

developments and infrastructure projects, is not expected to contribute to a cumulative loss of recreational resources in the study area.

4.16.4 Surface Water Hydrology, Floodplain Encroachment and Water Quality

With respect to surface water hydrology, floodplains, and water quality, the proposed CETAP alternatives would facilitate the conversion of some lands that are currently “undeveloped” to a “developed” condition (from the construction of roadbed, access ramps, drainage, and other facilities). The various alternatives would cross a varying number of blue line streams, many of which occur in currently undisturbed areas. Development has the potential to bring the placement of channel improvements and a loss of continuity of the riverine corridors. Similar impacts are currently taking place elsewhere in western Riverside County, in other areas of the County, and in the surrounding counties of Southern California.

Implementation of one or more of the proposed CETAP alternatives would facilitate the conversion of undeveloped lands along existing blue line streams, increase impervious area in the affected watersheds, and result in encroachment onto the 100 year floodplain in those areas. Similar impacts to floodplain areas are currently taking place elsewhere in western Riverside County, other areas of the County, and the surrounding counties of Southern California. Improving access to rural portions of the CETAP study area will hasten floodplain encroachment in more remote areas of western Riverside County.

Implementation of one or more of the proposed CETAP alternatives would facilitate the conversion of undeveloped lands along existing blue line streams, increase impervious area and resultant nonpoint source runoff in the affected watersheds, and result in potential impairment of water quality and loss of beneficial uses in surface waters in those areas. Similar impacts to water quality are currently taking place elsewhere in western Riverside County, other areas of the County, and the surrounding counties of Southern California. Improving access to rural portions of the CETAP study area will hasten potential water quality degradation and loss of beneficial uses in more remote areas of western Riverside County.

The projected potential impacts of each alternative are discussed by criteria grouping for parameters related to surface water hydrology, floodplain encroachment, and water quality (Table 4.10.A). Quantitative data are presented for each criterion evaluation; each data table lists all of the WT alternatives in a comparative format. Table references in each alternative discussion relate to the following:

- C Projected areas of “developed” and “undeveloped” land uses in each HSA (build out case) (Table 4.16.A)
- C Projected impacts to surface water hydrology (road, railroad, and dam crossings of blue line streams) (build out case) (Table 4.16.B).
- C Projected cumulative impacts of channel improvements (build out case) (Table 4.16.C)
- C Projected cumulative impacts to riverine corridor continuity (build out case) (Table 4.16.D)

Table 4.16.A – Change in Areas of “Developed” and “Undeveloped” Land Uses in Each HSA - Winchester-to-Temecula (WT) Alternatives (build out case)

Table 4.16.B - Potential Impacts to Surface Water Hydrology (Channel Improvements) - Winchester-to-Temecula (WT) Alternatives (build out case)

Table 4.16.C - Projected Impacts to Surface Water Hydrology (Road, Railroad, and Dam Crossings of USGS Blue Line Streams) - Winchester-to-Temecula (WT) Alternatives (build out case)

Table 4.16.D - Potential Impacts to Surface Water Hydrology (Riverine Corridor Continuity) - Winchester-to-Temecula (WT) Alternatives (build out case)

- C Projected cumulative impacts of “developed” areas (build out case) (Table 4.16.E)
- C Projected cumulative impacts to impaired stream segments (build out case) (Table 4.16.F)
- C Magnitude of projected cumulative impacts to water quality based on the slope of the area in the alternative footprint (build out case) (Table 4.16.G)

The potential impacts of alternative crossings on surface water hydrology, floodplain encroachment, and water quality, in conjunction with activities associated with the projected build out of the General Plan, are presented on a study area basis on Figures 4.16.3 and 4.16.4. The mapping of potential impacts is presented in three major groups reflecting the following impact criteria categories:

1. Surface water hydrology (build out case) - Figure 4.16.3
2. “Developed” areas (build out case) - Figure 4.16.4
3. Water quality (build out case) - Figure 4.16.5

Potential cumulative impacts associated with each alternative are determined by aggregating the projected effects of the alternative crossings, in conjunction with the proposed land use changes associated with the build out of the General Plan, on each HSA affected for each resource topic. The impact analysis is arranged by discussion of each impact evaluation criteria identified in Table 4.10.A. For each criterion, the potential cumulative impact for each WT alternative is discussed.

4.16.4.1 Criterion SWH-8 – Projected Channel Improvements Upstream of the Alternative Crossing

Crossings of streams by transportation alternatives may directly affect surface water hydrology and other environmental factors. The total length of streams remaining unaffected by the potential crossings represents the potential for avoidance of direct impacts of development on the stream system. During the build out of the General Plan, land use development can affect hydrology and water quality parameters; these effects may be exacerbated by the addition of stream crossings by the proposed WT Corridor alternatives.

Regulatory Concerns. The extent of channelization of USGS blue line streams in areas to be developed during build out of the General Plan and crossed by transportation alternatives may result in the following effects to surface water hydrology:

- C Effects similar to those detailed for the "existing" case for this criterion (Criterion SWH-6):
 - Effects to the hydrologic integrity of the stream system in the area of the crossing, or downstream
 - Constriction or blockage of natural streambed migration across the floodplain in response to upstream precipitation and runoff events