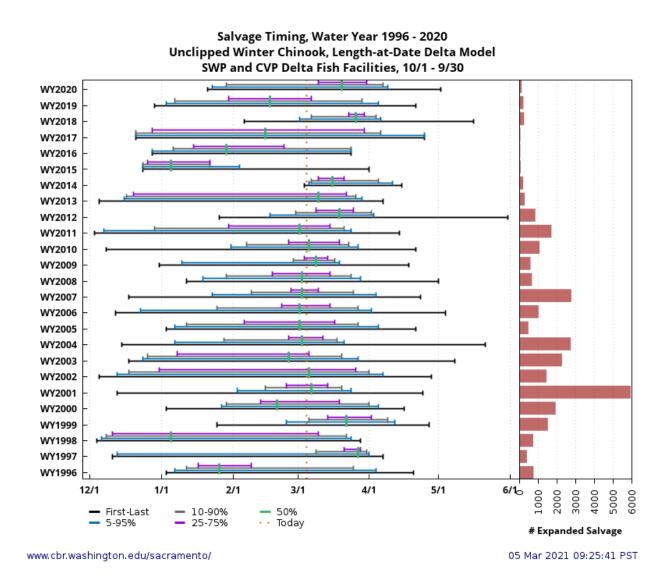


11A1.2.6 Winter-Run Chinook Salmon: Chipps Island Trawls

Based on 10 tows/day. Preliminary data from USFWS Lodi; subject to revision. www.cbr.washington.edu/sacramento/

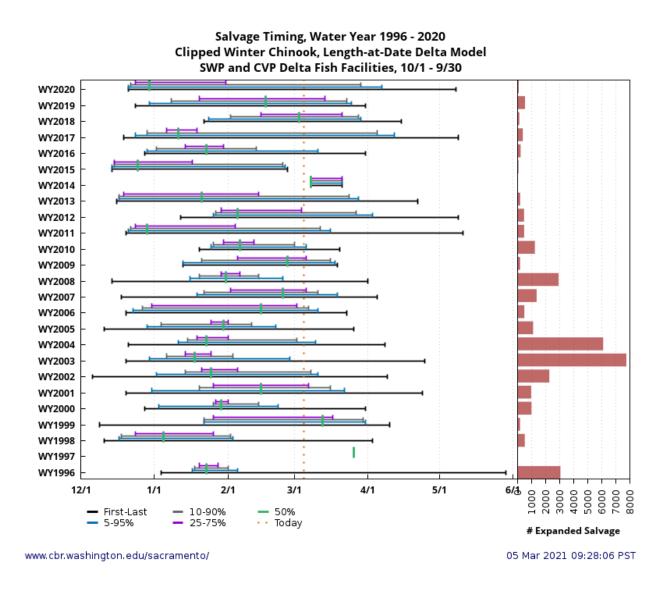
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Figure 11A1-6. Catch Index Timing and Number of Juvenile Winter-Run Chinook Salmon in Chipps Island Trawls



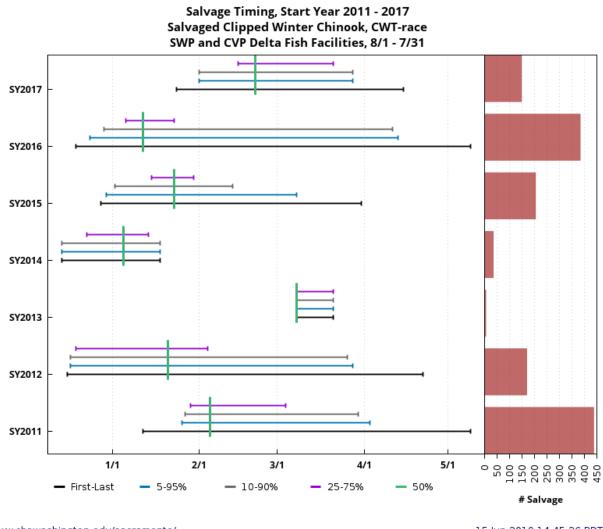
11A1.2.7 Winter-Run Chinook Salmon Salvage: Unclipped (Length-at-Date)

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11A1.2.8 Winter-Run Chinook Salmon Salvage: Clipped (Length-at-Date)

Figure 11A1-8. Timing and Number of Clipped Juvenile Winter-Run Chinook Salmon (Race Determined from Length at Date) at the State Water Project and Central Valley Project South Delta Fish Salvage Facilities



11A1.2.9 Winter-Run Chinook Salmon Salvage: Clipped (CWT-Race)

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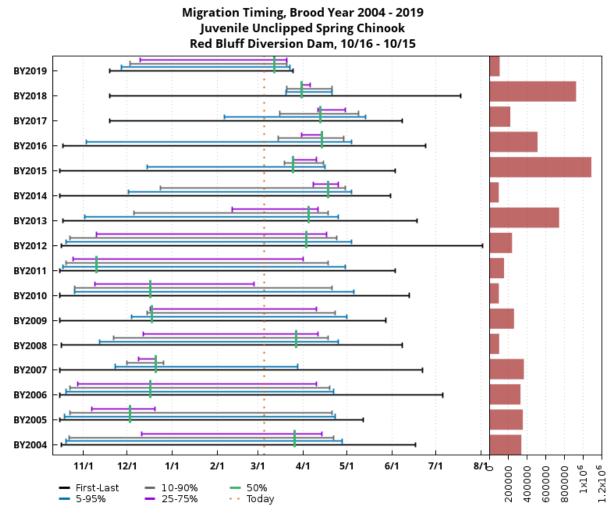
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Note: Attempts to update this figure in 2021 with more recent data were not successful because only two years of data were provided when entering the same query.

Figure 11A1-9. Timing and Number of Clipped Winter-Run Juvenile Chinook Salmon (Race Determined from Coded Wire Tag) at the State Water Project and Central Valley Project South Delta Fish Salvage Facilities

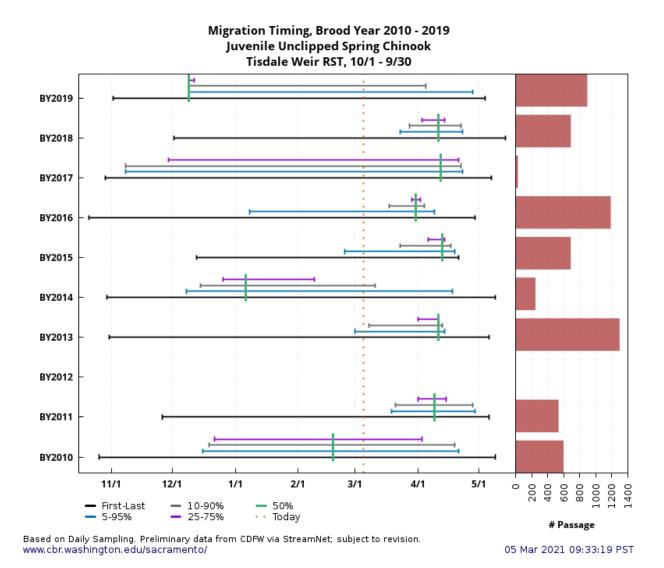
11A1.3 Spring-Run Chinook Salmon





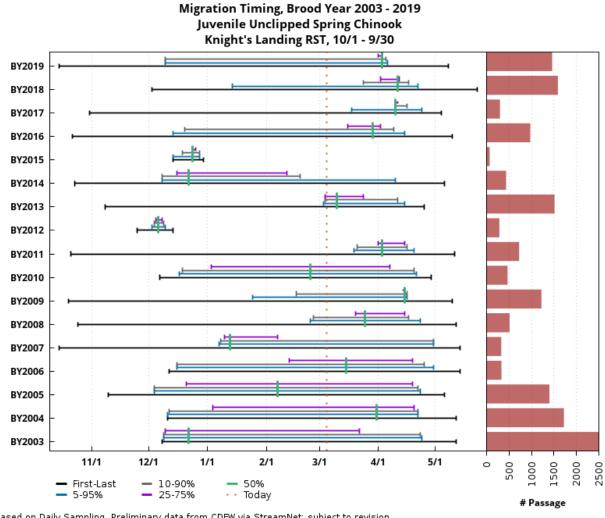
Based on Daily Estimated Passage. Preliminary data from USFWS Red Bluff; subject to revision. No sampling 3/25-6/3**#?azs-age** www.cbr.washington.edu/sacramento/ 05 Mar 2021 09:31:32 PST

Figure 11A1-10. Timing and Number of Juvenile Spring-Run Chinook Salmon in Red Bluff Diversion Dam Rotary Screw Traps



11A1.3.2 Spring-Run Chinook Salmon: Tisdale Weir Rotary Screw Traps

Figure 11A1-11. Timing and Number of Juvenile Spring-Run Chinook Salmon in Tisdale Weir Rotary Screw Traps

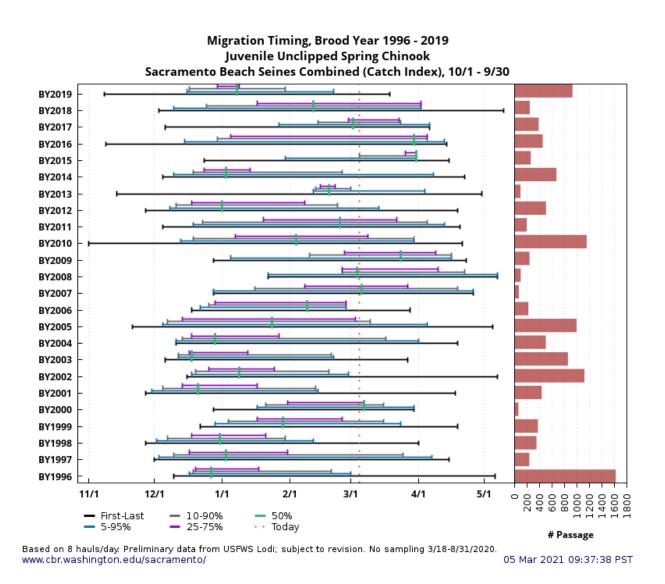


11A1.3.3 Spring-Run Chinook Salmon: Knights Landing Rotary Screw Traps

Based on Daily Sampling. Preliminary data from CDFW via StreamNet; subject to revision. www.cbr.washington.edu/sacramento/

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Figure 11A1-12. Timing and Number of Juvenile Spring-Run Chinook Salmon in Knights Landing Rotary Screw Traps



11A1.3.4 Spring-Run Chinook Salmon: Sacramento Beach Seines Combined

Figure 11A1-13. Catch Index Timing and Number of Juvenile Spring-Run Chinook Salmon in Sacramento Beach Seines



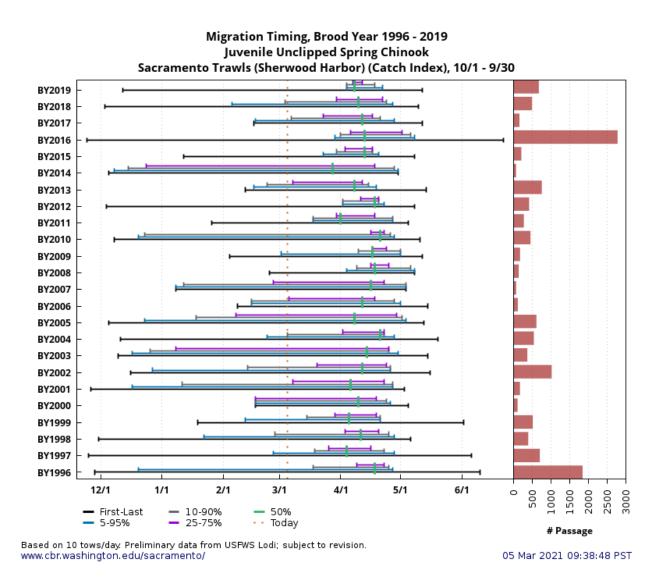
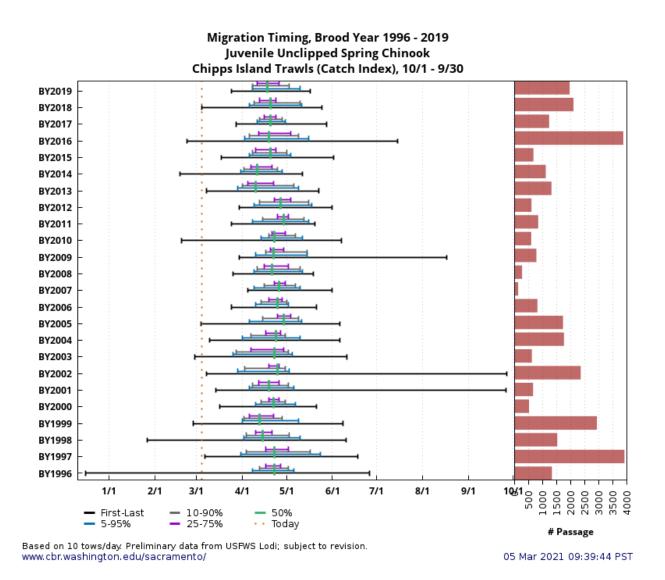


Figure 11A1-14. Catch Index Timing and Number of Juvenile Spring-Run Chinook Salmon in Sacramento Trawls at Sherwood Harbor



11A1.3.6 Spring-Run Chinook Salmon: Chipps Island Trawls

Figure 11A1-15. Catch Index Timing and Number of Juvenile Spring-Run Chinook Salmon in Chipps Island Trawls



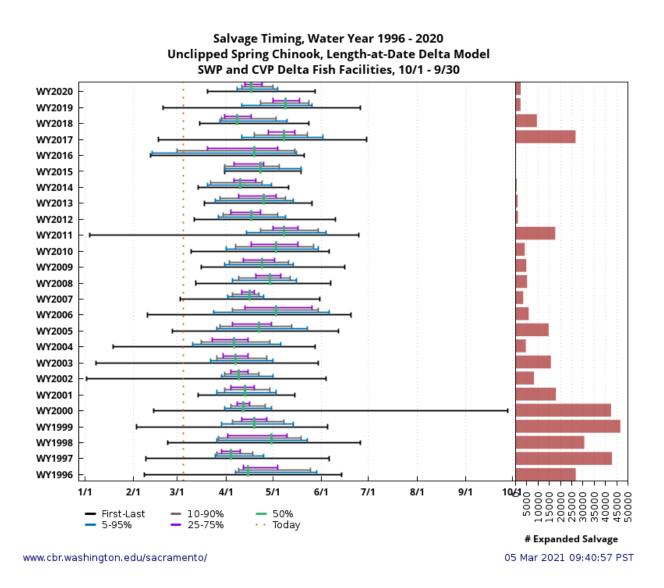
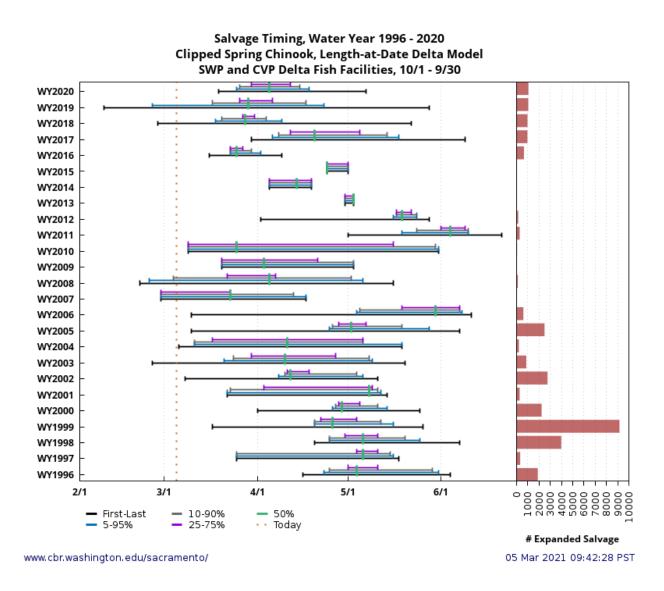
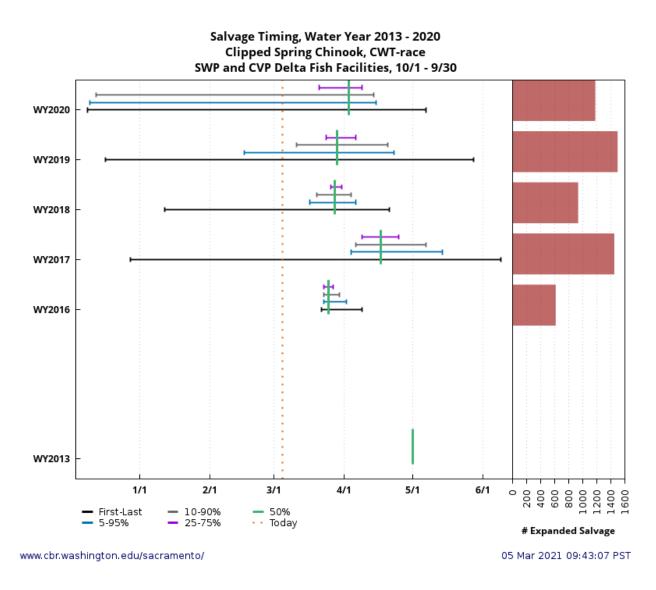


Figure 11A1-16. Timing and Number of Unclipped Juvenile Spring-Run Chinook Salmon (Race Determined from Length at Date) at the State Water Project and Central Valley Project South Delta Fish Salvage Facilities



11A1.3.8 Spring-Run Chinook Salmon Salvage: Clipped (Length-at-Date)

Figure 11A1-17. Timing and Number of Clipped Juvenile Spring-Run Chinook Salmon (Race Determined from Length at Date) at the State Water Project and Central Valley Project South Delta Fish Salvage Facilities

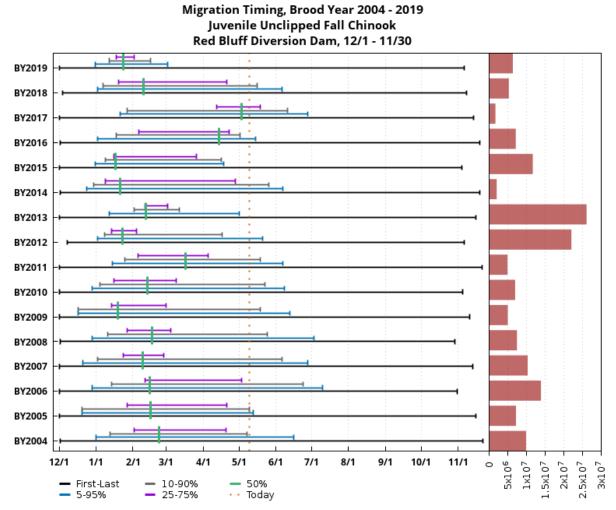


11A1.3.9 Spring-Run Chinook Salmon Salvage: Clipped (CWT-Race)

Figure 11A1-18. Timing and Number of Clipped Spring-Run Juvenile Chinook Salmon (Race Determined from Coded Wire Tag) at the State Water Project and Central Valley Project South Delta Fish Salvage Facilities

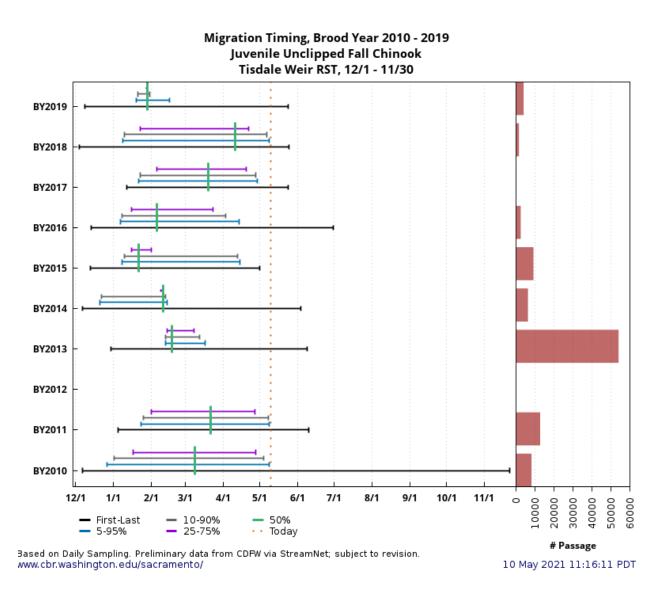
11A1.4 Fall-Run Chinook Salmon

11A1.4.1 Fall-Run Chinook Salmon: Red Bluff Diversion Dam Rotary Screw Traps



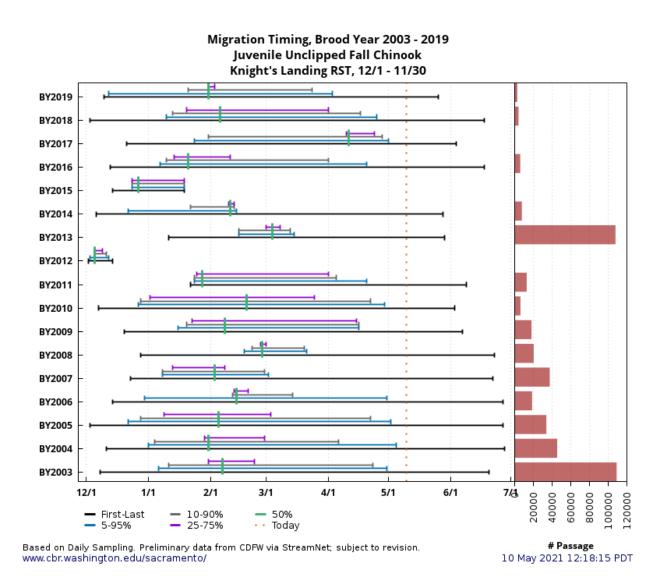
Based on Daily Estimated Passage. Preliminary data from USFWS Red Bluff; subject to revision. No sampling 3/25-6/3 **# Passage** www.cbr.washington.edu/sacramento/ 10 May 2021 12:22:34 PDT

Figure 11A1-19. Timing and Number of Juvenile Fall-Run Chinook Salmon in Red Bluff Diversion Dam Rotary Screw Traps



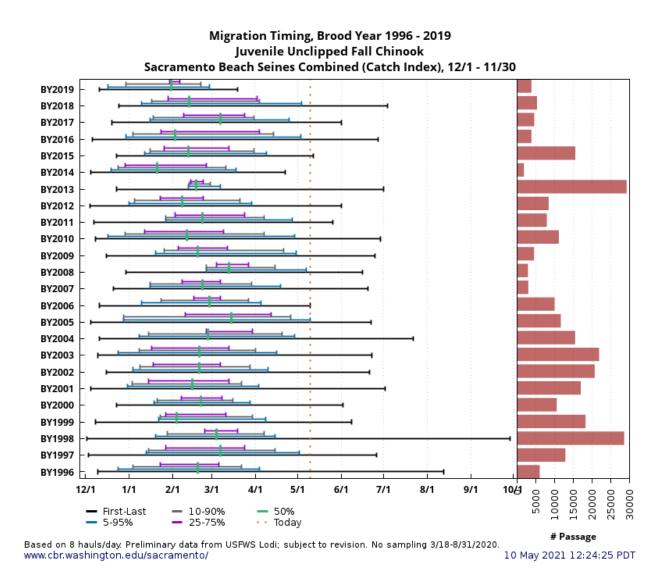
11A1.4.2 Fall-Run Chinook Salmon: Tisdale Weir Rotary Screw Traps

Figure 11A1-20. Timing and Number of Juvenile Fall-Run Chinook Salmon in Tisdale Weir Rotary Screw Traps



11A1.4.3 Fall-Run Chinook Salmon: Knights Landing Rotary Screw Traps

Figure 11A1-21. Timing and Number of Juvenile Fall-Run Chinook Salmon in Knights Landing Rotary Screw Traps



11A1.4.4 Fall-Run Chinook Salmon: Sacramento Beach Seines Combined

Figure 11A1-22. Catch Index Timing and Number of Juvenile Fall-Run Chinook Salmon in Sacramento Beach Seines



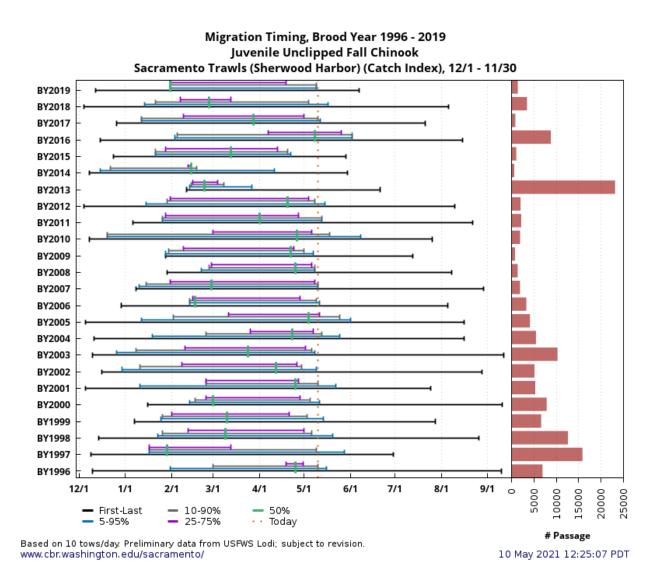
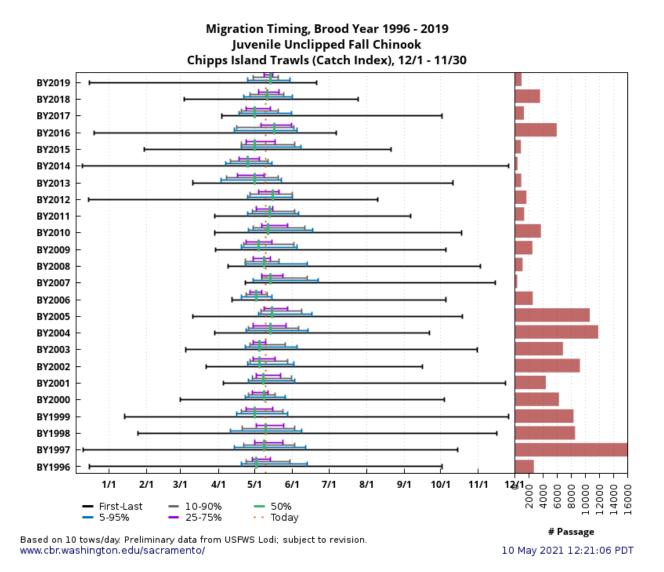


Figure 11A1-23. Catch Index Timing and Number of Juvenile Fall-Run Chinook Salmon in Sacramento Trawls at Sherwood Harbor



11A1.4.6 Fall-Run Chinook Salmon: Chipps Island Trawls

Figure 11A1-24. Catch Index Timing and Number of Juvenile Fall-Run Chinook Salmon in Chipps Island Trawls



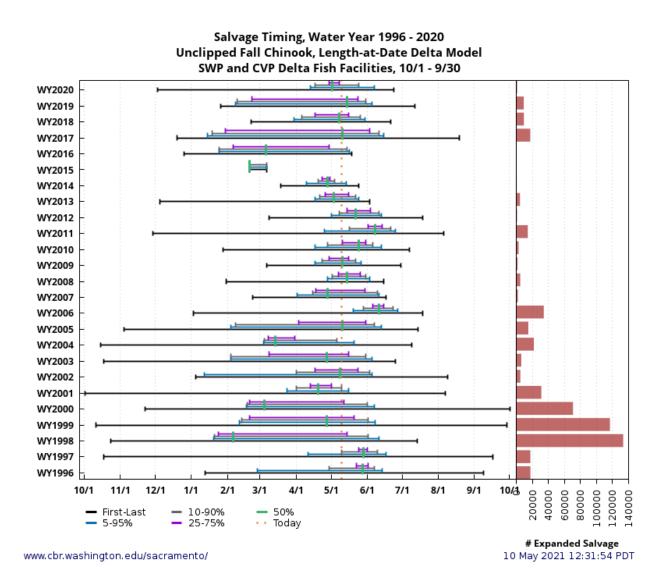


Figure 11A1-25. Timing and Number of Unclipped Juvenile Fall-Run Chinook Salmon (Race Determined from Length at Date) at the State Water Project and Central Valley Project South Delta Fish Salvage Facilities



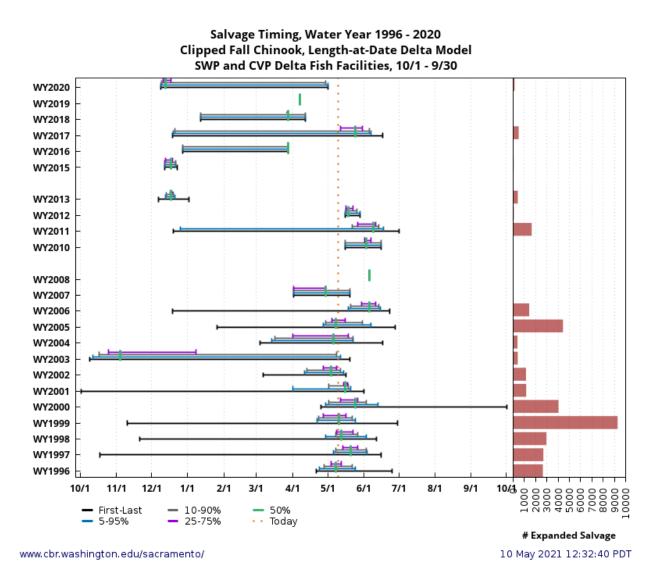
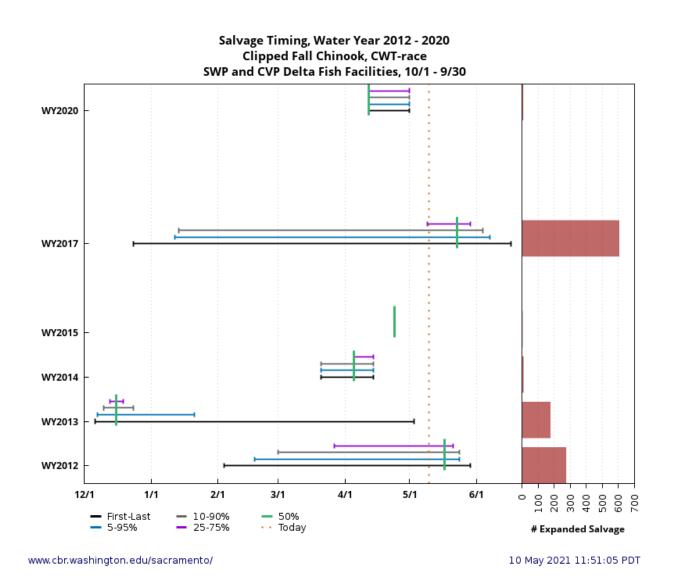


Figure 11A1-26. Timing and Number of Clipped Juvenile Fall-Run Chinook Salmon (Race Determined from Length at Date) at the State Water Project and Central Valley Project South Delta Fish Salvage Facilities

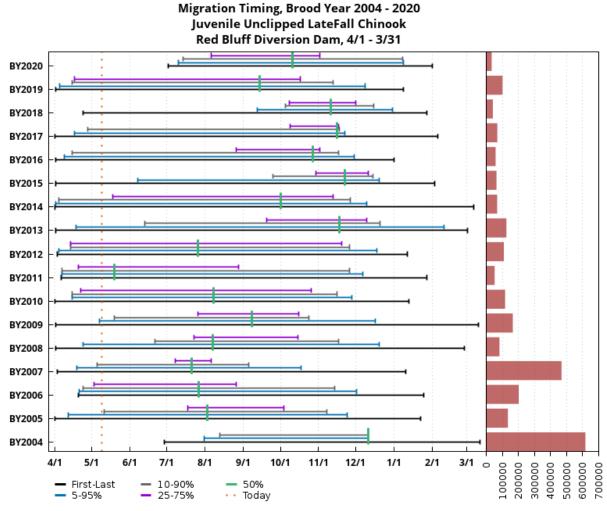


11A1.4.9 Fall-Run Chinook Salmon Salvage: Clipped (CWT-Race)

Figure 11A1-27. Timing and Number of Clipped Fall-Run Juvenile Chinook Salmon (Race Determined from Coded Wire Tag) at the State Water Project and Central Valley Project South Delta Fish Salvage Facilities

11A1.5 Late Fall–Run Chinook Salmon

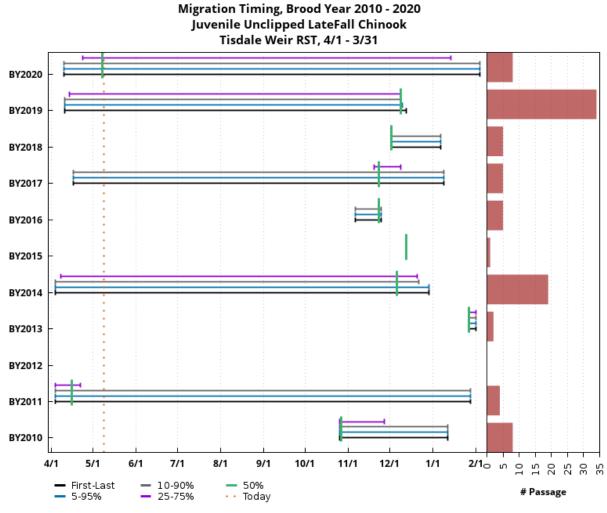
11A1.5.1 Late Fall–Run Chinook Salmon: Red Bluff Diversion Dam Rotary Screw Traps



Based on Daily Estimated Passage. Preliminary data from USFWS Red Bluff; subject to revision. No sampling 3/25-6/3 **#?assage** www.cbr.washington.edu/sacramento/ 10 May 2021 12:27:53 PDT

Figure 11A1-28. Timing and Number of Juvenile Late Fall–Run Chinook Salmon in Red Bluff Diversion Dam Rotary Screw Traps

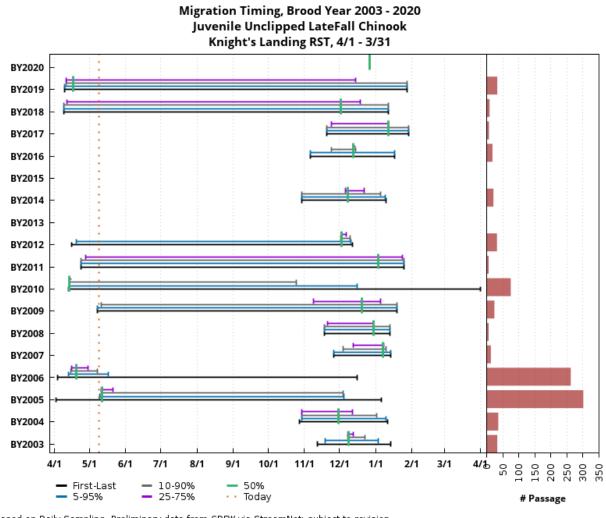




Based on Daily Sampling. Preliminary data from CDFW via StreamNet; subject to revision. www.cbr.washington.edu/sacramento/

10 May 2021 11:38:39 PDT

Figure 11A1-29. Timing and Number of Juvenile Late Fall–Run Chinook Salmon in Tisdale Weir Rotary Screw Traps



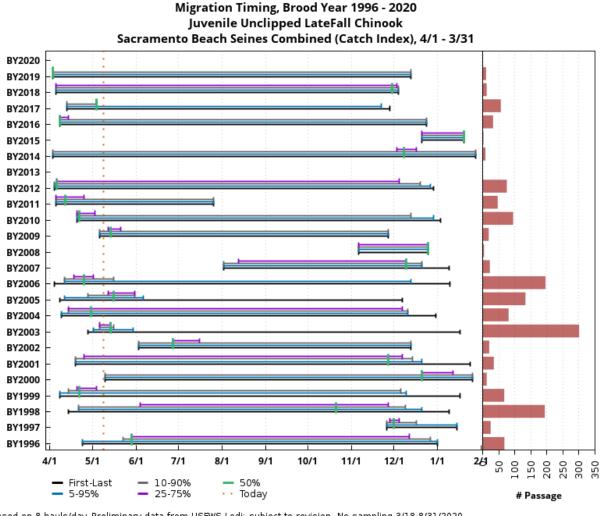
11A1.5.3 Late Fall–Run Chinook Salmon: Knights Landing Rotary Screw Traps

Based on Daily Sampling. Preliminary data from CDFW via StreamNet; subject to revision. www.cbr.washington.edu/sacramento/

10 May 2021 12:26:55 PDT

Figure 11A1-30. Timing and Number of Juvenile Late Fall–Run Chinook Salmon in Knights Landing Rotary Screw Traps

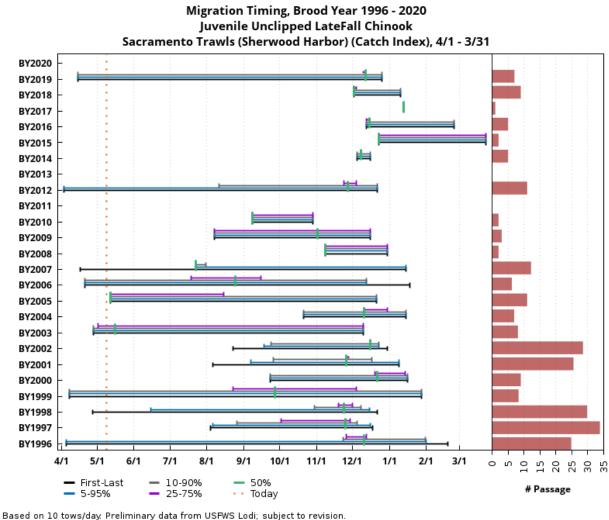
11A1.5.4 Late Fall–Run Chinook Salmon: Sacramento Beach Seines Combined



Based on 8 hauls/day. Preliminary data from USFWS Lodi; subject to revision. No sampling 3/18-8/31/2020. www.cbr.washington.edu/sacramento/ 10 May 2021 12:28:44 PDT

Figure 11A1-31. Catch Index Timing and Number of Juvenile Late Fall–Run Chinook Salmon in Sacramento Beach Seines

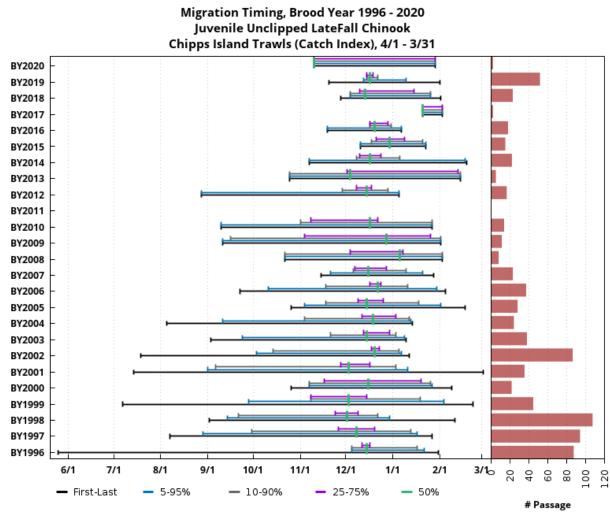




www.cbr.washington.edu/sacramento/

10 May 2021 12:29:22 PDT





11A1.5.6 Late Fall-Run Chinook Salmon: Chipps Island Trawls

Based on 10 tows/day. Preliminary data from USFWS Lodi; subject to revision. www.cbr.washington.edu/sacramento/

10 May 2021 12:30:00 PDT

Figure 11A1-33. Catch Index Timing and Number of Juvenile Late Fall–Run Chinook Salmon in Chipps Island Trawls



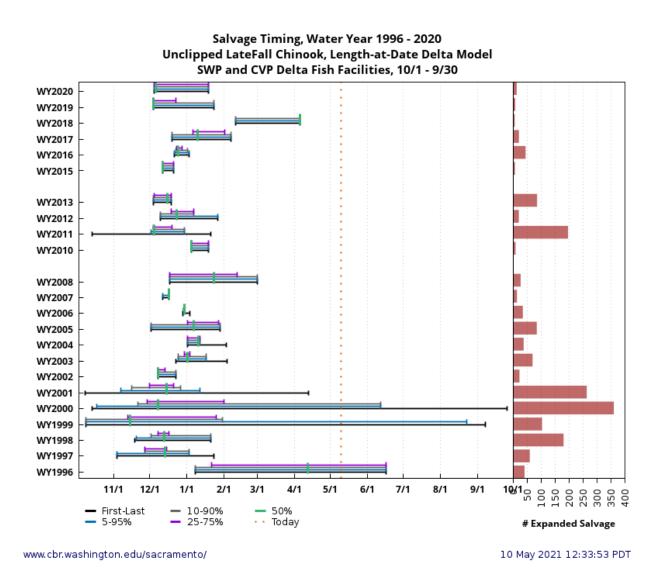
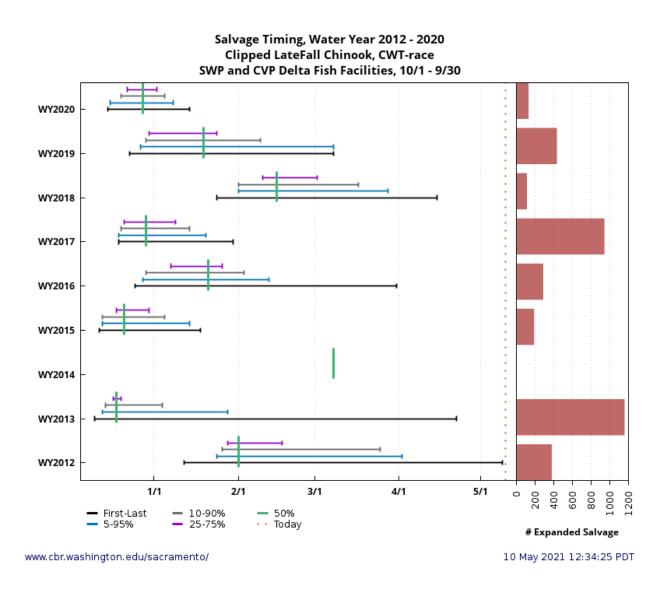


Figure 11A1-34. Timing and Number of Unclipped Juvenile Late Fall–Run Chinook Salmon (Race Determined from Length at Date) at the State Water Project and Central Valley Project South Delta Fish Salvage Facilities



11A1.5.8 Late Fall–Run Chinook Salmon Salvage: Clipped (Length-at-Date)

Figure 11A1-35. Timing and Number of Clipped Juvenile Late Fall–Run Chinook Salmon (Race Determined from Length at Date) at the State Water Project and Central Valley Project South Delta Fish Salvage Facilities



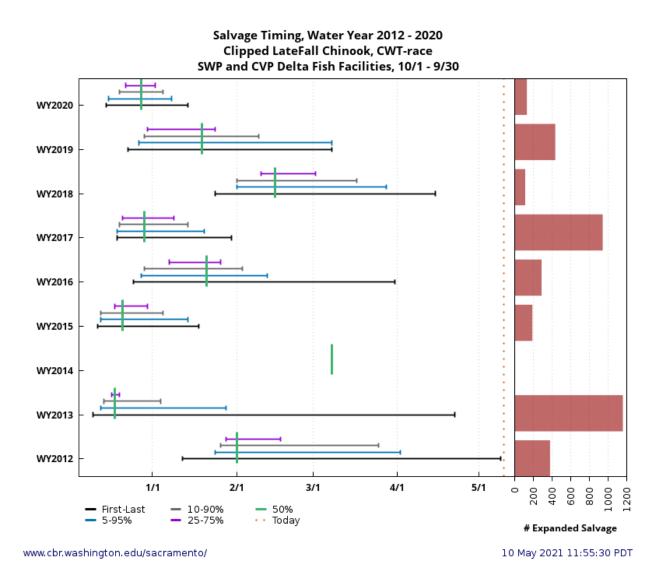
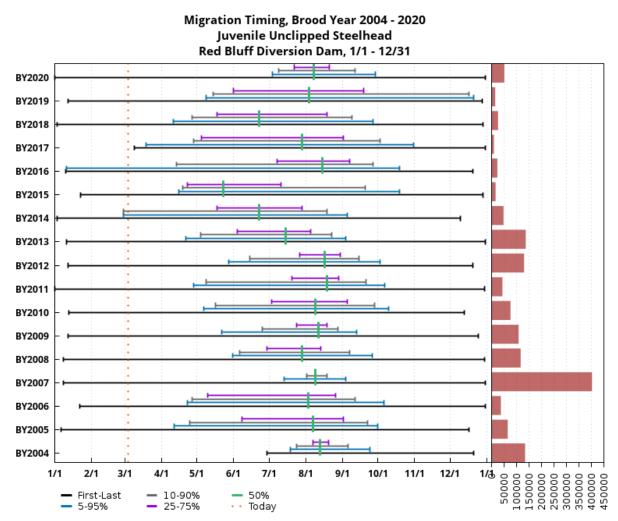


Figure 11A1-36. Timing and Number of Clipped Late Fall–Run Juvenile Chinook Salmon (Race Determined from Coded Wire Tag) at the State Water Project and Central Valley Project South Delta Fish Salvage Facilities

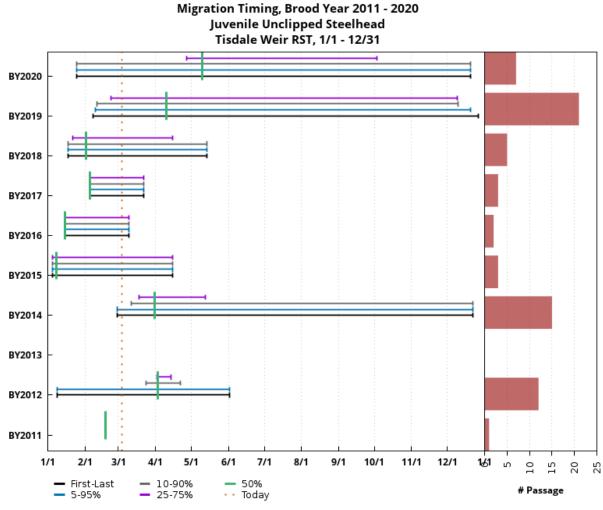
11A1.6 Steelhead



11A1.6.1 Steelhead: Red Bluff Diversion Dam Rotary Screw Traps

Based on Daily Estimated Passage. Preliminary data from USFWS Red Bluff; subject to revision. No sampling 3/25-6/3**#?azsage** www.cbr.washington.edu/sacramento/ 05 Mar 2021 09:44:13 PST

Figure 11A1-37. Timing and Number of Juvenile Steelhead in Red Bluff Diversion Dam Rotary Screw Traps

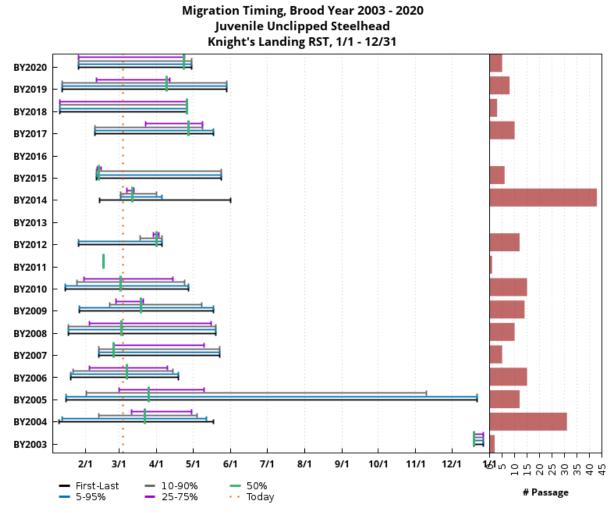


11A1.6.2 Steelhead: Tisdale Weir Rotary Screw Traps

Based on Daily Sampling. Preliminary data from CDFW via StreamNet; subject to revision. www.cbr.washington.edu/sacramento/

05 Mar 2021 09:45:52 PST

Figure 11A1-38. Timing and Number of Juvenile Steelhead in Tisdale Weir Rotary Screw Traps

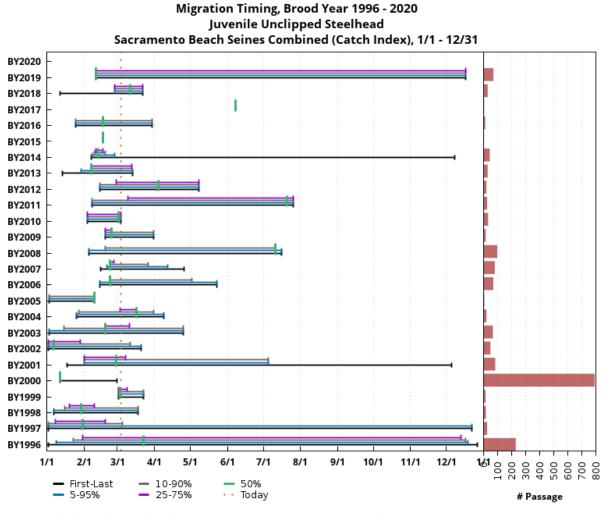


11A1.6.3 Steelhead: Knights Landing Rotary Screw Traps

Based on Daily Sampling. Preliminary data from CDFW via StreamNet; subject to revision. www.cbr.washington.edu/sacramento/

05 Mar 2021 09:46:58 PST

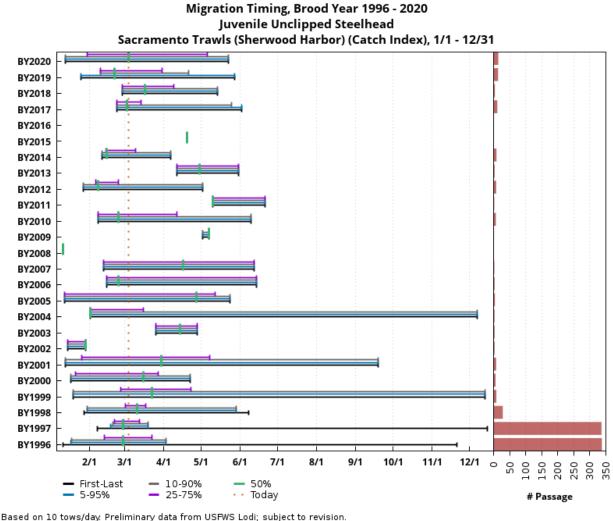
Figure 11A1-39. Timing and Number of Juvenile Steelhead in Knights Landing Rotary Screw Traps



11A1.6.4 Steelhead: Sacramento Beach Seines Combined

Based on 8 hauls/day. Preliminary data from USFWS Lodi; subject to revision. No sampling 3/18-8/31/2020. www.cbr.washington.edu/sacramento/ 05 Mar 2021 09:49:40 PST

Figure 11A1-40. Catch Index Timing and Number of Juvenile Steelhead in Sacramento Beach Seines



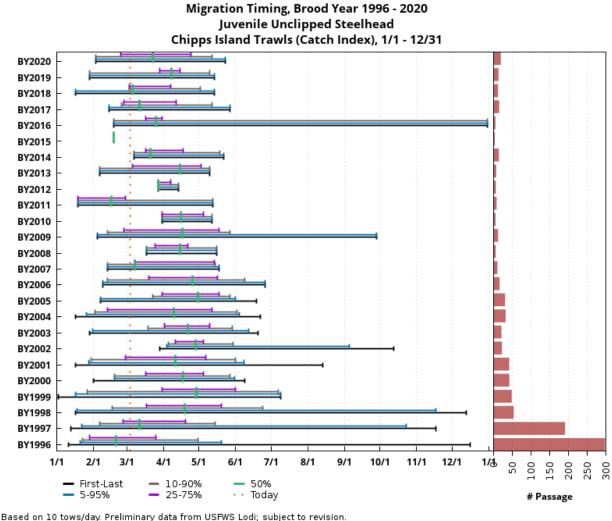
11A1.6.5 Steelhead: Sacramento Trawls (Sherwood Harbor)

Based on 10 tows/day. Preliminary data from USFWS Lodi; subject to revision. www.cbr.washington.edu/sacramento/

05 Mar 2021 09:50:31 PST

Figure 11A1-41. Catch Index Timing and Number of Juvenile Steelhead in Sacramento Trawls at Sherwood Harbor





Based on 10 tows/day. Preliminary data from USFWS Lodi; subject to revision www.cbr.washington.edu/sacramento/

05 Mar 2021 09:51:28 PST

Figure 11A1-42. Catch Index Timing and Number of Juvenile Steelhead in Chipps Island Trawls



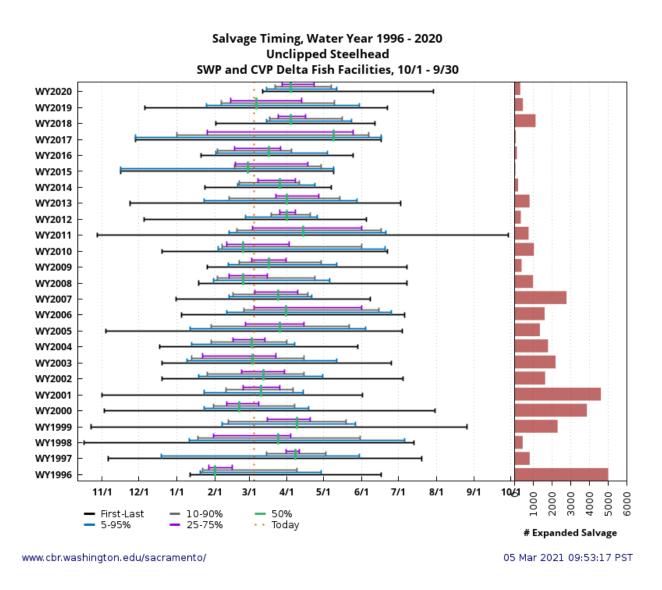


Figure 11A1-43. Timing and Number of Unclipped Juvenile Steelhead at the State Water Project and Central Valley Project South Delta Fish Salvage Facilities

11A1.6.8 Steelhead Salvage: Clipped

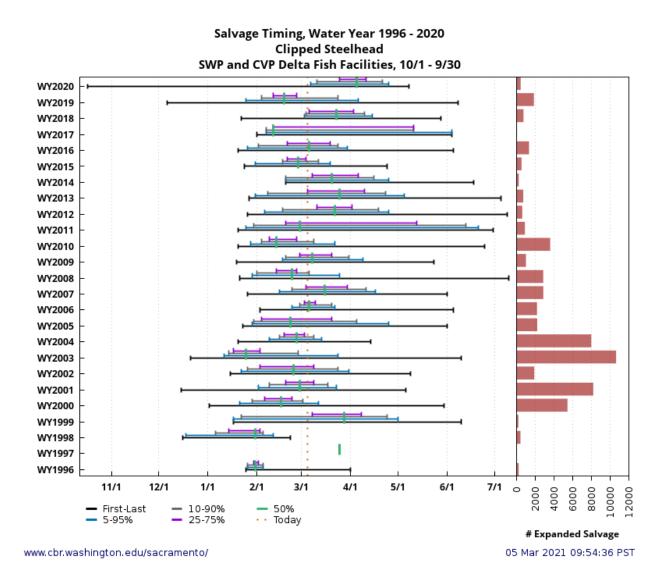


Figure 11A1-44. Timing and Number of Clipped Juvenile Steelhead at the State Water Project and Central Valley Project South Delta Fish Salvage Facilities

11A1.7 References

Columbia Basin Research, University of Washington. 2020. SacPAS CDFW GrandTab Adult Escapement. Available:

http://www.cbr.washington.edu/sacramento/data/query_adult_grandtab.html. Accessed: May 13, 2020.