

Photo credit: Steve Martarano, USFWS

Red Bluff Diversion Dam (RBDD) Juvenile Passage SacPAS query tools

Susannah Iltis, Jennifer L. Gosselin,

SacPAS
CENTRAL VALLEY PREDICTION AND ASSESSMENT OF SALMON

Columbia Basin Research

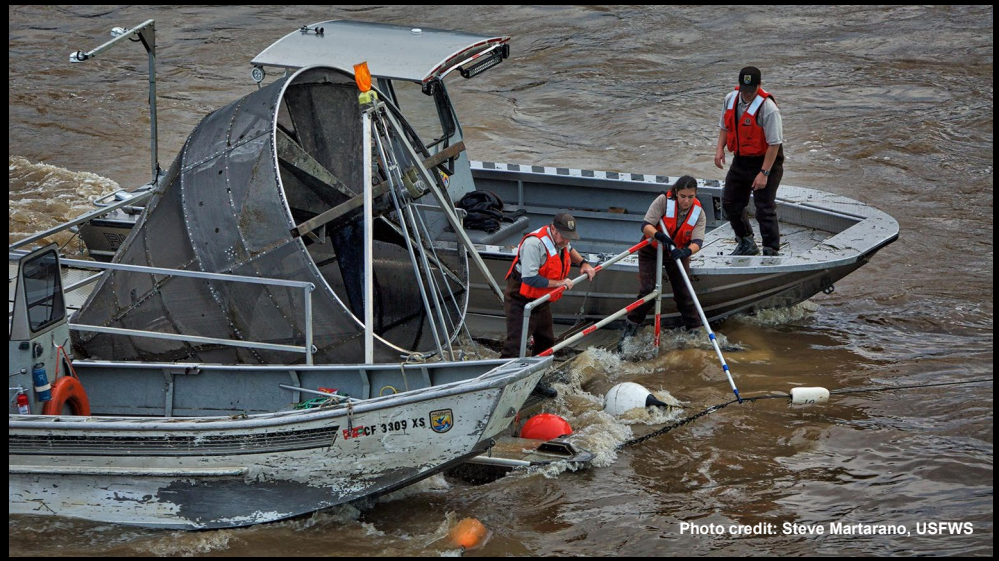
University of Washington

Bill Poytress and Josh Gruber

U.S. Fish & Wildlife Service

Outline

- Background on the RBDD Juvenile Monitoring Program
- Walkthrough of five SacPAS query tools for RBDD Chinook salmon and Steelhead passage estimates



Background on RBDD Juvenile Monitoring Program (USFWS)

- **Goals**
  - **Estimate absolute abundance**
    - Fall-run Chinook
    - Late-fall-run Chinook
    - Winter-run Chinook *
    - Spring-run Chinook *
    - Steelhead * / Rainbow Trout

    ** Federal ESA-listed spp.*
  - Estimate relative abundance
    - Lamprey spp., sturgeon, native minnows, non-native spp.
  - Research life-history characteristics of native Green Sturgeon





Background on RBDD Juvenile Monitoring Program (USFWS)

- **Project History**
  - **1994-2000**: Juvenile fish monitoring project initation to:
    - Develop quantitative methodologies to estimate juvenile abundance
    - Evaluate USBR experimental pumps at RBDD relative to fish passage estimates
  - **2000**: Initial objectives met and sampling ceased; funding discontinued.
  - **2001**: Unexpected and significant loss of juvenile winter Chinook through South Delta Entrainment
  - **2002-2009**: Sampling resumed through various funding sources
  - **2010-present**: Consistent funding through USBR



Access to Salmonid **Data & Estimates** from RBDD Juvenile Monitoring Program







Access to Salmonid **Data & Estimates** from RBDD Juvenile Monitoring Program







Data Disclaimer:
These are real-time estimates that are subject to corrections or change for the following reasons 1. Data errors caught during secondary QC procedures, 2. Genetic corrections that occur after rapid analyses, and 3. Changes or updates to trap efficiency models.

RBDD Juvenile Estimates: **Data** on SacPAS

Species

- Chinook run/race
  - Winter
  - Spring
  - Fall
  - Late-Fall
- Steelhead

RBDD Juvenile Estimates: **Data** on SacPAS

Species

- Chinook run/race
  - Winter
  - Spring
  - Fall
  - Late-Fall
- Steelhead

Passage Type

- Total
- Fry Equivalent (post-season)

RBDD Juvenile Estimates: **Data** on SacPAS

Species

- Chinook run/race
  - Winter
  - Spring
  - Fall
  - Late-Fall
- Steelhead

Passage Type

- Total
- Fry Equivalent (post-season)

Life Stage

- Fry
- Smolt

RBDD Juvenile Estimates: **Data** on SacPAS

Species

- Chinook run/race
  - Winter
  - Spring
  - Fall
  - Late-Fall
- Steelhead

Passage Type

- Total
- Fry Equivalent (post-season)

Life Stage

- Fry
- Smolt

Hatchery Influence: Correction Status

- Unmarked
- Mark-corrected (post-season)

RBDD Juvenile Estimates: **Data** on SacPAS

Estimates Periods

- **Daily**
- **Weekly**
- **Annual**

RBDD Juvenile Estimates: **Data** on SacPAS

Estimates Periods

- **Daily**
- **Weekly**
- **Annual**

Fork Length

- **Mean**
- **Minimum**
- **Maximum**

RBDD Juvenile Estimates **Data** on SacPAS

Estimates Periods

- **Daily**
- **Weekly**
- **Annual**

Fork Length

- **Mean**
- **Minimum**
- **Maximum**

Estimated Trap Efficiency

RBDD Juvenile Estimates **Data** on SacPAS

Estimates Periods

- **Daily**
- **Weekly**
- **Annual**

Fork Length

- **Mean**
- **Minimum**
- **Maximum**

Estimated Trap Efficiency

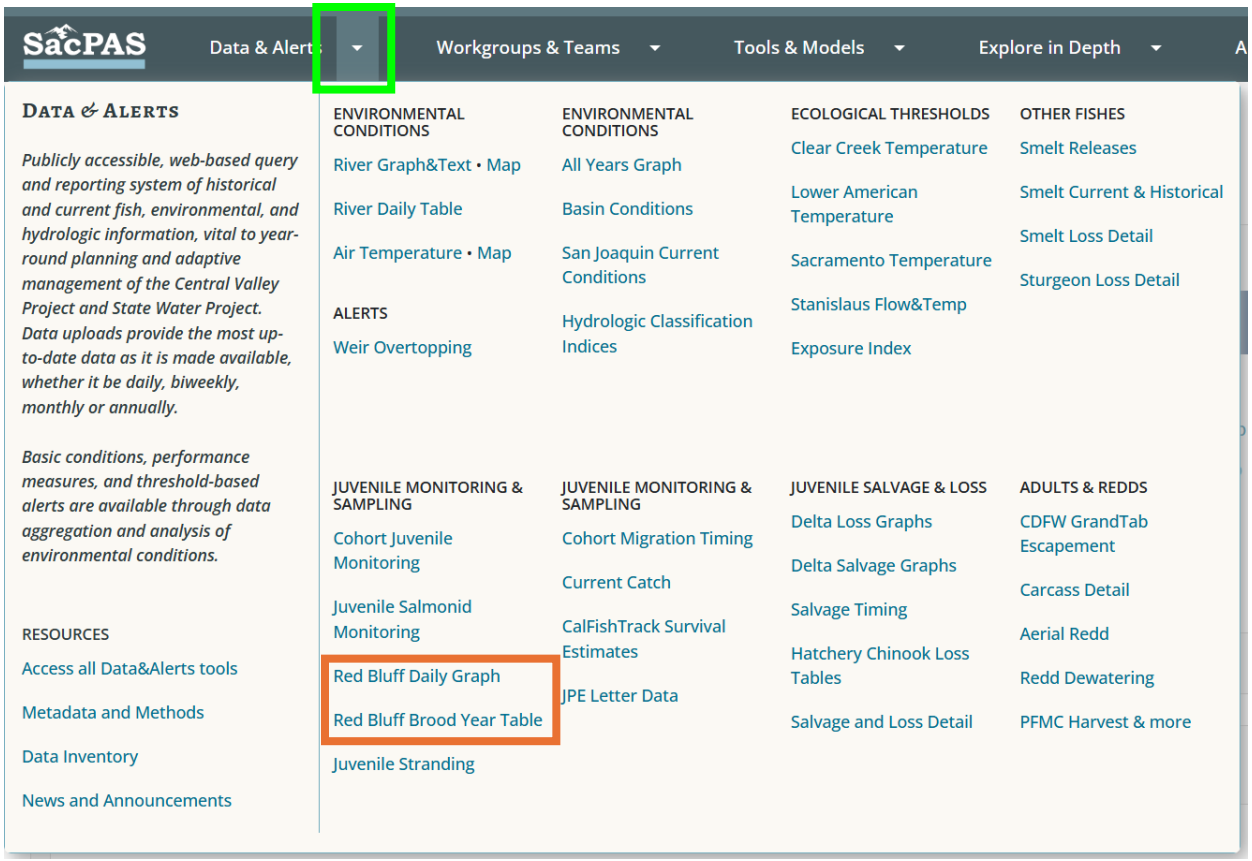
Environmental Data*

- **Peak Flow**
  at Bend Bridge (BND)
- **Water Temperature**
  at RBDD (RBD)
- **Turbidity**
  at RBDD (RBD)

** from California Data Exchange Center (CDEC)*

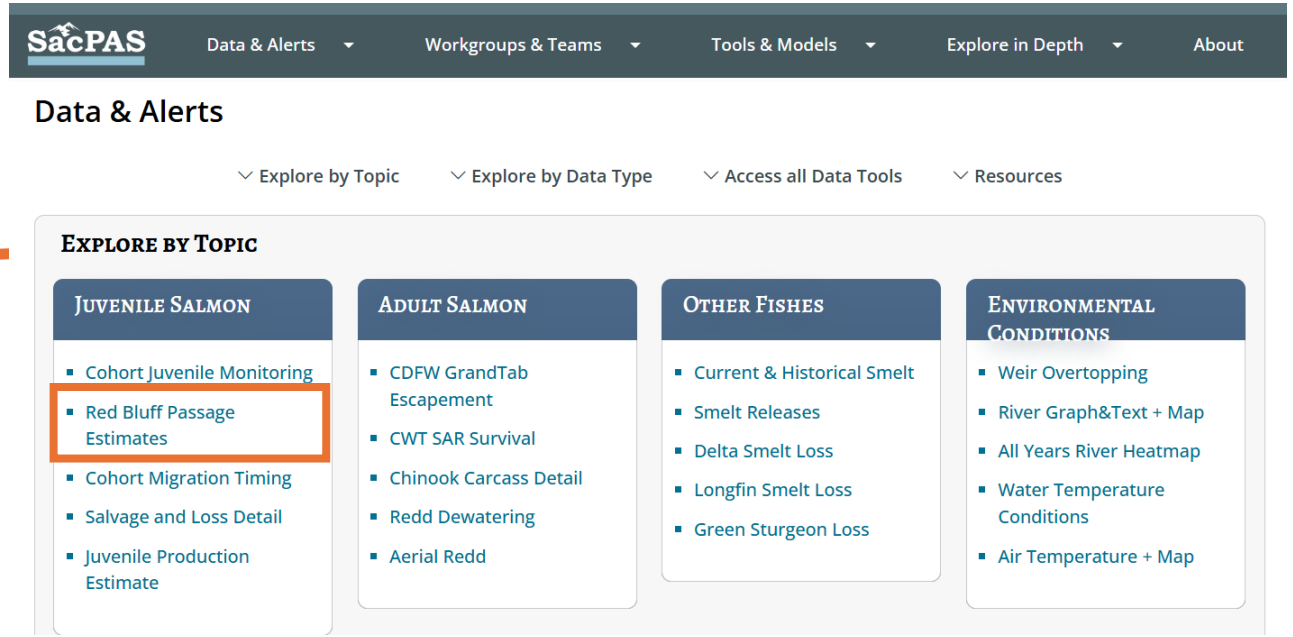
Finding RBDD Queries on SacPAS

Data & Alerts – Mega Menu



Finding RBDD Queries on SacPAS

Data & Alerts – Landing Page



RBDD Queries on SacPAS

Graph Queries

- **Daily Graph**
- **Weekly Graph**
- **Annual Graph**

Table Queries

- **Brood Year Table**
- **Calendar Year Table**

RBDD Queries on SacPAS

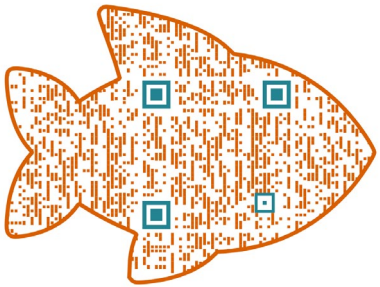
Graph Queries

- **Daily Graph**
  - By brood year
  - Daily Total passage estimates
  - Environmental data
  - Other data
- **Weekly Graph**
- **Annual Graph**

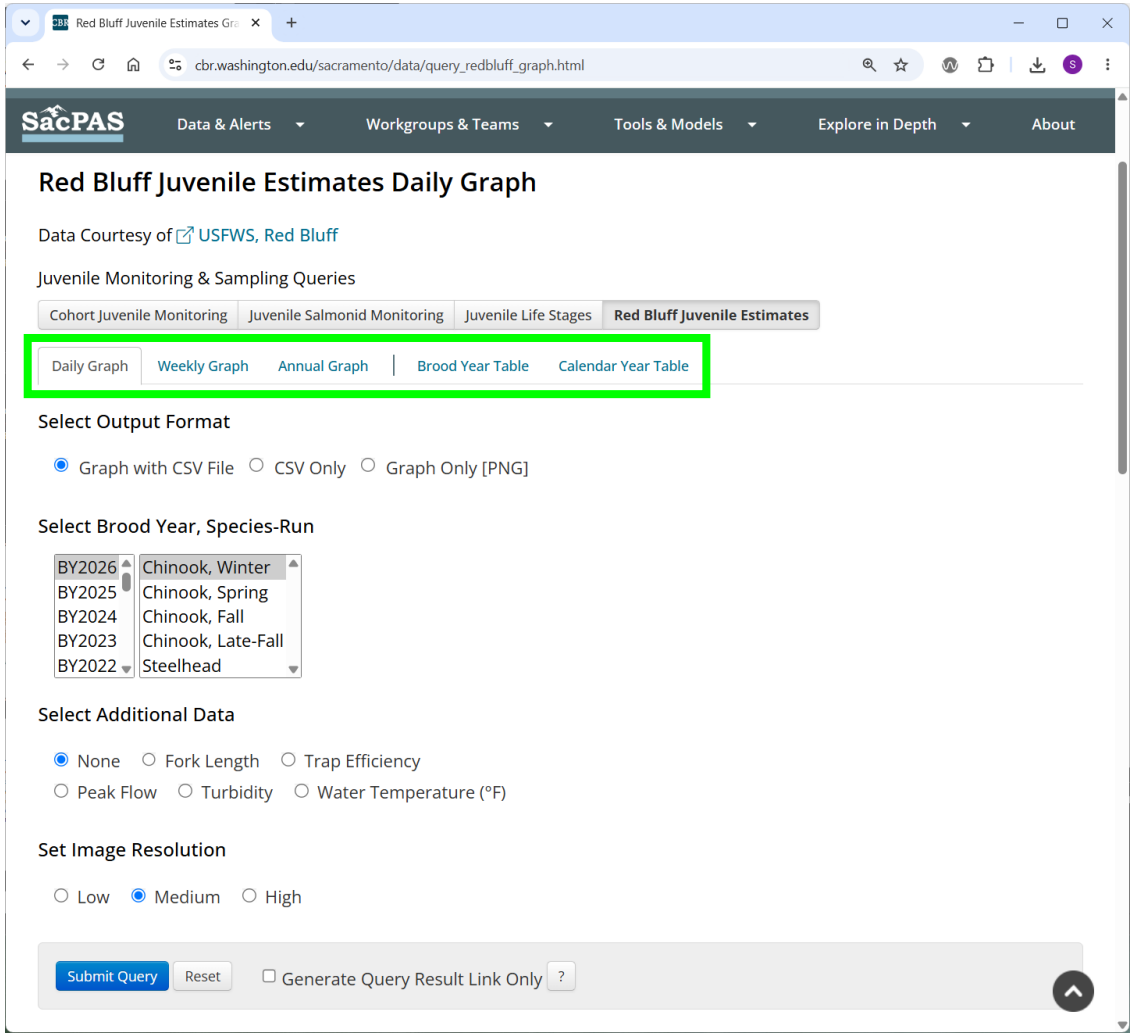
Table Queries

- **Brood Year Table**
- **Calendar Year Table**

Daily Graph



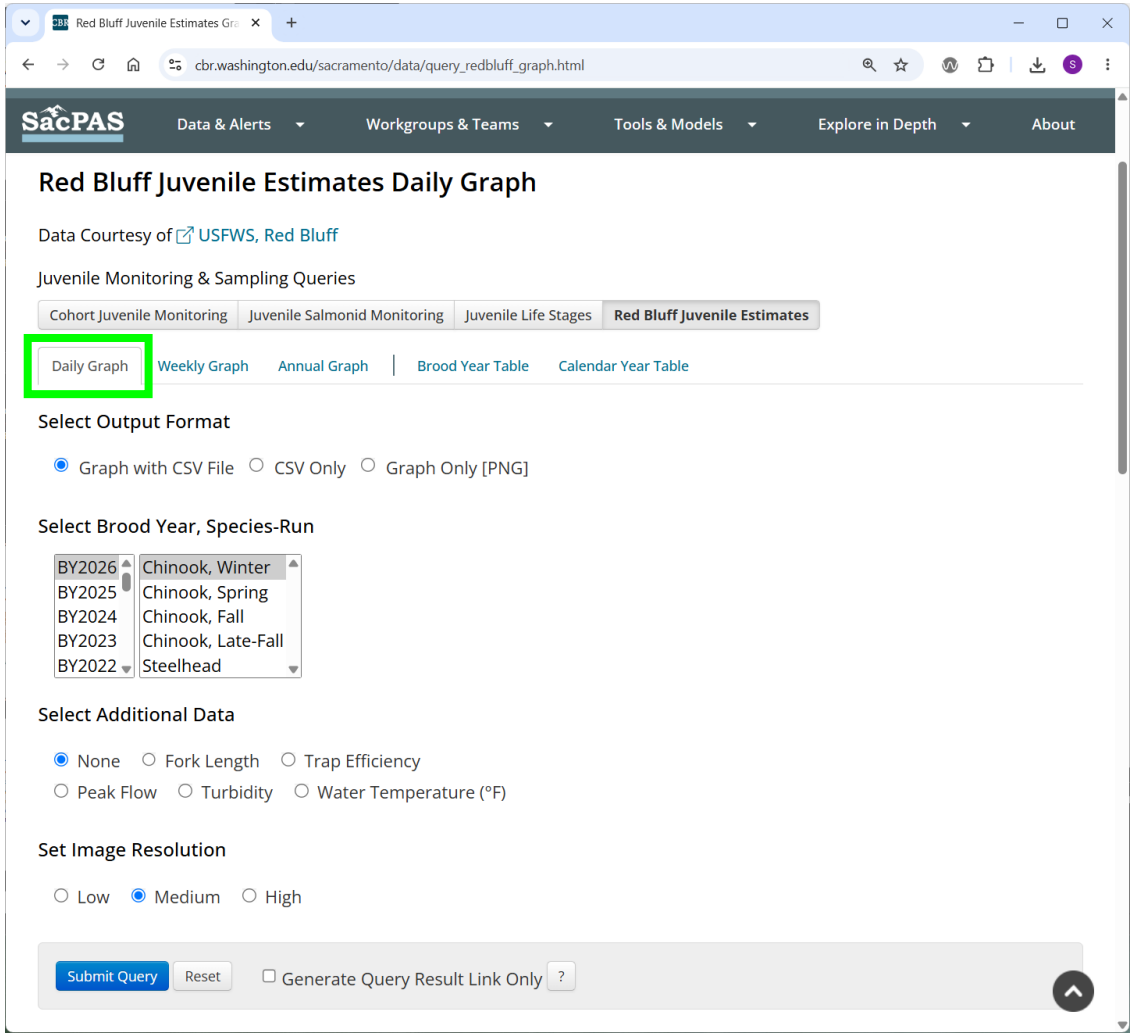
Red Bluff Juvenile Estimates Daily Graph



Daily Graph

- Output Format
- Brood Year
- Species-run
- Additional Data

- Image Resolution
- Query Results Link Only



Results for Query Selections:

Daily Graph,
BY2026,
Winter Chinook

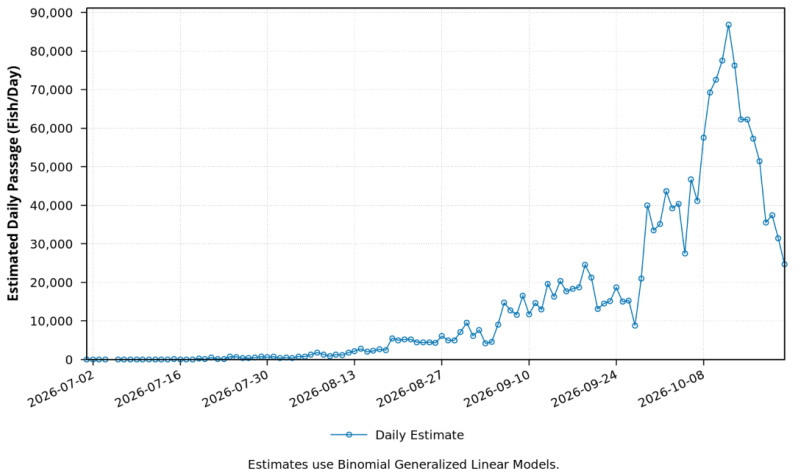
Red Bluff Juvenile Passage Estim

cbr.washington.edu/sacramento/tmp/redbluffdaily_1792867207_36.html

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browser back | query page | download csv

Red Bluff Unmarked (not mark-corrected) Juvenile Passage Estimates
BY2026 Winter Chinook
2026-07-01 to 2026-10-21



Estimates use Binomial Generalized Linear Models.

www.cbr.washington.edu/sacramento/ 24 Oct 2026 11:40:07 PDT

Query Results HTML Data Table

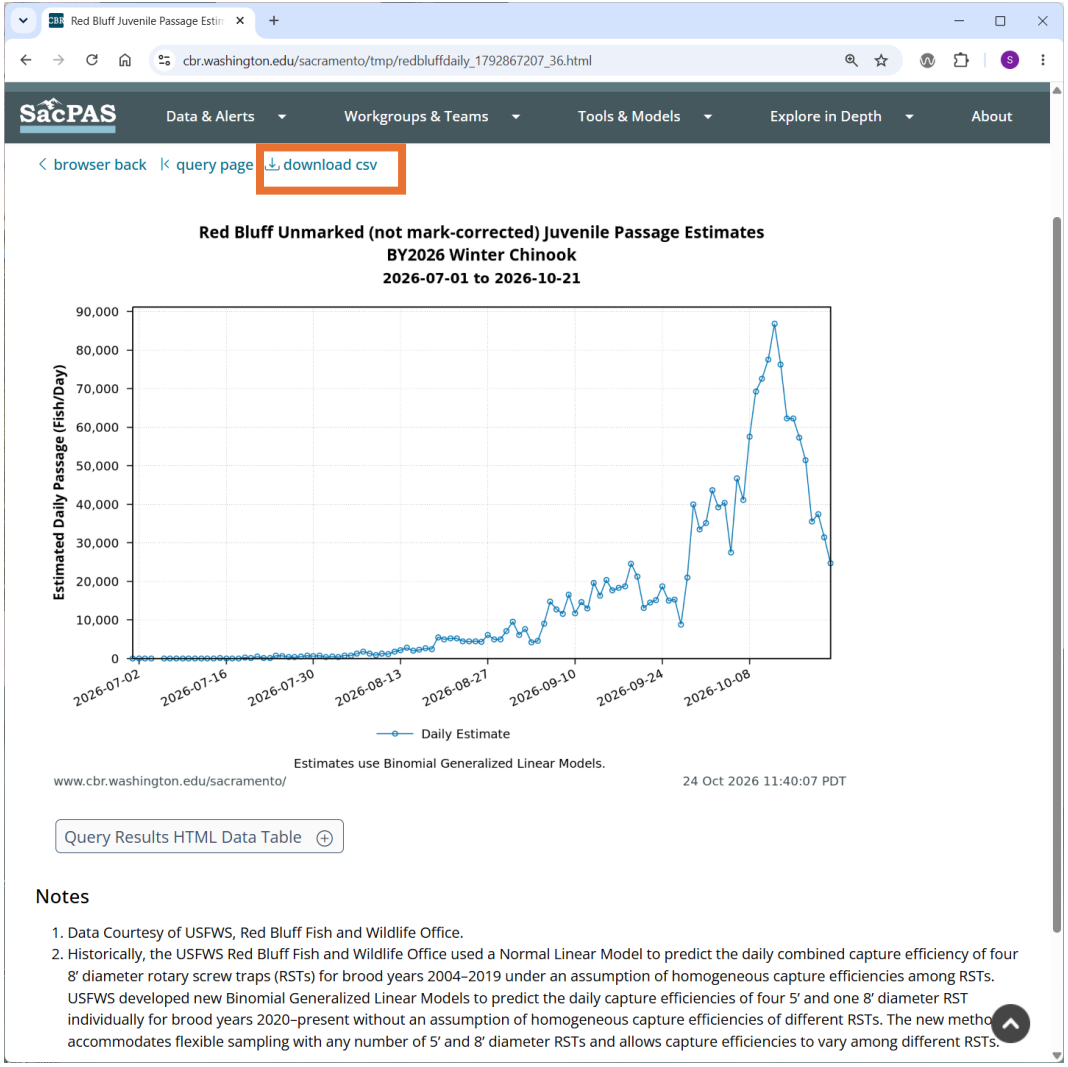
Notes

1. Data Courtesy of USFWS, Red Bluff Fish and Wildlife Office.
2. Historically, the USFWS Red Bluff Fish and Wildlife Office used a Normal Linear Model to predict the daily combined capture efficiency of four 8′ diameter rotary screw traps (RSTs) for brood years 2004–2019 under an assumption of homogeneous capture efficiencies among RSTs. USFWS developed new Binomial Generalized Linear Models to predict the daily capture efficiencies of four 5′ and one 8′ diameter RST individually for brood years 2020–present without an assumption of homogeneous capture efficiencies of different RSTs. The new metho accommodates flexible sampling with any number of 5′ and 8′ diameter RSTs and allows capture efficiencies to vary among different RSTs.

Results for Query Selections:

Daily Graph,
BY2026,
Winter Chinook

Download csv file



Results for Query Selections:

Daily Graph,
BY2026,
Winter Chinook

Query Results HTML Data Table

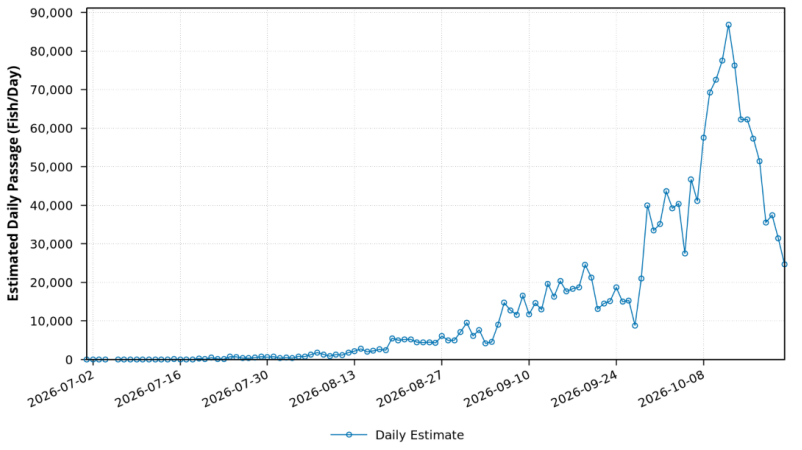
Red Bluff Juvenile Passage Estim

cbr.washington.edu/sacramento/tmp/redbluffdaily_1792867207_36.html

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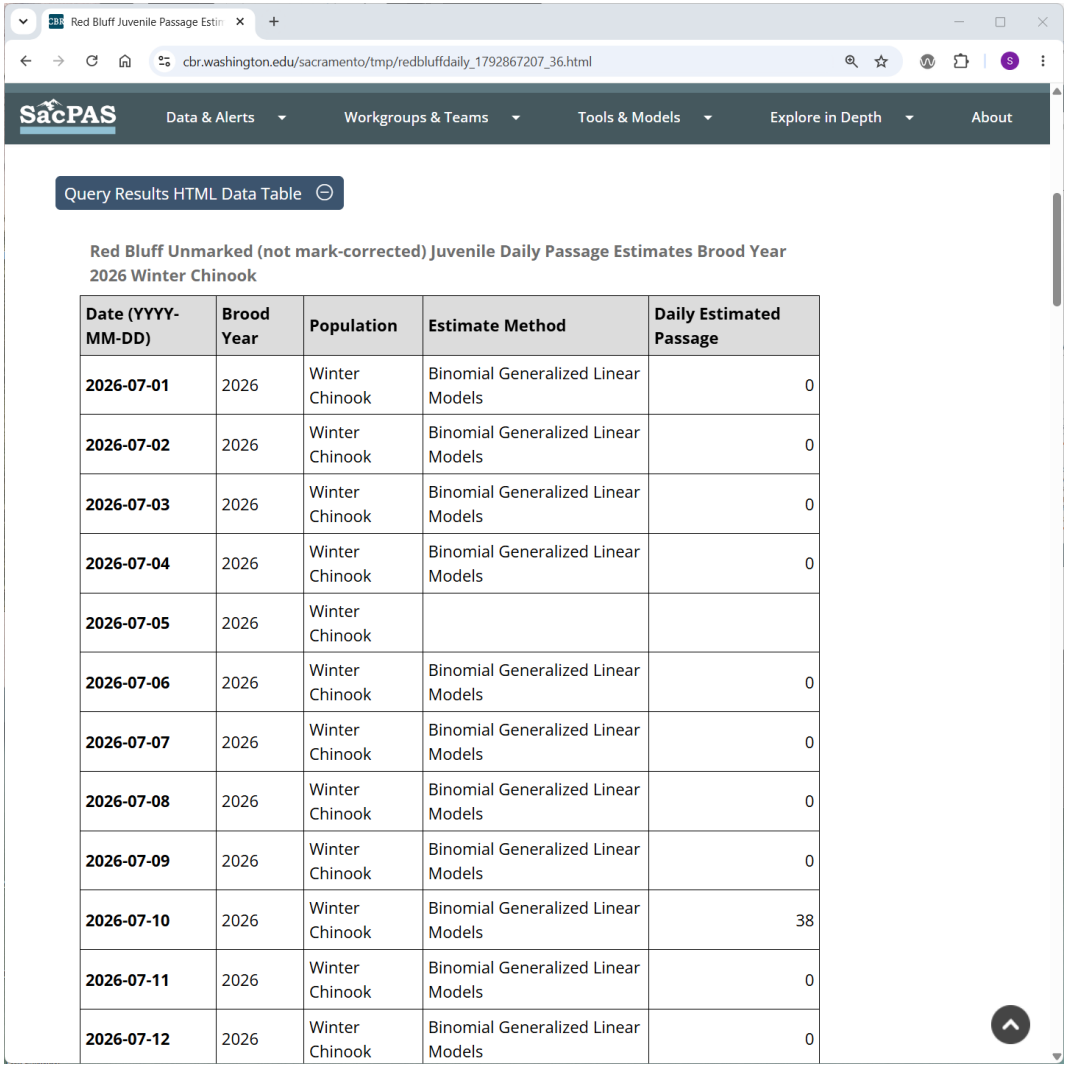
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Results for Query Selections:

Daily Graph, BY2026, Winter Chinook

Query Results HTML Data Table Opened



Red Bluff Unmarked (not mark-corrected) Juvenile Daily Passage Estimates Brood Year 2026 Winter Chinook

Date (YYYY-MM-DD)	Brood Year	Population	Estimate Method	Daily Estimated Passage
2026-07-01	2026	Winter Chinook	Binomial Generalized Linear Models	0
2026-07-02	2026	Winter Chinook	Binomial Generalized Linear Models	0
2026-07-03	2026	Winter Chinook	Binomial Generalized Linear Models	0
2026-07-04	2026	Winter Chinook	Binomial Generalized Linear Models	0
2026-07-05	2026	Winter Chinook		
2026-07-06	2026	Winter Chinook	Binomial Generalized Linear Models	0
2026-07-07	2026	Winter Chinook	Binomial Generalized Linear Models	0
2026-07-08	2026	Winter Chinook	Binomial Generalized Linear Models	0
2026-07-09	2026	Winter Chinook	Binomial Generalized Linear Models	0
2026-07-10	2026	Winter Chinook	Binomial Generalized Linear Models	38
2026-07-11	2026	Winter Chinook	Binomial Generalized Linear Models	0
2026-07-12	2026	Winter Chinook	Binomial Generalized Linear Models	0

Results for Query Selections:

Daily Graph,
BY2026,
Winter Chinook

Notes at bottom of webpage

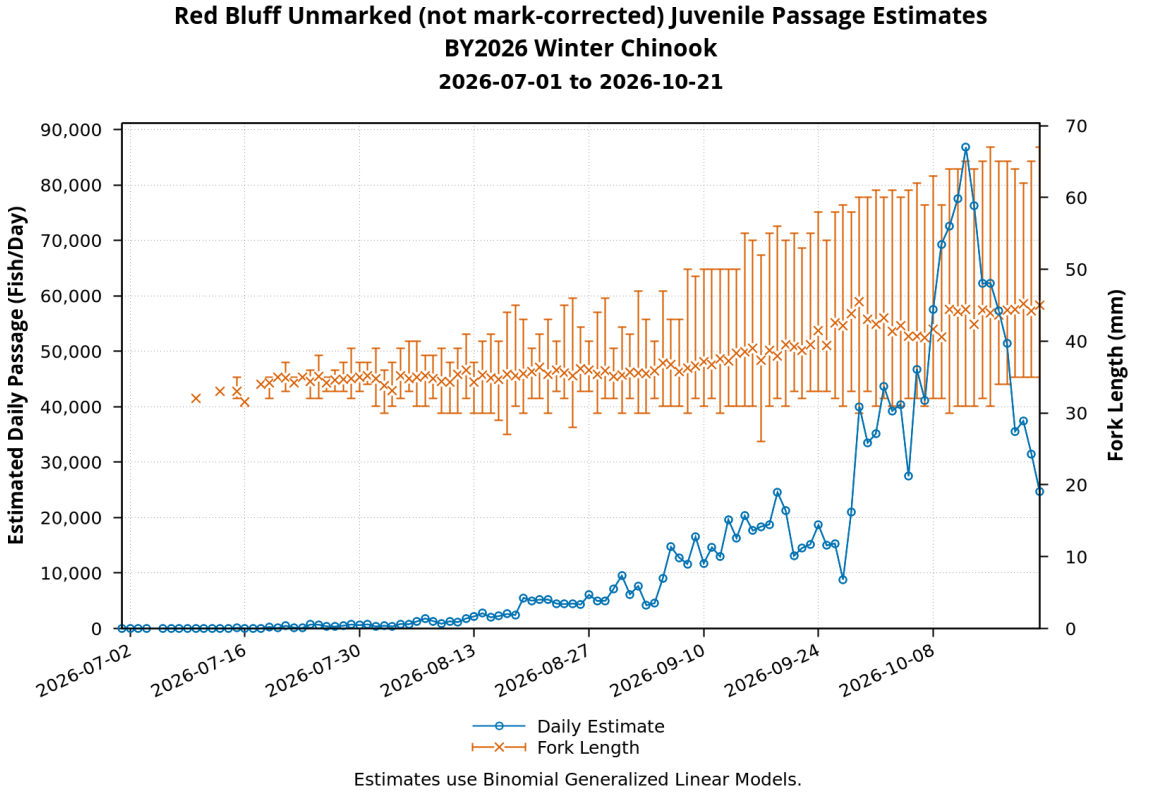


Select Additional Data

○ None ◉ Fork Length ○ Trap Efficiency
○ Peak Flow ○ Turbidity ○ Water Temperature (°F)

Results for Query Selections:

Daily Graph,
BY2026,
Winter Chinook,
Fork Length



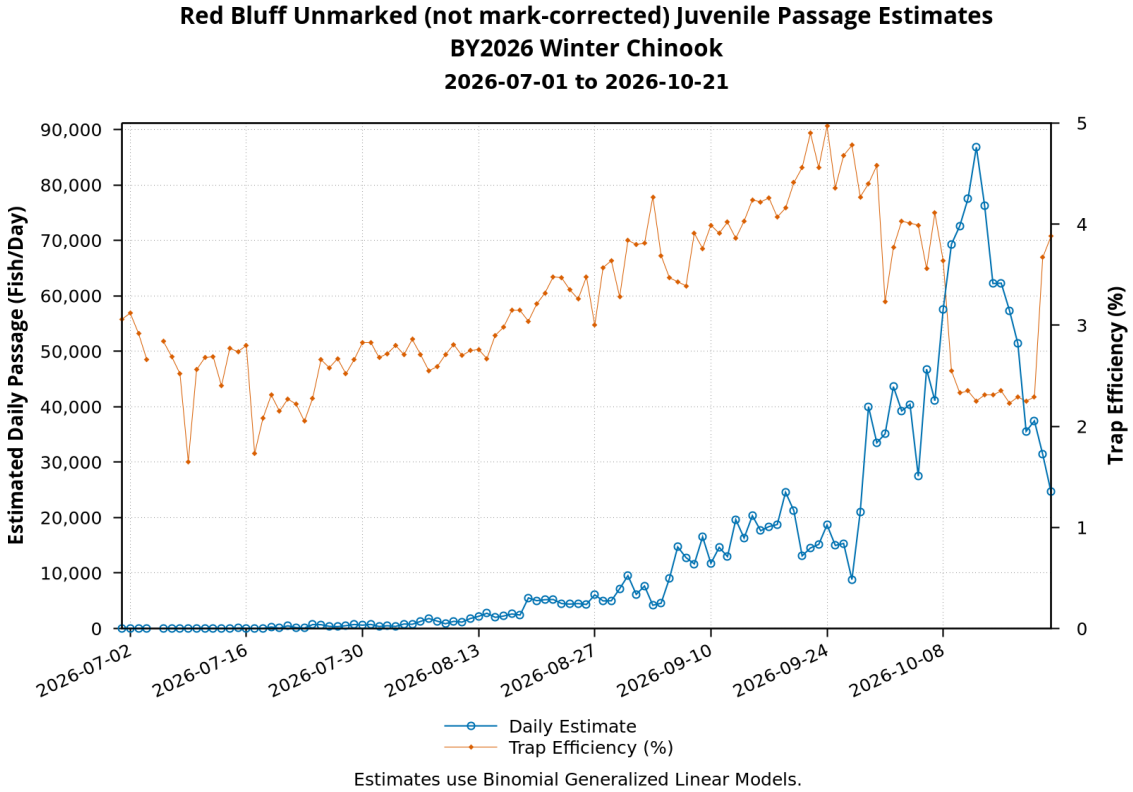
Graph with FL data

Select Additional Data

○ None ○ Fork Length ◉ Trap Efficiency
○ Peak Flow ○ Turbidity ○ Water Temperature (°F)

Results for Query Selections:

Daily Graph,
BY2026,
Winter Chinook,
Trap Efficiency



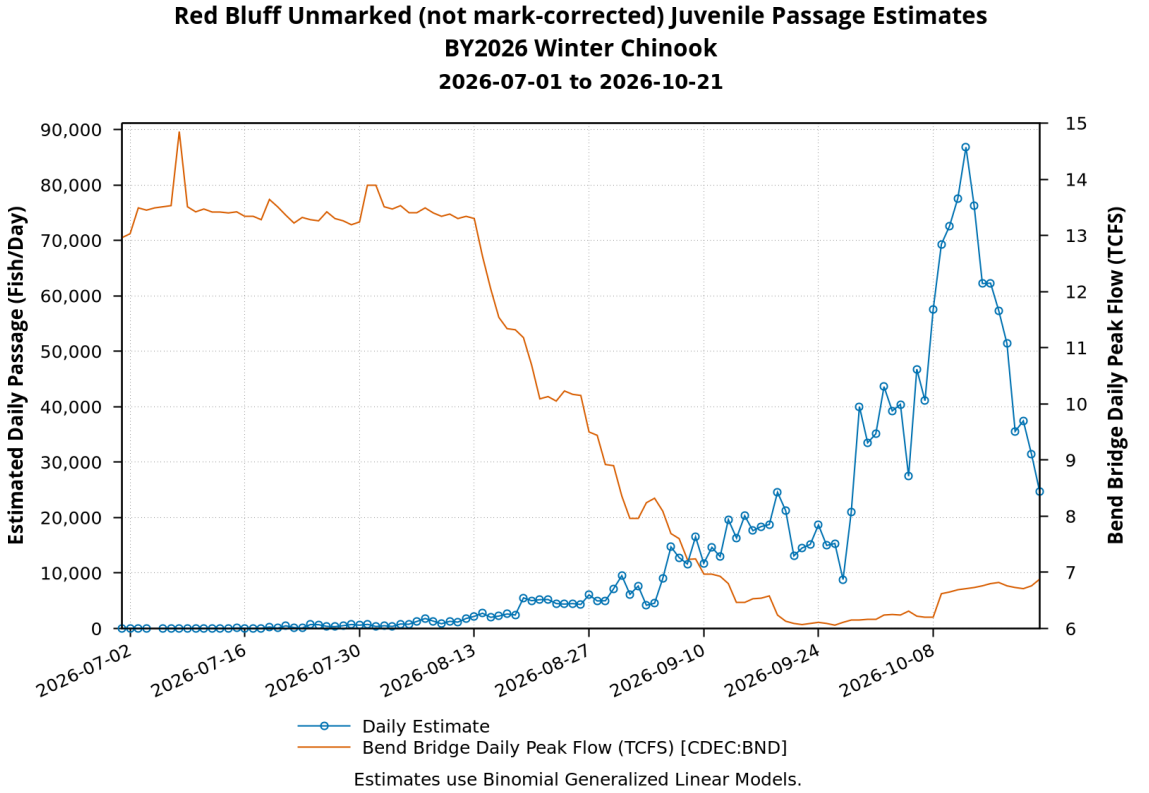
Graph with Trap Efficiency data

Select Additional Data

○ None ○ Fork Length ○ Trap Efficiency
◉ Peak Flow ○ Turbidity ○ Water Temperature (°F)

Results for Query Selections:

Daily Graph,
BY2026,
Winter Chinook,
Peak Flow



Graph with BND Peak Flow

RBDD Queries on SacPAS

Graph Queries

- **Daily Graph**

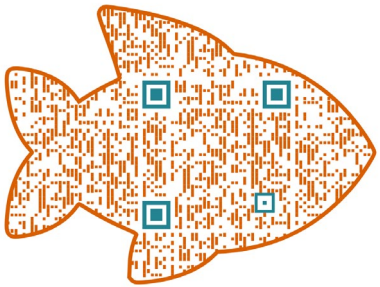


- **Weekly Graph – NEW**
  - By brood year
  - Weekly passage estimates
  - Estimates confidence intervals
  - Correction status
  - Life stages
  - Passage types
- **Annual Graph**

Table Queries

- **Brood Year Table**
- **Calendar Year Table**

Weekly Graph



Red Bluff Juvenile Estimates Weekly Graph

Red Bluff Juvenile Estimates Weekly Graph

Data Courtesy of USFWS, Red Bluff

Juvenile Monitoring & Sampling Queries

Cohort Juvenile Monitoring | Juvenile Salmonid Monitoring | Juvenile Life Stages | **Red Bluff Juvenile Estimates**

Daily Graph | Weekly Graph | Annual Graph | Brood Year Table | Calendar Year Table

Select Output Format

(•) Graph with CSV File ( ) CSV Only ( ) Graph Only [PNG]

Select Hatchery Influence: Correction Status

(•) Unmarked ( ) Mark-corrected ( ) Both

Select Brood Year, Species-Run, Life Stage / Passage Type

BY2026	Chinook, Winter	Fry
BY2025	Chinook, Spring	Smolt
BY2024	Chinook, Fall	Total
BY2023	Chinook, Late-Fall	Fry Equivalent
BY2022	Steelhead	All

Correction status selections may change available "Species-Run" and "Life Stage / Passage Type" options.

Set Image Resolution

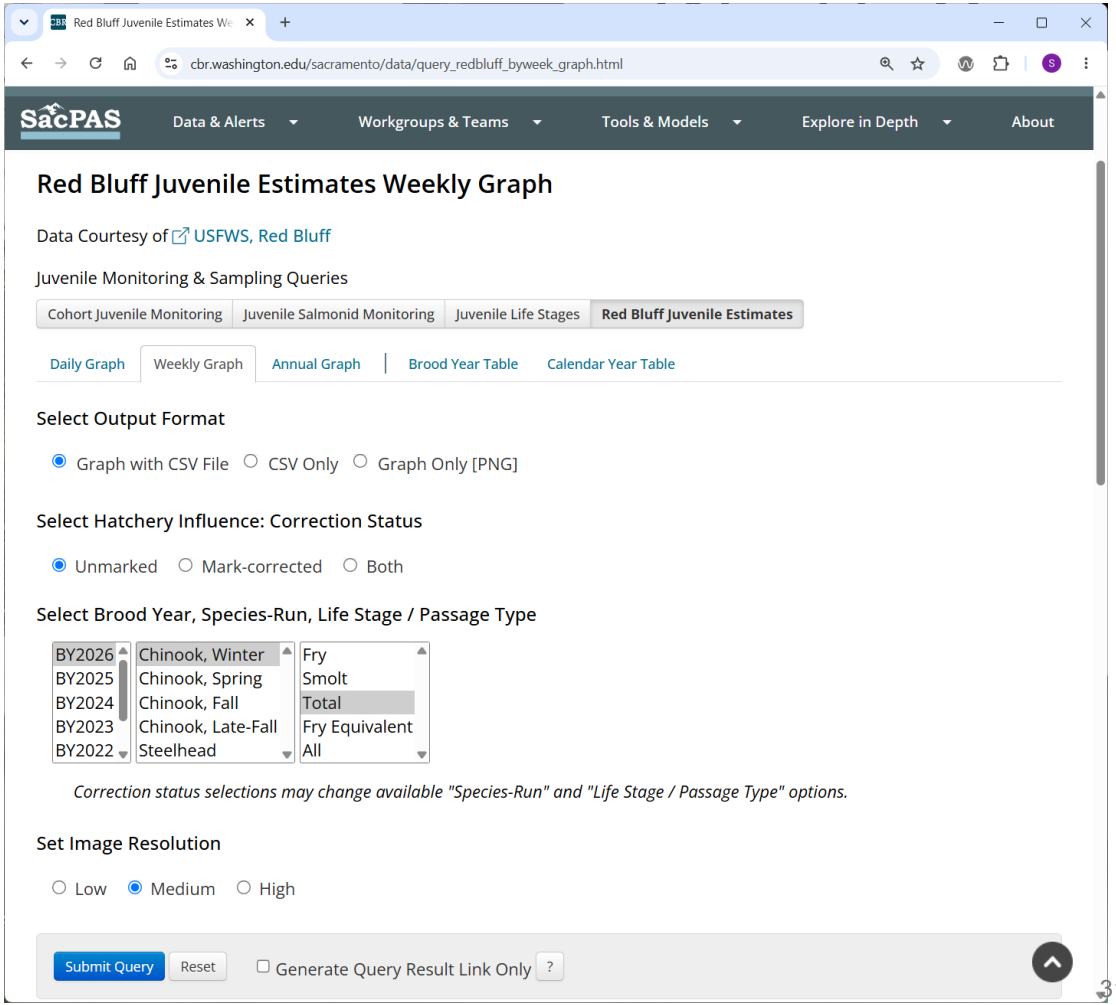
( ) Low (•) Medium ( ) High

Submit Query | Reset | [ ] Generate Query Result Link Only ?

Weekly Graph

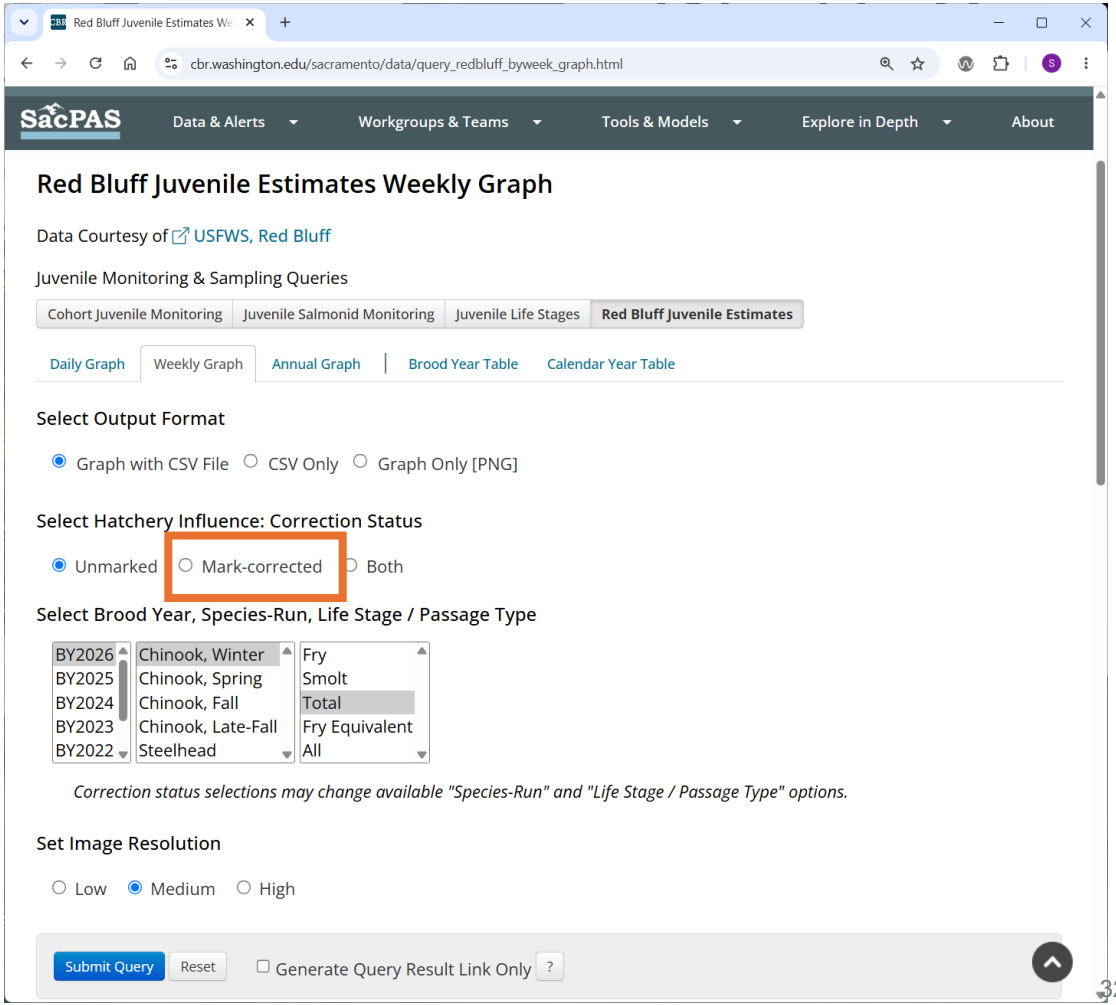
- Output Format
- Hatchery Influence: Correction Status
- Brood Year
- Species-run
- Life Stage / Passage Type

- Image Resolution
- Query Results Link Only



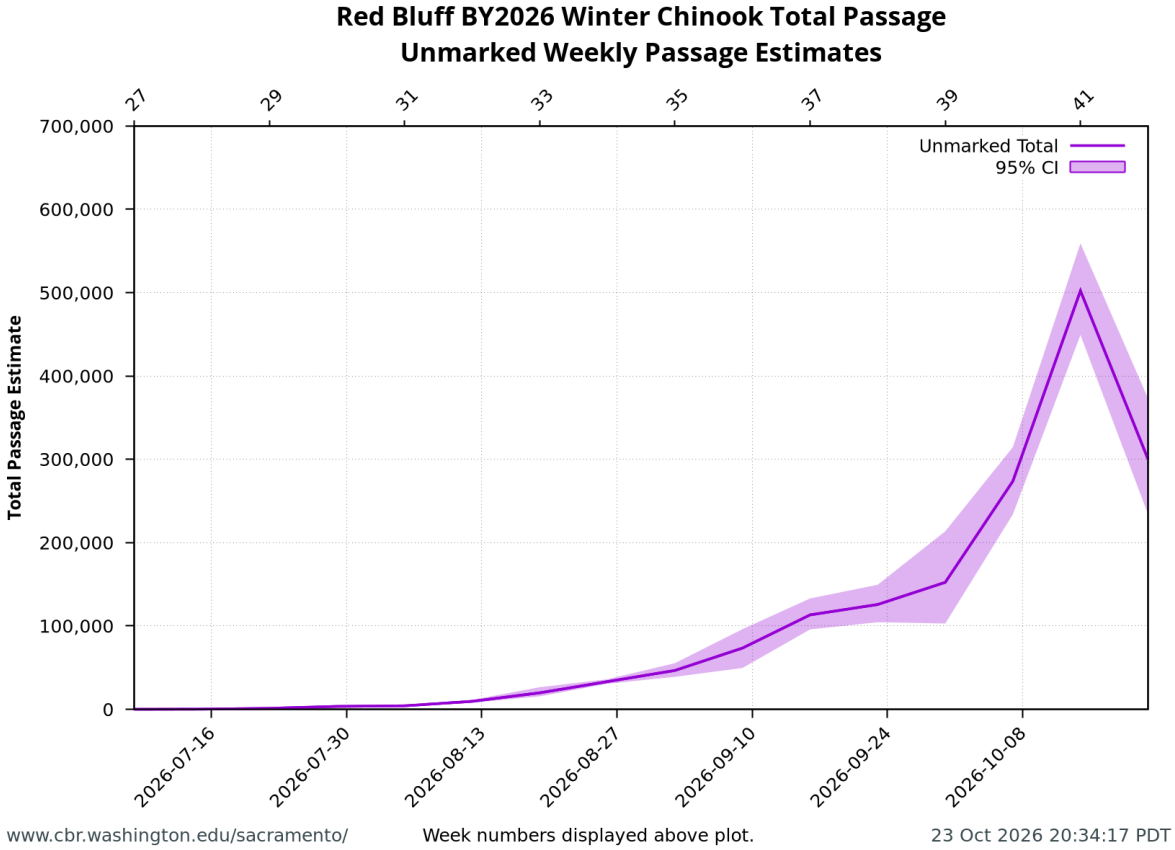
Weekly Graph

- **Hatchery Influence: Correction Status**
  - **Mark-corrected: genetic corrections and subtraction of unmarked hatchery smolts**



Results for Query Selections:

Weekly Graph,
Unmarked,
BY2026,
Winter Chinook,
Total

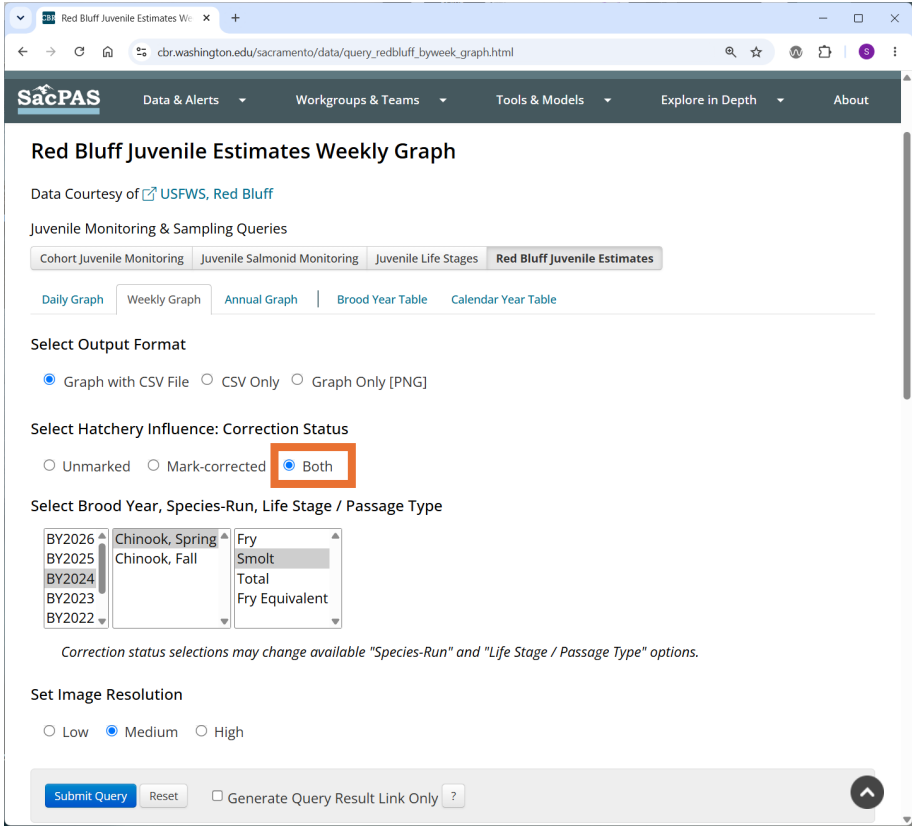


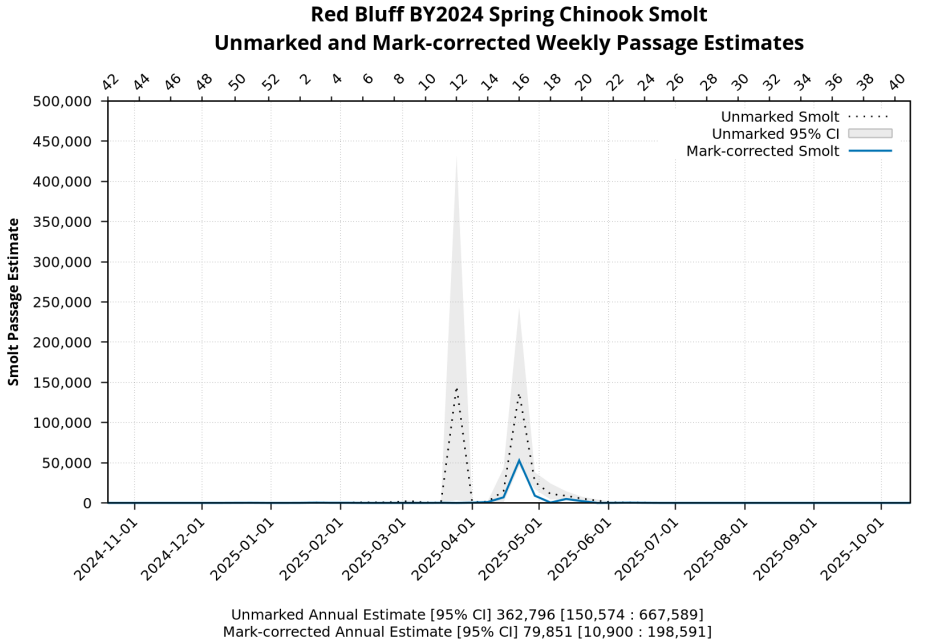
More examples of results…

Query webpage on left

Results on right

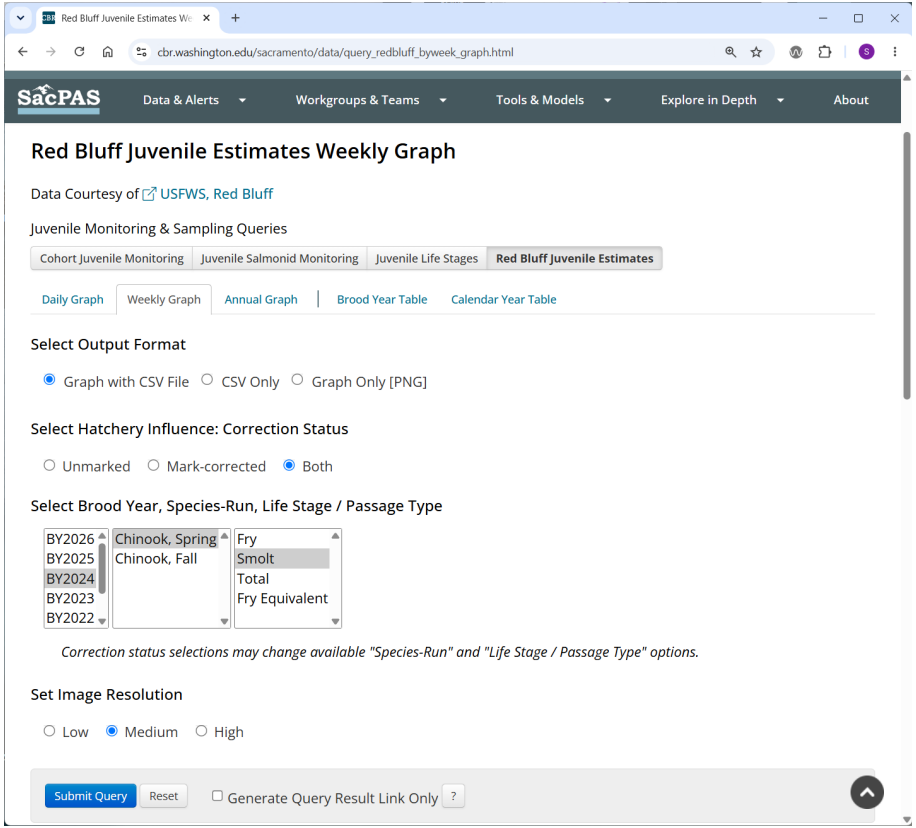
Weekly Graph Query & Results for selections: Correction Status “Both”, BY2024, Spring Chinook, Smolt

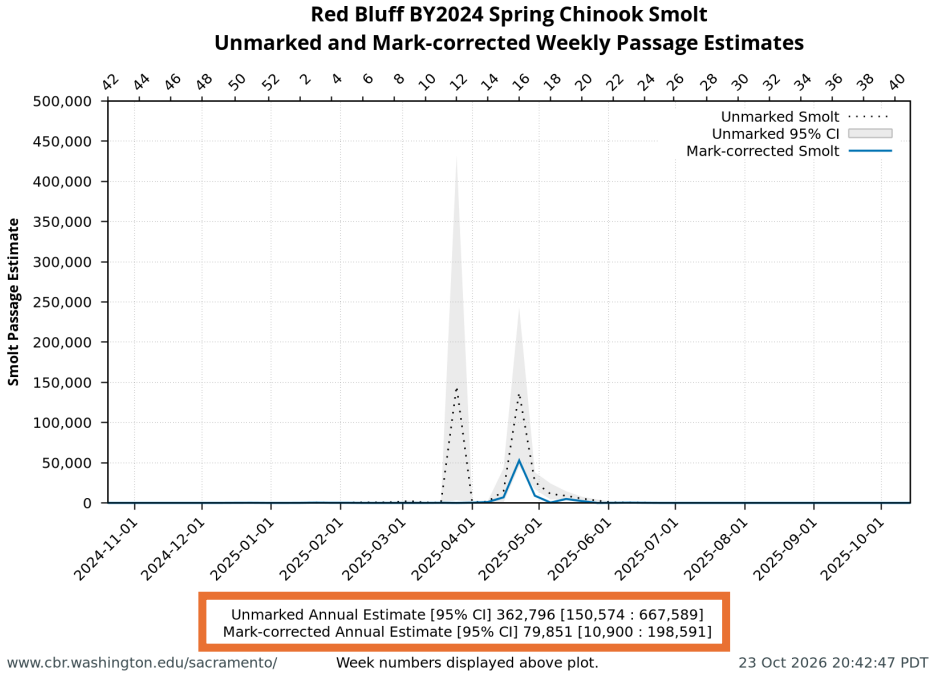




Both Unmarked & Mark-corrected

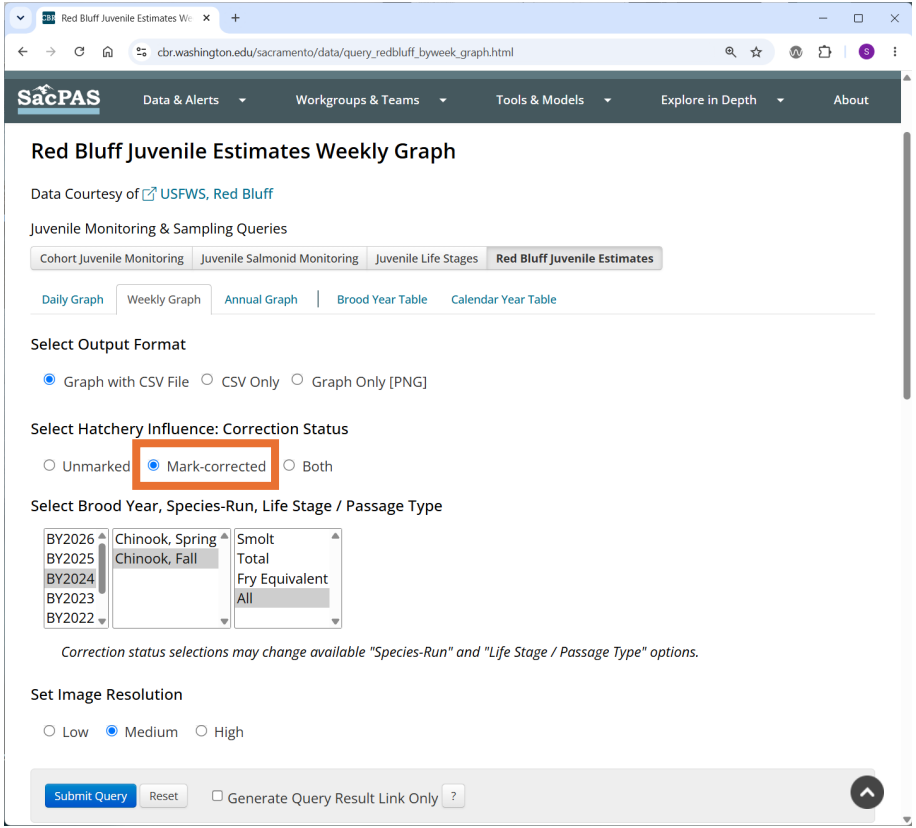
Weekly Graph Query & Results for selections: Correction Status “Both”, BY2024, Spring Chinook, Smolt

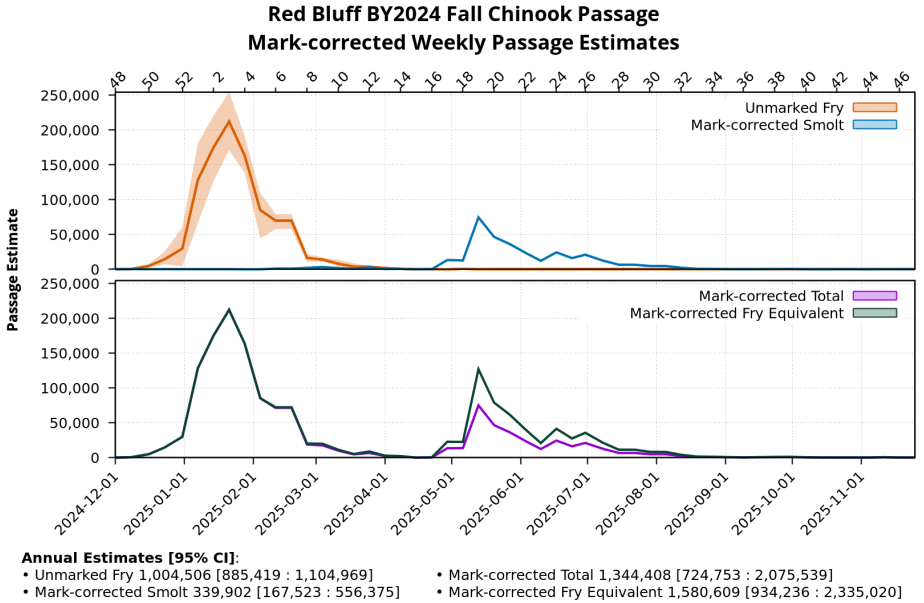




Estimates and confidence intervals (CI)

Weekly Graph Query & Results for selections: Mark-corrected, BY2024, Fall Chinook, “All”





Mark-corrected

RBDD Queries on SacPAS

Graph Queries

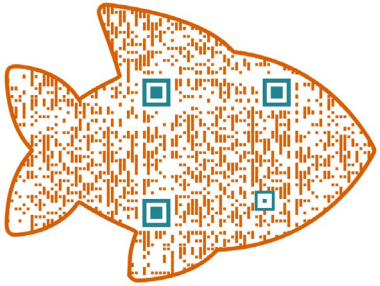
- **Daily Graph**
- **Weekly Graph**
- **Annual Graph – NEW**
  - By brood year
  - Annual passage estimates
  - Estimates confidence intervals
  - Correction status
  - Life stages
  - Passage types



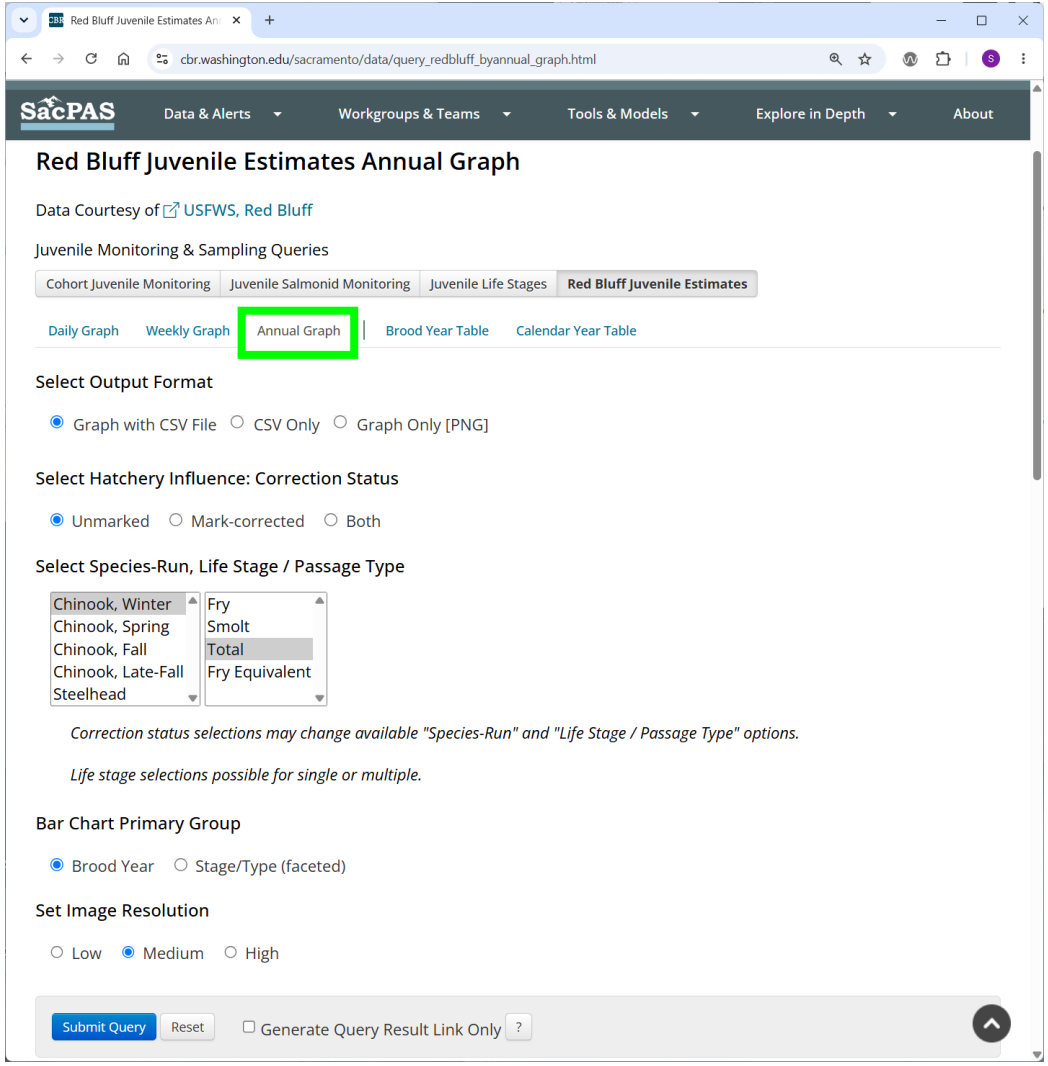
Table Queries

- **Brood Year Table**
- **Calendar Year Table**

Annual Graph



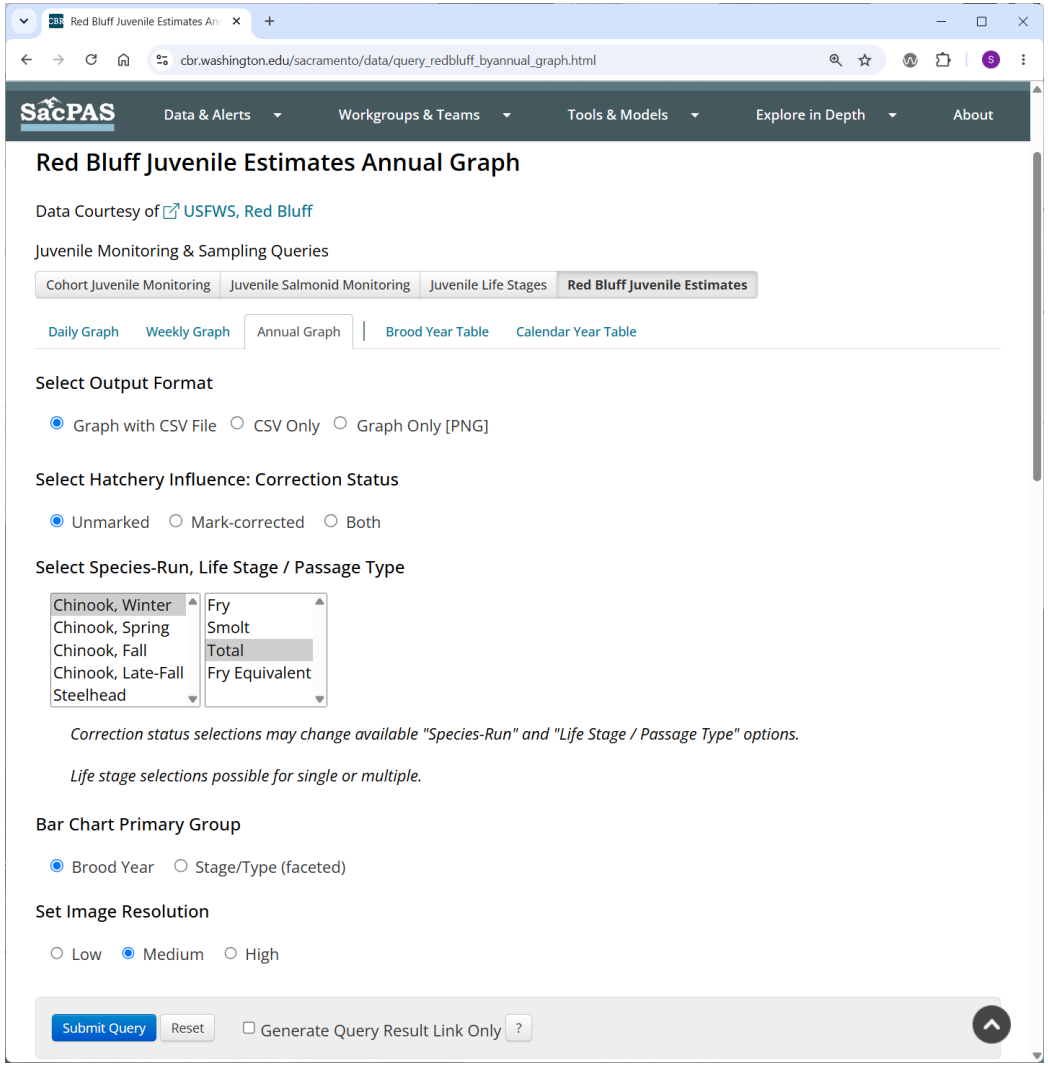
Red Bluff Juvenile Estimates Annual Graph



Annual Graph

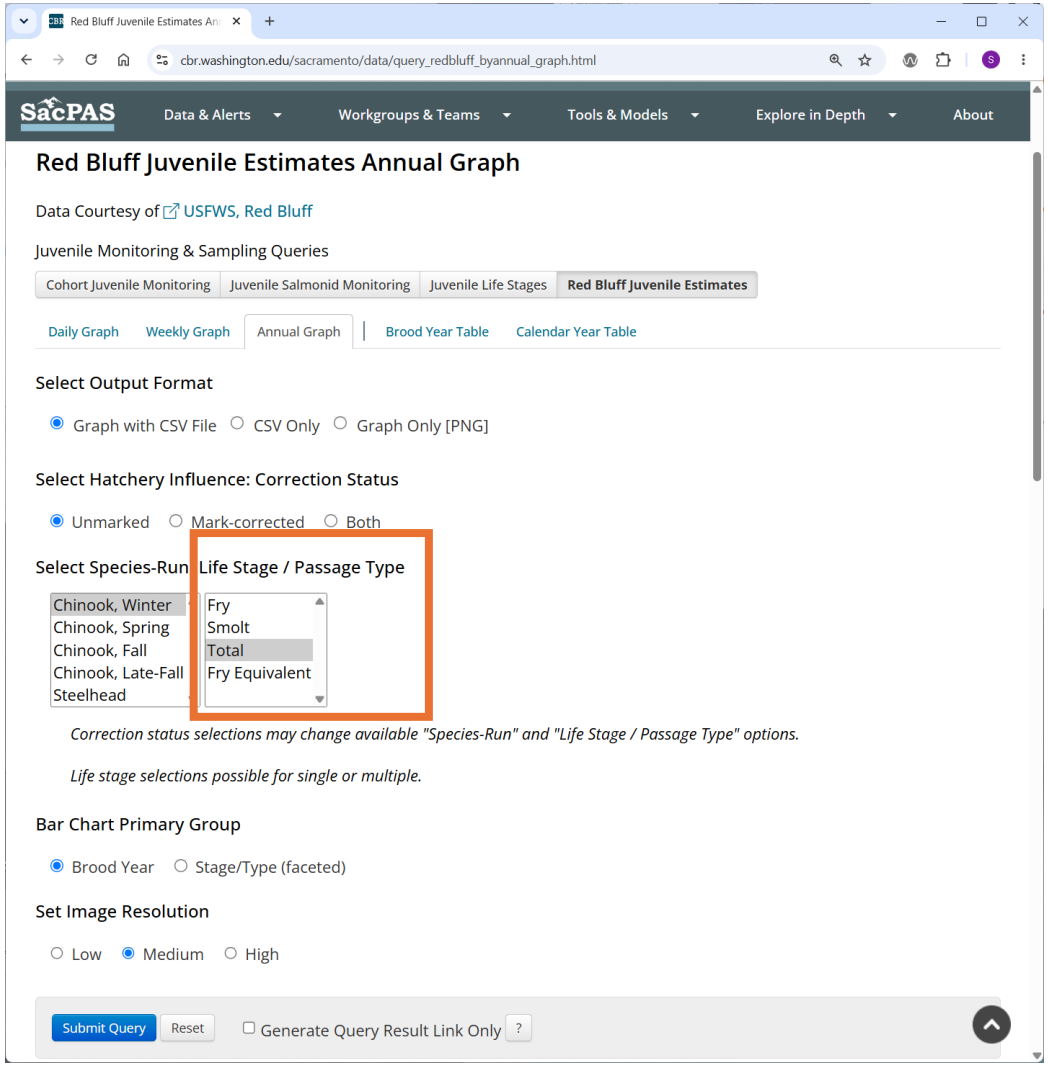
- Output Format
- Hatchery Influence: Correction Status
- Species-run
- Life Stage / Passage Type
- Bar Chart Primary Group

- Image Resolution
- Query Results Link Only



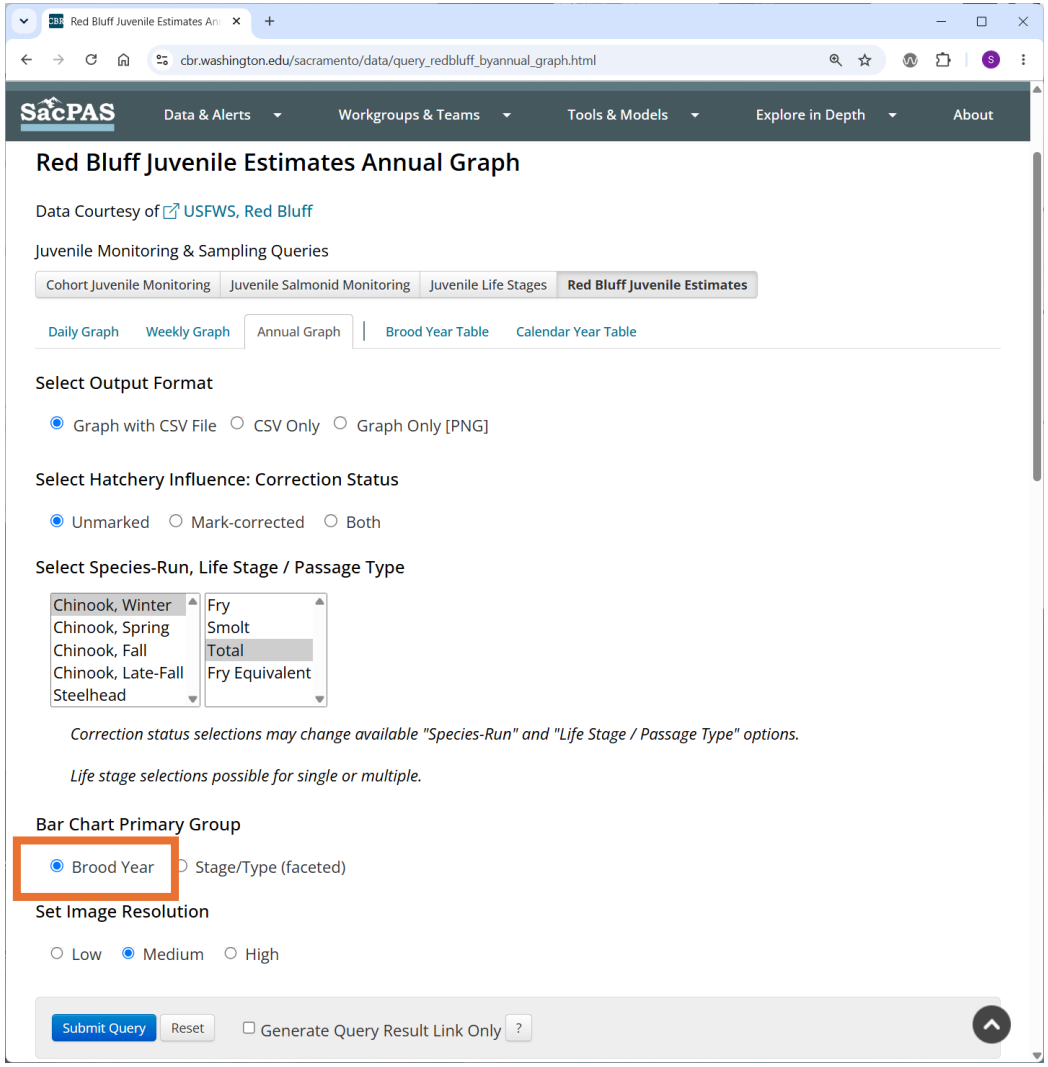
Annual Graph

- **Life Stage / Passage Type**
  - **Single or multiple selections allowed**

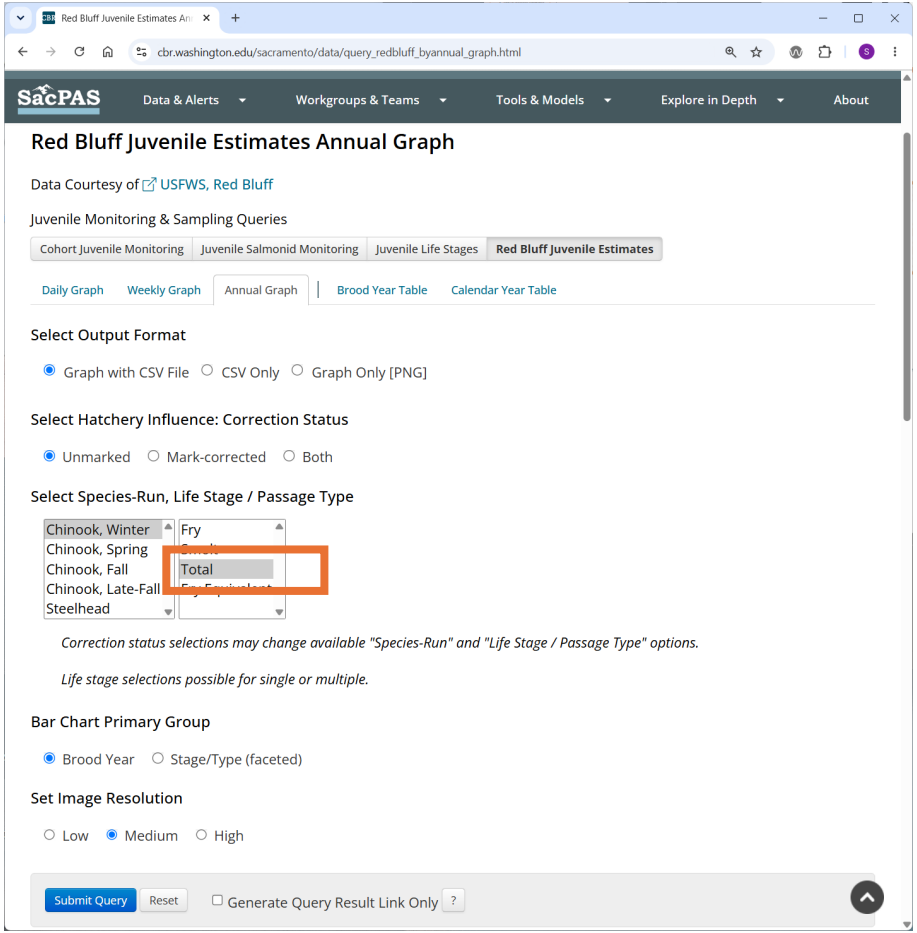


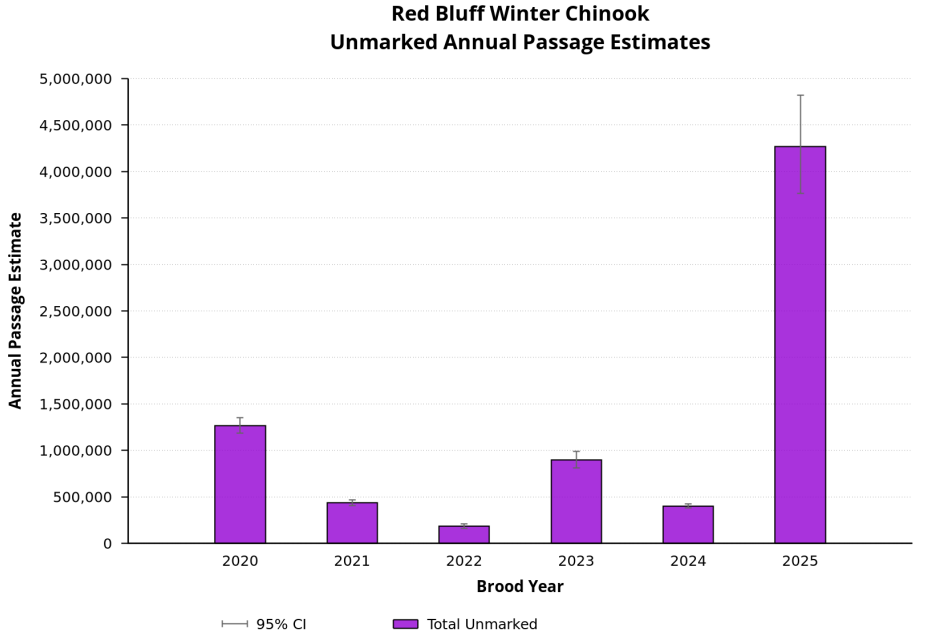
Annual Graph

- **Bar Chart Primary Group**
  - **Brood Year**



Annual Graph Query & Results for selections: Unmarked, Winter Chinook, Total, Brood Year Grouping





Total

Annual Graph Query & Results for selections:
Mark-corrected, Spring Chinook, multiple Stage/Type, Brood Year Grouping

Red Bluff Juvenile Estimates An

cbr.washington.edu/sacramento/data/query_redbluff_byannual_graph.html

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Red Bluff Juvenile Estimates Annual Graph

Data Courtesy of USFWS, Red Bluff

Juvenile Monitoring & Sampling Queries

Cohort Juvenile Monitoring | Juvenile Salmonid Monitoring | Juvenile Life Stages | **Red Bluff Juvenile Estimates**

Daily Graph | Weekly Graph | Annual Graph | Brood Year Table | Calendar Year Table

Select Output Format

(●) Graph with CSV File ( ) CSV Only ( ) Graph Only [PNG]

Select Hatchery Influence: Correction Status

( ) Unmarked (●) Mark-corrected ( ) Both

Select Species-Run, Life Stage / Passage Type

Chinook, Spring
Chinook, Fall

Fry
Smolt
Total
Fry Equivalent

Correction status selections may change available "Species-Run" and "Life Stage / Passage Type" options.

Life stage selections possible for single or multiple.

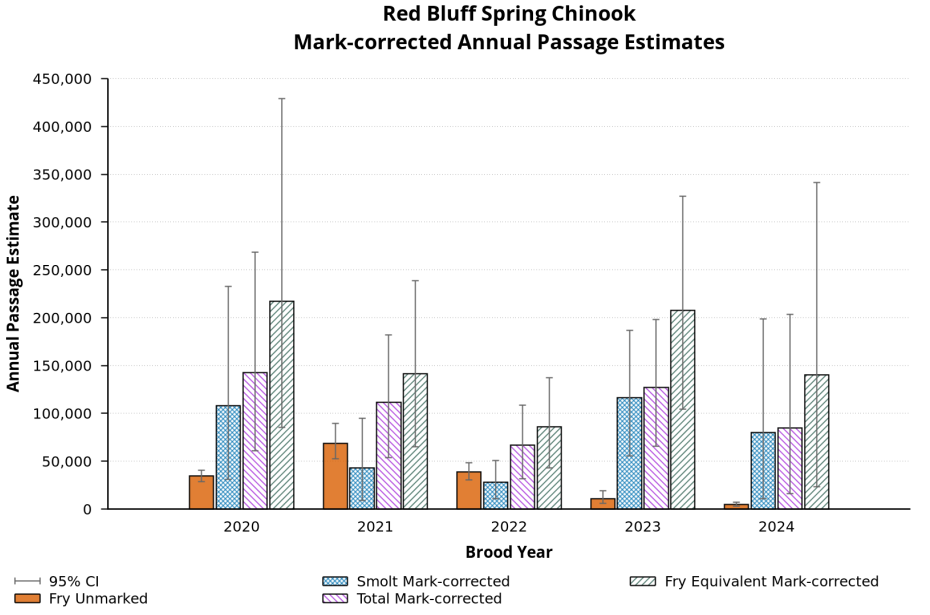
Bar Chart Primary Group

(●) Brood Year ( ) Stage/Type (faceted)

Set Image Resolution

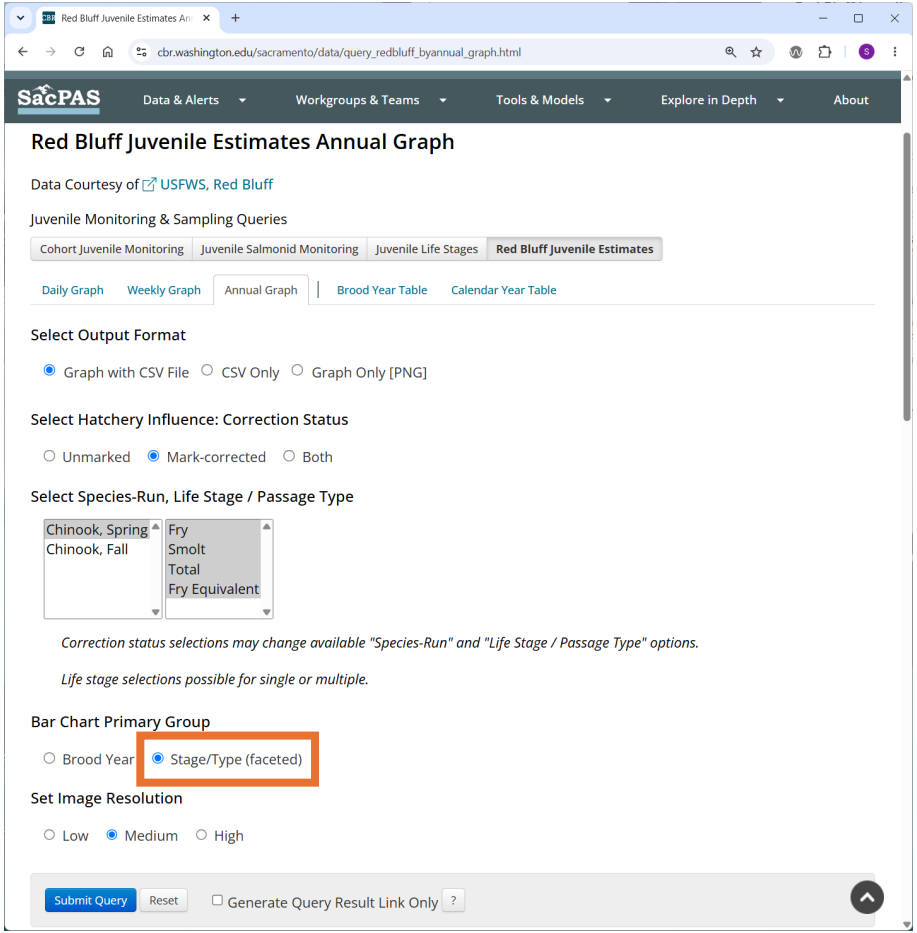
( ) Low (●) Medium ( ) High

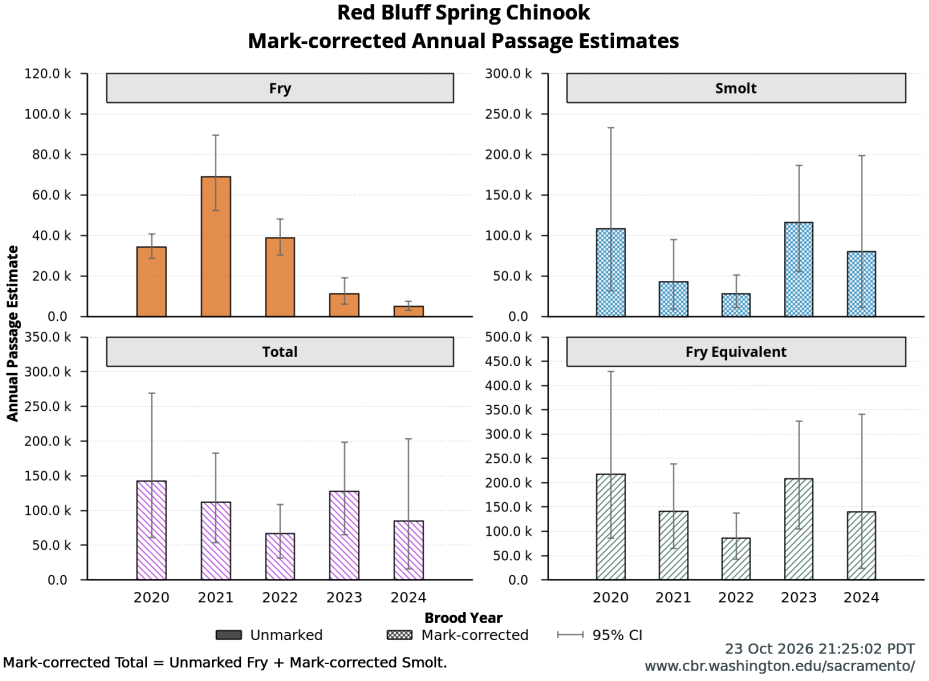
Submit Query | Reset | [ ] Generate Query Result Link Only ?



Multiple Stage/Type

Annual Graph Query & Results for selections:
Mark-corrected, Spring Chinook, multiple Stage/Type, Stage/Type Grouping (faceted)





Stage/Type (faceted)

RBDD Queries on SacPAS

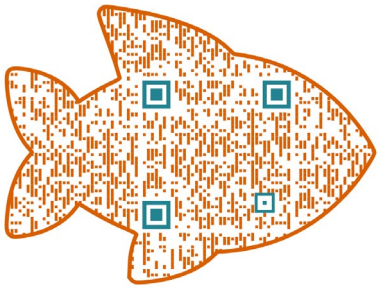
Graph Queries

- **Daily Graph**
- **Weekly Graph**
- **Annual Graph**

Table Queries

- **Brood Year Table**
  - Daily, weekly, and annual passage estimates
  - Estimates confidence intervals
  - Correction status
  - Life stages
  - Passage types
- **Calendar Year Table**

Brood Year Table



Red Bluff Juvenile Estimates Brood Year Table Query

Red Bluff Juvenile Estimates Bro

cbr.washington.edu/sacramento/data/query_redbluff_by.html

SacPAS | Data & Alerts | Workgroups & Teams | Tools & Models | Explore in Depth | About

Red Bluff Juvenile Estimates Brood Year Table Query

Data Courtesy of USFWS, Red Bluff

Juvenile Monitoring & Sampling Queries

Cohort Juvenile Monitoring | Juvenile Salmonid Monitoring | Juvenile Life Stages | **Red Bluff Juvenile Estimates**

Daily Graph | Weekly Graph | Annual Graph | Brood Year Table | Calendar Year Table

Select Output Format

(•) HTML Table with CSV File ( ) CSV Only

Select Hatchery Influence: Correction Status

(•) Unmarked ( ) Mark-corrected

Select Passage Estimates Period, Brood Year, Species-Run, Life Stage/Passage Type

Daily	BY2026	Chinook, Winter	Fry
Weekly/Biweekly	BY2025	Chinook, Spring	Smolt
Annual	BY2024	Chinook, Fall	Total
	BY2023	Chinook, Late-Fall	Fry Equivalent
	BY2022	Steelhead	
	BY2021	All	

Brood year selections possible for single, multiple, or "All".

Species-Run selections possible for single, multiple, or "All".

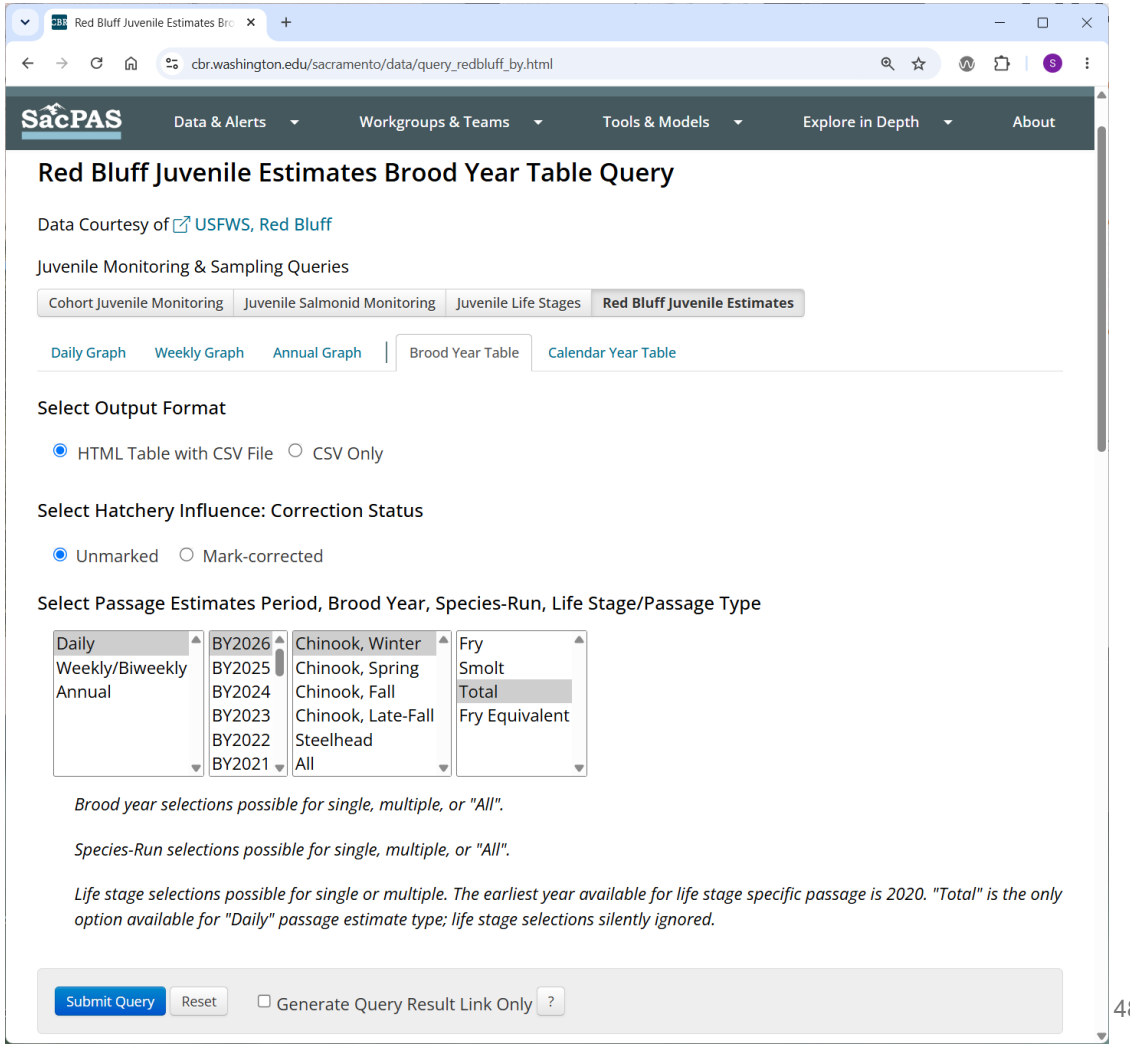
Life stage selections possible for single or multiple. The earliest year available for life stage specific passage is 2020. "Total" is the only option available for "Daily" passage estimate type; life stage selections silently ignored.

Submit Query | Reset | [ ] Generate Query Result Link Only ?

Brood Year Table

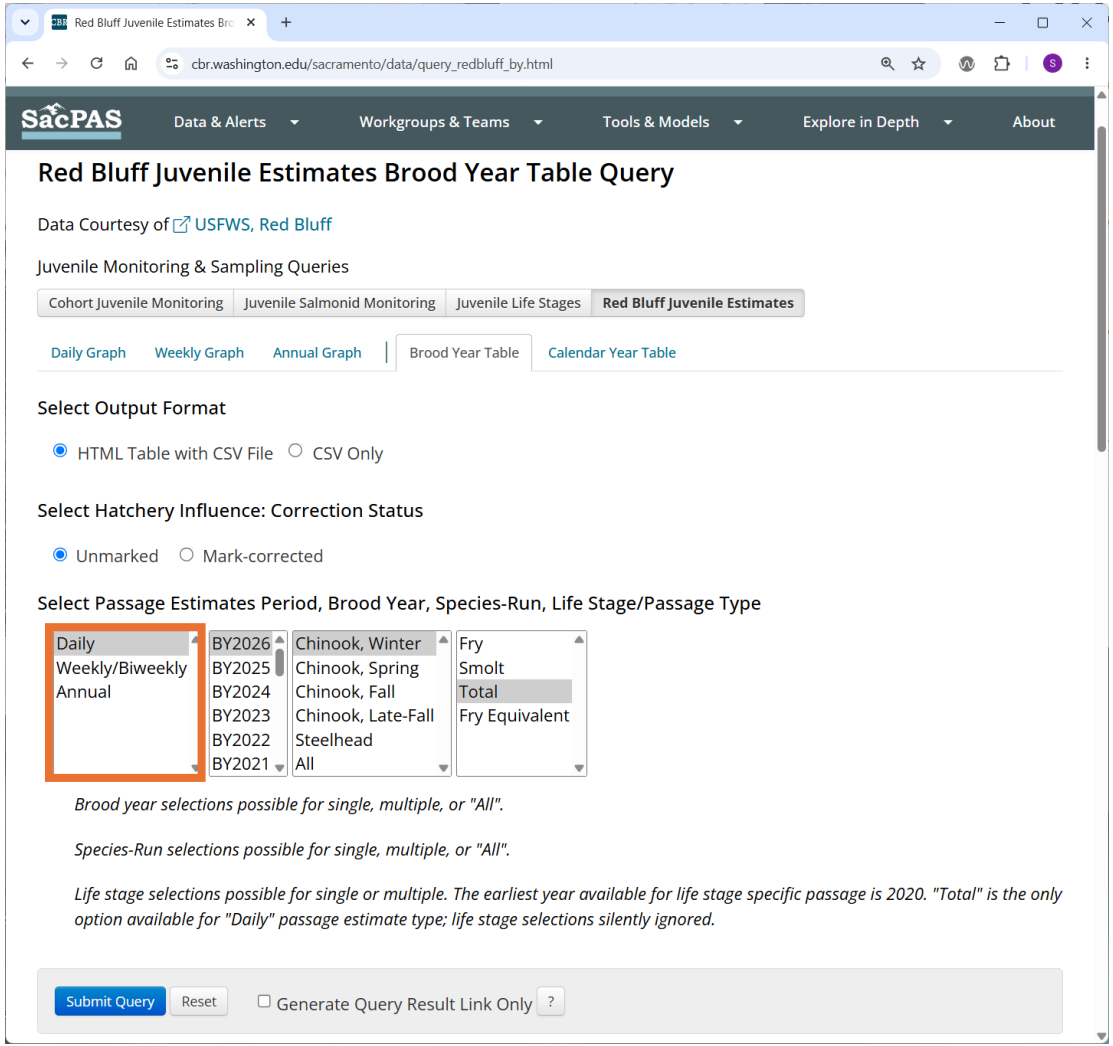
- Output Format
- Hatchery Influence: Correction Status
- Estimates Period
- Brood Year
- Species-run
- Life Stage / Passage Type

- Query Results Link Only



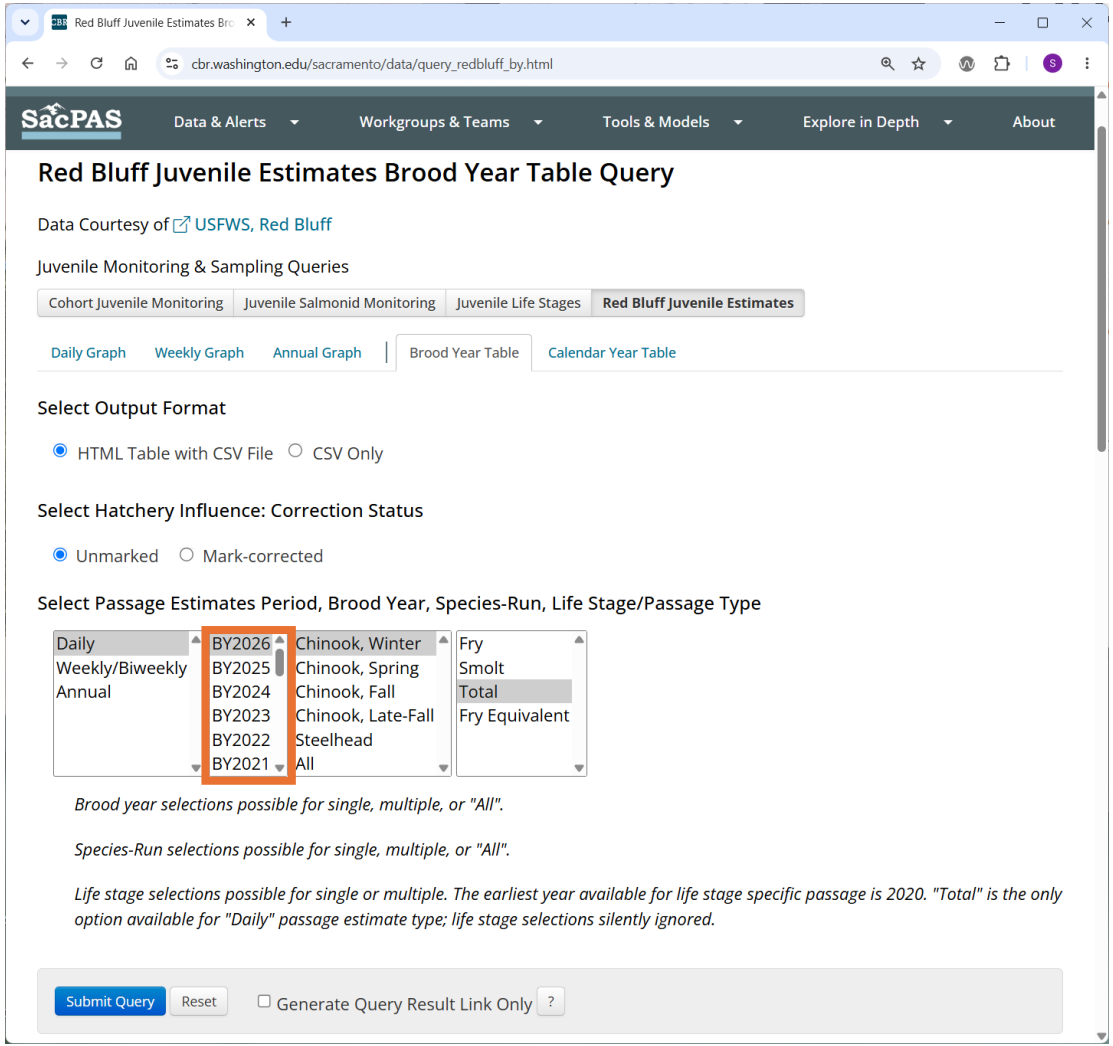
Brood Year Table

- **Estimates Period**
  - **Daily**
  - **Weekly (biweekly < BY2020)**
  - **Annual**



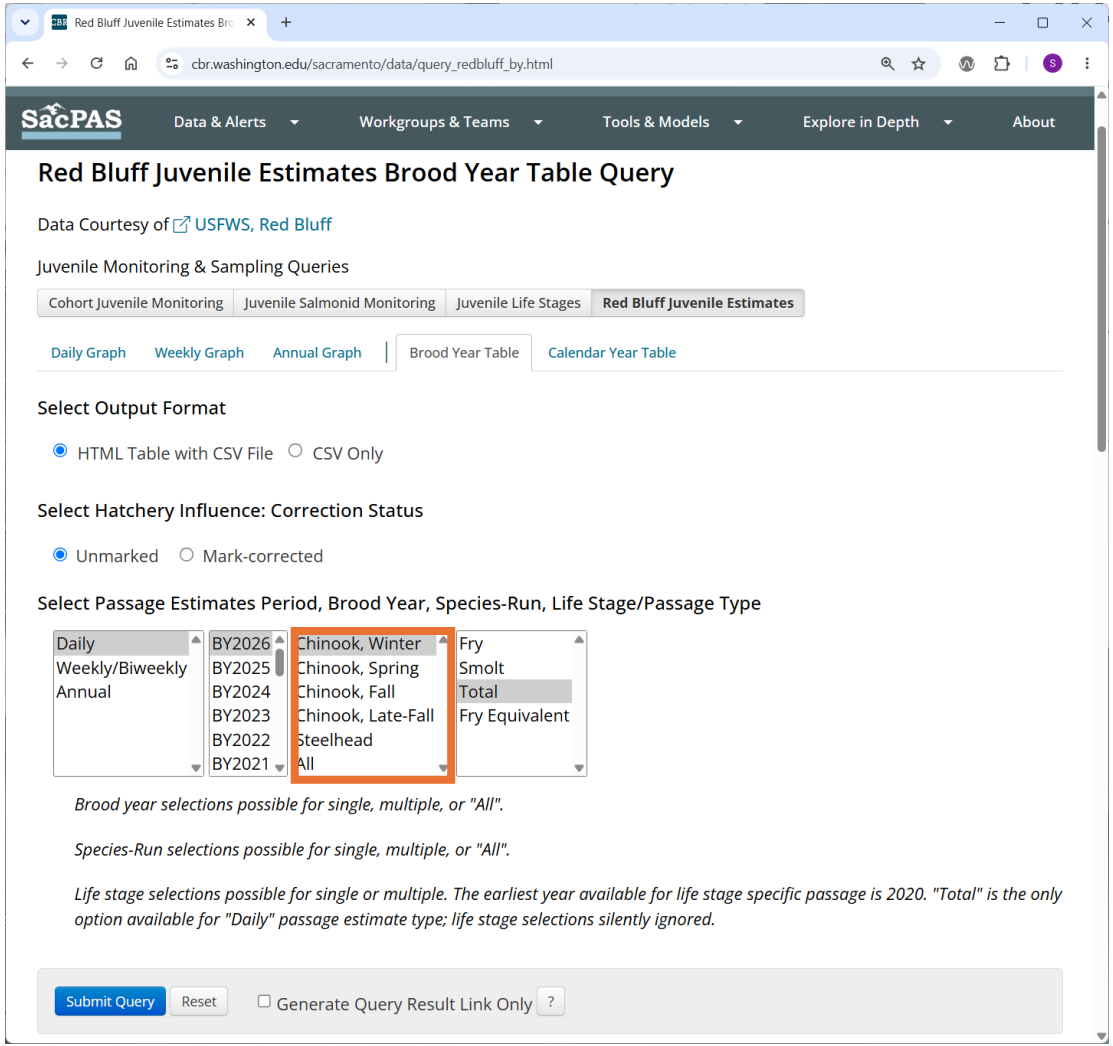
Brood Year Table

- **Brood Year**
  - **Single**
  - **Multiple**
  - **All**



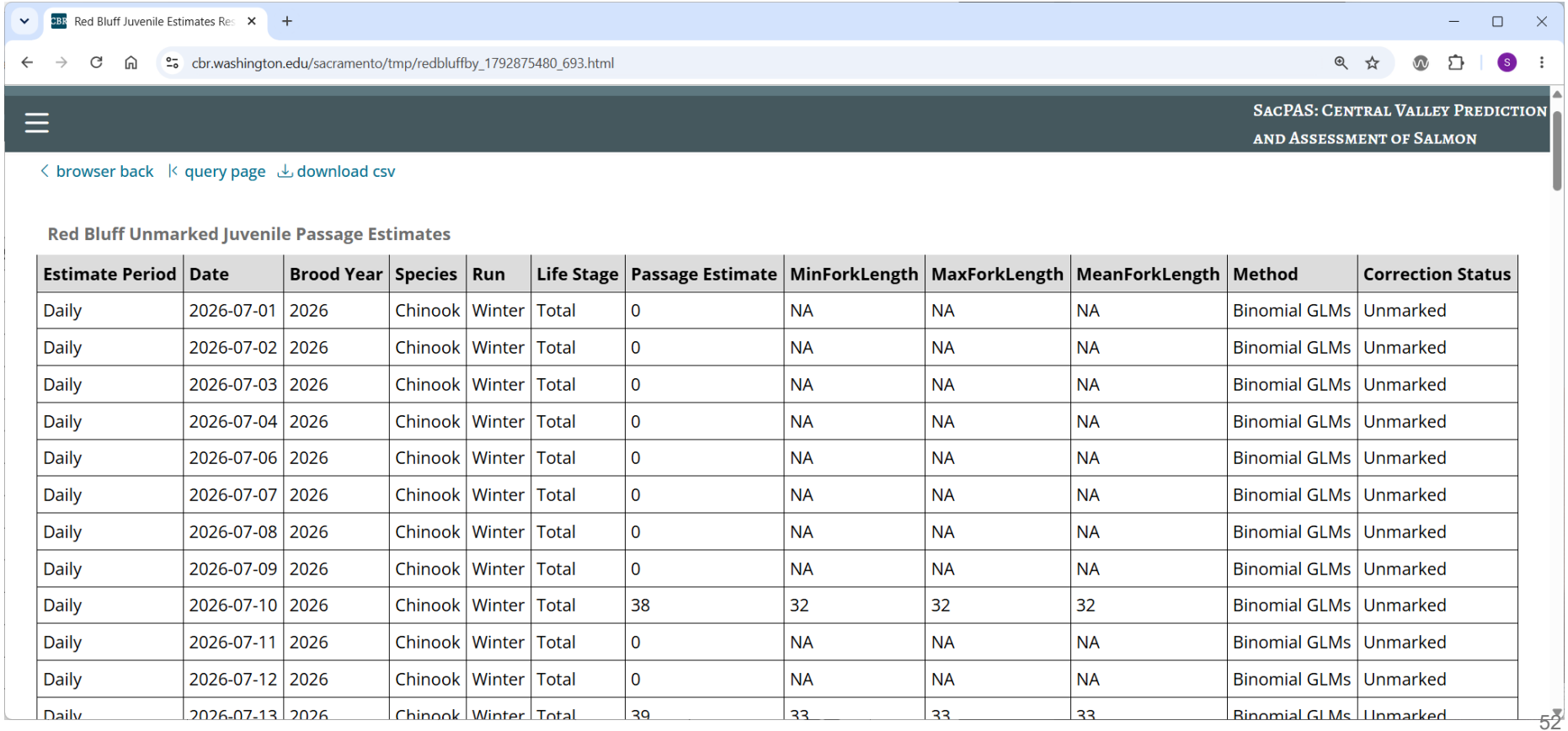
Brood Year Table

- **Species-run**
  - **Single**
  - **Multiple**
  - **All**



Brood Year Table Results for selections: Unmarked, Daily, BY2026, Winter Chinook, Total

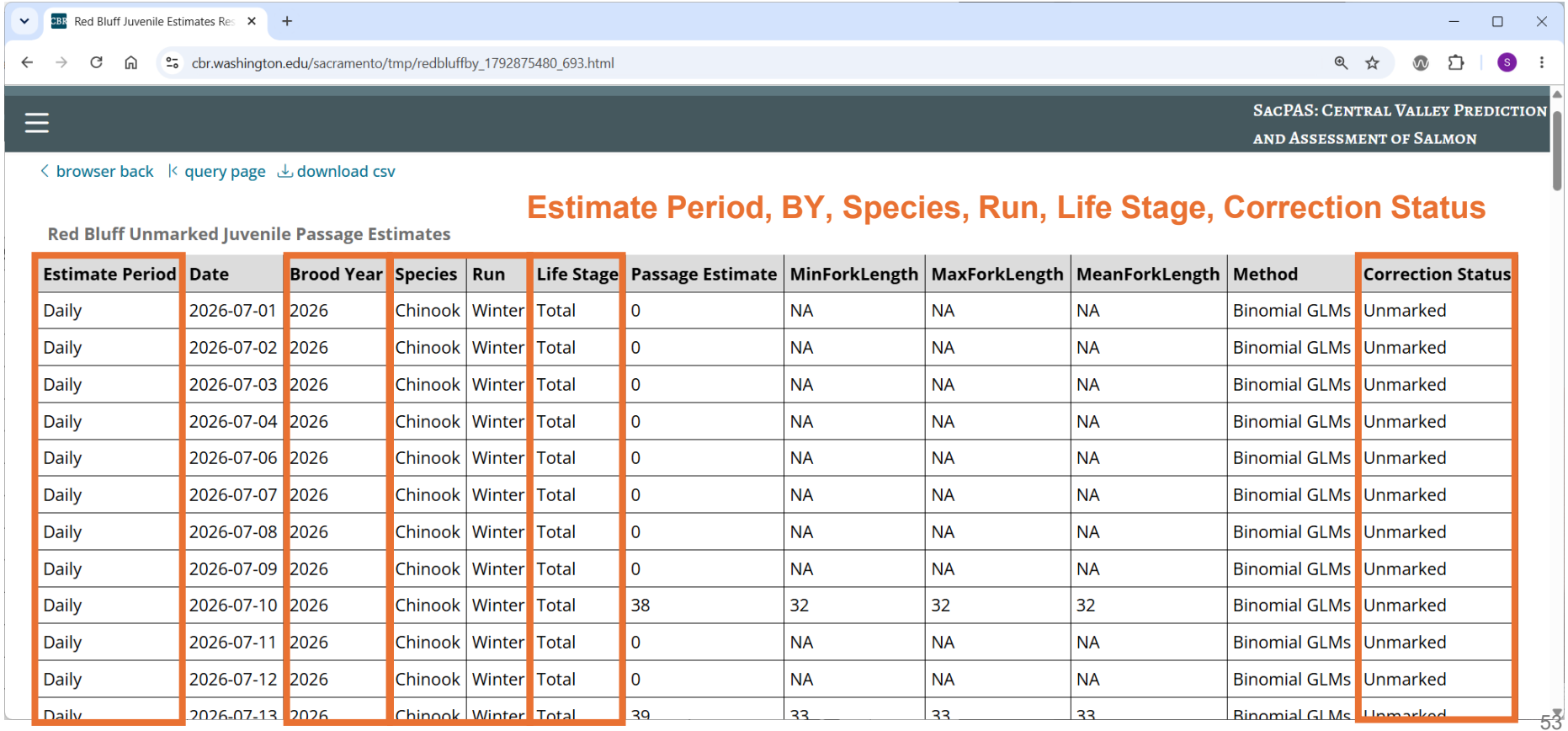
Tidy Data Format



Red Bluff Unmarked Juvenile Passage Estimates

Estimate Period	Date	Brood Year	Species	Run	Life Stage	Passage Estimate	MinForkLength	MaxForkLength	MeanForkLength	Method	Correction Status
Daily	2026-07-01	2026	Chinook	Winter	Total	0	NA	NA	NA	Binomial GLMs	Unmarked
Daily	2026-07-02	2026	Chinook	Winter	Total	0	NA	NA	NA	Binomial GLMs	Unmarked
Daily	2026-07-03	2026	Chinook	Winter	Total	0	NA	NA	NA	Binomial GLMs	Unmarked
Daily	2026-07-04	2026	Chinook	Winter	Total	0	NA	NA	NA	Binomial GLMs	Unmarked
Daily	2026-07-06	2026	Chinook	Winter	Total	0	NA	NA	NA	Binomial GLMs	Unmarked
Daily	2026-07-07	2026	Chinook	Winter	Total	0	NA	NA	NA	Binomial GLMs	Unmarked
Daily	2026-07-08	2026	Chinook	Winter	Total	0	NA	NA	NA	Binomial GLMs	Unmarked
Daily	2026-07-09	2026	Chinook	Winter	Total	0	NA	NA	NA	Binomial GLMs	Unmarked
Daily	2026-07-10	2026	Chinook	Winter	Total	38	32	32	32	Binomial GLMs	Unmarked
Daily	2026-07-11	2026	Chinook	Winter	Total	0	NA	NA	NA	Binomial GLMs	Unmarked
Daily	2026-07-12	2026	Chinook	Winter	Total	0	NA	NA	NA	Binomial GLMs	Unmarked
Daily	2026-07-13	2026	Chinook	Winter	Total	39	33	33	33	Binomial GLMs	Unmarked

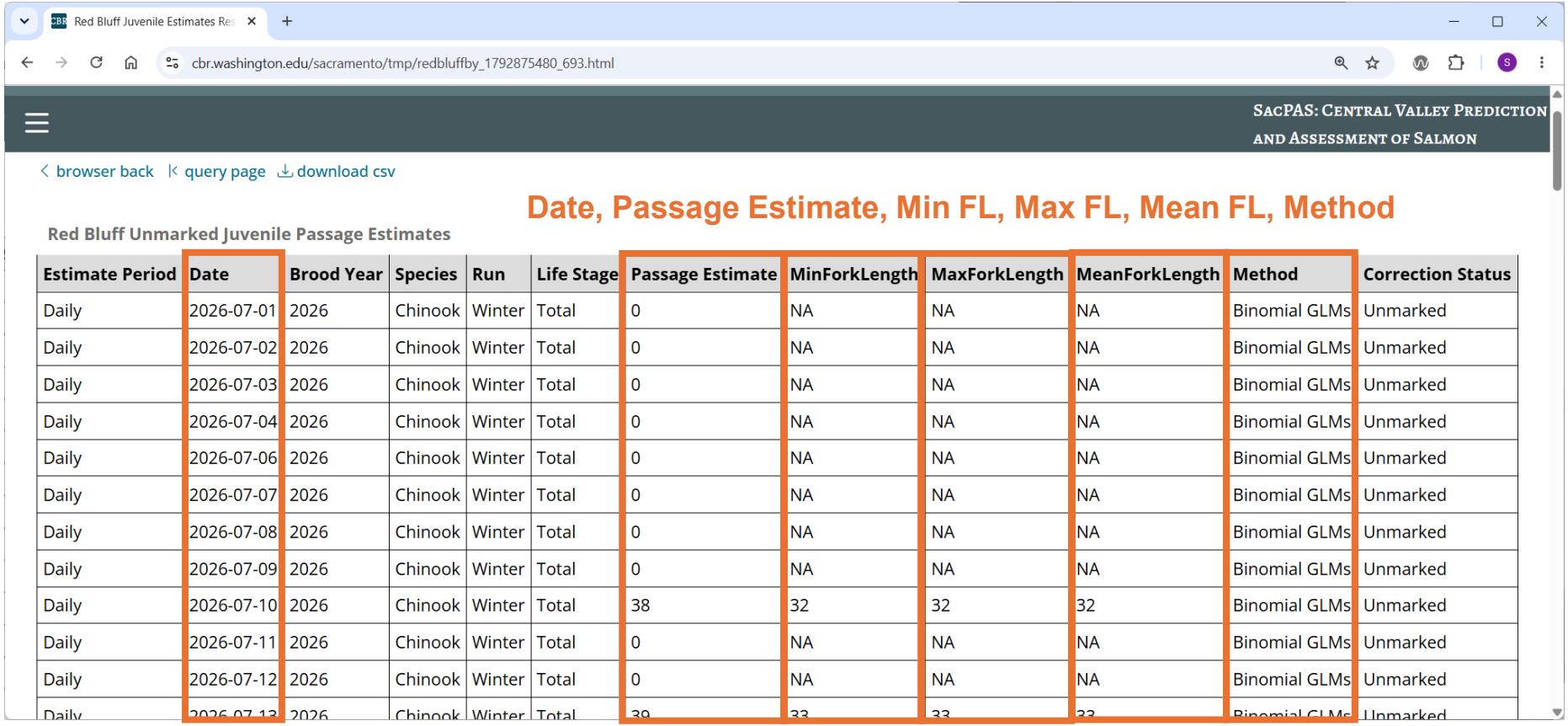
Brood Year Table Results for selections: Unmarked, Daily, BY2026, Winter Chinook, Total



Red Bluff Unmarked Juvenile Passage Estimates

Estimate Period	Date	Brood Year	Species	Run	Life Stage	Passage Estimate	MinForkLength	MaxForkLength	MeanForkLength	Method	Correction Status
Daily	2026-07-01	2026	Chinook	Winter	Total	0	NA	NA	NA	Binomial GLMs	Unmarked
Daily	2026-07-02	2026	Chinook	Winter	Total	0	NA	NA	NA	Binomial GLMs	Unmarked
Daily	2026-07-03	2026	Chinook	Winter	Total	0	NA	NA	NA	Binomial GLMs	Unmarked
Daily	2026-07-04	2026	Chinook	Winter	Total	0	NA	NA	NA	Binomial GLMs	Unmarked
Daily	2026-07-06	2026	Chinook	Winter	Total	0	NA	NA	NA	Binomial GLMs	Unmarked
Daily	2026-07-07	2026	Chinook	Winter	Total	0	NA	NA	NA	Binomial GLMs	Unmarked
Daily	2026-07-08	2026	Chinook	Winter	Total	0	NA	NA	NA	Binomial GLMs	Unmarked
Daily	2026-07-09	2026	Chinook	Winter	Total	0	NA	NA	NA	Binomial GLMs	Unmarked
Daily	2026-07-10	2026	Chinook	Winter	Total	38	32	32	32	Binomial GLMs	Unmarked
Daily	2026-07-11	2026	Chinook	Winter	Total	0	NA	NA	NA	Binomial GLMs	Unmarked
Daily	2026-07-12	2026	Chinook	Winter	Total	0	NA	NA	NA	Binomial GLMs	Unmarked
Daily	2026-07-13	2026	Chinook	Winter	Total	39	33	33	33	Binomial GLMs	Unmarked

Brood Year Table Results for selections: Unmarked, Daily, BY2026, Winter Chinook, Total



Estimate Period	Date	Brood Year	Species	Run	Life Stage	Passage Estimate	MinForkLength	MaxForkLength	MeanForkLength	Method	Correction Status
Daily	2026-07-01	2026	Chinook	Winter	Total	0	NA	NA	NA	Binomial GLMs	Unmarked
Daily	2026-07-02	2026	Chinook	Winter	Total	0	NA	NA	NA	Binomial GLMs	Unmarked
Daily	2026-07-03	2026	Chinook	Winter	Total	0	NA	NA	NA	Binomial GLMs	Unmarked
Daily	2026-07-04	2026	Chinook	Winter	Total	0	NA	NA	NA	Binomial GLMs	Unmarked
Daily	2026-07-06	2026	Chinook	Winter	Total	0	NA	NA	NA	Binomial GLMs	Unmarked
Daily	2026-07-07	2026	Chinook	Winter	Total	0	NA	NA	NA	Binomial GLMs	Unmarked
Daily	2026-07-08	2026	Chinook	Winter	Total	0	NA	NA	NA	Binomial GLMs	Unmarked
Daily	2026-07-09	2026	Chinook	Winter	Total	0	NA	NA	NA	Binomial GLMs	Unmarked
Daily	2026-07-10	2026	Chinook	Winter	Total	38	32	32	32	Binomial GLMs	Unmarked
Daily	2026-07-11	2026	Chinook	Winter	Total	0	NA	NA	NA	Binomial GLMs	Unmarked
Daily	2026-07-12	2026	Chinook	Winter	Total	0	NA	NA	NA	Binomial GLMs	Unmarked
Daily	2026-07-13	2026	Chinook	Winter	Total	39	33	33	33	Binomial GLMs	Unmarked

RBDD Queries on SacPAS

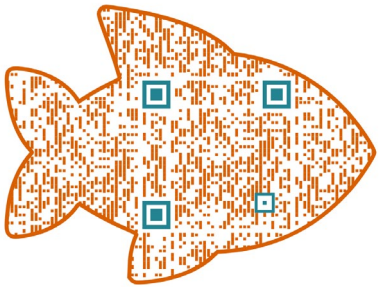
Graph Queries

- **Daily Graph**
- **Weekly Graph**
- **Annual Graph**

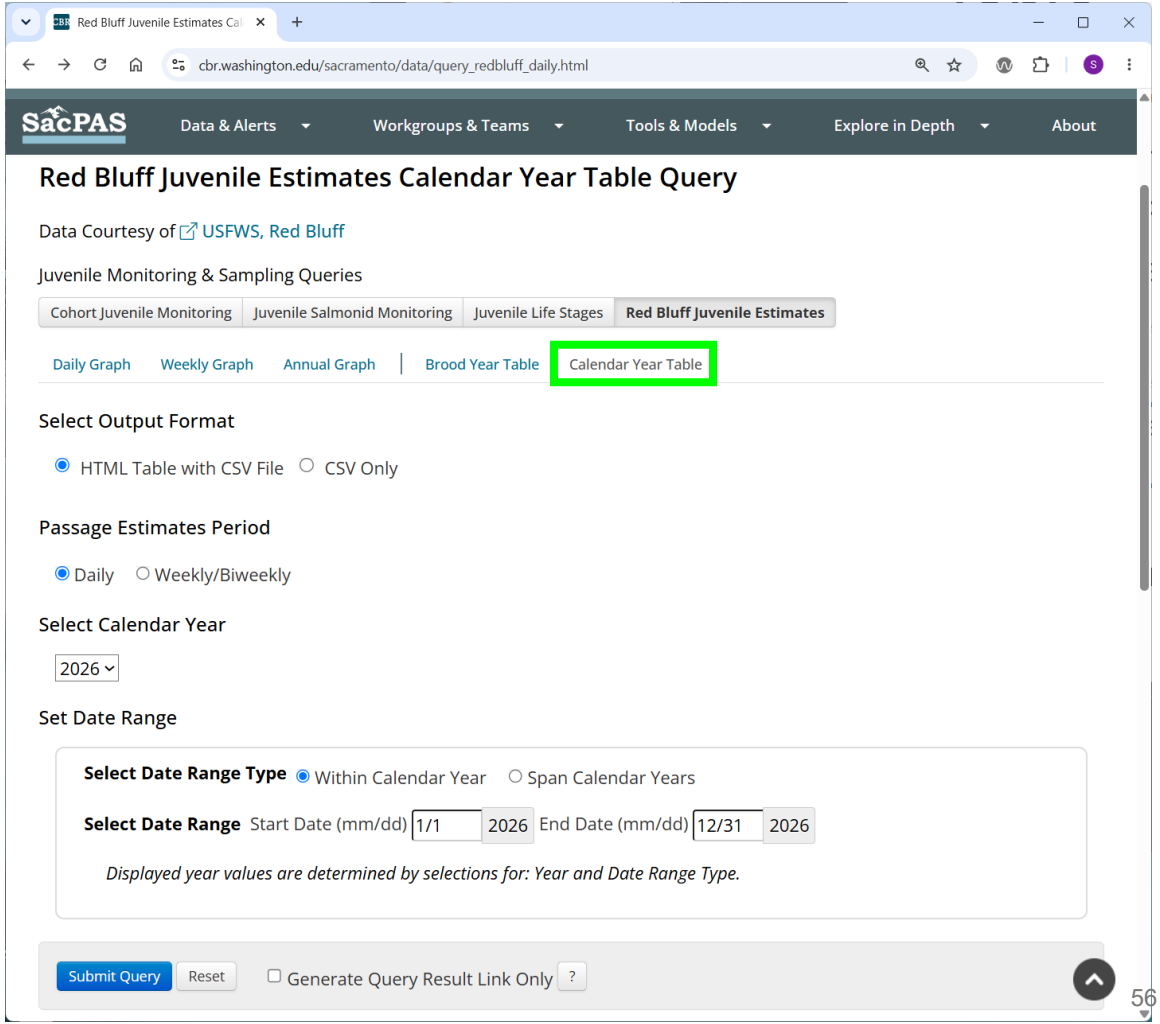
Table Queries

- **Brood Year Table**
- **Calendar Year Table**
  - Daily or weekly Total passage estimates
  - By calendar date
    - Each species and run
    - Fork length
    - Flow
    - Temperature
    - Turbidity

Calendar Year Table



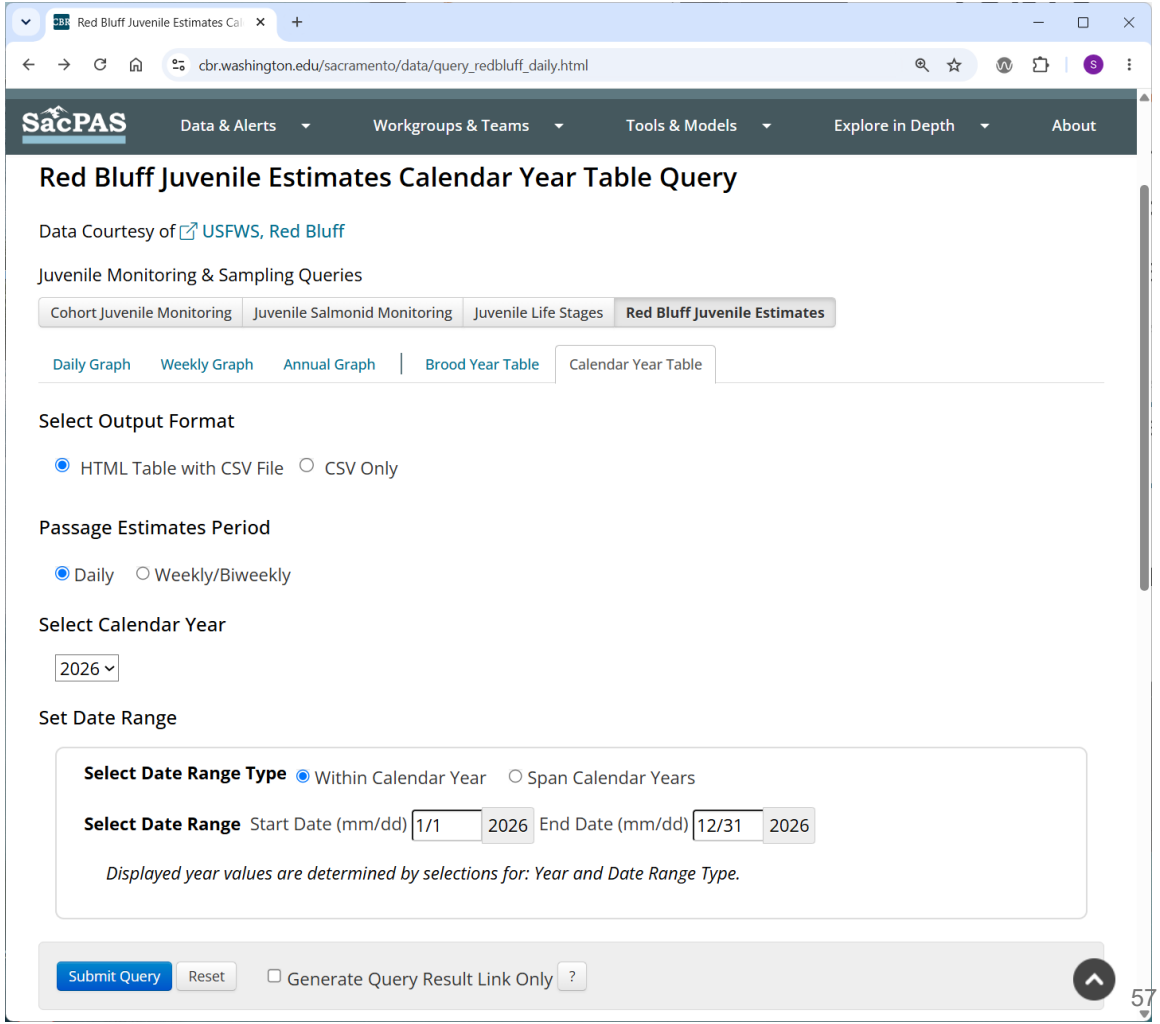
Red Bluff Juvenile Estimates Calendar Year Table Query



Calendar Year Table

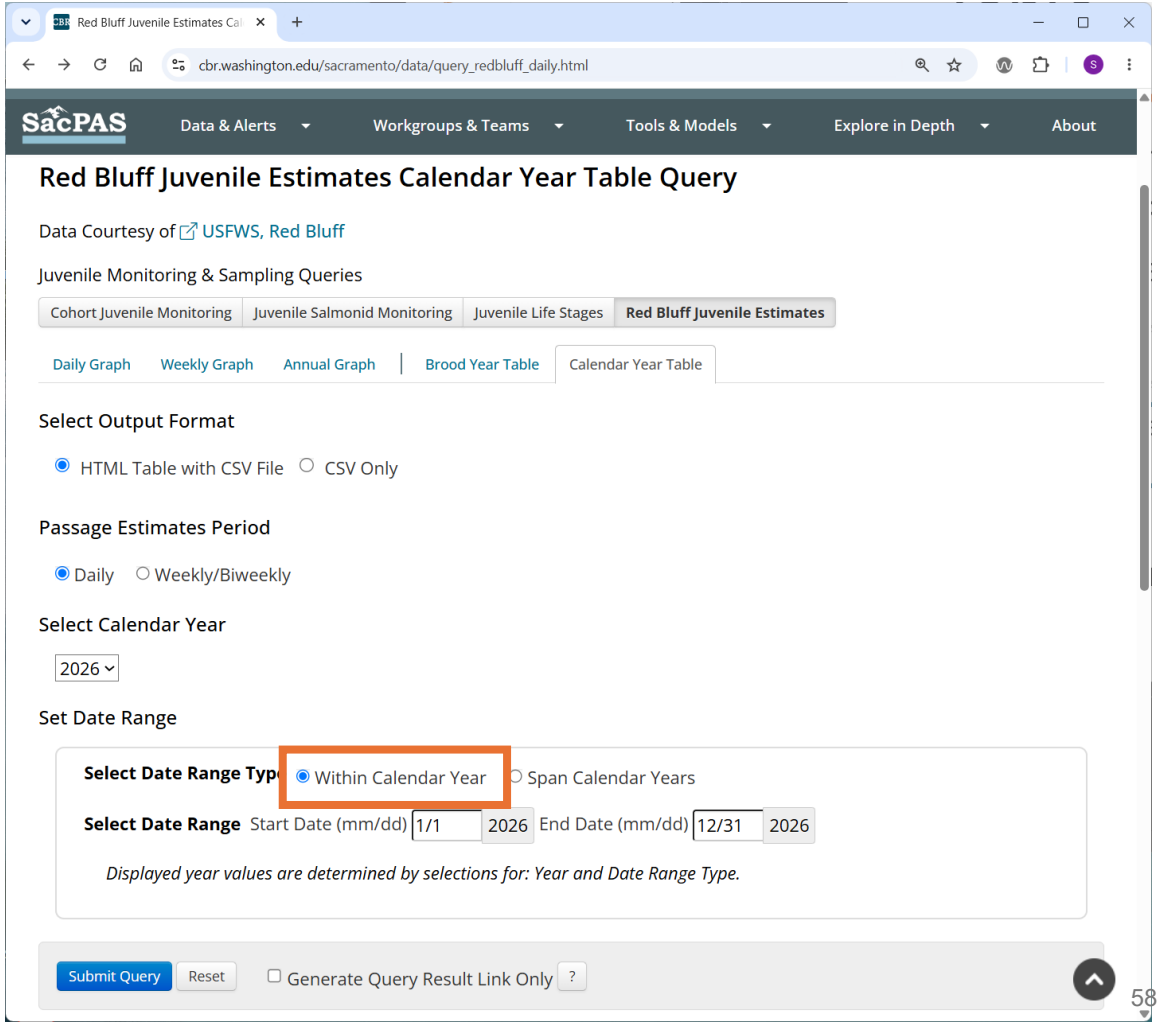
- Output Format
- Estimates Period
- Calendar Year
- Date Range Type
- Date Range

- Query Results Link Only



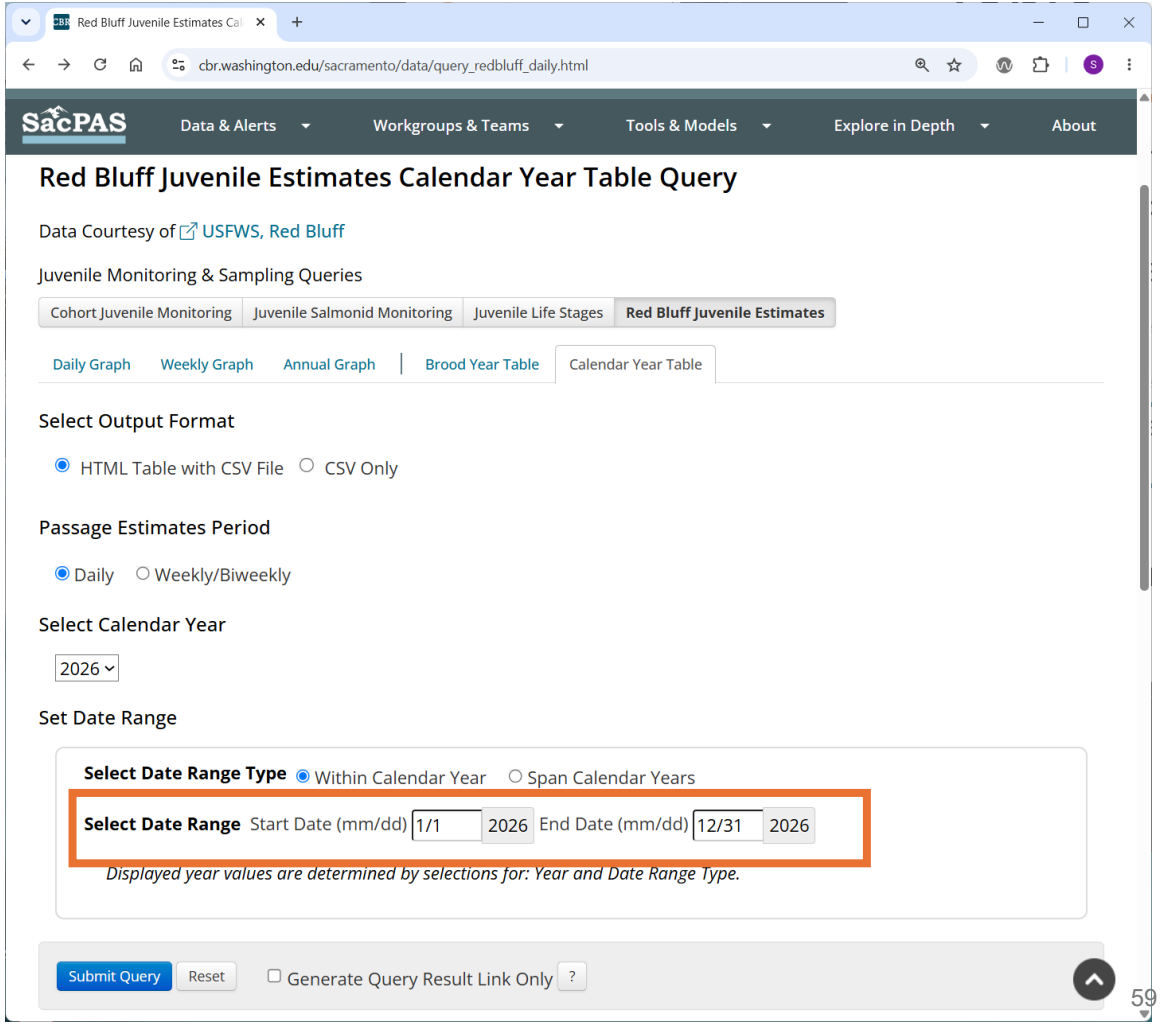
Calendar Year Table

- **Date Range Type**
  - **Within Calendar Year**



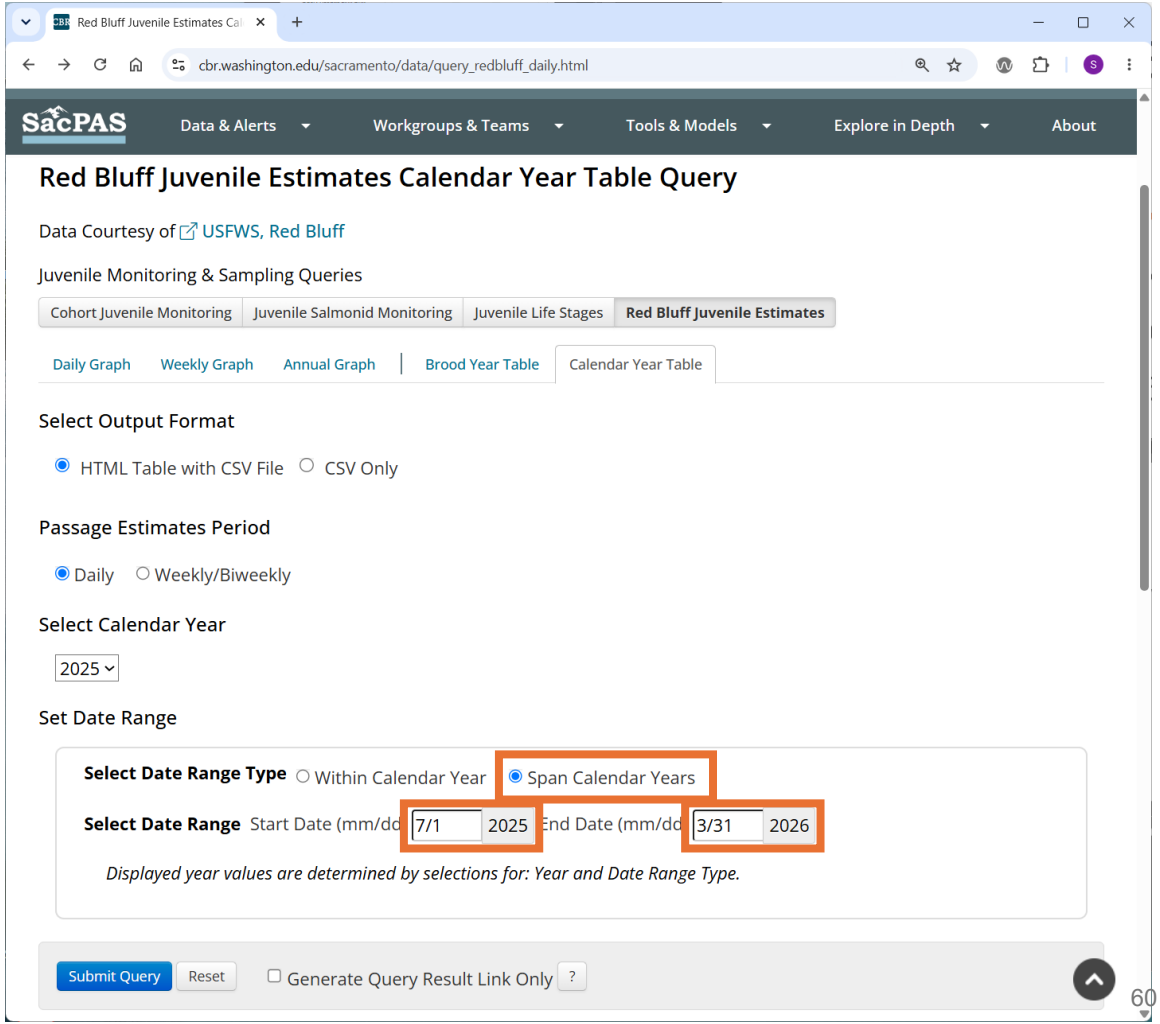
Calendar Year Table

- **Date Range**
  - **Start Date (MM/DD)**
  - **End Date (MM/DD)**

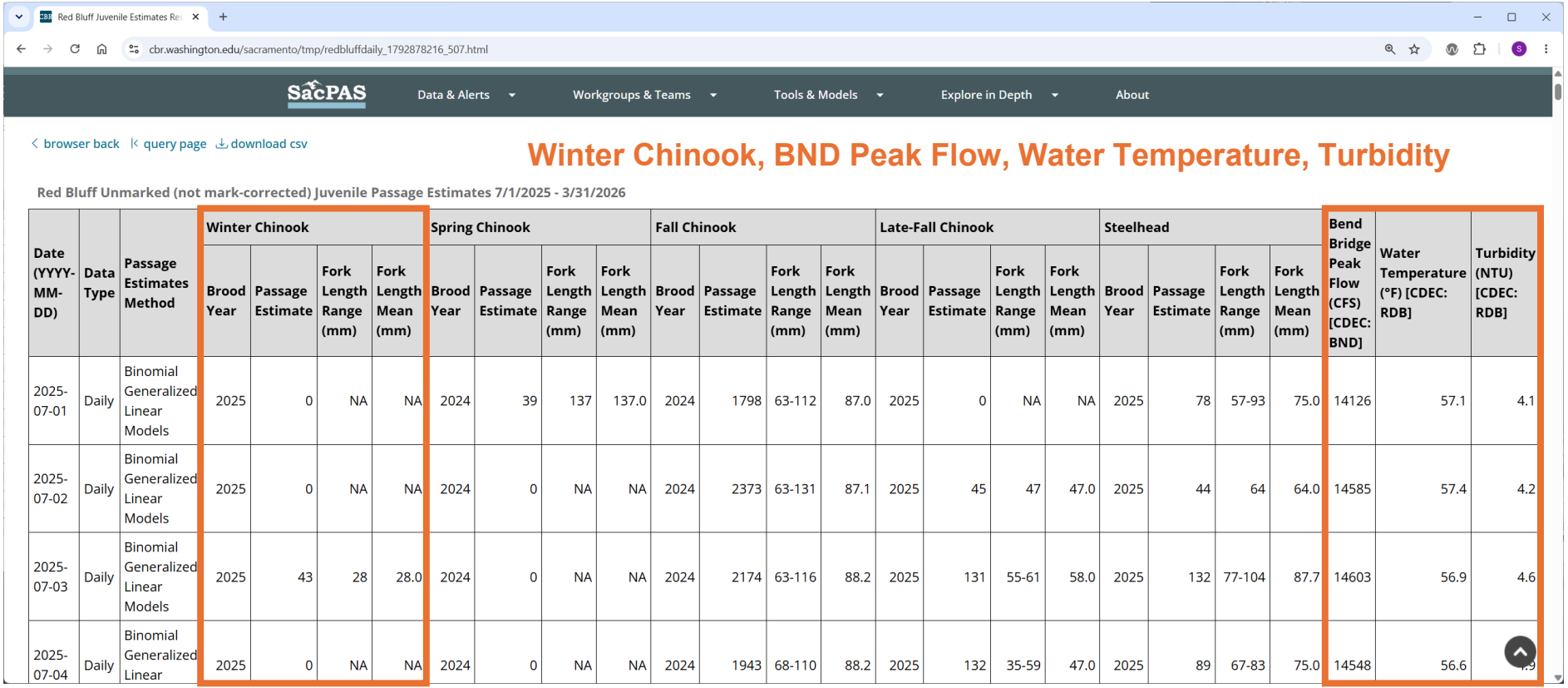


Calendar Year Table Selections

- Output Format: HTML Table
- Estimates Period: Daily
- Calendar Year: 2025
- **Date Range Type: Span**
- **Date Range:**
  - **Start Date: 7/1 = 7/1/2025**
  - **End Date: 3/31 = 3/31/2026**



Calendar Year Table Results for selections:
Daily, 2025, Span Years, Start Date 7/1, End Date 3/31



Red Bluff Juvenile Estimates Re

cbr.washington.edu/sacramento/tmp/redbluffdaily_1792878216_507.html

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Winter Chinook, BND Peak Flow, Water Temperature, Turbidity

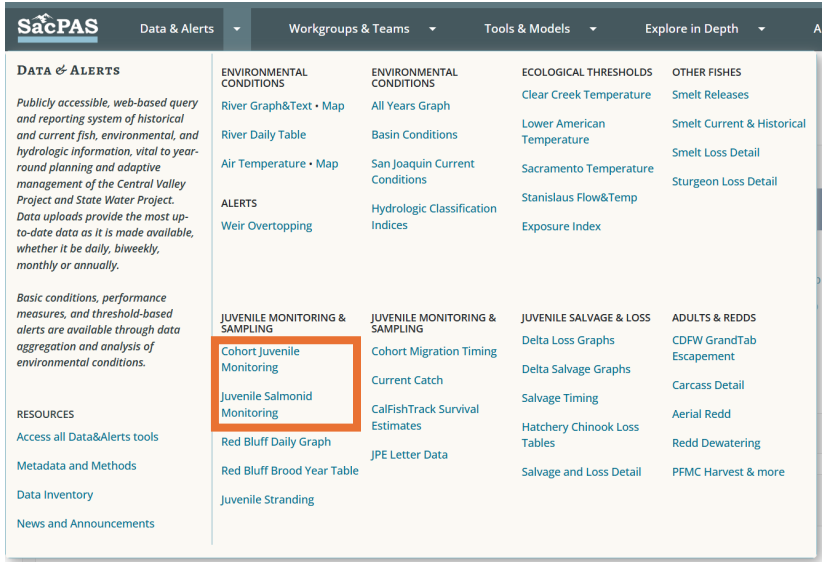
Red Bluff Unmarked (not mark-corrected) Juvenile Passage Estimates 7/1/2025 - 3/31/2026

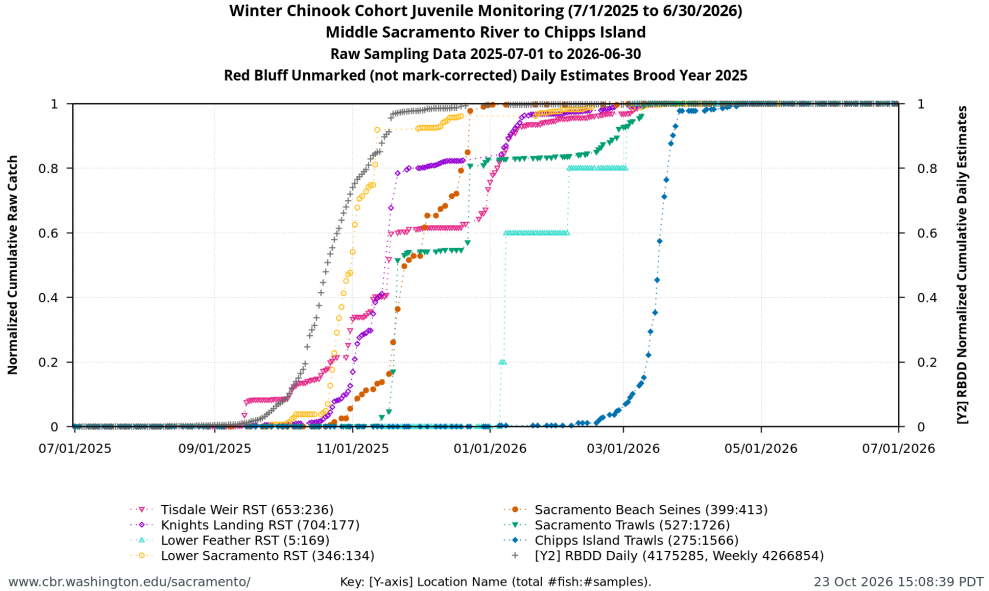
Date (YYYY-MM-DD)	Data Type	Passage Estimates Method	Winter Chinook				Spring Chinook				Fall Chinook				Late-Fall Chinook				Steelhead				Bend Bridge Peak Flow (CFS) [CDEC: BND]	Water Temperature (°F) [CDEC: RDB]	Turbidity (NTU) [CDEC: RDB]
			Brood Year	Passage Estimate	Fork Length Range (mm)	Fork Length Mean (mm)	Brood Year	Passage Estimate	Fork Length Range (mm)	Fork Length Mean (mm)	Brood Year	Passage Estimate	Fork Length Range (mm)	Fork Length Mean (mm)	Brood Year	Passage Estimate	Fork Length Range (mm)	Fork Length Mean (mm)	Brood Year	Passage Estimate	Fork Length Range (mm)	Fork Length Mean (mm)			
2025-07-01	Daily	Binomial Generalized Linear Models	2025	0	NA	NA	2024	39	137	137.0	2024	1798	63-112	87.0	2025	0	NA	NA	2025	78	57-93	75.0	14126	57.1	4.1
2025-07-02	Daily	Binomial Generalized Linear Models	2025	0	NA	NA	2024	0	NA	NA	2024	2373	63-131	87.1	2025	45	47	47.0	2025	44	64	64.0	14585	57.4	4.2
2025-07-03	Daily	Binomial Generalized Linear Models	2025	43	28	28.0	2024	0	NA	NA	2024	2174	63-116	88.2	2025	131	55-61	58.0	2025	132	77-104	87.7	14603	56.9	4.6
2025-07-04	Daily	Binomial Generalized Linear	2025	0	NA	NA	2024	0	NA	NA	2024	1943	68-110	88.2	2025	132	35-59	47.0	2025	89	67-83	75.0	14548	56.6	4.9

RBDD Juvenile Estimates in other queries

RBDD Juvenile Estimates in other queries

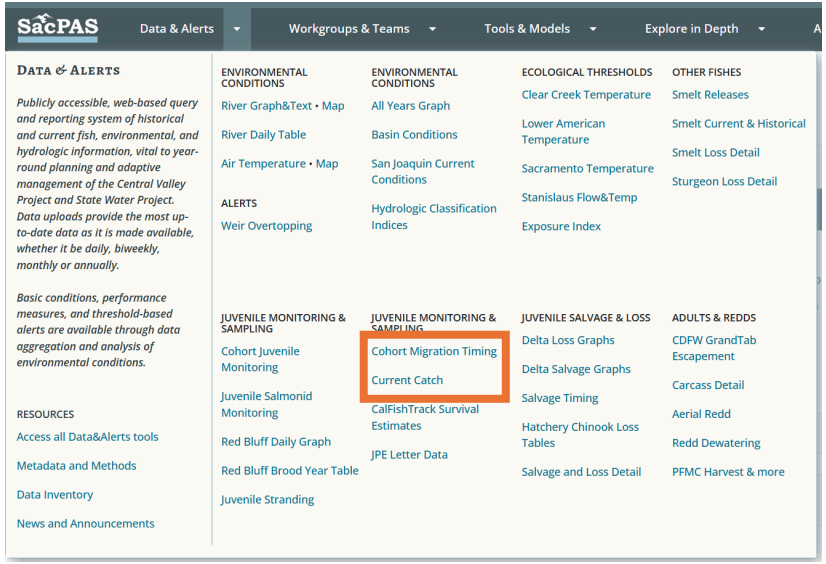
Daily passage estimates with catch at downstream RST, beach seine, and trawl locations

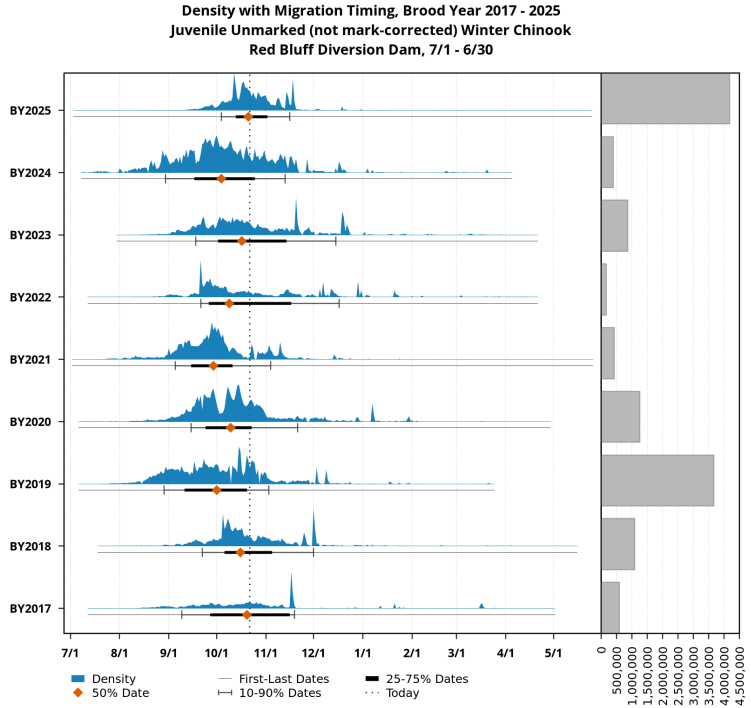




RBDD Juvenile Estimates in other queries

Current and historical migration timing and abundance across years

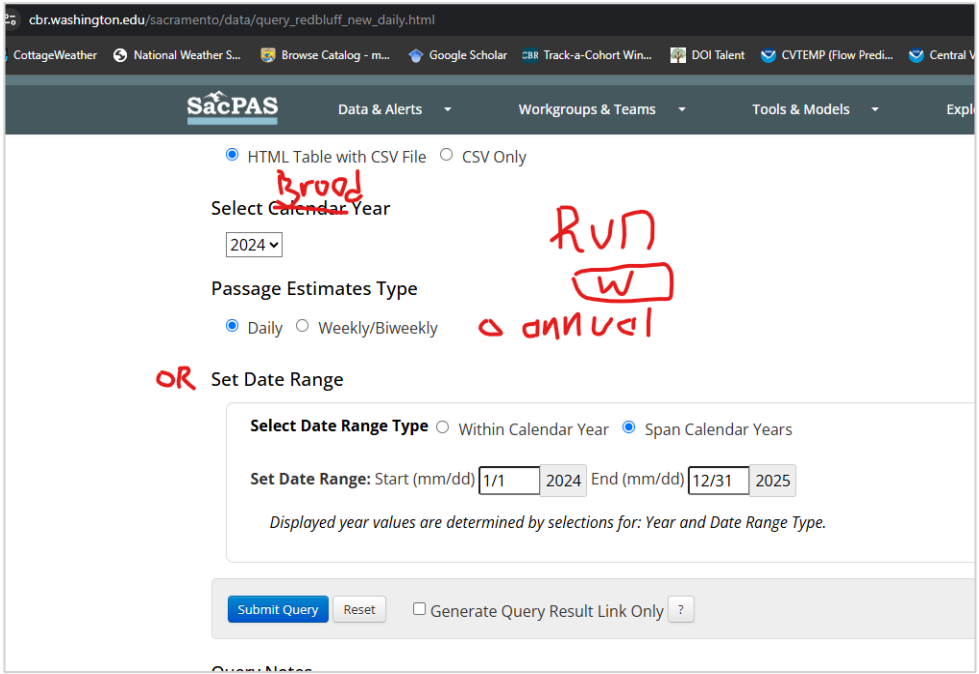




SacPAS - USFWS Collaboration

Ways We Communicate

- Emails
- Screenshots with Annotations
- Shared Documents with Comments
- Pre-release Web Pages
- Meetings to Discuss



Acknowledgments

We are grateful for the funding from the US Bureau of Reclamation that supports the SacPAS work and the RBDD Juvenile Fish Monitoring Program.

In particular, we thank Lisa Elliot (GOTR) and Josh Israel.





Feedback?
Questions?
Anytime.

We want to hear from you!

web@cbr.washington.edu