

## **Morro Dunes Restoration Project**

### **Ice Plant Removal and Coastal Dune Restoration**

#### **Background**

The CDFW EEF grant funding has been part of a larger State Park project on dune stabilization and weed eradication on the Morro Dunes Natural Preserve in Montana de Oro State Park. The \$180,000.00 from the EEF grant and \$100,000.00 of \$230,000.00 from our State Parks Natural Resource Division (NRD) in Sacramento were combined into a bid package for small business herbicide contractors (\$280,000.00 total). The remaining money from NRD was rolled into a California Conservation Corps (CCC) contract for dune stabilization.

The Morro Dunes Natural Preserve (MDNP) is an approximately 4 mile long sandspit bordered by the Pacific Ocean to the west and the Morro Bay estuary to the east. Iceplant (*Carpobrotus* spp.) is the most abundant and widespread exotic plant found in the preserve. In the foredunes, Iceplant can rapidly spread and cover the bare sandy areas used as nesting habitat for the federally listed as threatened Western Snowy Plover. In the back dunes, Iceplant can displace the native dune scrub vegetation, as well as “stabilizing” the dunes, altering the naturally shifting and changing topography. A number of listed plant species occur in the preserve, which are directly threatened by the further spread of iceplant. Beach spectacle pod, salt marsh bird’s beak, and others have been and will continue to be displaced by iceplant if left uncontrolled. Morro Shoulderband snail (MSS), a federally listed as endangered species, occurs throughout the preserve. It is endemic to the dune scrub found throughout the preserve and neighboring Los Osos. It is known to occur within patches of iceplant, though it is believed that iceplant may act as an artificial “population sink”, altering the natural distribution of the population. Care will be taken to avoid take of the Morro Shoulderband snail. Surveys and relocation (by USFWS permitted DPR staff) will occur prior to herbicide application within the treatment area. In addition, snails are only active during periods of cool wet weather, when herbicide application will not occur. The goal of this project is complete eradication of Iceplant from the MDNP, to allow re-colonization of Native Flora, and an expansion of open sandy areas within Western Snowy Plover (WSP) habitat found between the high tide line and foredunes.

#### **Objectives**

140 acres (+/-) of Iceplant will be treated with 4% glyphosate. Treatment will be done by a qualified pest control contractor and CDPR staff. Treatment will occur year round, except during periods of wet and/or windy weather. Treatment during the Western Snowy Plover breeding season (March-October) will be in areas determined by State parks staff to be outside the nesting area. Areas within the preserve containing iceplant, outside of the nesting habitat can be targeted, though will require careful selection and guidance provided by DPR staff. These sites will be located and flagged, with access provided by carefully designated corridors. Iceplant located within breeding habitat will be treated between October and February to avoid the Plover breeding season. Herbicide application will be made by personnel with backpack sprayers, and small ATV’s outfitted with spray tanks. ATV access and use will be carefully monitored by the DPR project manager (s). The total duration of the project is 3 years, with one treatment per year. The dead iceplant thatch that will result will be left to decompose. This process takes 2-3 years. Native plant species rapidly re-colonize the former iceplant patches, nearly covering the site within that 2-3 year period. Follow up monitoring and any necessary re treatment after the 3 year project period will be done by DPR staff.

Monitoring plots will be established to determine the effectiveness and success of iceplant treatment and native plant species recruitment (composition and cover).. This monitoring will occur annually. Follow-up monitoring will occur annually by CDPR staff for 3-5 years post treatment.

#### **Contracting and Fiscal**

State Parks attempted to utilize the Small Business Method to acquire a contractor for the Montaña de Oro Dunes Habitat Restoration project (bid package attached). This requires two DGS certified small businesses to submit responsive bids. This is the preferred method by the State. The bid package was sent to identified-small businesses

## CDFW Grant P1775001 Morro Dunes Restoration Project – Final Report

by Environmental Scientist John Sayers on November 30, 2017. The deadline for proposers to submit their bid was scheduled for December 27, 17. Despite giving small businesses an extension on this deadline, only one (1) responsive bid was successfully submitted to the district.

Additionally, State Parks is transitioned into a new procurement, contracting and accounting system, Fi\$cal. The transition caused a number of delays and logistical problems for DPR. A memo regarding a blackout period was sent out to districts, conveying that non-critical contracts would not be accepted during this period until the go-live date.

### **Project Work**

We initiated work with the CCC to conduct the dune stabilization in January 1, 2018 under a pre-existing master agreement. The CCC moved and installed approximately 275 bales of weed free straw to stabilize large dune blowouts that were threatening sensitive plant species such as salt marsh bird's beak (*Cordylanthus maritimus maritimus*) and sea blite (*Sueada californica*) on the bay side of the Preserve (see photos below). The CCC also salvaged Dudley species in the project location and re-planted them on site. The CCC crews had approximately 10 people per day, worked approximately 16 days and for a total of approximately 100 hours.

Once the blackout period was lifted, our District moved forward with contracting with the Coastal San Luis Resource Conservation District (RCD) to conduct the work for us. The RCD was contracted to all the herbicide treatment related mapping and daily logs to track labor hours, herbicide used, and help define treatment costs/acre (see maps below). The RCD subcontracted with a local small business herbicide contractor, who was able to treat Phases 1 (226 acres) and 2 (136 acres) three times (1 initial treatment and 2 follow up treatments), and Phase 3 (127) twice (1 initial treatment and 1 follow up treatment), far surpassing our original estimates (please see a sample of treatment photos below). As a result of this project, over 140 acres of iceplant was treated on the Morro Dunes Preserve.

Additionally, District Natural Resource (NR) staff has conducted multiple spot treatments of iceplant resprouts and broadcast seeding of local harvested native dune species in iceplant treatment areas. Regular Morro shoulderband snail monitoring during the course of this project was also conducted by permitted District NR staff.

### **Invoicing**

Due to the Fi\$cal set backs, it took Sacramento close to 1.5 years to set up a reimbursable account for the EEF grant funds. As to not delay work, we moved forward with our RCD contract and paying them with other funds. The RCD contract has been invoiced in full (invoices attached) and we are currently in the process of invoicing the reimbursable account set up for the EEF grant funds. Please note that the attached invoices (paid to the RCD) will total to an amount great then we were awarded through this grant - these invoices represent the grant funds (\$180,000.00) and our matching funds (\$100,000.00). These invoices are included as information only, just so you can see that we have completed and paid for the project work.

## CDFW Grant P1775001 Morro Dunes Restoration Project – Final Report



Images show dead and re-treated iceplant patches in Phase 2 (left) and Phase 3 (right) treatment areas.



Image shows dead iceplant (foreground and far left background) on bay side of treatment area 1





Sub-contractor retreating patches of iceplant in Phase 1



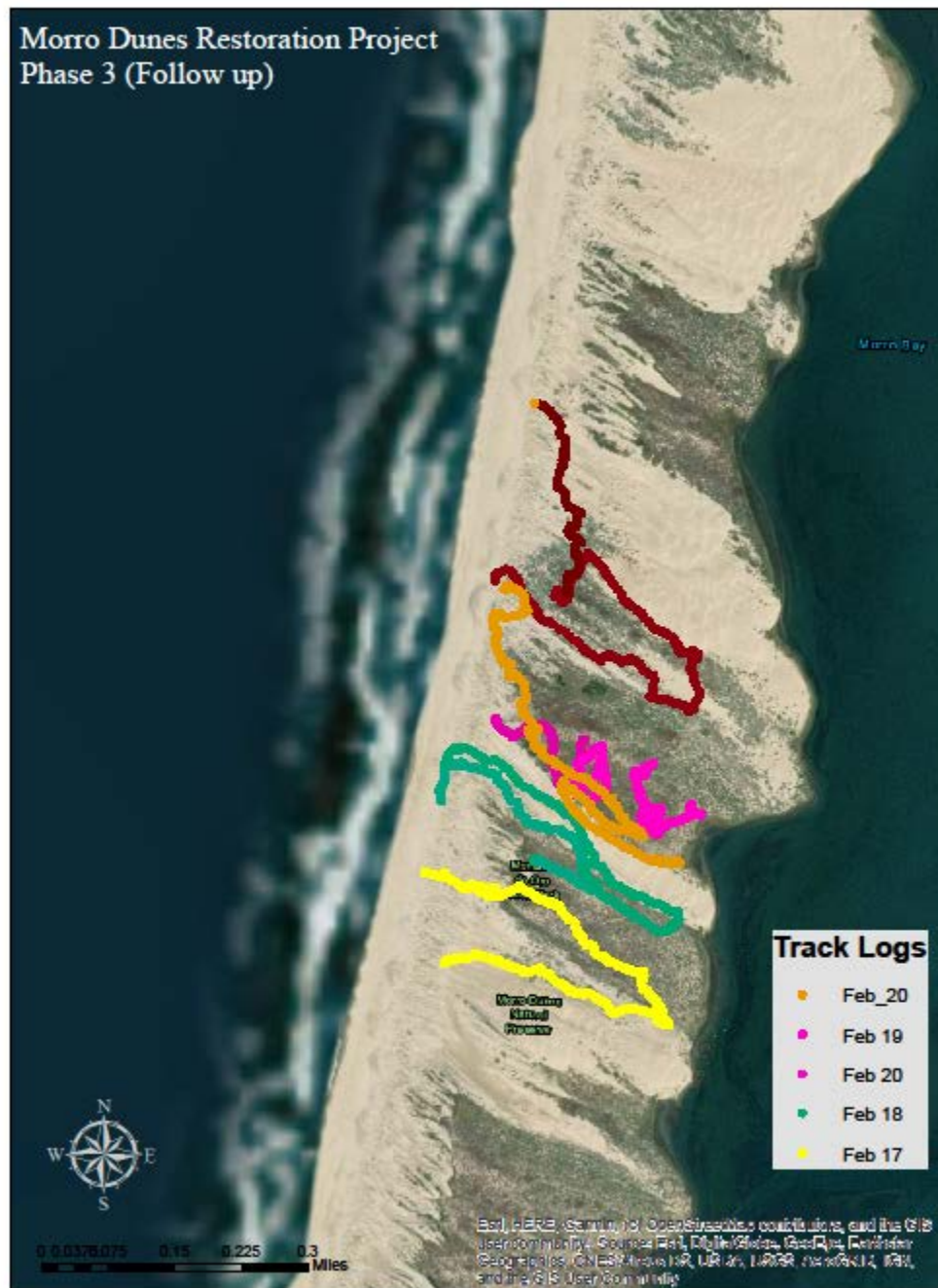
Native dune scrub species regenerating in treated area of Phase 1 – some small patches of iceplant about to be retreated are visible.



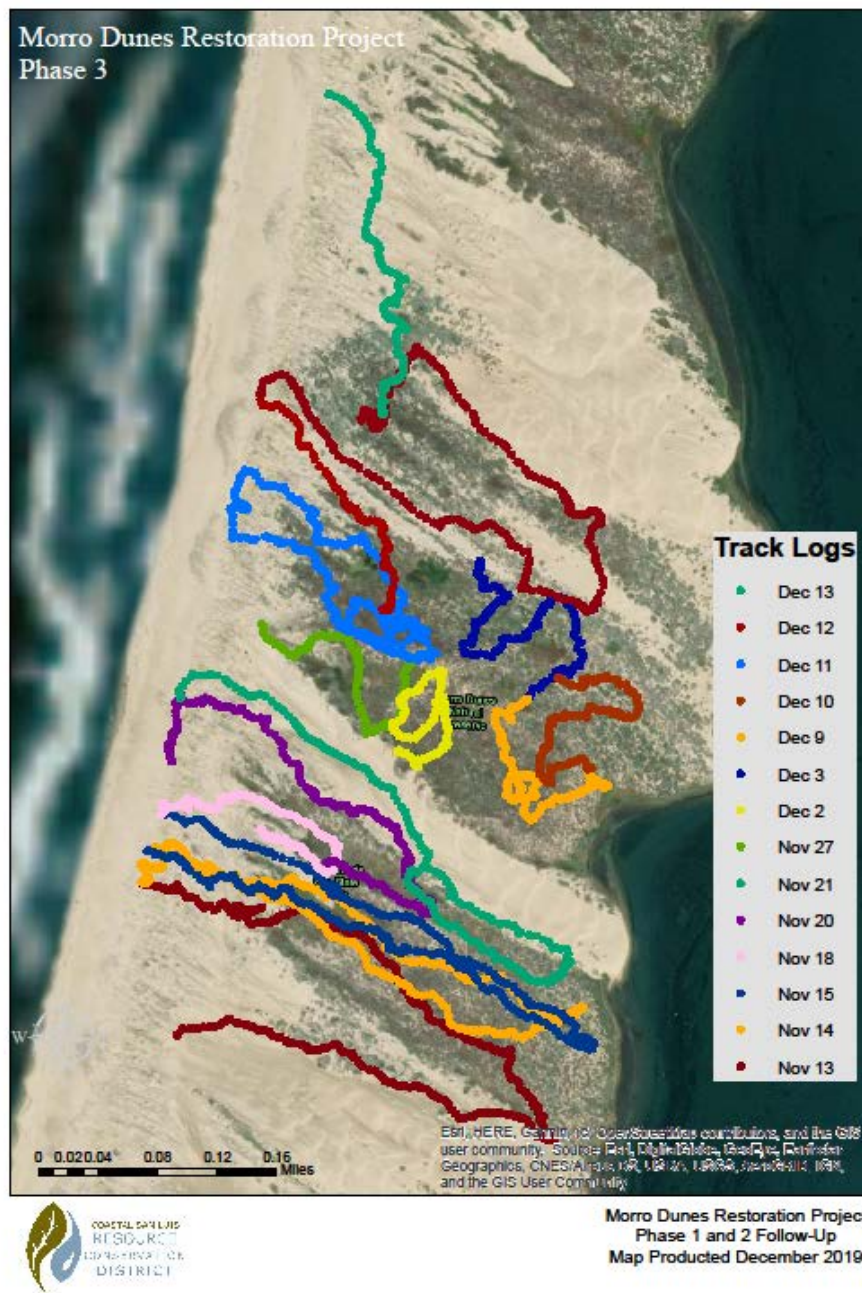
Sub-contractor re-treating iceplant patches in Phase 2

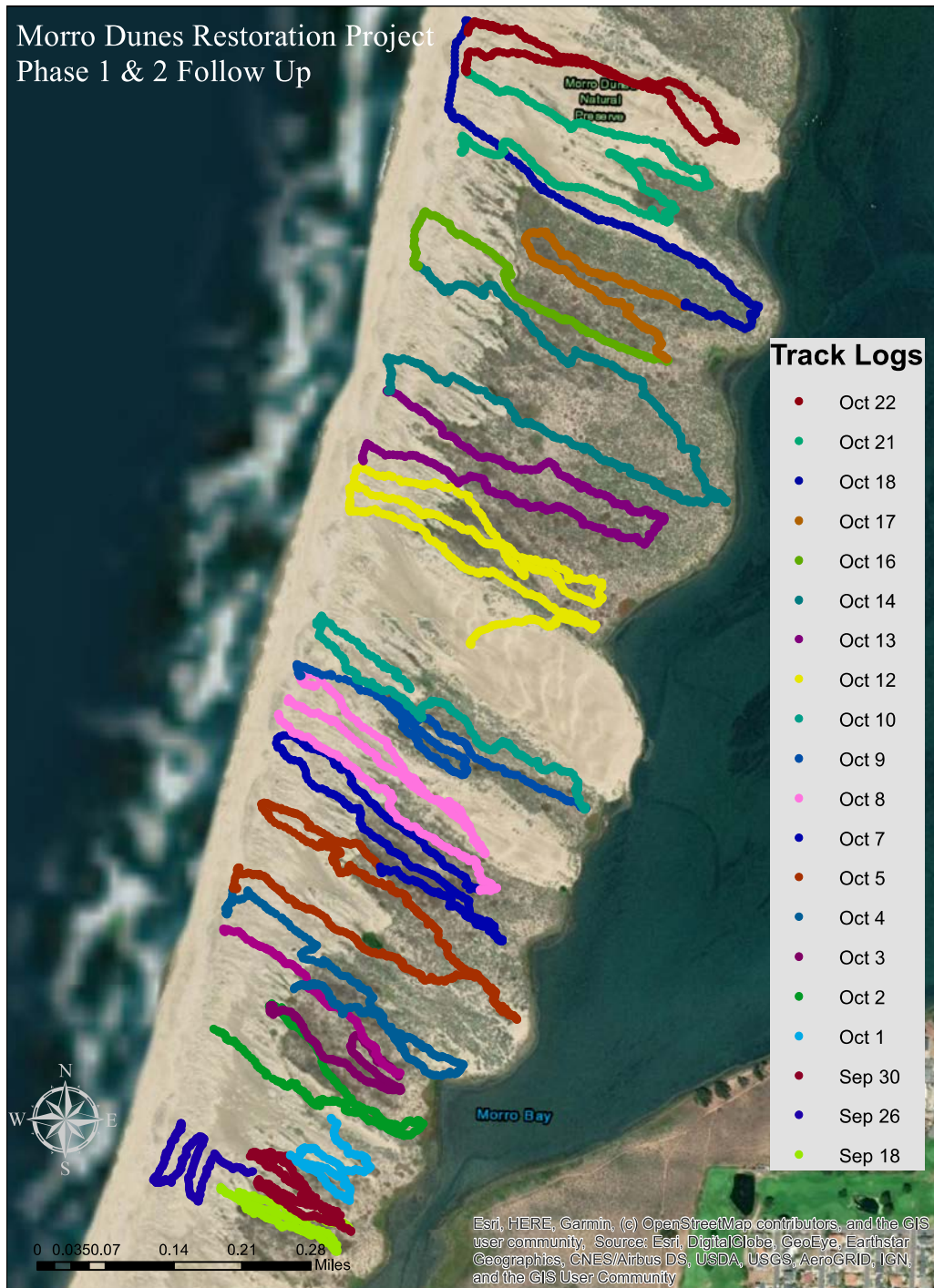


Project Maps – the most recent treatments are shown first:

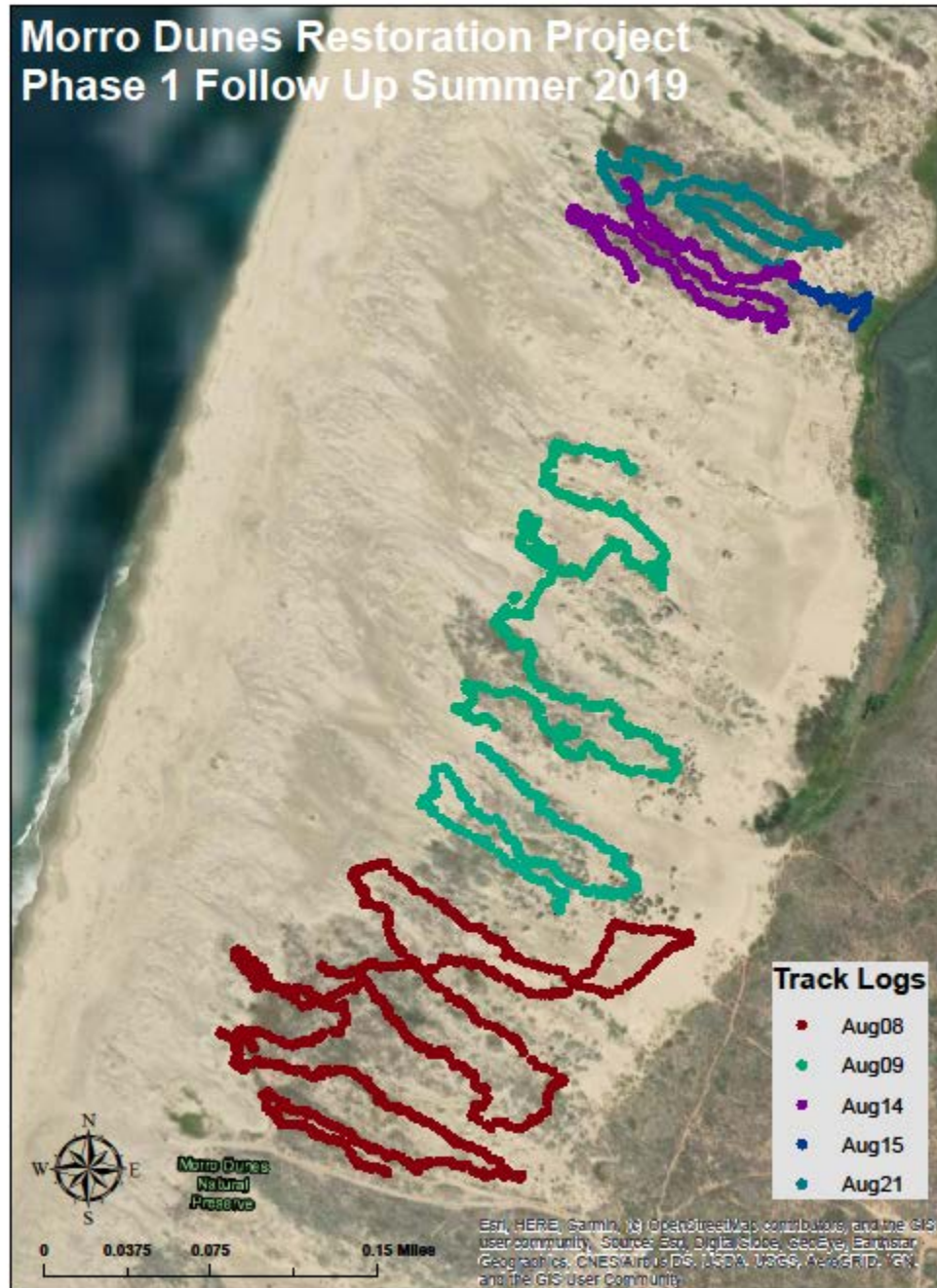


Morro Dunes Restoration Project  
Phase 1 and 2 Follow-Up  
Map Produced December 2019









Morro Dunes Restoration Project  
Phase 1 Follow-Up  
Map Produced September 2019







Morro Dunes Restoration Project  
Phase 1: Treatment Area  
Map produced December 2018