

Figure 1. Horseshoe Pond Restoration Site.



Point Reyes
National Seashore





Figure 2. Aerial photograph of Horseshoe Pond taken in Month 1943.



Point Reyes
National Seashore



Figure 3. Newly completed road and dam at southern end of Horseshoe Pond.
June 6, 1952.



**Point Reyes
National Seashore**



Figure 4. Spillway crossing and road to east pastures while still active. October 1990.
Photo courtesy of Don Gunn.



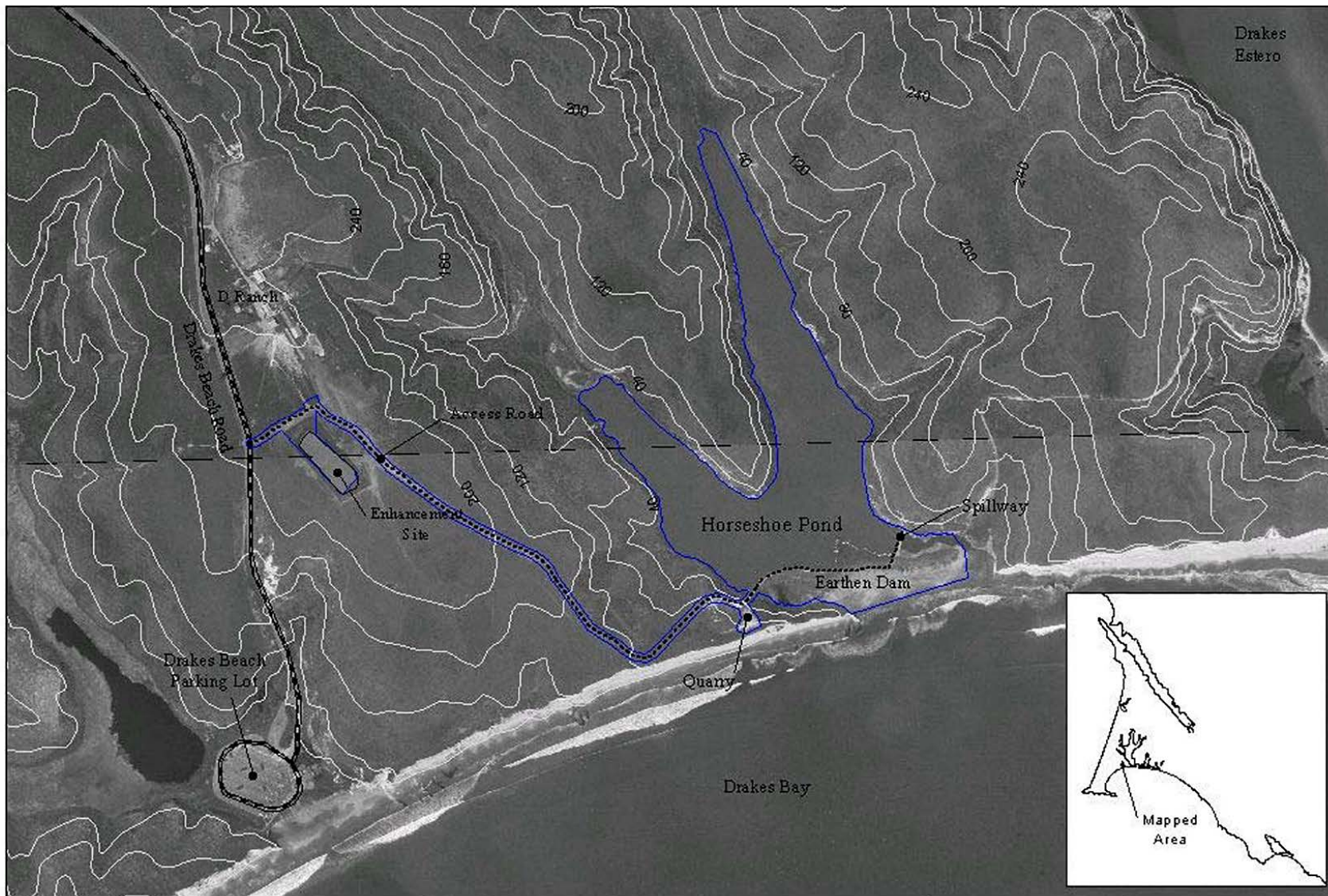
Point Reyes
National Seashore



Figure 5. Photo of cows grazing within Horseshoe Pond. October 1990.
Photo courtesy of Don Gunn.



**Point Reyes
National Seashore**



Drakes Estero

D Ranch

Drakes Beach Parking Lot

Enhancement Site

Access Road

Horseshoe Pond

Earthen Dam

Spillway

Quarry

Drakes Bay

Mapped Area

Figure 6. Horseshoe Pond Restoration Project Area

Project Area





Point Reyes National Seashore





Figure 7. Photo of spillway facility with approximate location of access road and components slated for removal outlined.

 Access Road  Earthen Berm  Concrete Spillway



Point Reyes
National Seashore



Figure 8. Photo of historic channel site with approximate area of earthen berm to be removed and channel to be established outlined in blue.



Point Reyes
National Seashore



Figure 9. Photo of quarry and ranch road marked for restoration under Alternative B.



Point Reyes
National Seashore

12/19/2001



1/2/2002



Figures 10 and 11. Photos before and after partial failure of spillway facility showing dramatic loss of water capacity in Horseshoe Pond.



Point Reyes
National Seashore



Figure 12. Photo of spillway failure as water continues to drain out of Horseshoe Pond.
January 3, 2002.



Point Reyes
National Seashore



Figure 13. Photo of Horseshoe Pond shortly before drying out completely in the fall of 2002. September 30, 2002. Photo courtesy of Kenneth Adelman (www.californiacoastline.org).



**Point Reyes
National Seashore**



Figure 14. Red tide event in outflow channel between the concrete spillway and Drakes Beach.
May 31, 2001.



Point Reyes
National Seashore



Figure 15. Photo of dead three-spine stickleback floating at surface of Horseshoe Pond during period of low dissolved oxygen concentrations. June 27, 2001.



Point Reyes
National Seashore

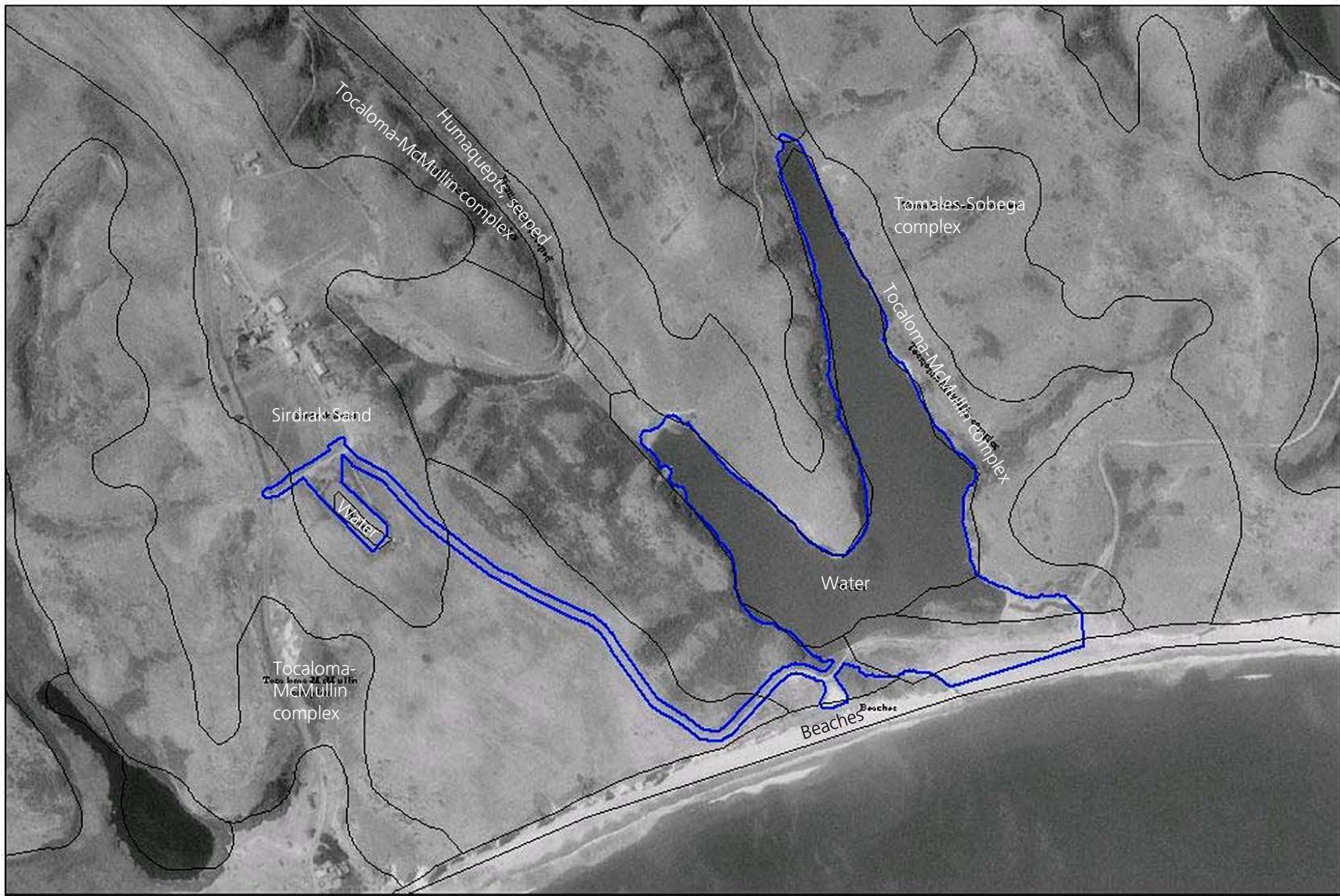


Figure 16. Soil types in the vicinity of the Horseshoe Restoration Project Study Area (SCS 1985).

Study Area
 Soil Types



Point Reyes
National Seashore

0 250 500 750 1000 Feet





Figure 17. Photo of fill material currently blocking the historic outflow of Horseshoe Pond.



Point Reyes
National Seashore

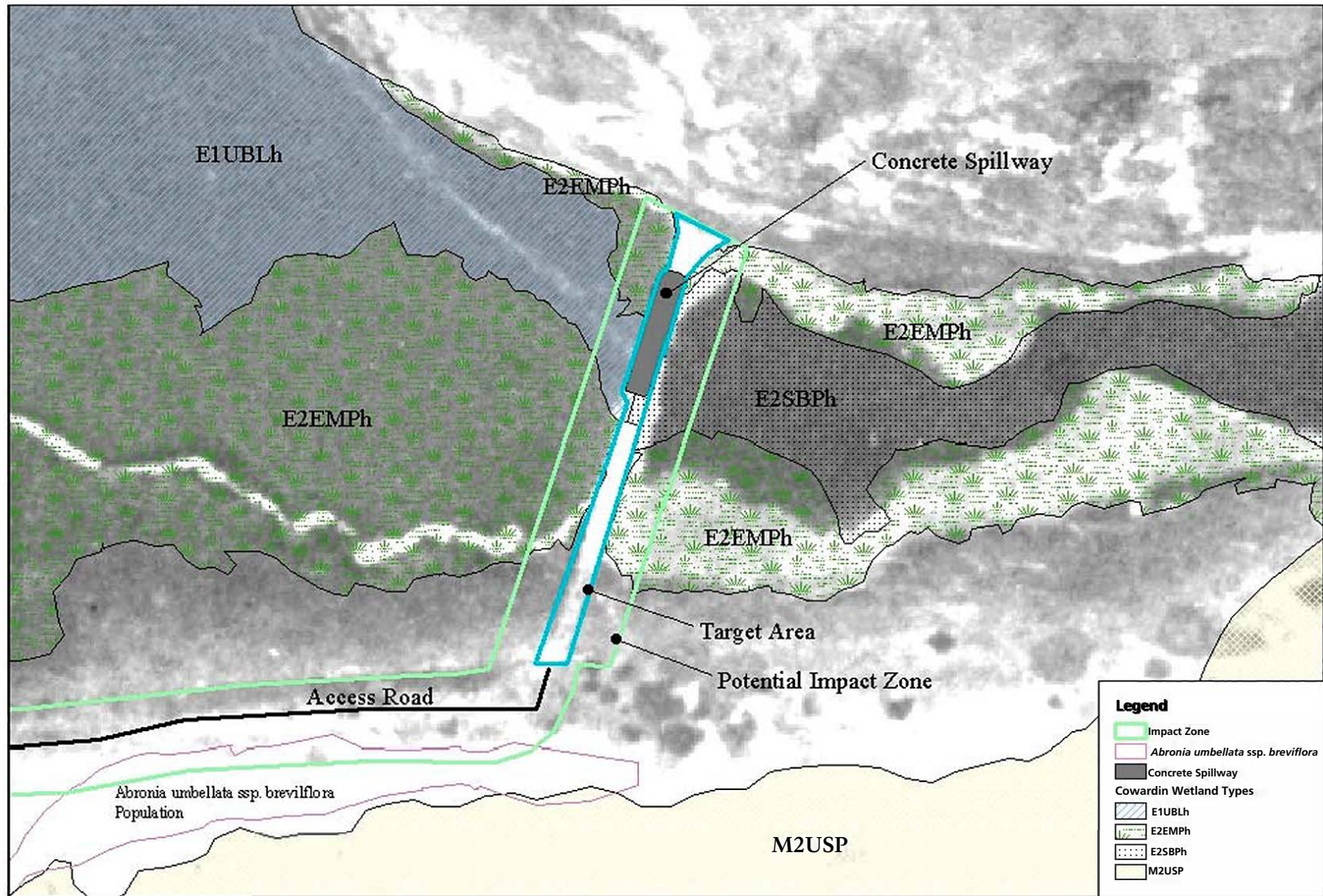


Figure 18. Detailed view of impact zone required to remove concrete spillway and earthen berm currently impeding pond outflow.

Point Reyes
National Seashore

0 12.525 50 75 100 Feet

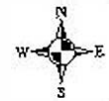
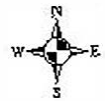




Figure 19. Detailed view of affected area required for development of Enhancement Site.

Point Reyes
National Seashore



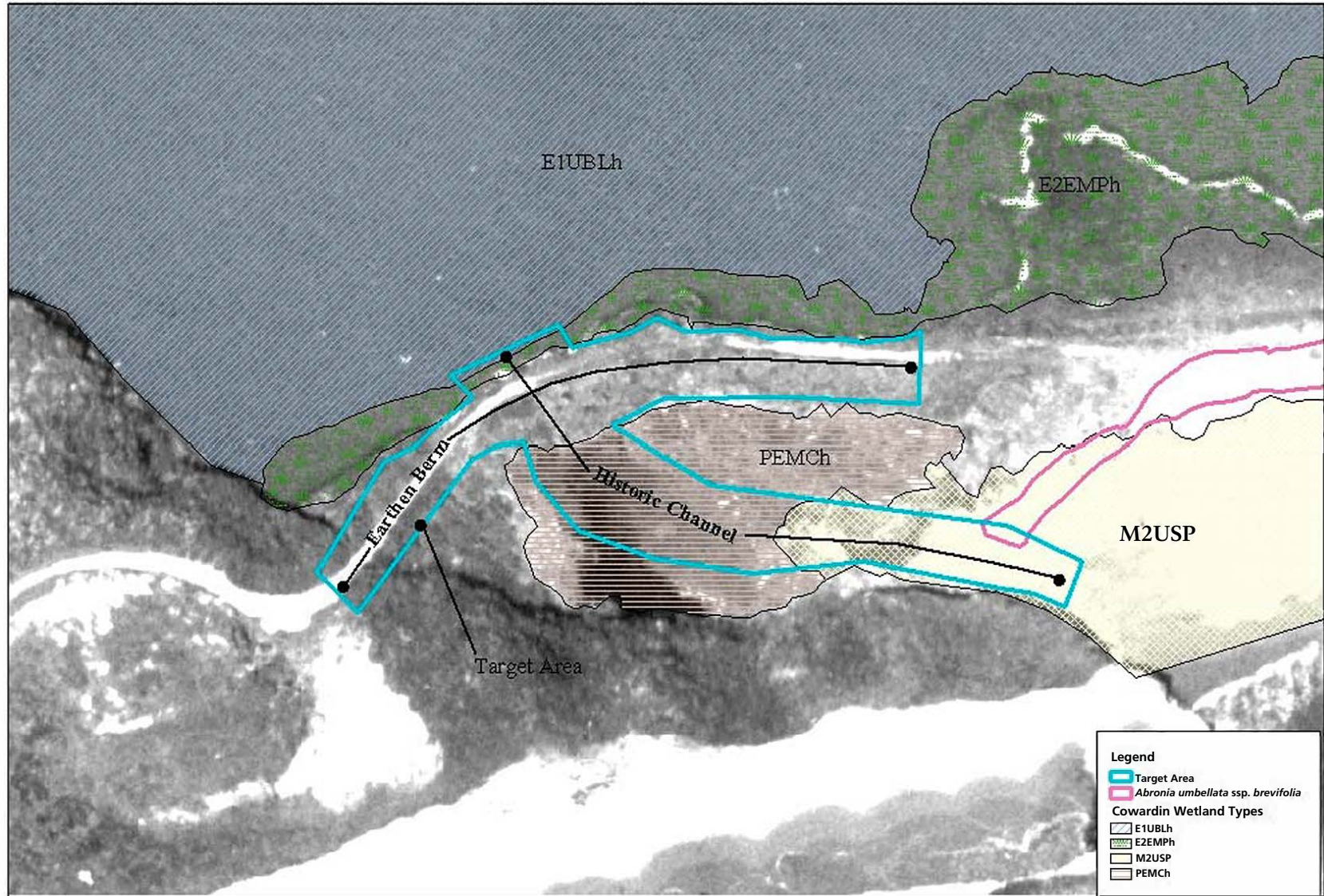
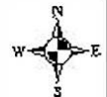


Figure 20. Detail of area to be affected by restoration of historic channel to Drakes Beach.

Point Reyes
National Seashore



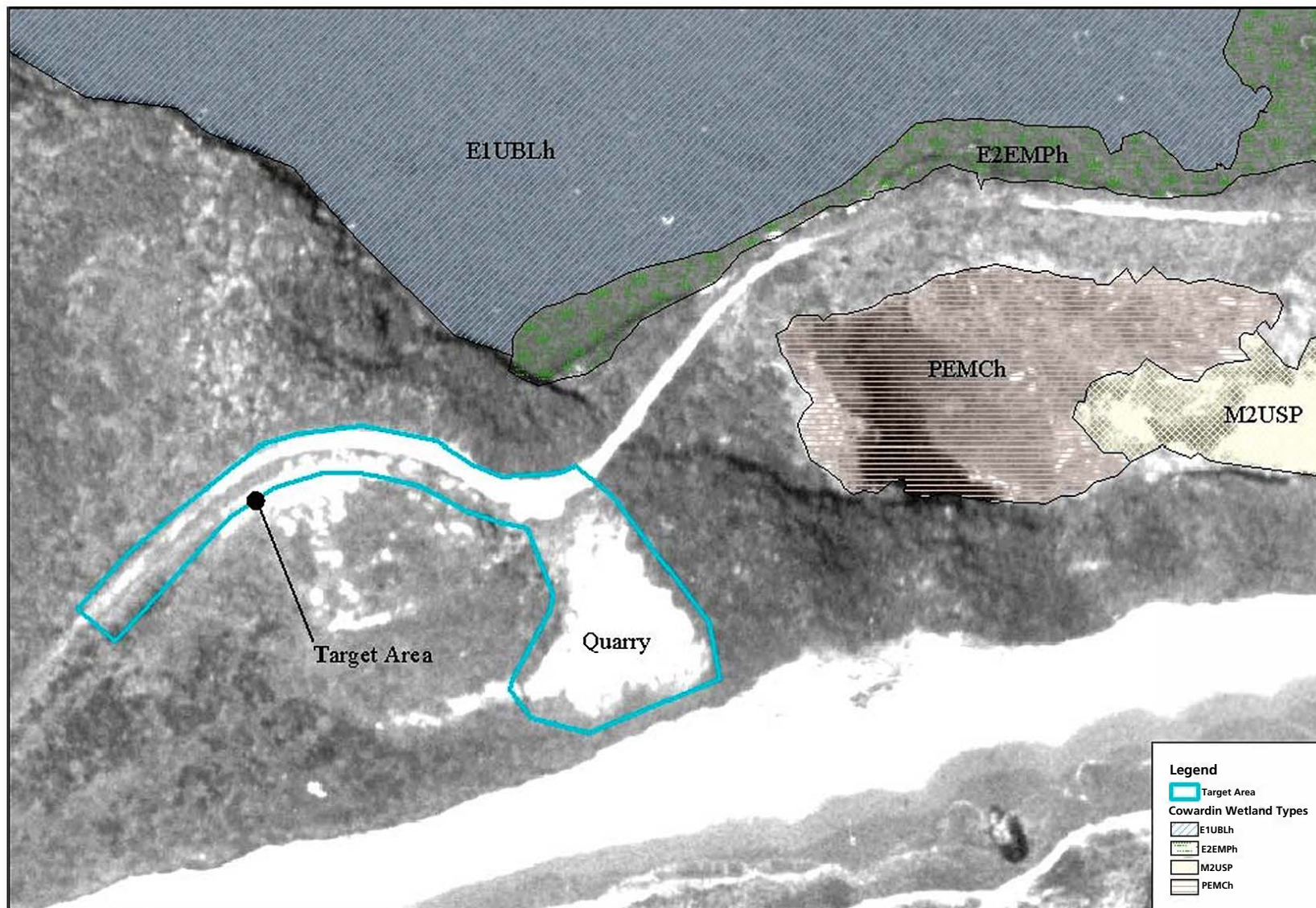


Figure 21. Detailed view of area to be affected by quarry restoration and close-out of the road leading to Horseshoe Pond.

Point Reyes
National Seashore

