



SOQUEL CANYON MITIGATION BANK



Bank Sponsor:
Land Veritas Corp
Contact: Tracey Brownfield
tracey@landveritas.com

Permitting & Marketing Consultant:
WRA, Inc.
Contact: Nate Bello
bello@wra-ca.com



SOQUEL CANYON MITIGATION BANK

Summary

Land Veritas Corp (LV), a Women-Owned Business Entity, is the sponsor of the Soquel Canyon Mitigation Bank (Bank). In December 2014, LV garnered final regulatory agency approvals and released the first round of credits at Soquel Canyon Mitigation Bank (Bank). Located primarily in Chino Hills (with a small portion in Orange County), the Bank's southern boundary is the Chino Hills State Park, a premier natural open space in the hills of the Santa Ana Canyon near the junction of San Bernardino, Orange, Riverside, and Los Angeles Counties (Bank Property). The State Park serves as a critical link in the Puente-Chino Hills biological corridor, encompassing over 14,000 acres of oaks, sycamores, and rolling grassy hills stretching nearly 31 miles from the Santa Ana Mountains to the Whittier Hills.

The Bank offers a great diversity of vegetation and thus provides mitigation for a range of habitat types found in the region. Its canyons support riparian areas which protect water quality and provide suitable habitat for numerous wildlife species including least Bell's vireo and California coastal gnatcatcher. The black walnut trees in low-lying riparian areas join coast live oaks to form mixed walnut woodlands in and adjacent to the creeks, while a variety of coastal sage scrub and chaparral communities are found on slopes. There are almost 80,000 linear feet of streams located throughout the Bank property, including perennial, intermittent, and ephemeral streams and their associated riparian habitats.

Credits are phased over six releases, which is dependent on the Bank meeting certain agency-mandated performance standards and submitting payments and reports.

Service Area

Attached are service areas for each category of credits that are available. Service areas are the areas in which Mitigation and Conservation Banks are allowed to sell credits, however, impacts outside of the service areas may be mitigated on a case-by-case basis upon regulatory approval.

Pricing

Each of the Bank's credit categories overlap to form "stacked" credits, which can mitigate simultaneous impacts to resources under multiple jurisdictions. The three credit categories (Waters of the U.S., Waters of the State, and Covered Habitat) overlap with each other such that a debit from one credit table will often require a corresponding debit in one or more of the other credit tables. For example, every creditable acre has a CEQA associated with it, therefore, every debit of Waters of the U.S. or Waters of the State credit will also include the overlapping Covered Habitat Credit type. The price of each credit sold is determined by the highest value credit that it overlaps with. Credit pricing varies based on the type of credit and amount of overlap, and begin at \$100,000/credit. More accurate pricing information can be provided through a direct consultation.

CREDITS OFFERED

The Bank has been approved to sell credits by the U.S. Army Corps of Engineers (USACE), U.S. Environmental Protection Agency (EPA), California Department of Fish and Wildlife (CDFW), and the



Santa Ana Regional Water Quality Control Board (RWQCB). These credits can be used to mitigate for impacts to Waters of the United States (404 credits), Waters of the State (1600 Credits), and Sensitive Habitats (CEQA credits).

404 Credits

Soquel Canyon’s 404 credits can be used to mitigate for impacts to Waters of the United States regulated under Sections 404 and 401 of the Clean Water Act. The Bank provides three types of 404 Credits, including:

- Ephemeral Stream Enhancement Credits
- Intermittent Stream Enhancement Credits
- Perennial Stream Enhancement Credits

All 404 Credits are combination credits include three components: Waters of the U.S. streambank, Riparian buffers, and Upland Buffers. In 2008, USACE acknowledged the importance of buffers for maintaining the ecological viability and aquatic resource function of the Waters of the U.S.

The Bank generates Waters of the U.S. Enhancement Credits by converting non-native vegetative communities to native types, reducing/eliminating invasive seed sources and, enhancing habitats for protected species. These activities repair habitat for sensitive species, including least Bell’s vireo and California coastal gnatcatcher. Enhancement is also achieved by excluding cattle and managing invasive species in existing natural communities.

1600 Credits

The Credits available as mitigation for impacts to Waters of the State regulated under Section 1602 of the California Fish and Game Code include Stream Restoration Credits, Riparian Restoration Credits, Stream Enhancement Credits, and Riparian Enhancement Credits.

Invasive plant species management and cattle exclusion activities generate enhancement credits. Areas that were also planted with native plant species generate restoration credits, as planting activities increase the area, functioning, and resiliency of these communities.

Waters of the State Credits include:

- | <u>Ephemeral</u> | <u>Intermittent</u> | <u>Perennial</u> |
|------------------------|------------------------|------------------------|
| • Riparian Enhancement | • Riparian Enhancement | • Riparian Enhancement |
| • Riparian Restoration | • Riparian Restoration | • Riparian Restoration |
| • Waters Enhancement | • Waters Enhancement | • Waters Enhancement |
| • Waters Restoration | • Waters Restoration | • Waters Restoration |



CEQA Credits (Covered Habitat)

Covered Habitat credits can be used to offset impacts to natural vegetation communities. These enhancement and restoration credits cover multiple habitat types including the following:

- Chaparral
- Coastal Sage Scrub
- Mulefat Scrub
- Native Grassland
- Oak Woodland
- Perennial Streambed
- Walnut Woodland



Attachment 1: Figures

This page intentionally left blank

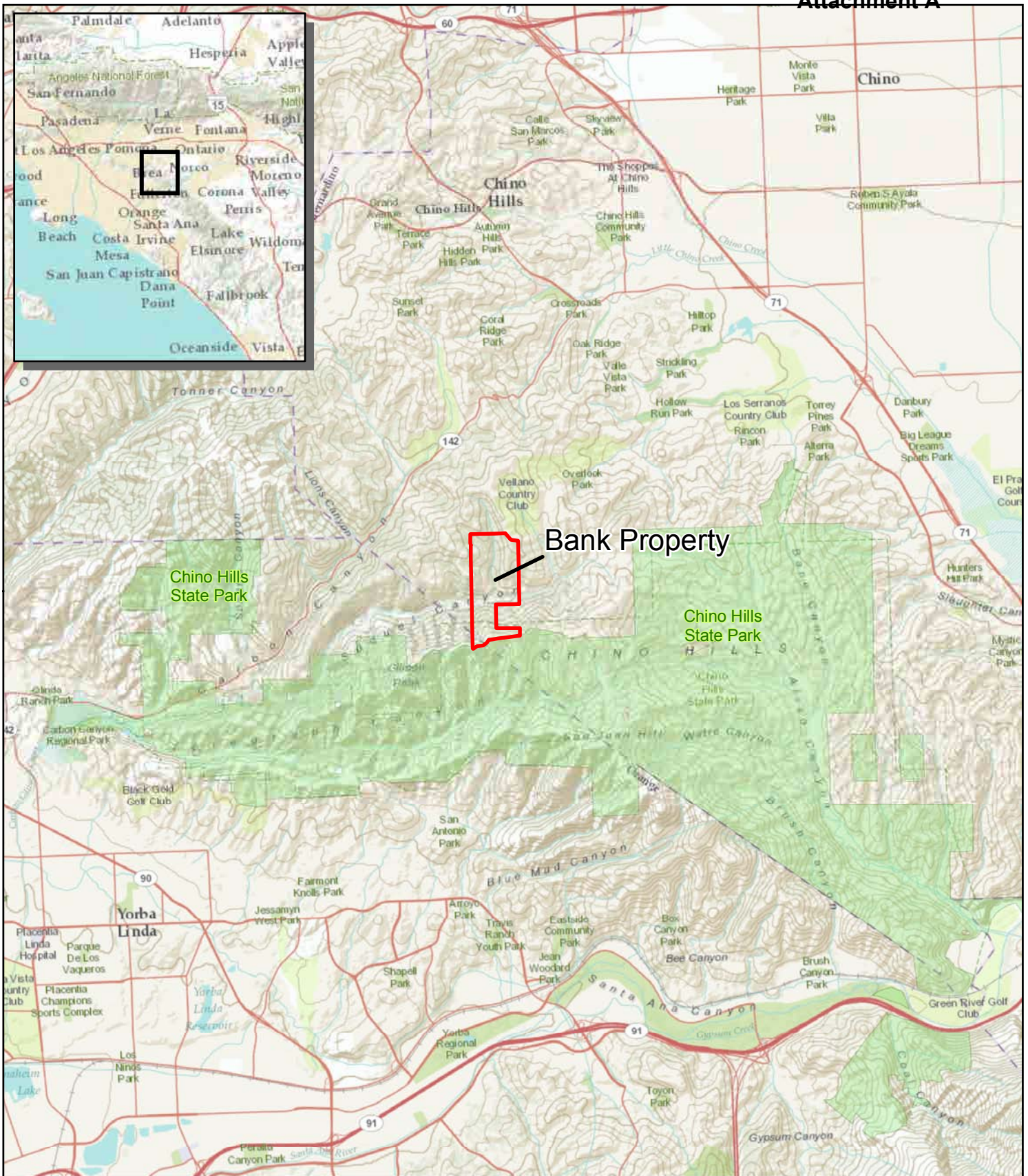


Figure 1: General Vicinity Map

Soquel Canyon
 Mitigation/Conservation Bank
 San Bernardino and Orange Counties, CA



Date: August 2011
 Map By: Sundarap Gillespie
 Basemap: ESRI
 Page 7 of 18

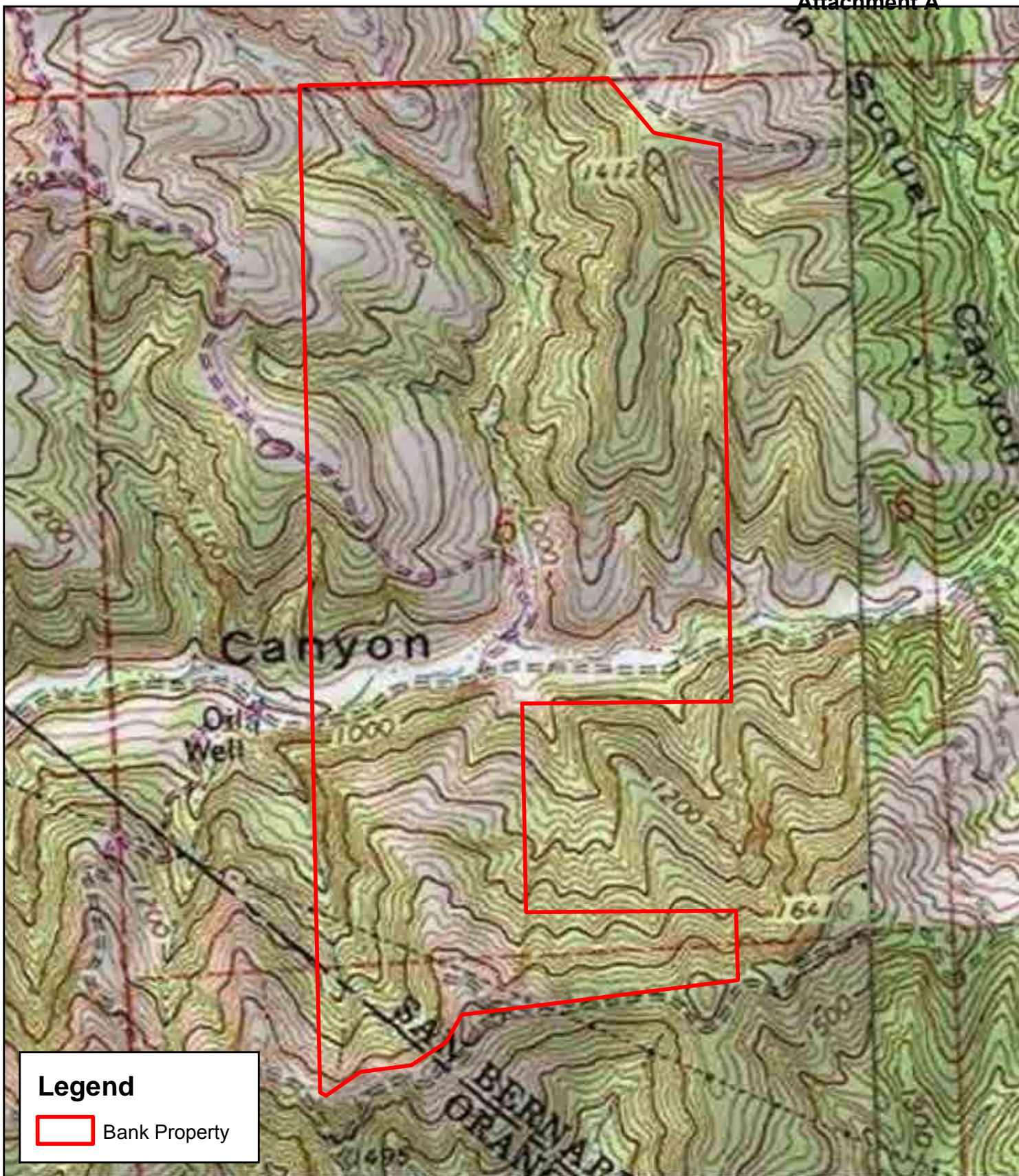
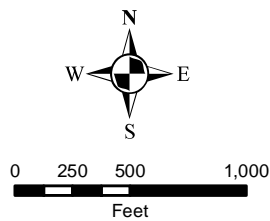


Figure 2: Map of Bank Property

Soquel Canyon
Mitigation/Conservation Bank
San Bernardino and Orange Counties, CA



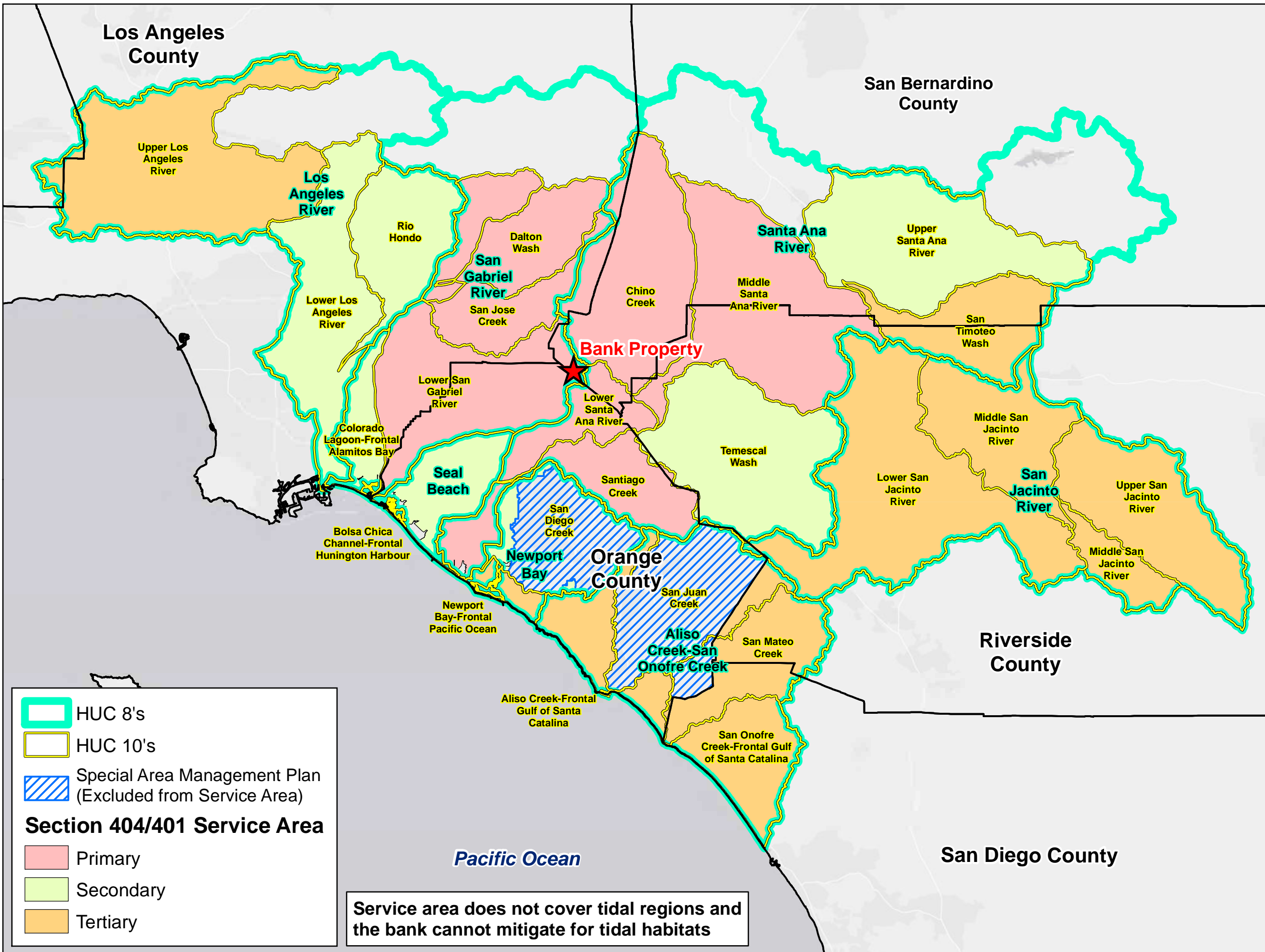
Date: August 2011
Map By: Sundaran Gillespie
Basemap: USGS
Page 8 of 18



Soquel Canyon Mitigation Bank

San Bernardino and Orange Counties, California

Figure 3: Waters of the U.S. Service Area



Section 404/401 Service Area

- HUC 8's
- HUC 10's
- Special Area Management Plan (Excluded from Service Area)
- Primary
- Secondary
- Tertiary

Service area does not cover tidal regions and the bank cannot mitigate for tidal habitats

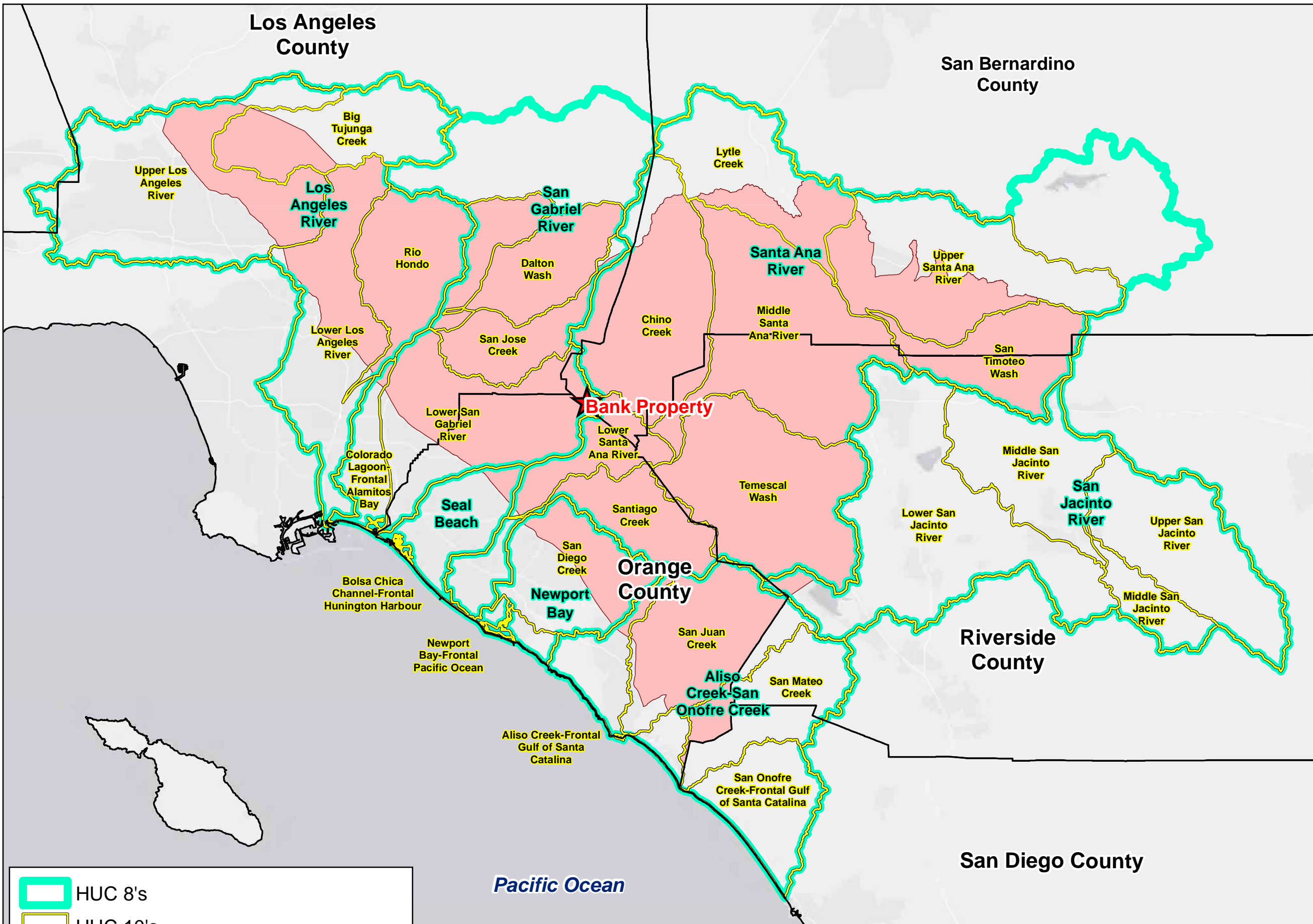
0 2.5 5 10 Miles



Path: L:\Acad 2000 Files\20000\20114\gis\ArcMap\Service Areas\COE_ServiceArea_Nov2014.mxd



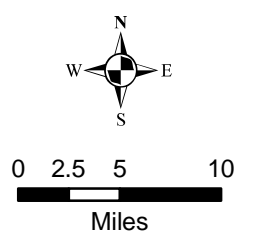
Soquel Canyon Mitigation Bank
San Bernardino and Orange Counties, California

Figure 4: CDFW Covered Habitat Service Area



-  HUC 8's
-  HUC 10's
-  CDFW Covered Habitat Service Area

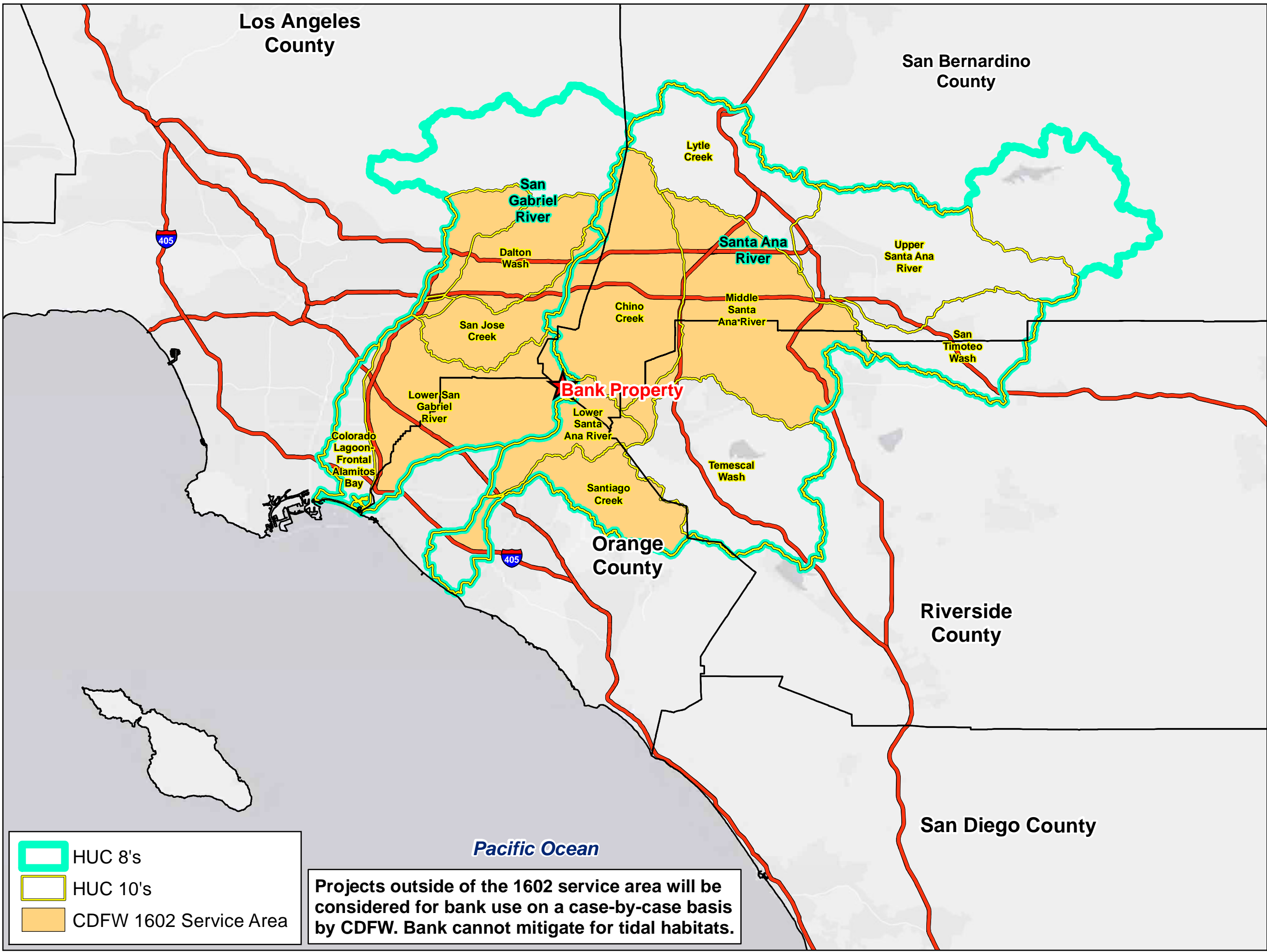
Projects outside of the service area will be considered for bank use on a case-by-case basis by CDFW. Bank cannot mitigate for tidal habitats.








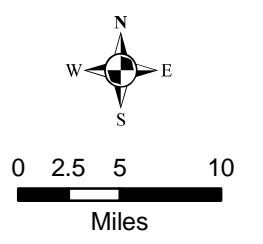
Soquel Canyon Mitigation Bank
San Bernardino and Orange Counties, California

Figure 5: Waters of the State Service Area



-  HUC 8's
-  HUC 10's
-  CDFW 1602 Service Area

Projects outside of the 1602 service area will be considered for bank use on a case-by-case basis by CDFW. Bank cannot mitigate for tidal habitats.



This page intentionally left blank

Attachment 2: Planting Pallets and Seed Mixes

This page intentionally left blank

Table 1: Mulefat Scrub Planting Palette

| Botanical Name | Common Name | Container Size | On-center Spacing (feet) | Total Quantity |
|---|----------------------|----------------|--------------------------|----------------|
| <i>Artemesia californica</i> | California sage | 1 gallon | 6 | 39 |
| <i>Artemisia douglasiana</i> | mugwort | 1 gallon | 6 | 127 |
| <i>Baccharis salicifolia</i> * | mulefat | 1 gallon | 10 | 190 |
| <i>Erigonum fasciculatum</i> var. <i>fasciculatum</i> | California buckwheat | 1 gallon | 6 | 19 |
| <i>Juncus textilis</i> * | basket rush | 1 gallon | 2 | 95 |
| <i>Mimulus guttatus</i> * | seep monkeyflower | 1 gallon | 4 | 117 |
| <i>Rosa californica</i> | California rose | 1 gallon | 6 | 113 |
| <i>Salix gooddingii</i> * | Goodding's willow | 1 gallon | 10 | 63 |
| <i>Salix lasiolepis</i> | arroyo willow | 1 gallon | 10 | 65 |
| <i>Salvia apiana</i> | white sage | 1 gallon | 10 | 19 |
| <i>Salvia mellifera</i> | black sage | 1 gallon | 6 | 19 |
| Total | | | | 866 |

*These species were planted within immediate vicinity of stream banks

Table 2: Oak Woodland Planting Palette

| Botanical Name | Common Name | Container Size | On-center Spacing (feet) | Total Quantity |
|--------------------------------|-----------------------|-----------------------|---------------------------------|-----------------------|
| <i>Baccharis pilularis</i> | coyote brush | 1 gallon | 8 | 38 |
| <i>Baccharis salicifolia</i> | mulefat | 1 gallon | 10 | 31 |
| <i>Heteromeles arbutifolia</i> | toyon | 1 gallon | 8 | 114 |
| <i>Juglans californica</i> | California walnut | 1 gallon | 12 | 63 |
| <i>Malosma laurina</i> | laurel sumac | 1 gallon | 10 | 44 |
| <i>Quercus agrifolia</i> | coast live oak | 1 gallon | 12 | 188 |
| <i>Ribes speciosum</i> | flowering gooseberry | 1 gallon | 6 | 18 |
| <i>Rosa californica</i> | California rose | 1 gallon | 6 | 94 |
| <i>Rubus ursinus</i> | California blackberry | 1 gallon | 6 | 94 |
| <i>Sambucus nigra</i> | blue elderberry | 1 gallon | 10 | 63 |
| <i>Vitis girdiana</i> | southern wild grape | 1 gallon | 6 | 94 |
| Total | | | | 841 |

Table 3: Walnut Woodland Planting Palette

| Botanical Name | Common Name | Container Size | On-center Spacing (feet) | Total Quantity |
|--------------------------------|-----------------------|-----------------------|---------------------------------|-----------------------|
| <i>Baccharis pilularis</i> | coyote brush | 1 gallon | 8 | 376 |
| <i>Baccharis salicifolia</i> | mulefat | 1 gallon | 10 | 102 |
| <i>Heteromeles arbutifolia</i> | toyon | 1 gallon | 8 | 501 |
| <i>Juglans californica</i> | California walnut | 1 gallon | 12 | 830 |
| <i>Malosma laurina</i> | laurel sumac | 1 gallon | 10 | 183 |
| <i>Quercus agrifolia</i> | coast live oak | 1 gallon | 12 | 302 |
| <i>Ribes speciosum</i> | flowering gooseberry | 1 gallon | 6 | 88 |
| <i>Rosa californica</i> | California rose | 1 gallon | 6 | 470 |
| <i>Rubus ursinus</i> | California blackberry | 1 gallon | 6 | 259 |
| <i>Sambucus nigra</i> | blue elderberry | 1 gallon | 10 | 292 |
| <i>Vitis girdiana</i> | southern wild grape | 1 gallon | 6 | 240 |
| Total | | | | 3,643 |

Table 4. Coastal Sage Scrub Seed Mix

| Botanical Name | Species Name | Application Rate (Pure Live Seed Pounds/Acre) |
|---|----------------------|--|
| <i>Artemisia californica</i> | California sagebrush | 2.00 |
| <i>Baccharis pilularis</i> | coyote brush | 0.15 |
| <i>Eriogonum fasciculatum</i> var. <i>fasciculatum</i> | California buckwheat | 1.50 |
| <i>Heterotheca grandiflora</i> | telegraph weed | 0.15 |
| <i>Lotus scoparius</i> | deer weed | 1.70 |
| <i>Malosma laurina</i> | laurel sumac | 0.15 |
| <i>Pseudognaphalium californicum</i> | ladies' tobacco | 0.20 |
| <i>Salvia apiana</i> | white sage | 1.00 |
| <i>Salvia mellifera</i> | black sage | 1.00 |
| <i>Stipa lepida</i> | foothill needlegrass | 2.00 |
| <i>Stipa pulchra</i> | purple needlegrass | 2.00 |
| Total | | 11.85 |

Table 5. Native Grassland Seed Mix

| Botanical Name | Species Name | Application Rate (Pure Live Seed Pounds/Acre) |
|--------------------------------------|------------------------|--|
| <i>Achillea millefolium</i> | common yarrow | 1.5 |
| <i>Amsinckia menziesii</i> | fiddleneck | 0.5 |
| <i>Artemesia douglasiana</i> | mugwort | 0.2 |
| <i>Castilleja exserta</i> | purple owl's-clover | 1.0 |
| <i>Festuca microstachys</i> | small fescue | 4.0 |
| <i>Lupinus excubitus</i> | grape soda lupine | 2.0 |
| <i>Melica californica</i> | California onion grass | 4.0 |
| <i>Pseudognaphalium californicum</i> | California everlasting | 0.2 |
| <i>Poa secunda</i> | bluegrass | 1.5 |
| <i>Scrophularia californica</i> | beeplant | 0.3 |
| <i>Sisyrinchium bellum</i> | blue eyed grass | 1.5 |
| <i>Stipa cernua</i> | foothill needlegrass | 4.0 |
| <i>Stipa pulchra</i> | purple needlegrass | 4.0 |
| <i>Trifolium willdenovii</i> | tomcat clover | 2.0 |
| Total | | 27.2 |