Chapter 13
Land Use

13.3 Environmental Consequences

13.3.3 Effects and Mitigation Approaches

13.3.3.9 Alternative 4—Dual Conveyance with Modified Pipeline/Tunnel and Intakes 2, 3, and 5 (9,000 cfs; Operational Scenario H)

Impact LU-1: Incompatibility with Applicable Land Use Designations, Goals, and Policies as a Result of Constructing the Proposed Water Conveyance Facility (CM1)

NEPA Effects: Alternative 4 would result in the construction of permanent and temporary features associated with the proposed water conveyance facility across land governed by the general plans of Sacramento, San Joaquin, Contra Costa, and Alameda Counties. Constructing Alternative 4 would require land use activities that would be incompatible with land use designations, goals and policies ascribed to the study area and for the purposes of reducing environmental impacts. To the extent that constructing Alternative 4 would result in incompatibilities with land use designations, goals and policies designed to avoid or reduce environmental effects, these potential incompatibilities are described below. As discussed in Section 13.3.2, to the extent that BDCP alternatives are incompatible with such land use designations, goals, and policies, any related environmental effects are discussed in other chapters.

Because the primary conveyance component for Alternative 4 would be a~~n~~ series of underground tunnels, there would be no permanent adverse physical effects on or incompatibilities with surface land use solely due to this subsurface component~~; similarly, conveyance pipelines would not result in a permanent land surface change, and accordingly there would be no direct permanent incompatibilities with existing land use designations due to these subsurface features~~. As such, excepting construction activities potentially occurring over the ~~nine~~eleven-year tunnel construction period ~~(e.g., tunneling and open-trench installation of pipelines)~~ and surface features related to ~~the tunnels~~ tunneling ~~and conveyance pipelines~~ (e.g., RTM areas, shafts, access roads), permanent incompatibilities with existing land uses as they pertain to the proposed tunnels ~~and pipelines~~ are not discussed further.

Table 13-11 displays the temporary and permanent structures associated with the water conveyance facility, the local land designations on which they would occur, and the number of acres that would be affected under this alternative. Under Alternative 4, the method of delivering power to construct and operate the water conveyance facilities is assumed to be a "split" system that would connect to the existing grid in two different locations—one in the northern section of the alignment, and one in the southern section of the alignment (see Mapbook Figure M3-4).

Mapbook Figure M13-4 displays relevant generalized land use designations where they could overlap with proposed water conveyance structures and temporary work areas. For further discussion of the locations of various structures, please refer to Chapter 3, *Description of Alternatives*.

State and Regional Plan Policies

Under Alternative 4, construction activities associated with the features listed in Table 13-11 would take place on land governed by policies designed to avoid or mitigate environmental effects, as identified in the Delta Protection Commission Land Use and Resource Management Plan and the Delta Stewardship Council Final Draft Delta Plan. The Delta Plan policies most closely associated with land use are ER P2 (Restore Habitats at Appropriate Elevations), ER P3 (Protect Opportunities to Restore Habitat), DP P1 (Locate New Urban Development Wisely), and DP P2 (Respect Local Land Use When Siting Water or Flood Facilities or Restoring Habitats). Because CM1 would not involve habitat restoration nor residential, commercial, or industrial development, ER P2 and DP P1 would not be applicable. While the operable barrier constructed at the head of Old River could be partially constructed in the Lower San Joaquin River Floodplain Priority Habitat Restoration Area, the construction of this individual feature would require less than 6 acres of land and would not substantially reduce opportunities for habitat restoration in this area. Additionally, activities associated with BDCP CM3–CM11 would reduce these effects by restoring or permanently protecting other areas that could have been restored at the site affected. For example, the projects described as interim implementation projects in BDCP Chapter 6, *Plan Implementation*, identify a number of areas where restoration and protection activities could take place similar to those proposed under CM3–CM11. The Lower Yolo Restoration Project would create approximately 1,300 acres of wetlands, enhance 700 acres of wetlands, and enhance 50 acres of riparian natural community, actions similar to those proposed under Conservation Measures 4 and 7. As noted under Alternative 4, Impact LU-4, below, priority habitat restoration areas substantially coincide with the restoration opportunity areas identified for tidal natural communities under BDCP CM4. Therefore, implementation of this BDCP alternative would be considered compatible with this policy. Policy DP P2 requires that parties responsible for proposed actions avoid or reduce incompatibilities with existing or planned uses when feasible. In some cases, commitments and mitigation measures identified in this document (see, for example, Chapter 14, *Agricultural Resources,* Mitigation Measure AG-1: Develop an ALSP to preserve agricultural productivity and mitigate for loss of Important Farmland and land subject to Williamson Act contracts or in Farmland Security Zones) will help meet this requirement. However, avoidance of all incompatibilities is likely to be considered infeasible; thus, activities associated with CM1 would be compatible with Policy DP P2.

Table 13-11. Water Conveyance Incompatibilities with Land Use Designations under Alternative 4 (MPTO) (acres)

	Alameda County			Contra Costa County										Sacramento County							San Joaquin County					
Surface Feature	Commercial	Public	Residential	Agricultural Core	Agricultural Lands	Commercial	Delta Recreation and Resources	Light Industry	Open Space/Resource Conservation	Parks and Recreation	Public and Semi-Public	Single-Family Residential - Medium Density	Water	Agricultural Cropland	Agricultural-Residential	Low Density Residential	Medium Density Residential	Natural Preserve	Open Space/Resource Conservation	Recreation	Agricultural Cropland	Agriculture/General	City	Delta Recreation and Resources	Open Space/Resource Conservation	Water
Canal~~Canal~~				-	747~~4~~						3333		1212	-							-					
Control Structure~~Control Structure~~				-	~~98~~		~~435~~			~~34~~	7~~113~~		~~146~~	~~242~~							-					
Forebay				-	98		435			34	107		146	242							-					
Forebay Overflow Structure~~Forebay Overflow Structure~~				-						2			1	~~254~~				4		23	-					
Fuel Station				-										1							-					
~~Hwy~~ SR160 Re~~route~~alignment				-										159				5			-					
Intake~~Intake~~				-										2584				4		23	-					
Operable Barrier~~Operable Barrier~~				-			~~87~~				7			-							-		3		2	
Power Transmission Relocation				-			87				7			-							-					
Reusable Tunnel Material Area~~Reusable Tunnel Material Area~~				-	294 ~~294~~		60~~60~~ 9				~~0~~		~~0~~	40~~40~~ 9				24~~2~~ 4			-	1067~~1~~ ~~067~~			141~~1~~ 41	
~~Road Interchange~~SR12 Improvement~~Road Interchange~~				-										-							-	43~~43~~			~~0~~	
Shaft Location~~Shaft Location~~				-	~~33~~		~~11~~			70~~7~~ ~~0~~	22		19~~19~~	15~~15~~							-	70~~70~~			29~~29~~	
Transmission Line~~Transmission Line~~	~~0~~	15 ~~15~~	~~0~~	60~~6~~ ~~0~~	47~~5~~ ~~16~~	~~22~~	27~~11~~ ~~58~~	~~11~~	~~0~~	~~106~~	46~~20~~ ~~1~~	~~22~~	2~~180~~	~~1084~~				~~32~~		~~23~~	-	21~~12~~ ~~01~~	~~3~~	~~0~~	7~~18~~ ~~0~~	~~11~~
Subtotal Permanent		**15**		**60-**	**516**	**2**	**1158**	**1**	**0**	**106 0**	**201**	**2**	**180~~2~~**	**1084-**				**32**		**23**	**-**	**1201**	**3**		**180** ~~27~~	**1**
Barge Unloading Facility				-	~~57~~						~~50~~		2	-							-				27	
Canal Work Area				-	57		~~39~~				50			~~3~~							-	~~39~~				
Concrete Batch Plant				-			39				~~7~~			3-							-	39				
Control Structure Work Area				-							7			~~31~~							-					

Surface Feature	Alameda County			Contra Costa County										Sacramento County							San Joaquin County						
	Commercial	Public	Residential	Agricultural Core	Agricultural Lands	Commercial	Delta Recreation and Resources	Light Industry	Open Space/Resource Conservation	Parks and Recreation	Public and Semi-Public	Single-Family Residential - Medium Density	Water	Agricultural Cropland	Agricultural-Residential	Low Density Residential	Medium Density Residential	Natural Preserve	Open Space/Resource Conservation	Recreation	Agricultural Cropland	Agriculture/General	City	Delta Recreation and Resources	Open Space/Resource Conservation	Water
Electrical Substation				-						2			2009	31-							-					
Forebay Dredging Area				-						21			20091	-							-					
Forebay Overflow Structure				-			1			1			1	3							-	1				
Fuel Station				-			10			19	5		1	359			1	3	0		0	1150			28	0
Geotechnical Exploration Zone										19	5		1	59			1	3				150			28	
Intake Work Area				-										14814 8			-	55		343 4	-					
Utility Substation/Interconnection														7												
Safe Haven Work Area				-										1111							-	6262			66	
Siphon Work Area				-	44						22			-							-					
Transmission Line				-										26326 3	44	55	11	101 0			-	21321 3			4242	
Tunnel Muck Conveyor Facility				-						262 6			0	77							-					
Tunnel Work Area				-										22622 6							-	11611 6			11	
Subtotal Temporary				-	616 1		4040		0	494 9	646 4		2013 2013	7577 57	44	55	11	181 8	0	343 4	0	5825 82			104 104	0
Grand Total	0	15 15	0	606 0	577 577	22	11981 ,198	11	0	154 154	2652 65	22	21942 ,194	18411 ,841	44	55	11	505 0	0	575 7	0	17831 ,783	33	0	2842 84	11

Notes: To avoid double counting, where temporary transmission lines overlap with a different temporary or permanent surface feature, these acreages are counted under the other feature. Where permanent transmission lines overlap with another temporary surface feature (i.e., work area), these acreages are counted under permanent transmission lines. Acreages are rounded; acreage less than 0.5 has been rounded to 0. One 38-acre concrete batch plant and one 1-acre fuel station lie within the intermediate forebay footprint. These features would only be used during the construction period; however, they would become part of the forebay spillway area during operations and therefore, are counted as "permanent" impacts in this table.

1

Surface Feature	Alameda County		Contra Costa County										Sacramento County						San Joaqin County				
	Public	Residential	Agricultural Core	Agricultural Lands	Commercial	Delta Recreation and Resources	Light Industry	Open Space/Resource Conservation	Parks and Recreation	Public and Semi-Public	Single-Family Residential-Medium Density	Water	Agricultural Cropland	Agricultural Residential	Low-Density Residential	Medium-Density Residential	Natural Preserve	Recreation	Agriculture/General	City	Delta Recreation and Resources	Open Space/Resource Conservation	Water
Canal				33						17		9											
Control Structure										4													
Forebay									0	0		5											
Forebay and Spillway													243										
Forebay Embankment Area				19		33			0	25		147											
Forebay Overflow Structure									1			0											
Intake													241				2	19					
New Forebay				74		490			34	87		1											
Operable Barrier																				3		2	
Reusable Tunnel Material Area				318		649				0			407				24		646			163	
Road Interchange																			687			0	
Shaft Location				3		1			58	2		2	21						75			29	
Utility Substation/Interconnection													7										
Transmission Line													293	4	4		10						
Subtotal Permanent				447		1,173			94	135		164	1,211	4	4		36	19	762	3		194	
Barge Unloading Facility												1					1		3			23	
Canal Work Area				60						52		8											
Concrete Batch Plant						40							2										
Control Structure Work Area										6													
Electrical Substation													31										
Forebay Dredging Area									2			2024											
Forebay Overflow Structure									2			1											
Fuel Station						1							3										
Intake Work Area													393			0	12	38					
Road Work Area													65										
Safe Haven Work Area													37						99			5	
Siphon Work Area				3						1													
Transmission Line	15	0	60	31	2	25	1	0	0	38	2	2	22				1		253		0	61	1
Tunnel Muck Conveyor Facility									26			0	7										
Tunnel Work Area													224						116			1	
Subtotal Temporary	15	0	60	93	2	66	1	0	30	97	2	2,036	784			0	13	38	471		0	90	1
Grand Total	15	0	60	541	2	1,239	1	0	124	232	2	2,199	1,995	4	4	0	49	56	1,232	3	0	284	1

Surface Feature	Alameda County		Contra Costa County										Sacramento County						San Joaqin County				
	Public	Residential	Agricultural Core	Agricultural Lands	Commercial	Delta Recreation and Resources	Light Industry	Open Space/Resource Conservation	Parks and Recreation	Public and Semi-Public	Single-Family Residential-Medium Density	Water	Agricultural Cropland	Agricultural Residential	Low Density Residential	Medium Density Residential	Natural Preserve	Recreation	Agriculture/General	City	Delta Recreation and Resources	Open Space/Resource Conservation	Water
Notes: To avoid double counting, where temporary transmission lines overlap with a different temporary or permanent surface feature, these acreages are counted under the other feature. Where permanent transmission lines overlap with another temporary surface feature (i.e., work area), these acreages are counted under permanent transmission lines. Acreages are rounded; acreage less than 0.5 has been rounded to 0. One 38-acre permanent concrete batch plant lies within the Intermediate Forebay footprint, so it is counted as part of the Intermediate Forebay. However, it will be used as a concrete batch plant during the construction phase.																							

1

Surface Feature	Alameda County			Contra Costa County									Sacramento County						San Joaquin County		
	Commercial	Public	Residential	Agricultural Core	Agricultural Lands	Commercial	Delta Recreation and Resources	Light Industry	Parks and Recreation	Public and Semi-Public	Single-Family Residential – Medium Density	Water	Agricultural Cropland	Agricultural Residential	Low-Density Residential	Medium-Density Residential	Natural Preserve	Recreation	Agriculture/General	City	Open Space/Resource Conservation
Canal					33					17		9									
Control Structure										4											
Forebay					93		522		34	112		153	243								
Forebay Overflow Structure									1			0									
Intake													241				2	19			
Operable Barrier																				3	2
Potential Borrow/Spoil Area													201					0			
Shaft Location					5		19			0			21						78		38
Transmission Line													299	4	4		10				
Reusable Tunnel Material Area					313		672					0	409				24		1,855		228
Subtotal Permanent	**0**	**0**	**0**	**0**	**444**	**0**	**1,213**	**0**	**35**	**133**	**0**	**162**	**1,413**	**4**	**4**	**0**	**36**	**19**	**1,933**	**3**	**268**
Barge Unloading Facility							0					2							3		36
Canal Work Area					60					51		8									
Control Structure Work Area										6											
Forebay Dredging Area									2			2,024									
Forebay Overflow Structure									2			1									
Intake Work Area													397			0	12	38			
Road Work Area													65								
Safe Haven Work Area													37						130		5
Siphon Work Area					3					1											
Transmission Line	0	15	0	60	31	2	20	1		38	2	1	55				3		246		58
Reusable Tunnel Material Conveyor Facility													7						43		
Tunnel Work Area													23						74		17
Subtotal Temporary	**0**	**15**	**0**	**60**	**94**	**2**	**20**	**1**	**4**	**97**	**2**	**2,036**	**585**	**0**	**0**	**0**	**15**	**38**	**495**	**0**	**116**
Grand Total	**0**	**15**	**0**	**60**	**538**	**2**	**1,233**	**1**	**39**	**229**	**2**	**2,198**	**1,998**	**4**	**4**	**0**	**50**	**56**	**2,428**	**3**	**384**

1

Alternative 4 may result in incompatibilities with LURMP policies related to land use. Many of these policies focus on local government activities; however, Land Use P-7 declares that new structures should be set back from levees. Intake structures require contact with water and cannot feasibly be set back from levees. Additionally, Land Use P-14 provides that agricultural lands converted to water impoundment may not result in seepage of water and that such conversions must mitigate associated risks and effects. Forebays constructed for this alternative would avoid and mitigate for the effects of seepage, as described under Impact GW-5 in Chapter 7, *Groundwater*, and its associated mitigation measure. Forebay design, as well as this proposed mitigation, would establish compatibility with this policy. Incompatibilities could occur with other LURMP policies, including Agriculture P-2, which suggests that agricultural land conversion should occur first where productivity and values are lowest. As discussed in Chapter 14, *Agricultural Resources*, some higher-value agricultural land would be converted under construction and operation of CM1. These potential incompatibilities suggest the potential for a physical effect on the environment. As discussed in Section 13.3.2, such effects are discussed in other chapters throughout this EIR/EIS.

Under this alternative, indirect effects on land use may also arise through incompatibilities with land subject to Williamson Act contracts or in Farmland Security Zones. If the construction and operation of water conveyance facilities under this alternative results in contract nonrenewal, cancellation, or otherwise removes land within an agricultural preserve from a Williamson Act contract, the county overseeing the preserve may decide to manage the preserve differently; for instance, the county could modify the rules governing compatible uses on remaining land within the preserve. However, this effect is speculative and its magnitude or geographical incidence cannot be evaluated with enough certainty. Chapter 14, *Agricultural Resources,* discusses the potential for direct conflicts with land subject to Williamson Act contracts or in Farmland Security Zones.

Sacramento County

Permanent surface features associated with that portion of the water conveyance facility that would fall in Sacramento County include three intakes (with associated ~~pumping plants~~sedimentation basins and other features), realignment of Highway 160, an intermediate forebay, ~~a borrow/spoil area,~~ shaft locations, and RTM areas~~, and transmission lines~~. While RTM areas are considered permanent surface impacts for the purposes of impact analysis, it is anticipated that the RTM would be removed from these areas and reused, as appropriate, as bulking material for levee maintenance, as fill material for habitat restoration projects, or other beneficial means of reuse identified for the material, as described in Appendix 3B, *Environmental Commitments*. Temporary features include reusable tunnel material conveyor facilities, fuel stations, electrical substations, concrete batch plants, geotechnical exploration zones, transmission lines, and work areas for construction of physical features. ~~These~~ Permanent and temporary features would occur on lands designated for Agricultural Cropland, Agricultural-Residential, Low Density Residential, Medium Density Residential, Natural Preserve, and Recreation. Table 13-11 summarizes these features and the land use designations with which they would be incompatible. These construction activities would be incompatible with general plan agriculture and open space policies, including Policy AG-5, regarding the conversion of farmland, and Policies OS-1 and OS-2, regarding the protection of open space and natural areas. Construction of water conveyance features would diminish the extent of land dedicated to agriculture, open space, and natural areas. These incompatibilities suggest the potential for a physical effect on the environment. As discussed in Section 13.3.2, such effects are discussed in other chapters throughout this EIR/EIS.

San Joaquin County

Alternative 4 would result in the permanent conversion of land designated as Agriculture/General, City, and Open Space/Resource Conservation in San Joaquin County due to the construction of transmission lines, tunnel shafts, RTM areas, an improvement on SR12, and an operable barrier at the head of Old River. While RTM areas are considered permanent surface impacts for the purposes of impact analysis, it is anticipated that the RTM would be removed from these areas and reused, as appropriate, as bulking material for levee maintenance, as fill material for habitat restoration projects, or other beneficial means of reuse identified for the material, as described in Appendix 3B, *Environmental Commitments*. Temporary features including ~~barge~~ a concrete batch plant, a fuel station, barge unloading facilities, transmission lines, geotechnical exploration zones, ~~reusable tunnel material conveyor facilities,~~ and work areas would also be incompatible with existing land use designations. Table 13-11 summarizes these features and the land use designations with which they would be incompatible. Temporary features could be in place for up to the first ~~nine~~ fourteen years of project implementation (i.e., during geotechnical explorations, power line construction, and construction of water conveyance facilities). During that period, lands designated as Agriculture would be temporarily converted to non-agricultural use. Construction during this period and permanent conversion of agricultural land would be incompatible with general plan policies, including Agricultural Lands Policy 5, which reserves agricultural areas principally for crop production, ranching and grazing. These incompatibilities suggest the potential for a physical effect on the environment. As discussed in Section 13.3.2, such effects are discussed in other chapters throughout this EIR/EIS.

The placement of tunnel shafts~~,~~ and transmission lines, ~~and RTM areas,~~ were they to occur on or adjacent to lands designated under the San Joaquin County General Plan as Open Space/Resource Conservation would be incompatible with this land use designation. These incompatibilities suggest the potential for a physical effect on the environment. As discussed in Section 13.3.2, such effects are discussed in other chapters throughout this EIR/EIS.

Contra Costa County

Under Alternative 4, permanent project water conveyance features in Contra Costa County would include the expanded Clifton Court Forebay and embankment area, a forebay overflow structure, pumping plants, new and relocated transmission lines, canals, tunnel shafts, RTM areas, and associated water control structures. Table 13-11 summarizes these impacts and the land use designations with which they would be incompatible. While RTM areas are considered permanent surface impacts for the purposes of impact analysis, it is anticipated that the RTM would be removed from these areas and reused, as appropriate, as bulking material for levee maintenance, as fill material for habitat restoration projects, or other beneficial means of reuse identified for the material, as described in Appendix 3B, *Environmental Commitments*. Constructing the forebay on lands within the Delta Recreation and Resources designation would be incompatible with the goals of the Contra Costa County General Plan related to this land use designation, which focus on the preservation of land for recreation and agricultural production and processing over the placement of new infrastructure. Construction of the forebay may be incompatible with the general plan Goal 3-G, which discourages development not related to agriculture, mineral extraction, wind energy or other appropriate rural uses on vacant rural lands. These incompatibilities suggest the potential for a physical effect on the environment. As discussed in Section 13.3.2, such effects are discussed in other chapters throughout this EIR/EIS.

A narrow area of land running through the proposed future location of the expanded Clifton Court Forebay is designated Public/Semi-Public. The Public/Semi-Public designation includes properties owned by public governmental agencies such as libraries, fire stations, and schools. This designation is also applied to public transportation corridors, as well as privately owned transportation and utility corridors. The Public/Semi-Public designation applies to properties owned by public agencies and privately owned transportation and utility corridors. Because this designation exists for large-scale infrastructure and utilities, these project features would be compatible with this designation.

Temporary project features in Contra Costa County associated with the construction of the water conveyance facility would include transmission lines, bbarge unloading facilitiesies, a concrete batch plant, forebay dredging areas, forebay overflow structures, a fuel station, geotechnical exploration zones, RTM conveyor facilities, and various work areas. Many of these temporary features would likely be in place for up to the first nine or morefourteen years of project implementation (i.e., during the geotechnical explorations, power line construction, and construction of water conveyance facilitiesnear-term implementation or the nine-year project construction period). Temporary land use incompatibilities would be of the same nature as the permanent incompatibilities described above; however, they would occur over a shorter period of time. These incompatibilities suggest the potential for a physical effect on the environment. As discussed in Section 13.3.2, such effects are discussed in other chapters throughout this EIR/EIS.

Portions of Alternative 4 water conveyance facilities at Clifton Court Forebay would be built in areas covered by Byron Airport LUCP Zones B2, C1, C2, and D. Construction and facilities operations and maintenance activities could be incompatible with policies that limit congregations of people, require ALUC review of tall objects, and prohibit aboveground bulk storage of hazardous materials.

Alameda County

Under Alternative 4, nopermanent transmission lines are permanent project water conveyance features are proposed on land within Alameda County, as indicated in Table 13-11. NoThe only temporary project features associated with the construction of the water conveyance facility are transmission lines.proposed on land within Alameda County. Temporary features would likely be in place for the first nine or more years of project implementation (i.e., during the near-term implementation or the nine-year project construction period). The Public designation includes properties owned by public governmental agencies such as libraries, fire stations, and schools. This designation is also applied to public transportation corridors, as well as privately owned transportation and utility corridors. The Public designation applies to properties owned by public agencies and privately owned transportation and utility corridors. Because this designation exists for large-scale infrastructure and utilities, these project features would be compatible with this designation.

CEQA Conclusion: These incompatibilities indicate the potential for a physical consequence to the environment. As discussed in Section 13.3.2, the physical effects they suggest are discussed in other chapters throughout this document. The relationship between plans, policies, and regulations and impacts on the physical environment is discussed in Section 13.3.1.

Impact LU-2: Conflicts with Existing Land Uses as a Result of Constructing the Proposed Water Conveyance Facility (CM1)

NEPA Effects: Construction of the proposed water conveyance facility under Alternative 4 could directly affect land uses within the study area by both temporarily converting existing land uses

during construction and permanently converting existing land uses (including displacement of existing structures and residences) because of the construction of permanent features of the facility. Indirect impacts would primarily happen as a result of incompatibility with adjacent land uses or the loss or increased difficultly of access to parcels.

Construction of water conveyance features associated with Alternative 4 would directly affect land use in the study area by temporarily converting land currently under agricultural and open space uses to temporary access roads, spoils areas, and temporary work and staging areas. CM1 construction would also have the potential to result in temporary impacts on land adjacent to agricultural and open space land uses. Both ~~These~~ effects would be temporary with this land returning to agricultural or open space uses following construction.

Construction of water conveyance features associated with Alternative 4 would also directly affect land use in the study area by permanently converting land currently under agricultural land use and open space to permanent access roads, intakes and associated facilities, pumping plants, control structures, a small segment of canal, one new forebay and another expanded forebay, tunnel shafts, RTM areas, borrow or spoils areas, and footings for electric transmission line towers. While RTM areas are considered permanent surface impacts for the purposes of impact analysis, it is anticipated that the RTM would be removed from these areas and reused, as appropriate, as bulking material for levee maintenance, as fill material for habitat restoration projects, or other beneficial means of reuse identified for the material, as described in Appendix 3B, *Environmental Commitments*. In addition, approximately ~~81~~ 85 permanent structures would be removed or relocated within the water conveyance facility footprint under this alternative. This includes an estimated 19 residential buildings. Other structures affected would consist primarily of storage or agricultural support facilities; however, several private recreational structures would also be affected. Table 13-12 summarizes the estimated number of structures affected across structure type and alternative and Mapbook Figure M13-4 shows the distribution of these effects across the Modified Pipeline/Tunnel conveyance alignment. The physical footprints of intakes and intake ~~pumping plant~~ facilities, along with associated work areas, are anticipated to create the largest disruption to structures, conflicting with approximately ~~45~~ 39 structures in the vicinity of the east bank of the Sacramento River. Among the three intake sites, ~~15~~12 residential structures would be affected. Construction of canal segments to convey water between the expanded Clifton Court Forebay and existing approach channels to the Banks and Jones Pumping Plants is estimated to create conflicts with another 19~~6~~ structures. The ~~footprint of the expanded~~power transmission relocation area south of Clifton Court Forebay would also affect approximately 13 structures. ~~These would be concentrated on the east side of the forebay near Old River.~~ Other features—including RTM areas, tunnel work areas, and safe haven work areas—would also create disruptions to existing structures. Direct impacts on buildings will be avoided during geotechnical exploration activities.

Table 13-12. Estimated Water Conveyance Conflicts with Existing Structures

Alternative	Type of Structure				
	Residential	Recreational	Storage/Support	Other[a]	Total[b]
1A~~1A~~	59~~59~~	15~~15~~	123~~120~~	10~~10~~	207~~204~~
1B~~1B~~	109~~109~~	22~~22~~	260~~257~~	21~~21~~	412~~409~~
1C~~1C~~	194~~194~~	31~~31~~	469~~469~~	32~~32~~	726~~726~~
2A~~2A~~	70~~70~~	15~~15~~	127~~124~~	13~~13~~	225~~222~~
2B~~2B~~	121~~121~~	23~~23~~	265~~262~~	25~~25~~	434~~431~~
2C~~2C~~	194~~194~~	31~~31~~	469~~469~~	32~~32~~	726~~726~~
3~~3~~	37~~37~~	7~~7~~	93~~90~~	10~~10~~	147~~144~~
4~~4~~	19	7~~8~~	50~~45~~	9	85~~81~~
5~~5~~	29~~29~~	4~~4~~	84~~81~~	9~~9~~	126~~123~~
6A~~6A~~	59~~59~~	15~~15~~	123~~120~~	10~~10~~	207~~204~~
6B~~6B~~	109~~109~~	22~~22~~	257~~257~~	21~~21~~	409~~409~~
6C~~6C~~	194~~194~~	31~~31~~	469~~469~~	32~~32~~	726~~726~~
7~~7~~	38~~38~~	8~~8~~	91~~88~~	9~~9~~	146~~143~~
8~~8~~	38~~38~~	8~~8~~	91~~88~~	9~~9~~	146~~143~~
9~~9~~	74~~74~~	69~~69~~	93~~93~~	19~~19~~	255~~255~~

[a] *Other* structures include power/utility structures, bridges, and other types of infrastructure.

[b] Note that structure impacts have been revised for other alternatives as a result of an updated dataset of structures within the study area. These revisions (up to three additional storage/support structures affected) would not affect the ultimate impact conclusions associated with this effect; therefore, impact conclusions associated with these alternatives have not been reprinted in this RDEIR/SDEIS.

As described in Chapter 9, *Geology and Seismicity*, and Chapter 10, *Soils*, settlement of excavations could occur at construction sites as a result of dewatering. The hazard of settlement and subsequent collapse of excavations would be evaluated by assessing site-specific geotechnical and hydrological conditions at intake locations and ~~adjacent~~ pumping plants, as well as where ~~intake and forebay pipelines~~project features cross waterways and major irrigation canals. Additionally, tests will be performed to collect geophysical data along the MPTO alignment, including various structures. Downhole geophysical methods are necessary to characterize the soils, liquefaction potential, and to determine shear wave velocities for seismic stability analysis. Additionally, tests will be performed to collect geophysical data along the MPTO alignment, including various structures. Downhole geophysical methods are necessary to characterize the soils, liquefaction potential, and to determine shear wave velocities for seismic stability analysis. A California-registered civil engineer or California-certified engineering geologist would recommend measures in a geotechnical report to address these hazards, such as seepage cutoff walls and barriers, shoring, grouting of the bottom of the excavation, and strengthening of nearby structures, existing utilities, or buried structures. The measures would conform to applicable design and building codes, guidelines, and standards, such as the California Building Code and USACE's *Engineering and Design—Structural Design and Evaluation of Outlet Works*. See Appendix 3B, *Environmental Commitments*. Generally, the applicable codes require that facilities be built in such a way that settlement is minimized. DWR would ensure that the geotechnical design recommendations are included in the design of project facilities and construction specifications to minimize the potential effects from settlement and failure of excavations. DWR would also ensure that the design specifications are properly executed during

construction. ~~DWR has made an environmental commitment to conform with appropriate code and standard requirements to minimize potential risks (Appendix 3B, *Environmental Commitments*).~~ Conformance with these requirements and the application of accepted, proven construction engineering practices would reduce any potential risk such that construction of Alternative ~~1A~~4 would not create a conflict with existing land uses as a result of increased loss of property caused by dewatering.

Indirect effects on existing land uses may also arise from changes in access to parcels of land. For example, the removal of access for agricultural vehicles and machinery could jeopardize the ability of that land to continue serving productive agricultural uses. As described in Chapter 19, *Transportation,* ~~the levee road along~~ SR 160 ~~and Randall Island Road~~ would be realigned ~~require temporary detour roads~~ during and following construction of the intakes. Because temporary access routes around these construction areas would be built prior to the disruption of the existing road network, residents and travelers through the Delta would not experience substantial delays in travel from one side of the intake area to the other. Access to Kings Island (near the proposed pumping plants at Clifton Court Forebay) via the Italian Slough levee road would be maintained during and after construction.

~~This l~~Loss of access would not be considered an adverse effect under this impact. The removal of a substantial number of existing permanent structures as a result of constructing the water conveyance facility, however, would be considered a direct, adverse socioeconomic effect of this alternative under NEPA. Where applicable, the BDCP proponents will provide compensation to property owners for losses due to implementation of the alternative, which would reduce the severity of economic effects related to this physical impact, but would not reduce the severity of the physical impact itself. Project conflicts with existing public structures are addressed in Chapter 20, *Public Services and Utilities*; potential adverse effects on the environment related to the potential release of hazardous materials contained in structures to be demolished are addressed in Chapter 24, *Hazards and Hazardous Materials;* and potential adverse effects on traditional cultural properties are addressed in Chapter 18, *Cultural Resources*.

***CEQA Conclusion*:** Construction of the proposed water conveyance facility would necessitate the removal of a substantial number of existing permanent structures. The removal of existing structures is not, in itself, considered an environmental impact, though removal might entail economic impacts. Significant environmental impacts would only result if the structures qualified as "historical resources" or the removal of structures led to physical effects on certain other resources. As discussed in Section 13.3.2, such effects are discussed in other chapters throughout this EIR/EIS. Project conflicts with existing public structures are addressed in Chapter 20, *Public Services and Utilities*; potential impacts on the public and environment related to the potential release of hazardous materials contained in structures to be demolished are addressed in Chapter 24, *Hazards and Hazardous Materials;* and potential impacts on "historical resources" (including qualifying structures) and traditional cultural properties are addressed in Chapter 18, *Cultural Resources*. In sum, there are no land use effects under CEQA due solely to the removal of physical structures that are not treated under other impact categories. Where applicable, BDCP proponents will provide compensation to property owners for losses due to implementation of the BDCP. This compensation would not constitute mitigation for any related physical impact; however, it would reduce the severity of economic effects.

Impact LU-3: Create Physical Structures Adjacent to and through a Portion of an Existing Community as a Result of Constructing the Proposed Water Conveyance Facility (CM1)

NEPA Effects: Under Alternative 4, the construction of permanent facilities and associated work areas would be located around the community of Hood. A tunnel carrying water south from ~~a pipeline adjacent to~~ Intake~~s~~ ~~Pumping Plant~~ 2 and 3 to the intermediate forebay, would ~~wrap around the east side of~~be placed under the community. The tunnel would be constructed below the surface and would not interfere with the existing community; therefore, the alignment would not create a physical structure adjacent to or through the existing community. A ~~permanent~~ temporary power line would be constructed ~~through the~~around the northern, eastern, and southern section~~s~~ of the community, which would provide power to the intake ~~pumping plants~~work areas during construction. Additionally, a temporary work area associated with construction of the conveyance facilities would be built adjacent to Hood on the southern side of the community, and would serve as a staging area during the construction phase. It would consist of facilities such as parking areas, offices, and construction equipment storage. Construction and the long-term placement of Intakes 3 and 5, although not adjacent to Hood, would be built about one-quarter mile north and one-half mile south of Hood, respectively, and would substantially alter the lands to the north and south of the community. While permanent physical structures adjacent to or through Hood are not anticipated to result from this alternative, activities associated with their construction could make it difficult to travel within and around Hood in certain areas for a limited period of time. Mitigation Measures TRANS-1a and TRANS-1b are available to address this effect. Additionally, the lasting placement of the intake facilities would represent physical structures that would substantially alter the setting of the community's surroundings, constituting an adverse effect.

***CEQA Conclusion*:** During the construction of the ~~conveyance pipelines and~~ tunnel~~s~~ between Intake 3 and 5 and the intermediate forebay, construction activities would occur to the north and south of the community of Hood, and a proposed temporary power line would cross through portions of the community. Even though access to and from the community would be maintained over the long-term, the nearby construction of the temporary work area would substantially alter the setting of the community in the near term. Similarly, the nearby construction of Intakes 3 and 5, although not adjacent to Hood, would create permanent physical structures approximately one-quarter mile north and one-half mile south of Hood that would substantially alter the community's surroundings. These structures would therefore result in a significant and unavoidable impact. Implementation of Mitigation Measures TRANS-1a and TRANS-1b would reduce the severity of this impact by supporting continued access to and from the community on transportation routes; however, permanent structures in the community's vicinity would remain, and the impact would be significant.

Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management Plan

Please refer to Mitigation Measure TRANS-1a in Chapter 19, *Transportation*, under Alternative 1A, Impact TRANS-1.

Mitigation Measure TRANS-1b: Limit Hours or Amount of Construction Activity on Congested Roadway Segments

Please refer to Mitigation Measure TRANS-1b in Chapter 19, *Transportation*, under Alternative 1A, Impact TRANS-1.

Impact LU-4: Incompatibility with Applicable Land Use Designations, Goals, and Policies as a Result of Implementing the Proposed Conservation Measures 2–21

NEPA Effects: This section assesses the compatibility of CM2–CM21 (described in detail in Chapter 3, *Description of Alternatives,* Sections 3.6.2 and 3.6.3) that would be implemented across 11 CZs with the predominant applicable county land use designations in those zones, as well as with other applicable local and regional land use designations, goals, and policies. Table 13-13 identifies county land use designations and the county land use jurisdictions for each of the CZs. Small acreage inclusions of other specific land use designations are also within each zone. Table 13-13 provides a general overview of the designations in each zone rather than an identification of every land use or jurisdiction in each zone. Note that none of these measures are proposed for implementation in CZ 10; CZs were delineated primarily on the basis of landscape characteristics and logical geographic or landform divisions to create a structured approach to how and where conservation actions, as part of the conservation measures, would be carried out within the Plan Area (which lies within the study area for this chapter).

Table 13-13. Predominant Land Use Designations in the Conservation Zones (CZs)

CZ	Jurisdiction	General Plan Land Use Designation
1	Solano County	Agriculture
2	Solano County	Agriculture
	Sutter County	Open Space
	Yolo County	Agriculture, Open Space
3	Solano County	Agriculture
	Yolo County	Agriculture, Open Space
	Sacramento County	Agricultural Cropland
4	Sacramento County	Agricultural Cropland, Agriculture-Recreation Reserve, Natural Preserve
	San Joaquin County	General Agriculture, Open Space/Resource Conservation
5	Sacramento County	Agricultural Cropland, Agriculture-Recreation Reserve, Natural Preserve
	San Joaquin County	General Agriculture, Open Space/Resource Conservation
6	Contra Costa County	Single Family Residential Low Density, Agricultural Lands, Public/Semi Public, Open Space
	San Joaquin County	General Agriculture, Open Space/Resource Conservation
7	San Joaquin County	General Agriculture, Open Space/Resource Conservation
8	San Joaquin County	Commercial Recreation, Residential-Medium and Low Density, General Agriculture
	Contra Costa County	Agriculture Core, Delta Recreation and Resources
	Alameda County	Large Parcel Agriculture, Major Public
9	Contra Costa County	Agriculture Core, Delta Recreation and Resources
10[a]	Contra Costa County	Delta Recreation, Open Space, Heavy Industry, Commercial, Multi-Family Residential Low, Single Family Residential High
11	Solano County	Marsh, Agriculture

[a] Note that none of these measures are proposed for CZ 10; CZs were delineated primarily on the basis of landscape characteristics and logical geographic or landform divisions to create a structured approach to how and where conservation actions would be carried out within the Plan Area (which lies within the study area for this chapter). CZ 10 occurs in a very urbanized portion of Contra Costa County with a diverse number of land use designations.

Over the 50-year BDCP implementation period, the BDCP Implementation Office would secure sufficient lands to restore approximately 65,000 acres of tidal communities; 10,000 acres of seasonally inundated floodplain; 5,000 acres of riparian natural community; 2,000 acres of grasslands; and 1,200 acres of nontidal marsh. Additionally, CM2–CM21 would enhance 20 linear miles of channel margin habitat and restore vernal pool complexes to achieve no net loss resulting from covered activities. Under the BDCP Reserve System, approximately 69,000 acres of land hosting various natural communities would be acquired and protected, including approximately 52,000 acres of cultivated lands. Protection of existing natural communities would be anticipated to be generally compatible with all regional and local designations, goals, and policies intended to avoid environmental effects, including the protection of existing agricultural uses specific to provisions under CM3 and CM11. Under these two measures, agricultural lands or easements would be acquired and managed for continued agricultural production and specific habitat values for species including Swainson's hawk, giant garter snake, greater sandhill crane, white-tailed kite, and tricolored blackbird. The management activities would include the minimization or discontinuation of pesticide use and the creation of grassland edges, hedgerows, and small woodlots—activities that would be generally compatible with land use designations, goals, and policies relating to agricultural and natural resources. The implementation period for the various restoration and enhancement components would vary based on land identification, acquisition, planning coordination, construction duration, and other variables. These measures would be implemented in CZs –9 and/or 11, in Contra Costa, Sacramento, San Joaquin, Solano, Sutter, and Yolo Counties. Across these CZs, agricultural and open space land use designations encompass the largest total acreage. Smaller constituent land uses in these zones include natural preserve, marsh, recreational, residential, public infrastructure, commercial, and industrial designations.

Implementation of CM2–CM21 would take place on land governed by policies designed to avoid or mitigate environmental effects, as identified in the Delta Protection Commission Land Use and Resource Management Plan and in the Delta Stewardship Council draft Delta Plan. As described under Impact LU-1, Delta Plan policies most closely associated with land use are ER P2 (Restore Habitats at Appropriate Elevations), ER P3 (Protect Opportunities to Restore Habitat), DP P1 (Locate New Urban Development Wisely), and DP P2 (Respect Local Land Use When Siting Water or Flood Facilities or Restoring Habitats). Because CM2–CM21 would not involve residential, commercial, or industrial development, DP P1 would not be applicable. Because CM2–CM21 activities would primarily support habitat restoration, particularly in the priority habitat restoration areas (which substantially coincide with the Restoration Opportunity Areas identified for tidal natural communities under BDCP CM4), these activities would be compatible with ER P3. Additionally, a potential restoration site's cross-sectional profile and ability to accommodate sea level rise will be considered in choosing sites for tidal habitat restoration efforts under CM4. If habitats were restored at different elevations, scientific rationale would be provided in site-specific plans. These activities would be compatible with Policy ER P2. As under effects related to CM1, however, Policy DP P2 requires that parties responsible for proposed actions avoid or reduce incompatibilities with existing or planned uses when feasible. In some cases, commitments and mitigation measures identified in this document (see, for example, Chapter 14, *Agricultural Resources,* Mitigation Measure AG-1: Develop an ALSP to preserve agricultural productivity and mitigate for loss of Important Farmland and land subject to Williamson Act contracts or in Farmland Security Zones) will help meet this requirement. However, avoidance of all incompatibilities is likely to be considered infeasible; thus, activities associated with CM2–CM21 would be compatible with Policy DP P2.

Incompatibilities could potentially arise with LURMP policies. Land Use P-3 provides that new habitat or restoration development ensure that appropriate buffers are provided to prevent incompatibilities with existing adjacent land uses. Land Use P-14 provides that agricultural lands converted to wetland development may not result in seepage of water and that such conversions must mitigate associated risks and effects. While restoration activities in ~~CM3~~CM2–CM11 would create potential incompatibilities with these policies by creating restoration areas or areas of increased inundation that could have effects on adjacent land uses through crop predation and seepage, implementation of mitigation measures proposed in other chapters would help ensure compatibility with this policy. These include Mitigation Measure AG-1: Develop an ALSP to preserve agricultural productivity and mitigate for loss of Important Farmland and land subject to Williamson Act contracts or in Farmland Security Zones, in Chapter 14, *Agricultural Resources,* and Mitigation Measure GW-5: Agricultural lands seepage minimization, in Chapter 7, *Groundwater*. Incompatibilities could occur with other LURMP policies, however, including Agriculture P-2, which suggests that agricultural land conversion should occur first where productivity and values are lowest. Depending on the locations for implementation of these measures, however, high-value agricultural land would be converted, creating the potential for incompatibility with this policy. Chapter 14, *Agricultural Resources,* discusses the potential for direct conflicts with Important Farmland.

Indirect effects on land use may also arise through incompatibilities with land subject to Williamson Act contracts or in Farmland Security Zones. If implementation of this alternative results in contract nonrenewal, cancellation, or otherwise removes land within an agricultural preserve from a Williamson Act contract, the county overseeing the preserve may decide to manage the preserve differently; for instance, the county could modify the rules governing compatible uses on remaining land within the preserve. However, this effect is speculative and its magnitude or geographical incidence cannot be evaluated with enough certainty. Chapter 14, *Agricultural Resources,* discusses the potential for direct conflicts with land subject to Williamson Act contracts or in Farmland Security Zones.

Implementation of CM2–CM21 in areas under the jurisdiction of an airport LUCP could be incompatible with LUCP policies if implementation could result in an attraction of birds, create foggy conditions, or place congregations of people in certain airport compatibility zones. However, because the footprints for these measures are not yet known, compatibility with airport LUCPs cannot be fully evaluated. The potential for effects related to airports is further discussed in Chapter 24, *Hazards and Hazardous Materials*. In addition, these issues would be addressed in greater detail in site-specific environmental documents for restoration proposals.

Conservation Measures 2–21 may also be implemented on lands guided by land use designations, goals, and policies identified by county and city general plans in the study area. To the extent that implementing these conservation measures may result in incompatibilities with land use designations, goals, and policies designed to avoid or reduce environmental effects, these potential incompatibilities are described below. As discussed in Section 13.3.2, to the extent that BDCP alternatives are incompatible with such land use designations, goals, and policies, any related environmental effects are discussed in other chapters.

Protection of existing natural communities would be anticipated to be compatible with all regional and local designations, goals, and policies intended to avoid environmental effects, including the protection of existing agricultural uses specific to provisions under CM3 and CM11.

However, where restoration or enhancement actions would directly convert agricultural land uses (in Contra Costa, San Joaquin, Sacramento, Solano, and Yolo Counties), these actions would potentially be incompatible with local land use designations and related policies that are intended to preserve agricultural resources including Contra Costa County Policy 8-2 and Agricultural Core or Agricultural Lands designations; the Sacramento County designation for Agricultural Cropland; San Joaquin County Agricultural Lands Policy 5 and the General Agricultural designation; Solano County Policies AG.P-4 and AG.P-28, along with the Agriculture designation; and Yolo County's Agriculture designation and Policies AG-1.3, AG-1.4, and AG-1.5. Physical effects implied by these potential incompatibilities would result in the loss of productive agricultural lands, which is discussed further in Chapter 14, *Agricultural Resources.* Specifically, as described in Chapter 14, *Agricultural Resources,* Impact AG-4, modified activities in the Yolo Bypass undertaken as part of Conservation Measure 2 would indirectly affect agricultural practices by increasing the frequency, duration, and magnitude of floodplain inundation. The new inundation schedule could substantially prevent agricultural use of these lands and therefore, could be incompatible with goals and policies associated with the protection of agricultural land uses in Yolo County.

Open Space, and Open Space/Recreation land use designations (in Contra Costa, San Joaquin, Sutter, and Yolo Counties), Natural Preserve (Sacramento County), and Marsh (Solano County) land use designations would typically be compatible with activities associated with the conservation measures that could be implemented in those counties as part of the alternative (e.g., restoration of tidal marsh, riparian habitat, grasslands, and floodplain enhancement and restoration). As such, no permanent adverse effects would be anticipated to result based upon land use incompatibilities. In November 2010, the Yolo County Board of Supervisors approved a 2-year moratorium on habitat mitigation projects within the county. While DWR and federal agencies are not subject to this moratorium, this ordinance could apply to other habitat mitigation projects by private and other public entities. Further discussion of compatibility with HCPs is located in Chapter 12, *Terrestrial* Biological Resources, Section 12.3.3.18, *Effects on Other Conservation Plans*.

As described below, measures designed at the species-level to support viability and reduce the effects of environmental stressors on covered species would also carry the potential to alter land use within the study area. In some cases, the location of implementation for these measures is not yet known and only theoretical effects can be discussed.

Actions to manage methylmercury under CM12 could include a number of methods, including the initial characterization of soil mercury at potential restoration sites, the reduction of organic material at potential restoration sites, site design that enhances the photodegradation of methylmercury, sediment remediation, and capping of mercury-laden sediments. While these activities would not, in themselves, be anticipated to create incompatibilities with land use designations, additional standards or measures designed and implemented through the adaptive management process could create the potential for incompatibilities with land use designations, goals, and policies within the study area were they to restrict land uses or result in a change in land use necessary for the management of methylmercury.

CM13 would control nonnative aquatic vegetation including Brazilian waterweed, water hyacinth, and other nonnative submerged and floating aquatic vegetation in BDCP tidal habitat restoration areas. Site-specific conditions and the intended goal would dictate the specific method of removal. Operations associated with vegetation control, including mechanical removal, could be incompatible with existing land use designations if the construction of new facilities and structures is necessary to house related equipment and machinery. Additionally, operations under this measure may require

facilities dedicated to the storage of removed vegetation, which, depending on their location, could potentially be incompatible with the land use designations or policies identified above.

Implementation of CM14 would include the operation and maintenance of an oxygen aeration facility in the Stockton Deep Water Ship Channel to increase dissolved oxygen concentrations. This conservation measure would modify the existing aeration facility as necessary and, if necessary, additional aerators and associated infrastructure would be added to optimize oxygen delivery to the river. To the extent that this facility would require physical modification on additional land not currently dedicated to similar purposes, this measure could potentially be incompatible with the land use policies or designations identified above.

CM15 is intended to reduce local effects of predators on covered fished species by conducting predator control in areas with high predator density. Predator hot spots would be identified and control methods would be adopted including removal of predator hiding spots, modification of channel geometry, targeted removal of predators, and other focused methods as dictated by site-specific conditions and the intended outcome or goal. The extent of this effect would depend on the locations identified for implementation and the extent to which methods with physical components were implemented under this measure. For instance, land-based capture of target predators need not require a change in land use. However, modification of channel geometry undertaken to create habitats less favorable for predators could potentially be incompatible with land use designations or policies identified above.

Installation of non-physical fish barriers at the head of Old River, the Delta Cross Channel, and Georgiana Slough would occur under CM16. Other ~~possible~~ potential locations include Turner Cut and~~,~~ Columbia Cut (note that Turner and Columbia Cut each have two channels, thus would require two barriers). ~~, the Delta Mendota Canal intake, Clifton Court Forebay, and potentially other future locations.~~ In addition to the installation of the barrier itself between October and June, the installation and operation could require the construction of transmission facilities and access roads, and potentially other facilities. Additionally, barriers would be removed and stored off-site while not in operation. Further discussion of this measure is provided in Chapter 3 of the BDCP, Section 3.4.17. Temporary (e.g., work and staging areas) or construction of permanent storage facilities associated with these barriers could be potentially incompatible with land designations for General Agriculture or Resource Conservation in San Joaquin County along with Agriculture Lands Policy 5 and Open Space Policies 3, 4, 6, and 13; land designated by the City of Lathrop as Recreation Residential and Public (Schools, Parks, & Open Space); Sacramento County Policy OS-1 and land designations for Natural Preserve, Agricultural Cropland; and potentially other policies and designations identified above, depending on barrier design and selection of locations.

To address the illegal harvest of covered species across the study area, CM17 would provide funds to hire and equip 22 additional staff, including 17 game wardens, to increase enforcement of fishing regulations. To the degree that these staff would require the construction of additional office space, storage areas, or vehicle parking areas on lands not currently designated by local entities for such uses, the measure could be potentially incompatible with land use designations or policies identified above.

Under CM18, a new conservation hatchery would be developed by USFWS to support delta and longfin smelt populations. The facility as planned would consist of two sites: a science-oriented genetic refuge and research facility on the edge of the Sacramento River, and a larger supplementation production facility nearby. These facilities are anticipated to be located in the

vicinity of the City of Rio Vista; their construction and long-term operation would create the potential for temporary or permanent incompatibilities with the city's general plan land use designations, goals, and policies. However, these facilities would potentially be on land designated as Army Base Reuse Area and Industrial/Employment District – General; thus, incompatibilities are not anticipated. This measure would also fund the expansion of the UC Davis Fish Conservation and Culture Laboratory, near Byron, California. Expansion of the existing facility could be potentially incompatible with Contra Costa County land use designations for Agricultural Lands or Delta Recreation.

CM19 would further existing efforts to reduce loads of toxic contaminants in stormwater and urban runoff throughout the Delta. Activities associated with implementation of this measure could include the construction of retention or irrigation holding ponds for the capture and irrigation use of stormwater, establishment of vegetated buffer strips to slow runoff velocities, construction of bioretention systems, among other features whose construction or long-term functions would occur upon lands deemed for other uses by local entities. Based upon the potentially wide geographic scope of this measure, any incompatibilities with land use designations or policies would not be known until locations for these facilities are chosen. However, the placement of the physical features proposed under this measure could be potentially incompatible with general plan land use designations or policies identified above.

Implementation of CM20 would include the provision of wash stations with sufficient cleaning abilities to kill aquatic invasives on watercraft, trailers, and other equipment leaving water bodies within California that are infested with zebra or quagga mussels. Wash stations will be strategically placed at boat ramps of each water body and owners will be encouraged to clean their watercraft and trailers upon leaving the water body. Additionally, this measure would fund inspection stations on roads at California borders that currently do not have inspection stations. Locations of these stations would include Needles Highway southbound; Highway 95 southbound at Arrowhead Junction; State Route 95, southbound at Needles Bridge; Havasu Lake Road near the west shore of Lake Havasu; Highway 95 at Vidal Junction; Agnes Wilson Bridge westbound; and Highway 95 southbound north of Blythe. Semi-permanent inspection stations will be established and operated on busy boat traffic days. While specific locations of these facilities are unknown at this point, they could be potentially incompatible with land use designations or policies identified above.

CM21 would address nonproject irrigation diversions to reduce the entrainment of covered fish species in the Delta. Activities associated with this measure would likely include installation of or improvements to fish screens; voluntary alteration of daily and seasonal diversion timing; and physical removal, relocation, consolidation, and modification of diversions. Removing or modifying the location of these structures could be incompatible with land designations for agricultural uses throughout the study area, at least on a temporary basis. Alterations to diversions could create indirect incompatibilities with land use designations or policies as identified in regional, county, and city plans, particularly with respect to agricultural lands and lands dedicated to waterfowl rearing. To the extent that such incompatibilities would result in a physical consequence on the environment, these potential effects are described further in Chapter 14, *Agricultural Resources* and Chapter 12, *Terrestrial Biological Resources*.

Any conservation measure requiring construction activities (e.g., establishment of storage, staging and stockpiling areas; grading; levee removal/replacement) could be potentially incompatible with land use designations or policies identified above for the duration of those activities.

~~Because~~ With the exception of CM2 (Yolo Bypass Fisheries Enhancement), ~~the~~ specific locations for the implementation of many of the~~se~~ land-intensive conservation measures are not known at this point~~,~~. Therefore, a definitive conclusion about the compatibility of this alternative with local land use designations, goals, and policies cannot be made. These issues would be addressed in detail in site-specific environmental documents for restoration proposals. However, implementation of this alternative may result in substantial incompatibility with local land use regulations due to the amount of land area targeted for restoration actions. Because most activities would be anticipated to take place on land designated for agriculture, open space, natural preserve and recreation, local designations, goals, and policies related to preservation of those attributes would be most affected. As mentioned above, activities such as restoration of tidal habitat, seasonally inundated floodplain, riparian habitat, grassland and nontidal freshwater marsh could be incompatible with general plan policies to preserve agricultural land uses and farmland soils, including Contra Costa Policies 8-2, 8-29 and 8-33, Sacramento County Policy AG-5, San Joaquin County Agricultural Lands Policy 5, Solano County Policies AG.P-4 and AG.P-28, and Yolo County Policies AG-1.4, AG-1.5, AG-1.6, AG-2.10, and AG-6.1. However, those same activities could be compatible with and supportive of numerous general plan policies for open space, natural preserve, natural resources or recreation, including Alameda County ECAP Policy 53, Contra Costa Policies 3-64, 8-9, 8-17, 8-84 and 8-93, Sacramento County Policy AG-15, OS-1 and OS-2, San Joaquin County Open Space Policy 4, and Solano County Policies RS.P-1, RS.P-2, RS.P-3, RS.P-4, RS.P-5, RS.P-7, RS.P-8, RS.P-9, RS.P-10, RS.P-11, and RS.P-12. The relationship between plans, policies, and regulations and impacts on the physical environment is discussed in Section 13.3.1.

***CEQA Conclusion*:** With the exception of CM2 (Yolo Bypass Fisheries Enhancement), ~~Because the~~specific locations for the implementation of many of the land-intensive conservation measures~~CM2–CM21~~ are not known at this point~~,~~. A~~a~~ conclusion about the compatibility of this alternative with local land use regulations cannot be made; these issues, therefore, will have to be addressed in detail in site-specific environmental documents for restoration proposals. Although implementation of this alternative would be anticipated to result in substantial incompatibilities with local land use regulations due to the amount of land area targeted for restoration actions, it is presently unknown whether any such incompatibilities would be indicative of related physical consequences, such as the loss of prime agricultural land or unique archaeological resources. The relationship between plans, policies, and regulations and impacts on the physical environment is discussed in Section 13.3.1. These issues will also be addressed in the site-specific environmental documents for proposed restoration activities.

Impact LU-5: Conflicts with Existing Land Uses as a Result of Implementing the Proposed Conservation Measures 2–21

NEPA Effects: Existing land uses in the CZs are predominantly agricultural, open space, or rural residential with some small inclusions of commercial and industrial areas, as previously described. Land uses within the boundaries of incorporated cities vary considerably in the study area but predominantly include areas dedicated to residential, commercial, and industrial areas. While the location of each restoration and/or enhancement action is not known at this time, it is possible that implementing these conservation measures may result in temporary (e.g., construction activities that may conflict with land designated as open space) or permanent (e.g., displacement of existing residents and removal of existing structures) physical conflicts with existing land uses in or immediately adjacent to the study area.

Restoration of tidal habitat, riparian areas, nontidal perennial aquatic habitat, nontidal perennial freshwater emergent wetland, grasslands, and vernal pool complexes, protecting and enhancing alkali seasonal wetland complexes, and managing agricultural lands for optimal habitat use may conflict with existing agricultural and rural residential land uses in the Cache Slough ROA in CZ 1, and in southeastern Solano and Yolo Counties depending on the location of each activity. Similarly, restoring riparian habitat and managing agricultural lands for optimal habitat use may conflict with existing agricultural and rural and suburban residential, as well as commercial and light industrial land uses in various locations within CZ 3 in Sacramento County. Activities associated with restoration of tidal habitat perennial aquatic/tidal brackish emergent wetland, riparian areas, nontidal perennial aquatic habitat, and nontidal perennial freshwater emergent wetland areas of San Joaquin, Alameda, and Contra Costa Counties and managing agricultural lands for optimal habitat use, restoring vernal pool complexes, or protecting and enhancing alkali seasonal wetland complexes in CZs 5–10 of these counties may conflict with existing agricultural and other land uses depending on the locations of these activities. Activities associated with restoration of tidal habitat, were it to occur within the Stone Lakes National Wildlife Refuge, would be compatible with existing land uses. Restoration of tidal perennial aquatic/tidal brackish emergent wetland, riparian areas, nontidal perennial aquatic habitat, nontidal perennial freshwater emergent wetland, grasslands, and vernal pool complexes, and protecting and enhancing alkali seasonal wetland complexes in the Suisun Marsh are not likely to conflict with any existing land uses because that area is already managed toward these goals.

Without more site-specific information about the locations and types of restoration to be implemented, no definitive conclusion can be made about the potential for restoration actions to result in the permanent conversion of land uses (including displacement of existing structures and residences) due to the construction of permanent features of the facility, nor can a conclusion be made with regard to the degree of indirect impacts, which could occur primarily as a result of incompatibility with adjacent land uses or the loss or increased difficultly of access to parcels. When required, the BDCP proponents would provide compensation to property owners for losses due to implementation of the alternative, which would reduce the severity of economic effects related to this physical impact, but would not reduce the severity of the physical impact itself. Implementation of this alternative would be anticipated to result in substantial conflicts with current land uses due to the amount of land area targeted for restoration actions.

***CEQA Conclusion*:** Because the locations and types of restoration to be implemented are unknown at this point, no definitive conclusion can be made about the potential for restoration actions to result in the permanent conversion of land uses (including displacement of existing structures and residences) due to the construction of permanent features of any facility. Nor can a conclusion be made with regard to the degree of indirect impacts, which could occur primarily as a result of incompatibility with adjacent land uses or the loss or increased difficultly of access to parcels. However, implementation of this alternative would be anticipated to result in substantial conflicts with current land uses due to the amount of land area targeted for restoration actions. Where applicable, the BDCP proponents will provide compensation to property owners for losses due to implementation of the alternative. This would reduce the severity of economic effects related to this physical impact, but would not reduce the severity of the physical impact itself.

Impact LU-6: Create Physical Structures Adjacent to and through a Portion of an Existing Community as a Result of Implementing the Proposed Conservation Measures 2–21

NEPA Effects: The areas in which restoration actions are planned would be primarily natural or agricultural areas. Without more site-specific information about the locations and types of restoration to be implemented at those locations, no definitive conclusion can be made about the potential for restoration actions to result in the physical division of an existing community. In general, large-scale restoration actions that take place in areas suitable for open space, resource conservation, and habitat are not likely to create permanent physical divisions in existing communities. To the extent that conservation areas are anticipated to create conflicts with community functionality and land use guidance, these effects are captured by and described under Impact LU-4: *Incompatibility with Applicable Land Use Designations, Goals, and Policies as a Result of Implementing the Proposed Conservation Measures 2–21*. In areas and land use designations that focus on agricultural production, the potential exists for restoration actions to isolate agricultural areas from the communities that provide services and markets to those farmers; however, such an effect would not be considered to divide an existing community. Temporary and permanent effects on agricultural resources are discussed in Chapter 14, *Agricultural Resources.* Effects related to dividing an existing community as a result of the implementation of CM2–CM21 would not be anticipated to be adverse under this alternative.

***CEQA Conclusion*:** Because the locations for the implementation of these conservation measures are unknown at this point, a conclusion about this alternative's potential to divide an existing community cannot be made; however, because, large-scale restoration actions that take place in areas suitable for open space, resource conservation, and habitat are not likely to create permanent physical divisions in existing communities, this impact is anticipated to be less than significant.