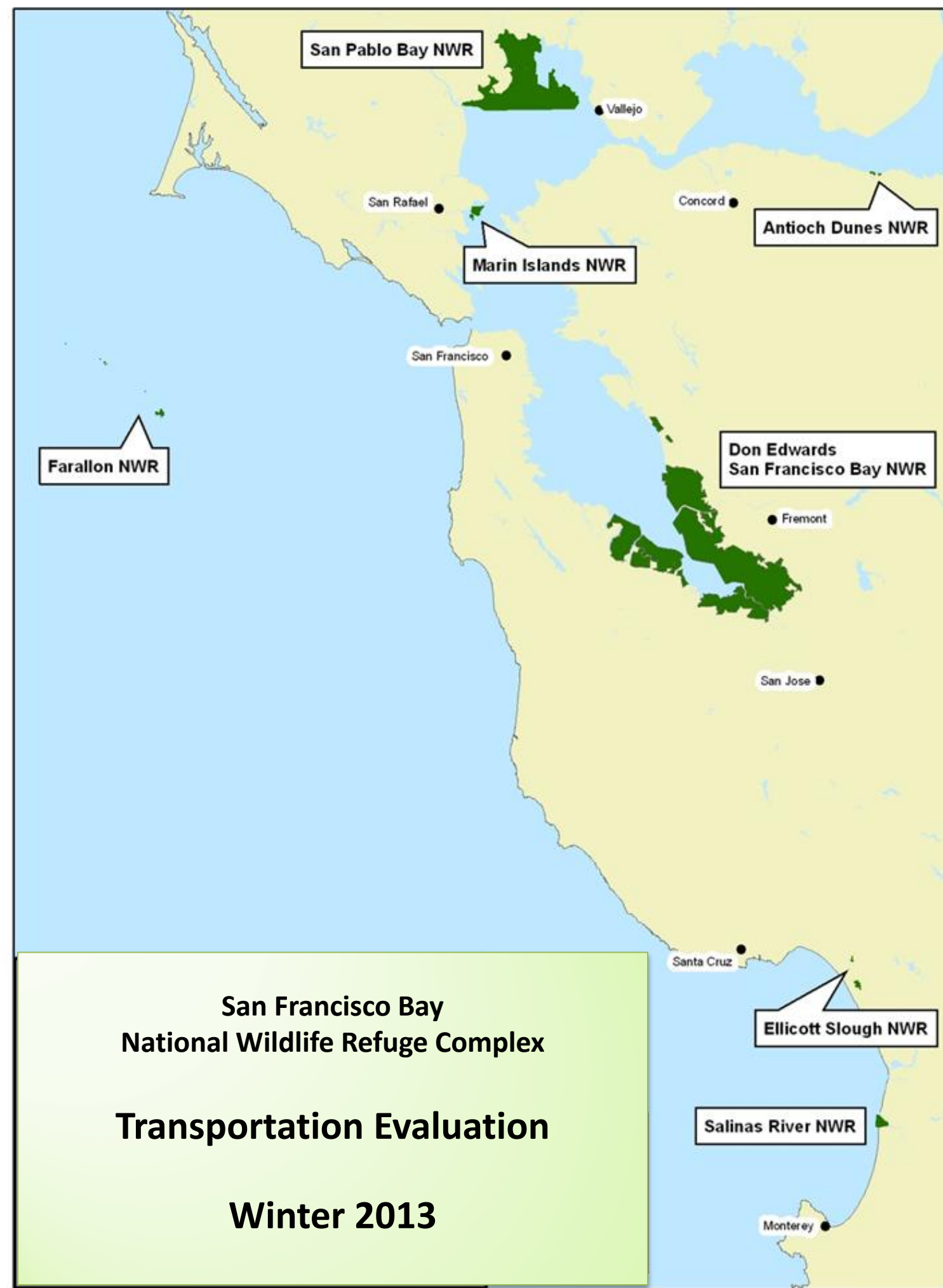


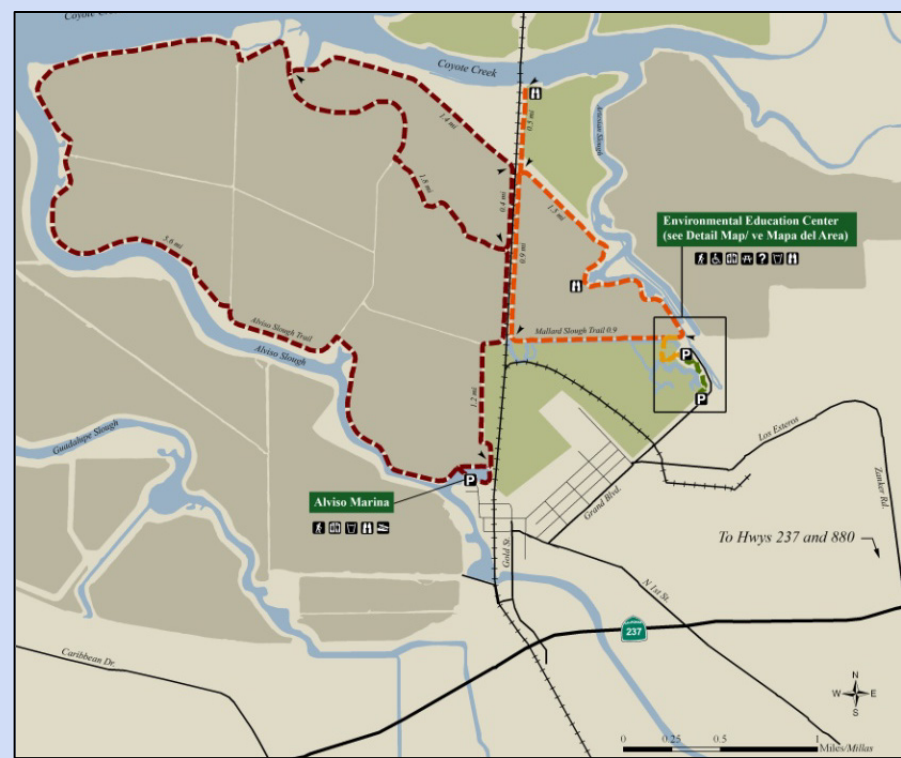
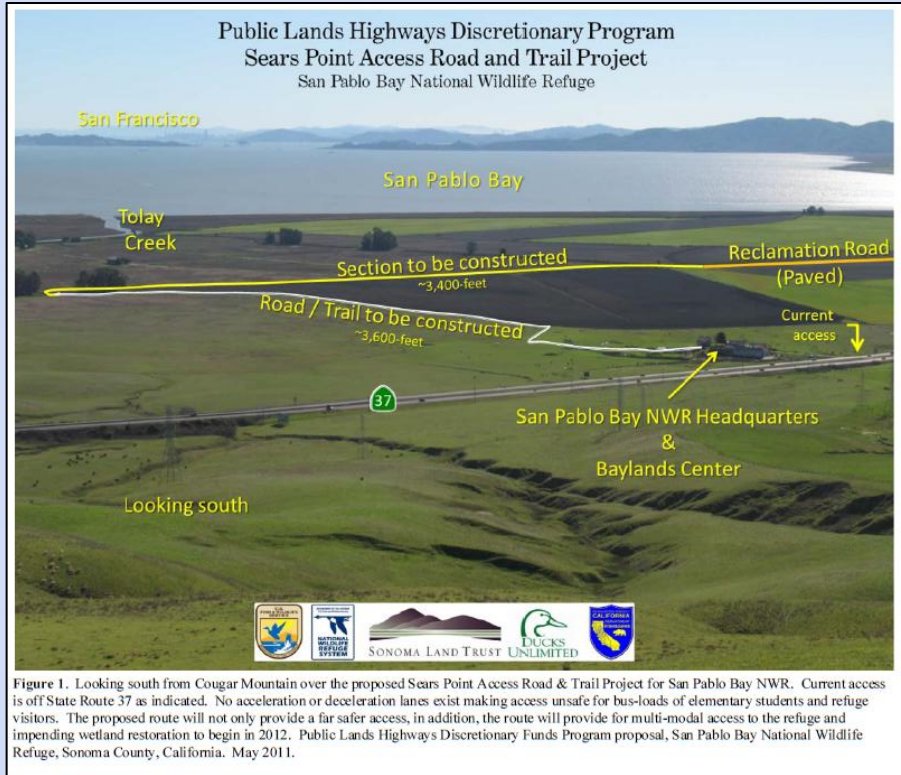
# The San Francisco Bay National Wildlife Refuge Complex

## Alternative Transportation Project

The San Francisco Bay National Wildlife Refuge Complex consists of seven separate refuges around the Bay Area. Each refuge has its own alternative transportation challenges. This poster will examine how these issues can be addressed in a context specific manner by highlighting specific projects from a complex-wide transportation evaluation and then describing the solutions that have been implemented or are under consideration.



## Pedestrian



Currently the only entrance to San Pablo Bay NWR is from a very busy road with traffic moving at high speeds. In order to improve safety and increase visitation, the refuge is creating a multiuse trail and access road that will allow visitors to enter from the nearest signalized intersection. I'm working with the refuge staff and trail engineers to ensure the trail has adequate amenities for pedestrians and cyclists.

As part of a wetlands restoration project, the trail system around the Alviso area of Don Edwards National Wildlife Refuge changed. I used ArcGIS and Adobe Photoshop to update the trail map for the panel display in front of the Environmental Educational Center. The update includes not only accurate trail descriptions but increased detail of the local area streets.

Vehicles were exiting the refuge parking lot without stopping, often failing to yield to maintenance vehicles and speeding past a pedestrian trail intersection around the bend. I used existing resources at the refuge to paint a stop line at the lot edge, clarifying the right of way and slowing exiting vehicles. This simple solution has proven effective, with staff reporting consistent changes in driver behavior.

## Bicycle



Salinas River National Wildlife Refuge provides a bike rack at the start of the sand trail that leads to the beach. Because of its heavy exposure to salt water, the bike rack rusts quickly and needs to be replaced often. I have been working with the refuge manager to purchase a bike rack coated in Plastisol, a corrosion resistant material that will extend the life of the bike rack.

The intern housing area lacked adequate bicycle parking. I designed a bike shelter with an emphasis on keeping materials costs low. This will allow the structure to be constructed using housing maintenance and improvement funds. Construction of the shelter is expected to begin after the materials are purchased in early 2013.

When I arrived at Don Edwards National Wildlife refuge, I found four old bikes scattered around the housing area in various states of poor repair. After a few new parts and some basic maintenance, all four bikes are now available for use by employees living in the temporary housing area.

## Transit



Service cuts over the past decade have led to repeated transit route changes around the refuge headquarters. When I arrived, some of the transit signs reflected discontinued service. I made specific recommendations to the local transit agency that resulted in the removal of outdated signs. For example, the map at the left shows the location of a 251 route sign that had not been active for several years and has now been removed.



The nearest transit stop to the headquarters area of Don Edwards National Wildlife Refuge is half a mile from the refuge entrance. Walking to the entrance requires travelling along a road with heavy traffic and no sidewalk. In the fall of 2012, I applied for a TRIP grant to study the construction of a trail that would safely link the transit stop with the refuge entrance and create a valuable bicycle and pedestrian connection for the surrounding neighborhoods...

### Future Goals

- Coordinate with the City of Newark and the Dumbarton Transit Oriented Development to determine the best way to create pedestrian connections with the surrounding neighborhoods.
- Complete a Pedestrian Safety Audit for the roads surrounding the main entrance of the refuge.
- Create a route map that helps cyclists navigate the area between refuge trails.