# Yolo Bypass Fishery Enhancement - Agricultural, Waterfowl and Fishery Considerations

<table>
<thead>
<tr>
<th>Fishery Enhancement</th>
<th>Before Nov 10</th>
<th>Nov 10-Nov 30</th>
<th>Dec 1 - Feb 15</th>
<th>Feb 16 - Feb 28</th>
<th>Mar 1-April 10</th>
<th>April 11-May 15</th>
<th>May 16 or Later</th>
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<tbody>
<tr>
<td><strong>Juvenile Salmonids on Floodplain</strong></td>
<td>Provide seasonal floodplain habitat for the large emigration of winter-run Chinook salmon (up to 80% of run) that occurs during first 400 cms pulse flow event of the year (occurred in 22% of years [1997-2010] in November, with November 20 the earliest date.)</td>
<td>Improve availability of floodplain habitat (food, etc.) for all salmonids, particularly winter-run and spring-run Chinook salmon. November through February is when the majority of winter-run are detected upstream of the Fremont Weir.</td>
<td>Improve availability of floodplain habitat (food, etc.) for all salmonids, particularly fall-run and Butte Creek spring-run Chinook salmon.</td>
<td>Improve availability of floodplain habitat (food, etc.) for all salmonids, particularly fall-run and Butte Creek spring-run Chinook salmon and steelhead. Nearly the entire run of Butte Creek spring-run emigrate down Butte Creek past Chico in January and February and continue their emigration through the Sutter Bypass in the following three months depending on flow.</td>
<td>Improve availability of floodplain habitat (food, etc.) for all salmonids, particularly late-fall-run Chinook salmon and steelhead.</td>
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<td><strong>Spilltail on Floodplain</strong></td>
<td>Accommodate the migration pulse of spilltail adults that occurs approximately 1 week following a flow pulse</td>
<td>Improve conditions for adults staging for spawning and spawning, improving likelihood that spilltail eggs and larvae will be present in February and March</td>
<td>Provide for spilltail spawning and rearing habitat with seasonal floodplain as water conditions allow.</td>
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<td><strong>Adult Fish Passage</strong></td>
<td>Improve passage for adult salmonids and sturgeon through “notch” or additional fishways</td>
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## Agriculture
(Conservation easements or fee title will be required for all inundation on agricultural land)

- Late harvest must be complete before notch flows could occur for fish benefits.
- No impacts to agriculture during this period. Willows and marsh plants must be managed to allow for subsequent planting.
- When out-of-bank flow occurs in the Yolo Bypass during this period it causes zero to some yield impacts on affected lands. Drainage occurs approximately 11 days after flows measured at YB Y gauge drop to 6,000 cfs. Create berms to manage and focus flows on low yield lands to minimize impacts to agriculture. Drainage improvements to high yield lands as needed to accelerate planting.
- When out-of-bank flow occurs in the Yolo Bypass during this period it causes some to high yield impacts on affected lands. Drainage occurs approximately 11 days after flows measured at YB Y gauge drop to 6,000 cfs. Create berms to manage and focus flows on low yield lands to minimize impacts to agriculture. Drainage improvements to high yield lands as needed to accelerate planting.
- May 10 is the final day for planting without yield impacts. Final cessation of Yolo Bypass flows during this period could be too late to allow successful land preparation and planting by June 10, the reported last possible day to plant (with high yield impacts).
- Cessation of Yolo Bypass flows by May 15 is too late to prepare land to plant by June 10, the last possible day to plant (with high yield impacts).

## Waterbird/Wetland Management
Seasonal wetland flooding begins early September, full flood-up by mid-October. Flow harvested ricefields as early as possible after harvest.

- Circulate water in wetlands and maintain optimal levels for foraging (<30 cm). Continue flooding of rice fields, harvest typically completed.
- Circulate water in wetlands and rice fields to maintain optimal levels for foraging (<30 cm).
- Maintain wetlands through February and March. Water levels in most rice fields typically drawn down in late February in anticipation of field preparation.
- Begin draw down flooded seasonal wetlands on April 1 to promote germination of swamp timothy (a forage crop). Later down draw results in undesirable vegetation. Duck nesting in uplands begins.
- Peak nesting period for resident ducks (uplands) and shorebirds (wetlands/rice). Maintain some permanent wetlands for brood/chick habitat. Newly planted rice provides forage and habitat for breeding waterbirds.
- Maintain some wetlands for breeding waterbirds and broods. Waterbird nesting increases in ricefields and brood use continues until August. Fallow ricefields (on Yolo WA) flooded for migrating shorebirds (Jul/Aug)