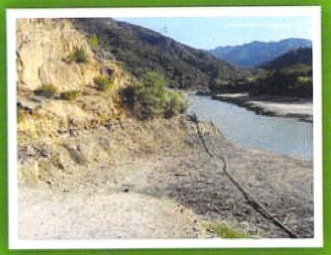
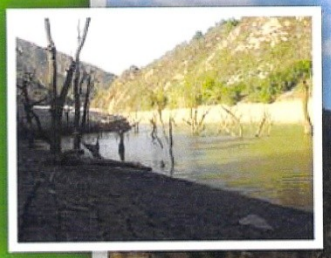
June 10, 2014 MPWMD Water Supply Planning Committee

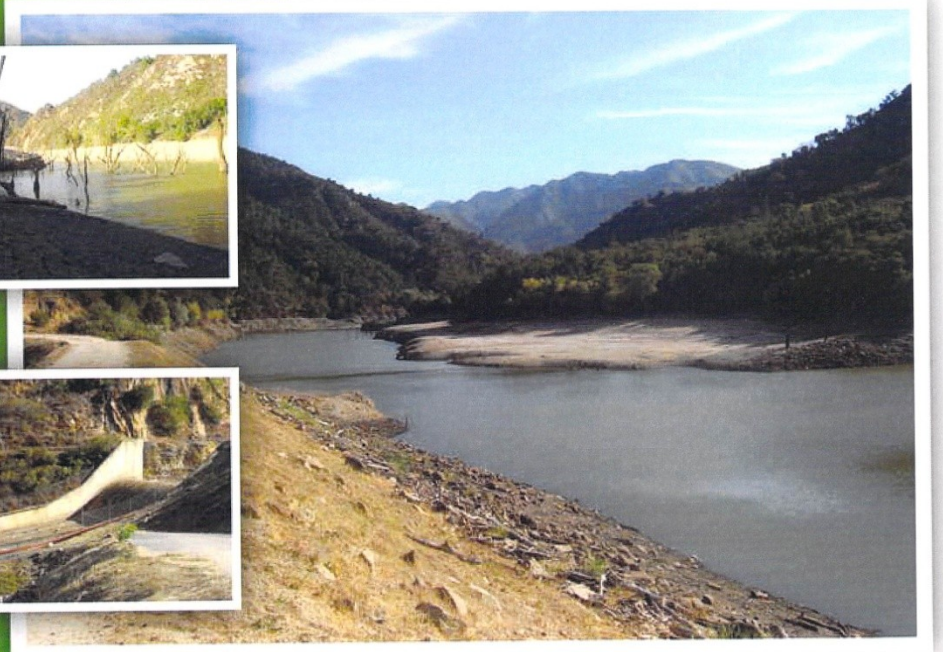
ITEM: ACTION

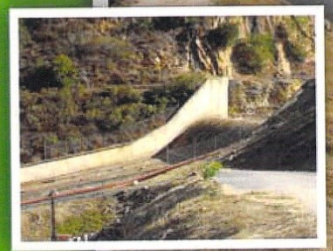
2. DEVELOP RECOMMENDATION TO THE BOAD ON RECEIPT OF FINAL LOS PADRES DAM AND RESERVOIR LONG-TERM STRATEGIC AND SHORT-TERM TACTICAL PLAN

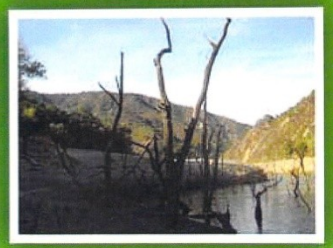


Los Padres Dam and Reservoir
Long-Term Strategic
and Short-Term Tactical Plan









MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

Monterey Peninsula Water Management District

FINAL

May 2014

- Planning Concepts
- Recommended Off Main-Stem Alternatives
- Los Padres Reservoir Restoration
- Next Steps

3. Key District Planning Principles

A. Water Supply Security and Sustainability

B. Enhanced Fish Passage

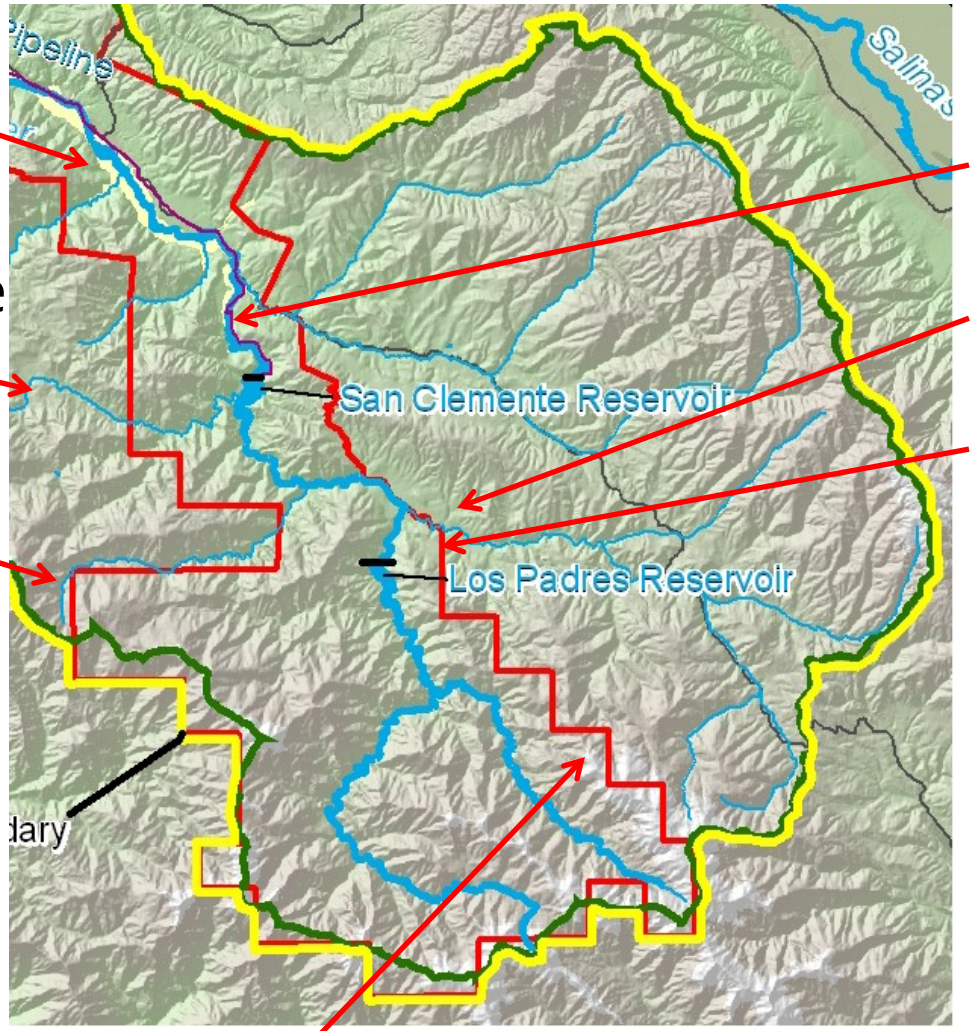
C. Implementation of Effective Sediment Management

D. Maintenance of Target Instream Flows

Off Main-Stem Alternatives Combined with Los Padres Dam Removal

- Removes steelhead passage impediment to about 7 miles of critical habitat
- Meet requirements of NMFS Final Recovery Plan for Carmel River steelhead
- Larger alternatives meet minimum 5 cfs at Sleepy Hollow Weir in most years
- Reconnect upper and lower watersheds and restore sediment flow to lower river and Carmel River State Beach
- Storage alternatives vary from 3,500 AF to 20,000 AF
- Firm yields vary from zero to 7,600 AFY for domestic supply
- Safe yields vary from zero to of 4,200 AFY in critically dry years for domestic supply
- Requires new diversion and storage rights from SWRCB
- Requires dredging and removal of Los Padres Dam estimated at $60 million to $107 million for dredging alone
- No cost estimates have been developed for new storage alternatives
- Would take 10 to 15 years for planning, permit acquisition, and construction

Upper Carmel Valley



Carmel Valley Village

San Clemente Creek

Pine Creek

District Boundary

Carmel River

Cachagua Creek

Boronda Creek

N
W
E
S

Projection: UTM Zone 10N
Datum: NAD 1927
April 19, 2005

Miles
0 1 2 4 6 8

Pine Creek Reservoir – 20,000 AF

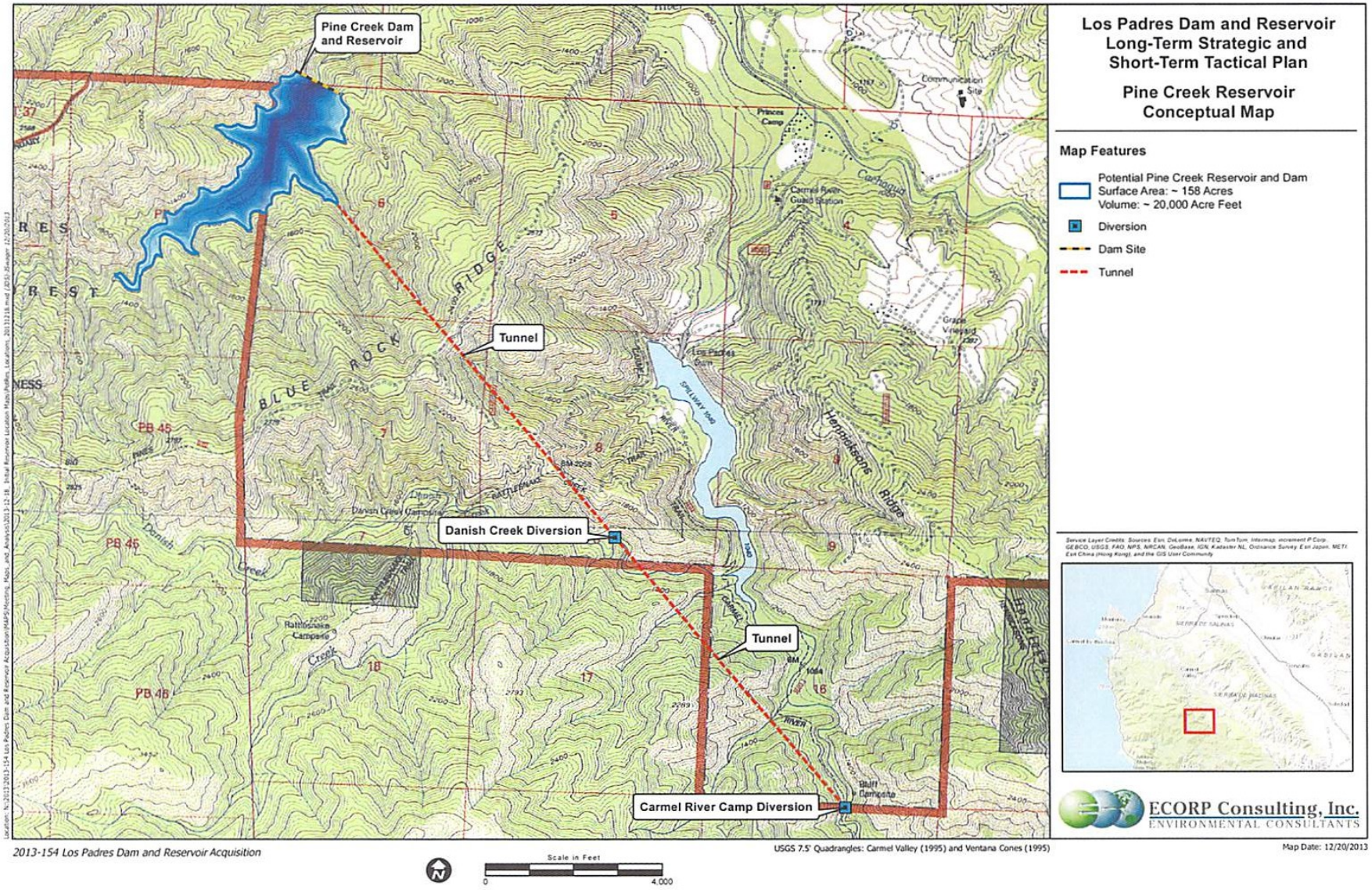


Figure 8.4

Pine Creek Reservoir

- 300 cfs diversion on main stem with 3.4 miles of tunnel to reservoir; additional diversion of 25 cfs in Danish Creek
- 390-foot high dam, 20,000 AF storage
- Firm yield of 7,600 AFY, safe yield of 4,200 AFY in critically dry years
- Presumes minimum 5 cfs at Sleepy Hollow Weir w/o releases at Los Padres Reservoir
- Would inundate about two miles of critical habitat in Pine Creek, including National Forest area
- Would block steelhead migration to/from upper sub-watershed (7.9 square miles) unless there is a trap/truck operation
- Requires new diversion rights from SWRCB in Danish Creek and Pine Creek
- Potential for hydroelectric generation
- Access to site may require a bridge across the Carmel River

Boronda Creek Reservoir – 3,500 AF

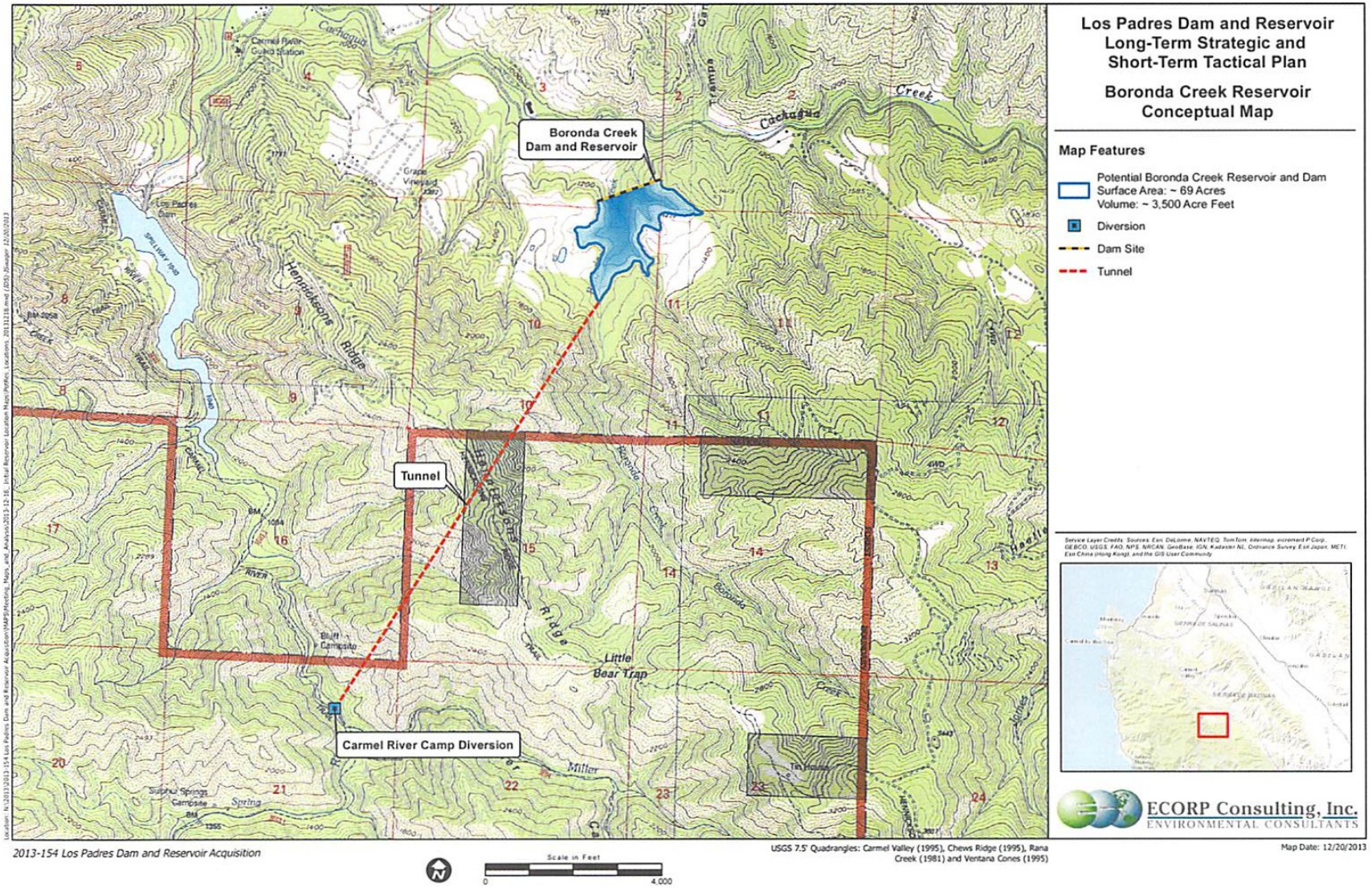
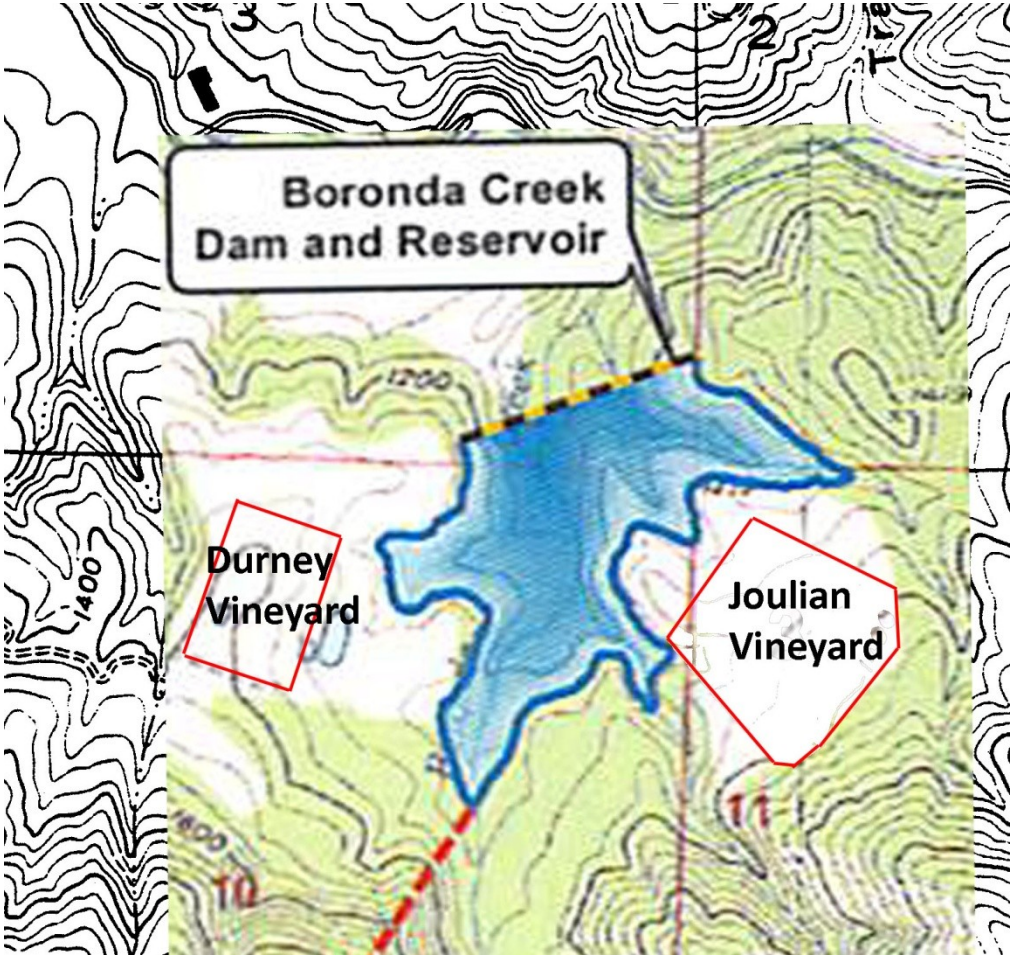


Figure 8.5

Boronda Creek Reservoir



Boronda Creek Reservoir

- 50 cfs diversion in Ventana Wilderness at Carmel River Camp on main stem with 2.1 mile tunnel to reservoir
- 180-foot high dam; 3,500 AF storage
- No firm yield or safe yield for domestic supply
- Average dry season release = 2,600 AF; meets minimum 5 cfs at Sleepy Hollow Weir in normal and above water years
- Would inundate a short section of critical habitat in Boronda Creek
- Presence (population) of steelhead is unknown
- Dam would block 3.5 square miles of watershed unless there is a trap/truck operation
- Requires new diversion right from SWRCB in Boronda Creek
- Re-water one mile of Cachagua Creek in the dry season

San Clemente Creek Reservoir

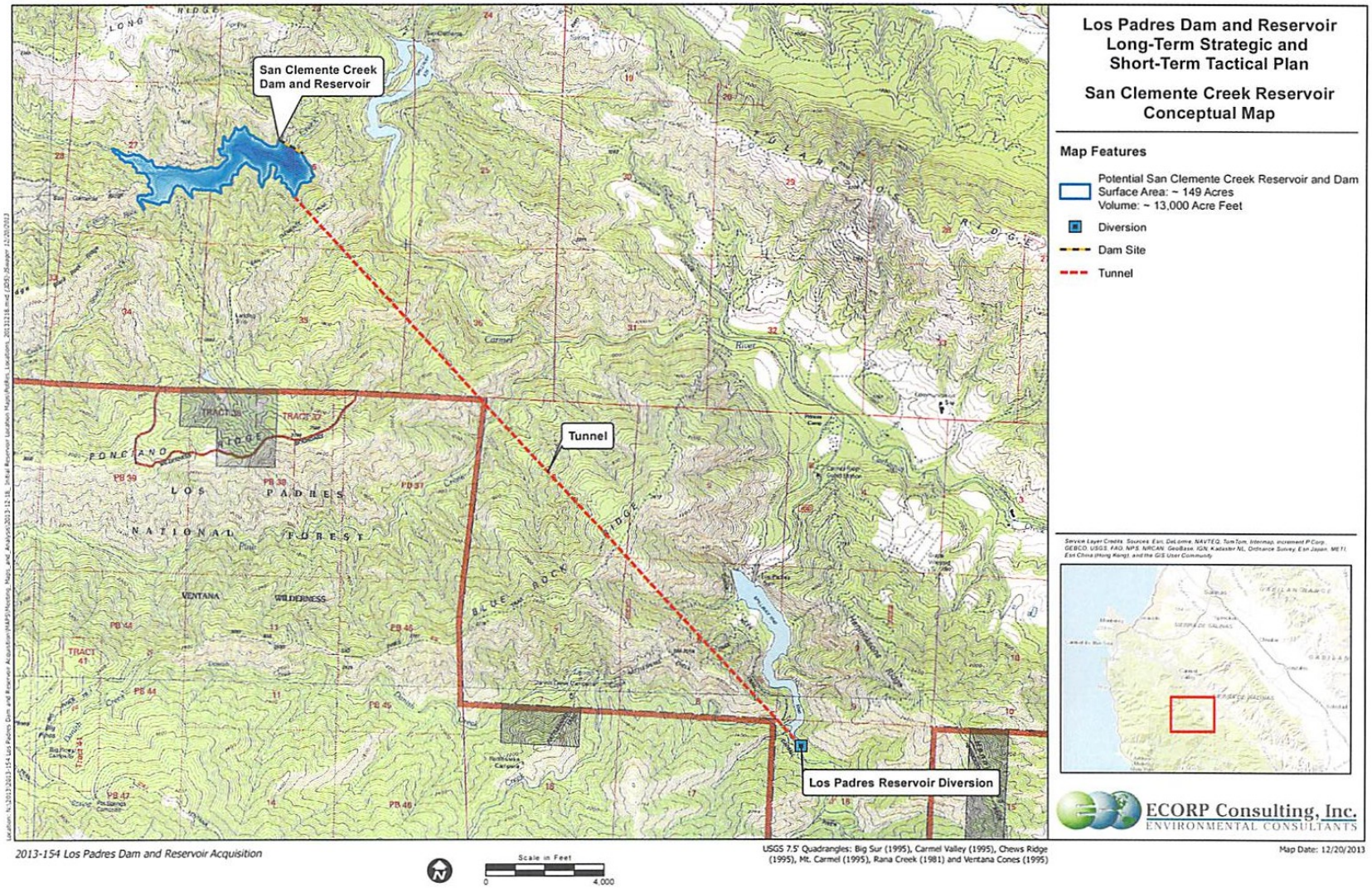


Figure 8.6

San Clemente Creek Reservoir

- 275 cfs diversion in Ventana Wilderness at Carmel River Camp on main stem with 4.8 mile tunnel to reservoir
- 245-foot high dam; 13,000 AF storage
- Firm yield of 5,500 AFY; safe yield of 2,000 AFY in critically dry years for domestic supply
- Meets minimum 5 cfs at Sleepy Hollow Weir in normal and above water years
- Would inundate more than one mile of critical habitat and block 15 square miles of watershed unless there is a trap/truck operation
- A dam would require a new diversion right from SWRCB in San Clemente Creek

Restore Los Padres Reservoir

- Requires dredging LP Reservoir estimated at $60 million to $107 million
- Increase water supply to Cal-Am system by maximum of 851 AFY
- May require improvement of steelhead passage facilities - either to existing trap and truck operation or by construction of new facilities
- May require dam spillway to be modified. Cost estimated at $25 million to $50 million
- Capital costs could be $5,500 to $10,000 per AF (dredging and passage improvements)
- O&M program for sediment management of annual flow of 20 AFY (32,000 cubic yards) would need to be developed
- Would likely take 10 to 15 years for planning, permit acquisition, and construction
- Would likely meet minimum 5 cfs at Sleepy Hollow Weir in most years
- Would require a petition to modify the existing right of diversion from SWRCB

Staff Recommendation

1. Receive Final Los Padres Dam and Reservoir Long-Term Strategic and Short-Term Tactical Plan and take public comment on the plan.

2. Consider recommending receipt of the plan to the full Board

3. Direct the General Manager to consider additional investigation through computer simulations, engineering methods, and cost estimates for the following alternatives:

   A) Restoration of Los Padres Reservoir to original capacity with improvements for permanent steelhead passage

   B) Removal of Los Padres Dam coupled with construction of either the off main-stem Pine Creek or San Clemente Creek Reservoirs

For More Information

District website:

www.mpwmd.net

PowerPoint presentations will be posted on the website the day after the meeting

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