

LEGEND

- GSWI STUDY AREA
- SANTA CLARA RIVER WATERSHED
- STREAM
- TRANSPORTATION**
- INTERSTATE
- STATE HIGHWAY
- RAILROAD
- HYDRAULIC CONDUCTIVITY (feet/day)**
- Up to 1
- 1 to 10
- 10 to 100
- 100 to 200
- 200 to 300
- 300 to 400
- 400 to 500
- 500 and above

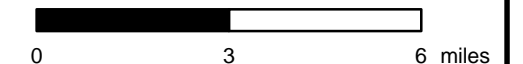
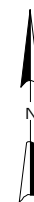
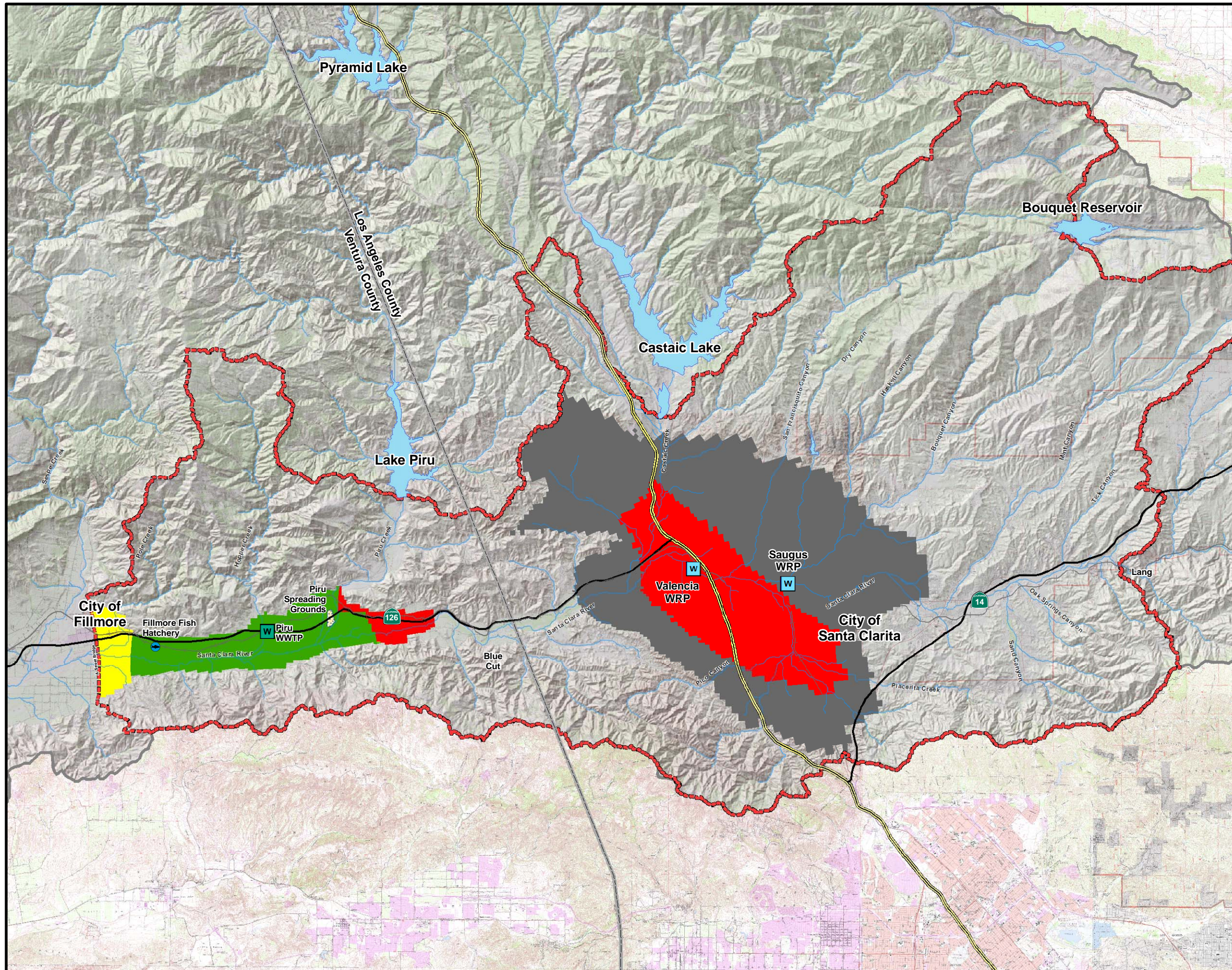


FIGURE 3-26
HORIZONTAL HYDRAULIC
CONDUCTIVITY – MODEL LAYERS
1 THROUGH 3
 TASK 2B-1 – NUMERICAL MODEL DEVELOPMENT
 AND SCENARIO RESULTS
 UPPER SANTA CLARA RIVER CHLORIDE
 TMDL COLLABORATIVE PROCESS



LEGEND

- GSWI STUDY AREA
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- STREAM

TRANSPORTATION

- INTERSTATE
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- RAILROAD

HYDRAULIC CONDUCTIVITY (feet/day)

- Up to 1
- 1 to 10
- 10 to 100
- 100 to 200
- 200 to 300
- 300 to 400
- 400 to 500
- 500 and above

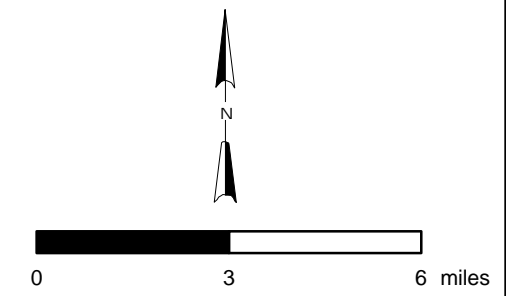
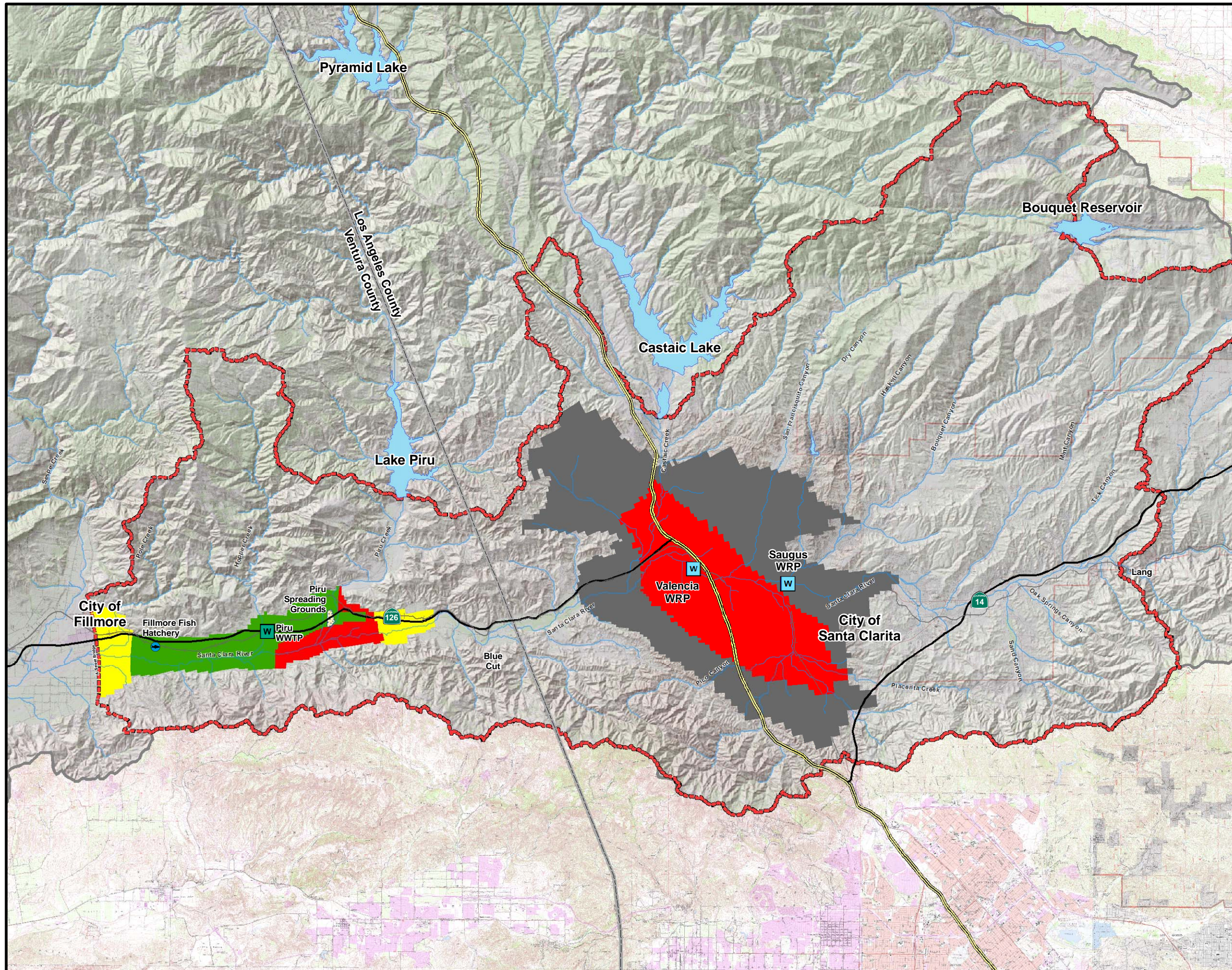


FIGURE 3-27
HORIZONTAL HYDRAULIC CONDUCTIVITY – MODEL LAYER 4
 TASK 2B-1 – NUMERICAL MODEL DEVELOPMENT AND SCENARIO RESULTS
 UPPER SANTA CLARA RIVER CHLORIDE TMDL COLLABORATIVE PROCESS



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- Up to 1
- 1 to 10
- 10 to 100
- 100 to 200
- 200 to 300
- 300 to 400
- 400 to 500
- 500 and above

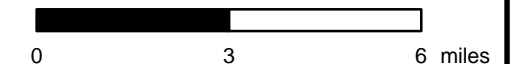
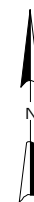
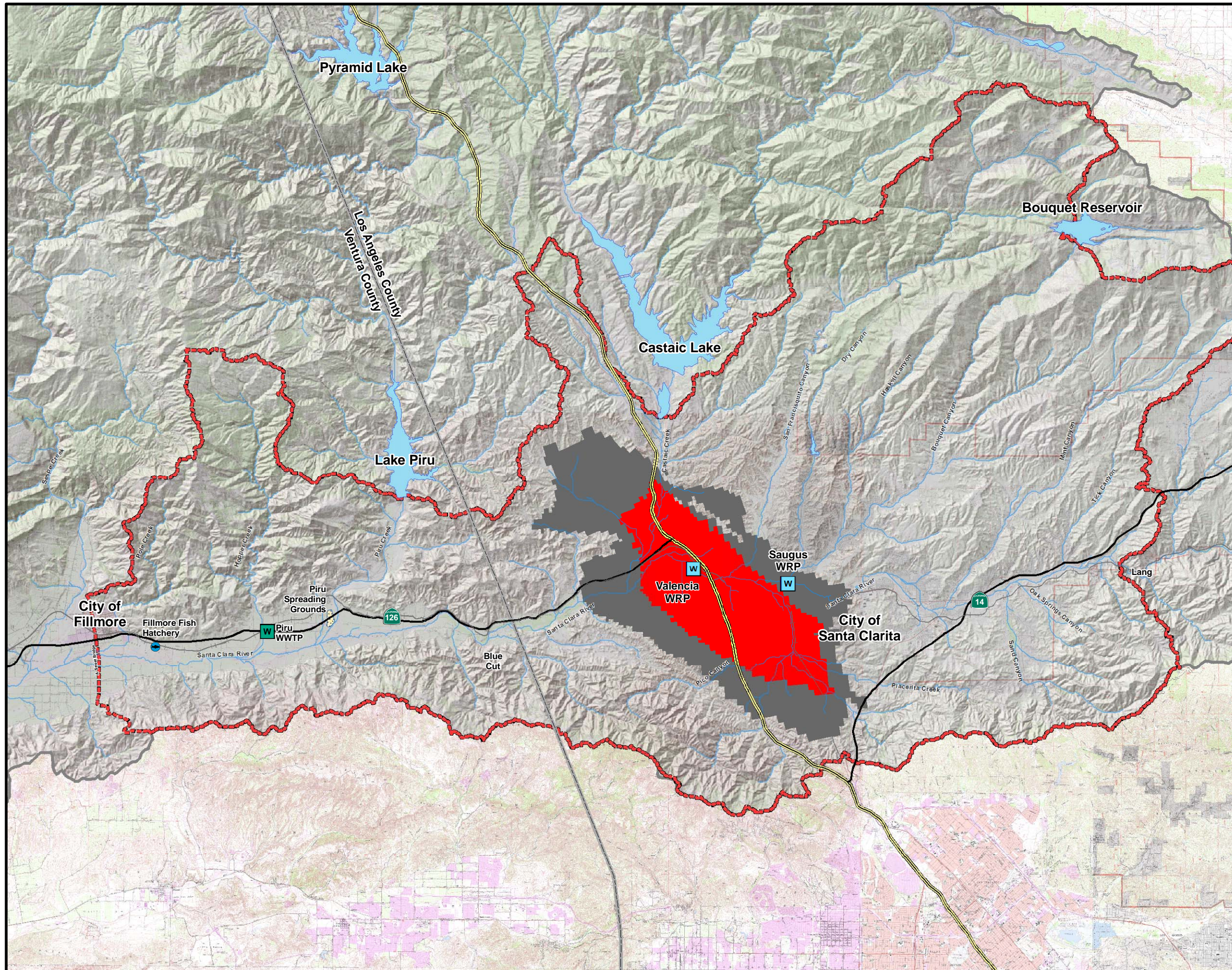


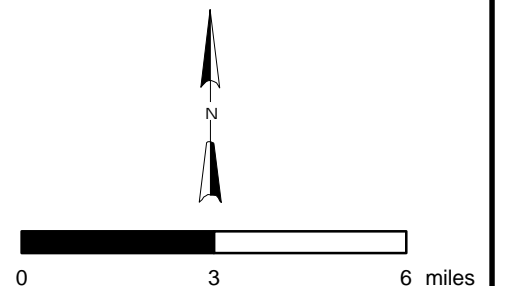
FIGURE 3-28
HORIZONTAL HYDRAULIC CONDUCTIVITY – MODEL LAYER 5
 TASK 2B-1 – NUMERICAL MODEL DEVELOPMENT AND SCENARIO RESULTS
 UPPER SANTA CLARA RIVER CHLORIDE TMDL COLLABORATIVE PROCESS

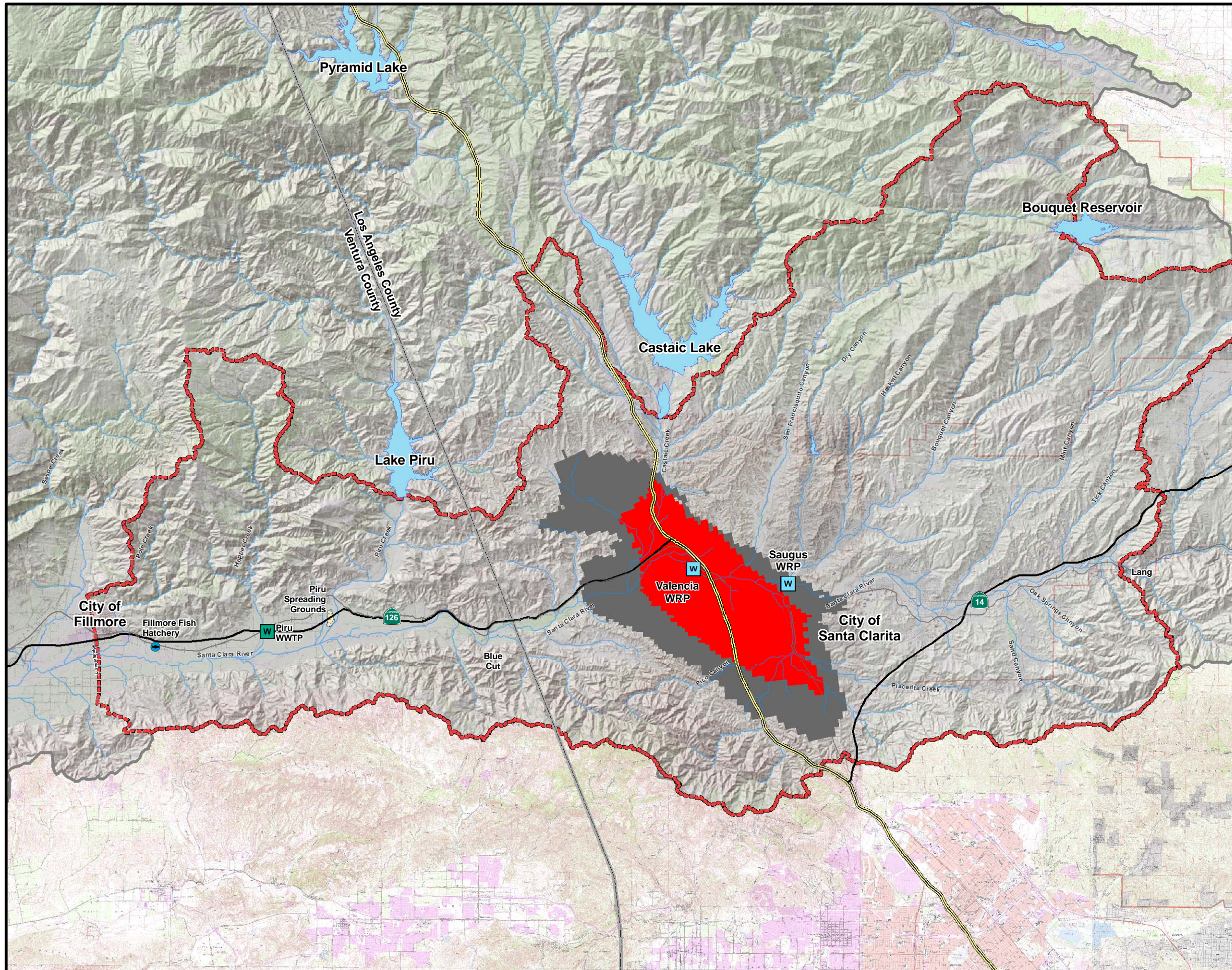


LEGEND

- GSWI STUDY AREA
- SANTA CLARA RIVER WATERSHED
- STREAM
- TRANSPORTATION**
- INTERSTATE
- STATE HIGHWAY
- RAILROAD
- HYDRAULIC CONDUCTIVITY (feet/day)**
- Up to 1
- 1 to 10
- 10 to 100
- 100 to 200
- 200 to 300
- 300 to 400
- 400 to 500
- 500 and above

FIGURE 3-29
HORIZONTAL HYDRAULIC CONDUCTIVITY – MODEL LAYER 6
 TASK 2B-1 – NUMERICAL MODEL DEVELOPMENT AND SCENARIO RESULTS
 UPPER SANTA CLARA RIVER CHLORIDE TMDL COLLABORATIVE PROCESS

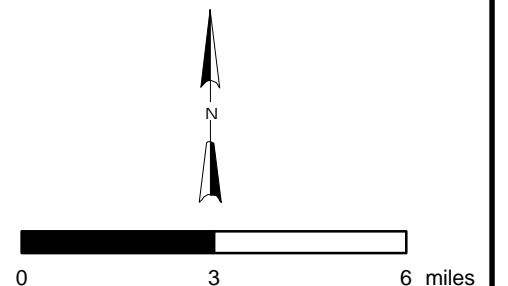


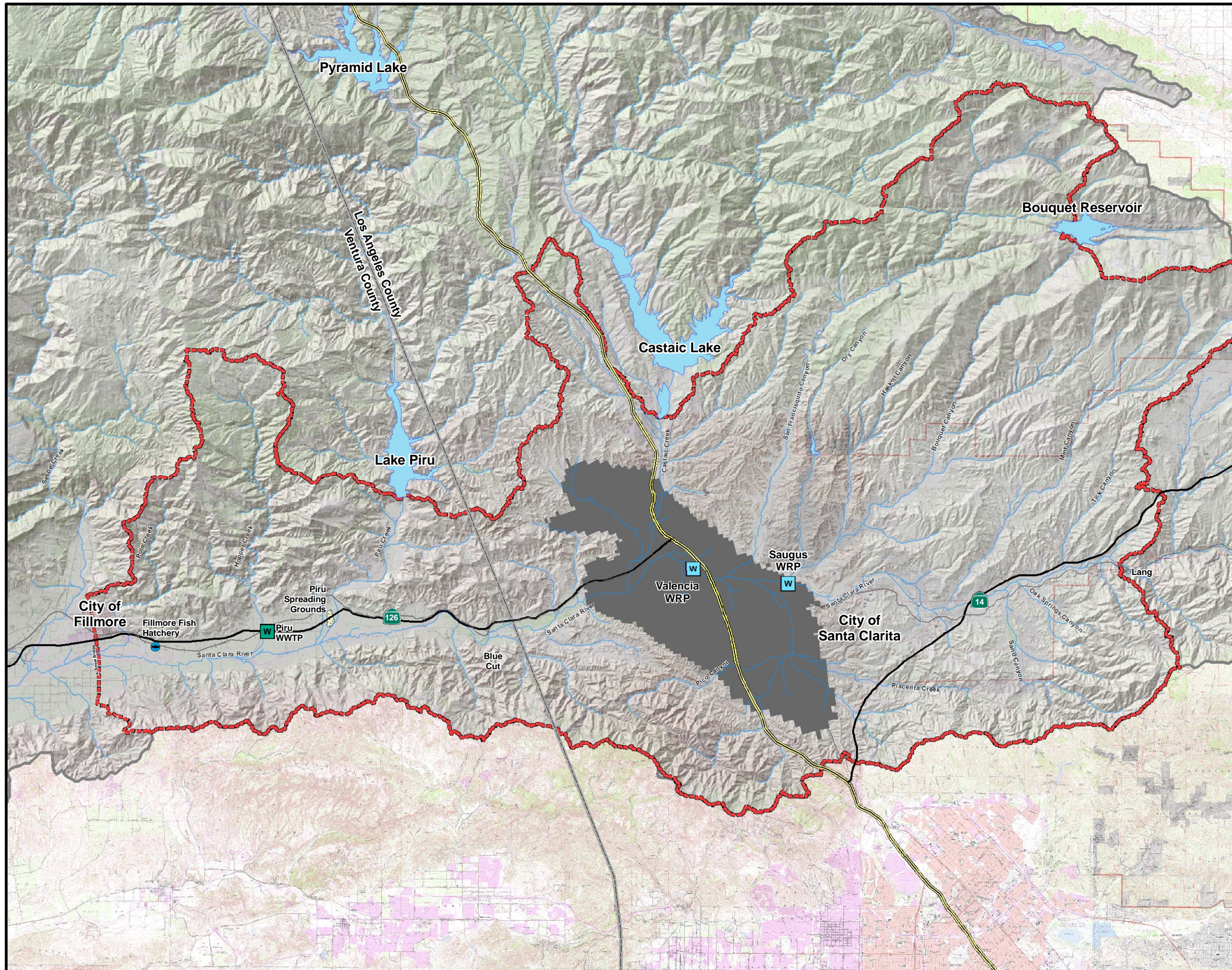


LEGEND

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- STREAM
- TRANSPORTATION**
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- STATE HIGHWAY
- RAILROAD
- HYDRAULIC CONDUCTIVITY (feet/day)**
- Up to 1
- 1 to 10
- 10 to 100
- 100 to 200
- 200 to 300
- 300 to 400
- 400 to 500
- 500 and above

FIGURE 3-30
HORIZONTAL HYDRAULIC
CONDUCTIVITY – MODEL LAYER 7
 TASK 2B-1 – NUMERICAL MODEL DEVELOPMENT
 AND SCENARIO RESULTS
 UPPER SANTA CLARA RIVER CHLORIDE
 TMDL COLLABORATIVE PROCESS





LEGEND

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- SANTA CLARA RIVER WATERSHED
- STREAM

TRANSPORTATION

- INTERSTATE
- STATE HIGHWAY
- RAILROAD

HYDRAULIC CONDUCTIVITY (feet/day)

- Up to 1
- 1 to 10
- 10 to 100
- 100 to 200
- 200 to 300
- 300 to 400
- 400 to 500
- 500 and above

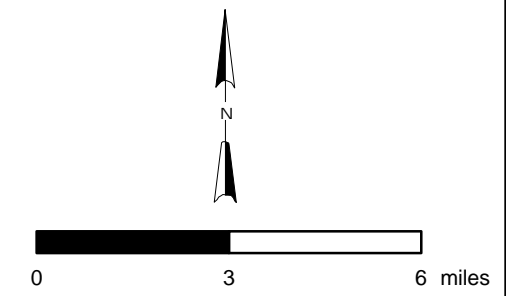
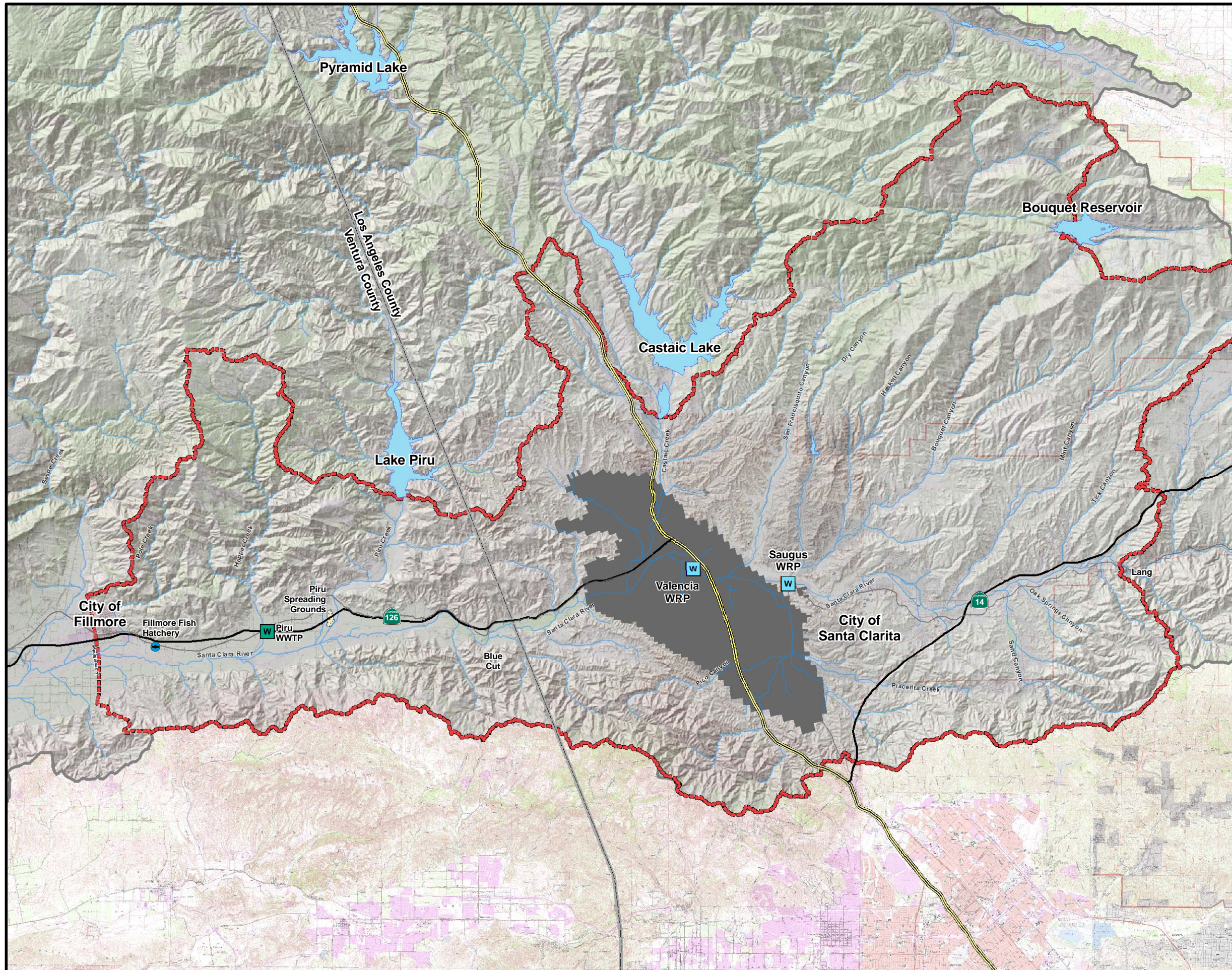


FIGURE 3-31
HORIZONTAL HYDRAULIC CONDUCTIVITY – MODEL LAYER 8
 TASK 2B-1 – NUMERICAL MODEL DEVELOPMENT AND SCENARIO RESULTS
 UPPER SANTA CLARA RIVER CHLORIDE TMDL COLLABORATIVE PROCESS



LEGEND

- GSWI STUDY AREA
- SANTA CLARA RIVER WATERSHED
- STREAM

TRANSPORTATION

- INTERSTATE
- STATE HIGHWAY
- RAILROAD

HYDRAULIC CONDUCTIVITY (feet/day)

- Up to 1
- 1 to 10
- 10 to 100
- 100 to 200
- 200 to 300
- 300 to 400
- 400 to 500
- 500 and above

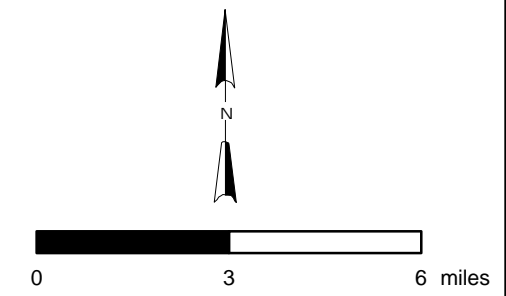
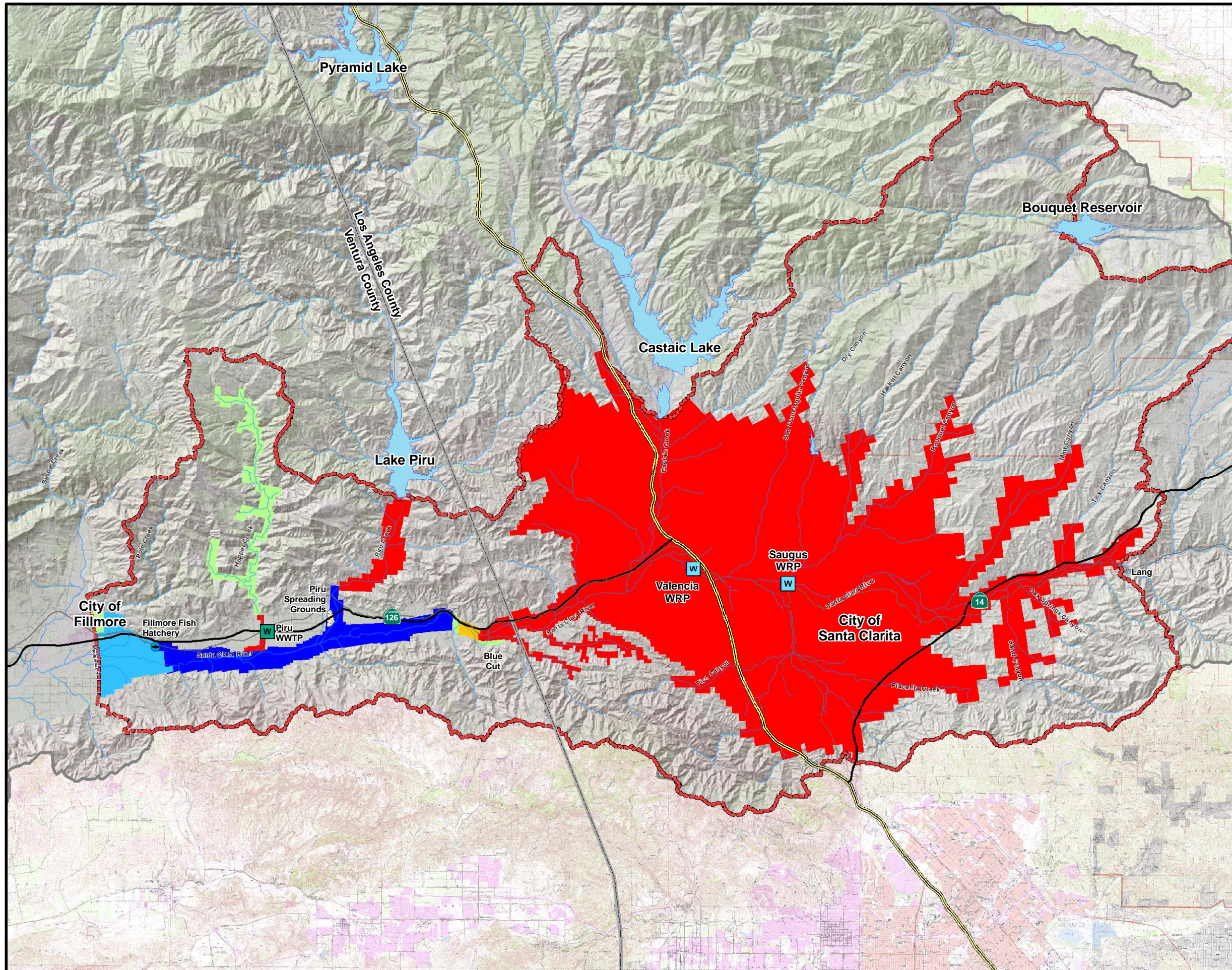


FIGURE 3-32
HORIZONTAL HYDRAULIC CONDUCTIVITY – MODEL LAYER 9
 TASK 2B-1 – NUMERICAL MODEL DEVELOPMENT AND SCENARIO RESULTS
 UPPER SANTA CLARA RIVER CHLORIDE TMDL COLLABORATIVE PROCESS



LEGEND

- GSWI STUDY AREA
- SANTA CLARA RIVER WATERSHED
- STREAM

TRANSPORTATION

- INTERSTATE
- STATE HIGHWAY
- RAILROAD

VERTICAL LEAKANCE (1/day)

- 0.000000 to 0.021888
- 0.021889 to 0.065664
- 0.065665 to 0.135092
- 0.135093 to 0.354593
- 0.354594 to 1.181952

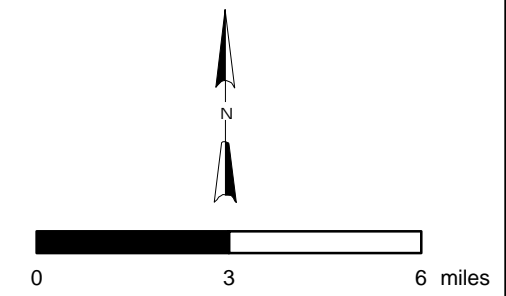
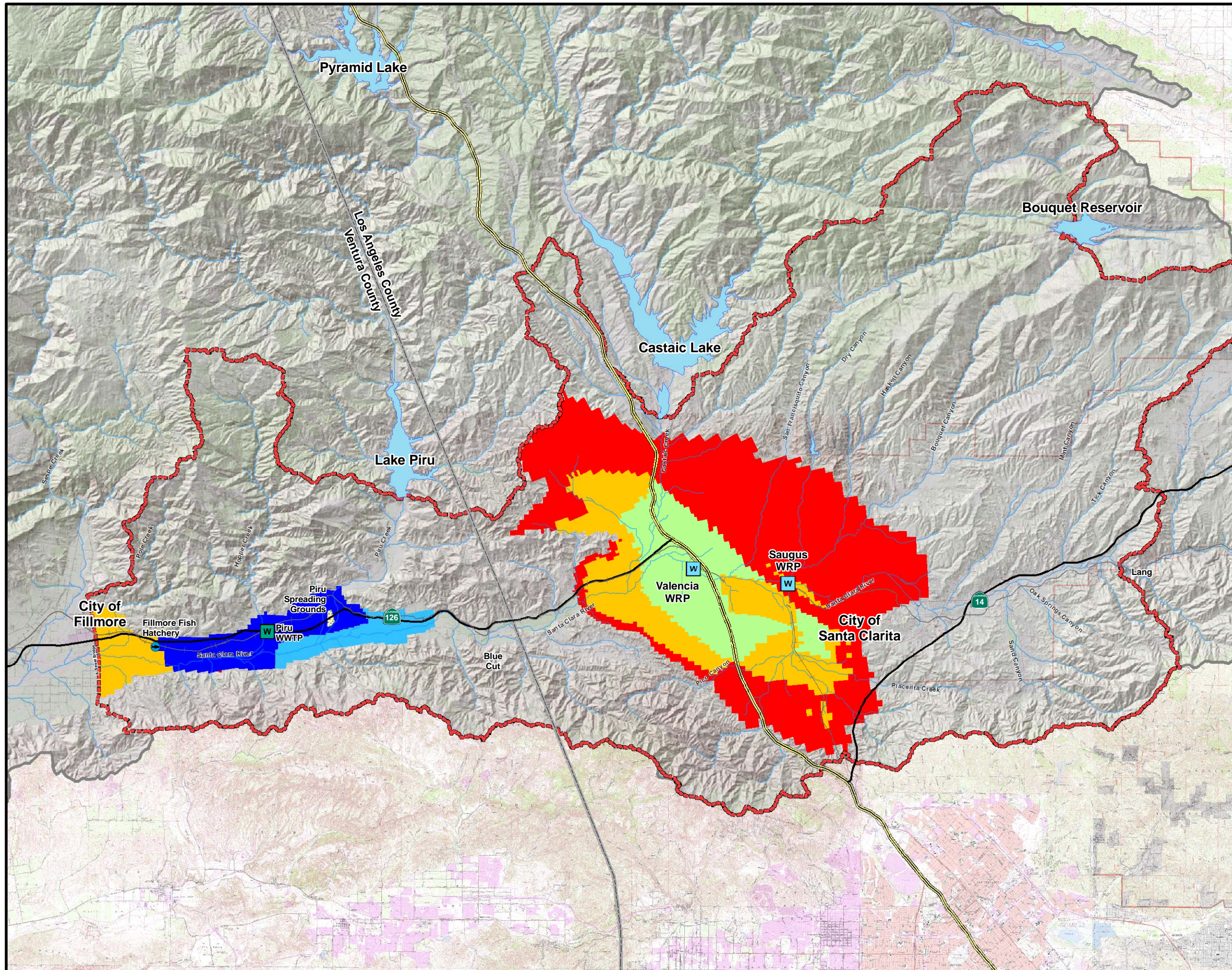


FIGURE 3-33
VERTICAL LEAKANCE BELOW
MODEL LAYER 3
 TASK 2B-1 – NUMERICAL MODEL DEVELOPMENT
 AND SCENARIO RESULTS
 UPPER SANTA CLARA RIVER CHLORIDE
 TMDL COLLABORATIVE PROCESS



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- SANTA CLARA RIVER WATERSHED
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- RAILROAD

VERTICAL LEAKANCE (1/day)

- 0.000000 to 0.000027
- 0.000028 to 0.000150
- 0.000151 to 0.000356
- 0.000357 to 0.002330
- 0.002331 to 0.017673

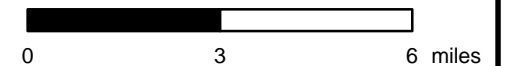
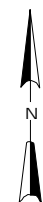
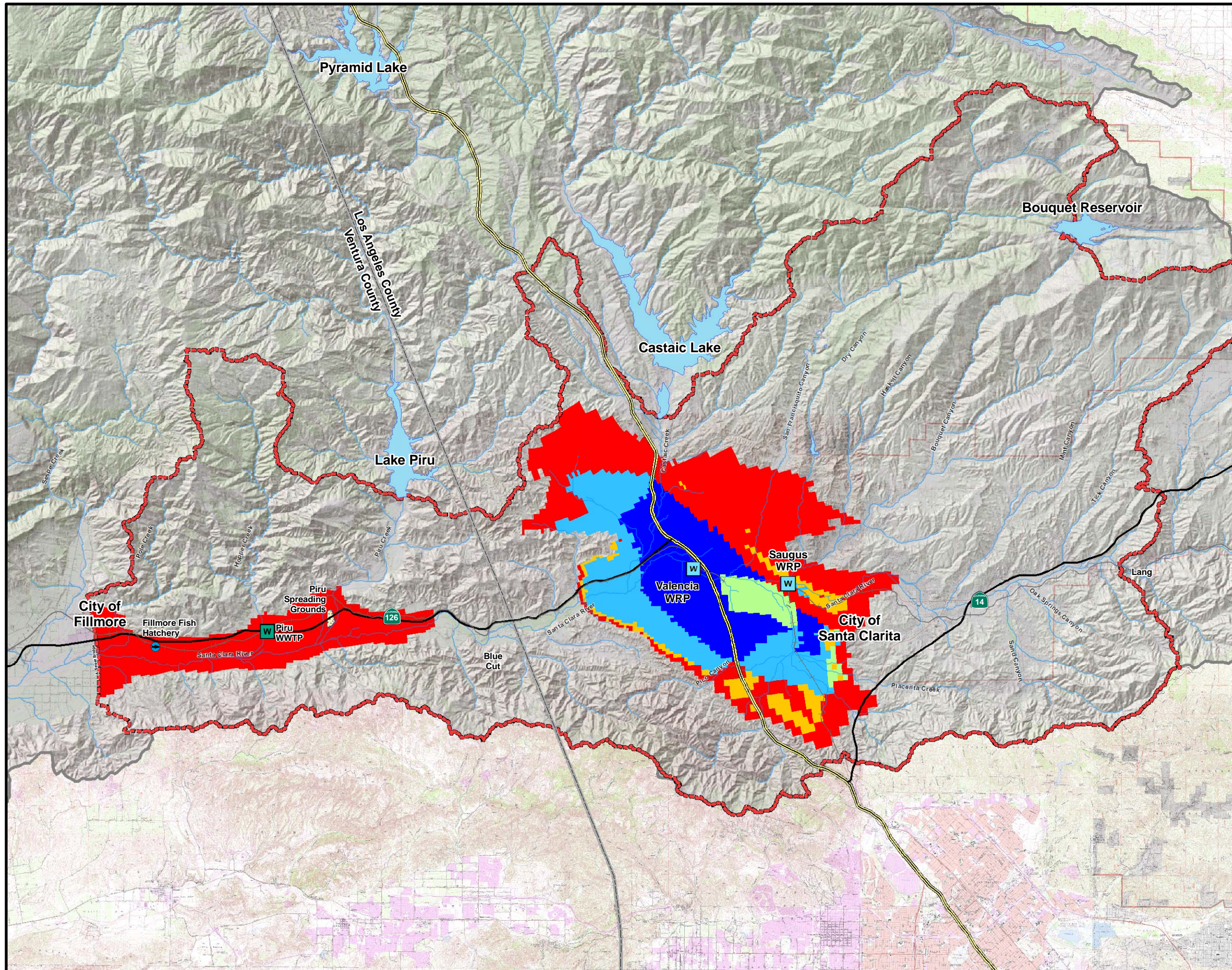


FIGURE 3-34
VERTICAL LEAKANCE BELOW
MODEL LAYER 4
 TASK 2B-1 – NUMERICAL MODEL DEVELOPMENT
 AND SCENARIO RESULTS
 UPPER SANTA CLARA RIVER CHLORIDE
 TMDL COLLABORATIVE PROCESS



LEGEND

- GSWI STUDY AREA
- SANTA CLARA RIVER WATERSHED
- STREAM

TRANSPORTATION

- INTERSTATE
- STATE HIGHWAY
- RAILROAD

VERTICAL LEAKANCE (1/day)

- 0.000000 to 0.000002
- 0.000003 to 0.000012
- 0.000013 to 0.000033
- 0.000034 to 0.000099
- 0.000100 to 0.000198

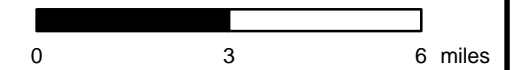
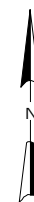


FIGURE 3-35
VERTICAL LEAKANCE BELOW
MODEL LAYER 5
 TASK 2B-1 – NUMERICAL MODEL DEVELOPMENT
 AND SCENARIO RESULTS
 UPPER SANTA CLARA RIVER CHLORIDE
 TMDL COLLABORATIVE PROCESS

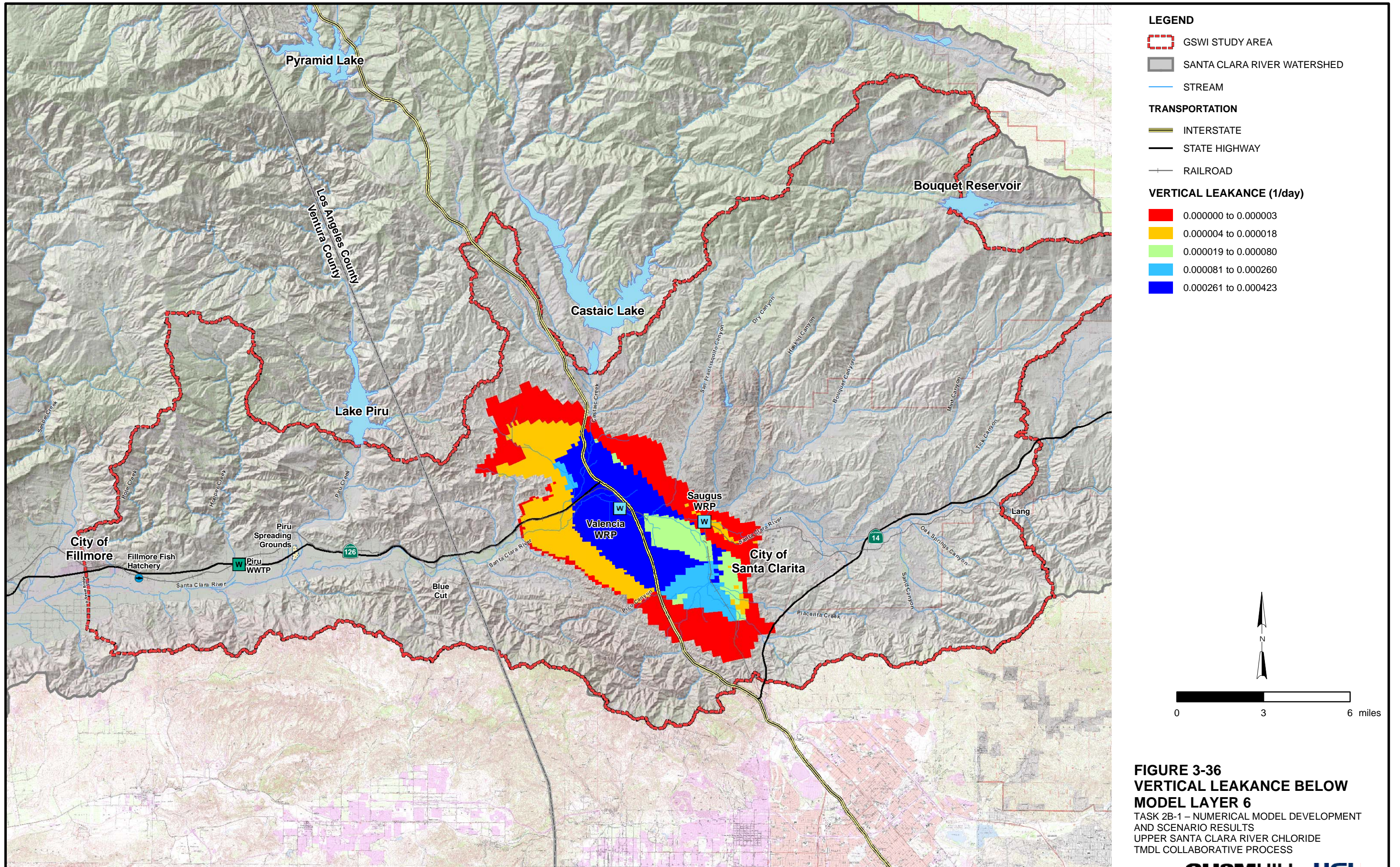
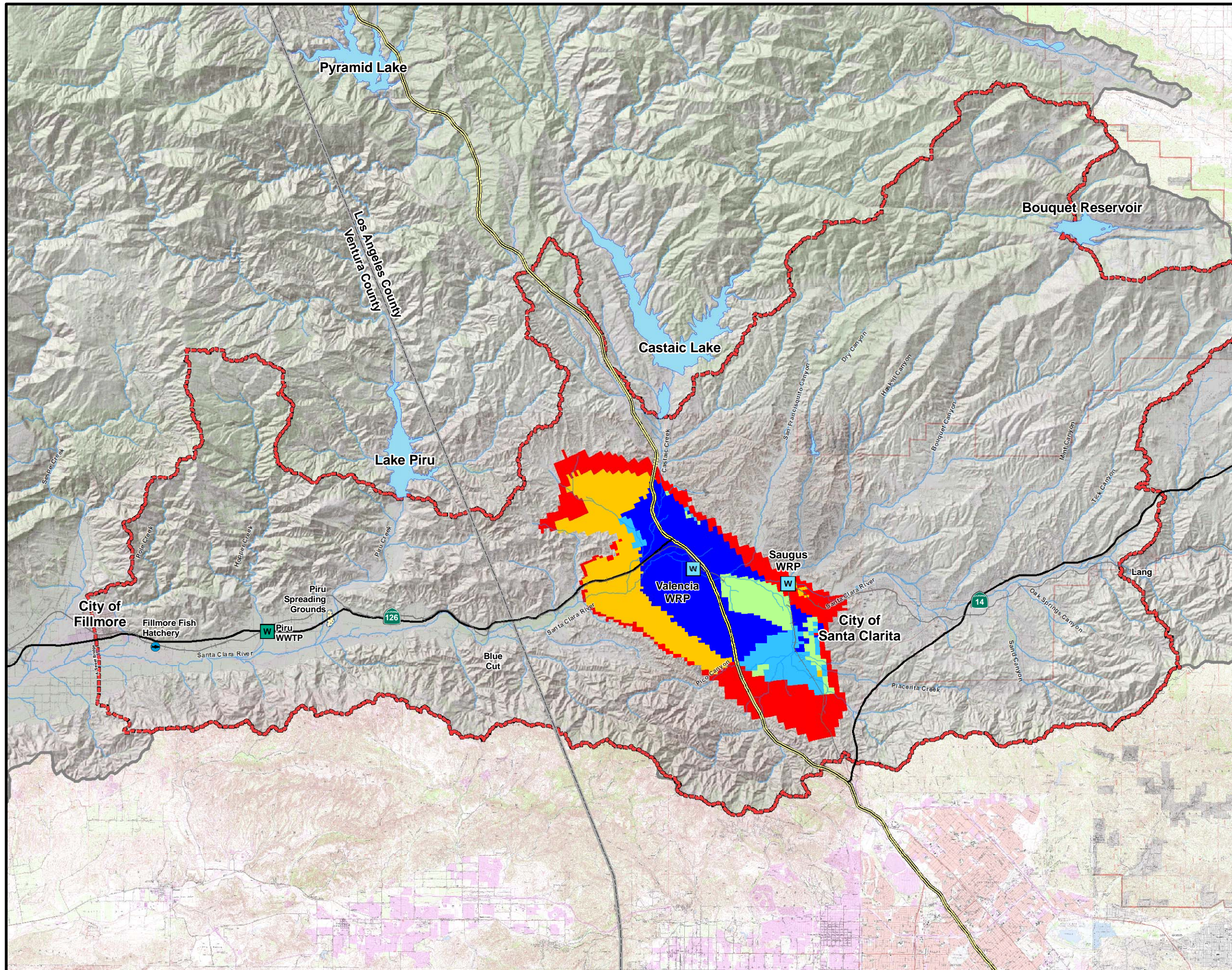


FIGURE 3-36
VERTICAL LEAKANCE BELOW
MODEL LAYER 6
 TASK 2B-1 – NUMERICAL MODEL DEVELOPMENT
 AND SCENARIO RESULTS
 UPPER SANTA CLARA RIVER CHLORIDE
 TMDL COLLABORATIVE PROCESS



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- GSWI STUDY AREA
- SANTA CLARA RIVER WATERSHED
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TRANSPORTATION

- INTERSTATE
- STATE HIGHWAY
- RAILROAD

VERTICAL LEAKANCE (1/day)

- 0.000000 to 0.000002
- 0.000003 to 0.000007
- 0.000008 to 0.000024
- 0.000025 to 0.000047
- 0.000048 to 0.000081

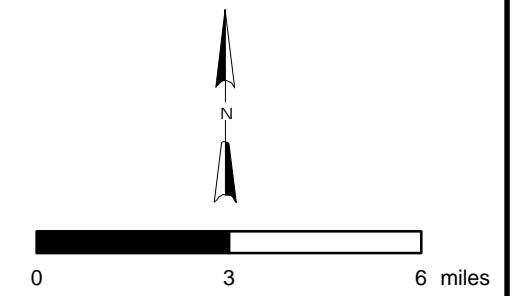
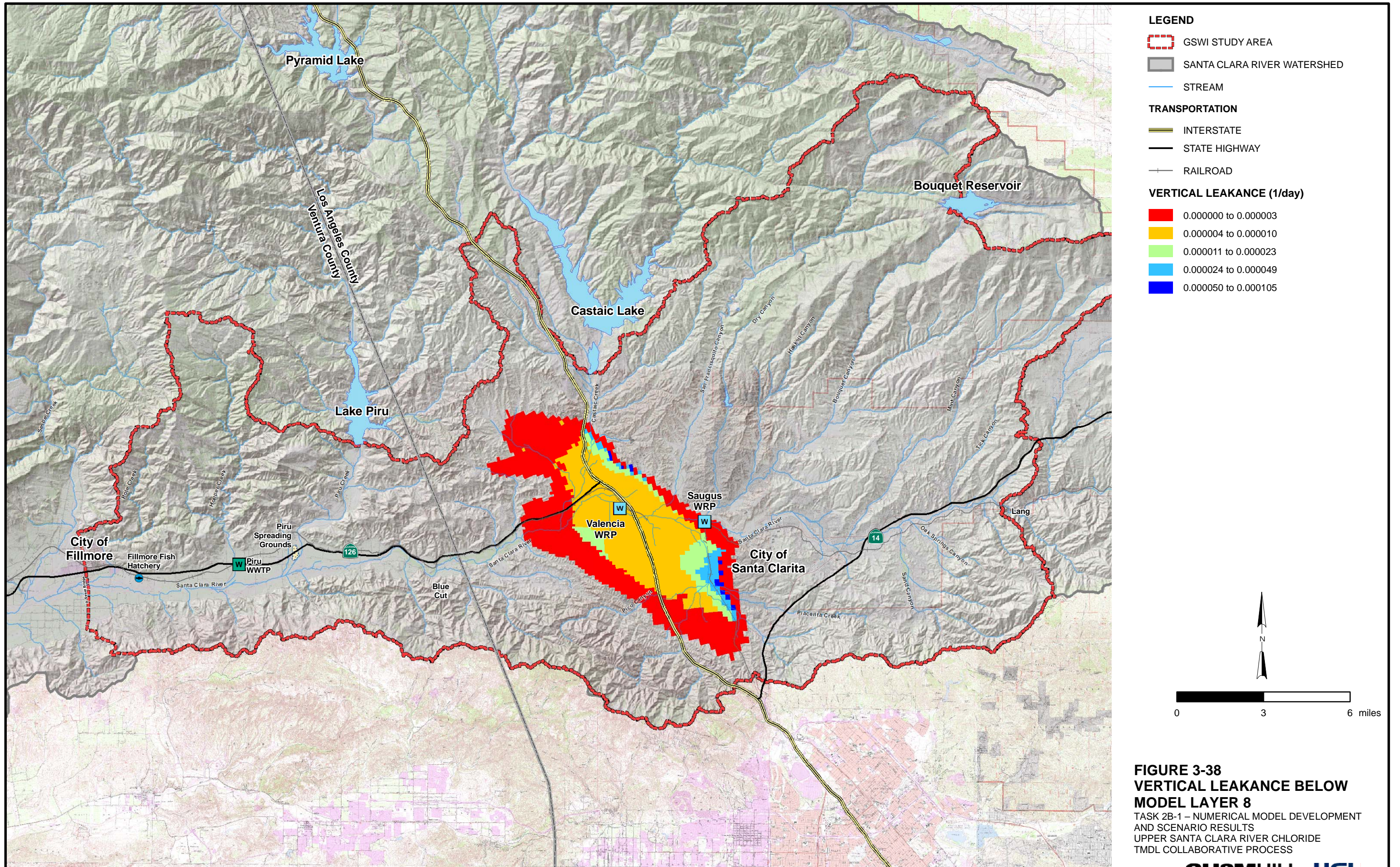
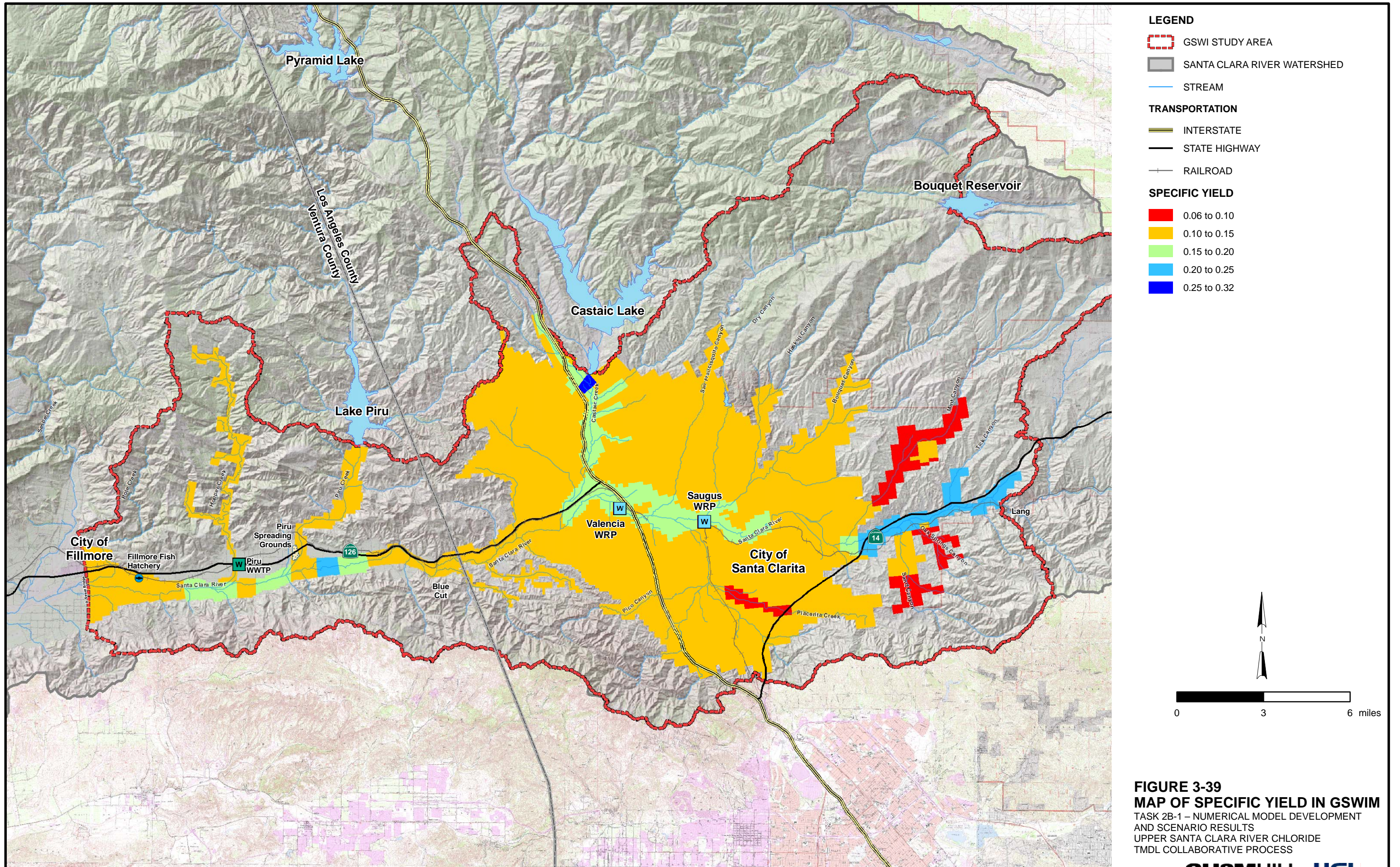


FIGURE 3-37
VERTICAL LEAKANCE BELOW
MODEL LAYER 7
 TASK 2B-1 – NUMERICAL MODEL DEVELOPMENT
 AND SCENARIO RESULTS
 UPPER SANTA CLARA RIVER CHLORIDE
 TMDL COLLABORATIVE PROCESS





LEGEND

- GSWI STUDY AREA
- SANTA CLARA RIVER WATERSHED
- STREAM

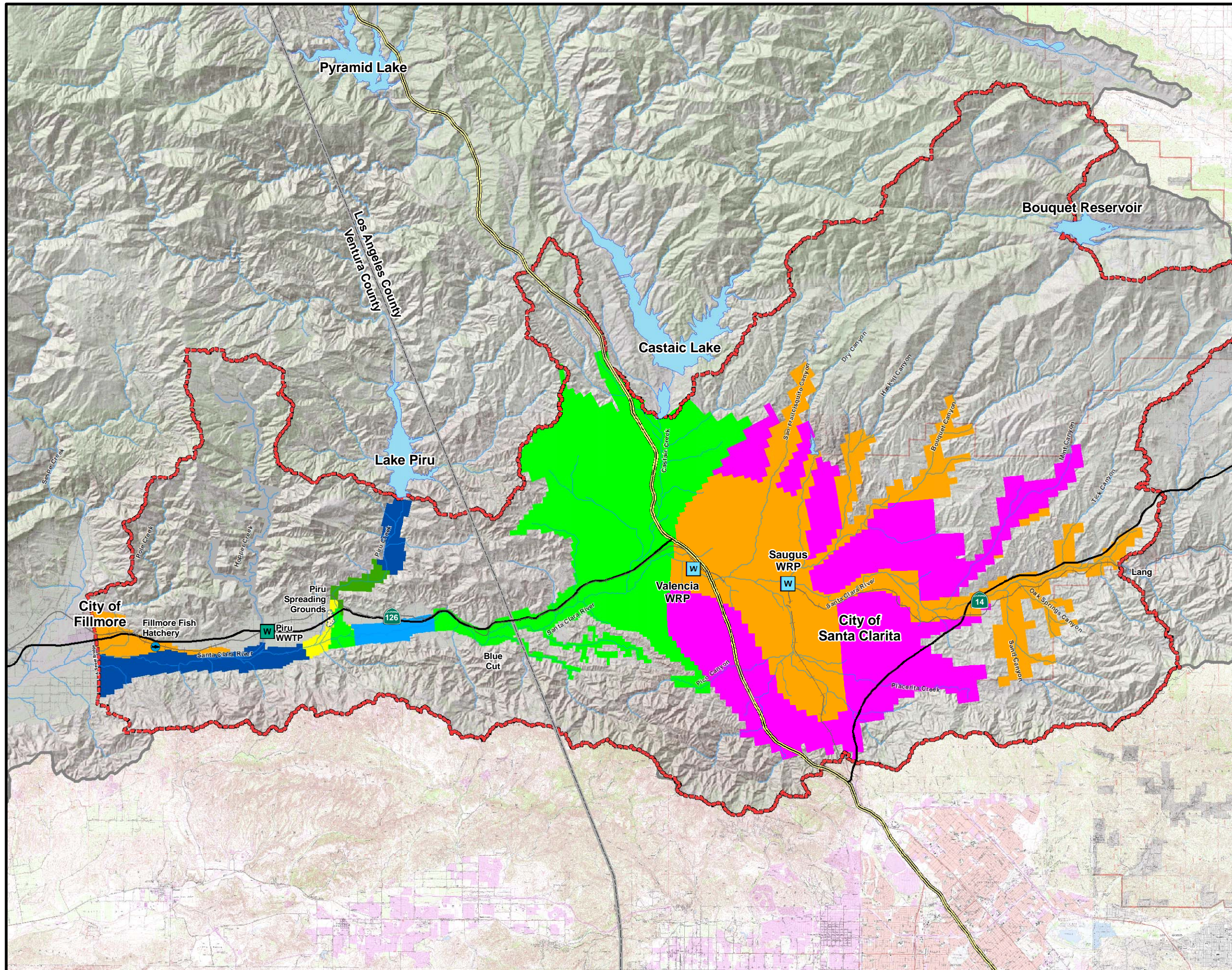
TRANSPORTATION

- INTERSTATE
- STATE HIGHWAY
- RAILROAD

SPECIFIC YIELD

- 0.06 to 0.10
- 0.10 to 0.15
- 0.15 to 0.20
- 0.20 to 0.25
- 0.25 to 0.32

FIGURE 3-39
MAP OF SPECIFIC YIELD IN GSWIM
 TASK 2B-1 – NUMERICAL MODEL DEVELOPMENT
 AND SCENARIO RESULTS
 UPPER SANTA CLARA RIVER CHLORIDE
 TMDL COLLABORATIVE PROCESS



LEGEND

- GSWI STUDY AREA
- SANTA CLARA RIVER WATERSHED
- STREAM
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- STATE HIGHWAY
- RAILROAD

INITIAL CHLORIDE CONCENTRATION (mg/L)

- Up to 20
- 20 to 40
- 40 to 60
- 60 to 80
- 80 to 100
- 100 to 120
- 120 to 140
- 140 to 160
- 160 to 180
- 180 to 200

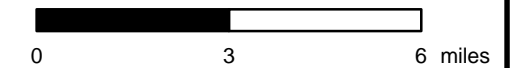
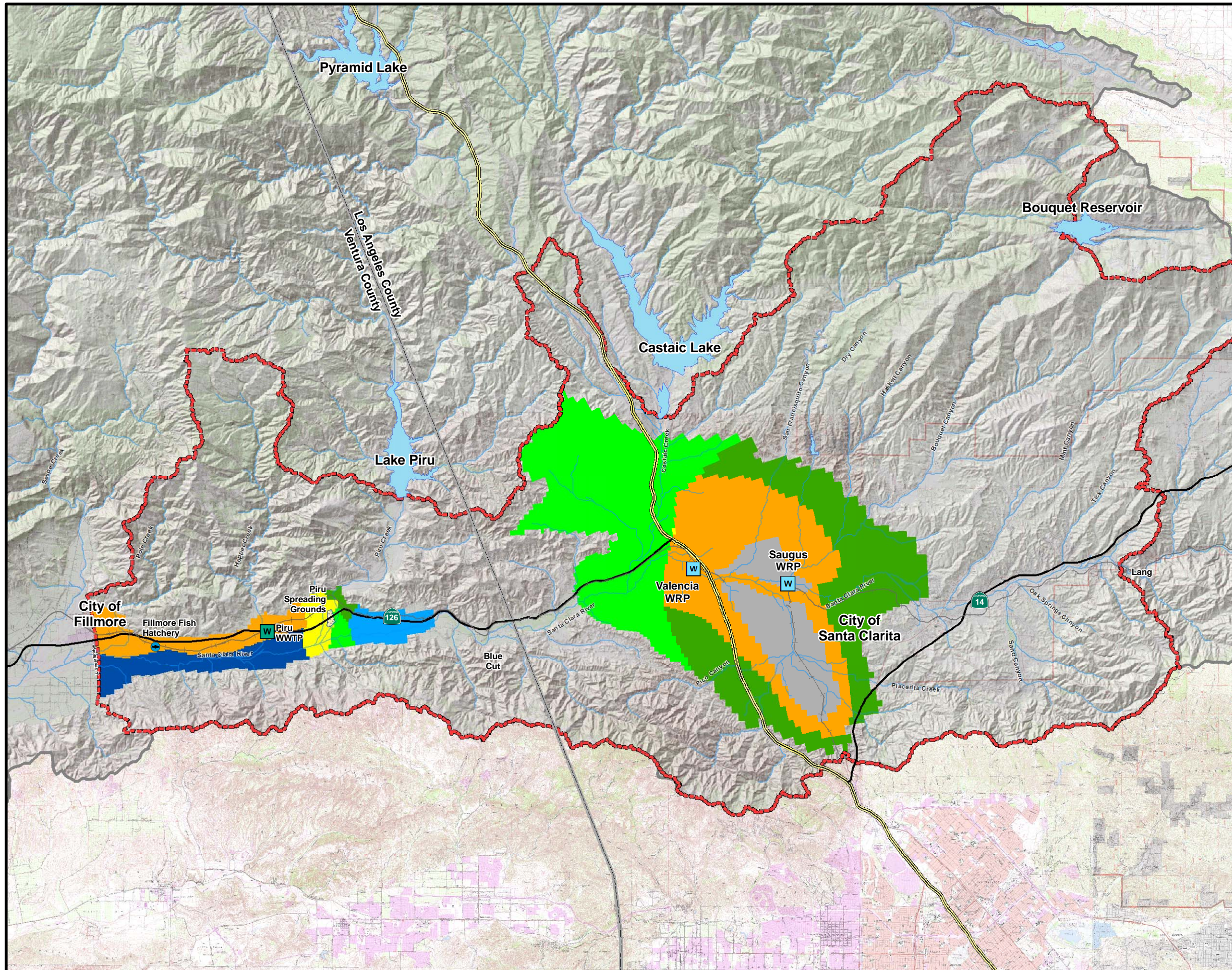


FIGURE 3-40
INITIAL CHLORIDE CONDITIONS
IN MODEL LAYER 3
 TASK 2B-1 – NUMERICAL MODEL DEVELOPMENT
 AND SCENARIO RESULTS
 UPPER SANTA CLARA RIVER CHLORIDE
 TMDL COLLABORATIVE PROCESS



LEGEND

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- SANTA CLARA RIVER WATERSHED
- STREAM

TRANSPORTATION

- INTERSTATE
- STATE HIGHWAY
- RAILROAD

INITIAL CHLORIDE CONCENTRATION (mg/L)

- Up to 20
- 20 to 40
- 40 to 60
- 60 to 80
- 80 to 100
- 100 to 120
- 120 to 140
- 140 to 160
- 160 to 180
- 180 to 200

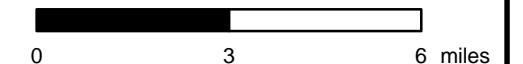
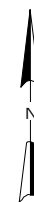
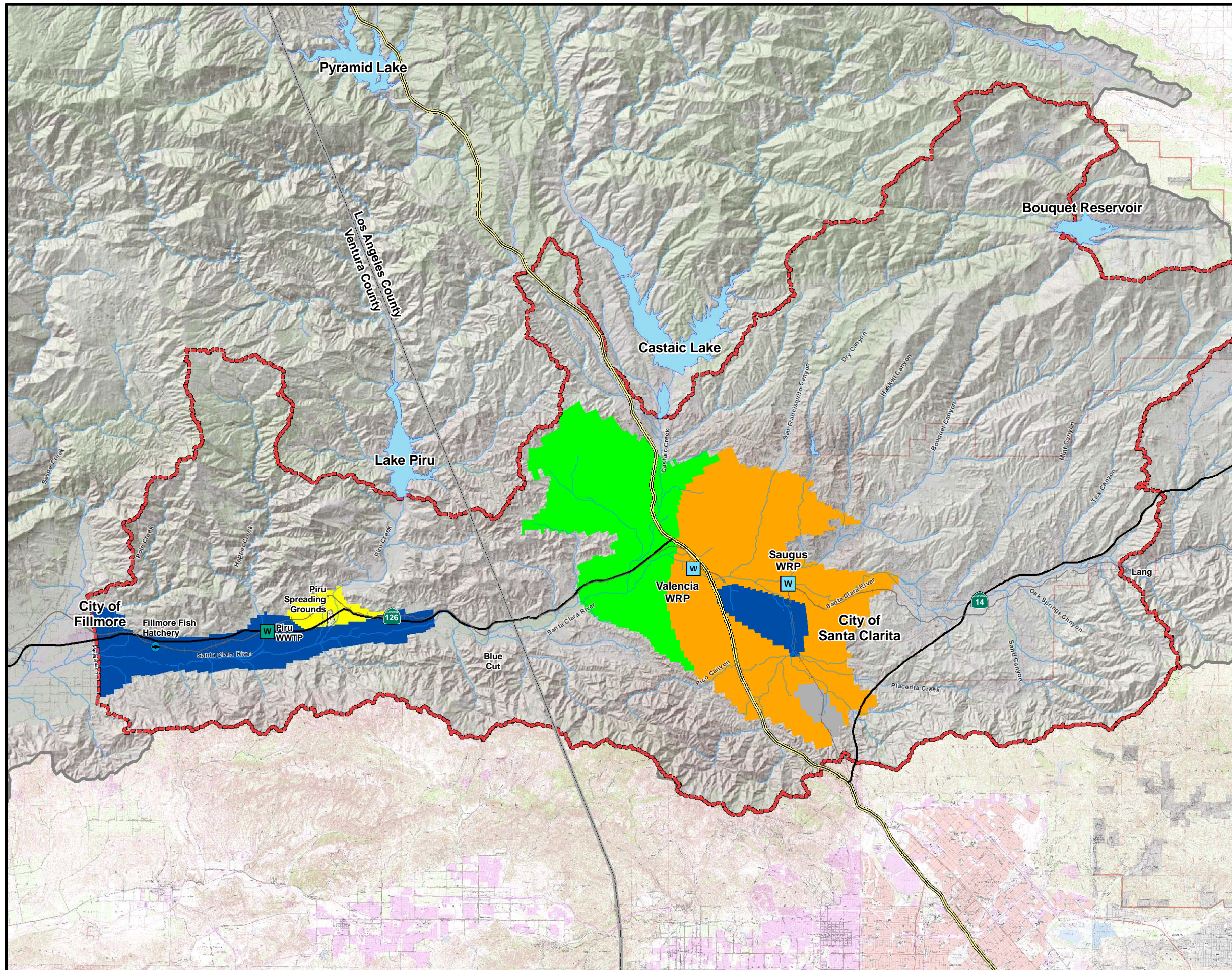


FIGURE 3-41
INITIAL CHLORIDE CONDITIONS
IN MODEL LAYER 4
 TASK 2B-1 – NUMERICAL MODEL DEVELOPMENT
 AND SCENARIO RESULTS
 UPPER SANTA CLARA RIVER CHLORIDE
 TMDL COLLABORATIVE PROCESS



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- RAILROAD

INITIAL CHLORIDE CONCENTRATION (mg/L)

- Up to 20
- 20 to 40
- 40 to 60
- 60 to 80
- 80 to 100
- 100 to 120
- 120 to 140
- 140 to 160
- 160 to 180
- 180 to 200

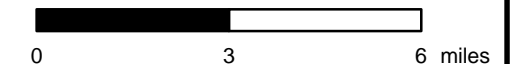
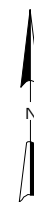
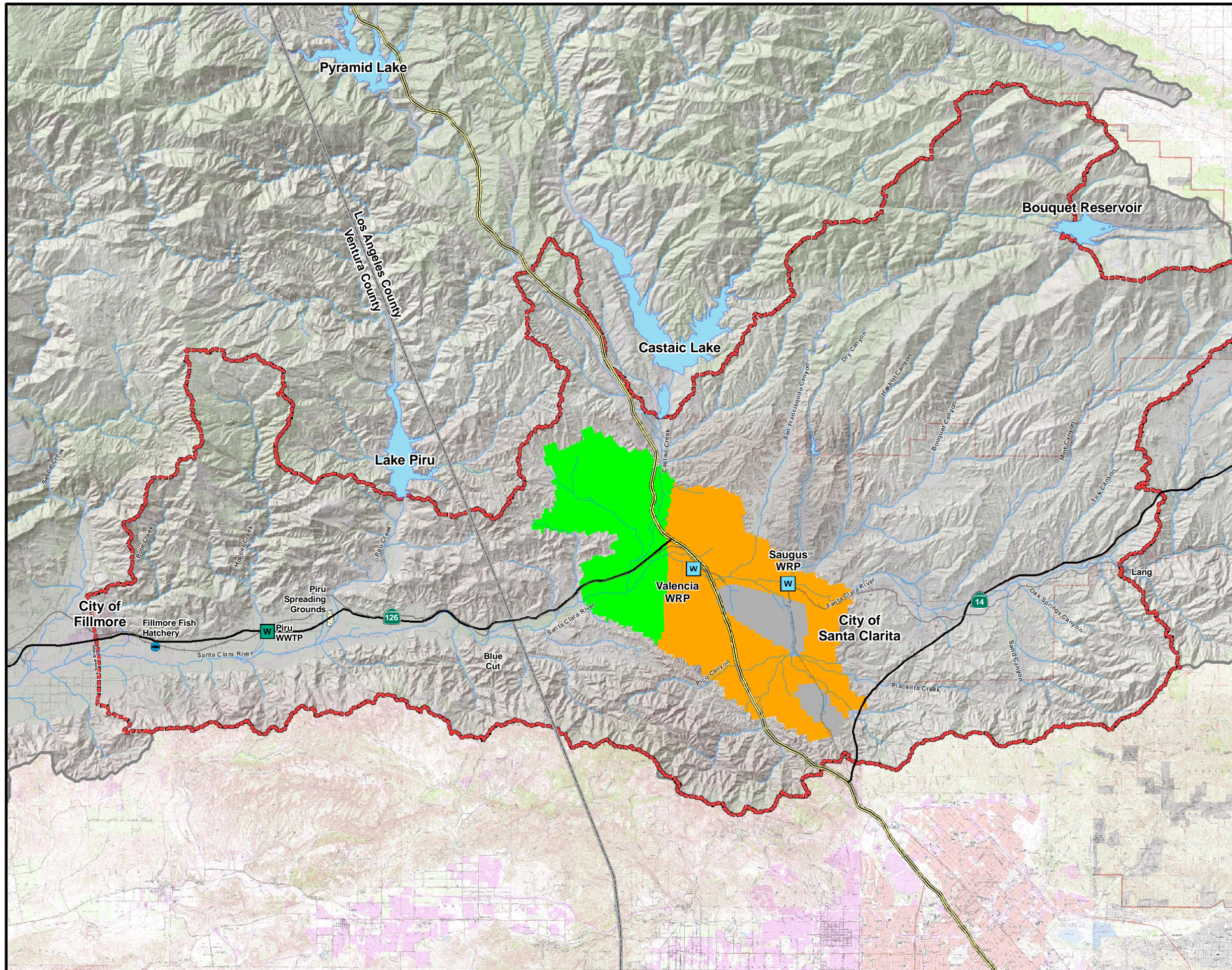


FIGURE 3-42
INITIAL CHLORIDE CONDITIONS
IN MODEL LAYER 5
 TASK 2B-1 – NUMERICAL MODEL DEVELOPMENT
 AND SCENARIO RESULTS
 UPPER SANTA CLARA RIVER CHLORIDE
 TMDL COLLABORATIVE PROCESS



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TRANSPORTATION

- INTERSTATE
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- RAILROAD

INITIAL CHLORIDE CONCENTRATION (mg/L)

- Up to 20
- 20 to 40
- 40 to 60
- 60 to 80
- 80 to 100
- 100 to 120
- 120 to 140
- 140 to 160
- 160 to 180
- 180 to 200

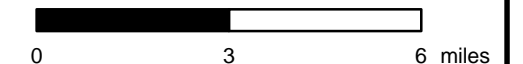
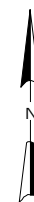
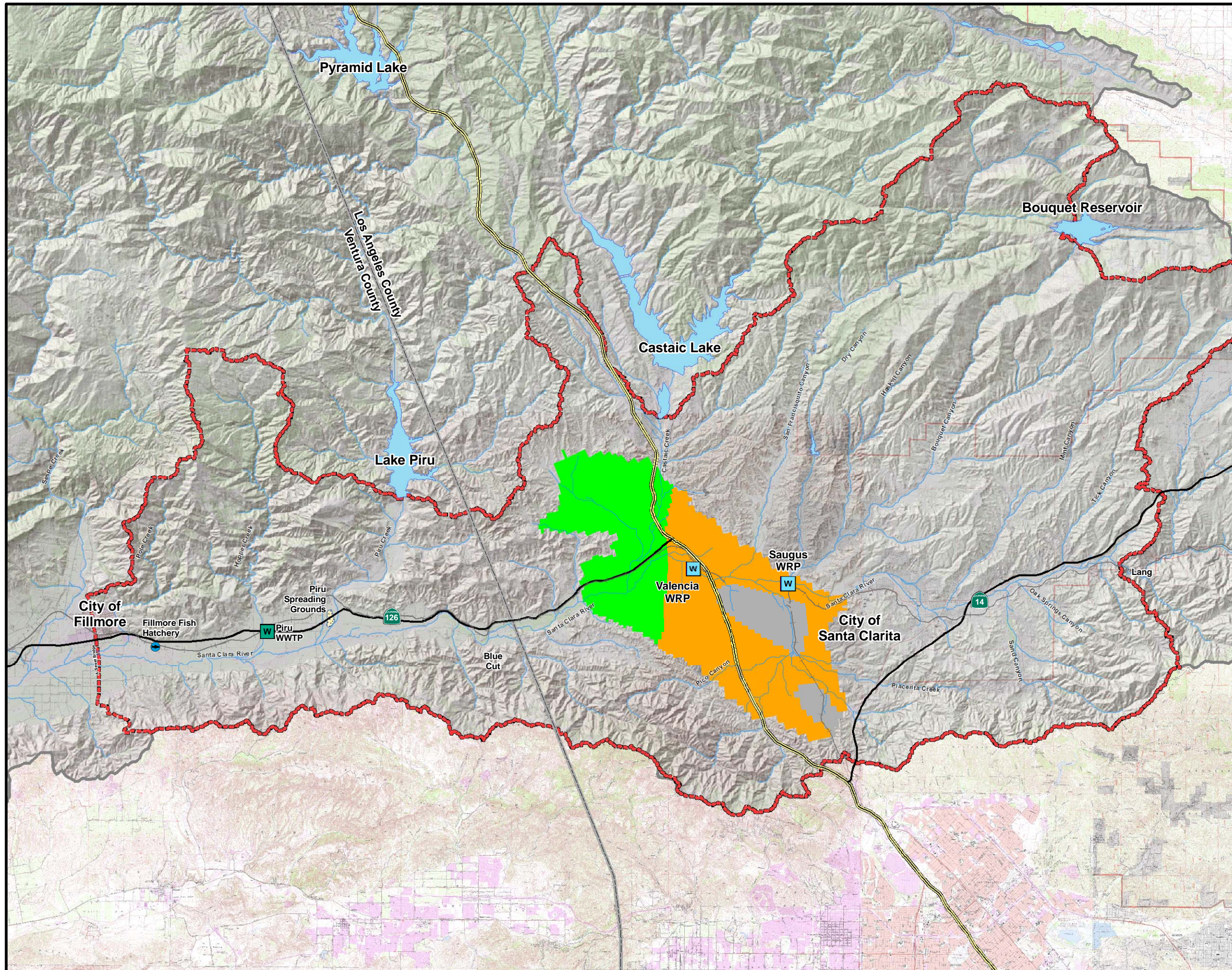


FIGURE 3-43
INITIAL CHLORIDE CONDITIONS
IN MODEL LAYER 6
 TASK 2B-1 – NUMERICAL MODEL DEVELOPMENT
 AND SCENARIO RESULTS
 UPPER SANTA CLARA RIVER CHLORIDE
 TMDL COLLABORATIVE PROCESS



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- SANTA CLARA RIVER WATERSHED
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TRANSPORTATION

- INTERSTATE
- STATE HIGHWAY
- RAILROAD

INITIAL CHLORIDE CONCENTRATION (mg/L)

- Up to 20
- 20 to 40
- 40 to 60
- 60 to 80
- 80 to 100
- 100 to 120
- 120 to 140
- 140 to 160
- 160 to 180
- 180 to 200

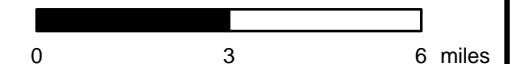
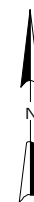
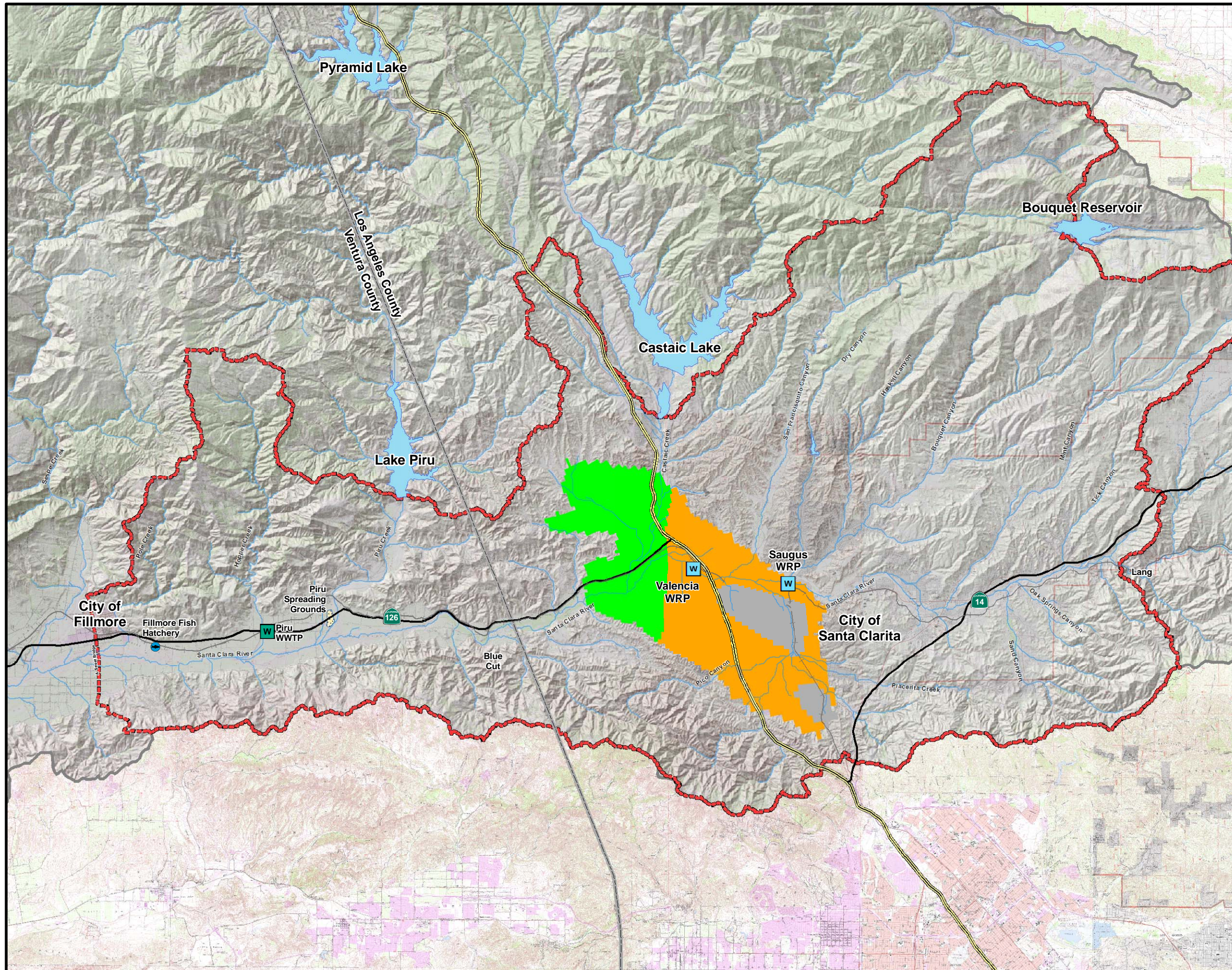


FIGURE 3-44
INITIAL CHLORIDE CONDITIONS
IN MODEL LAYER 7
 TASK 2B-1 – NUMERICAL MODEL DEVELOPMENT
 AND SCENARIO RESULTS
 UPPER SANTA CLARA RIVER CHLORIDE
 TMDL COLLABORATIVE PROCESS



LEGEND

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TRANSPORTATION

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- RAILROAD

INITIAL CHLORIDE CONCENTRATION (mg/L)

- Up to 20
- 20 to 40
- 40 to 60
- 60 to 80
- 80 to 100
- 100 to 120
- 120 to 140
- 140 to 160
- 160 to 180
- 180 to 200

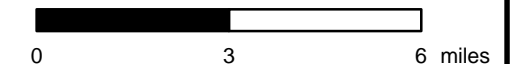
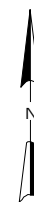
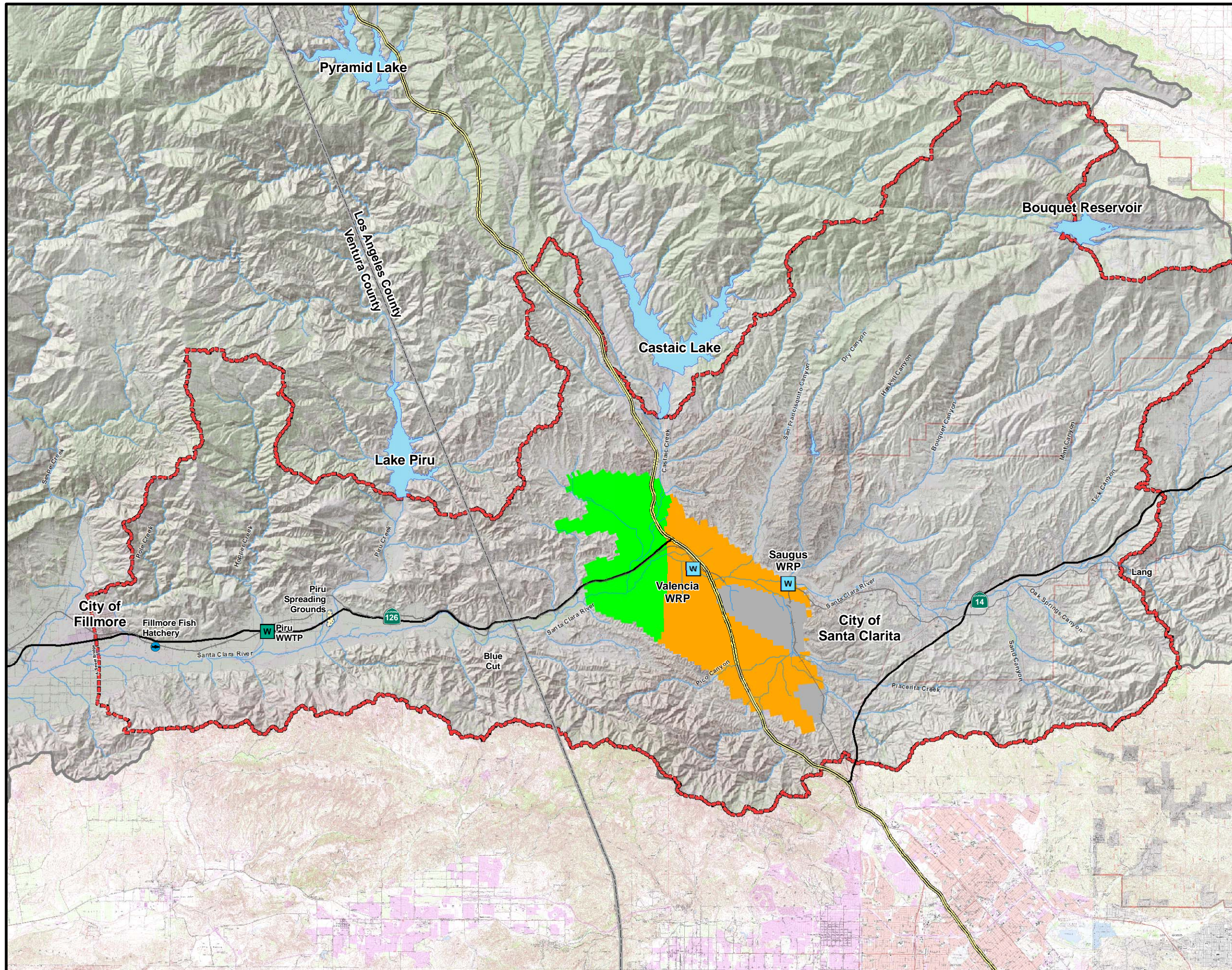


FIGURE 3-45
INITIAL CHLORIDE CONDITIONS
IN MODEL LAYER 8
 TASK 2B-1 – NUMERICAL MODEL DEVELOPMENT
 AND SCENARIO RESULTS
 UPPER SANTA CLARA RIVER CHLORIDE
 TMDL COLLABORATIVE PROCESS



LEGEND

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- STREAM

TRANSPORTATION

- INTERSTATE
- STATE HIGHWAY
- RAILROAD

INITIAL CHLORIDE CONCENTRATION (mg/L)

- Up to 20
- 20 to 40
- 40 to 60
- 60 to 80
- 80 to 100
- 100 to 120
- 120 to 140
- 140 to 160
- 160 to 180
- 180 to 200

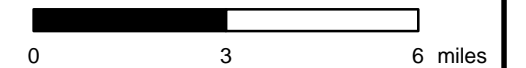
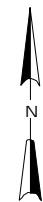
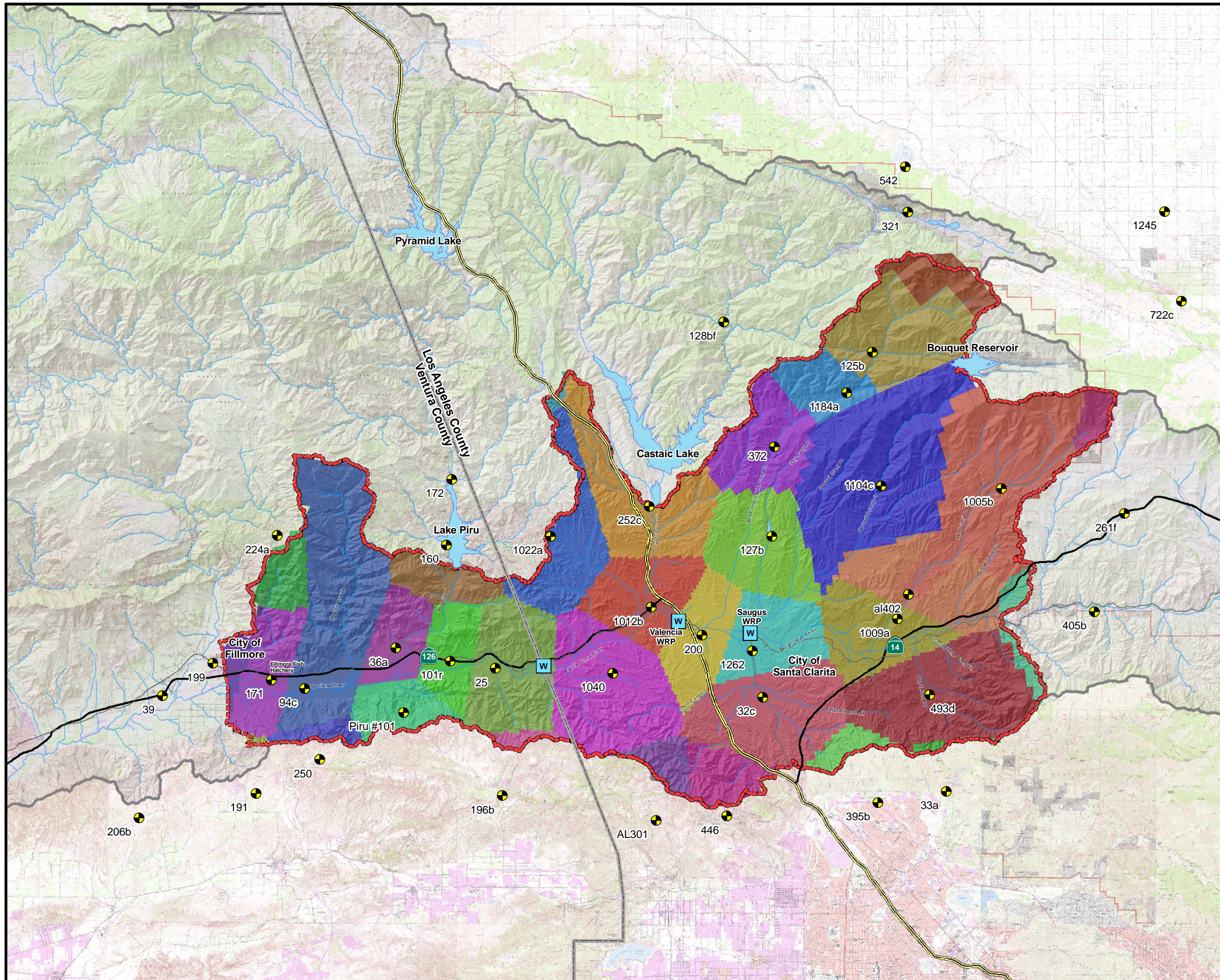







FIGURE 3-46
INITIAL CHLORIDE CONDITIONS
IN MODEL LAYER 9
 TASK 2B-1 – NUMERICAL MODEL DEVELOPMENT
 AND SCENARIO RESULTS
 UPPER SANTA CLARA RIVER CHLORIDE
 TMDL COLLABORATIVE PROCESS



LEGEND

-  RAIN GAGE
-  GSWI STUDY AREA
-  SANTA CLARA RIVER WATERSHED
-  STREAM
-  RAILROAD

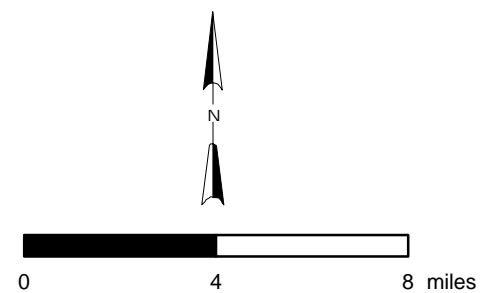
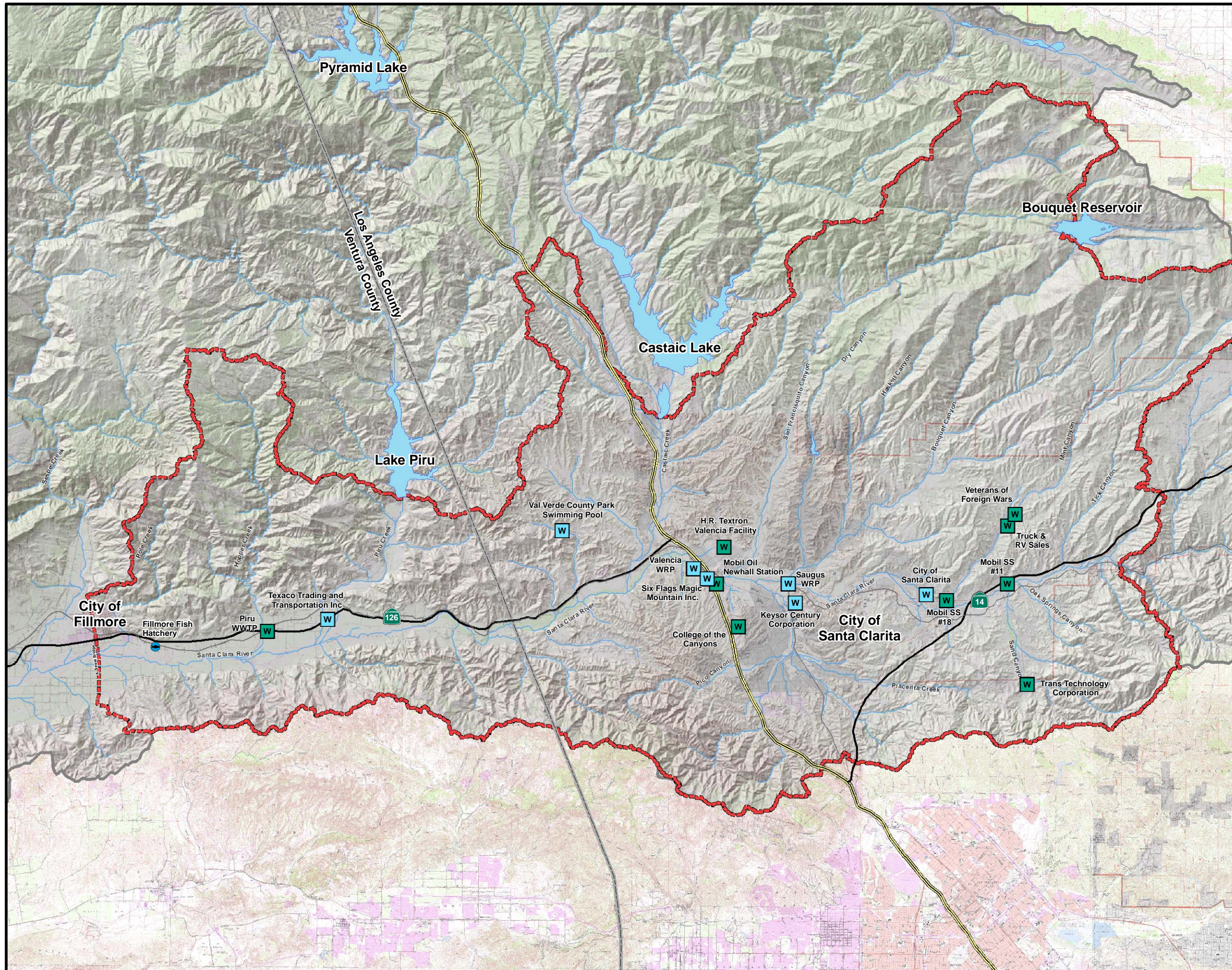


FIGURE 3-47
NEAREST-NEIGHBOR ZONES USED TO
SPATIALLY DISTRIBUTE THE MONTHLY
POINT-PRECIPITATION DATA
TO GSWIM GRID-BLOCKS
 TASK 2B-1 – NUMERICAL MODEL DEVELOPMENT
 AND SCENARIO RESULTS
 UPPER SANTA CLARA RIVER CHLORIDE
 TMDL COLLABORATIVE PROCESS



- LEGEND**
- GSWI STUDY AREA
 - SANTA CLARA RIVER WATERSHED
 - STREAM
- TRANSPORTATION**
- INTERSTATE
 - STATE HIGHWAY
 - RAILROAD
- POINT-SOURCE**
- SURFACE INDUSTRIAL POINT-SOURCE
 - SUBSURFACE INDUSTRIAL POINT-SOURCE

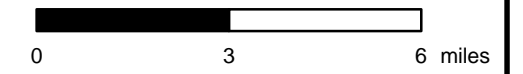
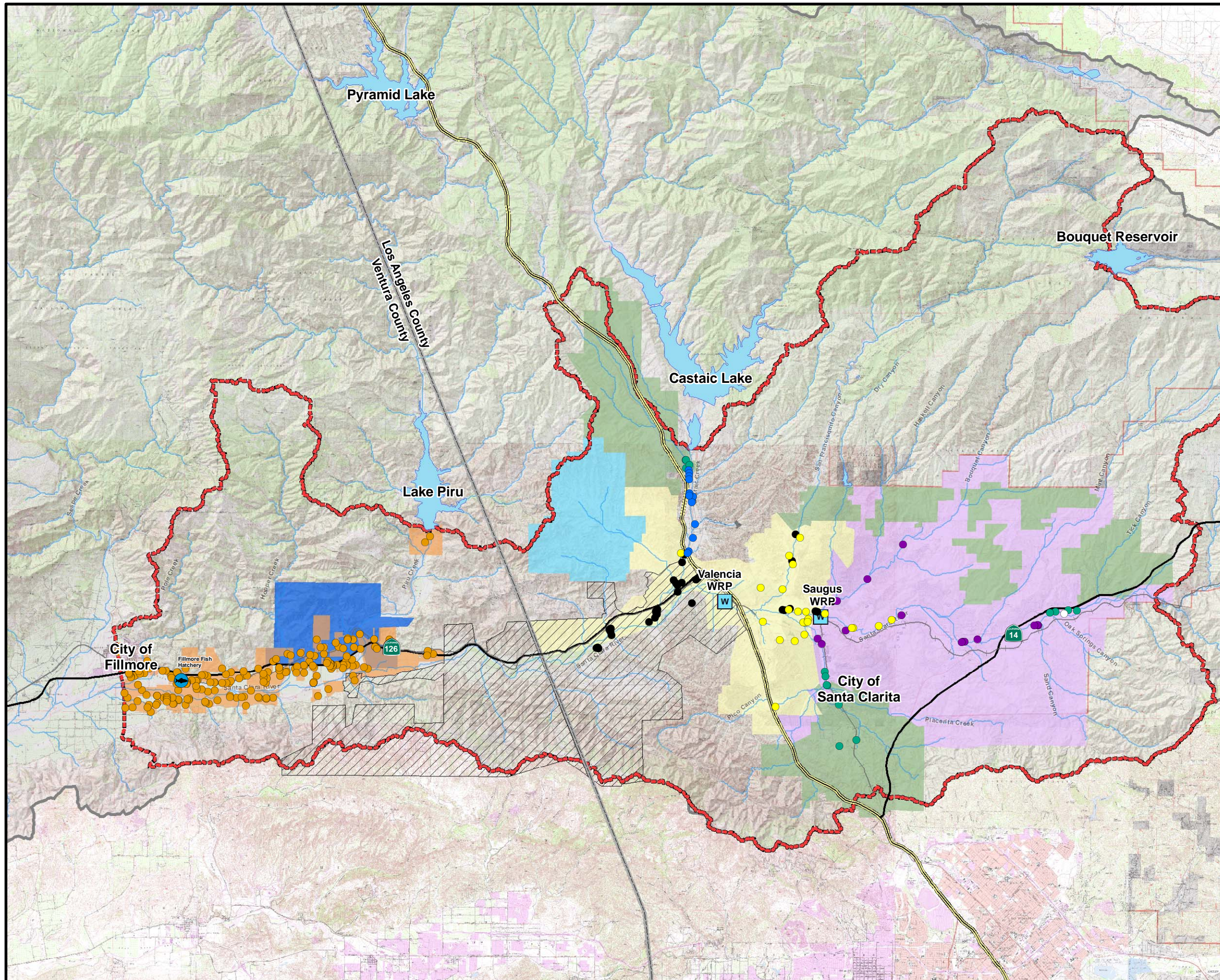


FIGURE 3-48
POINT-SOURCE LOCATIONS
 TASK 2B-1 – NUMERICAL MODEL DEVELOPMENT
 AND SCENARIO RESULTS
 UPPER SANTA CLARA RIVER CHLORIDE
 TMDL COLLABORATIVE PROCESS



- LEGEND**
- GSWI STUDY AREA
 - SANTA CLARA RIVER WATERSHED
 - STREAM
 - RAILROAD
- DESIGNATED WATER SUPPLY SYSTEM**
- NEWHALL COUNTY WATER DISTRICT
 - SANTA CLARITA WATER DIVISION
 - VALENCIA WATER COMPANY
 - L.A. COUNTY WATER WORKS DISTRICT #36
 - NEWHALL LAND AND FARMING COMPANY
 - WARRING WATER SERVICE
 - AG PARCELS IN VENTURA COUNTY
- WELLS ASSIGNED TO A WATER SUPPLY SYSTEM**
- ROBINSON RANCH
 - NEWHALL COUNTY WATER DISTRICT
 - SANTA CLARITA WATER DIVISION
 - VALENCIA WATER COMPANY
 - NEWHALL LAND AND FARMING COMPANY
 - L.A. COUNTY WATER WORKS DISTRICT #36
 - WELLS LOCATED IN VENTURA COUNTY

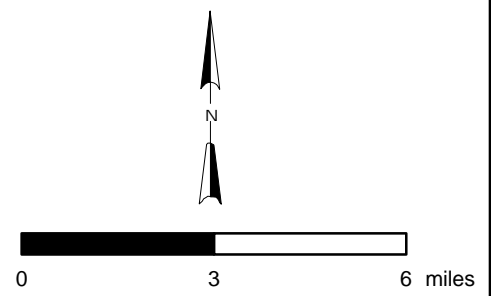
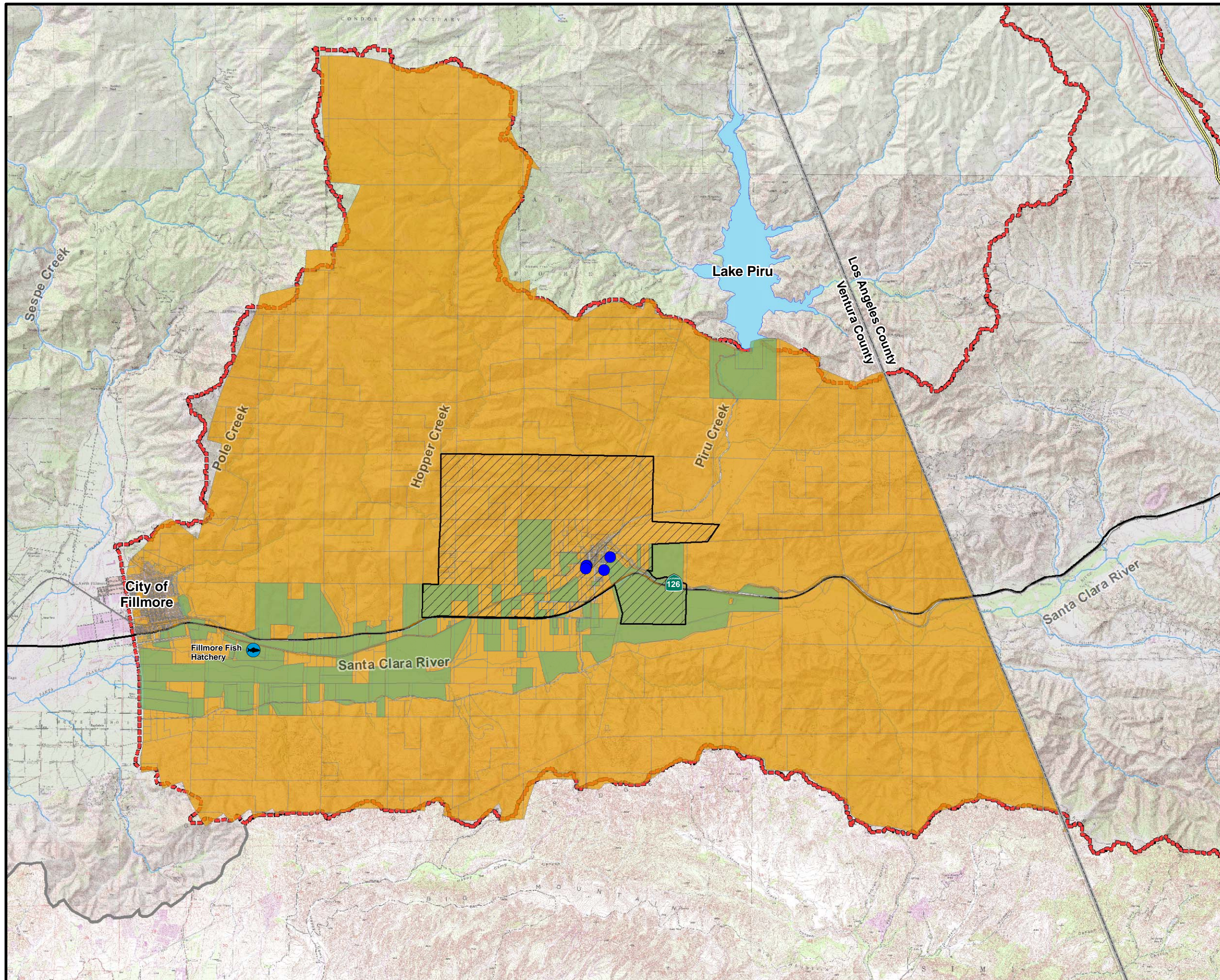


FIGURE 3-49
PUMPING LOCATIONS AND
WATER SUPPLY SYSTEMS
 TASK 2B-1 – NUMERICAL MODEL DEVELOPMENT
 AND SCENARIO RESULTS
 UPPER SANTA CLARA RIVER CHLORIDE
 TMDL COLLABORATIVE PROCESS



- LEGEND**
- GSWI STUDY AREA
 - SANTA CLARA RIVER WATERSHED
 - STREAM
 - RAILROAD
 - WARRING WATER SERVICE
 - IRRIGATED LAND PARCELS
 - UNIRRIGATED LAND PARCELS
- WELLS ASSIGNED TO A WATER SUPPLY SYSTEM**
- WARRING WATER SERVICE WELL

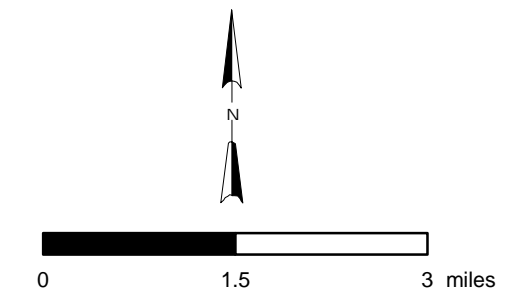
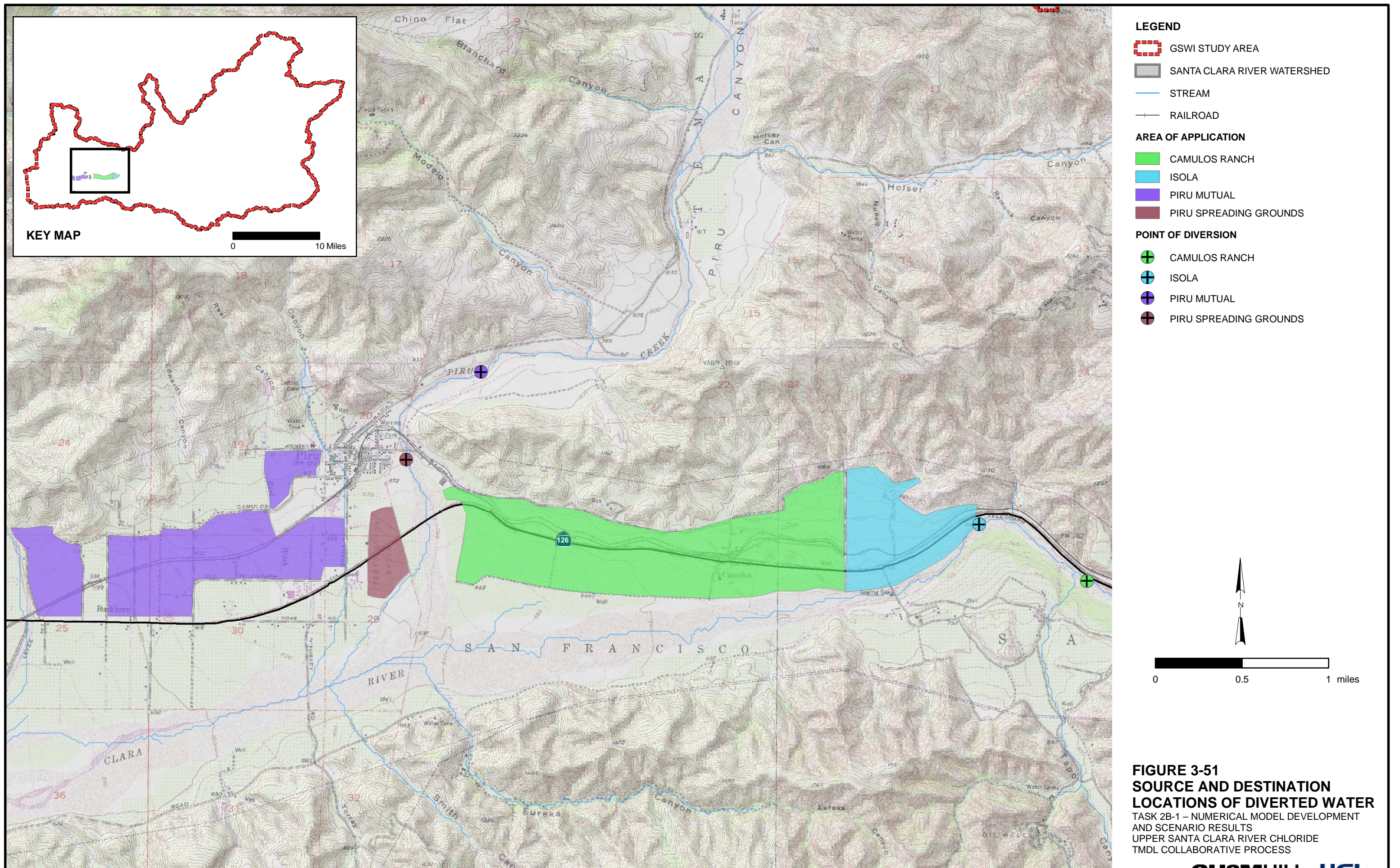
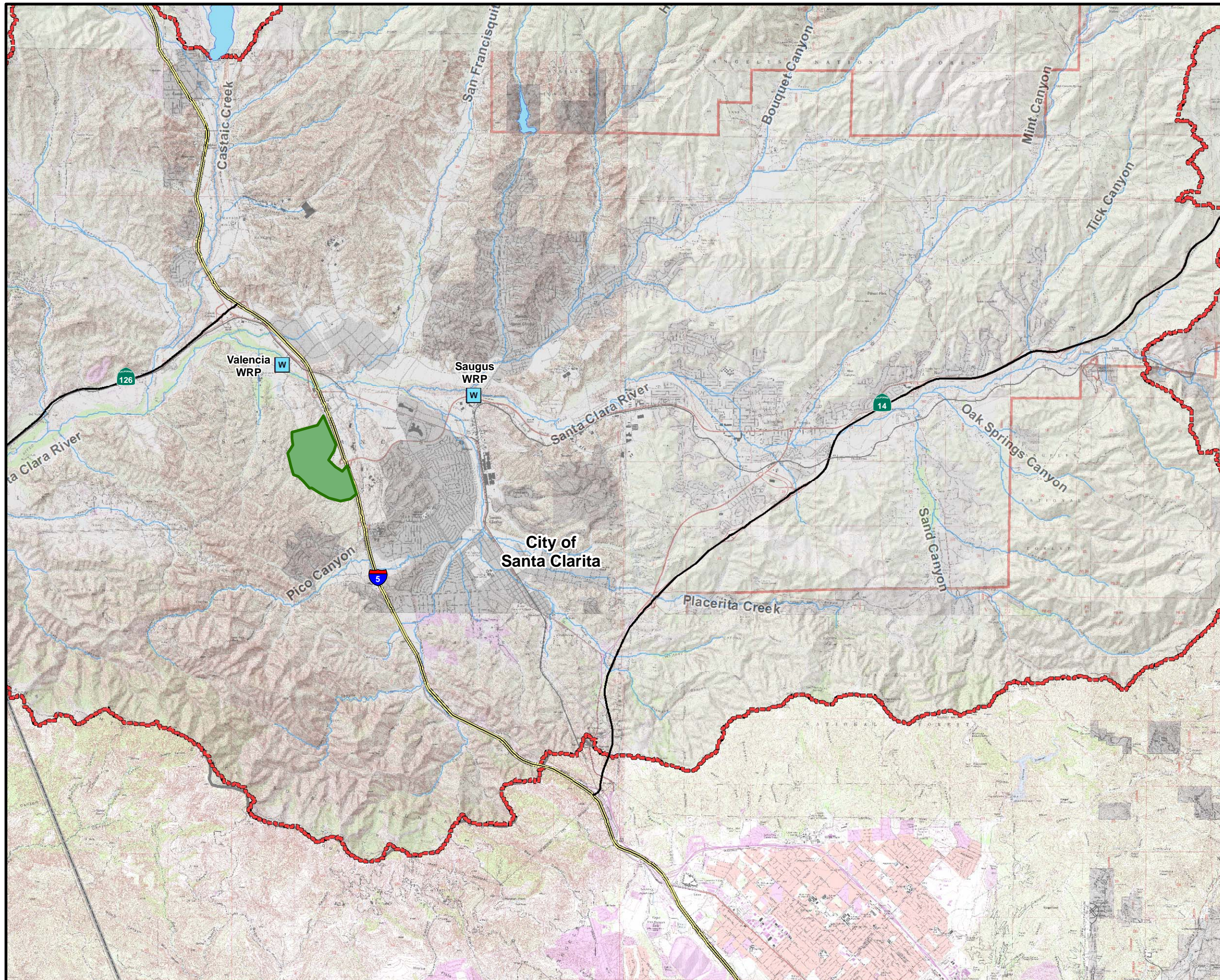


FIGURE 3-50
IRRIGATED AND UNIRRIGATED LAND
PARCELS IN VENTURA COUNTY
WITHIN THE GSWIM
 TASK 2B-1 – NUMERICAL MODEL DEVELOPMENT
 AND SCENARIO RESULTS
 UPPER SANTA CLARA RIVER CHLORIDE
 TMDL COLLABORATIVE PROCESS



- LEGEND**
- GSWI STUDY AREA
 - SANTA CLARA RIVER WATERSHED
 - STREAM
 - RAILROAD
- AREA OF APPLICATION**
- CAMULOS RANCH
 - ISOLA
 - PIRU MUTUAL
 - PIRU SPREADING GROUNDS
- POINT OF DIVERSION**
- CAMULOS RANCH
 - ISOLA
 - PIRU MUTUAL
 - PIRU SPREADING GROUNDS

FIGURE 3-51
SOURCE AND DESTINATION
LOCATIONS OF DIVERTED WATER
 TASK 2B-1 – NUMERICAL MODEL DEVELOPMENT
 AND SCENARIO RESULTS
 UPPER SANTA CLARA RIVER CHLORIDE
 TMDL COLLABORATIVE PROCESS



- LEGEND**
- WESTRIDGE GOLF COURSE (RECYCLED WATER)
 - GSWI STUDY AREA
 - SANTA CLARA RIVER WATERSHED
 - STREAM
 - RAILROAD

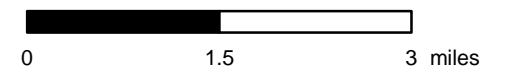
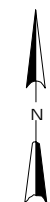


FIGURE 3-52
LOCATION OF RECYCLED
WATER APPLICATION
 TASK 2B-1 – NUMERICAL MODEL DEVELOPMENT
 AND SCENARIO RESULTS
 UPPER SANTA CLARA RIVER CHLORIDE
 TMDL COLLABORATIVE PROCESS