

Alternative 2 would not conflict with the YBWA LMP by substantially affecting access for educational uses.

13.3.3.3.1 Impact REC-1: Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated

Impacts due to the increases in the use of FWWA, SBWA, or YBWA under Alternative 2 would be the same as those discussed for Alternative 1.

CEQA Conclusion

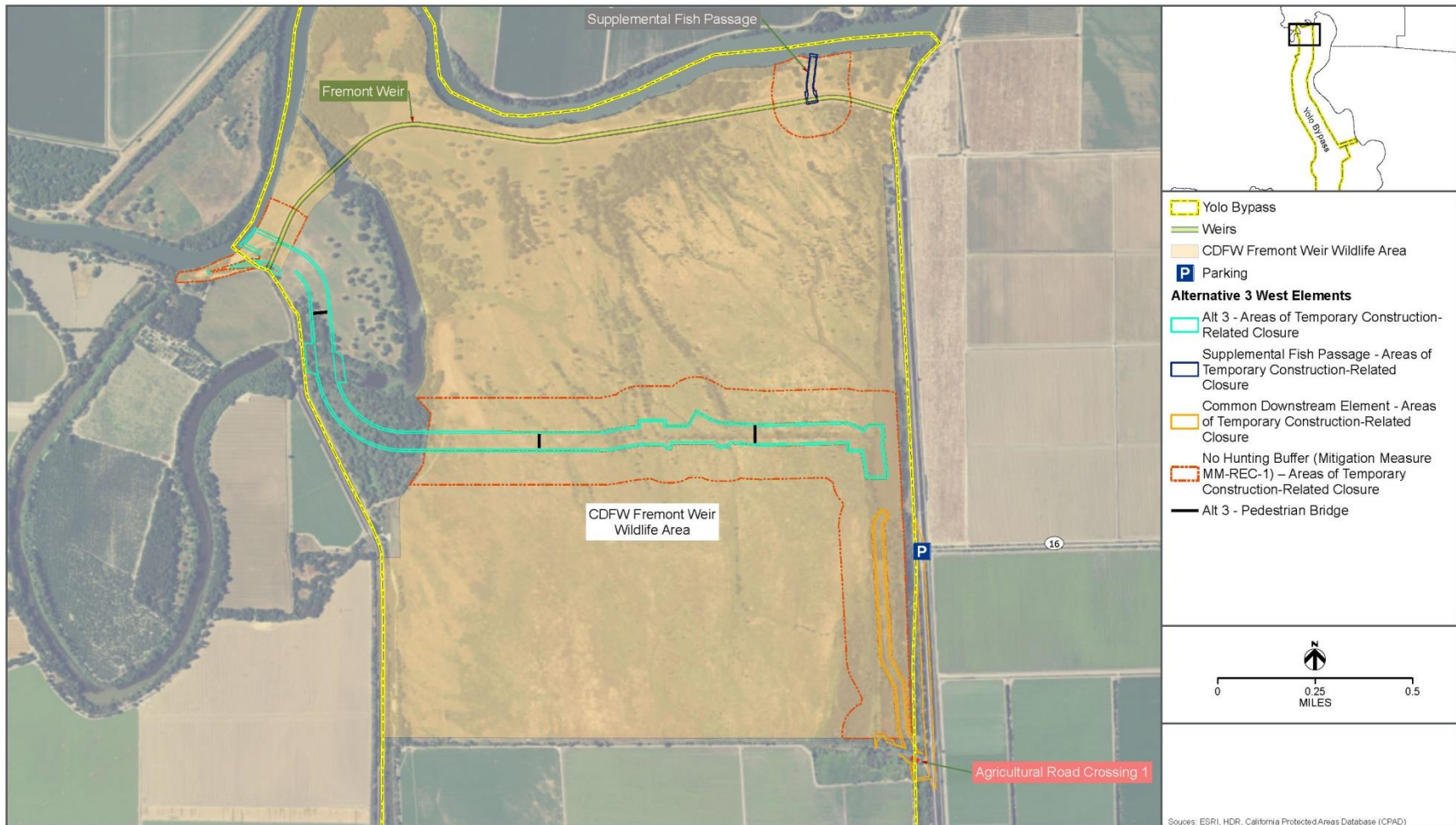
Alternative 2 would result in short-term closures during construction that could temporarily increase use levels within other areas of the FWWA or at SBWA and YBWA, but these increases would be minimal and temporary and would not be expected to result in the substantial physical deterioration of those recreation areas. Therefore, this impact would be **less than significant**. As detailed for Alternative 1, implementation of Mitigation Measure MM-REC-1 would help to minimize the short-term construction-related effects to recreational access and opportunities to the construction disturbance areas (only 23.7 percent of FWWA lands) through coordination with CDFW FWWA managers and public notifications. Nonetheless, recreational access would still be restricted in the construction disturbance areas during the construction period from April 15 through November 1, which coincides with much of FWWA's hunting season, including several key hunting periods. However, Mitigation Measure MM-REC-1 would provide public notification of the construction disturbance areas and allow recreational visitors the ability to utilize FWWA lands outside the construction disturbance (76.3 percent of FWWA lands) or utilize the alternative wildlife areas in the areas that provide similar opportunities, particularly SBWA and YBWA during the temporary construction period.

13.3.3.4 Alternative 3: West Side Gated Notch

Alternative 3, West Side Gated Notch, would provide a similar new gated notch through Fremont Weir as described for Alternative 1. The primary difference between Alternatives 1 and 3 is the location of the notch; Alternative 3 would site the notch on the western side of Fremont Weir. This gate would be a similar size but would have an invert elevation that is higher (16.1 feet) because the river is higher at this upstream location. Alternative 3 would allow up to 6,000 cfs through the gated notch to provide open channel flow for adult fish passage. See Section 2.6 for more details on the alternative features.

Effects on Access to Recreation Opportunities at the Established Wildlife Areas

Compared to Alternative 1, Alternative 3 would have slightly different components and alignments than Alternatives 1 and 2, but the temporary and permanent effects for recreational access would be the same as those associated with Alternative 1, which would affect only FWWA. The linear transport channels in Alternative 3 would be located along the southeastern boundary of FWWA and would bisect the northern portion of FWWA similar to Alternative 2 but farther to the west, as shown on Figure 13-13. Similar to Alternative 2, Alternative 3 includes three pedestrian bridges that would maintain access to and movement through FWWA lands for recreational uses by crossing the transport channel, as shown on Figure 13-14.



Key: CDFW = California Department of Fish and Wildlife

Figure 13-13. Alternative 3 Areas of Temporary Construction-Related Closure in the CDFW Fremont Weir Wildlife Area

Effects on Available Lands for Recreation Opportunities at Established Wildlife Area

Alternative 3 would have effects similar to Alternative 1 on the amount of available lands due to the areas of temporary construction-related closure and areas of permanent disturbance. Under Alternative 3, the areas of temporary construction-related closure for Alternative 3 components plus the additional 150-yard “no hunting” buffer area as part of MM-REC-1 would result in a total of 286.9 acres of converted lands or 19.6 percent of FWWA lands. Alternative 3 would result in the permanent conversion of 48.4 acres, or 3.3 percent of FWWA lands, which includes 6.8 acres of wetlands or 9.9 percent of wetlands.

Regarding increased duration of inundation, Alternative 3 would have similar changes in the duration of inundation as Alternative 1, with the same resulting impacts, as shown on Figure 13-4 and Figure 13-6 for Alternative 1. YBWA and SBWA would be affected in terms of recreational access and opportunities from increased periods of inundation up to three weeks on average, which would represent a 33 to 50 percent increase over Existing Conditions and would be considerable. In addition, critical waterfowl hunting opportunities and educational programs would be affected due to increased periods of inundation. Alternative 3 would result in additional closures of YBWA by four additional days or a 66 percent increase over Existing Conditions. However, the change in comparison to the 100-day hunting season would only be a 4.1 percent reduction in the number of available hunting days, which would not be a substantial reduction. Regarding effects on waterfowl hunting opportunities due to changes in the depth of inundation, Alternative 3 would have reductions in the shallow-flooded wetlands and indirect effects on waterfowl hunting opportunities similar to Alternative 1, as shown on Figures 13-8 through 13-10.

Refer to Section 13.3.3.2.1 for a more detailed discussion of the effects of Alternative 1.

Closure of Well-Established Wildlife Areas

Regarding additional closures of the wildlife areas, Alternative 3 would have the same effects as Alternative 1, whereby Alternative 3 would result in 28.2 days of closures, which represents an increase of 5.2 days or 22.6 percent over Existing Conditions. However, when considering YBWA is generally open year-round, Alternative 3 would result in a 1.4 percent increase in the number of days closed over the year, which would not be substantial.

Conflict with the YBWA LMP by Affecting Access for the Educational Uses of the YBWA

Alternative 3 would have the same effects as Alternative 1, whereby Alternative 3 would result in YBWA closures for a total of 28.2 days, on average, which equates to an additional 5.2 days or a 22.6 percent increase over Existing Conditions. However, the change in comparison to the 37-week educational program period would only be a 2.0 percent reduction in days, which is not expected to reduce access to YBWA facilities in a way that would eliminate or substantially reduce the educational uses of the YBWA. Therefore, implementation of Alternative 3 would not conflict with the YBWA LMP by substantially affecting access for educational uses.

13.3.3.4.1 Impact REC-1: Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated

Impacts due to the increases in the use of FWWA, SBWA, or YBWA under Alternative 3 would be the same as those discussed for Alternative 1.

CEQA Conclusion

Alternative 3 would result in short-term closures during construction that could temporarily increase use levels within other areas of the FWWA or at SBWA and YBWA, but these increases would be minimal and temporary and would not be expected to result in the substantial physical deterioration of those recreation areas. Therefore, this impact would be **less than significant**.

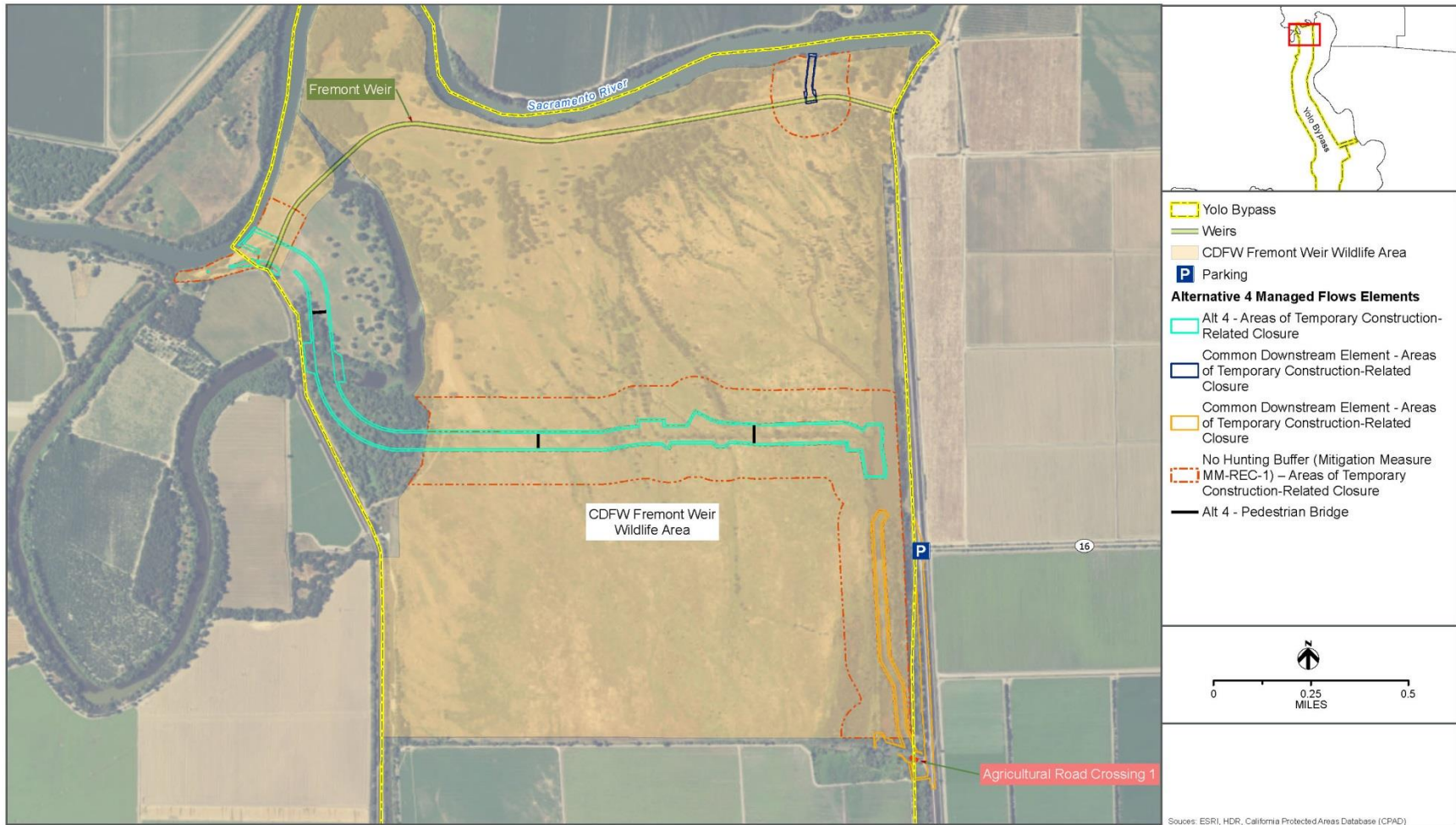
As detailed for Alternative 1, implementation of Mitigation Measure MM-REC-1 would help to minimize the short-term construction-related effects to recreational access and opportunities to the construction disturbance areas (only 19.6 percent of FWWA lands) through coordination with CDFW FWWA managers and public notifications. Nonetheless, recreational access would still be restricted in the construction disturbance areas during the construction period from April 15 through November 1, which coincides with much of FWWA's hunting season, including several key hunting periods. However, Mitigation Measure MM-REC-1 would provide public notification of the construction disturbance areas and allow recreational visitors the ability to utilize FWWA lands outside the construction disturbance (80.4 percent of FWWA lands) or utilize the alternative wildlife areas in the areas that provide similar opportunities, particularly SBWA and YBWA during the temporary construction period.

13.3.3.5 Alternative 4: West Side Gated Notch – Managed Flow

Alternative 4, West Side Gated Notch – Managed Flow, would have a smaller amount of flow entering the Yolo Bypass through the gated notch in Fremont Weir than some other alternatives, but it would incorporate water control structures to maintain inundation for longer periods of time within the northern portion of the Yolo Bypass. Alternative 4 would include the same gated notch and associated facilities as described for Alternative 3; however, it would be operated to limit the maximum inflow to 3,000 cfs. Alternative 4 would allow for two different end dates for when operation of the intake facility would stop allowing inundation flows to enter the bypass—March 7 and March 15. The operational end date would be fixed and would not vary year to year. See Section 2.7 for more details on the alternative features.

Effects on Access to Recreation Opportunities at the Established Wildlife Areas

Alternative 4 would have slightly different components and alignments than Alternatives 1, 2, and 3, but the temporary and permanent access effects would be the same as those associated with Alternative 1, which would affect only FWWA. The linear transport channels in Alternative 4 would be located along the southeastern boundary of FWWA and would bisect the northern portion of FWWA similar to Alternative 3, as shown on Figure 13-15. As with the other alternatives, Alternative 4 includes three permanent pedestrian bridges in the central and northeastern areas of FWWA (similar to Alternative 3) that would maintain permanent access to and movement through FWWA lands during operation for recreational uses by crossing the transport channel, as shown on Figure 13-16.



Key: CDFW = California Department of Fish and Wildlife

Figure 13-15. Alternative 4 Areas of Temporary Construction-Related Closure in the CDFW Fremont Weir Wildlife Area



Key: CDFW = California Department of Fish and Wildlife

Figure 13-16. Alternative 4 Areas of Permanent Disturbance in the CDFW Fremont Weir Wildlife Area

Effects on Available Lands for Recreation Opportunities at Established Wildlife Area

Alternative 4 would have effects similar to Alternative 1 on the amount of available lands due to the areas of temporary construction-related closure and areas of permanent disturbance. Under Alternative 4, the areas of temporary construction-related closure for Alternative 4 components plus the additional 150-yard “no hunting” buffer area as part of MM-REC-1 would result in a total of 286.9 acres of converted lands or 19.6 percent of FWWA lands. Alternative 4 would result in a total of 48.4 acres of permanently converted lands, or 3.3 percent of the existing lands at FWWA, which includes 6.8 acres of wetlands or 9.9 percent of wetlands within FWWA.

Regarding the periods of inundation, Alternative 4 would have differing effects at FWWA than Alternatives 1, 2, and 3. However, at the SBWA and YBWA, Alternative 4 would result in overall increases in the extent and duration of inundation similar to Alternatives 1, 2, and 3. As a result, Alternative 4 impacts would represent a 33 to 50 percent increase in the duration of inundation at SBWA and a 38 to 50 percent increase at YBWA as compared to Existing Conditions.

For the private hunting clubs south of YBWA, Alternative 4 would result in an increase in the duration of inundation of up to one week, on average, for most of the clubs, as shown on Figure 13-18. The remaining clubs would not experience a change in inundation under Alternative 4. In comparison, Existing Conditions would result in up to six weeks of increased inundation where the private hunting clubs are located, as shown on Figure 13-7. Overall, the Alternative 4 impacts would represent a 17 percent increase over Existing Conditions for most of the private hunting clubs.

Further, the increased duration of inundation from the operation of Alternative 4 could result in additional YBWA closures that could result in a loss of popular waterfowl hunting opportunities and educational opportunities that have short available periods of use and overlap with periods of inundation under Existing Conditions. Waterfowl hunting opportunities at YBWA last for approximately 100 days from late October through January. As shown in Table 13-5, during this key waterfowl hunting season, Alternative 4 would result in YBWA closures for a total of 8.0 days, on average, which equates to an additional 1.8 days or a 29.0 percent increase over Existing Conditions. However, the change in comparison to the 100-day hunting season would only be a 1.8 percent reduction in the number of available hunting days, which would not be a substantial reduction.

Table 13-5. Alternative 4 Changes in Number of Days the Yolo Bypass Wildlife Area is Closed due to Inundation.

| Scenario | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Total (Oct-May) | Total Waterfowl Hunting Season (Oct-Jan) |
|---------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----------------|--|
| Existing Conditions | 0.0 | 0.0 | 0.9 | 5.3 | 5.7 | 7.0 | 3.4 | 0.7 | 23.0 | 6.2 |
| Alternative 4 | 0.0 | 0.0 | 1.4 | 6.6 | 5.9 | 7.3 | 3.4 | 0.7 | 25.3 | 8.0 |
| Difference | 0.0 | 0.0 | 0.5 | 1.3 | 0.2 | 0.3 | 0.0 | 0.0 | 2.3 | 1.8 |

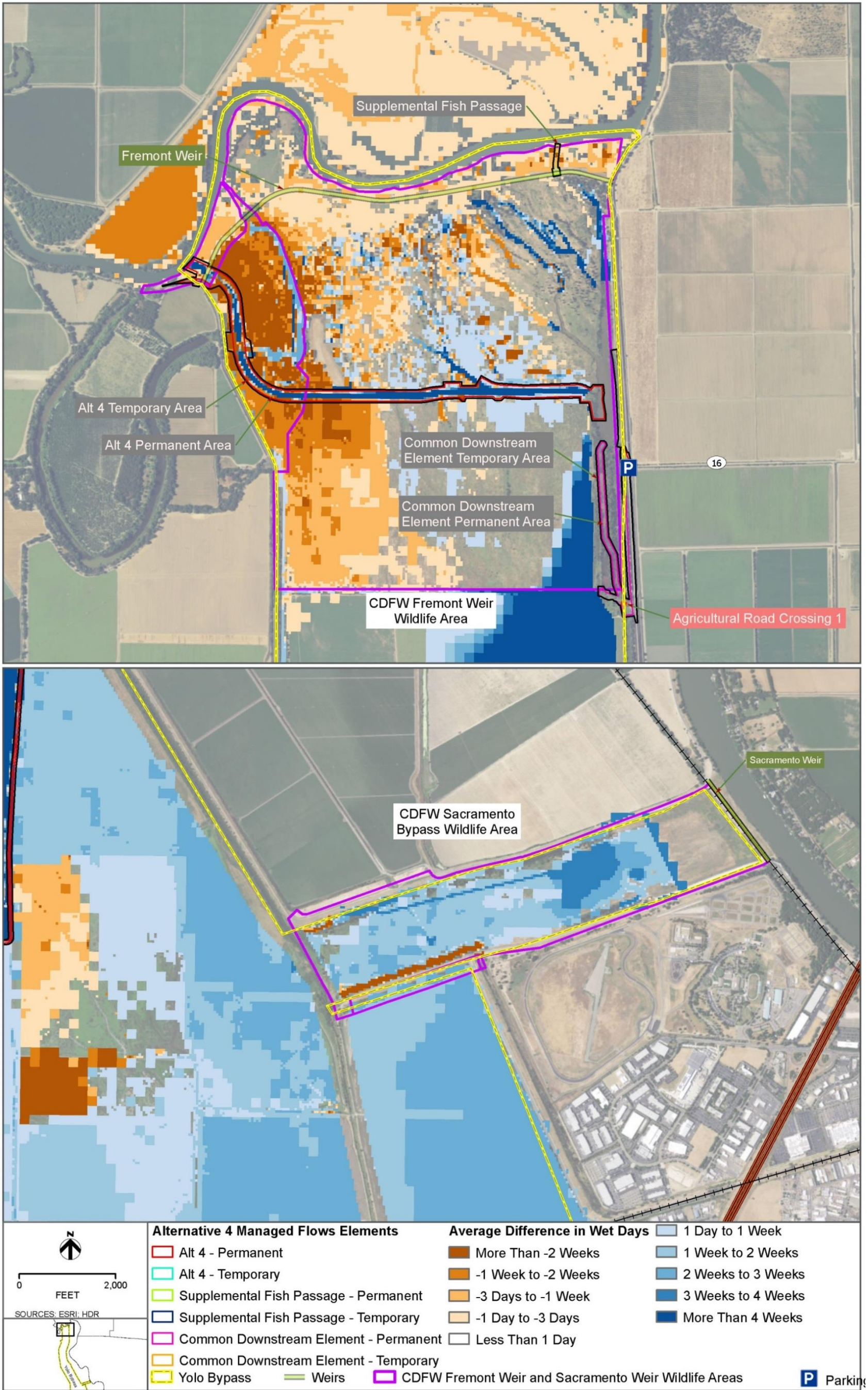
Key: Apr = April; Dec = December; Feb = February; Jan = January; Mar = March; Nov = November; Oct = October

At the FWWA, Alternative 4 would result in an increase in the duration of inundation across 54 percent of FWWA land, or 790.8 acres, as shown in Table 13-6 and on Figure 13-17. The most prevalent amount of increased inundation would be less than one day at 35 percent of FWWA lands or 510.4 acres and one day to one week at 12 percent of FWWA lands or 177.5 acres. Larger periods of increased inundation (from one week to more than four weeks) would be much smaller in scale and localized in the northeast and southeast portions of FWWA, as shown in Table 13-6 and on Figure 13-16. In comparison, Existing Conditions would result in a typical duration of inundation of four to six weeks for the majority of FWWA lands, as shown on Figure 13-5. The impacts associated with Alternative 4 would represent a 17 to 25 percent increase in the duration of inundation compared to Existing Conditions, which would result in a typical duration of inundation of four to six weeks for the majority of FWWA lands.

Table 13-6. Alternative 4 Changes in Duration of Inundation (in Wet Days) at the FWWA, SBWA, and YBWA

| Average Difference in Duration of Wet Days | Alternative 1 FWWA (acres) | Alternative 1 FWWA (percent) | Alternative 1 SBWA (acres) | Alternative 1 SBWA (percent) | Alternative 1 YBWA (acres) | Alternative 1 YBWA (percent) |
|--|----------------------------|------------------------------|----------------------------|------------------------------|----------------------------|------------------------------|
| More than -2 weeks | 42.4 | 2.9% | 10.8 | 3.0% | 1.5 | <0.1% |
| -1 to -2 weeks | 80.3 | 5.5% | 0.5 | 0.1% | 15.4 | 0.1% |
| -3 days to -1 week | 208.3 | 14.3% | 0.6 | 0.2% | 1.8 | 0.0% |
| -1 day to -3 days | 237.4 | 16.2% | 0.6 | 0.2% | 2.9 | 0.0% |
| No change | 101.8 | 7.0% | 47.4 | 13.2% | 2707.7 | 16.1% |
| Less than 1 day | 510.4 | 34.9% | 51.2 | 14.2% | 4181.3 | 24.9% |
| 1 day to 1 week | 177.5 | 12.1% | 32.3 | 9.0% | 2507.7 | 15.0% |
| 1 week to 2 weeks | 11.9 | 0.8% | 127.9 | 35.5% | 5609.1 | 33.4% |
| 2 weeks to 3 weeks | 7.8 | 0.5% | 51.8 | 14.4% | 1736.3 | 10.4% |
| 3 weeks to 4 weeks | 12.1 | 0.8% | 37.1 | 10.3% | 6.2 | <0.1% |
| More than 4 weeks | 71.2 | 4.9% | 0.0 | 0.0% | 0.0 | 0.0% |
| Total | 1,461 | 100% | 360 | 100% | 16,770 | 100% |

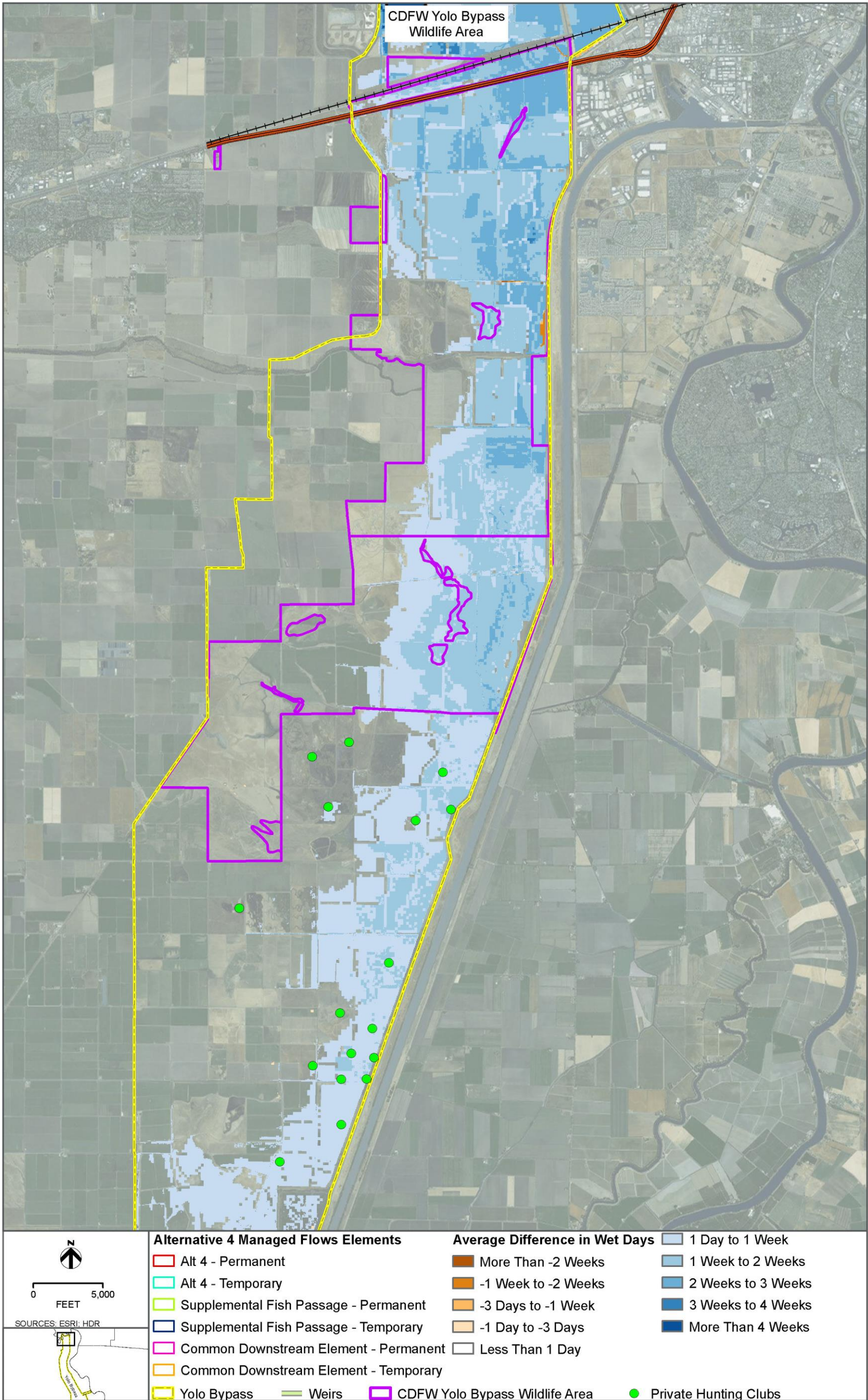
Key: FWWA= Fremont Weir Wildlife Area; SBWA= Sacramento Bypass Wildlife Area; YBWA= Yolo Bypass Wildlife Area



Key: CDFW = California Department of Fish and Wildlife

Figure 13-17. Alternative 4 Location and Change in Frequency of Inundation (in Wet Days) at the CDFW Fremont Weir Wildlife Area and Sutter Bypass Wildlife Area

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Key: CDFW = California Department of Fish and Wildlife

Figure 13-18. Alternative 4 Location and Change in Frequency of Inundation (in Wet Days) at the CDFW Yolo Bypass Wildlife Area

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The change in depth of the inundation could affect the recreational opportunities particularly waterfowl hunting in the Yolo Bypass due to reductions in available shallow-flood wetlands that are critical to waterfowl. Alternative 4 would result in a loss of shallow-flooded wetlands that would affect the amount of lands available for recreational waterfowl hunting, and thus, potentially indirectly affect the recreational waterfowl hunting opportunities in the shallow-flooded wetlands of the Yolo Bypass similar to Alternative 1. The operation of Alternative 4 could also potentially indirectly affect the incentive for private hunting clubs to continue to shallow-flooded wetlands for hunting if the loss of critical waterfowl habitat reduced the hunting opportunities, particularly if the loss occurred in successive years or frequently within a short time period. The shallow-flooded wetlands analysis was conducted for the Yolo Bypass overall and did not assess individual parcels; thus, the timing and magnitude of the potential effects on site-specific parcels such as the private hunting club lands are uncertain. Adding to the uncertainty of the private hunting club effects, some of the private hunting clubs within the Yolo Bypass have additional hunting areas outside the Yolo Bypass as alternatives when hunting areas are inundated within the Yolo Bypass.

Similar to Alternative 1, the operation of Alternative 4 would result in a reduction in the amount of available shallow-flooded wetlands in the 1999 Wet WY, 2002 Dry WY and 2005 Above Normal WY; and occur during the 100-day waterfowl hunting season from late October through January. Specifically, in the 1999 Wet WY, Alternative 4 would result in a reduction of shallow-flooded wetlands by up to approximately 1,600 acres, or 14 percent of the of the shallow-flooded wetlands under Existing Conditions. Similar to Alternative 1, the reductions occur in two separate periods but to a lesser magnitude from late November through early December for approximately four weeks and again in the latter half of January into early February for approximately three weeks--both in the midst of the 100-day waterfowl hunting season, as shown on Figure 13-19 (Ducks Unlimited 2017). These two periods of reductions do not occur at all under Existing Conditions. Overall, the timing and duration of these reductions are similar to Existing Conditions, but the magnitude is slightly greater under Alternative 6. In the 2002 Dry WY, Alternative 4 would result in a reduction of shallow-flooded wetlands similar to Alternative 1 in duration and timing, but a slightly greater magnitude. Specifically, Alternative 4 would result in reductions up to approximately 1,400 acres, or up to 22 percent of the of the shallow-flooded wetlands under Existing Conditions, as shown on Figure 13-20 (Ducks Unlimited 2017). The timing and duration of these reductions are similar to Existing Conditions, but the magnitude is greater under Alternative 6. In the 2005 Above Normal WY, Alternative 4 would result in a reduction of shallow-flooded wetlands similar to Alternative 1 in duration and timing, but a slightly greater magnitude. Specifically, Alternative 4 would result in reductions up to approximately 2,900 acres or up to 34 percent of the of the shallow-flooded wetlands under Existing Conditions, as shown on Figure 13-21 (Ducks Unlimited 2017). The timing and duration of these reductions are similar to Existing Conditions, but the magnitude is substantially greater under Alternative 4.

Overall, the operation of Alternative 4 would have an indirect effect on waterfowl hunting opportunities in the Yolo Bypass overall due to the substantial reductions in the availability of shallow-flooded wetlands, especially when combined with the timing of these reductions during the popular 100-day waterfowl hunting season. In general, while reductions in shallow-flooded wetlands occur under Existing Conditions, the magnitude of the reductions under Alternative 1 is considerably greater. The operation of Alternative 4 could also potentially have a considerable

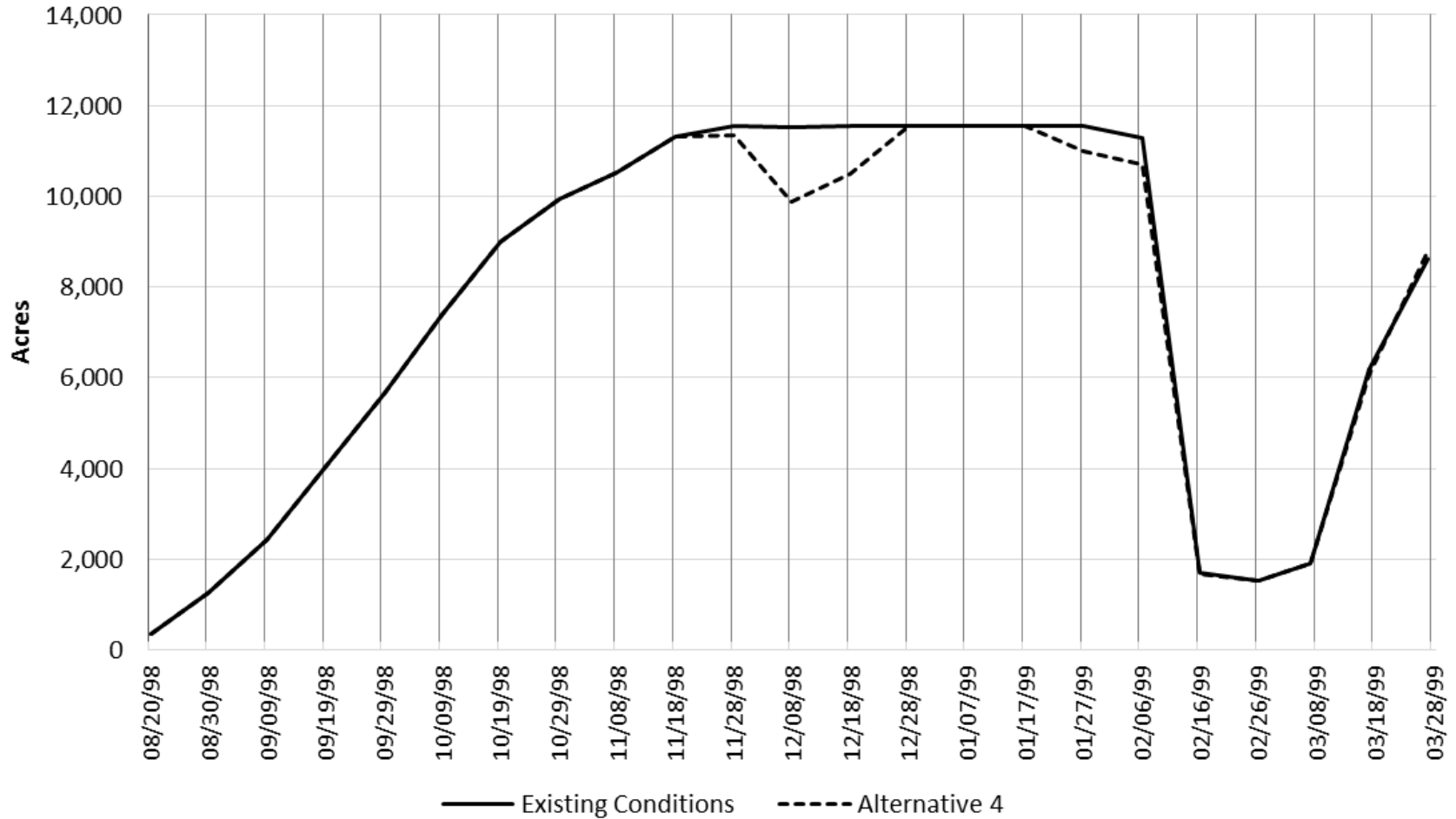


Figure 13-19. Average of number of acres of shallow-flooded ($\leq 18''$) managed seasonal wetlands over 10 day periods in the Yolo Bypass for Alternative 4 and Existing Conditions in the in the Wet Water Year 1999 (Ducks Unlimited 2017).

13 Recreation

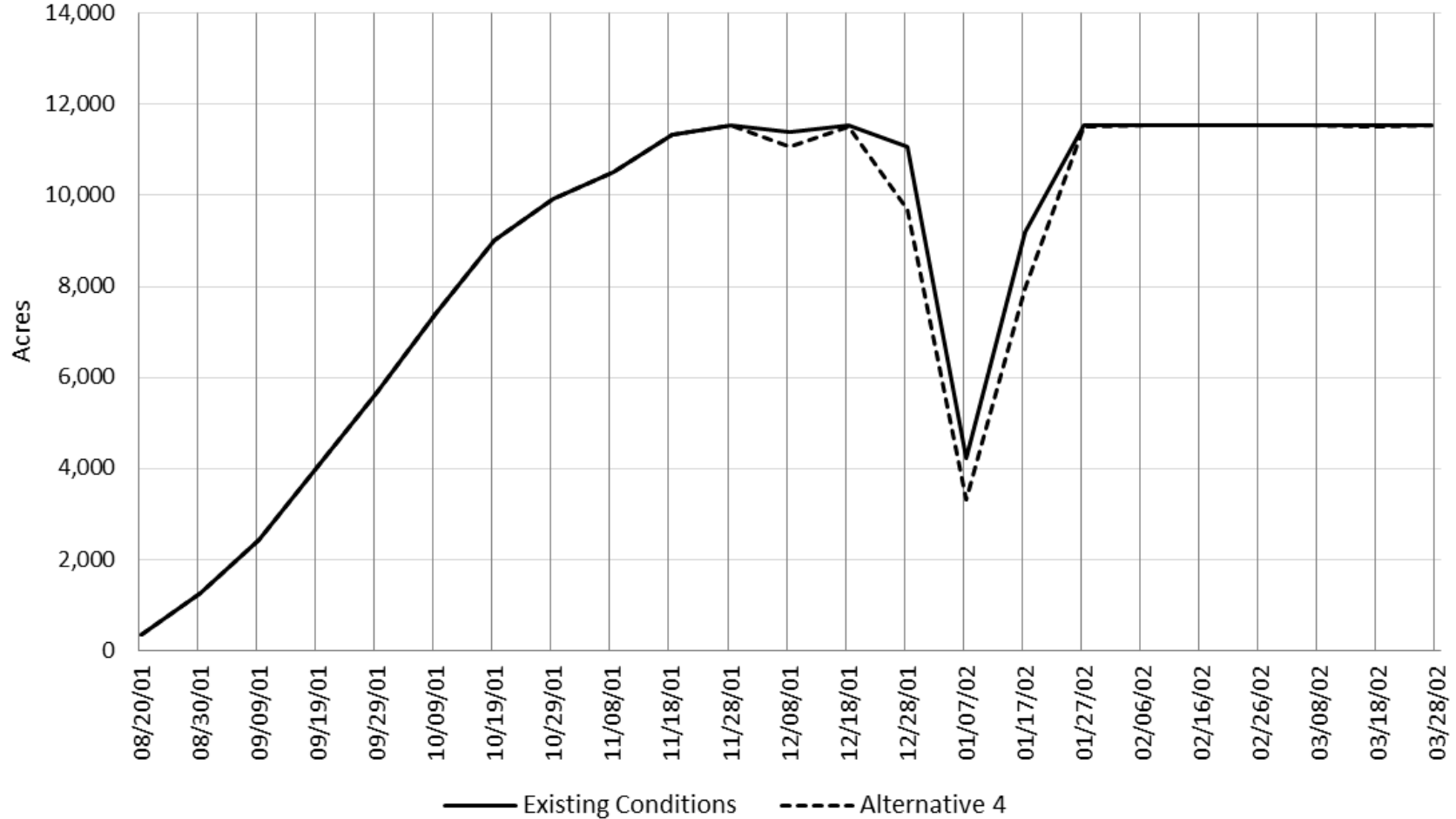


Figure 13-20. Average of number of acres of shallow-flooded ($\leq 18''$) managed seasonal wetlands over 10 day periods in the Yolo Bypass for Alternative 4 and Existing Conditions in the in the Dry Water Year 2002 (Ducks Unlimited 2017).

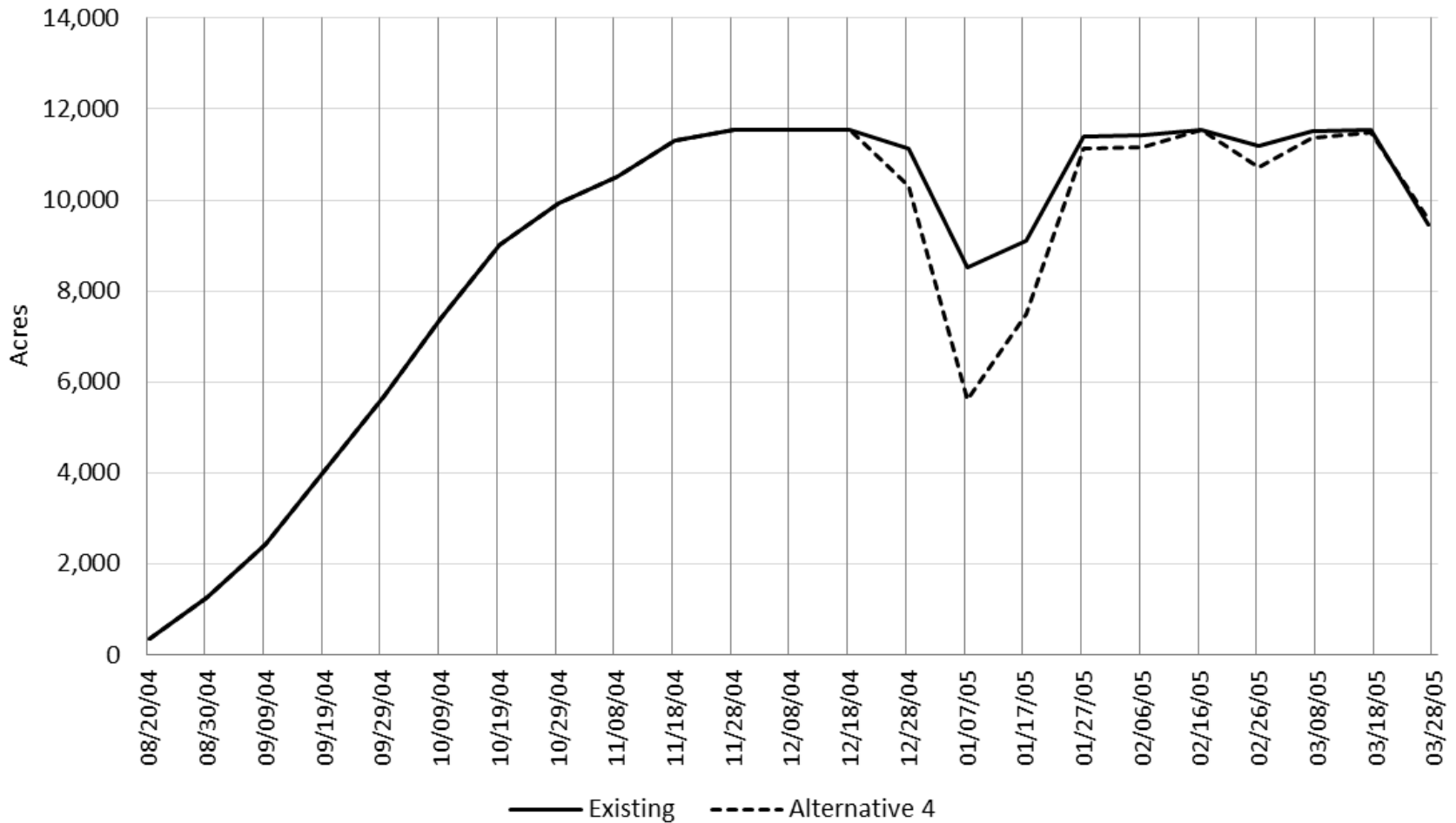


Figure 13-21. Average of number of acres of shallow-flooded ($\leq 18''$) managed seasonal wetlands over 10 day periods in the Yolo Bypass for Alternative 4 and Existing Conditions in the in the Above Normal Water Year 2005 (Ducks Unlimited 2017).

indirect effect on the incentive for private hunting clubs to continue managing the shallow-flooded wetlands for waterfowl hunting, particularly if the loss occurred in successive years or frequently within a short period of time. However, there is uncertainty of the magnitude of the effects on individual parcels such as the private hunting clubs since the analysis was conducted for the Yolo Bypass overall and not for individual sites or areas.

Closure of Well-Established Wildlife Areas

Alternative 4 would not result in any additional closures due to the presence of the permanent components, particularly with the plans for pedestrian bridges to maintain access to FFWA lands. However, Alternative 4 would result in additional closures at YBWA due to the increase in the duration of inundation since current CDFW management closes YBWA when certain levels of inundation occur. CDFW does not formally close FFWA or SBWA during periods of inundation. The operation of Alternative 4 would result in 25.3 days of closures, which represents an increase of 2.3 days or 10.0 percent over Existing Conditions. However, when considering YBWA is generally open year-round, Alternative 4 would result in a less than one percent increase in the number of days closed over the year, which would not be substantial.

Conflict with the YBWA LMP by Affecting Access for the Educational Uses of the YBWA

As discussed above, the increased periods of inundation would impede upon the access to areas of the YBWA due to closures for educational programs and activities, which typically occur from September through May or an approximately 37-week period. As shown in Table 13-5, the operation of Alternative 4 would result in YBWA closures for a total of 25.3 days, on average, which equates to an additional 2.3 days or a 10.0 percent increase over Existing Conditions. However, the change in comparison to the 37-week educational program period would be a less than one percent reduction in days, which would not be expected to reduce access to YBWA facilities in a way that would eliminate or substantially reduce the educational uses of the YBWA. Therefore, Alternative 4 would not conflict with the YBWA LMP by substantially affecting access for educational uses.

13.3.3.5.1 Impact REC-1: Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated

Impacts due to the increases in the use of FFWA, SBWA, or YBWA under Alternative 4 would be the same as those discussed for Alternative 1.

CEQA Conclusion

Alternative 4 would result in short-term closures during construction that could temporarily increase use levels within other areas of the FFWA or at SBWA and YBWA, but these increases would be minimal and temporary and would not be expected to result in the substantial physical deterioration of those recreation areas. Therefore, this impact would be **less than significant**. As detailed for Alternative 1, implementation of Mitigation Measure MM-REC-1 would help to minimize the short-term construction-related effects to recreational access and opportunities to the construction disturbance areas (only 19.6 percent of FFWA lands) through coordination with CDFW FFWA managers and public notifications. Nonetheless, recreational

access would still be restricted in the construction disturbance areas during the construction period from April 15 through November 1, which coincides with much of FWWA's hunting season, including several key hunting periods. However, Mitigation Measure MM-REC-1 would provide public notification of the construction disturbance areas and allow recreational visitors the ability to utilize FWWA lands outside the construction disturbance (80.4 percent of FWWA lands) or utilize the alternative wildlife areas in the areas that provide similar opportunities, particularly SBWA and YBWA during the temporary construction period.

13.3.3.6 Alternative 5: Central Multiple Gated Notches

Alternative 5, Central Multiple Gated Notches, would improve the capture of fish through using multiple gates and intake channels so that the deeper gate could allow more flow to enter the bypass when the river is at lower elevations. Flows would move to other gates when the river is higher to control inflows. Alternative 5 incorporates multiple gated notches in the central location on the existing Fremont Weir that would allow combined flows of up to 3,400 cfs. See Section 2.8 for more details on the alternative features.

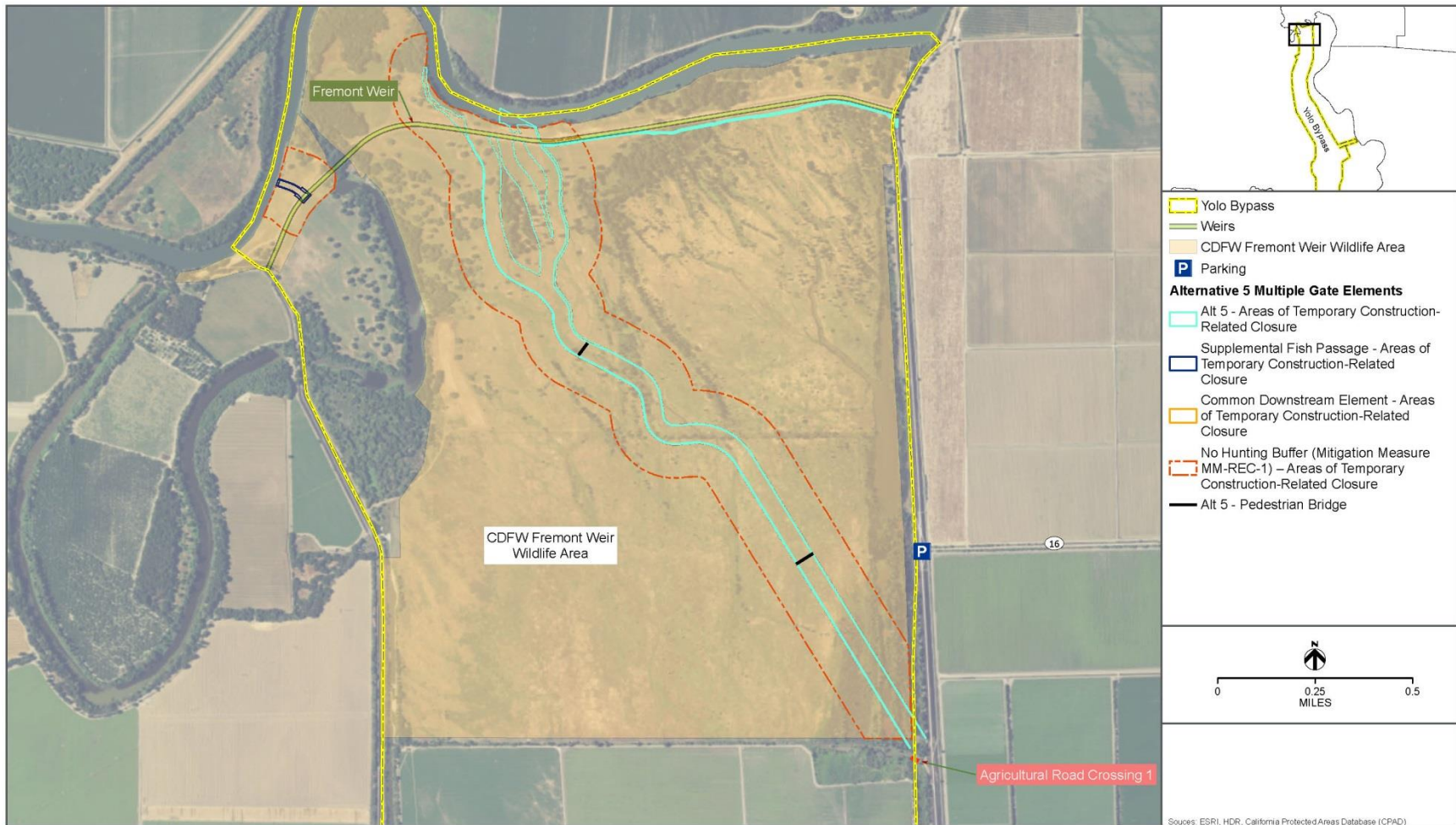
Effects on Access to Recreation Opportunities at the Established Wildlife Areas

Alternative 5 would have slightly different components and alignments as compared to Alternatives 1, 2, 3, and 4, but the temporary and permanent construction-related effects to the recreational access would be the same as those associated with Alternative 1, and would affect only FWWA, as shown on Figure 13-22. The linear transport channels in Alternative 5 would bisect the FWWA from the northwest portion diagonally to the southeast portion, as shown on Figure 13-22. To address access effects, Alternative 5 also includes plans for two pedestrian bridges that would maintain access to and movement through the FWWA lands for recreational uses by crossing the transport channel, as shown on Figure 13-23. Refer to Section 13.3.3.2.1 for a more detailed discussion of the effects of Alternative 1.

Effects on Available Lands for Recreation Opportunities at Established Wildlife Area

Alternative 5 would have effects similar to Alternative 1 on the amount of available lands due to the areas of temporary construction-related closure and areas of permanent disturbance. Under Alternative 5, the areas of temporary construction-related closure for Alternative 5 components plus the additional 150-yard "no hunting" buffer area as part of MM-REC-1 would result in a total of 345.7 acres of converted lands or 23.7 percent of FWWA lands. Alternative 5 would result in the permanent conversion of 78.9 acres, or 5.4 percent of FWWA lands, which includes 5.1 acres of wetlands or 7.4 percent of wetlands.

Regarding increased duration of inundation, the two-dimensional unsteady flow modeling (TUFLOW) inundation model for Alternative 5 was based upon a design previous to the final design due to a late change to the proposed design. The modeled design had incorporated additional grading to increase the flooded habitat in the FWWA during non-overtopping flows. The additional grading was removed for the final design outside of the proposed trapezoidal transport channels. The grading would not impact the discharge entering the bypass and would have only a slight impact on results downstream of the FWWA. The design modification does not significantly change the inundated area calculations and figures within the FWWA. Thus, the inundated area and change in duration values for the final Alternative 5 design would be similar



Key: CDFW = California Department of Fish and Wildlife

Figure 13-22. Alternative 5 Areas of Temporary Construction-Related Closure in the CDFW Fremont Weir Wildlife Area

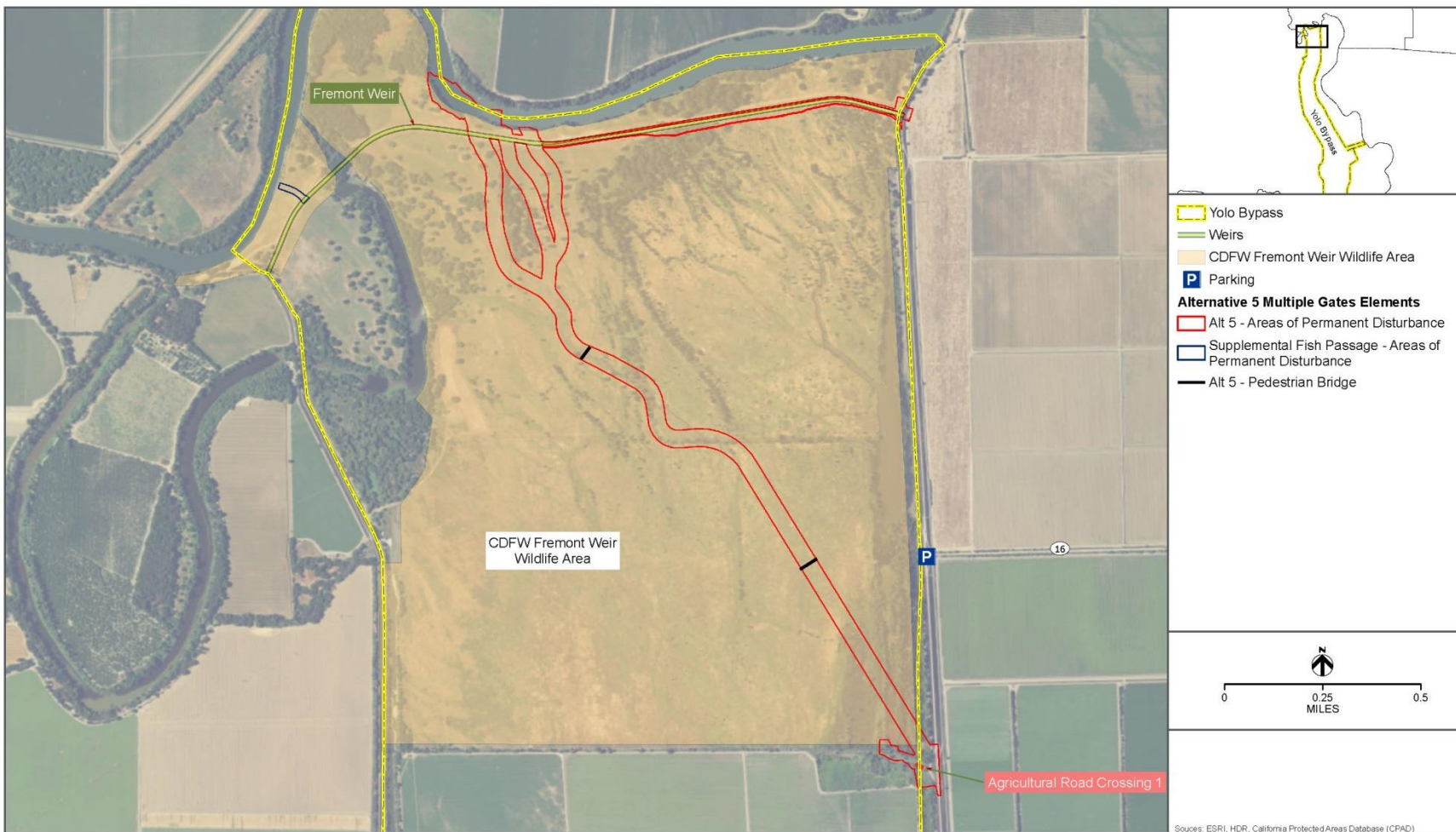


Figure 13-23. Alternative 5 Areas of Permanent Disturbance in the CDFW Fremont Weir Wildlife Area

to Alternative 4, which also has additional channels through the FWWA. Refer to the Alternative 4 wetted area acreages (Table 13-6) and inundation figures (Figure 13-17 and Figure 13-18).

As with Alternative 4, the impacts associated with Alternative 5 would represent a 17 to 25 percent increase in the duration of inundation compared to Existing Conditions, which would result in a typical duration of inundation of four to six weeks for the majority of FWWA lands. At the SBWA and YBWA, Alternative 5 impacts would represent a 33 to 50 percent increase in the duration of inundation at SBWA and a 38 to 50 percent increase at YBWA as compared to Existing Conditions.

For the private hunting clubs south of YBWA, Alternative 5 would result in the same increases in inundation as Alternative 4, whereby Alternative 4 would result in an increase in the duration of inundation of up to one week, on average, for most of the clubs, as shown on Figure 13-18. The remaining clubs would not experience a change in inundation under Alternative 4. In comparison, Existing Conditions would result in up to six weeks of increased inundation where the private hunting clubs are located, as shown on Figure 13-7. Overall, the Alternative 5 impacts would represent a 17 percent increase over Existing Conditions for most of the private hunting clubs.

The increased duration of inundation from the operation of Alternative 5 could result in additional YBWA closures that could result in a loss of popular waterfowl hunting opportunities that have short available periods of use and overlap with periods of inundation under Existing Conditions. Waterfowl hunting opportunities at YBWA last for approximately 100 days from late October through January. As shown in Table 13-7, during this key waterfowl hunting season, Alternative 5 would result in YBWA closures for a total of 8.3 days, on average, which equates to an additional 2.1 days or a 33.9 percent increase over Existing Conditions. However, the change in comparison to the 100-day hunting season would only be a 2.1 percent reduction in the number of available hunting days, which would not be a substantial reduction.

Table 13-7. Alternative 5 Changes in Number of Days the Yolo Bypass Wildlife Area is Closed due to Inundation.

| Scenario | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Total (Oct-May) | Total Waterfowl Hunting Season (Oct-Jan) |
|---------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----------------|--|
| Existing Conditions | 0.0 | 0.0 | 0.9 | 5.3 | 5.7 | 7.0 | 3.4 | 0.7 | 23.0 | 6.2 |
| Alternative 5 | 0.0 | 0.0 | 1.4 | 6.8 | 5.9 | 7.2 | 3.4 | 0.7 | 25.5 | 8.3 |
| Difference | 0.0 | 0.0 | 0.5 | 1.3 | 0.2 | 0.2 | 0.0 | 0.0 | 2.5 | 2.1 |

Key: Apr= April; Dec= December; Feb= February; Jan= January; Mar= March; Nov= November; Oct= October

The change in depth of the inundation could affect the recreational opportunities particularly waterfowl hunting in the Yolo Bypass due to reductions in available shallow-flood wetlands that are critical to waterfowl. Alternative 5 would result in a loss of shallow-flooded wetlands that would affect the amount of lands available for recreational waterfowl hunting, and thus, indirectly could affect the recreational waterfowl hunting opportunities in the shallow-flooded wetlands of the Yolo Bypass similar to the other alternatives. The operation of Alternative 5

could also potentially indirectly affect the incentive for private hunting clubs to continue to shallow-flooded wetlands for hunting if the loss of critical waterfowl habitat reduced the hunting opportunities, particularly if the loss occurred in successive years or frequently within a short time period. The shallow-flooded wetlands analysis was conducted for the Yolo Bypass overall and did not assess individual parcels; thus, the timing and magnitude of the potential effects on site-specific parcels such as the private hunting club lands are uncertain. Adding to the uncertainty of these effects, some of the private hunting clubs within the Yolo Bypass have additional hunting areas outside the Yolo Bypass as alternatives when hunting areas are inundated within the Yolo Bypass.

Similar to the other alternatives, the operation of Alternative 5 would result in a reduction in the amount of available shallow-flooded wetlands in the 1999 Wet WY, 2002 Dry WY and 2005 Above Normal WY; and occur during the 100-day waterfowl hunting season from late October through January. More specifically, in the 1999 Wet WY, Alternative 5 would result in a reduction of shallow-flooded wetlands compared to Existing Conditions, but similar to Alternative 4 in timing and duration but with a slightly larger magnitude. Specifically, Alternative 5 would result in a reduction of shallow-flooded wetlands by up to approximately 2,400 acres, or 20 percent of the of the shallow-flooded wetlands under Existing Conditions, as shown on Figure 13-24 (Ducks Unlimited 2017).

In both the 2002 Dry and 2005 Above Normal WY, Alternative 5 would result in a reduction of shallow-flooded wetlands compared to Existing Conditions, but similar to Alternative 4 in timing, duration and magnitude, as shown on Figures 13-25 and 13-26 (Ducks Unlimited 2017).

Overall, the operation of Alternative 5 would have an indirect effect on waterfowl hunting opportunities in the Yolo Bypass due to the reductions in the availability of shallow-flooded wetlands, especially when combined with the timing of these reductions during the popular 100-day waterfowl hunting season. In general, while reductions in shallow-flooded wetlands occur under Existing Conditions, the magnitude of the reductions under Alternative 5 is considerably greater. The operation of Alternative 5 could potentially have an indirect effect on the incentive for private hunting clubs to continue managing the shallow-flooded wetlands for waterfowl hunting, particularly if the loss occurred in successive years or frequently within a short period of time. However, there is uncertainty of the magnitude of the effects on individual parcels such as the private hunting clubs since the analysis was conducted for the Yolo Bypass overall and not for individual sites or areas.

Closure of Well-Established Wildlife Areas

Alternative 5 would not result in any additional closures due to the presence of the permanent components, particularly with the plans for pedestrian bridges to maintain access to FWWA lands. However, Alternative 5 would result in additional closures at YBWA due to the increase in the duration of inundation since current CDFW management closes YBWA when certain levels of inundation occur. CDFW does not formally close FWWA or SBWA during periods of inundation. The operation of Alternative 5 would result in 25.5 days of closures, which represents an increase of 2.5 days or 10.9 percent over Existing Conditions. However, when considering YBWA is generally open year-round, Alternative 5 would result in a less than one percent increase in the number of days closed over the year, which would not be substantial.

13 Recreation

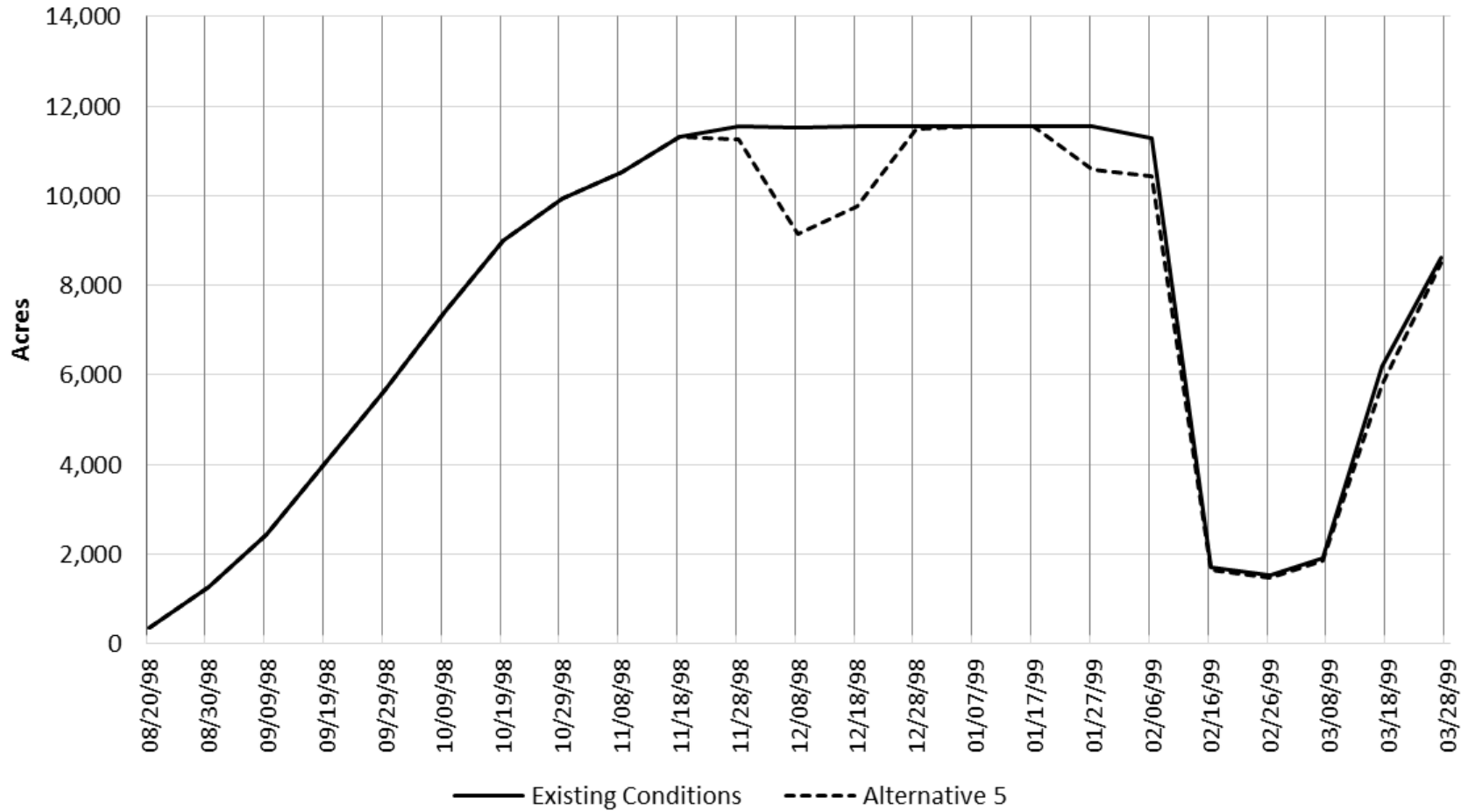


Figure 13-24. Average of number of acres of shallow-flooded ($\leq 18''$) managed seasonal wetlands over 10 day periods in the Yolo Bypass for Alternative 5 and Existing Conditions in the in the Wet Water Year 1999 (Ducks Unlimited 2017)

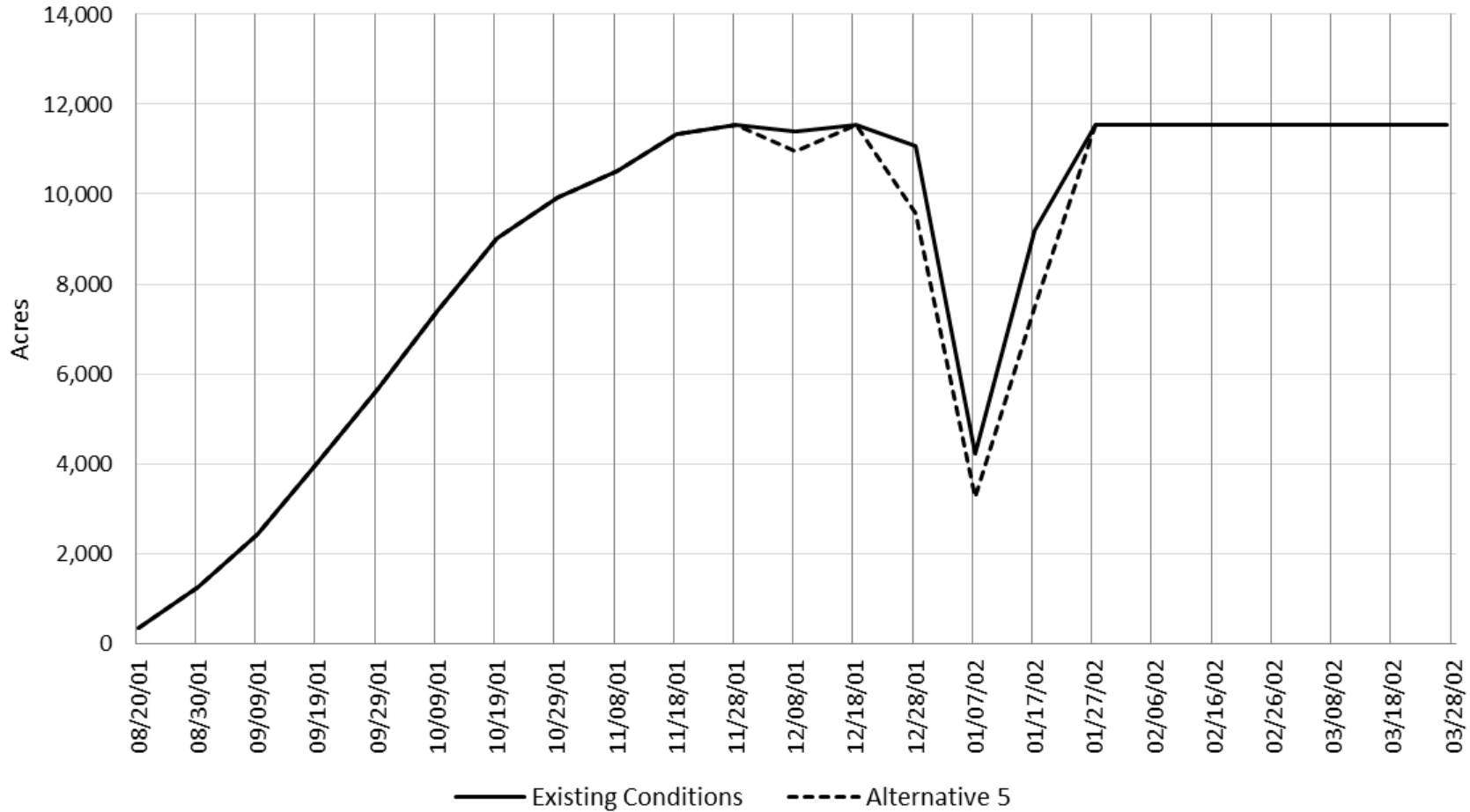


Figure 13-25. Average of number of acres of shallow-flooded ($\leq 18''$) managed seasonal wetlands over 10 day periods in the Yolo Bypass for Alternative 5 and Existing Conditions in the in the Dry Water Year 2002 (Ducks Unlimited 2017)

13 Recreation

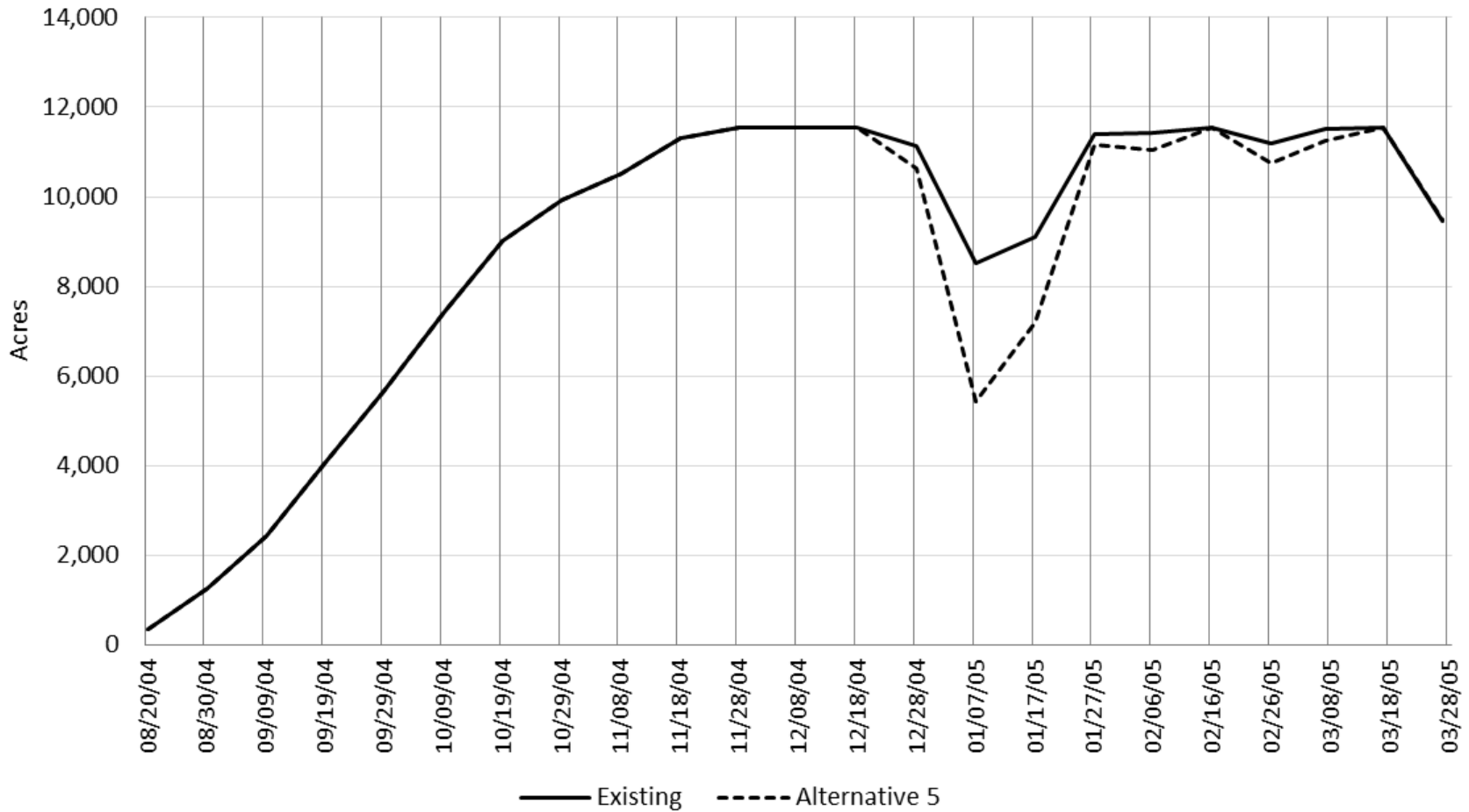


Figure 13-26. Average of number of acres of shallow-flooded ($\leq 18''$) managed seasonal wetlands over 10 day periods in the Yolo Bypass for Alternative 5 and Existing Conditions in the in the Above Normal Water Year 2005 (Ducks Unlimited 2017)

Conflict with the YBWA LMP by Affecting Access for the Educational Uses of the YBWA

As discussed above, the increased periods of inundation would impede upon access to areas of the YBWA due to closures for educational programs and activities, which typically occur from September through May or an approximately 37-week period. The operation of Alternative 5 would result in YBWA closures for a total of 25.5 days, on average, which equates to an additional 2.5 days or a 10.9 percent increase over Existing Conditions. However, the change in comparison to the 37-week educational program period would only be a less than one percent reduction in days, which would not be expected to reduce access to YBWA facilities in a way that would eliminate or substantially reduce the educational uses of the YBWA. Therefore, Alternative 5 would not conflict with the YBWA LMP by substantially affecting access for educational uses.

13.3.3.6.1 Impact REC-1: Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated

Impacts due to the increases in the use of FWWA, SBWA or YBWA under Alternative 5 would be to the same as those discussed for Alternative 1.

CEQA Conclusion

Alternative 5 would result in short-term closures during construction that could temporarily increase use levels within other areas of the FWWA or at SBWA and YBWA, but these increases would be minimal and temporary and would not be expected to result in the substantial physical deterioration of those recreation areas. Therefore, this impact would be **less than significant**. As detailed for Alternative 1, implementation of Mitigation Measure MM-REC-1 would help to minimize the short-term construction-related effects to recreational access and opportunities to the construction disturbance areas (only 23.7 percent of FWWA lands) through coordination with CDFW FWWA managers and public notifications. Nonetheless, recreational access would still be restricted in the construction disturbance areas during the construction period from April 15 through November 1, which coincides with much of FWWA's hunting season, including several key hunting periods. However, Mitigation Measure MM-REC-1 would provide public notification of the construction disturbance areas and allow recreational visitors the ability to utilize FWWA lands outside the construction disturbance (76.3 percent of FWWA lands) or utilize the alternative wildlife areas in the areas that provide similar opportunities, particularly SBWA and YBWA during the temporary construction period.

13.3.3.6.2 Tule Canal Floodplain Improvements (Program Level)

As described in Section 2.8.1.7, Alternative 5 would include floodplain improvements along Tule Canal, just north of I-80. These improvements would not be constructed at the same time as the remaining facilities. They are included at a program level of detail to consider all the potential impacts and benefits of Alternative 5. Subsequent consideration of environmental impacts would be necessary before construction could begin.

The Alternative 5 program level of improvements to the Tule Canal floodplain would have no impact on recreation resources because the improvements (a series of secondary channels that

connect to Tule Canal north of I-80) would be located outside the established recreational/wildlife areas, and the subsequent increased areas of inundation in these secondary channels would not change the inundation within the established recreational/wildlife areas.

13.3.3.7 Alternative 6: West Side Large Gated Notch

Alternative 6, West Side Large Gated Notch, is a large notch in the western location that would allow flows up to 12,000 cfs. It was designed with the goal of entraining more fish with the strategy of allowing more flow into the bypass when the Sacramento River is at lower elevations. See Section 2.9 for more details on the alternative features.

Effects on Access to Recreation Opportunities at the Established Wildlife Areas

Alternative 6 would have components and alignments similar to Alternative 4, and the temporary effects and mitigation for recreational access and the reduction in available lands would be the same as those associated with the other alternatives, which would affect only FWWA. The linear transport channels in Alternative 6 would be located along the southeastern boundary of FWWA and would bisect the northern portion of FWWA similar to Alternative 4, as shown on Figure 13-27.

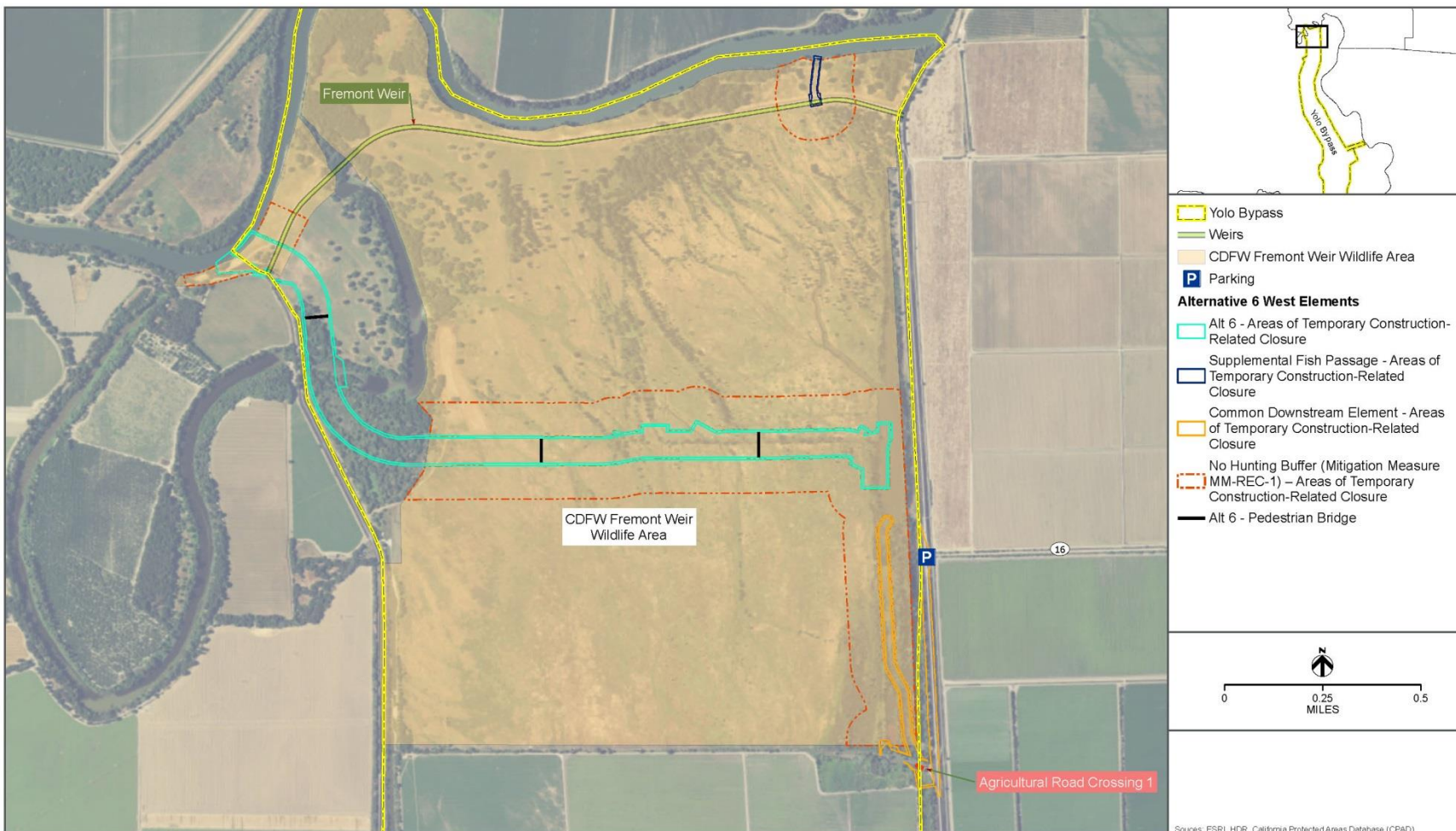
As with the other alternatives, Alternative 6 would affect access throughout the FWWA lands due to the location and alignment of the permanent components and would not affect access within SBWA, YBWA, or LIER. Alternative 6 includes three pedestrian bridges in the central and northeastern areas of FWWA that would maintain access to and movement through FWWA lands for recreational uses by crossing the transport channel, as shown on Figure 13-28.

Effects on Available Lands for Recreation Opportunities at Established Wildlife Area

Alternative 6 would have effects similar to Alternative 1 on the reduction in the amount of available lands due to the areas of temporary construction-related closure and the areas of permanent disturbance. Under Alternative 6, the areas of temporary construction-related closure for Alternative 6 components plus the additional 150-yard “no hunting” buffer area as part of MM-REC-1 would result in a total of 302.1 acres of converted lands or 20.7 percent of FWWA lands. Alternative 2 would result in the permanent conversion of 65.8 acres, or 4.5 percent of FWWA lands, which includes 7.3 acres of wetlands or 10.7 percent of wetlands within FWWA.

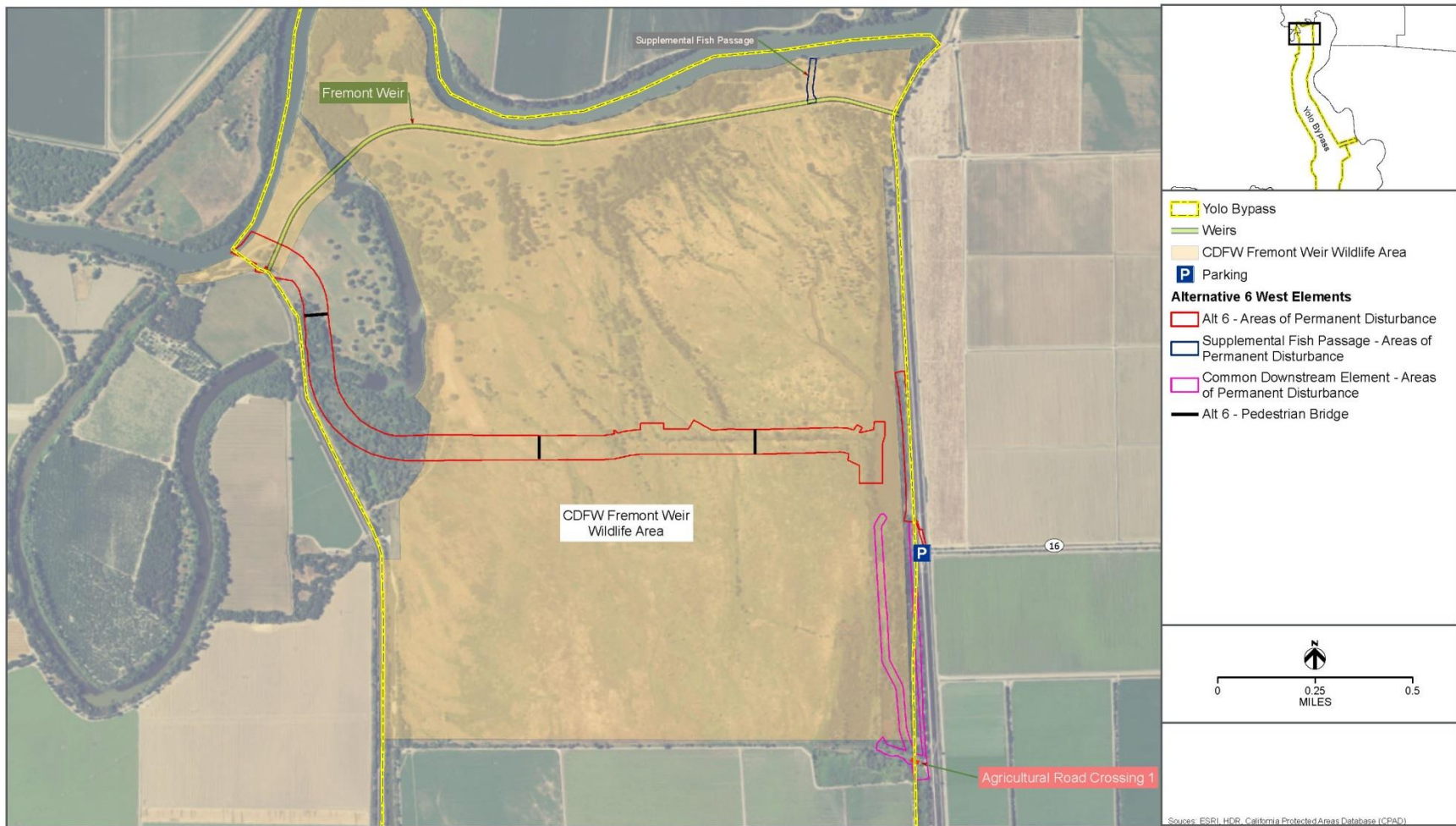
Regarding increases in the duration of inundation, Alternative 6 would have periods of increased inundation at FWWA and YBWA similar to Alternative 1. However, for Alternative 6, the impacts would be slightly different at SBWA, as shown on Figures 13-29, 13-30, and Table 13-8.

For the private hunting clubs south of YBWA, Alternative 6 would result in an increase in the duration of inundation up to three weeks at the majority of the clubs, as shown on Figure 13-30. The remaining clubs would not experience a change in inundation under Alternative 6. In comparison, Existing Conditions would result in up to six weeks of inundation where the private hunting clubs are located, as shown on Figure 13-7. Overall, the Alternative 6 impacts would represent a 50 percent increase over Existing Conditions.



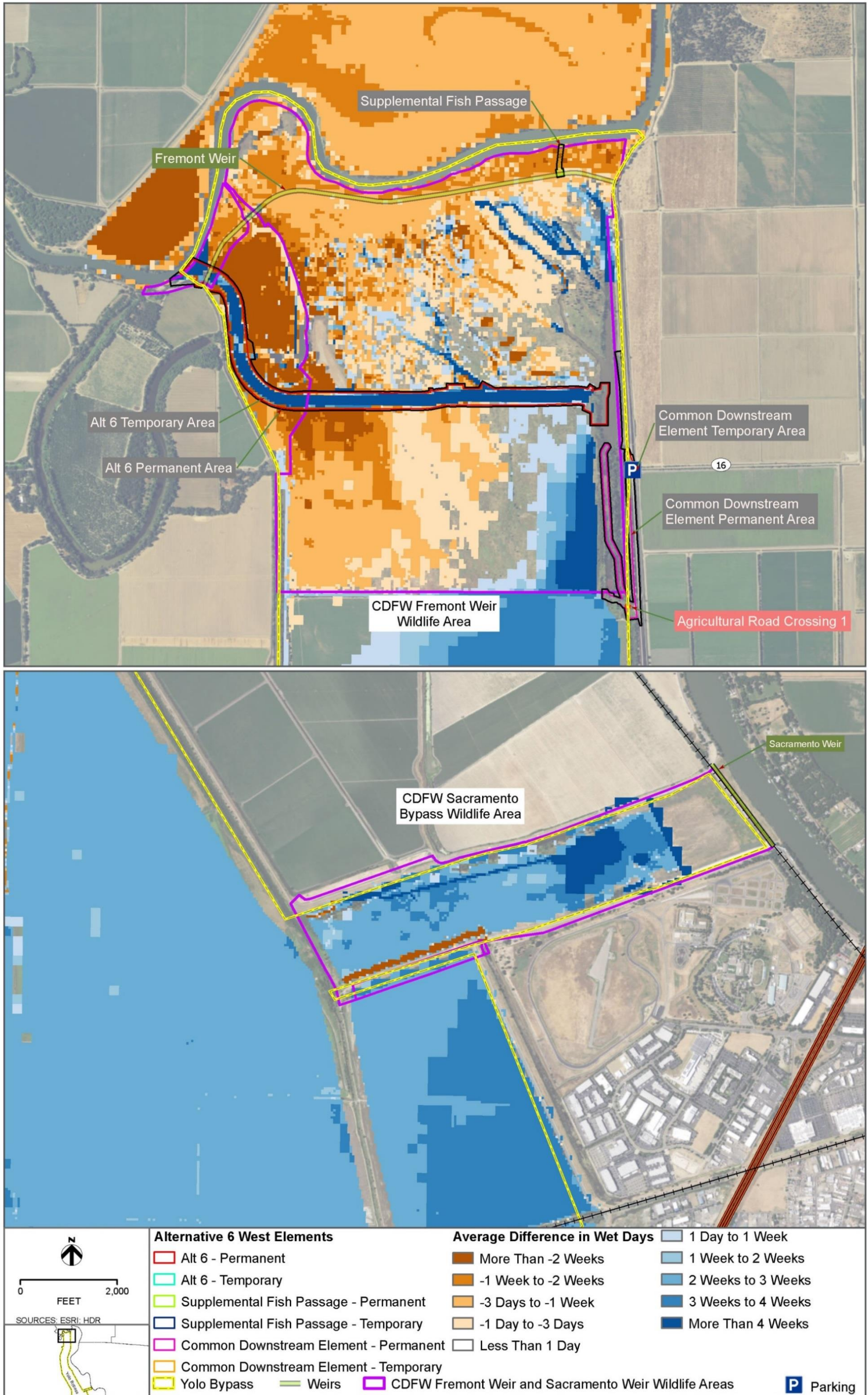
Key: CDFW = California Department of Fish and Wildlife

Figure 13-27. Alternative 6 Areas of Temporary Construction-Related Closure in the CDFW Fremont Weir Wildlife Area



Key: CDFW = California Department of Fish and Wildlife

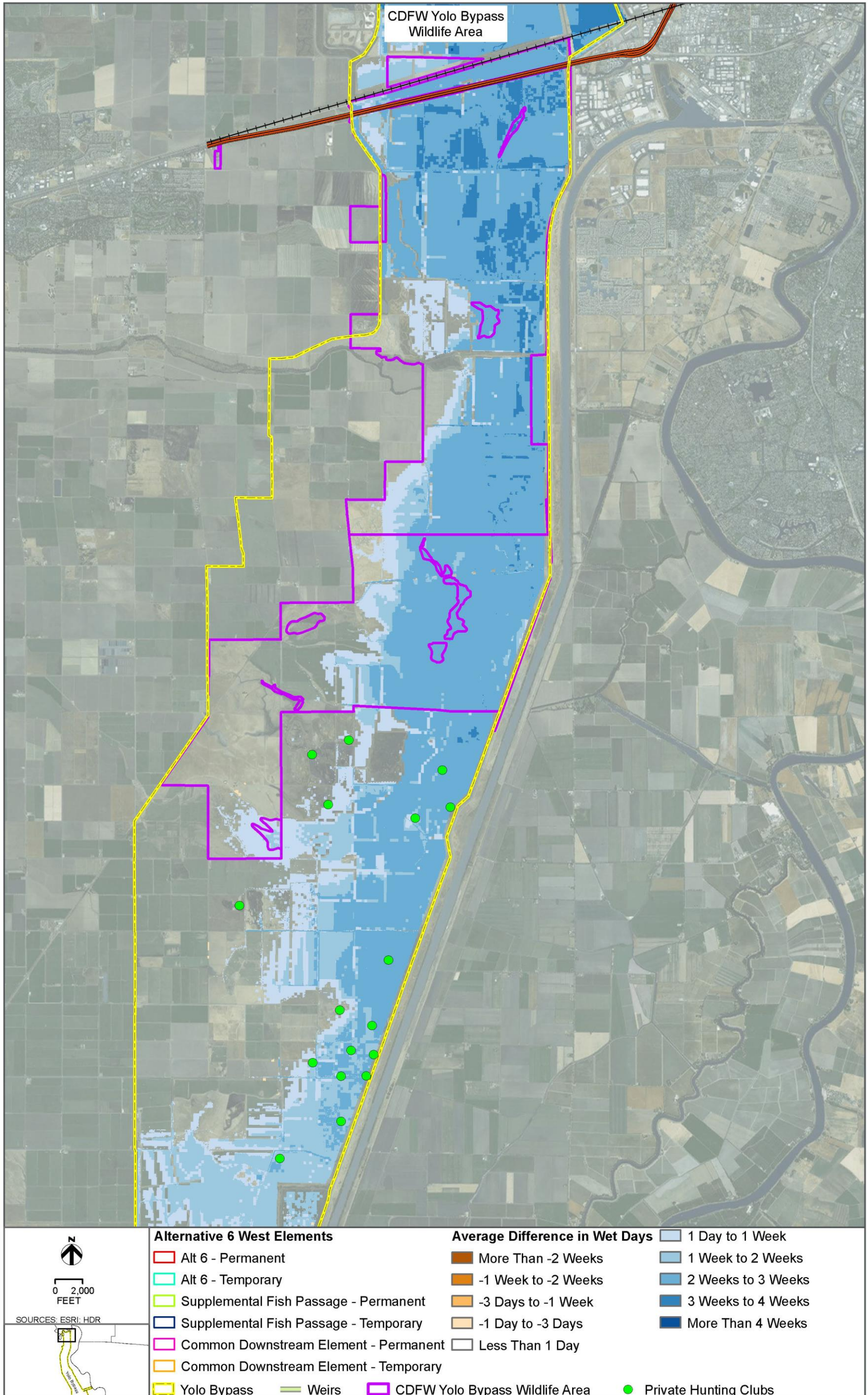
Figure 13-28. Alternative 6 Areas of Permanent Disturbance in the CDFW Fremont Weir Wildlife Area



Key: CDFW = California Department of Fish and Wildlife

Figure 13-29. Alternative 6 Location and Change in Frequency of Inundation (in Wet Days) at the CDFW Fremont Weir Wildlife Area and Sutter Bypass Wildlife Area

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Key: CDFW = California Department of Fish and Wildlife

Figure 13-30. Alternative 6 Location and Change in Frequency of Inundation (in Wet Days) at the CDFW Yolo Bypass Wildlife Area

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Table 13-8. Alternative 6 Changes in Duration of Inundation (in Wet Days) at FWWA, SBWA, and YBWA

| Average Difference in Duration of Wet Days | Alternative 1 FWWA (acres) | Alternative 1 FWWA (percent) | Alternative 1 SBWA (acres) | Alternative 1 SBWA (percent) | Alternative 1 YBWA (acres) | Alternative 1 YBWA (percent) |
|--|----------------------------|------------------------------|----------------------------|------------------------------|----------------------------|------------------------------|
| More than -2 weeks | 63.3 | 4.3% | 10.0 | 2.8% | 0.0 | 0.0% |
| -1 to -2 weeks | 151.7 | 10.4% | 0.3 | 0.1% | 0.0 | 0.0% |
| -3 days to -1 week | 355.1 | 24.3% | 0.1 | <0.1% | 0.0 | 0.0% |
| -1 day to -3 days | 287.8 | 19.7% | 0.6 | 0.2% | 3.1 | <0.1% |
| No change | 103.0 | 7.1% | 47.4 | 13.2% | 2707.7 | 16.1% |
| Less than 1 day | 223.3 | 15.3% | 36.2 | 10.0% | 2234.6 | 13.3% |
| 1 day to 1 week | 102.2 | 7.0% | 7.9 | 2.2% | 1515.3 | 9.0% |
| 1 week to 2 weeks | 28.1 | 1.9% | 15.4 | 4.3% | 953.9 | 5.7% |
| 2 weeks to 3 weeks | 28.1 | 1.9% | 140.3 | 39.0% | 8201.7 | 48.9% |
| 3 weeks to 4 weeks | 23.7 | 1.6% | 64.2 | 17.8% | 1153.6 | 6.9% |
| More than 4 weeks | 94.6 | 6.5% | 37.6 | 10.5% | 0.0 | 0.0% |
| Total | 1,461 | 100% | 360 | 100% | 16,770 | 100% |

Key: FWWA= Fremont Weir Wildlife Area; SBWA= Sacramento Bypass Wildlife Area; YBWA= Yolo Bypass Wildlife Area

At the SBWA, Alternative 6 would result in an increase in the duration of inundation across 84 percent of SBWA land, or 301.6 acres, as shown in Table 13-8 and on Figure 13-26. The overall area where periods of inundation would occur is similar to Alternative 1; however, the duration of the increases in inundation would be greater—between two and four weeks (56.8 percent or 204.5 acres). The impacts associated with Alternative 6 would represent a 25 to 67 percent increase in the duration of inundation compared to Existing Conditions, which would result in a typical duration of inundation of four to six weeks for the majority of SBWA lands.

However, the increased inundation from the operation of Alternative 6 could result in additional YBWA closures due to the elevation of the inundation at Lisbon Weir that could result in a loss of popular waterfowl hunting opportunities. Waterfowl hunting opportunities at YBWA last for approximately 100 days from late October through January. As shown in Table 13-9, during this key waterfowl hunting season, Alternative 6 would result in YBWA closures for a total of 14.3 days, on average, which equates to an additional 8.1 days, or a 130.6 percent increase over Existing Conditions. However, the change in comparison to the 100-day hunting season would only be an 8.1 percent reduction in the number of available hunting days, which would not be a substantial reduction.

Table 13-9. Alternative 6 Changes in Number of Days the Yolo Bypass Wildlife Area is Closed due to Inundation

| Scenario | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Total (Oct-May) | Total Waterfowl Hunting Season (Oct-Jan) |
|---------------------|-----|-----|-----|------|-----|-----|-----|-----|-----------------|--|
| Existing Conditions | 0.0 | 0.0 | 0.9 | 5.3 | 5.7 | 7.0 | 3.4 | 0.7 | 23.0 | 6.2 |
| Alternative 6 | 0.0 | 0.0 | 3.4 | 10.8 | 7.6 | 7.6 | 3.4 | 0.7 | 33.6 | 14.3 |
| Difference | 0.0 | 0.0 | 2.5 | 5.5 | 1.9 | 0.6 | 0.0 | 0.0 | 10.3 | 8.1 |

Key: Apr= April; Dec= December; Feb= February; Jan= January; Mar= March; Nov= November; Oct= October

The change in depth of the inundation could affect the recreational opportunities particularly waterfowl hunting in the Yolo Bypass due to reductions in available shallow-flood wetlands that are critical to waterfowl. Alternative 6 would result in a loss of shallow-flooded wetlands that would affect the amount of lands available for recreational waterfowl hunting, and thus, indirectly affect the recreational waterfowl hunting opportunities in the shallow-flooded wetlands of the Yolo Bypass similar to the other alternatives. The operation of Alternative 6 could also potentially indirectly affect the incentive for private hunting clubs to continue to shallow-flooded wetlands for hunting if the loss of critical waterfowl habitat reduced the hunting opportunities, particularly if the loss occurred in successive years or frequently within a short time period. The shallow-flooded wetlands analysis was conducted for the Yolo Bypass overall and did not assess individual parcels; thus, the timing and magnitude of the potential effects on site-specific parcels such as the private hunting club lands are uncertain. Adding to the uncertainty of the private hunting club effects, some of the private hunting clubs within the Yolo Bypass have additional hunting areas outside the Yolo Bypass as alternatives when hunting areas are inundated within the Yolo Bypass.

Similar to the other alternatives, the operation of Alternative 6 would result in a reduction in the amount of available shallow-flooded wetlands in the 1999 Wet WY, 2002 Dry WY and 2005 Above Normal WY; and occur during the 100-day waterfowl hunting season from late October through January. In the 1999 Wet WY, Alternative 6 would result in a reduction of shallow-flooded wetlands by up to approximately 7,000 acres, or 61 percent of the of the shallow-flooded wetlands under Existing Conditions. Similar to Alternative 1, the reductions occur in two separate periods but to a greater magnitude from late November through early December for approximately four weeks and again in the latter half of January into early February for approximately three weeks--both in the midst of the 100-day waterfowl hunting season, as shown on Figure 13-31 (Ducks Unlimited 2017). The timing and duration of these reductions are similar to Existing Conditions, but the magnitude is substantially greater under Alternative 6. In the 2002 Dry WY, Alternative 6 would result in a reduction of shallow-flooded wetlands similar to Alternative 1 in duration and timing, but a slightly greater magnitude. Specifically, Alternative 6 would result in a reduction of shallow-flooded wetlands by up to approximately 3,000 acres, or up to 35 percent of the of the shallow-flooded wetlands under Existing Conditions, as shown on Figure 13-32 (Ducks Unlimited 2017). The timing and duration of these reductions are similar to Existing Conditions, but the magnitude is slightly greater under Alternative 6. In the 2005 Above Normal WY, Alternative 6 would result in a reduction of shallow-flooded wetlands by up to approximately 4,400 acres, or up to 51 percent of the of the shallow-flooded wetlands under Existing Conditions and for a period of approximately three weeks total in early to mid-January at the end of the 100-day waterfowl hunting season, as shown on Figure 13-33 (Ducks Unlimited 2017). The timing and duration of these reductions are similar to Existing Conditions, but the magnitude is substantially greater under Alternative 6.

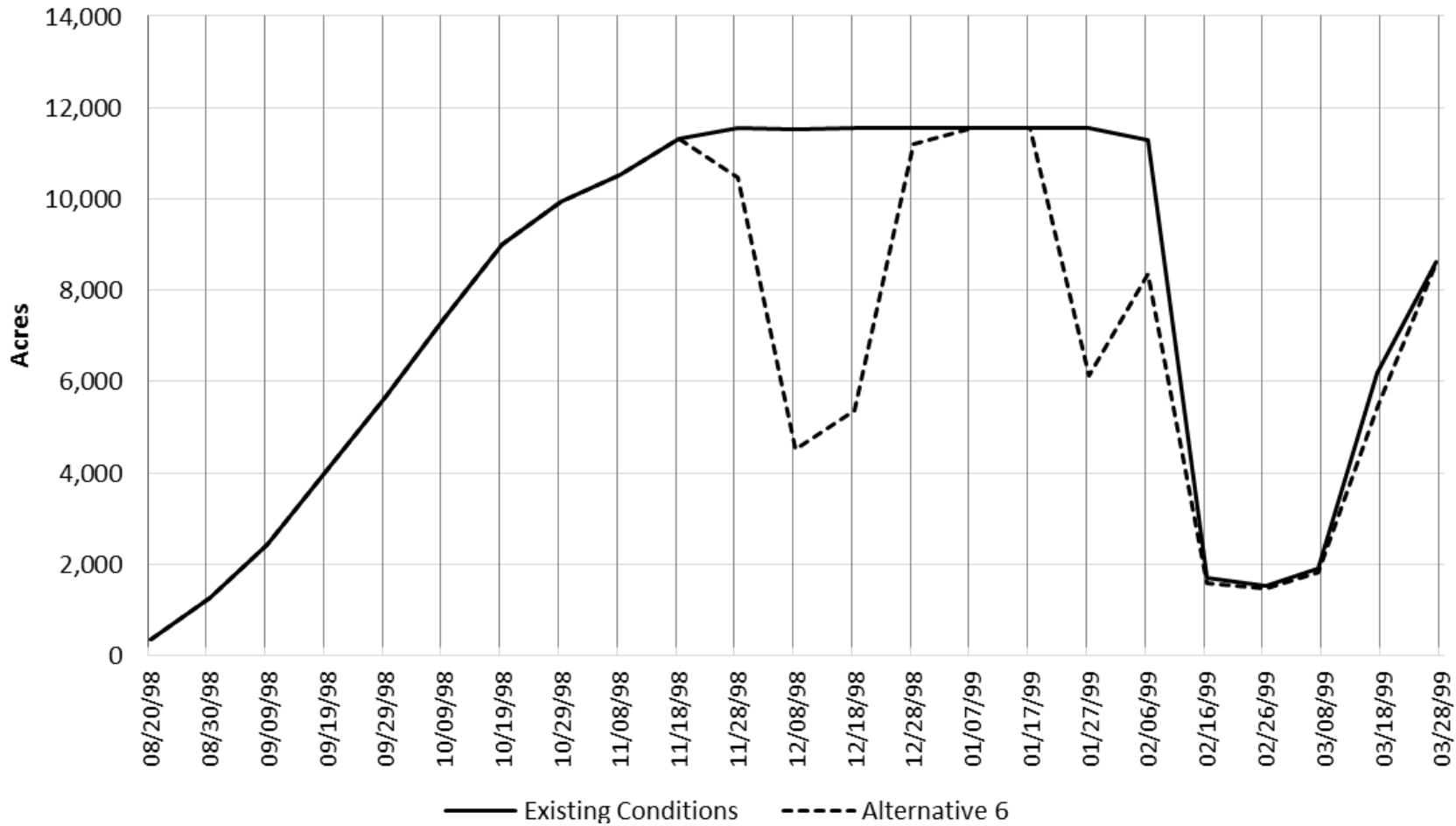


Figure 13-31. Average of number of acres of shallow-flooded ($\leq 18''$) managed seasonal wetlands over 10 day periods in the Yolo Bypass for Alternative 6 and Existing Conditions in the in the Wet Water Year 1999 (Ducks Unlimited 2017)

13 Recreation

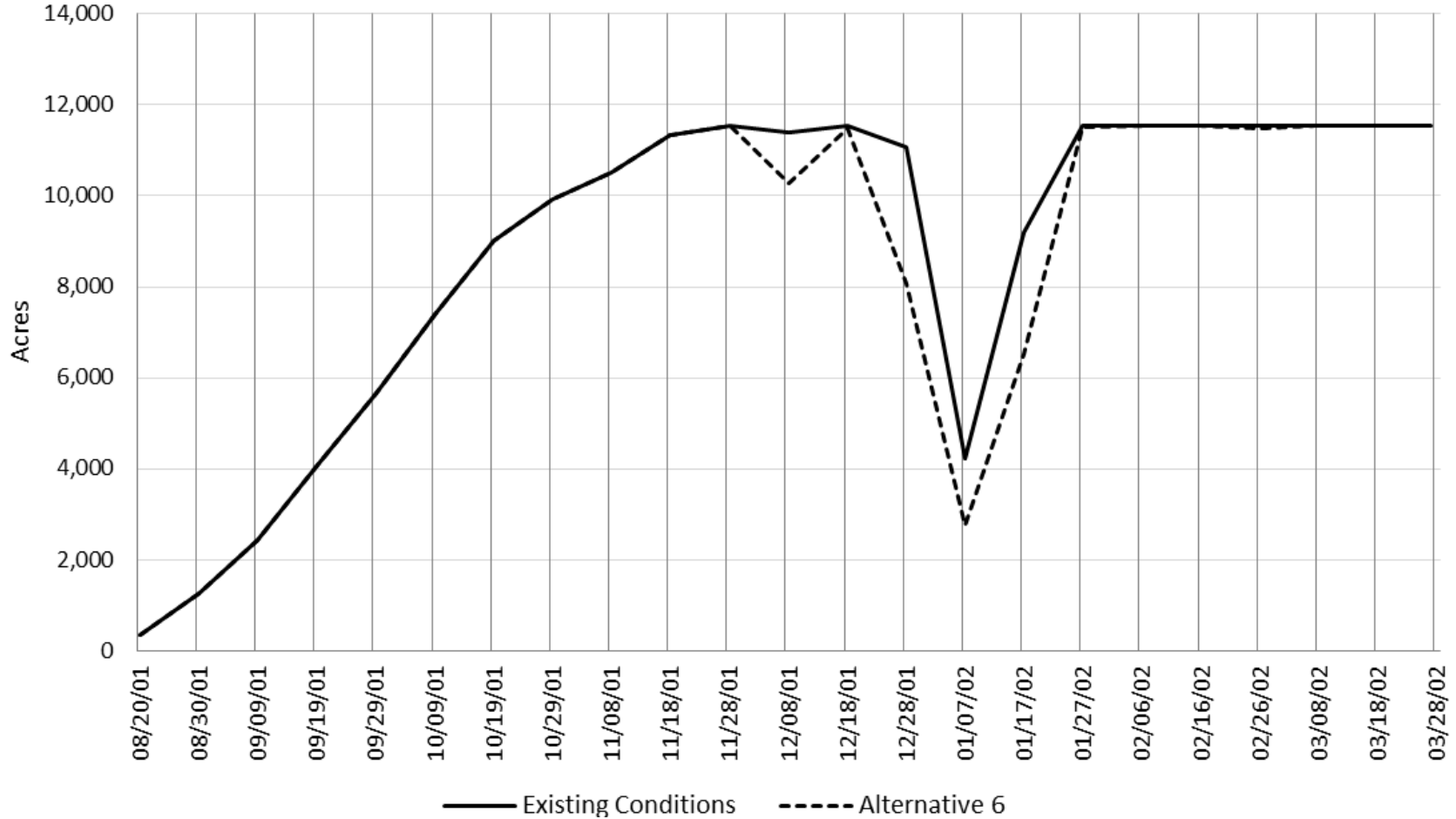


Figure 13-32. Average of number of acres of shallow-flooded (≤18”) managed seasonal wetlands over 10 day periods in the Yolo Bypass for Alternative 6 and Existing Conditions in the in the Dry Water Year 2002 (Ducks Unlimited 2017)

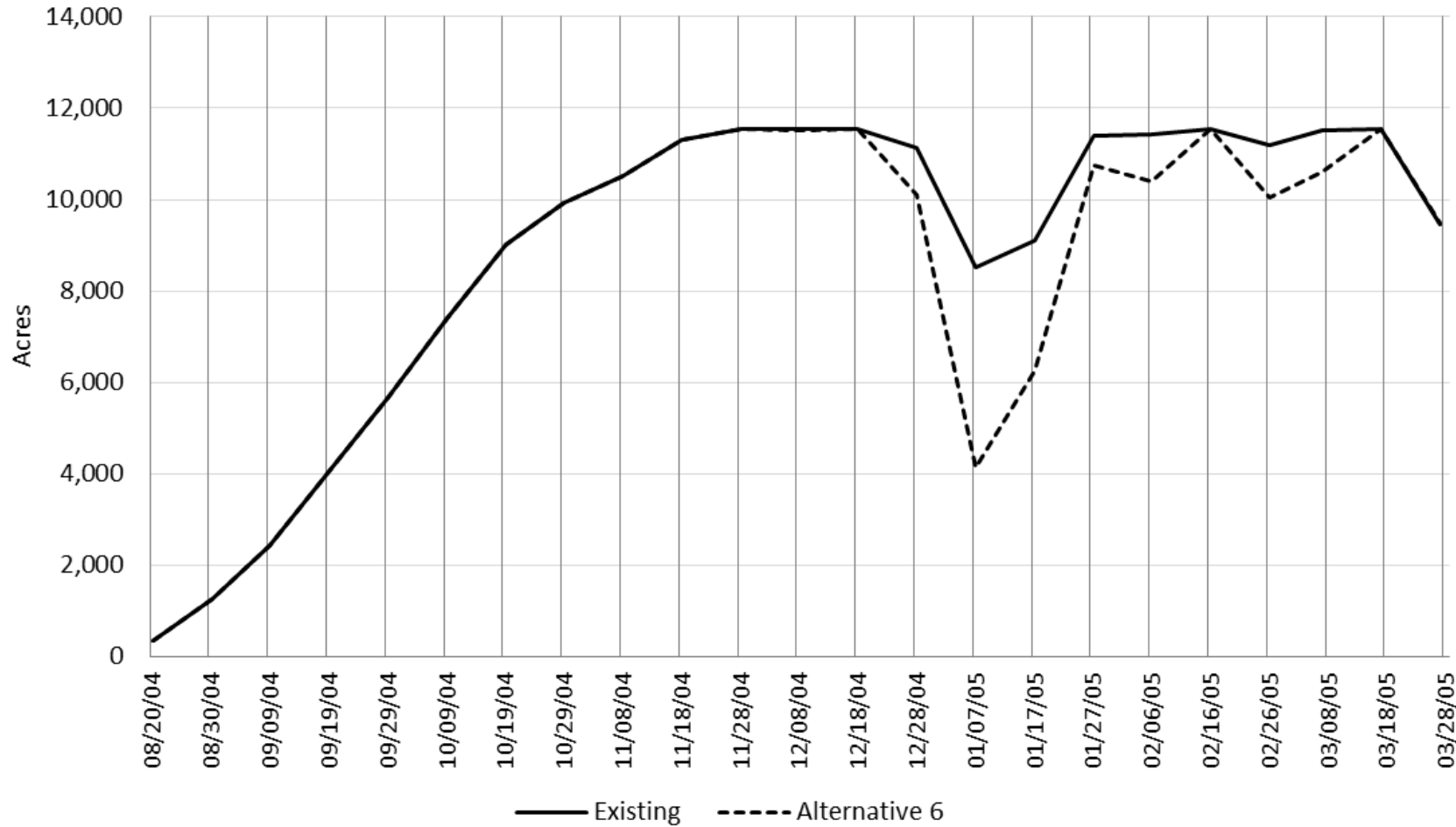


Figure 13-33. Average of number of acres of shallow-flooded ($\leq 18''$) managed seasonal wetlands over 10 day periods in the Yolo Bypass for Alternative 6 and Existing Conditions in the in the Above Normal Water Year 2005 (Ducks Unlimited 2017)

Overall, the operation of Alternative 6 would have an indirect effect on waterfowl hunting opportunities in the Yolo Bypass due to the substantial reductions in the availability of shallow-flooded wetlands, especially when combined with the timing of these reductions during the popular 100-day waterfowl hunting season. In general, while reductions in shallow-flooded wetlands occur under Existing Conditions, the magnitude of the reductions under Alternative 1 is considerably greater. The operation of Alternative 6 could potentially have a considerable indirect effect on the incentive for private hunting clubs to continue managing the shallow-flooded wetlands for waterfowl hunting, particularly if the loss occurred in successive years or frequently within a short period of time. However, there is uncertainty of the magnitude of the effects on individual parcels such as the private hunting clubs since the analysis was conducted for the Yolo Bypass overall and not for individual sites or areas.

Closure of Well-Established Wildlife Areas

Alternative 6 would not result in any additional closures due to the presence of the permanent components, particularly with the plans for pedestrian bridges to maintain access to FWWA lands. However, Alternative 6 would result in additional closures at YBWA due to the increase in the duration of inundation since current CDFW management closes YBWA when certain levels of inundation occur. CDFW does not formally close FWWA or SBWA during periods of inundation. The operation of Alternative 6 would result in 33.6 days of closures, which represents an increase of 10.6 days or 46.1 percent over Existing Conditions. However, when considering YBWA is generally open year-round, Alternative 6 would result in a 2.9 percent increase in the number of days closed over the year, which would not be substantial.

Conflict with the YBWA LMP by Affecting Access for the Educational Uses of the YBWA

As discussed above, the increased periods of inundation would impede upon access to areas of the YBWA due to closures for educational programs and activities, which typically occur from September through May or an approximately 37-week period. The operation of Alternative 6 would result in YBWA closures for a total of 33.6 days, on average, which equates to an additional 10.3 days or a 44.8 percent increase over Existing Conditions. However, the change in comparison to the 37-week educational program period is only a 4.0 percent reduction in days, which would not be expected to reduce access to YBWA facilities in a way that would eliminate or substantially reduce the educational uses of the YBWA. Therefore, Alternative 6 would not conflict with the YBWA LMP by substantially affecting access for educational uses.

13.3.3.7.1 Impact REC-1: Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated

Impacts due to the increases in the use of FWWA, SBWA, or YBWA under Alternative 6 would be the same as those discussed for Alternative 1.

CEQA Conclusion

Alternative 6 would result in short-term closures during construction that could temporarily increase use levels within other areas of the FWWA or at SBWA and YBWA, but these increases would be minimal and temporary and would not be expected to result in the substantial

physical deterioration of those recreation areas. Therefore, this impact would be **less than significant**. As detailed for Alternative 1, implementation of Mitigation Measure MM-REC-1 would help to minimize the short-term construction-related effects to recreational access and opportunities to the construction disturbance areas (only 20.7 percent of FWWA lands) through coordination with CDFW FWWA managers and public notifications. Nonetheless, recreational access would still be restricted in the construction disturbance areas during the construction period from April 15 through November 1, which coincides with much of FWWA’s hunting season, including several key hunting periods. However, Mitigation Measure MM-REC-1 would provide public notification of the construction disturbance areas and allow recreational visitors the ability to utilize FWWA lands outside the construction disturbance (79.3 percent of FWWA lands) or utilize the alternative wildlife areas in the areas that provide similar opportunities, particularly SBWA and YBWA during the temporary construction period.

13.3.4 Summary of Impacts

Table 13-10 summarizes the identified impacts to recreation resources in the study area.

Table 13-10. Summary of Impacts and Mitigation Measures – Recreation

| Impact | Alternative | Level of Significance before Mitigation | Mitigation Measures | Level of Significance after Mitigation |
|--|-------------------------|---|---------------------|--|
| Impact REC-1: Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated | No Action | NI | — | NI |
| | All Action Alternatives | LTS | MM-REC-1 | LTS |

Key: LTS = less than significant; NI = no impact

13.4 Cumulative Impacts Analysis

This section describes the cumulative impacts analysis for recreation. Section 3.3, *Cumulative Impacts*, presents an overview of the cumulative impacts analysis, including the methodology and the projects, plans, and programs considered in the cumulative impacts analysis.

13.4.1 Methodology

This evaluation of cumulative impacts for recreation resources considers the effects of the alternatives and how they might combine with the effects of other past, present, and future projects or actions to create significant impacts on specific resources. The area of analysis for these cumulative impacts includes both the Yolo Bypass area and the larger Delta region and Sacramento River system. The timeframe for this cumulative impacts analysis includes the past, present, and probable future projects producing related or cumulative impacts that have been identified in the area of analysis.

This cumulative impacts analysis uses the project analysis approach described in detail in Section 3.3, *Cumulative Impacts*. Several related and reasonably foreseeable projects and actions

could result in impacts to recreation resources in the Project area. In particular, removing and/or relocating levees, other construction projects, and Sacramento River and Delta flood-management projects could affect connected river flows and/or inundation frequencies of the Yolo Bypass, all of which could have effects on recreation resources similar to the effects described in Section 13.3.

These projects include the:

- Fremont Weir Adult Fish Passage Modification Project
- *Central Valley Flood Protection Plan*
- Sacramento River Flood Control Project
- Delta Wetlands Project
- Folsom Dam Water Control Manual Update
- Lower Cache Creek Flood Risk Management Feasibility Study
- Woodland Flood Risk Reduction Project
- Lower Putah Creek 2 North America Wetlands Conservation Act Project
- Lower Elkhorn Basin Levee Setback Project
- North Bay Aqueduct Alternative Intake Project
- North Delta Flood Control and Ecosystem Restoration Project
- Sacramento River Bank Protection Project
- Sacramento River General Re-evaluation Report
- Shasta Lake Water Resources Investigation
- *Yolo Habitat Conservation Plan/Natural Communities Conservation Plan*
- *Yolo Regional Conservation Investment Strategy/Yolo Local Conservation Plan*.

For reference, each of these plans and projects is described in more detail in Chapter 3, Table 3-1.

13.4.2 Cumulative Impacts

The projects and plans listed above could result in additional construction equipment in the area of analysis, possibly introducing additional construction-related impacts to the established recreation areas. Some of these projects could change the flooding frequencies and durations at the established wildlife and recreational areas in the Yolo Bypass, particularly the Lower Elkhorn Basin Levee Setback Project. This project and any other projects that may affect flooding likely would coordinate proposed actions with this Project to avoid significant cumulative impacts.

The Lead Agencies expect that if any construction-related projects have significant short-term impacts on the area of analysis, these impacts would be mitigated to a less-than-significant level. Additionally, changes in management direction of the CDFW wildlife areas and particularly the

Yolo Bypass Wildlife Area Management Plan could affect recreational access and uses, but the Lead Agencies expect that any wildlife area management changes would improve the recreational opportunities in the area of analysis rather than adversely affect recreational opportunities. Although some of the cumulative projects and plans could adversely affect recreational resources, implementation of the Project would not contribute to those cumulative effects. Therefore, the action alternatives' incremental contributions to the cumulative effects associated with recreation resources would **not be cumulatively considerable**.

13.5 References

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