

METHODS AND MATERIALS FOR  
RESERVE DESIGN CRITERIA  
HIGHWAY 74/79 AREA PLAN  
*(Preliminary Draft - Subject to Change)*

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This section describes the method and materials used for reserve design for the Highway 74/79 Area Plan. The approach primarily is map-based and incorporates available maps and databases, as described below. Anecdotal information from the habitat assessment workshops and communications with the wildlife agencies regarding biological issues, conservation priorities and specific project information are important components of the methodology. The following description of the reserve design methods is intended to provide the reader with the information necessary to understand and independently reconstruct the reserve design process.

➤ Identify Preliminary Planning Species

Several wildlife and plant species were identified to provide guidelines for reserve design. Listed species known from the Highway 74/79 Area Plan were the highest priority, with reserve design issues species such as Bell's sage sparrow (requires large patches of undisturbed habitat) and bobcat (wildlife corridors) also as high priority. The following species were chosen to provide reserve design guidance:

- Parry's spineflower
- Spreading navarretia (vernal pool/Traver soil affiliation)
- Munz's onion (clay soil affiliation)
- ferruginous hawk (needs large expanses of grassland for foraging)
- burrowing owl (large open grassland expanses)
- California gnatcatcher (coastal sage scrub habitat affiliation)
- Bobcat
- San Diego black-tailed jackrabbit
- Stephens' kangaroo rat (open habitat, sparse coastal sage scrub/grasslands with sandy loam and loamy soils with low clay content)
- Los Angeles pocket mouse
- granite spiny lizard (requires coastal sage scrub habitat with granite outcrops)
- Riverside fairy shrimp (vernal pool affiliation)

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### ➤ Identify Key Biological Issues/Areas

Since the MSHCP planning process began in Spring of 1999, information regarding biological resources and land planning issues has become available through the species and habitat assessment workshops, the MSHCP sensitive species database, and meetings with wildlife agencies. The following resource issues, in no particular order of priority, were identified for Highway 74/79 Area Plan:

1. Double Butte. This area provides habitat for the following species: burrowing owl, Los Angeles pocket mouse, ferruginous hawk. A conservation goal of 1,940 to 2,000 acres should be obtained in this area. This area should be conserved for intact areas of upland scrub habitat. This habitat is generally isolated from other habitat areas in the MSHCP Plan Area; however, this habitat does provide good foraging habitat for raptors such as the ferruginous hawk. Open grassland areas provide habitat for the burrowing owl.
2. Hemet Vernal Pools. This area provides habitat for the following species: spreading navarretia, California Orcutt grass, thread-leaved brodiaea, Riverside fairy shrimp, vernal pool fairy shrimp and western spadefoot toad. A conservation goal of 460 to 470 acres should be obtained within these vernal pool areas. Conservation should focus on Traver soil conservation due to the association of these species with these habitats. Maintenance of the existing hydrologic regime shall occur.
3. North Domenigoni Hills. This area provides habitat for the California gnatcatcher, Least Bell's vireo, burrowing owl and Munz's onion. A conservation goal of 480 to 500 acres should have been set for this area. Conservation should focus on coastal sage scrub and grassland patches in addition to riparian habitats associated with upper Warm Springs Creek. A connection between the North Domenigoni Hills and the Warm Springs Creek (or previous creek alignment) shall be maintained. Conservation of Auld soils shall also be a focus in order to preserve Munz's onion populations. Coordination should occur regarding the Domenigoni-Barton Specific Plan which encompasses much of this area.

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### ➤ More General Reserve Configuration and Management Issues

The NCCP biological tenets for reserve design and other general design considerations also were incorporated:

1. Representativeness of the Riverside Lowlands Bioregion
2. Representativeness of annual grassland, chaparral and coastal sage scrub habitat
3. Habitat contiguity
4. Large, intact habitat blocks
5. Minimize edge effects
6. Consideration of “directional” influences such as migration/dispersal patterns, rain, wind, fire (Habitat Assessment Workshop).
7. Special microhabitats (Habitat Assessment Workshop)
8. Ridgelines and riparian areas for movement of bobcats and other large mammals (Habitat Assessment Workshops)
9. Patch sizes supporting 5-10 pairs of gnatcatchers is important (Habitat Assessment Workshop)
10. Minimum 1.5 mile dispersal patches for gnatcatchers (Habitat Assessment Workshop)

### ➤ Map Resources

The following map resources were used in the design of the hardline reserve:

- Vegetation map (3,000 scale)

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- Selected planning species (3,000 scale acetate)
- Coastal sage scrub habitat Quality Map (3,000 scale)
- Conceptual conservation scenario (3,000 scale acetate)
- DOQQs
- Critical Habitat Map for the California gnatcatcher
- Domenigoni/Barton Specific Plan Maps
- Existing reserves, conservation banks, BLM lands, other public lands (3,000 scale acetate)
- Edge area map

### ➤ Methods

Drawing the hardline reserve generally involved the following steps:

1. Compile map/data sources
2. Compile area plan biological issues based on preliminary mapping, criteria analyses, personal communication with agencies.
3. Rough sketch of reserve boundaries based on map data combined with identified key biological issues, without reserves, etc.
4. Refine map based on other constraints and opportunities
  - Existing and planned land uses;
  - Parcel maps;
  - Existing conserved habitat and
  - Minimization of edge effect

Following drawing of the conceptual hardline reserve, the reserve within the plan area was overlain with USGS quarter sections (i.e., 160-acre cells) and a spreadsheet matrix was created that included an arbitrary quadrat cell identification number, USGS section, USGS quarter section and township and range such that each cell is an area in real space with a legal description, but without being tied to a specific county assessor's legal parcel. Criteria were written for each cell or cell grouping to describe the anticipated conservation within each cell or cell grouping based on the conceptual hardline reserve. The criteria statements first describe the geographic configuration of a fraction of percent of a cell grouping anticipated to be conserved. A brief statement of the biological resources toward which conservation efforts in the particular cell or cell grouping should be directed is also provided. The criteria

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matrix for the Highway 74/79 Area Plan is presented in *Table \_\_\_\_*. As noted in the footnote to the criteria matrix presented in *Table \_\_\_\_*, the criteria are based on the existing MSHCP vegetation map. It is understood that biological conditions are dynamic and will change. In cases where the vegetation description does not match existing conditions at the time of reserve assembly, the generalized geographic description for each cell should take precedence to ensure that the overall reserve ultimately assembled conforms with the target acreage and generalized configuration analyzed in the MSHCP.

### ► Results

To further guide long-term assembly and monitoring efforts, the Highway 74/79 Area Plan was divided up into two subunits. Subunit boundaries are depicted on the cells and cell groupings map display (*Figure \_\_\_\_*). For each subunit, target conservation acreages have been established along with a description of the general conservation objectives for each subunit. The general conservation objectives are based on the planning species and biological issues for the Highway 74/79 Area Plan presented in the Methods section. Target acreages and conservation objectives for the subunits within the Highway 74/79 Area Plan are presented below.

#### Subunit 1: French Valley to Diamond Valley Lake Connection

Target acreage range for new conservation  
on private lands within subunit:

480 - 500 acres

Cells and cell groups within this subunit:

Cell Group A, 4873, 4892, 4971,  
4972, 4973, 4974, 4977, 4980

Conservation objectives within subunit:

- Key planning species within this subunit include California gnatcatcher, least Bell's vireo, burrowing owl, Munz's onion.

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- Important biological issues within this subunit include:
  - ! Maintain habitat connectivity between coastal sage scrub, grasslands and riparian vegetation in order to provide a contiguous linkage from Diamond Valley Lake to the proposed French Valley core reserve.
  - ! Improve wildlife crossing routes with improvement/widening plans for SR 79.
  - ! Maintain large blocks of coastal sage scrub habitat for conservation of California gnatcatcher pairs.
  - ! Maintain patches of grassland in order to support burrowing owl populations.
  - ! Maintain habitat connectivity in upper Warm Springs Creek to facilitate wildlife movement and dispersal and conservation of wetland species.

### Subunit 2: Double Butte

Target acreage range for new conservation  
on private lands within subunit:

1,940 - 2,000 acres

Cells and cell groups within this subunit:

Cell Group B, Cell Group C, Cell  
Group D, 3680, 3694, 3789, 3878,  
3889, 3981

Conservation objectives within this subunit:

- Key planning species within this subunit include burrowing owl, Los Angeles pocket mouse, Bell's sage sparrow, ferruginous hawk.
- Important biological issues within this subunit include:
  - ! Maintain intact habitat surrounding the closed Double Butte landfill site.
  - ! Maintain large blocks of chaparral, grassland and coastal sage scrub for conservation of subunit focus species.

### Subunit 3: Hemet Vernal Pools West

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Target acreage range for new conservation  
on private lands within subunit:

460 - 470 acres

Cells included within subunit:

3683, 3684, 3785, 3791, 3887, 3891,  
3992, 4007

Conservation objectives within subunit:

- Key planning species within this subunit include spreading navarretia, California Orcutt grass, Munz's onion, Riverside fairy shrimp, vernal pool fairy shrimp and orange throated whiptail.
  
- Important biological issues within this subunit include:
  - ! Conservation of Traver soil series
  - ! Conservation of existing vernal pool complexes
  - ! Maintenance of vernal pool hydrology and genetic diversity through wildlife movement within the area.

## HIGHWAY 74/79 AREA PLAN RESERVE DESIGN CRITERIA (Preliminary Draft – Subject to Change)

CELL GROUP	QUARTER SECTION	TOWNSHIP/RANGE	SECTION	QUARTER SECTION	CRITERIA DESCRIPTION
<b>SUBUNIT 1: FRENCH VALLEY TO EASTSIDE RESERVOIR CONNECTION</b>					
A	4874	T6S-R2W	16	NW	Conserve the southern half of Quarter Section #4880 in addition to 80% of the northern half, less the northwestern quarter of the northwestern quarter of the quarter of the cell and the northeastern quarter of the northeastern quarter of the northeastern quarter of the cell. Also conserve the southern half of the southern half of Quarter Section #4874 in addition to the northeastern quarter of the southeastern quarter of the cell and the southeastern quarter of the northeastern quarter of the cell. Conservation shall focus on coastal sage scrub and grassland habitat. Connection to habitats being conserved to the south, southeast, east, west and southwest shall be maintained in order to form a connection between French Valley and the Southwestern Riverside County Multi Species Reserve.
A	4880	T6S-R2W	16	NE	
	4873	T6S-R2W	17	NE	Conserve the southeastern quarter of the southeastern quarter of the southeastern quarter of the cell. Conservation shall focus on the Warm Springs Creek drainage and surrounding grassland habitats. Connection to habitats associated with Warm Springs Creek and adjacent upland habitats to the south, southwest and east shall be maintained.
	4892	T6S-R2W	15	NW	Conserve the southern half of the cell in addition to the southwest quarter of the northwest quarter of the cell. Conservation shall focus on coastal sage scrub habitat. Connection to coastal sage scrub and other natural habitats to the east and west shall be maintained.
	4971	T6S-R2W	17	SE	Conserve 50% of the northeastern quarter of the cell in addition to 50% of the southwestern quarter of the cell. Conservation shall focus on the Warm Springs Creek drainage and associated riparian habitat. Adjacent uplands consisting of a mosaic of grassland and agricultural lands shall be conserved. Connection to habitats to associated with Warm Springs Creek and adjacent uplands to the west, north, northeast and east shall be maintained.
	4972	T6S-R2W	16	SW	Conserve the northern one third of the northern one half of the cell. Conservation shall focus on preserving adjacent uplands to the Warm Springs Creek drainage. These uplands shall consist of agricultural lands in addition to coastal sage scrub and grassland habitat. Connection to habitats being conserved to the north, northeast, northwest, east and west shall be maintained.
	4973	T6S-R2W	17	SW	Conserve 50% of the southern half of the cell. Conservation shall focus on Warm Springs Creek and associated riparian habitat. Uplands on both sides of the drainage shall be conserved. This mosaic of upland habitat shall consist of grassland habitat. Connection to habitats associated with Warm Springs Creek and adjacent uplands to the west and east shall be maintained.
	4974	T6S-R2W	16	SE	Conserve the northern one third of the northern one half of the cell. Conservation shall consist of coastal sage scrub. Coastal sage scrub conserved shall be adjacent to the large patch conserved in the cell to the north.
	4977	T6S-R2W	15	SW	Conserve 33% of the northern half of the cell. Conservation shall specifically focus on the northwestern quarter of the northwestern quarter of the cell and the northern half of the northeastern quarter of the northwestern quarter of the cell. Conservation shall focus on a myriad of coastal sage scrub and agricultural lands. Connection to lands located to the north, northwest and west shall be maintained.

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CELL GROUP	QUARTER SECTION	TOWNSHIP/RANGE	SECTION	QUARTER SECTION	CRITERIA DESCRIPTION
	4980	T6S-R2W	15	SE	Conserve 50% of the cell focusing in the eastern one half of the cell. The southeastern quarter of the southwestern quarter of the cell shall also be conserved. Conservation shall focus on the myriad of natural habitats located within this cell; coastal sage scrub, grassland and chaparral. Connection to the Southwestern Riverside County Multi Species Reserve to the north, northeast and east and other natural habitats to the south shall be maintained.
<b>SUBUNIT 2: DOUBLE BUTTE</b>					
B	3689	T5S-R2W	17	NW	Conserve 80% of the cell focusing in the central four quarter sections in addition to the southern half of the northern quarter sections and the northern two thirds of the southern cells. Conservation shall focus on the myriad of natural habitats; coastal sage scrub, grasslands and chaparral. Connection to areas being conserved to the west and east shall be maintained.
B	3695	T5S-R2W	18	NE	
B	3784	T5S-R2W	17	SW	
B	3787	T5S-R2W	18	SE	
B	3884	T5S-R2W	20	NW	
B	3885	T5S-R2W	19	NE	
B	3985	T5S-R2W	20	SW	
B	3988	T5S-R2W	19	SE	
C	3682	T5S-R2W	17	NE	Conserve the southern two thirds of the northern one half of the cell. Also conserve the southwestern quarter of quarter section #3880 and the northwestern quarter of quarter section #3983. Conservation shall focus on the myriad of coastal sage scrub, chaparral and grassland habitats. Maintenance of a habitat connection between areas proposed for conservation to the west and east shall occur.
C	3782	T5S-R2W	17	SE	
C	3880	T5S-R2W	20	NE	
C	3983	T5S-R2W	20	SE	
D	3777	T5S-R2W	16	SE	Conserve 75% of the cell focusing on the central quarter sections and the northwestern, northeastern and southeastern quarter of cell #3980. Conservation shall focus on the myriad of coastal sage scrub, grassland and chaparral habitat. Connection to habitats to the east and west shall occur.
D	3781	T5S-R2W	16	SW	
D	3877	T5S-R2W	21	NE	
D	3879	T5S-R2W	21	NW	
D	3980	T5S-R2W	21	SE	
D	3982	T5S-R2W	21	SW	

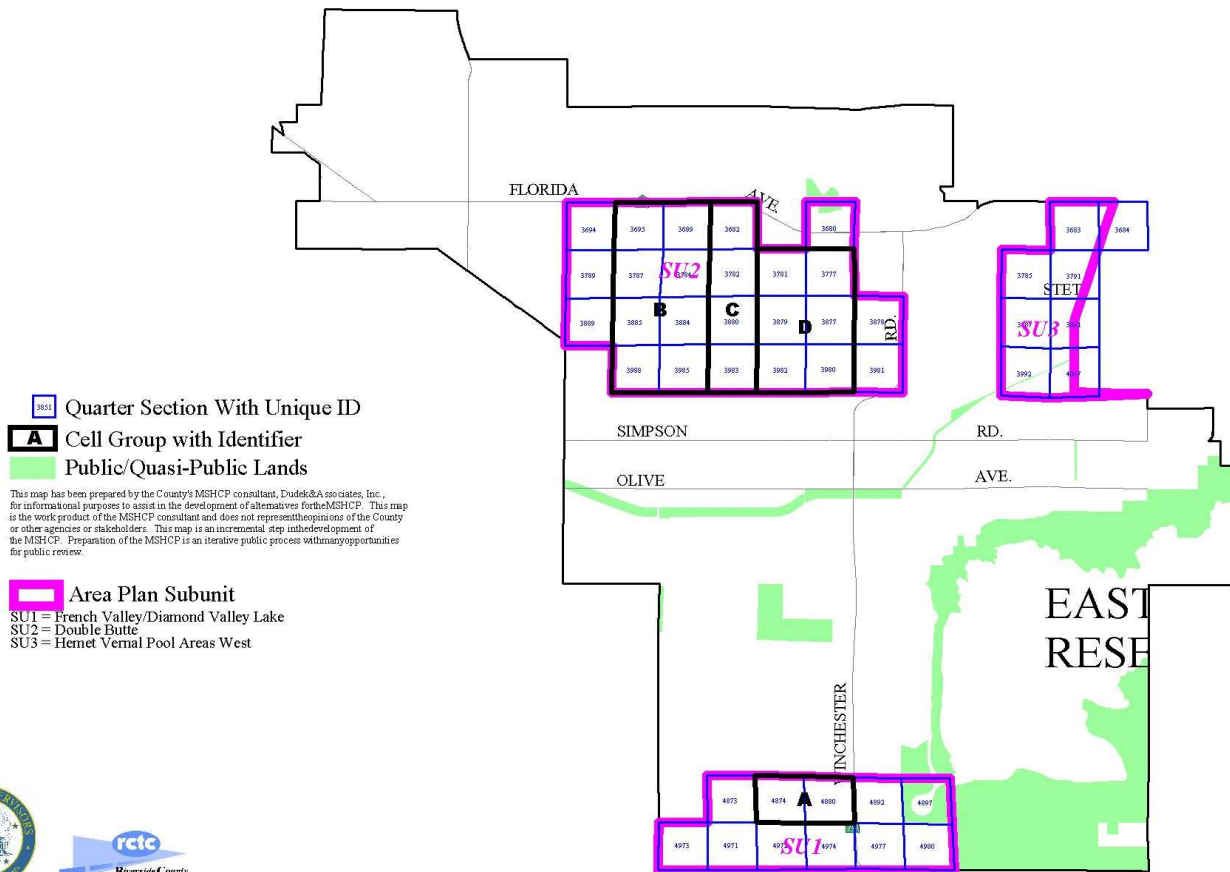
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CELL GROUP	QUARTER SECTION	TOWNSHIP/RANGE	SECTION	QUARTER SECTION	CRITERIA DESCRIPTION
	3680	T5S-R2W	16	NE	Conserve the southwestern quarter of the southwestern quarter of the southwestern quarter of the cell in addition to the southern half of the southeastern quarter of the southwestern quarter of the cell. Conservation shall focus on coastal sage scrub habitat. Connection to lands being proposed for conservation to the south shall be maintained.
	3694	T5S-R2W	18	NW	Conserve the southeastern quarter of the cell less the northwestern quarter of the southeastern quarter of the cell. Conservation shall focus on grassland and chaparral habitat. Connection to grassland and chaparral habitat being conserved to the east, southeast and south shall be maintained.
	3789	T5S-R2W	18	SW	Conserve the eastern half of the cell. Conservation shall focus on grassland, coastal sage scrub and chaparral habitat. Connection to habitats to the east, north, northeast, southeast and south shall be maintained.
	3878	T5S-R2W	22	NW	Conserve the southwestern quarter of the cell. Also conserve the southwestern quarter of the northwestern quarter of the cell in addition to the western half of the northwestern quarter of the cell. Conservation shall focus on grassland and coastal sage scrub habitat. Connection to habitats proposed for conservation to the west, southwest and south shall be maintained.
	3889	T5S-R2W	19	NW	Conserve the eastern half of the cell less the southwestern quarter of the southeastern quarter of the cell. Also conserve the southeastern quarter of the northwestern quarter of the cell. Conservation shall focus on grassland, chaparral and coastal sage scrub. Connection to lands being conserved to the north, northeast, east and southeast shall be maintained.
	3981	T5S-R2W	22	SW	Conserve the northwestern quarter of the cell. Conservation shall focus on grassland, coastal sage scrub and chaparral habitats. Connection to habitats to the north, northwest and west shall also occur.
<b>SUBUNIT 3: HEMET VERNAL POOL AREA</b>					
	3683	T5S-R2W	13	NW	Conserve the eastern half of the cell in addition to the southern half of the southeastern quarter of the southwestern quarter of the cell. Conservation shall be focused on Traver soils (alkali playa and vernal pool habitats). Hydrologic connection to areas being conserved to the east, north and south shall occur.
	3684	T5S-R2W	13	NE	Conserve one third of the western half of the cell. Conservation shall focus on Traver soils (vernal pool and alkali playa habitats). Hydrologic connection to vernal pool and alkali playa habitats to the west and north shall be maintained.
	3785	T5S-R2W	14	SE	Conserve the southeastern quarter of the southeastern quarter of the southeastern quarter shall be conserved. Conservation shall focus on Traver soils (vernal pool and alkali playa habitats). Connection to similar habitats to the east, southeast and south shall be maintained in order to preserve hydrologic connectivity.
	3791	T5S-R2W	13	SW	Conserve 75% of the cell. Conservation shall focus on Traver Soils (vernal pool and alkali playa habitats). Connection to these habitats located to the north, south, west and southwest shall be maintained in order to ensure hydrologic connection.
	3887	T5S-R2W	23	NE	Conserve the eastern half of the cell. Conservation shall focus on Traver soils (grassland and alkali playa/vernal pool habitat). Connection to habitats to the east, north, northeast, southeast and south shall be maintained in order to ensure hydrologic connection.

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CELL GROUP	QUARTER SECTION	TOWNSHIP/RANGE	SECTION	QUARTER SECTION	CRITERIA DESCRIPTION
	3891	T5S-R2W	24	NW	Conserve the western half of the cell in addition to the northwestern quarter of the northwestern quarter of the northeastern quarter of the cell. Conservation shall focus on Traver soils (vernal pool and alkali playa habitats). Connection to vernal pool and alkali habitats to the north, northwest, south, southwest and west shall occur in order to ensure hydrologic connectivity.
	3992	T5S-R2W	23	SE	Conserve 50% of the northeastern quarter of the cell. Conservation shall focus on Traver soils (vernal pool and alkali playa habitat). Hydrologic connection to similar habitats to the north, northeast and east shall be maintained.
	4007	T5S-R2W	24	SW	Conserve the northwest quarter of the cell. Conservation shall focus on Traver soils (vernal pool and alkali playa habitat). Hydrologic connectivity to similar habitats to the north, northwest and west shall be maintained.

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- Quarter Section With Unique ID
  - Cell Group with Identifier
  - Public/Quasi-Public Lands
  - Area Plan Subunit
- SU1 = French Valley/Diamond Valley Lake  
 SU2 = Double Butte  
 SU3 = Hemet Vernal Pool Areas West

This map has been prepared by the County's MSHCP consultant, Dudek&Associates, Inc., for informational purposes to assist in the development of alternatives for the MSHCP. This map is the work product of the MSHCP consultant and does not represent opinions of the County or other agencies or stakeholders. This map is an incremental step in the development of the MSHCP. Preparation of the MSHCP is an iterative public process with many opportunities for public review.



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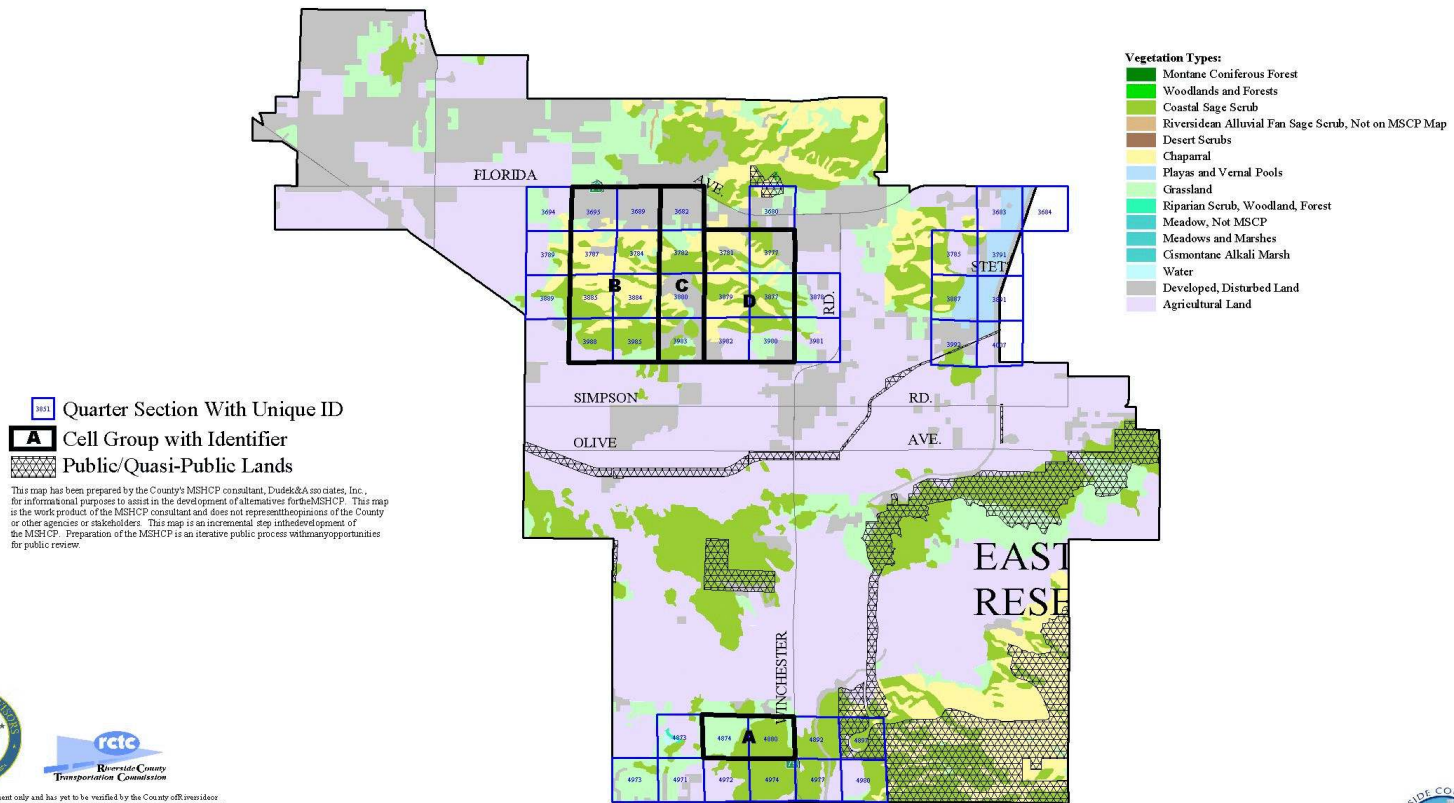


Highway 74/79 Corridor Area Plan With Quarter Sections, Cell Groups & Subunits Keyed to MSHCP Criteria



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1 0 1 Miles  
June 29, 2001

Highway 74/79 Corridor Area Plan With Vegetation, Quarter Sections and Cell Groups Keyed to MSHCP Criteria

