Weekly Assessment of CVP and SWP Delta Operations on ESA-listed Species

Bureau of Reclamation

October 26, 2022

## Chinook Salmon

### TABLES

#### TABLE 2. Historic migration and salvage patterns

**Table** : TABLE 2. Historic Migration and Salvage Patterns

| Species | Red Bluff Diversion Dam | Tisdale RST | Knights Landing RST | Sac Trawl (Sherwood) Catch Index | Chipps Island Trawl Catch Index | Salvage |
| --- | --- | --- | --- | --- | --- | --- |
| Chinook, Winter-run, Unclipped | 68.0%(59.3%,76.6%)BY: 2012 - 2021 | 8.2%(2.1%,14.4%)BY: 2012 - 2021 | 7.8%(3.3%,12.3%)BY: 2013 - 2021 | 0.0%(0.0%,0.0%)BY: 2012 - 2021 | 0.0%(0.0%,0.0%)BY: 2012 - 2021 | 0.0%(0.0%,0.0%)WY: 2013 - 2022 |
| Chinook, Spring-run, Unclipped | 2.0%(-1.2%,5.2%)BY: 2012 - 2021 | 0.0%(-0.0%,0.1%)BY: 2012 - 2021 | 0.0%(-0.0%,0.1%)BY: 2013 - 2021 | 0.0%(0.0%,0.0%)BY: 2012 - 2021 | 0.0%(0.0%,0.0%)BY: 2012 - 2021 | 0.0%(0.0%,0.0%)WY: 2013 - 2022 |
| Steelhead, Unclipped (January-December) |  |  |  |  |  |  |
| Steelhead, Unclipped (December-March) |  |  |  |  |  | 0.0%(0.0%,0.0%)WY: 2013 - 2022 |
| Steelhead, Unclipped (April-June) |  |  |  |  |  | 0.0%(0.0%,0.0%)WY: 2013 - 2022 |

#### TABLE 3. Knight’s Landing (KLCI) and Sacramento Seine and Trawl (SCI).

table\_catchindices <- tables[[5]] %>%  
 dplyr::bind\_rows() %>%  
 dplyr::mutate(Date = date(Date)) %>%  
 dplyr::filter(Date > today() -10 & Date != today())

flextable(table\_catchindices) %>%  
 set\_caption("TABLE 3. Knight’s Landing (KLCI) and Sacramento Seine and Trawl (SCI)") %>%  
 vline()%>%  
 hline() %>%  
 border\_outer()

**Table** : TABLE 3. Knight’s Landing (KLCI) and Sacramento Seine and Trawl (SCI)

| Date | Knights Landing RST: Winter Chinook: Catch Index | Knights Landing RST: Older Chinook: Catch Index | Sacramento Trawls: Older Chinook: Catch Index | Sacramento Beach Seines: Older Chinook: Catch Index | Alert: Catch Index > 5 | Alert: Catch Index 3 < X ≤ 5 |
| --- | --- | --- | --- | --- | --- | --- |
| 2022-10-25 |  |  |  |  |  |  |
| 2022-10-24 | 0 | 0 |  |  |  |  |
| 2022-10-23 | 0 | 0 |  |  |  |  |
| 2022-10-22 | 0 | 0 |  |  |  |  |
| 2022-10-21 | 0 | 0 | 0 | 0 |  |  |
| 2022-10-20 | 0 | 0 |  |  |  |  |
| 2022-10-19 | 0 | 0 | 0 |  |  |  |
| 2022-10-18 | 0 | 0 |  |  |  |  |
| 2022-10-17 | 0 | 0 | 0 | 0 |  |  |

#### TABLE 4.

**Table** : TABLE 4. Mean daily flow and percent change (Wilkins Slough, Deer Creek, Mill Creek; cfs from CDEC) and temperature and percent change (Knights Landing; °F from RST)

| Date | MLM flow | MLM change | MLM alert | DCV flow | DCV change | DCV alert | WLK flow | WLK change |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 2022-10-19 | 82.5 | -0.2 | No | 69.2 | -1.1 | No | 3,215.3 | 0.1 |
| 2022-10-20 | 82.5 | 0.0 | No | 68.0 | -1.8 | No | 3,223.1 | 0.2 |
| 2022-10-21 | 82.7 | 0.2 | No | 68.6 | 0.9 | No | 3,223.3 | 0.0 |
| 2022-10-22 | 83.4 | 0.9 | No | 69.8 | 1.8 | No | 3,221.5 | -0.1 |
| 2022-10-23 | 84.0 | 0.7 | No | 70.2 | 0.6 | No | 3,211.2 | -0.3 |
| 2022-10-24 | 84.1 | 0.1 | No | 70.6 | 0.5 | No | 3,206.8 | -0.1 |
| 2022-10-25 | 84.3 | 0.2 | No | 70.8 | 0.4 | No | 3,218.1 | 0.4 |
| 2022-10-26 | 83.0 | -1.5 | No | 71.0 | 0.3 | No | 3,222.0 | 0.1 |

#### TABLE 5. STARS model output

Waiting for SacPAS

#### TABLE 6. a) WY 2022 loss and salvage predictor data: Predicted weekly loss of winter-run Chinook salmon and steelhead at CVP and SWP facilities. b) Environmental details, current and forecast.

Waiting for SacPAS

## {html\_document}  
## <html>  
## [1] <head>\n<meta http-equiv="Content-Type" content="text/html; charset=UTF-8 ...  
## [2] <body onload="updatesession()">\n<!--header and navigation tables, includ ...

### FIGURES

#### FIGURE 1. WY 2023 cumulative natural winter-run Chinook salmon loss (blue) and 2009 – 2018 historic cumulative loss (gray, different symbols). Historic daily mean plotted in black circles.

“Steelhead loss”

#### FIGURE 2. Predicted weekly loss of steelhead and winter-run Chinook salmon at the CVP and SWP facilities

“Winter run (old)”

# Delta Smelt Abiotic Conditions

## Turbidity

Use CDECRetrieve - SensorDownload.R Look at just data from the past week

* Water temperature, Flow
* 3 day averages
* Which stations? OBI turbidity, CLC water temp… others? Are plots from SMT page desired?

### TABLE 10.

* NOAA weather service

**Table** : TABLE 10a. Weekly Mean Turbidity (FNU) @ Old River at Bacon Island (OBI)

| station | date | meanTurbidity |
| --- | --- | --- |
| OBI | 2022-10-19 | 1.42 |
| OBI | 2022-10-20 | 1.93 |
| OBI | 2022-10-21 |  |
| OBI | 2022-10-22 | 1.95 |
| OBI | 2022-10-23 | 2.25 |
| OBI | 2022-10-24 |  |
| OBI | 2022-10-25 | 2.47 |
| OBI | 2022-10-26 | 1.70 |

**Table** : TABLE 10b. Weekly Mean Water Temperature (°C) @ Clifton Court Forebay (CLC)

| station | date | meanWaterTemp |
| --- | --- | --- |
| CLC | 2022-10-19 | 21.09 |
| CLC | 2022-10-20 | 21.08 |
| CLC | 2022-10-21 | 20.99 |
| CLC | 2022-10-22 | 20.40 |
| CLC | 2022-10-23 | 19.50 |
| CLC | 2022-10-24 | 18.95 |
| CLC | 2022-10-25 | 18.68 |
| CLC | 2022-10-26 | 18.40 |