

aquatic sites were estimated according to the acreage of indicator soils and acreage of watershed draining into the special aquatic sites within the alternative.

The Tier 1 analysis of impacts to potential waters of the U.S. was conducted by calculating the linear feet of potential waters of the U.S. within each alternative using GIS analysis.

Potential impacts to the preferred MSHCP Alternative were evaluated by overlaying each of the CETAP corridor alternative bandwidths over MSHCP criteria area (as shown in Figure 3.11.2). Impact measurements include total number of crossings, the area and linear distance of each alternative within the criteria area, and the location in the criteria area.

4.11.2 Impacts

4.11.2.1 Potential Waters of the U.S. and Associated Habitats

The following discussion addresses the relative amount of potential impacts to Waters of the U.S. and associated habitats that the WT Corridor alternatives may have. Figure 4.11.1 illustrates the relative degree of impacts to these habitat types per alternative.

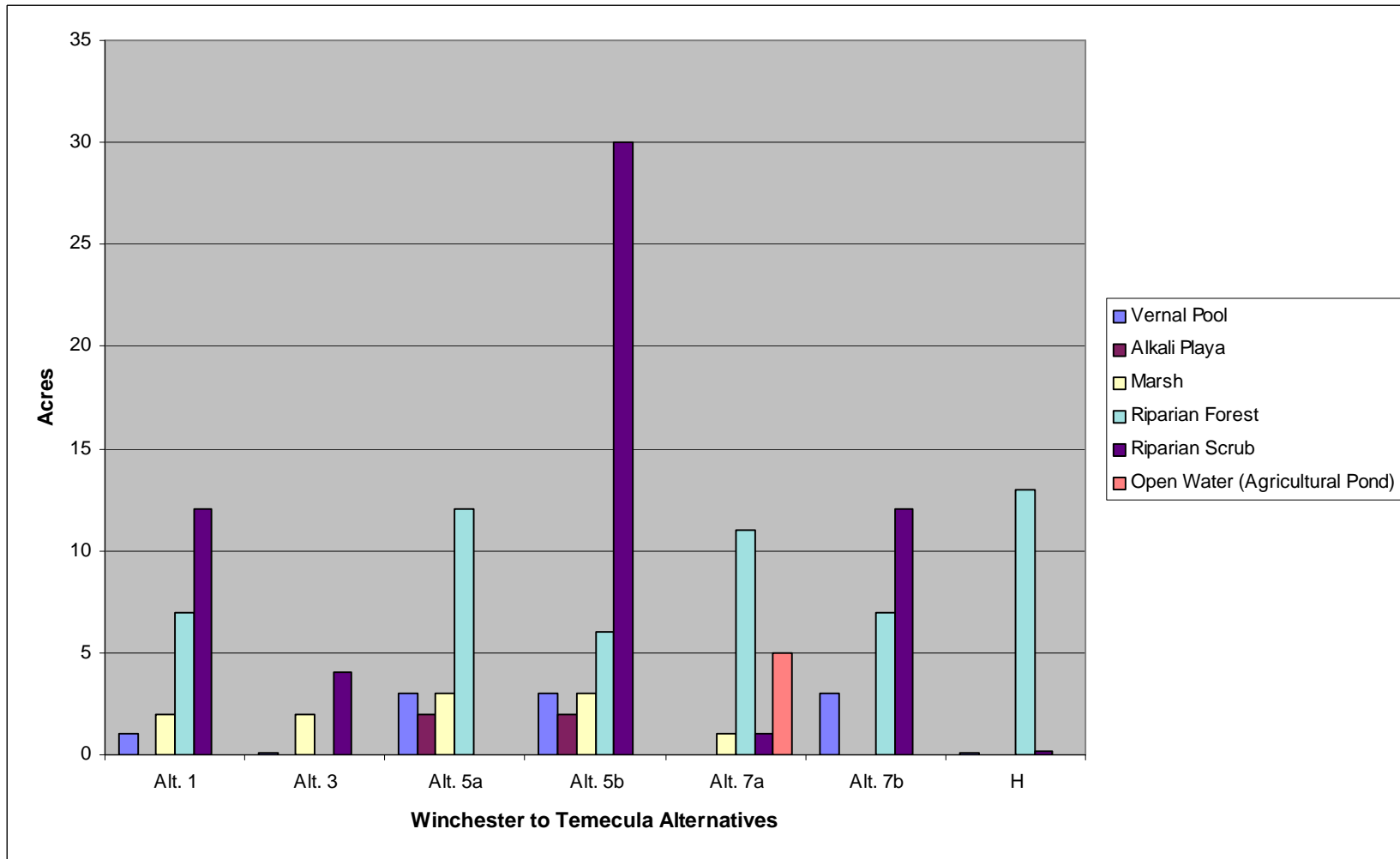
Alkali Playas. Figure 4.11.1 provides a summary of impacts to potential wetland habitats. Alkali playa is not abundant within the Winchester to Temecula Corridor. Only in Alternatives 5a and 5b are there 1 ha (2 ac) of alkali playa (soils) south of the intersection of SR-79 and Beeler Road.

Vernal Pools. Vernal pools are a unique, specialized form of seasonal wetlands that occur in a geographical area extending from southern Oregon through California into northern Baja California. Pool habitats are not homogenous throughout this large area because of regional differences in climate, topography, and soils. Although the pools of southern California share some wide-ranging temporary wetlands species with pools in other parts of the state, they also support species unique to the area (U.S. Fish and Wildlife Service, 1998).¹ It is estimated that up to 90% of southern California vernal pools have been destroyed during the past century (Ferren, et. al. 1996).² Of the 20 threatened or endangered species known from the project study area, nine use vernal pools exclusively or in conjunction with other similar habitat types. Literature sources reviewed for the project analysis do not provide specific information on the extent (i.e. acreage) of vernal pool in western Riverside County. However, given the narrow range of conditions under which they occur and the limited extent which remain, vernal pools

¹ U.S. Fish and Wildlife Service. 1998. Vernal Pools of Southern California Recovery Plan. U.S. Fish and Wildlife Service, Portland, Oregon.

² Ferren, W.R., P.L. Fiedler, and R.A. Leidy. Revised August 1996. Wetlands of the Central and Southern California Coast and Coastal Watersheds. Report Prepared for U.S. Environmental Protection Agency. Region IX, San Francisco, CA. (www.mip.berkeley.edu/wetlands)

Figure 4.11.1 - Potential Wetland Habitats Within WT Alternatives



are considered to be one of the rarest habitat types in the study area. Thus, while the potential impacts to vernal pools appear to be small on an acreage basis, any impacts to vernal pools have high potential to be substantial.

Vernal pools were found within Alternatives 1, 3, 5a, 5b, and 7b. Alternatives 5a and 5b encompass a 1.0 ha (3 ac) area of a single vernal pool and 5 ha (12 ac) of its watershed in the Johnson Ranch reserve near Skunk Hollow.

Alternative 7b would impact four vernal pool locations for a total of 1.0 ha (3 ac) of impacts to the pools and 43 ha (106 ac) to the watersheds as a whole. Alternative 1 would impact a total of 0.4 ha (1 ac) of vernal pool basins and a total of 14 ha (35 ac) of watershed in two locations within its bandwidth. Alternative H would impact two vernal pools located within the I-215 right-of-way. These two pools are 0.02 ha (0.06 ac) in total area and 0.4 ha (1 ac) of vernal pool watershed area. Alternative 3 impacts only one vernal pool for a total of 0.02 ha (0.06 ac) and 1.0 ha (3 ac) of watershed. One vernal pool in Alternative 7b supports a listed vernal pool indicator plant, California Orcutt grass, and two other pools within the common bandwidth of Alternatives 1 and 7b support spreading navarretia and California Orcutt grass. Alternative 7a does not impact any vernal pool sites. Soils that might promote the formation of vernal pools are found within all of the Winchester to Temecula alternatives.

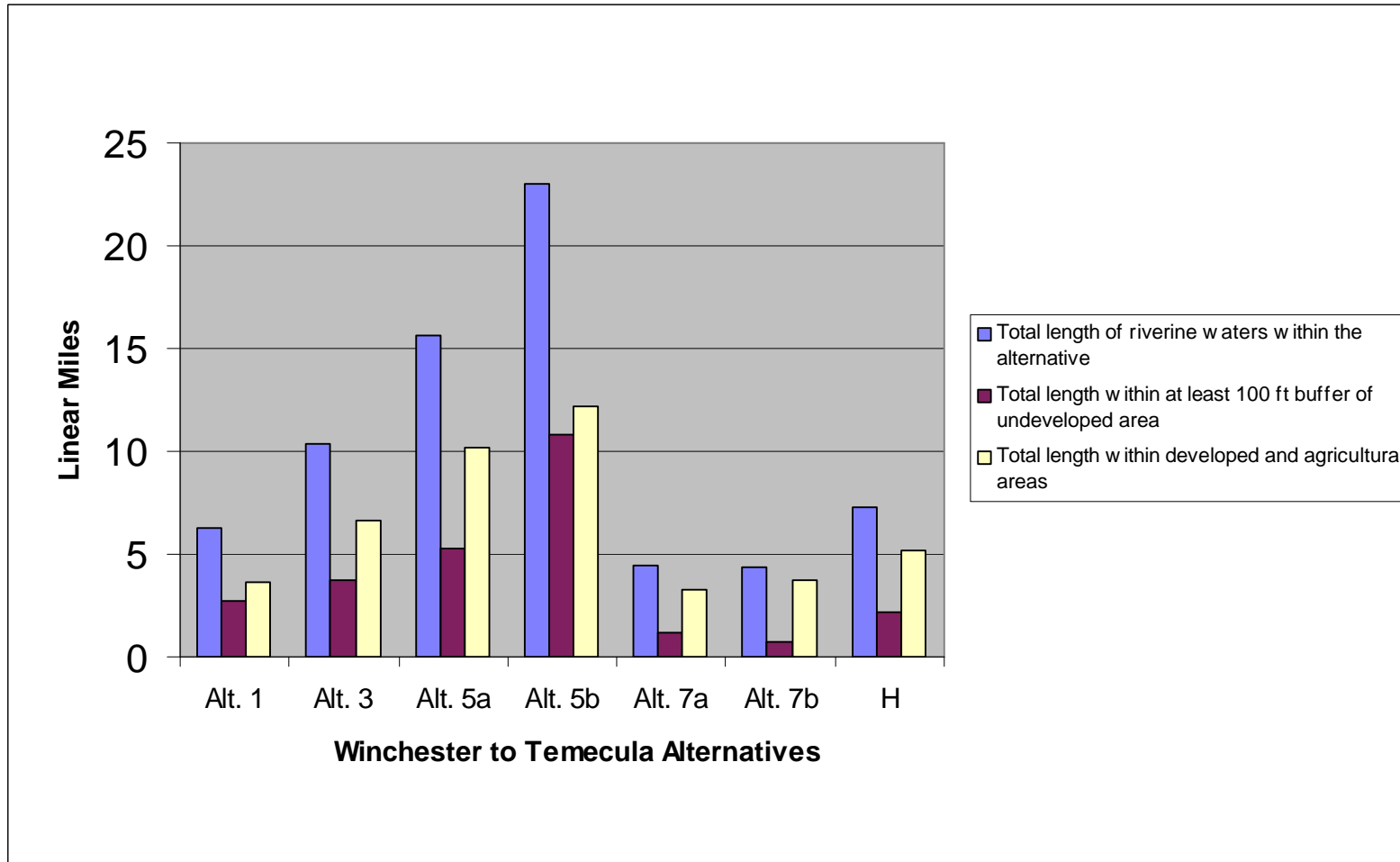
Marsh. Marsh habitat is not present within Alternatives H and 7b. Alternative 7a impacts 0.4 ha (1 ac) of marsh associated with agricultural runoff near the intersection of Holland Road, and I-215. All other alternatives impact 1.0 ha (2.5 ac) of marsh, which is located east of the intersection at Garboni Road and SR-79.

Open Waters. The open water sites within the alternatives are agriculture ponds, city duck pond, and stormwater detention basins, which have little to no habitat value.

Streams. The majority of the stream crossings associated with the Winchester to Temecula Corridor alternatives is in existing developed areas where the drainages are either channels and diverted in stormwater structures or in agricultural areas. The upland tributaries in the agricultural lands are either ditches or if they occur within crop fields are regularly disced. Refer to Figure 4.11.2 for summary of total linear distance of waters within an alternative, proportion within developed lands, and within a 100 ft buffer of undeveloped lands.

The only tributaries in native habitat areas within Alternative H occur adjacent to I-215 on the Antelope (Murrieta) Hills and on the slopes above Santa Margarita River. Total linear distance of streams in Alternative H is 11.8 km (7.3 mi). The portions of upland native habitat (sage scrub, chamise, and oak woodland) in which the ephemeral tributaries are located are approximately 8.3 km (5.2 mi) in length in Alternative H along I-215. The majority of the riparian habitat of intermittent or perennial streams occurs near Temecula. Alternatives 5a and 5b encompass the greatest area of streams with dense riparian vegetation in the Winchester to Temecula Corridor.

Figure 4.11.2 - Potential Riverine Waters of the U.S. Within WT Alternatives



Alternatives 1, 3, 5a, and 5b encounter tributaries in rural mountainous areas in the hills between Diamond Valley Lake and Skinner Reservoir. SR-79 already impacts these tributaries along its existing alignment. The four alternatives would follow the existing SR-79 right-of-way in this area of coastal sage scrub. Refer to Table 5.B in Appendix E for a listing of linear distances of riverine waters within developed land and within at least a 100-foot buffer of undeveloped land, and for total cumulative stream length within each alternative bandwidth.

Alternative 1 encompasses 4.3 km (2.7 mi) of stream within the center of a 100-foot buffer of undeveloped land. Alternative 3 contains 6 km (3.7 mi) of streams in an undeveloped buffer. Alternatives 5a and 5b have the greatest total linear distance of streams centered within at least a 100-foot buffer of undeveloped land, at 8.5 km and 17.4 km (5.3 and 10.8 mi) of total stream length within the alternatives, respectively.

Alternatives 5a and 5b have ephemeral tributaries in small pockets of coastal sage scrub and nonnative grassland throughout their common bandwidth from Rancho California Road to Santa Gertrudis Wash. North of Santa Gertrudis Wash to Keller Road, most of the tributaries are in agricultural fields or ditches.

There are ephemeral tributaries in native vegetation within Alternative 7a where it crosses the hills north of Bell Mountain. Sage scrub is present on the hills, but the tributaries are highly disturbed from off-road vehicles and by the surrounding agriculture activities. Total stream distance within a 100 ft buffer of undeveloped land within the alternative is 2.0 km (1.2 mi).

Alternative 7b encompasses only 1.2 km (0.7 mi) of streams in 100-foot undeveloped buffer. The undeveloped or native habitat areas in 7b, in part, consist of small stands of willows in crop fields next to Scott Road near the I-215 interchange.

Riparian Scrub. A high amount of riparian scrub occurs in Alternative 5b, at 12 ha (30 ac). Alternatives 1 and 7b have similar areas, at 5 ha (12 ac), of riparian scrub along the existing roadways within their bandwidths. Alternative 3 impacts 2 ha (4 ac) of riparian scrub. Alternatives 7a and H impact less than 0.5 ha (1 ac) of riparian scrub habitat.

Riparian Forest. Riparian forest habitat of highest habitat quality within the Winchester to Temecula Corridor is located in Temecula Creek and Santa Margarita River within Alternatives 5a and H. The greatest amount of riparian forest is within Alternatives H, 5a, and 7a at approximately 5 ha (12 ac). Alternative H impacts riparian areas that are already affected by the existing freeway, connecting roads, and adjacent development along the I-215 right-of-way. The southern terminus of Alternative 5a would impact reaches of the Temecula Creek and Santa Margarita River within existing and ongoing development and road construction. Although Alternative H and Alternative 5a are proposed at existing road crossings at Temecula Creek and Santa Margarita River, the riparian habitat at these locations is important to habitat contiguity and wildlife movement. Alternatives 1, 5b, and 7b impact 2 to 3 ha (6 to 7 ac) of riparian forest. The riparian forest areas within these alternatives and Alternative 7a occur as patches of willows that have established in roadway impoundments and do not greatly contribute to habitat contiguity or are of high habitat quality or quantity. Alternative 3 does not impact riparian forest habitat.