



Appendix K  
Wetlands Assessment

# **WETLANDS ASSESSMENT: ONLY PRACTICABLE ALTERNATIVE FINDING**

## **INTRODUCTION**

Pursuant to Executive Order 11990, dated May 24, 1977, "Protection of Wetlands," which established a national policy "to avoid to the extent possible long- and short-term adverse impacts associated with the destruction or modification of wetlands and to avoid direct or indirect support of new construction in wetlands wherever there is a practicable alternative," the following Wetlands Assessment has been prepared.

## **PREFERRED ALTERNATIVE**

The Draft Environmental Impact Statement/Report (DEIS/DEIR) discussed seven alternatives: the No Build, the Freeway-North, Freeway-Central, and Freeway-South Alignment alternatives, and the Tollway-North, Tollway Central, and Tollway South Alignment alternatives. The Freeway-Central Alignment Alternative was identified as the Preferred Alternative/Least Environmentally Damaging Practicable Alternative (LEDPA). Without consideration of natural resources, the Route 905 Freeway alternatives have comparable environmental impacts. The socioeconomic and noise impacts and the impacts to farmland and water quality are similar while the impacts to hazardous waste, air quality, cultural resources, and visual resources within the project area are essentially identical. One must turn to the impacts to the biological and wetland resources in order to identify the alternative that clearly has the least amount of impact on the environment. Although the Freeway-South Alignment Alternative is the alternative with the least amount of impact to wetlands (1.47 hectares [3.64 acres] as opposed to 1.48 hectares [3.66 acres] for the Freeway-Central Alignment Alternative) it would: (1) affect a unique vernal pool complex (Group J-14) supporting the Otay tarplant, spreading navarretia, Otay Mesa mint, and little mousetail; (2) result in the largest loss of coastal sage scrub and MHPA lands; and (3) potentially affect the greatest number of gnatcatchers relative to the other alternatives. The Freeway-Central Alignment Alternative would completely avoid the aforementioned vernal pool complex and the OCCS preserve; the two most sensitive landscape feature within the project area. The Freeway- Central Alignment Alternative would have the least impacts on listed/sensitive biological resources and, as such, would be preferable from a biological standpoint. Therefore, the Freeway-North Alignment Alternative was identified as the Preferred Alternative and the Least Environmentally Damaging Practicable Alternative (LEDPA).

## **PREFERRED ALTERNATIVE'S IMPACTS TO WETLANDS**

The Preferred Alternative impacts 1.48 ha (3.66 ac) of Army Corps of Engineers jurisdictional wetlands. This total includes 0.15 ha (0.38 ac) of freshwater marsh, 0.50 ha (1.22 ac) of southern willow scrub, 0.19 ha (0.48 ac) of mule fat scrub-disturbed, and 0.64 ha (1.58 ac) of disturbed wetland. These impacts occur at 3 of the 8 drainages located within the project corridor, specifically drainages 4, 7, and 8.

## **AVOIDANCE ALTERNATIVES**

### The No Build Alternative

There are several existing transportation needs in the Otay Mesa area of San Diego County. These have led to inadequate transportation service which will continue to deteriorate if the proposed project is not constructed. Otay Mesa Road (OMR) was widened from a four-lane city street to a six-lane conventional highway to increase traffic capacity, however, it will reach its capacity by 2005. Therefore, Route 905 is needed to improve traffic capacity for growth beyond the year 2005, serve the Port of Entry (POE), serve the extensive development on the Mesa, complete the regional highway system to cope with the increasing regional and international trips, and provide traffic congestion relief for OMR and an alternative commercial traffic access route to the POE.

Under the No Build Alternative, proposed Route 905 would not be constructed and the existing Route 905/OMR/Interim Route 905 would continue to serve as the principal access between I-805 and the POE. Under the No Build scenario, the Route 905 Transportation Analysis Technical Report demonstrated that future traffic would utilize local streets to traverse the project area and access the Port of Entry and, as a result, 10 out of 16 segments on local streets would operate between Level of Service (LOS) "E" and LOS "F" (with substantial congestion and considerable delay), two at LOS "D," and the remaining four at LOS "C." This is compared to the future freeway that would handle more traffic on all segments of the new facility and allow all segments of the local street network between Caliente Avenue and Route 125 to operate at an excellent LOS (LOS "A" to LOS "C") with minimal traffic congestion and delay.

The transfer of trips from a city street to a regional highway is expected to reduce accidents on the city streets. Intersection locations have a higher potential for traffic conflict compared to other highway sections. At an intersection, continuity of traffic is interrupted, traffic patterns cross, and turning movements occur. The types of accidents noted above are typical of intersection accidents. The No Build Alternative would not remove the through traffic/intersection conflict along OMR since it would not construct the grade separations proposed under the Build Alternatives. As a result, traffic conflicts would not be reduced and safety would not be improved.

The 1996 Caltrans District 11 System Management Plan was developed to plan the implementation of the region's transportation system, which could best accommodate the region's growth in population and travel. The strategy developed includes the Inner Loop Element and the Outer Loop Element. Route 905 is part of the Outer Loop with Routes 8, 52, 54, 56, 67, and 125. The Outer Loop will allow traffic to bypass the metropolitan area and serve as an alternate for interregional traffic on existing Route 67, I-8, I-15, and I-805, which are functioning at or near capacity. The proposed project is a connecting link in the Outer Loop. Route 905, Traversable Route 905 (OMR), and Interim Route 905 form the principal east-west route serving traffic between the rapidly developing Otay Mesa community/POE area and destinations to the north via I-5 and I-805. The No

Build Alternative would not complete the loop and it would not accommodate the region's growth in population and travel.

Because the No Build Alternative does not meet any of the project's needs, it is not practicable.

### Constraints to the project

The proposed Route 905 project is subject to several constraints which dictate the general placement of viable alignment alternatives (those which would meet the project's purpose and need). These are: the project's begin and end points, State Route 125 (under construction), the international border with Mexico, Brown Field Airport, and the Otay River Valley. These features constitute the geographical limits within which the proposed project could have been constructed and still function as desired. Basing the wetlands avoidance analysis on this geographical area, it concludes that irregardless of which course the project could have taken as it traversed this landscape, wetlands would be impacted; with the exception of the No Build Alternative (which is not practicable given that it does not meet the purpose and need), there are no wetlands total-avoidance alternatives.

Early alignment alternative analysis conducted by the Department and in coordination with the ACOE, USFWS, CDFG identified and ultimately excluded alignments that would have had severe impacts to the other sensitive environmental resources that exist within the analysis area. These alternatives and there impacts are identified and discussed below. In addition, the analysis identified those alternatives that should be carried through the project development phase.

Because the proposed action would construct Route 905 from Interstate 805 (I-805) to the Otay Mesa Port of Entry (POE), to the west, the project must begin at the existing Route 905 and I-805 intersection. This is the Project's western constraint given that moving this start point north or south along I-805 is impossible since one of the main objectives of the project is to complete the existing 905 and tie it into the POE. Tweaking the current placement of Route 905 in the I-805 vicinity is simply impossible; the impacts to the dense residential development that borders the existing 905 west of I-805 would be immense.

To the east, the project must tie into the POE. The POE serves non-commercial and commercial truck traffic, however, after entering the United States, the latter must drive approximately 0.5 miles east to the Commercial Vehicle Enforcement Facility before continuing on into the United States. In order to effectively tie this commercial traffic into the proposed facility and to remove the impact of the heavy truck traffic from the local streets which these trucks currently employ, a Local Access Ramp (LAR) is needed as an integral aspect of the Route 905 project. Because commercial traffic must be inspected at the enforcement facility and due to the fact that Route 905 must tie into State Route 125, yet another eastern physical constraint is formed.

The LAR alignment was identified in the Department's June 1996 *Final Value Analysis Study Report*. This report documented the difficulties in siting a major freeway to freeway interchange (the 125/905 interchange). Many alternatives were reviewed in the report and their impacts were thoroughly discussed. After much deliberation, the proposed LAR and Route 905/State Route 125 interchange design was selected by the participants, including representatives from the City and the County of San Diego, the local community, and engineering professionals. According to the study, the "LAR" provides an “[e]xcellent connection that serves development and truck traffic needs...[g]reatly reduces truck impacts to City streets [and]...[reduces] truck traffic volumes at the Otay Mesa & Siempre Viva Interchanges.” The LAR is part of the Otay Mesa Community Plan Circulation Element, which was adopted on November 23, 1999, and it is shown on the Circulation Plan of the East Otay Mesa Specific Plan.

With respect to environmental considerations, the LAR alignment was chosen to minimize the enormous costs and impacts that would accrue if the alignment were to pass through the major industrial and business structures already developed on either side of the proposed alignment. In addition to its design taking into account the surrounding development, it was designed around community planning factors considered to be important by the local community groups. Department right-of-way specialists concluded that the LAR would necessitate only partial takes; none of the buildings housing the Sanyo Corporation, Casio Manufacturing, or Sherwood Medical would be displaced by the proposed project.

Approximately 1.5 miles south of the Route 905/I-805 interchange and OMR is the International Boundary between the United States and Mexico, a constraint that prohibits any potential placement south of the this border. Between the border and OMR is the area of land that was the subject of a detailed alignment alternatives analysis (which is discussed below). This analysis showed that irrespective of which path the project could have taken as it traversed this landscape, wetlands would have been impacted. Therefore, the alignments that were advanced for study were the ones that best balanced the need to minimize impacts to wetlands and avoid other sensitive resources, such as vernal pools.

Immediately north of, and adjacent to, OMR is Brown Field, an airport that serves both commercial and private aircrafts. Forecasted annual operations for Brown Field in 2005 are estimated to be 322,000 with approximately 474 aircraft. The airport's current location is crucial as it functions as a port-of-entry for aircraft coming from Mexico into California. The airport is also heavily used by military and law enforcement agencies. The presence of Brown Field, and the industrial and commercial development in place around it, ultimately negated any potential expansion of the existing OMR due to the impacts the project would have had on the airport and the businesses in its vicinity. Given the placement of Brown Field, any alignments north of OMR would have to go northward, around Brown Field. For reasons discussed below, none of these are practicable.

Less than 0.5 miles north of Brown Field is the Otay River, which is within a dedicated open space MHPA corridor that connects the Otay Mesa Ranch Open Space area

(northeast of the Route 905 project) and the San Diego Bay. This important aquatic resource forms the northern constraint given that this is a large wetland resource that parallels OMR for the project's entire length; any proposed crossing of it would result in a wetland impact.

These natural and non-natural landscape features constitute the constraints for Route 905's avoidance and minimization alternatives.

#### Possible Wetland Avoidance Alternatives north of Otay Mesa Road

Any alternatives starting at the Route 905/I-805 interchange and traversing the landscape north of OMR would impact: Ocean View Hills (a large residential development); residential development northeast of Ocean View Hills; the Otay Mesa Industrial Park, San Diego American Auto Wrecking, Automotriz Capistrano, and Baja Truck & Auto Dismantling (each of the auto companies was identified as a "Generator/User" of hazardous waste - these type of operations typically contain gas and diesel fuel contamination); Brown Field; Dennery Canyon (a regional wildlife corridor which is in the Public Domain); several established and functioning vernal pool mitigation sites; and, irrespective of how one could traverse the landscape, the abundant finger canyons that run perpendicular to the Otay River. With respect to this analysis, each of the three latter resources either are, or contain, wetlands. Given their placement on the landscape, their avoidance would be impossible irrespective of the manner in which a feasible (from an engineering perspective) alignment alternative was to traverse this landscape. Moreover, even if the project could remove Brown Field and place an alignment in that area, because Dennery Canyon runs in a north-south direction from OMR to the Otay River, it would be impacted, which, in turn, equals a wetland impact. As a result, there are no possible alignment alternatives that could be placed between OMR and the Otay River and avoid wetlands.

As noted above, evaluations of project alignment alternatives have been ongoing since 1995, and, early in the process, the Department, ACOE, USFWS, CDFG, and the City of San Diego cumulatively agreed, based upon detailed resource constraint mapping, that some alternative alignments should not be evaluated in greater detail. Bolstering the analysis above, alternatives which would traverse areas north of OMR were considered and rejected because they would have severe impacts to the Brown Field airport, commercial development along OMR, and biological resources (Coastal Sage Scrub, vernal pools, and sensitive wildlife habitats within the Otay River Valley).

#### Possible Wetland Avoidance Alternatives south of Otay Mesa Road

The landscape south of OMR, north of the International Border, east of I-805, and west of Cactus Road is a large area that contains the north-south and east-west running Spring Canyon. Spring Canyon, because it encompasses this entire southwestern quadrant of the wetlands avoidance analysis area, simply cannot be avoided by any feasible (from an engineering perspective) alignment alternative. Again, early in the evaluation of project alignment alternatives, the Department, ACOE, USFWS, CDFG, and the City of San

Diego cumulatively agreed, based upon detailed resource constraint mapping, that some alternative alignments should not be evaluated in greater detail. Alternatives to the south of OMR and south of the currently proposed alternatives were also considered and rejected based on impacts to high quality wildlife habitat within Spring Canyon, MSCP lands, and higher construction costs.

It is obvious then that no matter which course the project would have taken as it moved east from the Route 905/I-805 interchange to the POE, wetlands would have been impacted. This fact was recognized by the alignment alternative development team in their May 11, 1995 meeting. Because the project was constrained geographically because wetlands would be impacted by which ever alignments were ultimately selected for advance study, the Department, ACOE, USFWS, CDFG, and the City of San Diego unanimously agreed that a wetlands avoidance alternative was not needed and that the alternative alignments developed south of OMR and north of Airway Road (the build alternatives addressed in the DEIS/DEIR) were the ones that should be advanced for further analysis. Spring Canyon was considered, from a resource perspective, the most critical area in which to minimize impact; the DEIS/DEIR alternatives achieved this goal.

#### Minimization of wetlands impacts

Minimization of wetlands impacts could be achieved through the No Build Alternative, which is not considered practicable for the reasons outlined above, or by the Freeway-South Alignment Alternative, which is also not practicable given the severity of it's other biological resource impacts outlined above.

### **MEASURES TO MINIMIZE HARM**

The alternative alignment meetings with the ACOE, USFWS, CDFG provided early involvement and assisted in the development of the most prudent alternatives. Once it was recognized that wetlands could not be avoided, four alternatives between OMR and Airway Road were created and color-coded (brown, green, blue, and pink). The Department and resource agencies agreed that the Brown Alternative should be eliminated since it presented excessive disruption to existing development, buildings, and local streets along OMR. This alternative passed slightly north of OMR and would have been too costly and too disruptive to existing development. Any alignment, which impacted OMR, would have required realignment of OMR as a frontage road in order to allow continued access to existing businesses. The meeting participants also agreed that neither the blue nor green alternatives would be biologically preferred, and that a new hybrid alternative should be found between the two that would balance the impacts to vernal pools and to occupied coastal sage scrub. The resulting hybrid alternative was developed and proposed for further detailed technical study. This new alignment alternative improved on the previous blue and green alternatives by preserving some of the smaller vernal pools and by reducing impacts to the coastal sage within Spring Canyon. The Blue Alternative was retained for further study because it presented the vernal pool avoidance alternative. The Pink Alternative was retained for further study because it was the adopted route, was an alignment alternative that the community and

developers were aware of, and it resulted in a corridor that would be reserved from development.

A pre-application meeting for a Section 404 permit was held on June 15, 1995, with the ACOE, EPA, USFWS, DFG, and the County Department of Health Services. The three alignment alternatives selected (Hybrid, Blue, and Pink) were presented and proposed for further detailed study as part of the DEIS/DEIR. The resource agency representatives concurred that the three alignment alternatives proposed were sufficient for the DEIS/DEIR and could be carried forward for further detailed study. These alignment alternatives were also renamed as the North (hybrid), Central (blue), and South (pink) alignments. As survey data and studies for the DEIS/DEIR were developed, every effort was made to avoid and minimize resource and wetland impacts.

Since circulation of the DEIS/DEIR, and with input from the resource agencies, all reasonable and feasible measures to reduce impacts to wetlands have been incorporated into the design of the Preferred Alternative. As a first measure the Preferred Alternative's alignment and the ultimate right-of-way limit were moved and adjusted as much as possible in order to lessen impacts to vernal pools and their watersheds. Spring Canyon, as discussed above, is a large drainage feature that is bisected by all of the build alternatives. The portion of Preferred Alternative's alignment between its crossing of Spring Canyon to Heritage Road was moved north to avoid the need to fill this portion of the canyon. In addition, and partly due to resource agency comment, a bridge now replaces the previously proposed culvert. At the Heritage Road location, the ramps that would connect Heritage Road to Route 905 were moved from the west side to the east side of Heritage Road. The majority of the side ditches and channels along and through the roadway were designed to have earthen bottoms so as to ultimately retain the functionality of features. Retaining walls have been added in two locations in order to avoid the need to fill drainages with fill; one in Spring Canyon that connects it and the OCCS Preserve and the other on the south side of Route 905 and west of Caliente Boulevard.

On-site and off-site mitigation measures are proposed to minimize and offset the project's wetland impacts, as discussed in Section 4.10.2 of the FEIS/FEIR and as detailed below.

#### On-site: Drainage 7

The Department proposes to reestablish southern willow scrub and freshwater marsh habitat onsite within a proposed earthen trapezoidal channel located south of the existing Drainage 7, to the west of La Media Road, within the Route 905 Study Corridor. The site is vacant and is not being used and currently contains disturbed habitat. The upstream portion of Drainage 7 that will be impacted by Route 905 will be contained in a triple box culvert before joining the proposed earthen trapezoidal channel, that will extend east (within Department owned right-of-way) before it outlets into the existing Empire Center Mitigation Area. Total length of the proposed channel is approximately 675 meters (2,214.5 feet). The proposed channel will be 15.6 meters (51.1 feet) in width with 3:1 sloping banks.

The onsite mitigation area is currently located in disturbed upland habitat. The disturbed habitat includes bare soil areas, and areas dominated by exotic broad-leaf species adapted to a regime of frequent disturbance. Many of the characteristic species of this community can also occur in grasslands, such as mustard, tocalote, fennel (*Foeniculum vulgare*), and Russian thistle (*Salsola tragus*). The site currently provides very little wildlife habitat or any wetland functions or values.

#### Off-site: Bonita Meadows Mitigation Site

The Bonita Meadows Mitigation Site is located on the southwest side of Proctor Valley Road between San Miguel Road and East H Street, east of the community of Bonita, in southern San Diego, County California. It is located in the Peninsular Ranges Physiographic Province and has an average elevation of approximately 61 meters (200 feet) above mean sea level (msl). It is undeveloped and comprised of mostly flat valley bottom, bounded by rolling hillsides that rise steeply in elevation to the south and west of the preserve, and less steeply to the north and east. The site encompasses 81 hectares (200 acres) and is characterized by a main drainage with several side tributaries contributing to the main drainage. Bonita Meadows Mitigation Site is less than 16 kilometers (10 miles) north of the Route 905 Study Corridor and is located just north of and adjacent to the City of Chula Vista MSCP subarea.

Currently, the site experiences moderate levels of human use. A San Diego County Water Authority utility easement runs north-south through the site. The site is also being trespassed and used for all-terrain vehicles, mountain bikes, and illegal trash dumping, however, increased enforcement has reduced those impacts.

Bonita Meadows Mitigation Site was originally purchased in 2002 to offset impacts to coastal sage scrub habitat and the federally threatened coastal California gnatcatcher from the Interstate 15 (I-15) Managed Lanes Project. The site contains approximately 29.3 hectare (72.5 acres) of coastal sage scrub habitat and a total of eight coastal California gnatcatcher territories (7 pair and one single). Approximately 20.9 hectares (51.7 acres) and eight coastal California gnatcatcher territories were set aside for impacts from the future construction of the I-15 Managed Lanes Project. The remaining acreage will be available for mitigation for future Department projects.

In addition, impacts to Otay tarplant from the SR-125 project are also being mitigated at the site through preservation and restoration of existing Otay tarplant habitat. Bonita Meadows Mitigation Site contains an estimated 24.2 hectares (59.8 acres) of nonnative grassland and 24.4 (60.4 acres) of nonnative grassland/ruderal habitat. From a total of 48.6 hectares (120.2 acres), approximately 12.1 hectares (30 acres) has been set aside for Otay tarplant restoration (SR-125), leaving 36.5 hectares (90.2 acres) for nonnative grassland impacts associated with the Route 905 alignment.

The main drainage channel and some of the side tributaries, within the site, where offsite mitigation is proposed, supports a variety of wetland vegetation communities, including

southern willow scrub, mule fat scrub, freshwater marsh, San Diego marsh-elder, and tamarisk scrub. Many of these side tributaries are noticeably eroded and entrenched, indicating large volumes of runoff from offsite culverts during certain times of the year. Each of these wetland vegetation communities is discussed below.

#### Southern willow scrub

Approximately 0.58 hectare (1.45 acres) of southern willow scrub occurs throughout the main drainage and in one tributary in Bonita Meadows Mitigation Site. The southern willow scrub community is characterized by arroyo willow, black willow, and tamarisk. A variable understory is also present, which includes San Diego marsh-elder (*Iva hayesiana*), western ragweed, saltgrass (*Distichlis spicata*), alkali sacaton (*Sporobolus airoides*), rabbitfoot grass, and southwestern spiny rush (*Juncus acutus* spp. *leopoldii*). This vegetation is in fairly good condition throughout the site, but may contain up to 10 percent cover from the invasive tamarisk.

#### Freshwater marsh

Approximately 0.57 hectare (1.41 acres) of freshwater marsh occurs within the main drainage, of which 0.34 (0.83 acre) is degraded tamarisk or other nonnative species, such as pampas grass (*Cortaderia* spp.). Degraded freshwater marsh consists of 30 percent cover of tamarisk. Freshwater marsh is distributed in patches along the entire length of the main drainage throughout all sections of the creek. This community is composed of tall cattail, lesser cattail (*Typha augustifolia*), bulrush (*Scirpus* sp.) and rabbitfoot grass.

#### Mule fat Scrub

Approximately 1.00 hectare (2.49 acres) of mule fat scrub occurs adjacent to the main drainage, of which 0.34 hectare (0.83 acre) is degraded tamarisk, fennel, and black mustard (*Brassica nigra*). Degraded mule fat consists of 40 percent cover of tamarisk or other nonnative species.

#### San Diego Marsh-elder

San Diego marsh-elder is a California Native Plant Society List 2 species for plants that are rare, threatened, or endangered in California, but more common elsewhere. Approximately 1.08 hectare (2.67 acres) of habitat dominated by San Diego marsh-elder occurs within Bonita Meadows Mitigation Site, of which 0.04 hectare (0.09 acre) is degraded by the presence of tamarisk. San Diego marsh-elder occurs regularly along the banks of the main drainage and in adjacent upland areas containing sandy soil.

#### Tamarisk Scrub

Approximately 1.4 hectare (3.45 acres) of tamarisk scrub occurs in patches along the entire length of the main drainage and is characterized by at least 60 percent cover of tamarisk. Tamarisk is a component of all wetland communities onsite.

## Ruderal

Approximately 0.15 hectare (0.36 acre) within the drainage is classified as ruderal. The ruderal area is concentrated in the main drainage and is interspersed with patches of San Diego marsh-elder in the creek channel. This area has been impacted by past livestock grazing activities.

## Other habitats onsite

In general, the upland vegetation communities found within Bonita Meadows Mitigation Site include, coastal sage scrub, maritime succulent scrub, native grassland, and nonnative grassland. Many sensitive plant species are found within the native grassland onsite and include; the federally listed Otay tarplant (*Deinandra conjugens*), the federally threatened and state endangered San Diego thornmint (*Acanthomintha ilicifolia*); variegated dudleya (*Dudleya variegata*), a CNPS List 1B species; California adolphia (*Adolphia californica*), coast barrel cactus (*Ferocactus viridescens*), Munz's sage (*Salvia munzii*), and San Diego marsh-elder, all CNPS List 2 species; and small-flowered morning glory (*Convolvulus simulans*), Palmer's grapplinghook (*Harpogonella palmeri*), southwestern spiny rush, and San Diego sunflower (*Viguiera laciniata*), all CNPS List 4 species.

Onsite scrub vegetation communities within Bonita Meadows Mitigation Site support a variety of avifauna typical for the region. Common inhabitants of this habitat type and region include the California quail (*Callipepla californica*), California thrasher (*Toxostoma redivivum*), wrenit (*Chamea fasciata*), California towhee (*Pipilo crissalis*), spotted towhee (*Pipilo maculata*), and bushtit (*Psaltriparus minimus*). Where the scrub is relatively open, the southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*), federally endangered coastal California gnatcatcher (*Poliophtila californica californica*), California greater roadrunner (*Geococcy californianus*), orange-throated whiptail lizard (*Cnemidophorus hyperythrus beldingi*), San Diego horned lizard (*Phrynosoma coronatum blainvillei*), and a variety of snake species such as the western diamond rattlesnake (*Crotalus ruber*). The wetland habitat within the site supports a variety of bird species such as the common yellowthroat (*Geothlypis trichas*), yellow warbler (*Dendroica petechia*), yellow-breasted chat (*Icteria virens*), and a male federally endangered least Bell's vireo.

The site also has the capacity to support foraging raptors because of the open scrub communities, grassland communities and large trees. Species observed onsite include the red-tailed hawk (*Buteo jamaicensis*), American kestrel (*Falco sparverius*), and white-tailed kite (*Elanus leucurus*). Potentially present in association with riparian scrub and riparian woodland habitats are the red-shouldered hawk (*Buteo lineatus*), sharp-shinned hawk (*Buteo striatus*), Cooper's hawk (*Accipiter cooperii*) and northern harrier (*Circus cyaneus*).

The site also functions as part of a system of regional habitat blocks that accommodate open space for a wide range of wildlife species and support resident populations of

wildlife. Regional and local corridors link the site with other major blocks of open space. Sweetwater Reservoir lies directly north of the site, and the San Diego National Wildlife Refuge and San Diego Gas and Electric Company Preserve Planning Effort Area lie to the northeast of the site.

The site's connection to other larger blocks of habitat in southern San Diego County as described above benefits a wide range of species and will help maintain biodiversity of the region. The preservation of these linkages as well as the restoration of wetland habitat within them, may also contribute to population viability of several sensitive species. Maintenance of contiguous open space between populations is essential for long-term viability of wildlife and plants.

### **Off-site: Wall-Hudson**

The 85-acre Wall-Hudson property is located at the southern end of San Diego County on Otay Mesa. The parcel is located less than one mile north of existing Route 905, bounded to the west by residential development, to the south by Pardee Construction, and to the east by Pardee Construction's California Terraces Restoration project. Most of the Wall-Hudson property is within Dennery Canyon, with the exception of two fingers of the mesa, which extend into the property from the west. The eastern and southern boundary of the property is adjacent to the west-facing slopes of Pardee Construction's California Terraces Restoration Project, which includes the restoration of vernal pools, sage scrub, grassland and canyon habitats. The western boundary of the property is adjacent to residential development. The northern portion of the property is adjacent to designated open space and residential development on Robinhood Ridge.

Otay Mesa is a marine terrace, a former wave-cut bench that has been uplifted by tectonic forces, resulting in a relatively flat top with steep-sloping sides. Many of the flat portions of the mesa historically supported broad-based hummocks forming what is referred to as mima-mound topography. It is within this landscape that vernal pools historically occurred throughout the mesa. Today this type of habitat has been all but removed from the mesa by past disturbances (farming, cattle grazing, off road vehicle activity, etc.) and the current land used for residential and commercial development.

Headward erosion has caused Otay Mesa to be dissected by a number of large canyons. These canyons either drain to the north down to the Otay River, or drain to the south into the Tijuana River. The largest of these canyons to dissect south into the mesa is Dennery Canyon. This canyon comes within less than a mile of the northern extent of Spring Canyon to the south, and represents the closest connection of the Otay River Valley and the Tijuana River Valley. No wildlife corridor on Otay Mesa is more important than the Dennery/Spring Canyon connection.

Four primary vegetation communities occur on the Wall-Hudson property; vernal pools, coastal sage scrub/maritime succulent scrub, native perennial grassland/clay lens, and elderberry-mule fat scrub. In addition, there are areas that are disturbed nonnative annual grassland.

## Vernal Pools

As mentioned above, there are two fingers of the mesa that extend into the property from the west. The flat portions of both fingers support remnant vernal pool habitat. It does not appear that these two fingers (south mesa and north mesa) were farmed in the past, but they were heavily impacted by ORV activities. Surveys conducted in spring of 2004 immediately after heavy rains, mapped approximately 465.1 m<sup>2</sup> (0.11 acre) of standing water on the south mesa top, and 12.7 m<sup>2</sup> (0.003 acre) on the north mesa top, of which all may not be vernal pools. The final acreage of vernal pools will be refined during development of the final wetland mitigation plan.

The majority of the vernal pools had at least two indicator plant species, woolly marbles and flowering quillwort in them, but no sensitive plant species were observed in any of the vernal pools. Although the native plant species diversity is low because of off road vehicle activity impacts, the invertebrate fauna of the pools continues to persist. During the 2004 spring season, the majority of pools on both mesa tops had San Diego fairy shrimp. In addition, tadpoles of the western spadefoot were also observed within many of the pools.

## Coastal Sage Scrub/Maritime Succulent Scrub

Coastal sage scrub and maritime succulent scrub on the Wall-Hudson property supports a diverse suite of shrub species including California sagebrush (*Artemisia californica*), cliff spurge (*Euphorbia misera*), San Diego bur-sage (*Ambrosia chenopodifolia*), jojoba (*Simmondsia chinensis*), lemonadeberry (*Rhus integrifolia*), laurel sumac (*Malosma laurina*), San Diego sunflower, San Diego barrel cactus, and bladderpod (*Isomeris arborea*). In general, the north facing slopes have coastal sage scrub vegetation and the south facing slopes have maritime succulent scrub with mixtures of both scattered throughout. Numerous native herbaceous species occur in the sage scrub understory and along the top and edges of the mesa. Some of these herbaceous species are narrow endemics that are limited to the southern San Diego County region. These herbaceous endemics include Orcutt's bird's-beak (*Cordylanthus orcuttianus*), seaside Calandrinia (*Calandrinia maritima*), and variegated dudleya.

Most of the sage scrub habitat is in good condition. Trails by off road vehicle activity occur throughout the canyons, but most of the sage scrub on the slopes is relatively undisturbed. The sage scrub on the mesa tops is more disturbed and in some areas has been replaced by nonnative annual grasslands. One individual male coastal California gnatcatcher was observed on the site in 2001.

## Native Perennial Grassland/Clay Lens

Within the canyons, mixed with the sage scrub along the slopes are large areas of native perennial grassland and open clay lens soils. These areas of grassland and clay soils are on almost every slope and encompass as much as 25 percent of the property. In addition to native grasses (*Nasella*, *Muhlenbergia*, *Sporobolus*), many native endemics to these

types of clay lenses can be found on the property, including populations of the federally threatened Otay tarplant. There are at least 20 discrete populations of Otay tarplant scattered throughout most of the canyon areas with a few that support hundreds of individuals. Other grassland/clay lens species found with the Otay tarplant include chocolate lilies (*Fritillaria biflora*), golden stars (*Bloomeria crocea*), and mariposa lilies (*Calochortus* sp.).

Some of the clay lens habitat on the Wall-Hudson Property is on the Linne clay soil type. This clay soil is unique to southern San Diego County and supports a unique assemblage of plant species that currently are not recognized as a unique vegetation type. The Linne clay supports quite a few unique native species that are usually associated with desert plant communities, including Fagonia (*Fagonia laevis*), and desert filaree (*Erodium texanum*).

Some of the historical areas of grassland/clay lens habitats have been heavily disturbed by off road vehicle activity. Portions of some of these grassland/clay lens habitats have high densities of nonnative annual grasses and other exotics mixed with native components. After the vernal pool habitat, this is the most disturbed habitat type on the property.

#### Elderberry-Mule Fat Scrub

Elderberry-Mule Fat Scrub is found in the unnamed drainages and Denney Canyon. Common species in the canyon bottoms include mule fat, and Mexican elderberry (*Sambucas mexicana*), mixed with sage scrub species. Willows have started to grow as run-off from the adjacent developments increases in the canyon drainages.

#### Quino Checkerspot Butterfly Habitat

Within all the vegetation communities described above are areas of excellent Quino checkerspot butterfly habitat. Populations of the butterfly's host plant, dot-seed plantain (*Plantago erecta*), were found on the mesa tops, canyon edges, and canyon slopes throughout the property. Most of these populations numbered in the hundreds and many had more than 1000 individuals. In addition to the host plant, many of the common nectar sources for the Quino checkerspot butterfly occurred in large numbers on the property during the spring 2003 season. Ground pink (*Linanthus dianthiflorus*), popcorn flowers (*Plagiobothrys* spp., *Crypthantha* sp.), goldfields (*Lasthenia californica*) and other native spring wild flowers were very common on the mesa tops and on some of the canyon slopes.

Quino checkerspot butterfly surveys were conducted during the 2001, 2002 and 2003 season, but no butterflies were seen on the property. A Quino checkerspot butterfly was found less than a mile away during the 2001 season on part of the OCCS Preserve, and the Quino checkerspot butterfly was historically found throughout the Otay Mesa area.

The value of the Wall-Hudson Property for mitigation is as high as any land on Otay Mesa. No other individual piece of property on Otay Mesa has the wide range of habitats found on the Wall-Hudson Property, especially at a comparable level of quality. Restoration and creation of vernal pool and Quino checkerspot habitat onsite, in combination with the adjacent California Terraces Restoration Project and the Western Pacific Housing vernal pool restoration project (borders the northwest side of the property) could provide a realistic site to reintroduce the Quino checkerspot butterfly.

## **FINDING**

Based on the above considerations, it is determined that there is no practicable alternative to the proposed new construction in wetlands and that the proposed action includes all measures to minimize harm to wetlands which may result from such use.