




-  Western Management Area (WMA)
-  Central Management Area (CMA)
-  Eastern Management Area (EMA)

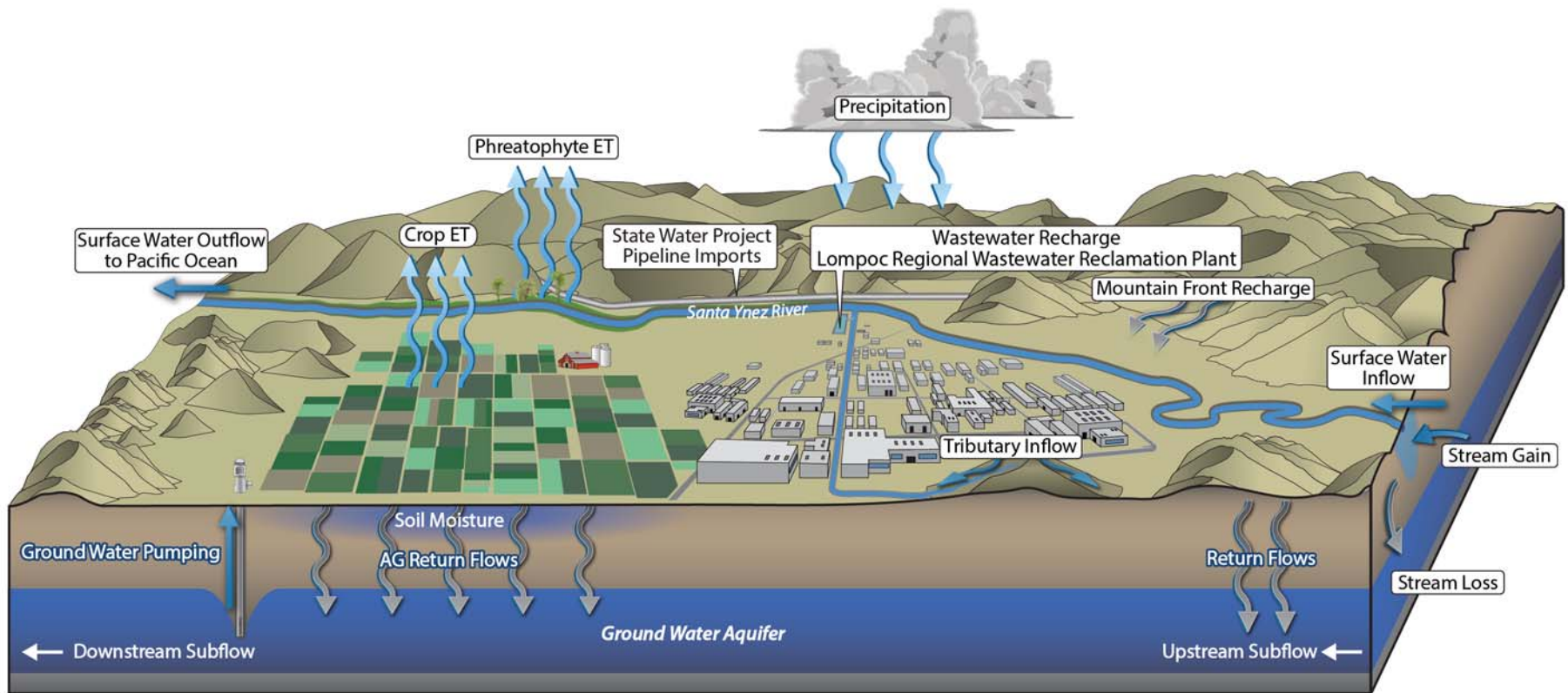
SANTA YNEZ RIVER VALLEY GROUNDWATER BASIN
 (DWR BULLETIN 118 BASIN NO. 3-105)
AND SGMA MANAGEMENT AREA BOUNDARIES

DRAFT
 0 2 4
 Miles

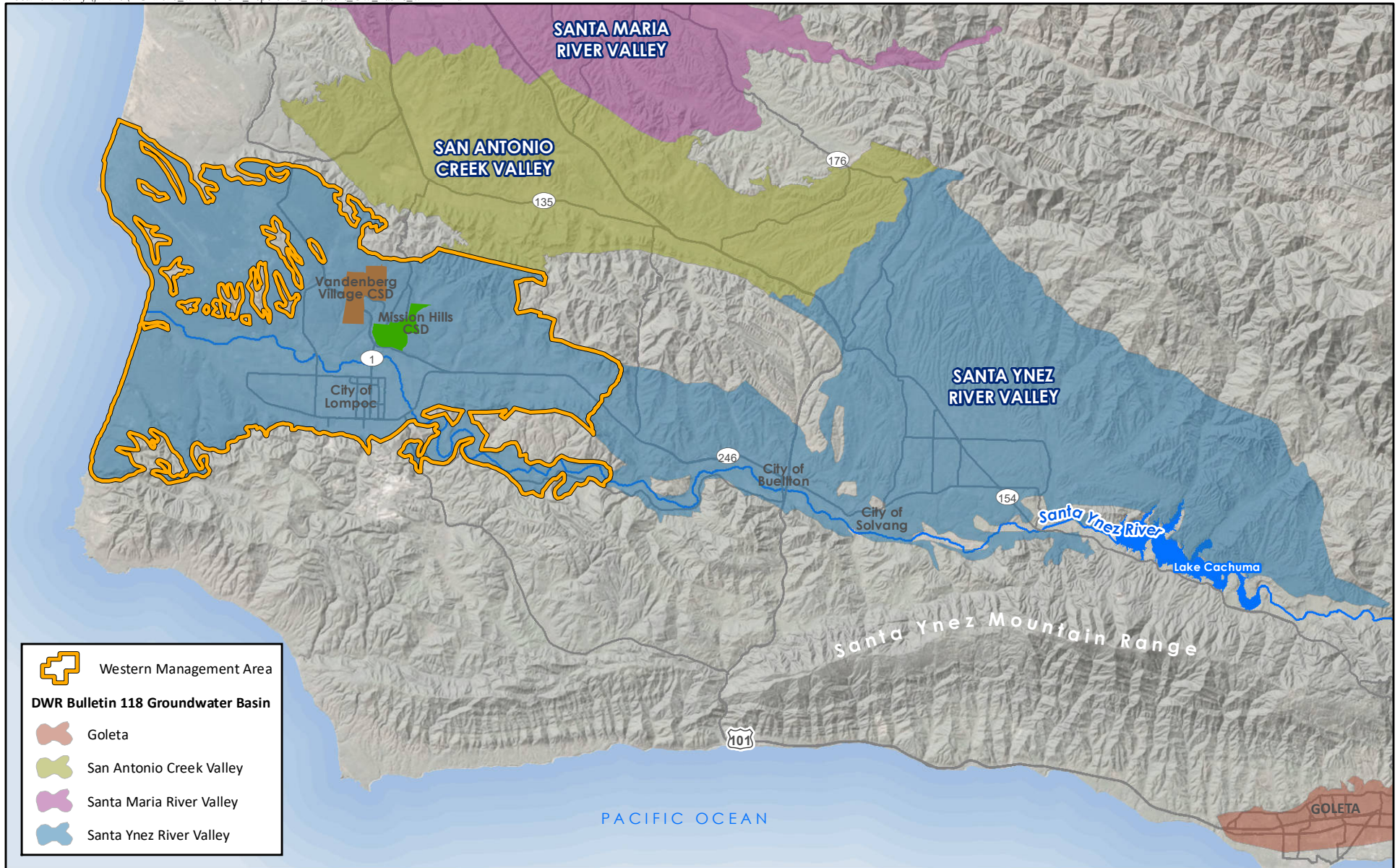
Sources:
 NAIP (2018)
 USGS National Elevation Dataset, 2002
 Groundwater basin boundary from DWR Bulletin 118, 2018



DRAFT
**WESTERN MANAGEMENT AREA OF THE
SANTA YNEZ RIVER VALLEY GROUNDWATER BASIN**



**HYDROGEOLOGICAL CONCEPTUAL MODEL
WESTERN MANAGEMENT AREA
SANTA YNEZ RIVER VALLEY GROUNDWATER BASIN**



Western Management Area

DWR Bulletin 118 Groundwater Basin

- Goleta
- San Antonio Creek Valley
- Santa Maria River Valley
- Santa Ynez River Valley



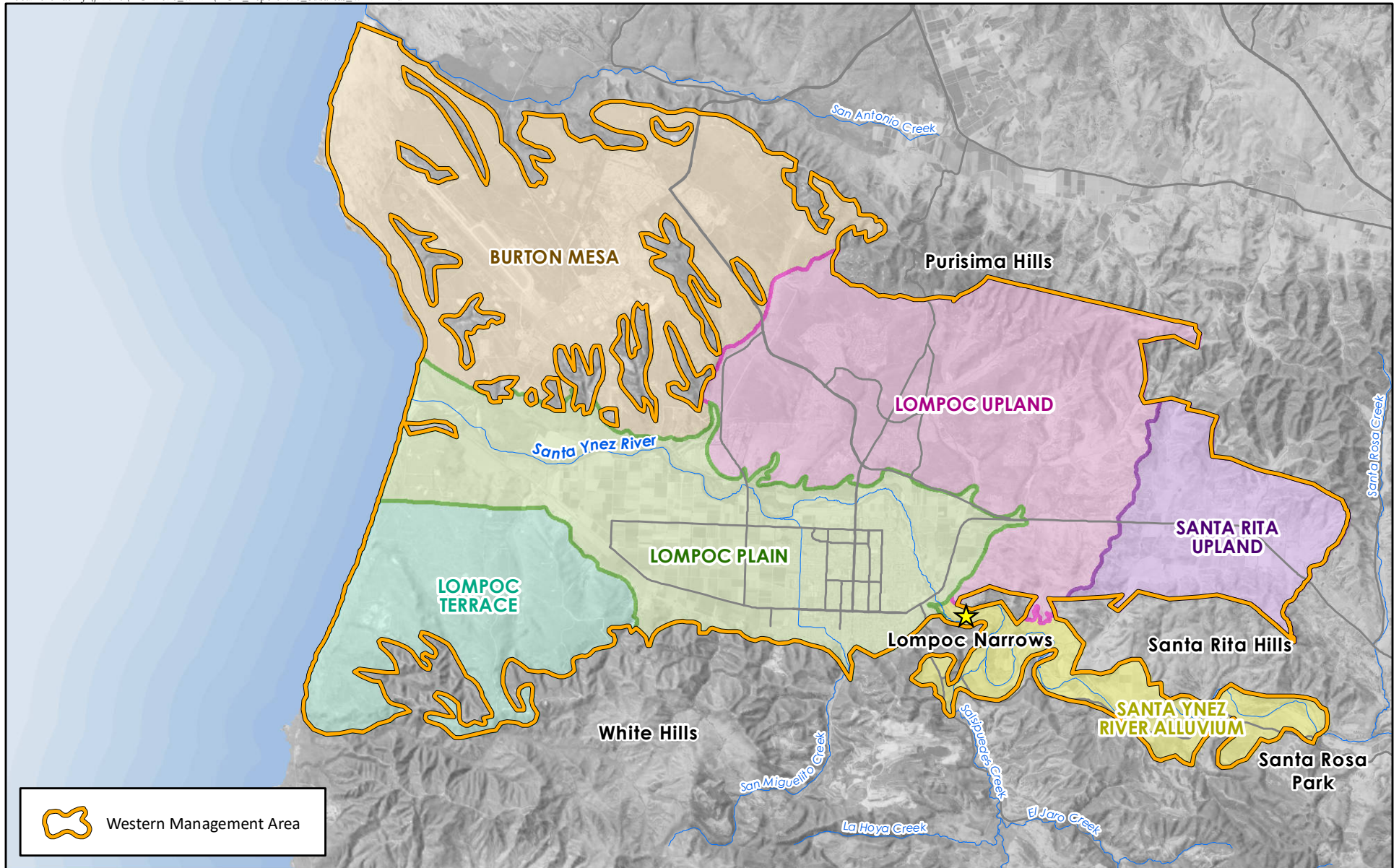
**ADJACENT AND NEIGHBORING GROUNDWATER BASINS
WESTERN MANAGEMENT AREA**

DRAFT

0 2 4 Miles

Sources:
ESRI World Imagery (2018 Maxar)
USGS National Elevation Dataset, 2002

FIGURE 1-3



 Western Management Area



SUBAREAS WESTERN MANAGEMENT AREA

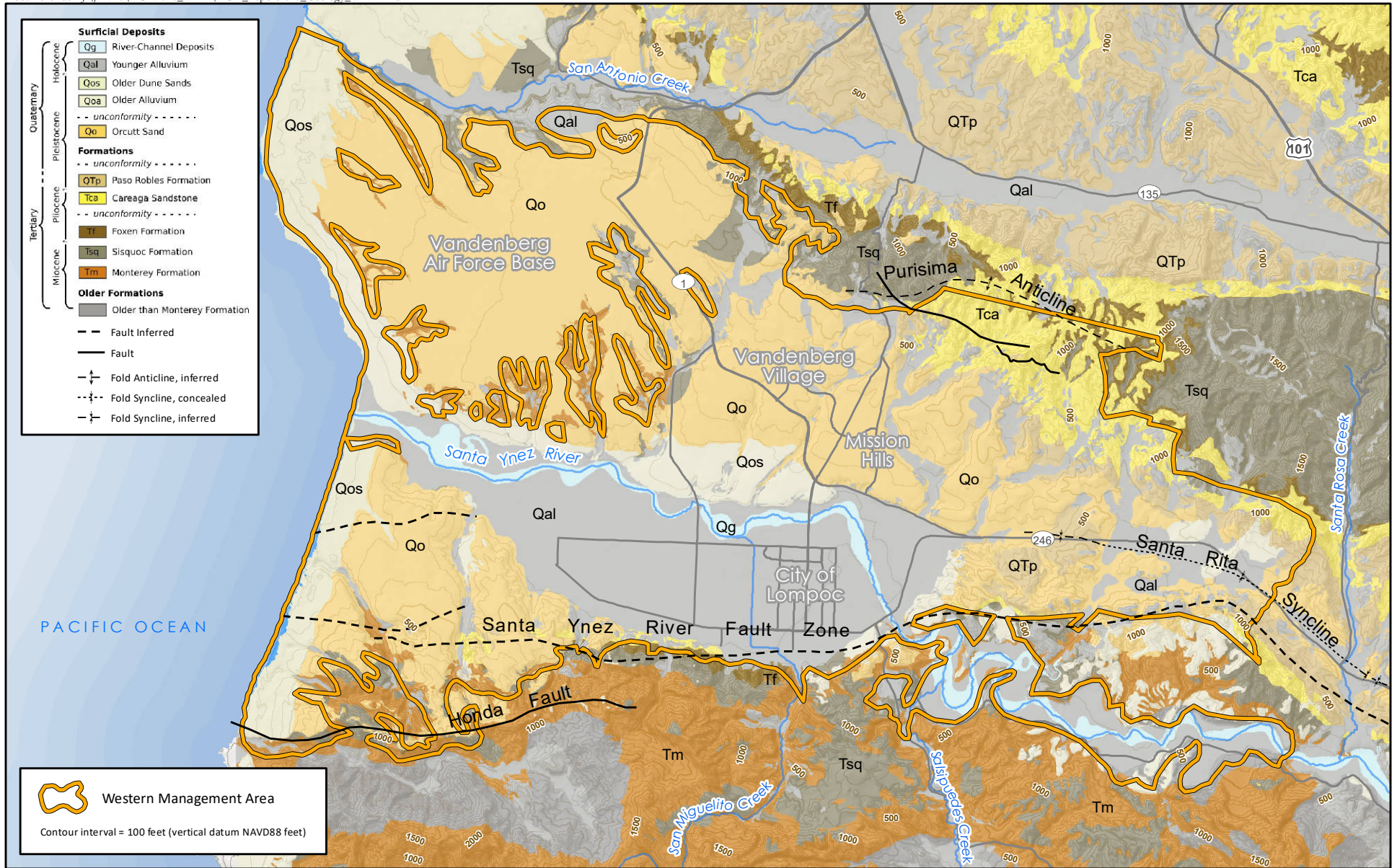
DRAFT

0 1 2 Miles

Sources:
USGS National Elevation Dataset, 2002
NAIP (2018)



FIGURE 1.4



SURFACE GEOLOGY WESTERN MANAGEMENT AREA

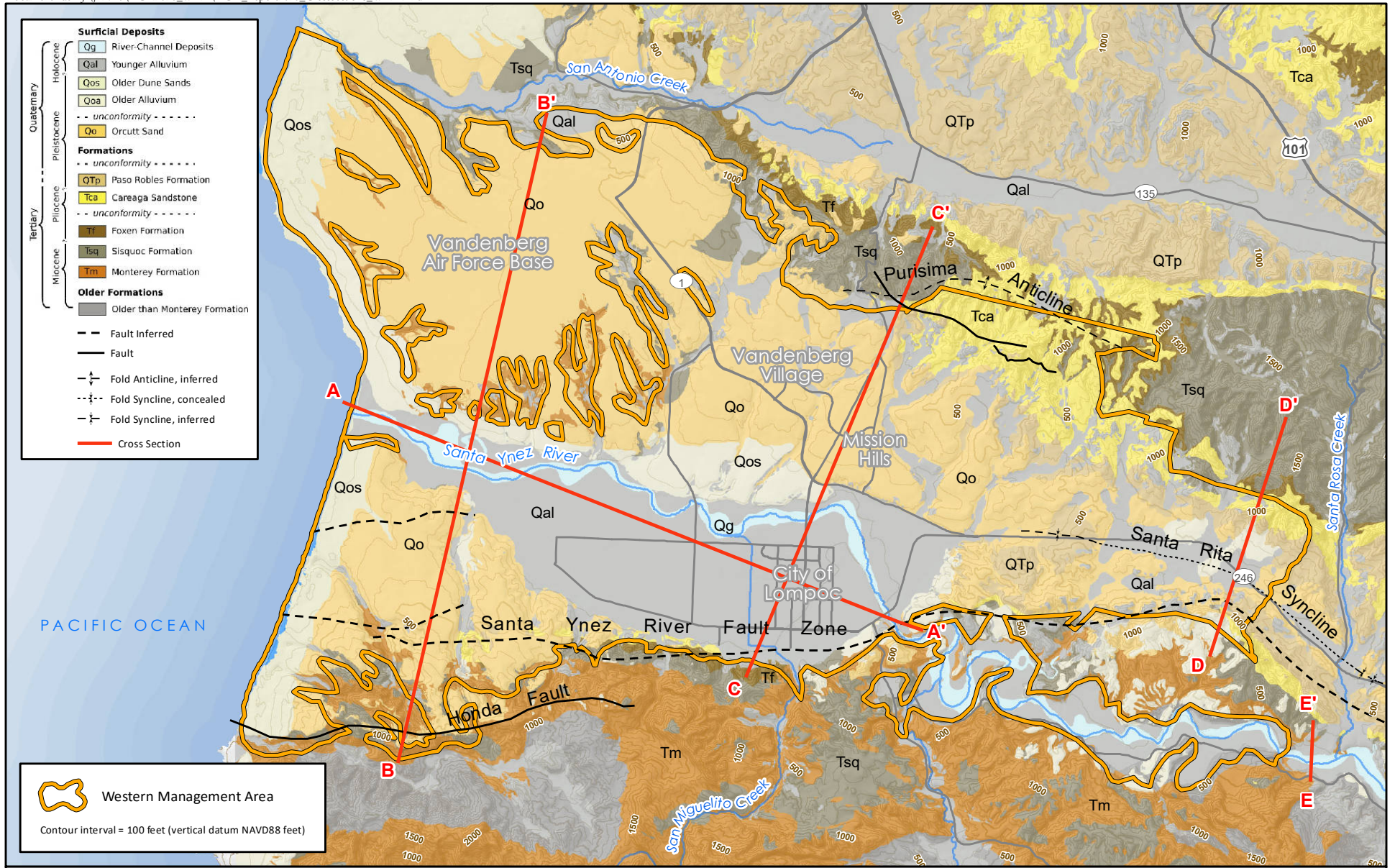
DRAFT

0 1 2 Miles

Sources:
Geosyntec, 2020; Dibblee, 1993; USGS, 2020
USGS National Elevation Dataset, 2002



FIGURE 2-1



Surficial Deposits	
Quaternary	Holocene
	Qg River-Channel Deposits
	Qal Younger Alluvium
	Qos Older Dune Sands
	Qoa Older Alluvium
Pleistocene	Qo Orcutt Sand
	unconformity
Formations	
Tertiary	Pliocene
	Qtp Paso Robles Formation
	Tca Careaga Sandstone
	Tf Foxen Formation
	Miocene
Tsq Sisquoc Formation	
Tm Monterey Formation	
Older Formations	
	Older than Monterey Formation
Fault Inferred	
Fault	
Fold Anticline, inferred	
Fold Syncline, concealed	
Fold Syncline, inferred	
Cross Section	

Western Management Area
Contour interval = 100 feet (vertical datum NAVD88 feet)



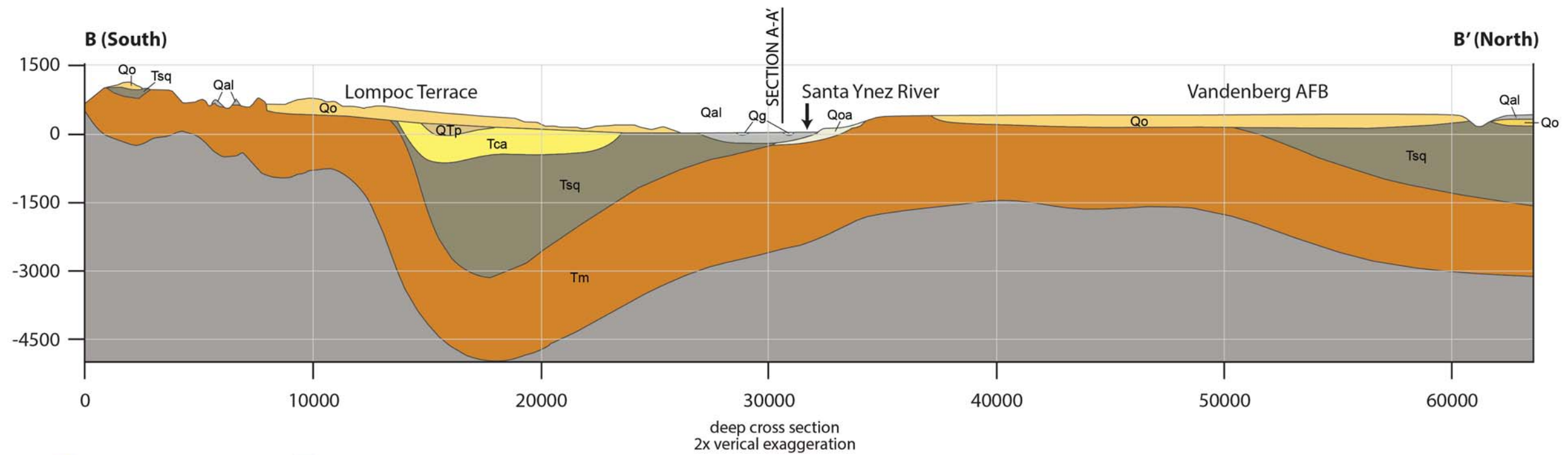
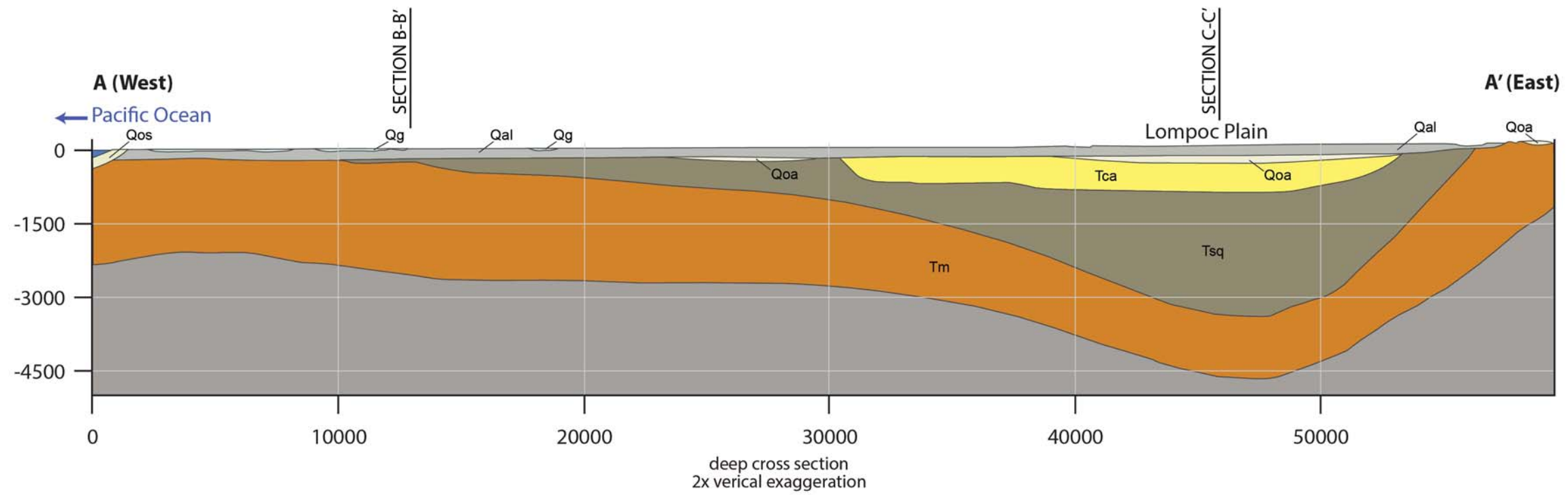
GEOLOGIC CROSS SECTIONS WESTERN MANAGEMENT AREA

DRAFT

0 1 2 Miles

Sources:
Geosyntec, 2020; Dibblee, 1993; USGS, 2020
USGS National Elevation Dataset, 2002

FIGURE 2-2



Model Geology

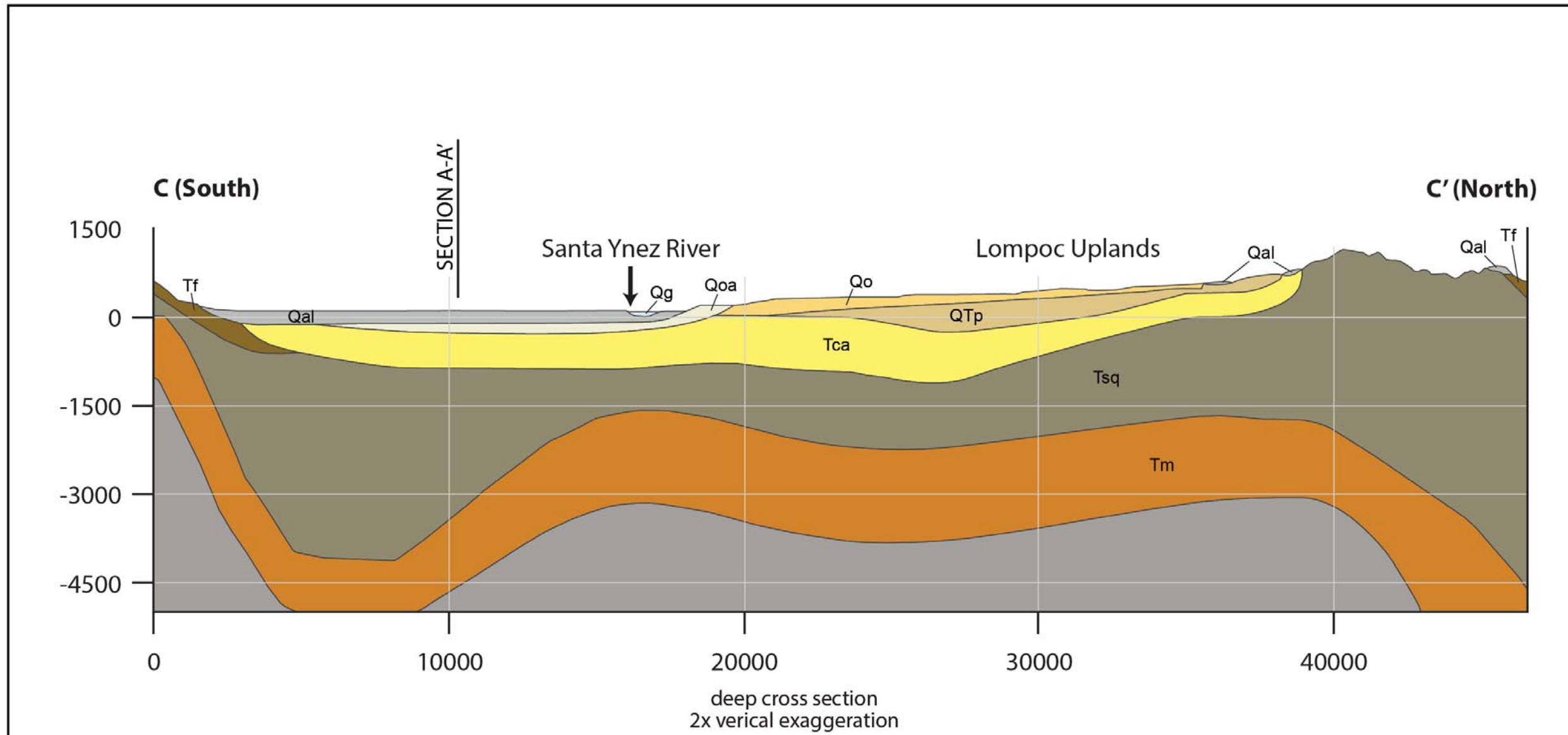
- | | | |
|-----------------------------|-----------------------------|--------------------------------|
| River-Channel Deposits (Qg) | Orcutt Sand (Qo) | Sisquoc Formation (Tsq) |
| Younger Alluvium (Qal) | Paso Robles Formation (QTP) | Monterey Formation (Tm) |
| Older Dune Sands (Qos) | Careaga Sandstone (Tca) | Tertiary - Older than Monterey |
| Older Alluvium (Qoa) | Foxen Formation (Tf) | |

Cross sections based on 3D geologic model Geosyntec (2020).



Western Management Area Geologic Cross-sections A-A' and B-B'





Model Geology

- | | | |
|-----------------------------|-----------------------------|--------------------------------|
| River-Channel Deposits (Qg) | Orcutt Sand (Qo) | Sisquoc Formation (Tsq) |
| Younger Alluvium (Qal) | Paso Robles Formation (QTp) | Monterey Formation (Tm) |
| Older Dune Sands (Qos) | Careaga Sandstone (Tca) | Tertiary - Older than Monterey |
| Older Alluvium (Qoa) | Foxen Formation (Tf) | |

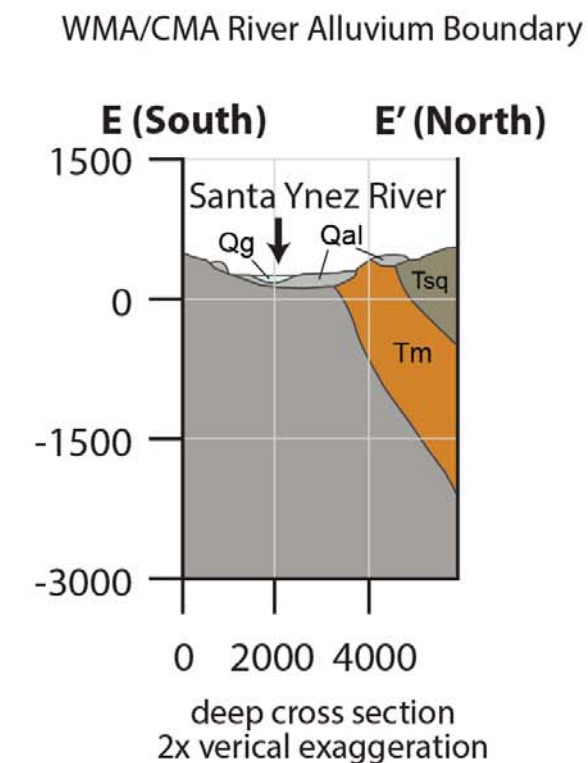
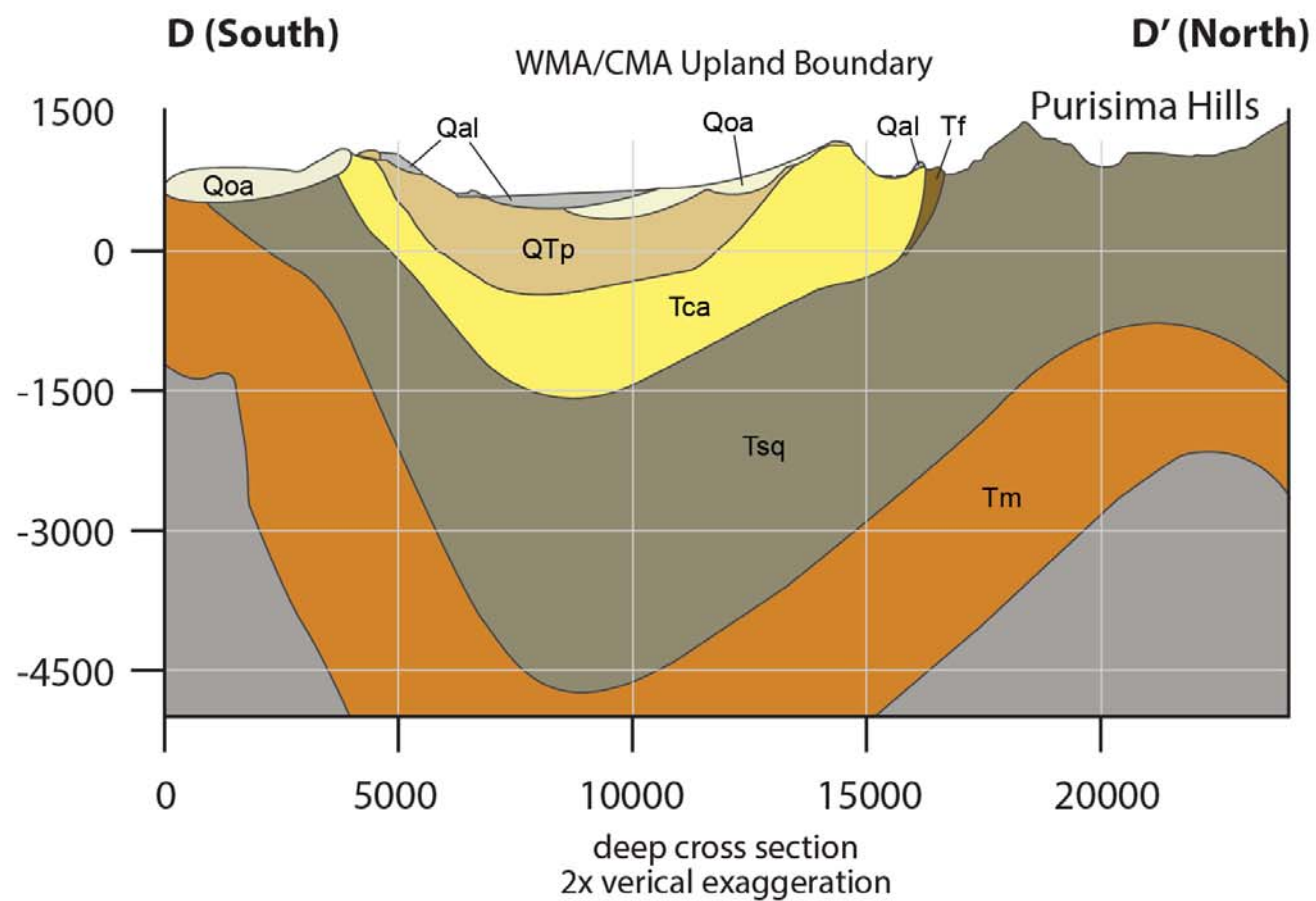
Cross sections based on 3D geologic model Geosyntec (2020).



Western Management Area Geologic Cross-section C-C'



FIGURE 2-3b



Model Geology

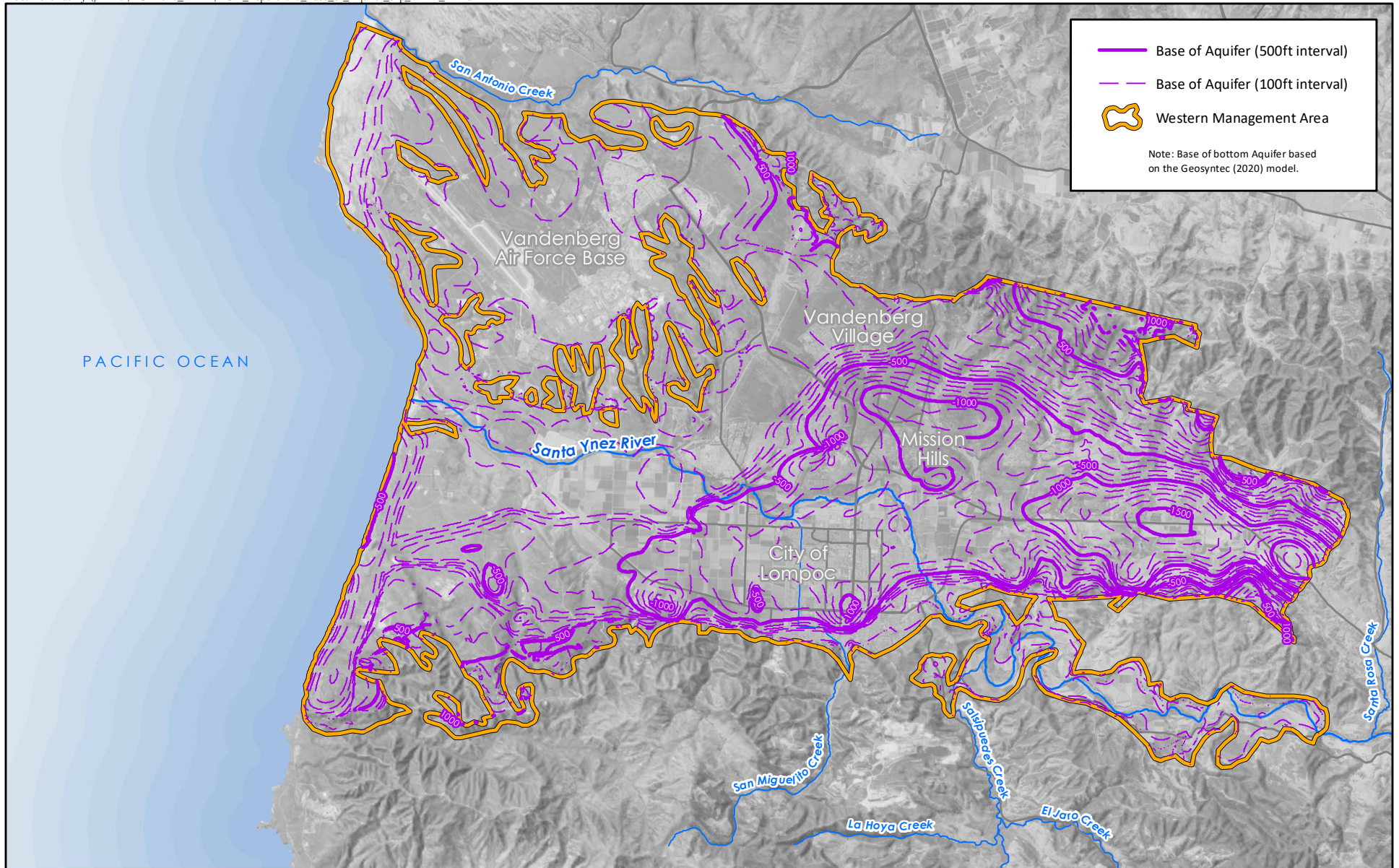
- | | | |
|-----------------------------|-----------------------------|--------------------------------|
| River-Channel Deposits (Qg) | Orcutt Sand (Qo) | Sisquoc Formation (Tsq) |
| Younger Alluvium (Qal) | Paso Robles Formation (QTp) | Monterey Formation (Tm) |
| Older Dune Sands (Qos) | Careaga Sandstone (Tca) | Tertiary - Older than Monterey |
| Older Alluvium (Qoa) | Foxen Formation (Tf) | |

Cross sections based on 3D geologic model Geosyntec (2020).



Western Management Area Geologic Cross-sections D-D' and E-E'





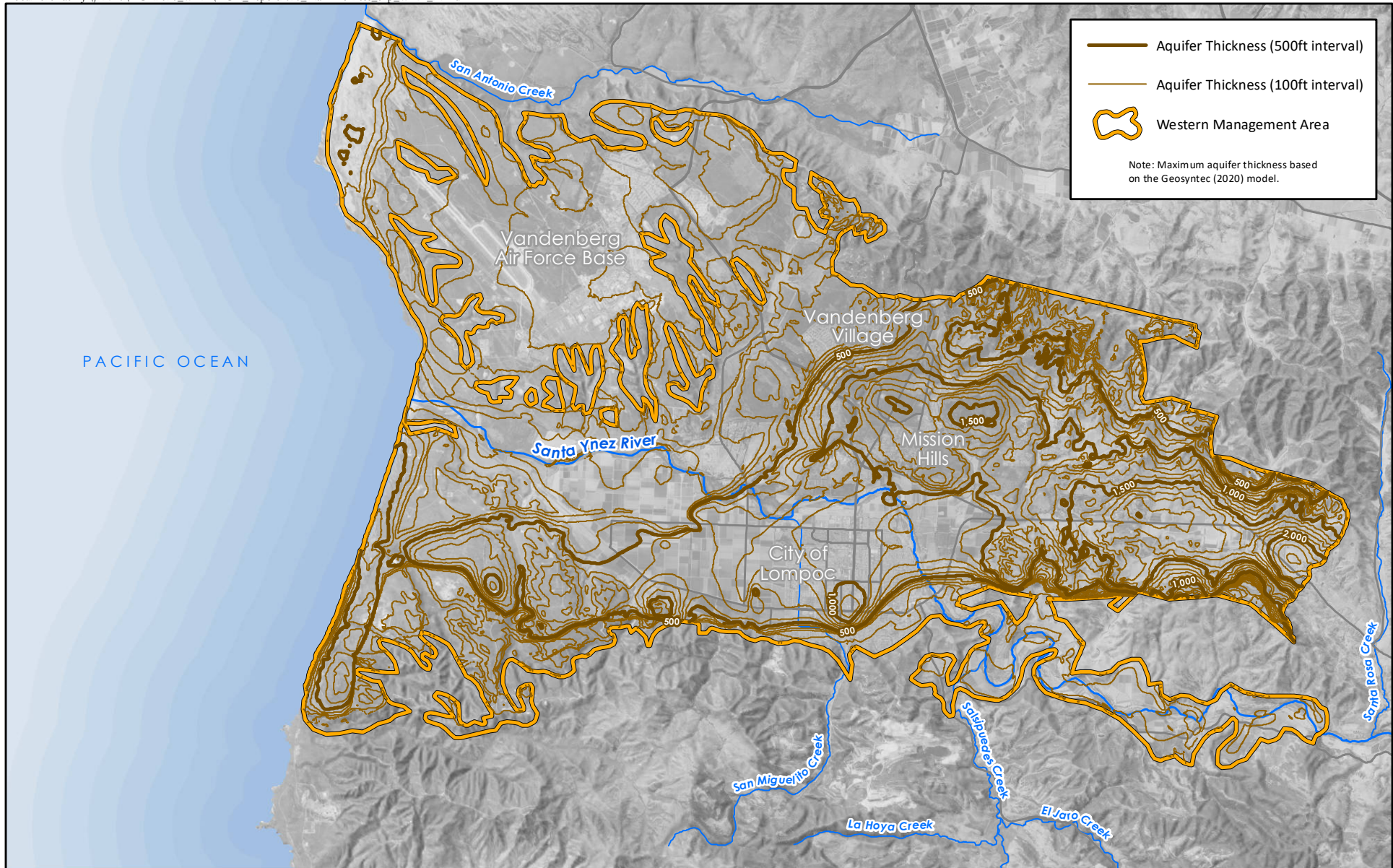
BOTTOM OF THE BASIN SUBSURFACE ELEVATION CONTOUR WITHIN WESTERN MANAGEMENT AREA

DRAFT

0 1 2 Miles

Sources:
USGS National Elevation Dataset, 2002
NAIP (2018)
Geosyntec (2020)





— Aquifer Thickness (500ft interval)
— Aquifer Thickness (100ft interval)
Western Management Area

Note: Maximum aquifer thickness based on the Geosyntec (2020) model.



MAXIMUM THICKNESS OF THE BASIN WITHIN WESTERN MANAGEMENT AREA

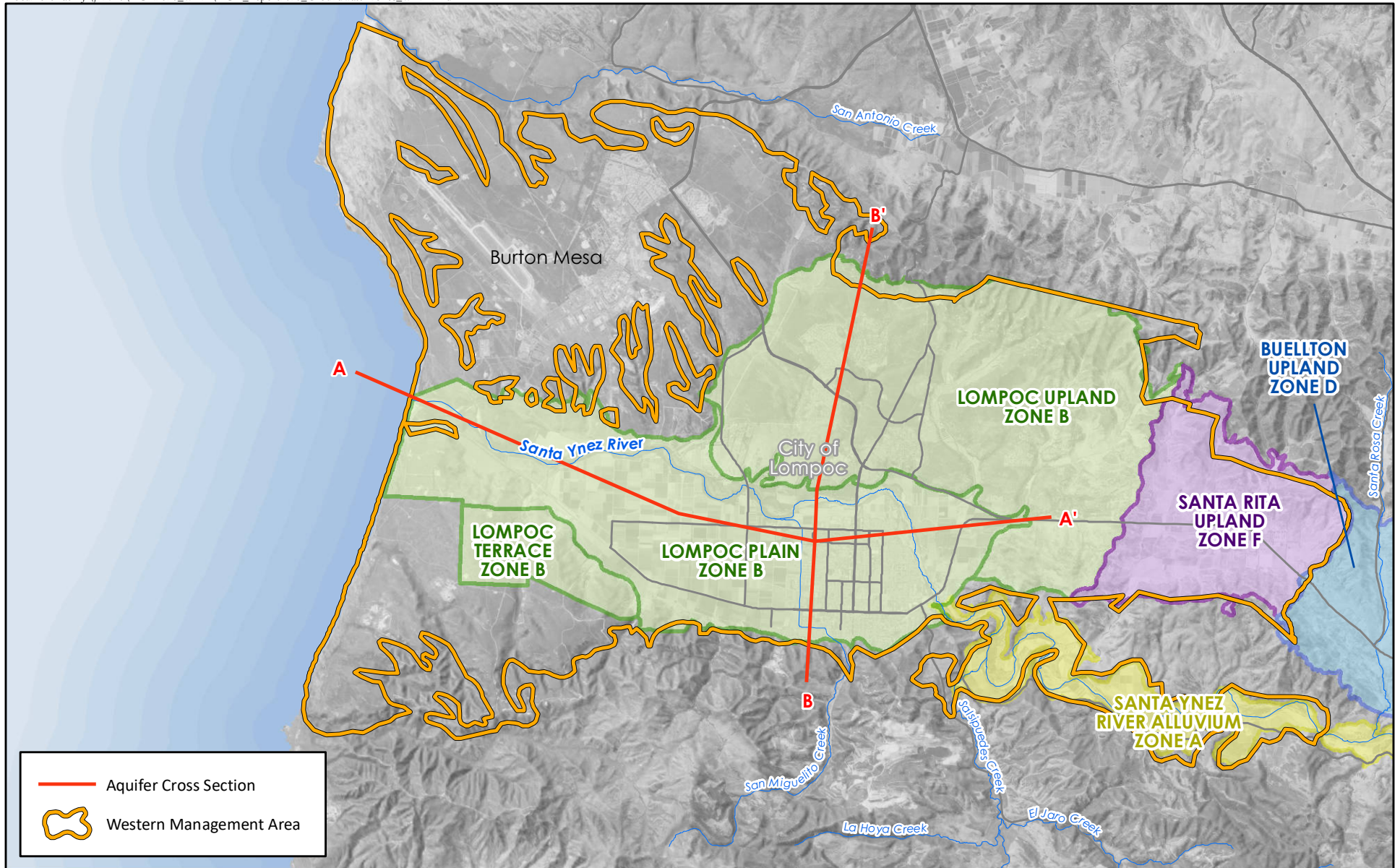
DRAFT

0 1 2 Miles

Sources:
USGS National Elevation Dataset, 2002
NAIP (2018)
Geosyntec (2020)



FIGURE 3-2



— Aquifer Cross Section
— Western Management Area

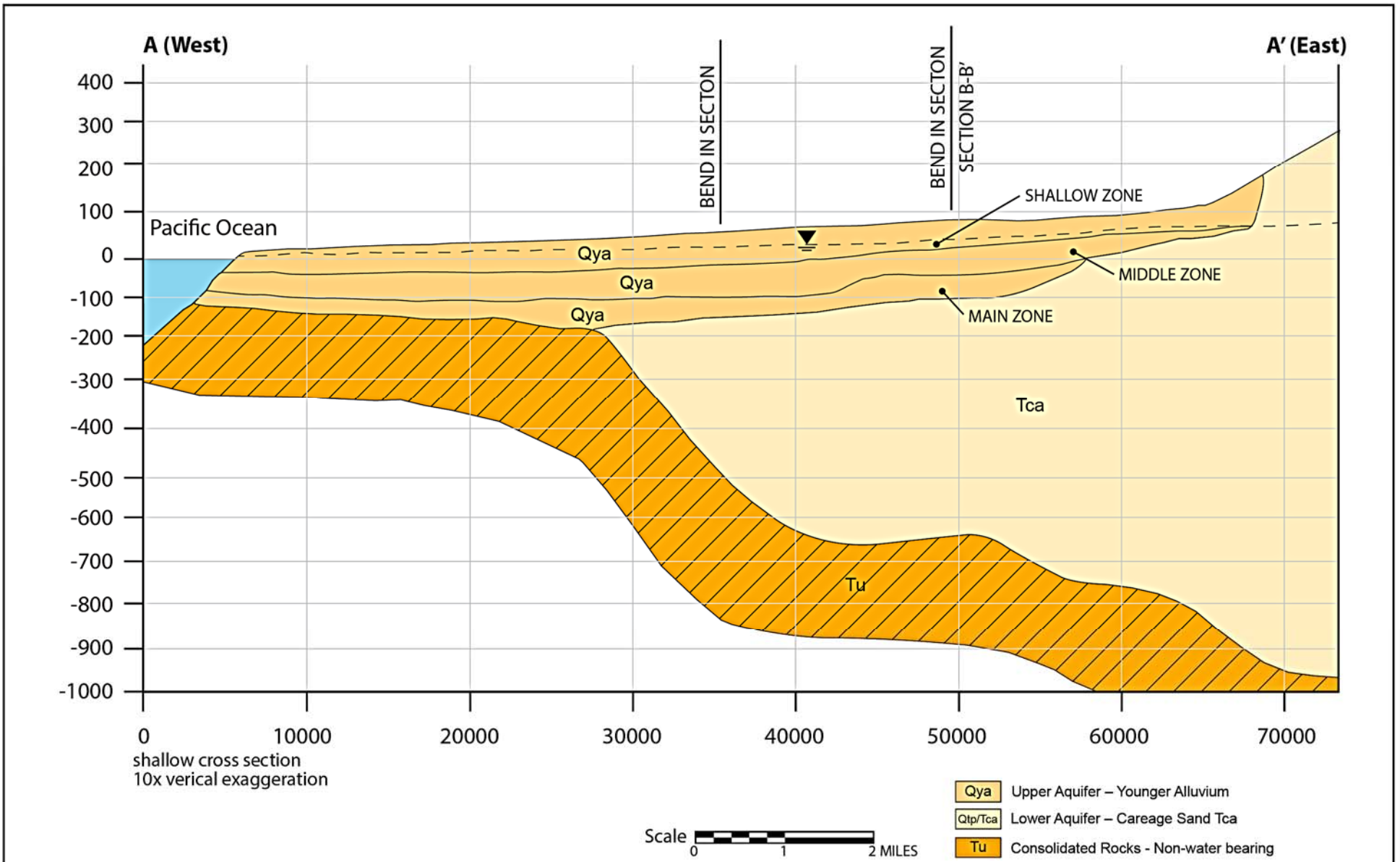


SANTA YNEZ RIVER WATER CONSERVATION DISTRICT GROUNDWATER ZONES AND THE WESTERN MANAGEMENT AREA

DRAFT
0 1 2 Miles
Sources:
West Yost and Associates (2012)
NAIP (2018)



FIGURE 3-3

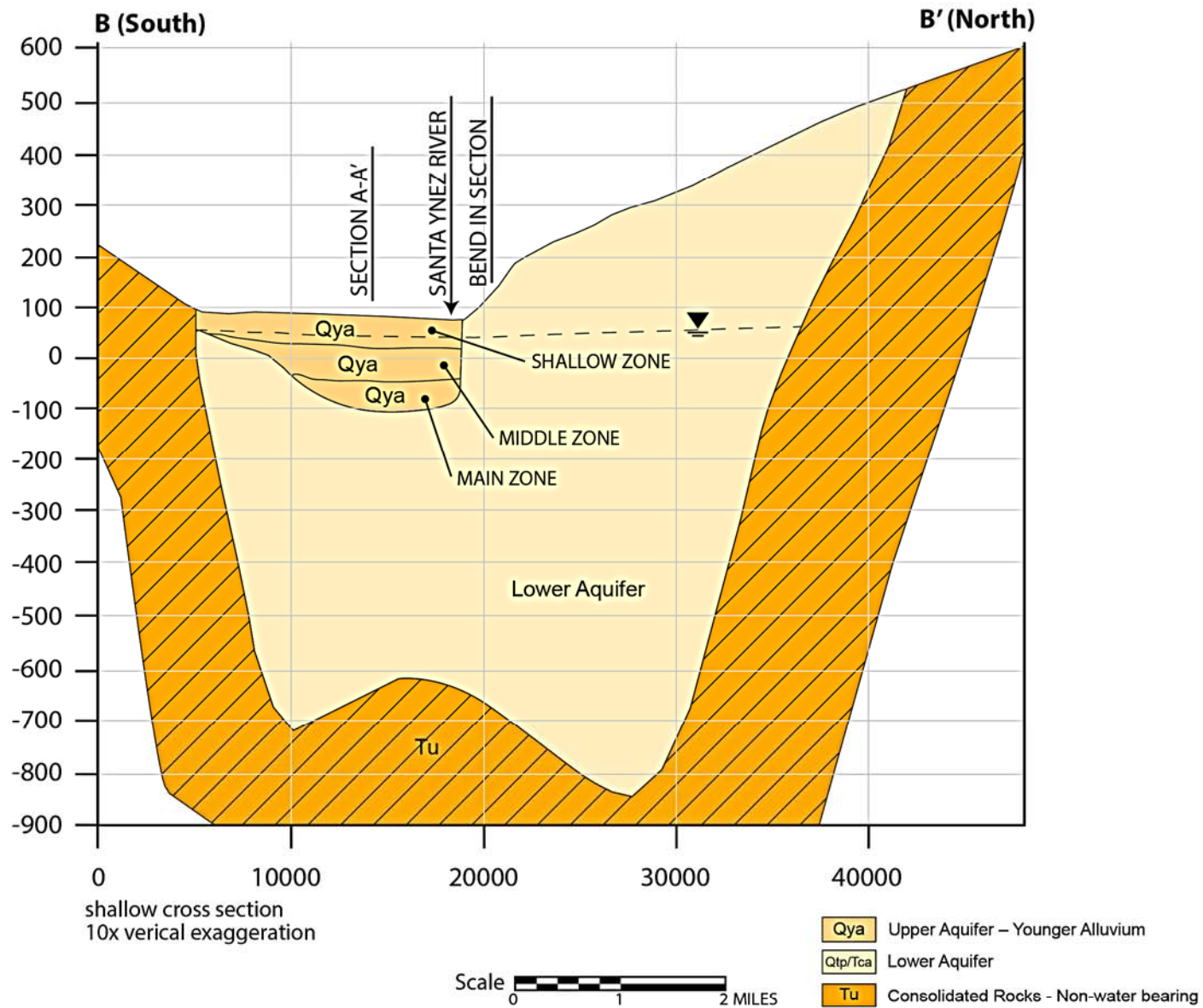


Cross sections based on City of Lompoc Groundwater Management Plan (West Yost, 2013); Originally based on United States Geological Survey, Bright and Others, 1992 (Plate 1).



Western Management Area Aquifer Cross-section A-A'



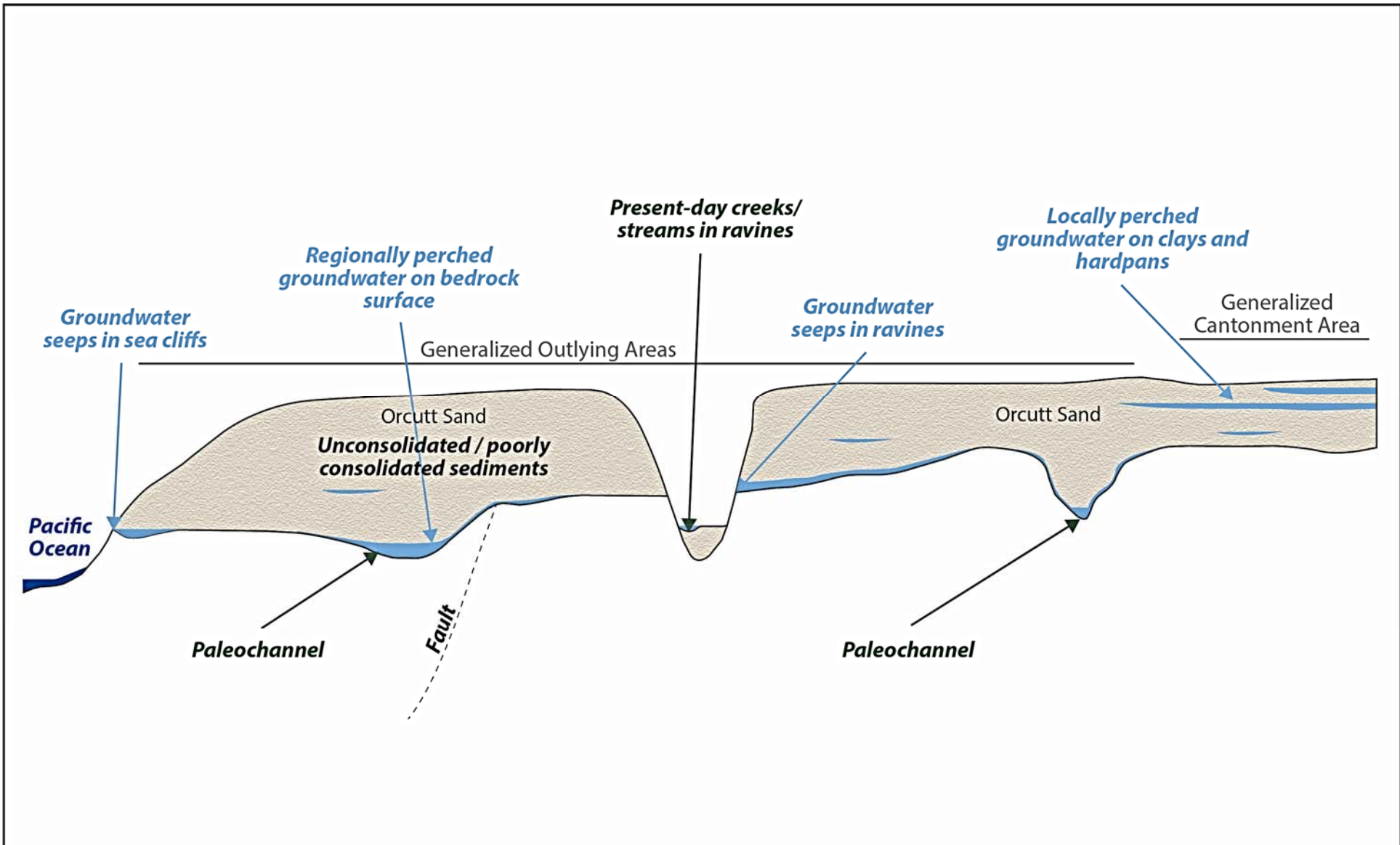


Cross sections based on City of Lompoc Groundwater Management Plan (West Yost, 2013); Originally based on United States Geological Survey, Bright and Others, 1992 (Plate 1).



Western Management Area Aquifer Cross-section B-B'





NOT TO SCALE. This a generalized diagram with a high degree of vertical exaggeration to illustrate general concepts. It is not meant to illustrate any specific site at VAFB.



Simplified Conceptual Geological / Hydrogeologic Cross Section

Source: Arcadis, 2016



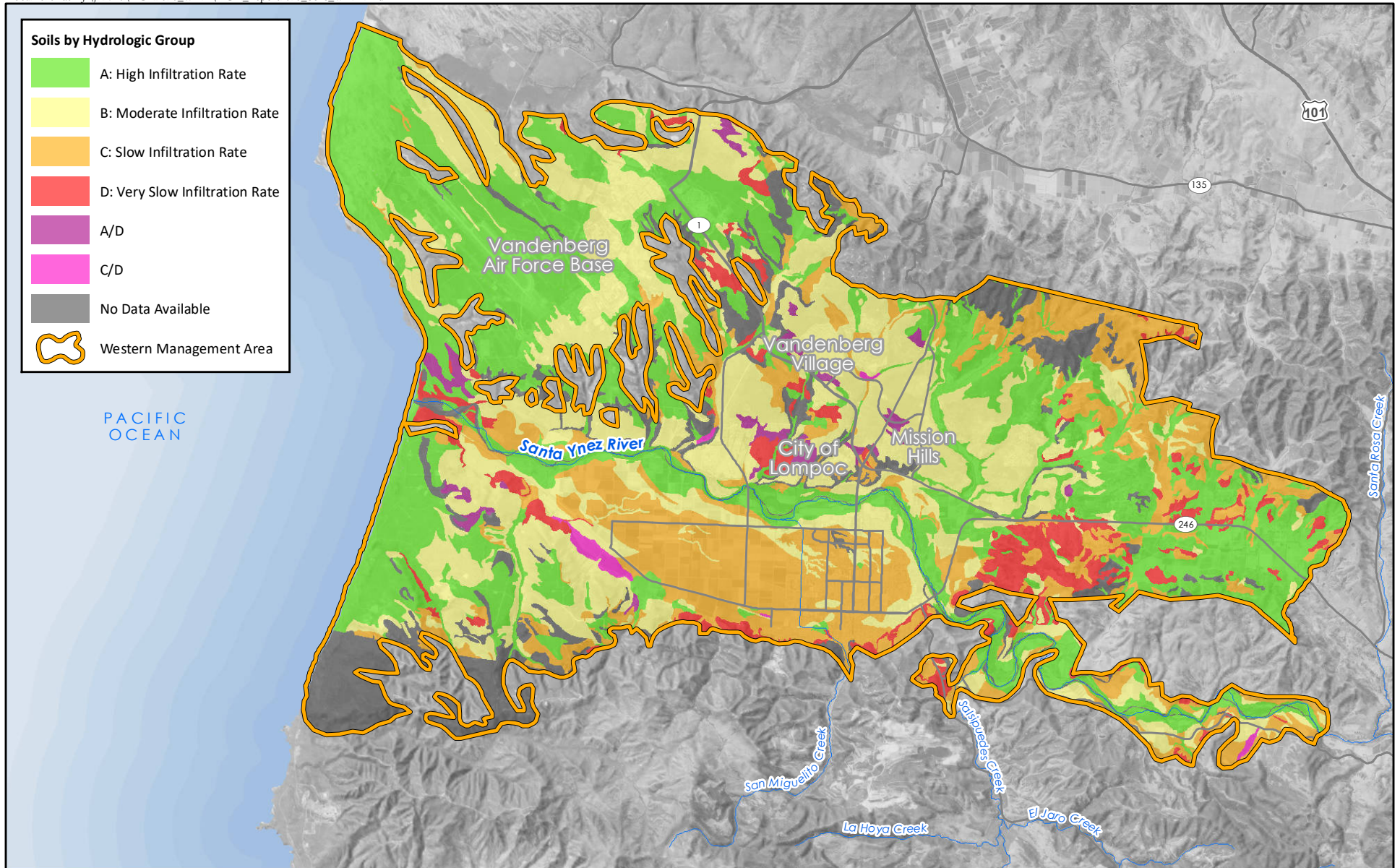
WMA
Santa Ynez River Valley Groundwater Basin
Western Management Area
Groundwater Sustainability Agency

TOPOGRAPHY WESTERN MANAGEMENT AREA

DRAFT
0 1 2 Miles
Sources:
USGS National Elevation Dataset, 2002
NAIP (2018)



FIGURE 4-1



SOIL CHARACTERISTICS WESTERN MANAGEMENT AREA

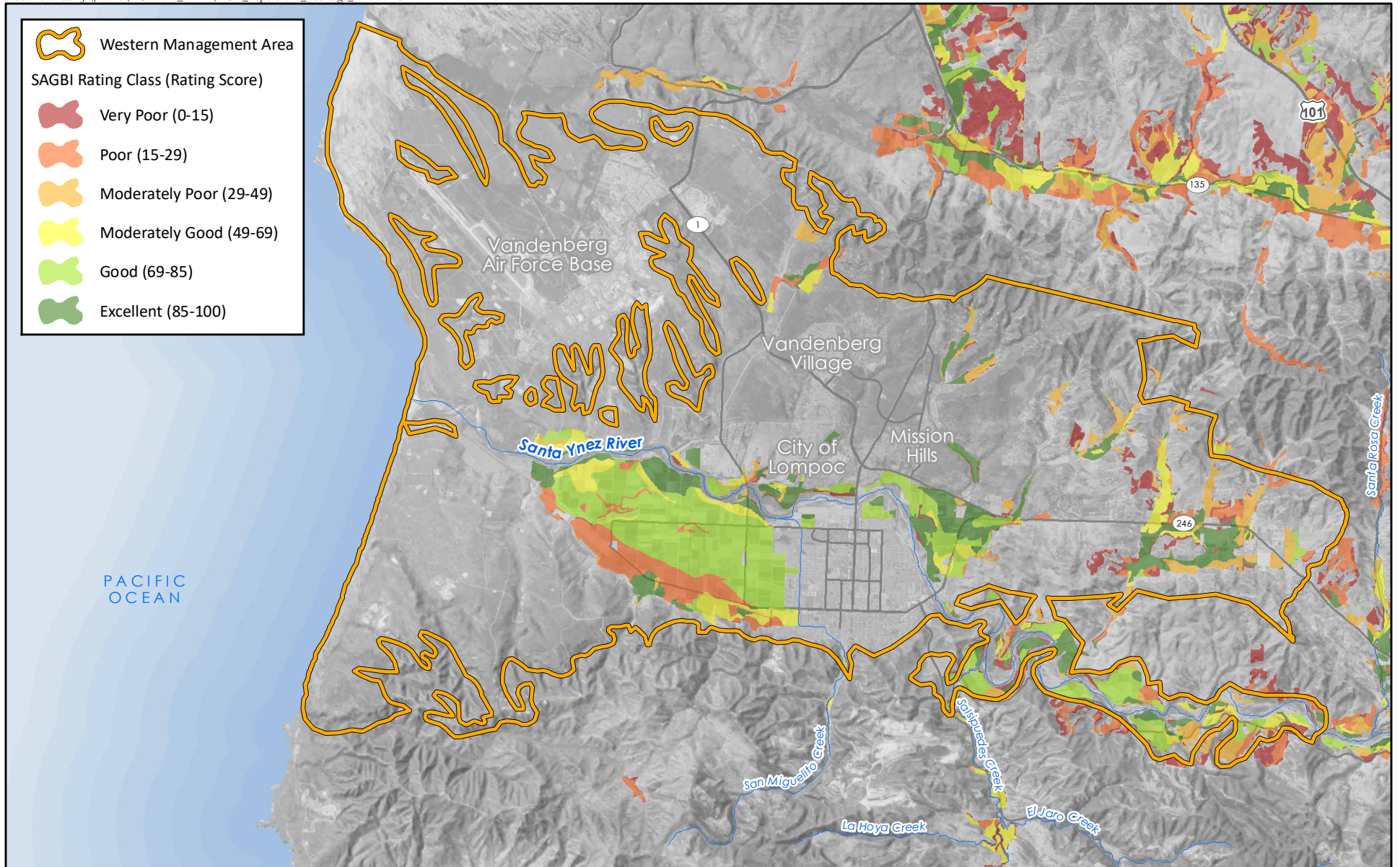
DRAFT

0 1 2 Miles

Source:
SSURGO Soil Survey Geographic Database,
National Resources Conservation Service.



FIGURE 4-2



POTENTIAL GROUNDWATER RECHARGE AREAS WESTERN MANAGEMENT AREA

DRAFT



0 1 2 Miles



Source:
Soil Agricultural Groundwater Banking Index (SAGBI) - UC Davis, 2020

FIGURE 4.3



-  Western Management Area
-  Watershed Boundary

SANTA YNEZ RIVER WATERSHED AND SANTA YNEZ RIVER VALLEY GROUNDWATER BASIN WESTERN MANAGEMENT AREA

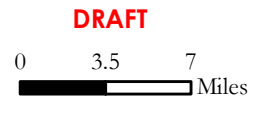
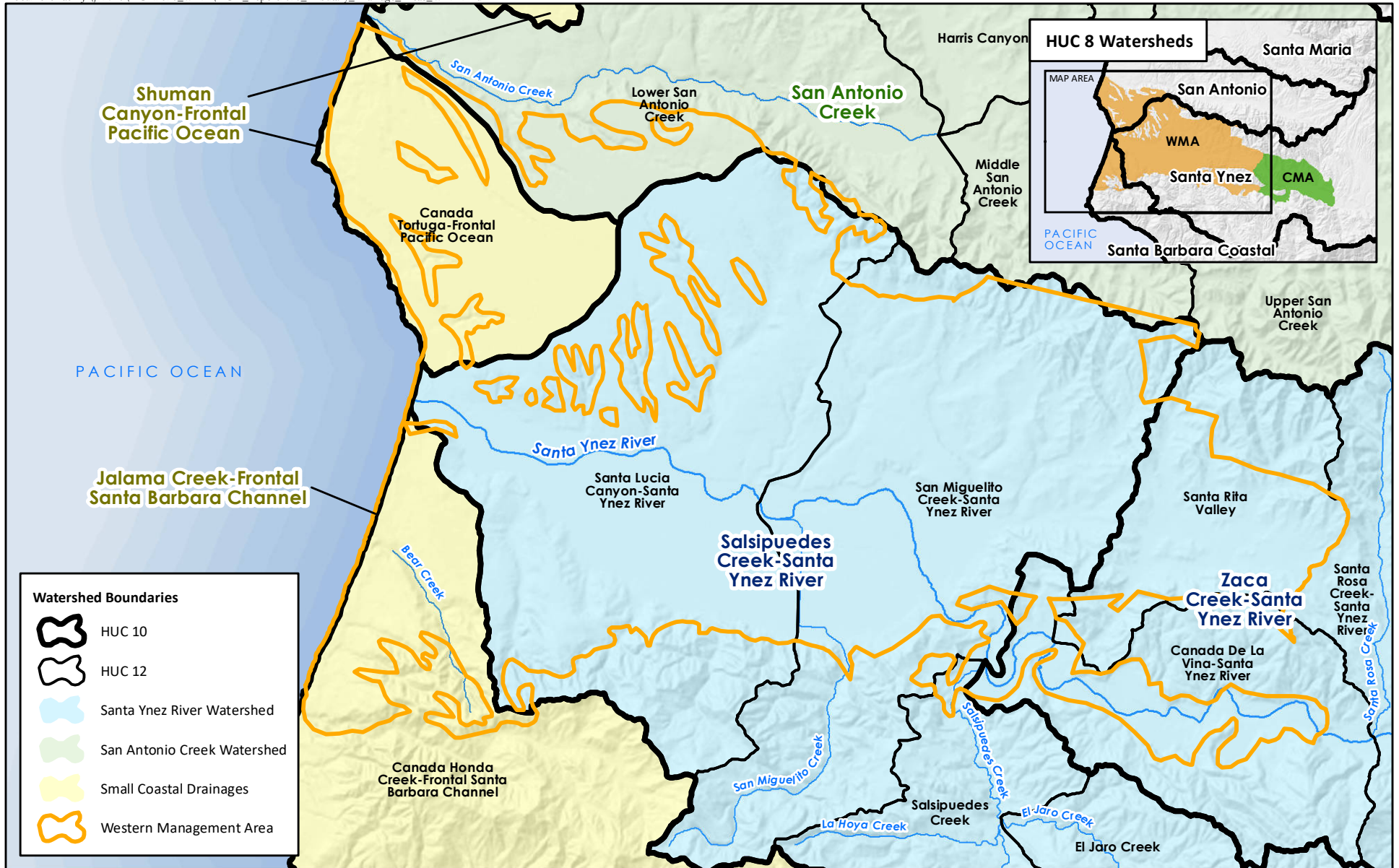


FIGURE 4-4



Watershed Boundaries

- HUC 10
- HUC 12
- Santa Ynez River Watershed
- San Antonio Creek Watershed
- Small Coastal Drainages
- Western Management Area



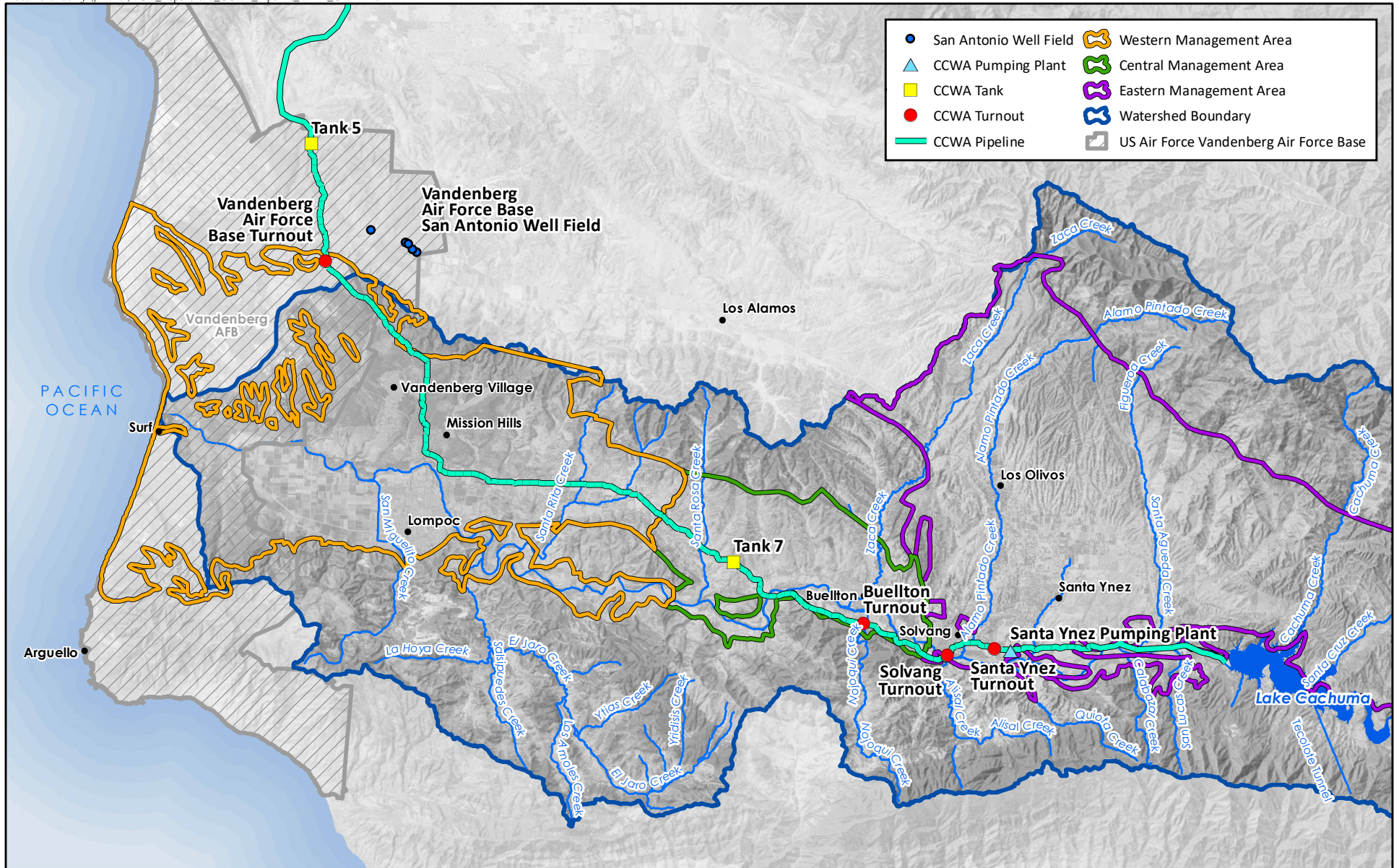
**TRIBUTARY DRAINAGE AREAS
WESTERN MANAGEMENT AREA**

DRAFT

0 1 2 Miles

Sources:
USGS National Elevation Dataset, 2002
National Hydrography Dataset

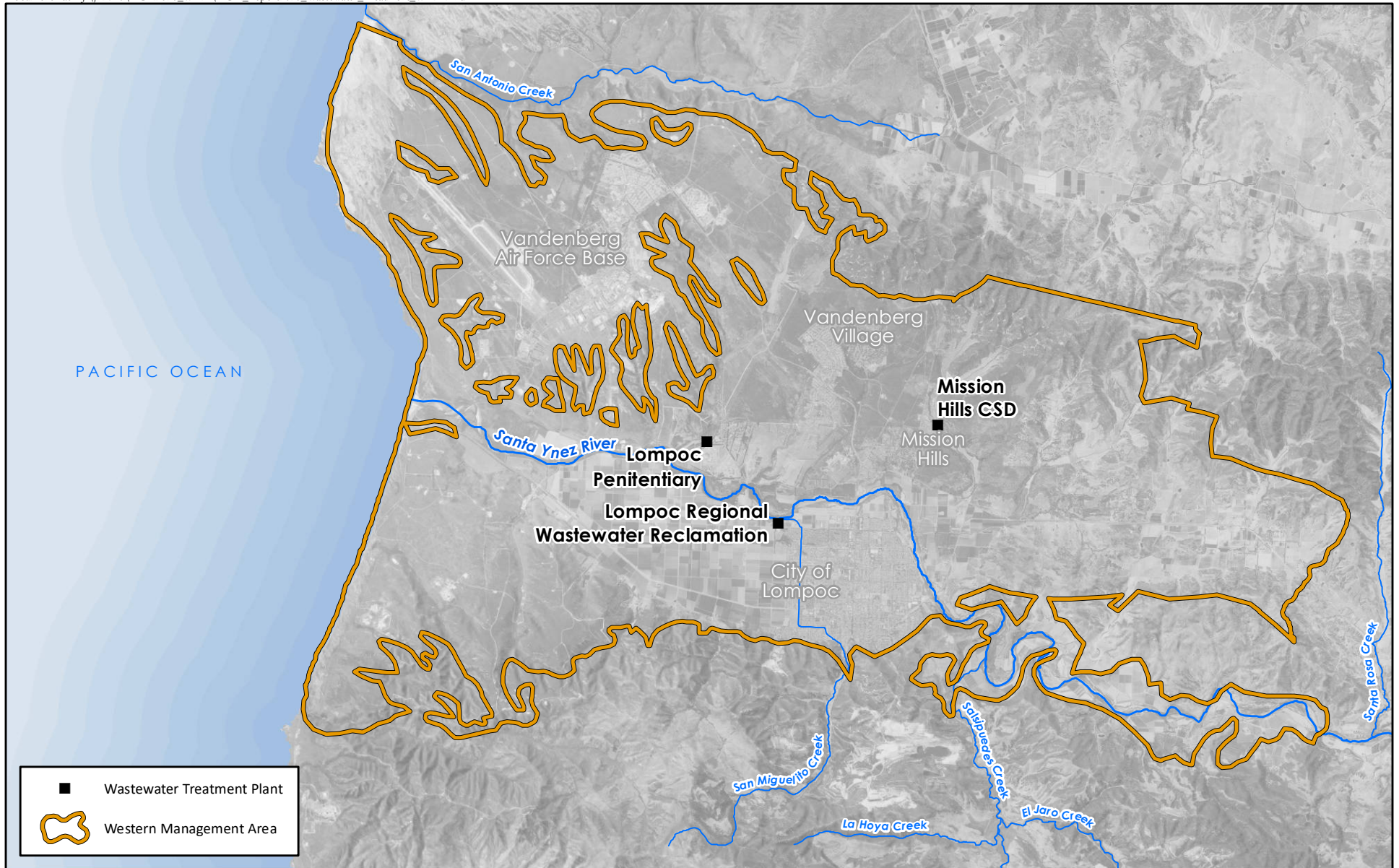
FIGURE 4.5



**WATER IMPORTS
CCWA PIPELINE AND SAN ANTONIO WELLS
WESTERN AND CENTRAL MANAGEMENT AREAS**

DRAFT
0 2 4 Miles
Source:
Central Coast Water Authority (CCWA)





■ Wastewater Treatment Plant
🔴 Western Management Area



WASTEWATER TREATMENT PLANTS WESTERN MANAGEMENT AREA

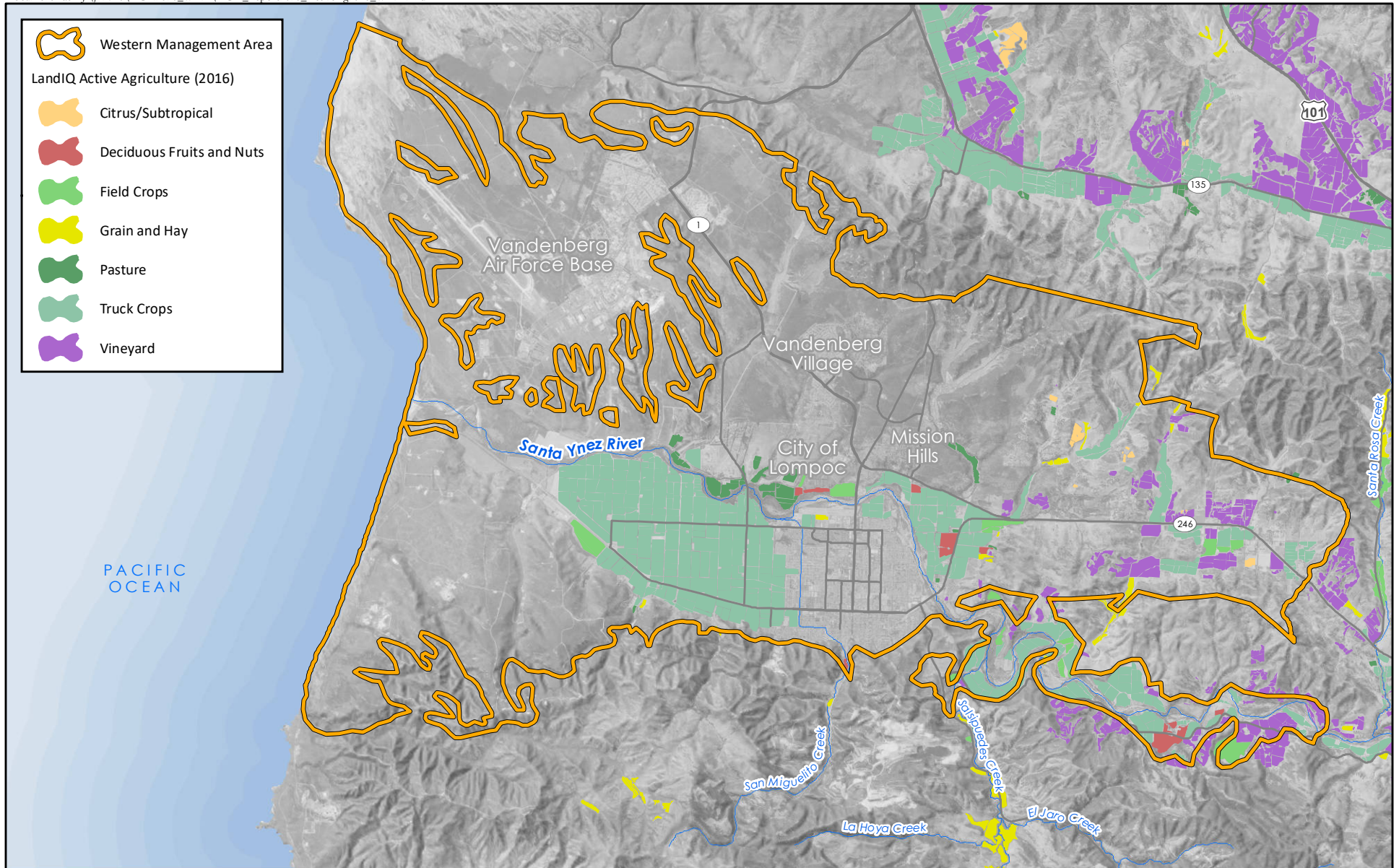
DRAFT

0 1 2 Miles

Sources:
USGS National Elevation Dataset, 2002



FIGURE 4-7

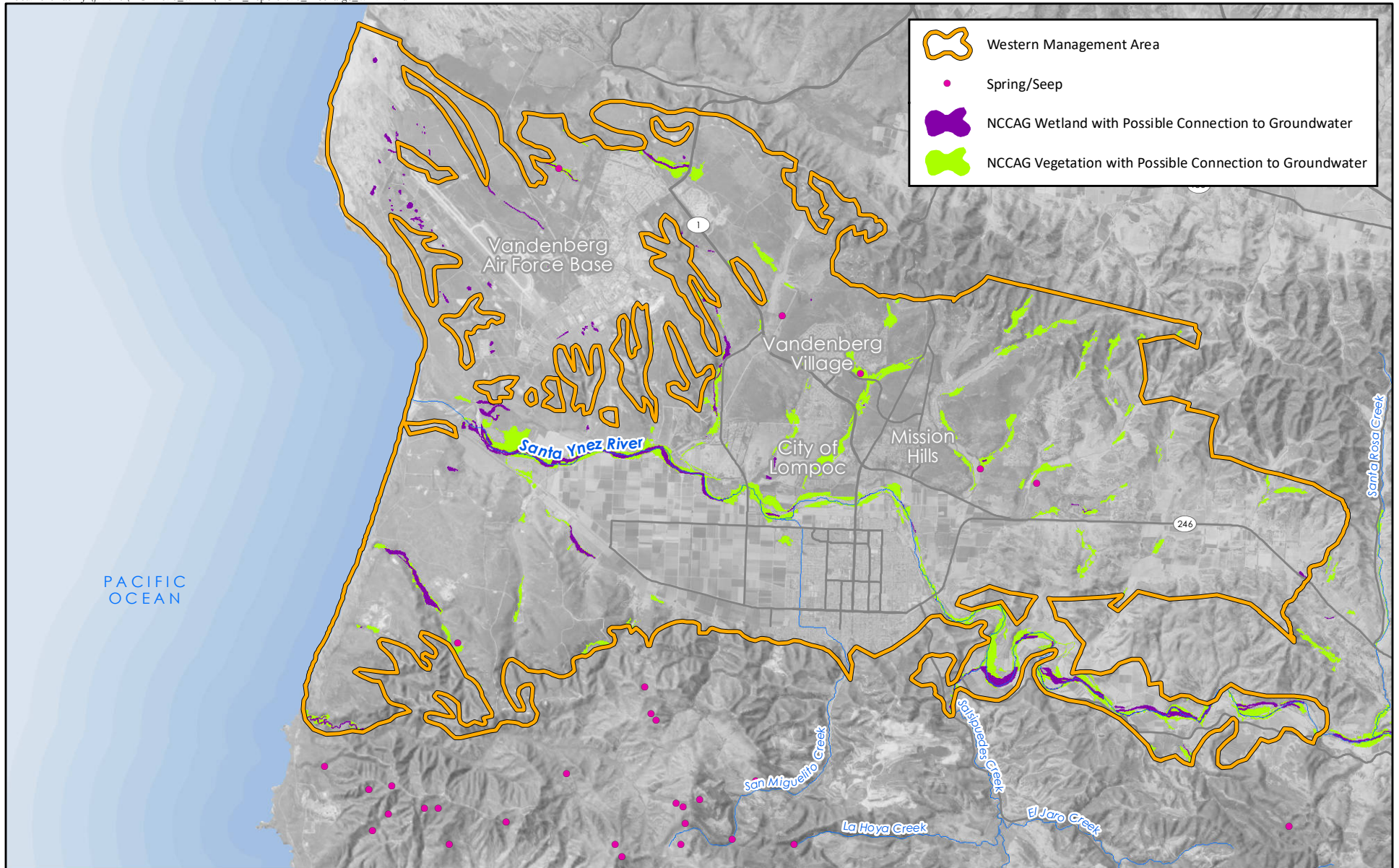


ACTIVE AGRICULTURAL AREA 2016 WESTERN MANAGEMENT AREA

DRAFT
0 1 2 Miles

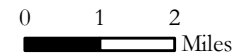


Source:
California Department of Water Resources, LandIQ 2016



POTENTIAL GROUNDWATER DEPENDENT ECOSYSTEMS AND GROUNDWATER DISCHARGE AREAS WESTERN MANAGEMENT AREA

DRAFT



Source:

The Natural Communities Commonly Associated with Groundwater (NCCAG) Wetland dataset.



FIGURE 5-2