

**WETLAND AND RIPARIAN PROJECT FORM and HABITAT MAPS**

for Mitigation and Restoration Projects in the San Francisco Bay Region of the California Water Board

Two brackets [ ] represent a checkbox; check a checkbox like this: [x]. For text responses, add text after the colon, on the next line if necessary. Provide all dates as mm/dd/yyyy. See the companion *Form Instructions* for more information.

Note: **Maps should be submitted with this form**; see instructions below under "Habitat Maps".

1. Form completed by  Applicant  Other (specify) \_\_\_\_\_  
Name \_\_\_\_\_ Phone/email \_\_\_\_\_

2. Date of submission:

**PROJECT IDENTIFICATION**

Complete all that apply. Enter "pending" for pending actions. See instructions for a key to abbreviations.

3. Corps File No:

5. Water Board CIWQS Place No:

8. BCDC Record No:

10. CA DF&G Notification No:

4. Date of permit:

6. Certification Letter Site No. AND/OR  
Board Order No. (WDR):

9. Date of BCDC action:

11. Date of DF&G action:

7. Date of letter/order:

12. USFWS File No:

14. NMFS No:

16. SCC Record No:

18. State Clearinghouse number:

13. Date of action:

15. Date of action:

17. Date of action:

**GENERAL INFORMATION**

19. Project name (include any alternative names):

20. Brief project description

21. Project type (see definitions to right)

Check one:  Compensatory mitigation  Non-mitigation

Definitions for project type

**Compensatory mitigation:** Project includes legally required work to compensate for unavoidable impacts to existing wetland/riparian habitat.

**Non-mitigation:** Project does not include any legally required mitigation work.

**APPLICANT INFORMATION**

22. Applicant name and/or organization:

23. Mailing Address:

24. Email:

25. Phone:

**CONTACT FOR TECHNICAL INFORMATION**

26. Contact Name:

27. Organization Name:

28. Mailing Address:

29. Email:

30. Phone:

**FUNDERS/CONTRIBUTORS**

31. Please indicate project funders or in-kind contributors, other than permittee, if any.

State Coastal Conservancy

CA Resources Agency

Regional Water Board

CalTRANS

Wildlife Conservation Board

US Fish and Wildlife

National Oceanic and Atmospheric Admin.

US Army Corps

State Parks

Natural Resource Conservation Service

Department of Fish and Game

OTHER \_\_\_\_\_



### HABITAT MAPS REQUIREMENT

**51. You must submit with this form the following maps of your project:**

- 1) a map indicating **present habitats** at all project locations and
- 2) a map indicating **planned habitat changes** (gain/improvement/loss) at all project locations

- Maps must use the **habitat list provided on this form** (see "Habitat Definitions" below)
- Submittal must clearly identify the "Present Habitats" and "Planned Habitat Changes" maps respectively.
- For mitigation projects, include both the impacted site and the mitigation site, on separate maps if necessary.
- Include planting details and structural/hydro modifications if appropriate.
- Examples of habitat maps can be found at <http://www.wetlandtracker.org/tracker/map-examples>

**Indicate the map format used** (listed in order of preference):

- (Recommended) **Google KML files** saved from Google Maps: My Maps (free) or Google Earth Pro (not free). Maps must show the boundaries of all project habitats, using the habitat list provided on this form. See <http://www.wetlandtracker.org/tracker/map-examples>
- GIS shapefiles**. The shapefiles must depict the boundaries of all project habitats, using the habitat list provided on this form. Each shape should be attributed with the habitat name. Features and boundaries should be accurate to within 33 feet (10 meters). If possible, provide map in NAD83/WGS84 datum, UTM Zone 10 projection; identify datum/projection used.
- Other electronic format** (CAD or illustration format) that provides a context for location (inclusion of landmarks, known structures, geographic coordinates, or USGS DRG or DOQQ). Maps must show the boundaries of all habitats, using the habitat list provided on this form.
- Habitats maps marked on paper USGS 7.5 minute **topographic maps** or DOQQ printouts. Maps must show the boundaries of all habitats, using the habitat list provided on this form.

**52. If using Google Maps: My Maps or similar, provide URL(s) of habitat maps:**

### EXISTING HABITAT TOTAL

Consider all areas in both the mitigation/restoration project and the development project/impacted site. Provide the total area of all existing habitats (including riparian) in acres; provide also the total existing riparian habitat in linear feet.

**53. Total existing wetland/riparian habitat** (including habitat to be lost)      acres (all habitats):      linear ft (riparian):

### PLANNED HABITAT CHANGES

**54. Area or length gained, improved and lost, by habitat and project activity**

- Consider all areas in both the mitigation/restoration site and the development project/impact site
- Fill out table items to the nearest **0.1 acre**      —For riparian areas, describe the size in **both acres and** linear feet
- See definitions below table      —See form instructions for policy & guidance on mitigation projects
- If project maintains or repairs a stream channel or bank, enter the amount of linear feet **and** acres under "Stream and Rivers" (either "channel" or "riparian area") under "Improved—Enhanced".

Habitat type <sup>1</sup>	Gained				Improved				Lost <sup>4</sup>	
	Created <sup>2</sup>		Restored <sup>2</sup>		Enhanced <sup>2</sup>		Preserved <sup>2</sup>		acre	linear ft
	acre	linear ft	acre	linear ft	acre	linear ft	acre	linear ft		
Estuarine—marsh <sup>3</sup>		n/a		n/a		n/a		n/a		n/a
Estuarine—mudflat		n/a		n/a		n/a		n/a		n/a
Estuarine—open water		n/a		n/a		n/a		n/a		n/a
Estuarine—submerged aquatic vegetation		n/a		n/a		n/a		n/a		n/a
Vernal pools & swales <sup>3</sup> (always seasonal; estimate pool size at maximum volume <sup>3</sup> )		n/a		n/a		n/a		n/a		n/a
Depressional wetlands except vernal pools & swales—marsh and unvegetated flats <sup>3</sup>		n/a		n/a		n/a		n/a		n/a
Depressional wetlands except vernal pools & swales—open water <sup>3</sup>		n/a		n/a		n/a		n/a		n/a
Seeps and springs wetlands <sup>3</sup>		n/a		n/a		n/a		n/a		n/a
Playas—marsh <sup>3</sup>		n/a		n/a		n/a		n/a		n/a
Playas—open water <sup>3</sup>		n/a		n/a		n/a		n/a		n/a
Lakes—marsh		n/a		n/a		n/a		n/a		n/a
Lakes—open water		n/a		n/a		n/a		n/a		n/a
Streams and rivers—channel <sup>3</sup>										
Streams and rivers—riparian area <sup>3</sup>										
Unknown wetland habitat		n/a		n/a		n/a		n/a		n/a
<b>Totals</b>										
Buffer area		n/a		n/a		n/a		n/a	n/a	n/a

<sup>1</sup> Note that open water generally cannot compensate for wetland fill. See form instructions document for more information.

<sup>2</sup> **Created:** Establishment of wetland/riparian where previously none existed. **Restored:** Establishment of wetland/riparian where some did previously exist. **Enhanced:** Improvement of functions of existing wetland/riparian habitat; habitat size and type does not change. **Preserved:** Protection of existing wetland/riparian habitat *without physically changing it*.

<sup>3</sup> this habitat type can contain **seasonal** (ephemeral) wetlands

<sup>4</sup> *lost* includes both **destruction** and **conversion to another habitat**

## HABITAT DEFINITIONS

**Estuarine wetlands** consist of three main parts: the vegetated marsh plain that is above the average high tide (**Estuarine—marsh**), the area of open water that is apparent during an average low tide (**Estuarine—open water**), and the area lacking vegetation that exists below the marsh plain that is exposed during the average low tide (**Estuarine—mudflat**). The open water area includes the pannes and ponds on the vegetated marsh plain. Open water and non-vegetated areas have less than 5% absolute cover of vegetation. In addition to these three main parts, some estuarine wetlands have **submerged aquatic vegetation**, such as eel grass, that is partially exposed during the average low tide. The minimum size of open water areas, non-vegetated areas, vegetated marsh plain, and submerged vegetation is 0.25 acres (0.1 hectares).

**Vernal Pools** are ephemeral, depressional wetlands that typically support at least 30% relative cover of indicative plant species. The shallow depressions are underlain by bedrock or impervious soil. They fill with rainwater and runoff during the winter and may remain inundated until spring or early summer, sometimes filling and emptying repeatedly during the wet season. Vernal pools often occur together with vernal swales as vernal pool systems that have many pools of various sizes and shapes, varying floral and faunal composition, and various hydroperiods. Water can move between adjacent pools and swales through the thin soils above the underlying impervious substrate.

**Depressional Wetlands** are places where runoff accumulates in a topographic depression. Water either does not flow through the wetland or the flow is essentially imperceptible. Depressional wetlands are smaller than lakes, lack the indicative plant community of vernal pools, and are neither saline nor alkaline like playas. Stock ponds, irrigation ponds, and treatment ponds that are smaller than lakes are examples of unnatural depressional wetlands. Ponds on fault traces, valley bottoms, and on broad saddles along ridge are examples of natural depressional wetlands. A depressional wetland can have three main parts: an area of open water (**Depressional wetlands—open water**), a non-vegetated area that is exposed when the wetland is not full, and an area of marsh vegetation that borders either the open water area or the non-vegetated area. The open water areas and non-vegetated areas have less than 5% absolute cover of vegetation; count these both as "**Depressional wetlands—marsh and unvegetated flats**." Some depressional wetlands lack the open water area and/or the non-vegetated area. Depressional wetlands can be perennial or seasonal. Perennial depressional wetlands have some amount of standing water for at least 9 months during most years. Seasonal depressional wetlands have no standing water or it lasts for less than 9 months during most years.

**Seeps and springs wetlands** are also known as Slope Wetlands. They are formed by groundwater emerging onto the ground surface or into the root zone of wetland vegetation. They naturally occur on hillsides or at the bases of dunes, hills, alluvial fans, etc. In some cases, the emerging groundwater flows downhill through very small channels called rivulets or runnels that lack the banks, beds, and floodplains of larger streams. Many seeps and springs adjoin rivers, streams, lakes, and other kinds of wetlands.

**Playas** consist of the three main parts: the area of open water that is apparent when the playa is full, the non-vegetated area that is exposed when the playa is not full, and the area of marsh vegetation that borders either the open water or the non-vegetated area (**Playas—marsh vegetation**). Open water and non-vegetated areas have less than 5% absolute cover of vegetation; count these both as "**Playas—open water**." The central feature of a playa is a seasonal or perennial body of very sodic (i.e., strongly alkaline) or saline water with an average depth less than 6 feet (1.8 meters) during the dry season. The benthic sediments of a playa are mostly very fine-grain clays and silts. The fringing wetlands are characterized by grasses and herbaceous plants tolerant of the soluble salts that accumulate along the shoreline. The shallowness of the open water areas of playas distinguishes them from lakes. Playas differ from vernal pools by having little or no vascular vegetation within the area that is seasonally saturated or inundated.

**Lakes** are at least 20 acres (8 hectares) large and have an average depth of at least six feet during the dry season. A lake consists of the three main parts: the area of open water that is apparent when the lake is full, the non-vegetated area that is exposed when the lake is not full, and the area of marsh vegetation that borders either the open water or the non-vegetated area (**Lakes—marsh**). Open water and non-vegetated areas have less than 5% absolute cover of vegetation; count these both as "**Lakes—open water**." The minimum size of open water areas, non-vegetated areas and vegetated areas is 0.25 acres (0.1 hectares).

**Streams and rivers** can consist of two main parts: the channel (**Streams and rivers—channel**) and its riparian area (or active floodplain); count this as "**Streams and rivers—riparian area**." The active floodplain is defined as the relatively level area that tends to be flooded every 1.5 to 2.0 years. It can be represented by a contour line on a steep bank, a very narrow flat area, or by broad areas of vegetated and non-vegetated bars, flats, and low benches. The channel consists of its banks and bed below the active floodplain. Channels can be perennial, intermittent, or ephemeral. Perennial channels have surface water flowing through them all year during most years. Ephemeral channels have flowing water only during the wet season. Intermittent channels have flowing water only during rains, or when water is released from upstream reservoirs, treatment ponds, etc. Braided channels have multiple sub-channels that diverge and converge.

**Buffer areas** protect streams and other wetlands from potential problems or stresses that originate in the uplands. Whether or not an area adjoining a wetland functions as a buffer depends on its extent, width, and the kinds of land uses to which it is subjected. In general, for an area to serve as a buffer, it must be at least 16 feet (5 meters) wide.

55. Habitat types were determined by  aerial/satellite photos  field survey  other (specify)

## ADDITIONAL INFORMATION

56. Comments and/or additional information on the project

<b>PROJECT MONITORING</b>							
(optional section; check all that apply)							
Parameter	Sample Frequency						Comments
	Annual	Seasonal	Quarterly	Monthly	Continuous	Total Time Span	
<b>57. CRAM</b> (California Rapid Assessment Method) or other method							
<b>58. Hydrology</b>							
Tide Levels (select datum) <input type="checkbox"/> NAVD 88 <input type="checkbox"/> Local MHW <input type="checkbox"/> Local MLW <input type="checkbox"/> arbitrary							
Frequency & duration of inundation							
Sedimentation Rates							
Flow							
Tidal Prism							
Hydraulic Geometry							
Thalweg Profile							
Channel Length							
Channel Density							
Shoreline or Bank Stability							
Other							
<b>59. Vegetation</b>							
Percent Cover							
Plant Height							
Plant Vigor							
Standing Crop							
Productivity							
Native Species Richness							
Non-native Species Richness							
Survival of Vegetation							
Other							
<b>60. Water Chemistry</b>							
pH							
Conductivity							
Total Suspended Solids							
Turbidity							
Dissolved Oxygen							
Temperature							
Salinity							
Biological Oxygen Demand							
Metals (select) <input type="checkbox"/> Hg <input type="checkbox"/> MeHg <input type="checkbox"/> Pb <input type="checkbox"/> Cu <input type="checkbox"/> Se <input type="checkbox"/> Zn <input type="checkbox"/> other (list)							
Organic Contaminants (select) <input type="checkbox"/> PCB <input type="checkbox"/> OC <input type="checkbox"/> PAH <input type="checkbox"/> other (list)							
Chlorophyll A							
Ammonia							
TOC							
Other							
<b>61. Sediment Chemistry</b>							
Grain Size							
Nitrogen							
Phosphorus							
Metals (select) <input type="checkbox"/> Hg <input type="checkbox"/> MeHg <input type="checkbox"/> Pb <input type="checkbox"/> Cu <input type="checkbox"/> Se <input type="checkbox"/> Zn <input type="checkbox"/> other (list)							

Organic Contaminants (select) <input type="checkbox"/> PCB <input type="checkbox"/> OC <input type="checkbox"/> PAH <input type="checkbox"/> Other (list)							
Bulk Density							
TOC							
Other							
<b>62. Wildlife</b>							
<b>Mammals</b> (select) <input type="checkbox"/> Spp. richness <input type="checkbox"/> Pop. size <input type="checkbox"/> Survival <input type="checkbox"/> Evidence Of Use							
<b>Amphibians/Reptiles</b> (select) <input type="checkbox"/> Spp. richness <input type="checkbox"/> Pop. size <input type="checkbox"/> Survival <input type="checkbox"/> Evidence Of Use							
<b>Birds</b> (select) <input type="checkbox"/> Spp. richness <input type="checkbox"/> Pop. size <input type="checkbox"/> Survival <input type="checkbox"/> Evidence Of Use							
<b>Fish</b> (select) <input type="checkbox"/> Spp. richness <input type="checkbox"/> Pop. size <input type="checkbox"/> Survival <input type="checkbox"/> Evidence Of Use							
<b>Benthic Invertebrates</b> (select) <input type="checkbox"/> Spp. richness <input type="checkbox"/> Pop. size <input type="checkbox"/> Survival <input type="checkbox"/> Evidence Of Use							
<b>Aquatic Invertebrates</b> (select) <input type="checkbox"/> Spp. richness <input type="checkbox"/> Pop. size <input type="checkbox"/> Survival <input type="checkbox"/> Evidence Of Use							
<b>Terrestrial</b> (select) <input type="checkbox"/> Spp. richness <input type="checkbox"/> Pop. size <input type="checkbox"/> Survival <input type="checkbox"/> Evidence Of Use							
Zooplankton							
Phytoplankton							
<b>63. Other Monitoring</b> (identify parameters, frequency and time span of data collection)							