
Fish Presence and Usage in the Yolo Bypass

Yolo Bypass Fishery
Enhancement Planning Team

June 24, 2011

Target Fish Species Present in Yolo Bypass

- Chinook salmon (winter, spring, fall, and late fall runs)
- Steelhead
- Sacramento Splittail
- Sturgeon (white and green)
- Lamprey (river and Pacific)
- Smelt (Delta and longfin) – *(marginally present, but potentially affected by export of food web resources)*

Sources of Information on Presence

- Reece, K. W. Harrell, and T. Sommer, 2010. *Fish presence in California's Yolo Bypass floodplain*. Poster paper at 2010 IEP Annual Workshop.
- BDCP Effects Analysis, Appendix A
- BDCP Effects Analysis, Chapter 5 (DRAFT)

Usage of Yolo Bypass, Salmonids

- Adults of all salmonids – Upstream migration via Fremont Weir to spawning habitats in upper Sacramento and/or Feather River and tributaries
- Fall-run adults – Upstream migration through Bypass to Putah Creek for spawning
- Lost salmonid adults - Adults of all salmonids may be attracted into Bypass and trapped when flow is insufficient for upstream passage
- Juvenile salmonids – downstream migrants enter Bypass at Fremont and Sacramento Weirs and may rear for many weeks on floodplain when it is inundated

Presence in Yolo Bypass, Salmonids

| Species/races | Potentially present | | | Peak presence | | | YB presence documented | | | | | |
|------------------------------------|---------------------|-----|-----|---------------|-----|-----|------------------------|-----|-----|---------------|-----|-----|
| | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep |
| ADULTS | | | | | | | | | | | | |
| Fall-run Chinook ¹ | [Dotted Blue] | | | [Solid Blue] | | | [Dotted Blue] | | | [Solid Blue] | | |
| Late fall-run Chinook ¹ | [Solid Blue] | | | [Dotted Blue] | | | [Solid Blue] | | | [Dotted Blue] | | |
| Winter-run Chinook ¹ | [Solid Blue] | | | [Dotted Blue] | | | [Solid Blue] | | | [Dotted Blue] | | |
| Spring-run Chinook ¹ | [Solid Blue] | | | [Dotted Blue] | | | [Solid Blue] | | | [Dotted Blue] | | |
| Steelhead trout | [Dotted Blue] | | | [Solid Blue] | | | [Dotted Blue] | | | [Solid Blue] | | |
| JUVENILES | | | | | | | | | | | | |
| All races combined | [Solid Blue] | | | [Dotted Blue] | | | [Solid Blue] | | | [Dotted Blue] | | |
| Steelhead trout | [Solid Blue] | | | [Dotted Blue] | | | [Solid Blue] | | | [Dotted Blue] | | |
| Historical YB flooding (1984-2007) | [Light Red] | | | [Dark Red] | | | [Light Red] | | | [Light Red] | | |

¹ Presence of adult Chinook salmon of undetermined race documented in November, January, February, April and June.

Usage of Yolo Bypass, Other Species

- Splittail adults – Highly dependent on Yolo Bypass flooding; spawn extensively during inundation events
- Splittail juveniles and larvae – Require at least 30 days of continuous inundation to complete development
- Sturgeon and lamprey adults – Upstream migration via Fremont Weir to spawning habitats in upper Sacramento and/or Feather River and tributaries
- Sturgeon and lamprey juveniles – Downstream migration via Fremont and Sacramento weirs
- All Delta fish species, including delta and longfin smelt – Export of organic material and plankton supports Delta food web, especially in Cache Slough and vicinity.

Presence in Yolo Bypass, Other Species

| Species, life stage | Potentially present | | | Peak presence | | | YB presence documented | | | | | |
|---------------------------------------|---------------------|-----|-----|---------------|-----|-----|------------------------|-----|-----|-----|-----|-----|
| | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep |
| Sacramento splittail | | | | | | | | | | | | |
| Adults | ▨ | ▨ | ▨ | ▨ | ▨ | ▨ | ▨ | ▨ | ▨ | | | |
| Larvae and juveniles | | | | ▨ | ▨ | ▨ | ▨ | ▨ | ▨ | ▨ | ▨ | |
| White sturgeon | | | | | | | | | | | | |
| Adults | | | | ▨ | ▨ | ▨ | ▨ | ▨ | ▨ | ▨ | | |
| Juveniles | | | | | ▨ | ▨ | ▨ | ▨ | ▨ | | | |
| Green sturgeon | | | | | | | | | | | | |
| Adults | | | | | ▨ | ▨ | ▨ | ▨ | ▨ | ▨ | ▨ | |
| Juveniles | | | | | | | | | | ▨ | ▨ | ▨ |
| Lamprey | | | | | | | | | | | | |
| Pacific lamprey adults | | | | | | ▨ | ▨ | ▨ | ▨ | | | |
| River lamprey adults | | | | | | | | | | | | |
| Pacific lamprey juveniles | | | ▨ | ▨ | ▨ | ▨ | ▨ | ▨ | | | | |
| Delta smelt | | | | | | | | | | | | |
| Adults | ▨ | ▨ | ▨ | ▨ | ▨ | ▨ | ▨ | ▨ | ▨ | ▨ | | |
| Larvae and juveniles | ▨ | ▨ | ▨ | ▨ | ▨ | ▨ | ▨ | ▨ | ▨ | ▨ | | ▨ |
| Longfin smelt | | | | | | | | | | | | |
| Adults | ▨ | ▨ | ▨ | ▨ | ▨ | ▨ | ▨ | ▨ | ▨ | | | |
| Larvae and juveniles | | | | ▨ | ▨ | ▨ | ▨ | ▨ | ▨ | ▨ | | |
| Historical YB flooding (1984-2007) | | | ▨ | ▨ | ▨ | ▨ | ▨ | ▨ | ▨ | | | |