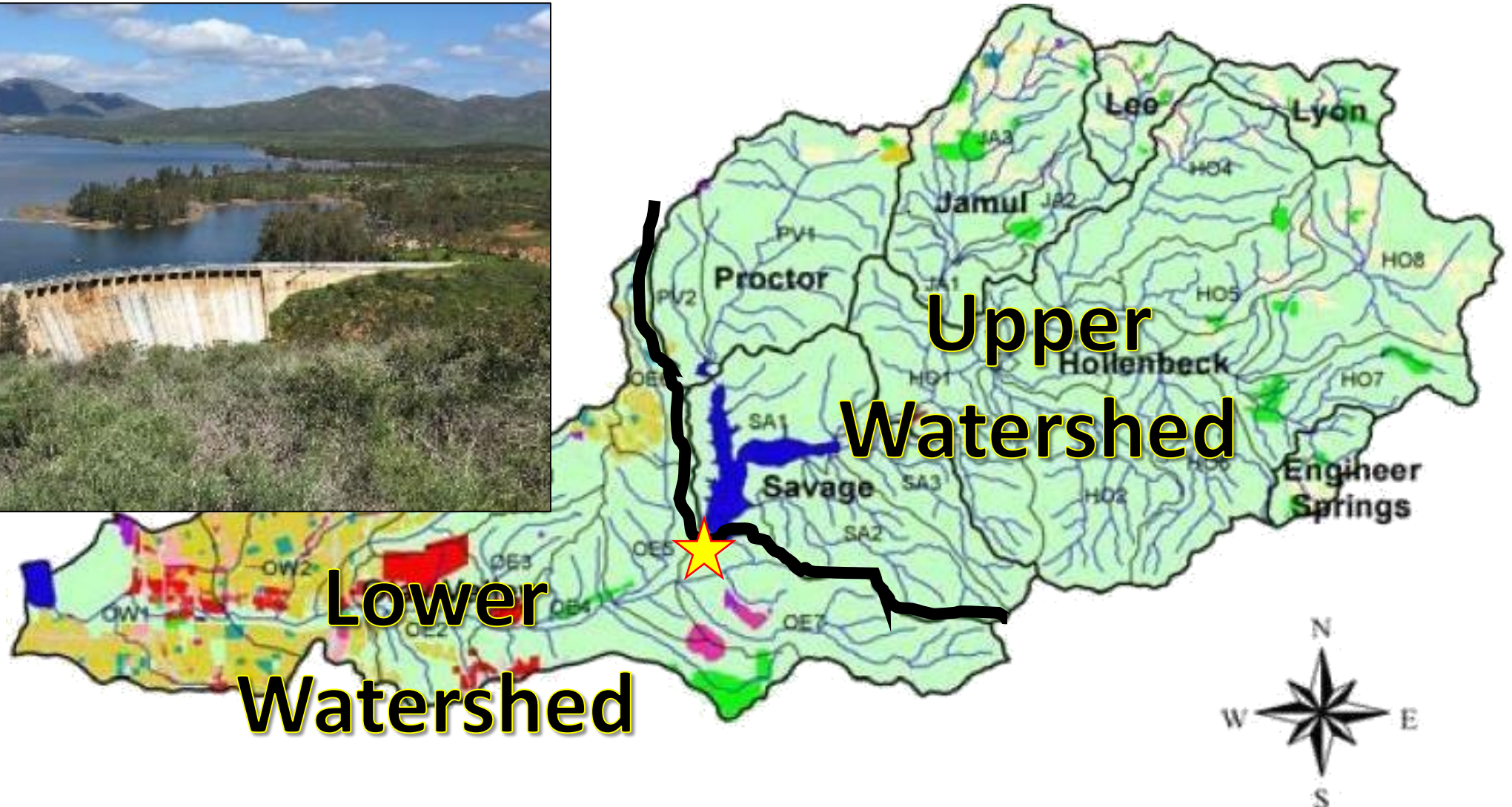


Otay River Mitigation Program: Development, Preservation and Mitigation



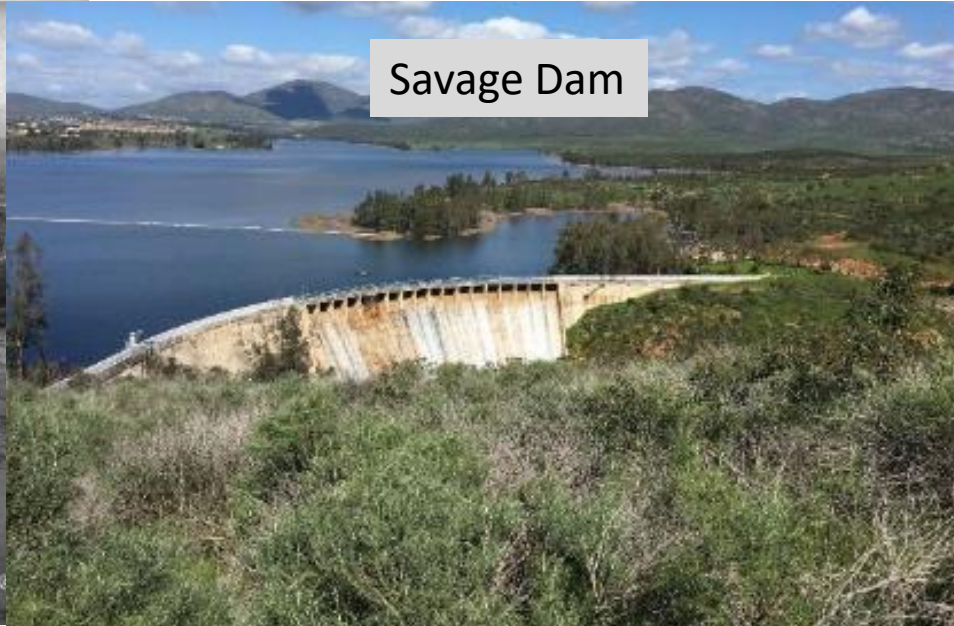
MSP Land Manager Meeting, November 2019
Courtney Casey and Lindsay Teunis

Otay River Watershed and Sub-Basins



Why Restoration is Needed?

San Diego Historical Society

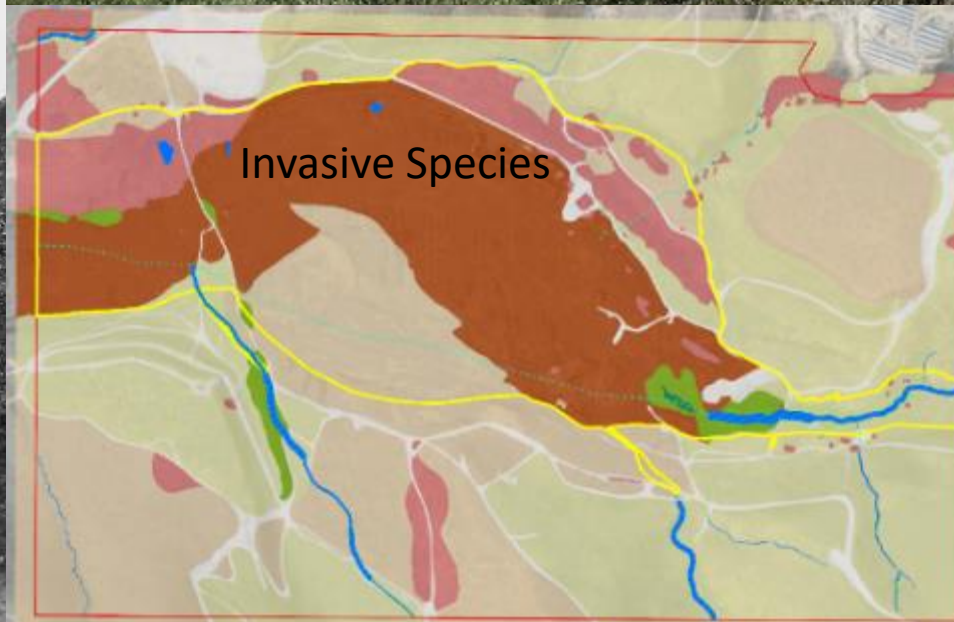


Savage Dam



Savage Dam

Sand Mining

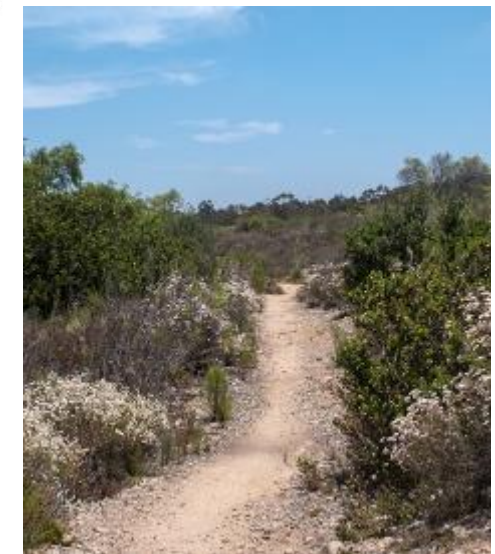
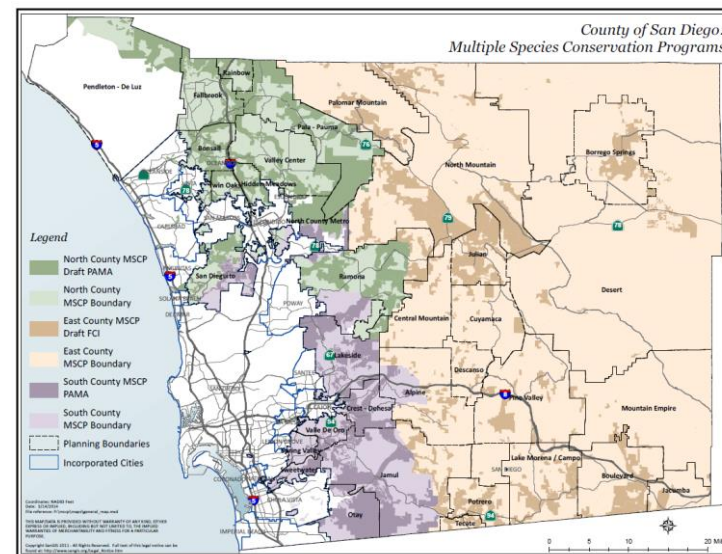
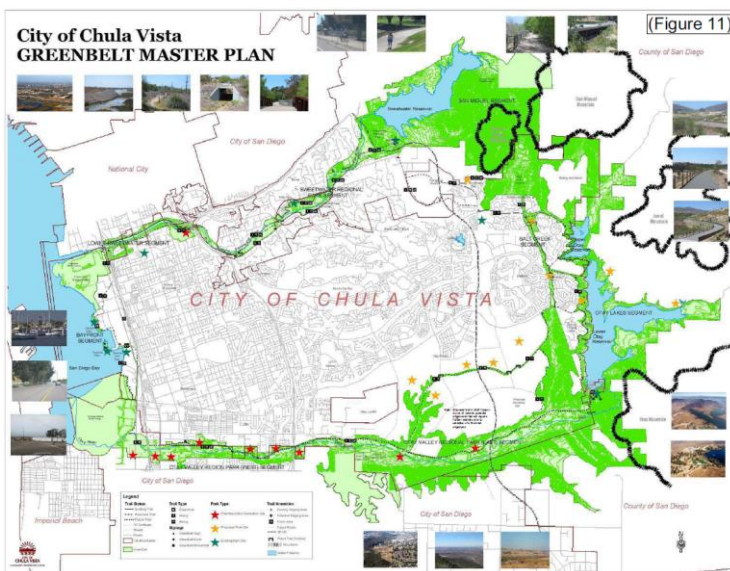


Invasive Species

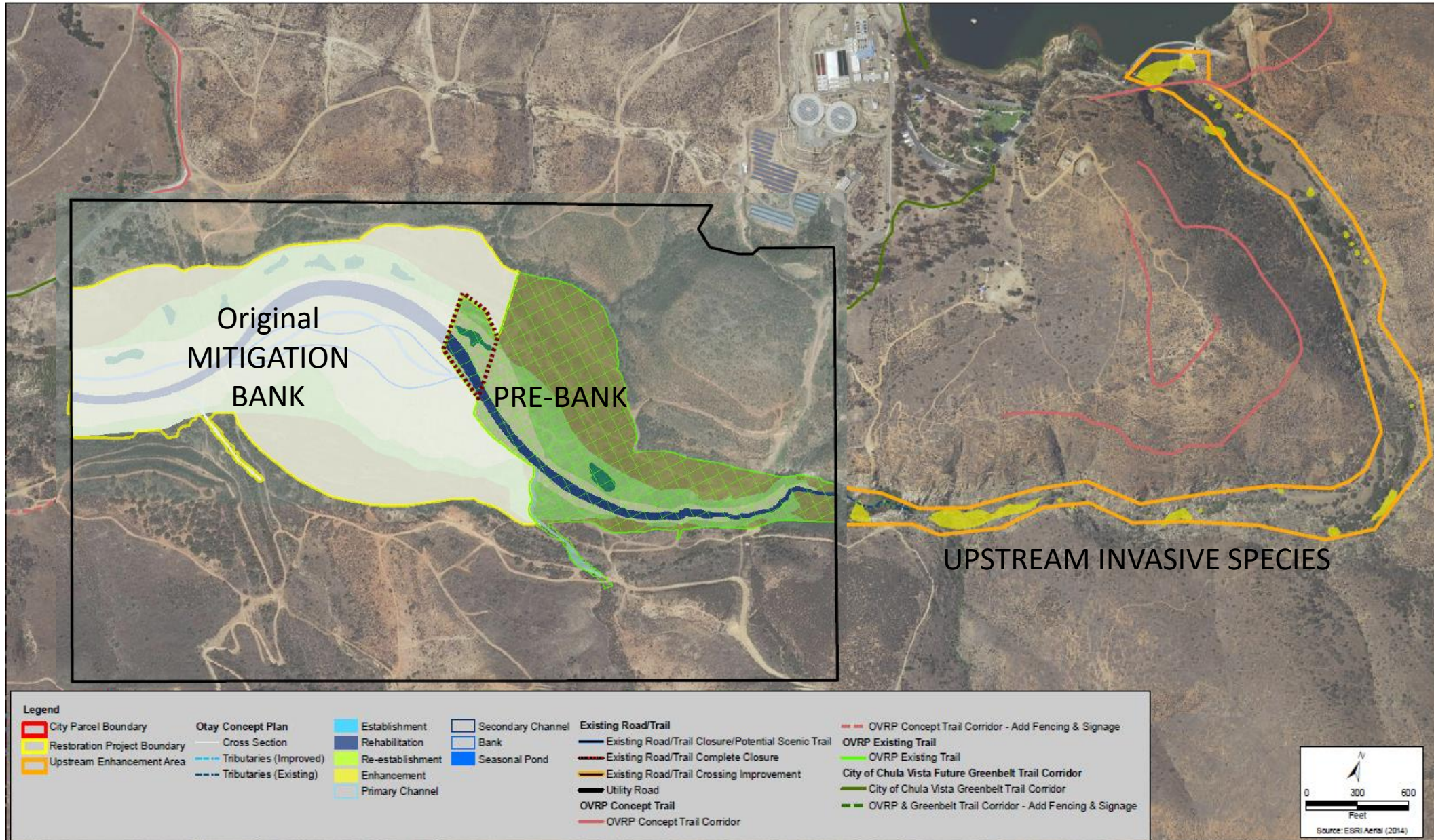
Otay River

Multiple Uses and Objectives

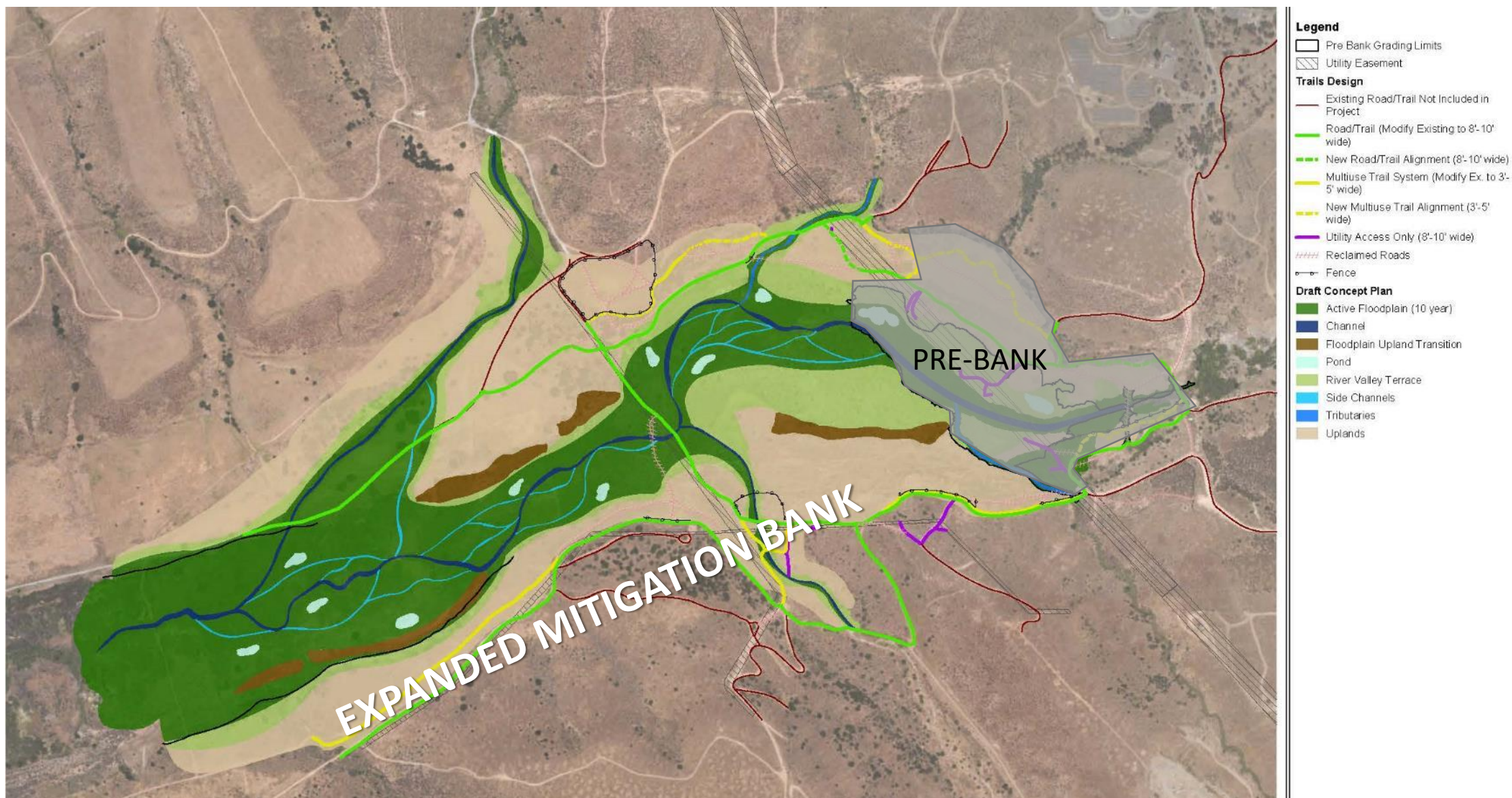
- Otay MSCP Preserve
- Threatened and Endangered Species
- Current and Future Trail Users
 - Pedestrians, Mountain Bike, Equestrian
- Border Patrol
- Otay Water District (waterlines)
- SDGE (gas and overhead electric)



Where We Began



Where We Are Headed



What's Happened So Far, 2018 Installation





Active Floodplain 6.12 acres	Quantity
<i>Anemopsis californica</i>	431
<i>Baccharis salicifolia</i>	231
<i>Carex spissa</i>	288
<i>Eleocharis macrostachya</i>	431
<i>Elymus triticoides</i>	431
<i>Iva hayesiana</i>	507
<i>Juncus acutus ssp. leopoldii</i>	175
<i>Juncus mexicanus</i>	431
<i>Platanus racemosa</i>	86
<i>Populus fremontii</i>	135
<i>Rosa californica</i>	431
<i>Rubus ursinus</i>	431
<i>Salix exigua</i>	575
<i>Salix gooddingii</i>	380
<i>Salix laevigata</i>	80
<i>Salix lasiolepis</i>	531
Subtotal	5,574

Ponds/Channel /Tributaries 2.8 acre	Quantity
<i>Anemopsis californica</i>	199
<i>Bolboschoenus robustus</i>	199
<i>Cyperus eragrostis</i>	117
<i>Eleocharis macrostachya</i>	176
<i>Elymus condensatus</i>	59
<i>Juncus mexicanus</i>	176
<i>Juncus xiphioides</i>	88
<i>Pluchea odorata</i>	176
<i>Pluchea sericea</i>	79
<i>Schoenoplectus americanus</i>	117
Subtotal	1,386

River Valley Terrace 5.84 acres	Quantity
<i>Artemisia californica</i>	398
<i>Baccharis salicifolia</i>	140
<i>Elymus condensatus</i>	298
<i>Eriogonum fasciculatum</i>	398
<i>Heliotropium curassavicum</i>	150
<i>Iva hayesiana</i>	493
<i>Juncus acutus ssp. leopoldii</i>	179
<i>Muhlenbergia rigens</i>	331
<i>Rhus integrifolia</i>	166
<i>Sambucus nigra ssp. caerulea</i>	112
Subtotal	2,665

Channels and Ponds (additional plants)	Quantity
<i>Anemopsis californica</i>	200
<i>Baccharis salicifolia</i>	75
<i>Distichlis spicata</i>	300
<i>Epilobium canum</i>	50
<i>Heliotropium curassavicum</i>	43
<i>Iva hayesiana</i>	60
<i>Juncus acutus</i>	30
<i>Populus fremontii</i>	6
<i>Salix gooddingii</i>	50
<i>Salix lasiolepis</i>	50
<i>Sambucus nigra</i>	4
Subtotal	868

Uplands 7.96 acres	Quantity
<i>Adenostoma fasciculatum</i>	288
<i>Ambrosia monogyra</i>	431
<i>Artemisia californica</i>	288
<i>Baccharis pilularis</i>	288
<i>Baccharis sarothroides</i>	115
<i>Cylindropuntia prolifera</i>	402
<i>Dudleya edulis</i>	58
<i>Dudleya pulverulenta</i>	73
<i>Eriogonum fasciculatum</i>	231
<i>Ferocactus viridescens</i>	113
<i>Hesperoyucca whipplei</i>	138
<i>Heteromeles arbutifolia</i>	173
<i>Isocoma menziesii</i>	288
<i>Lycium californicum</i>	173
<i>Malosma laurina</i>	173
<i>Opuntia littoralis</i>	231
<i>Peritoma arborea</i>	173
<i>Rhus integrifolia</i>	173
<i>Salvia apiana</i>	173
<i>Salvia mellifera</i>	173
<i>Sambucus nigra ssp. caerulea</i>	195
Subtotal	4,350

Otay River Pre-Bank, Year 1



Otay River Pre-Bank, Year 1



Otay River Pre-Bank, Year 1



Otay River Pre-Bank, Year 1

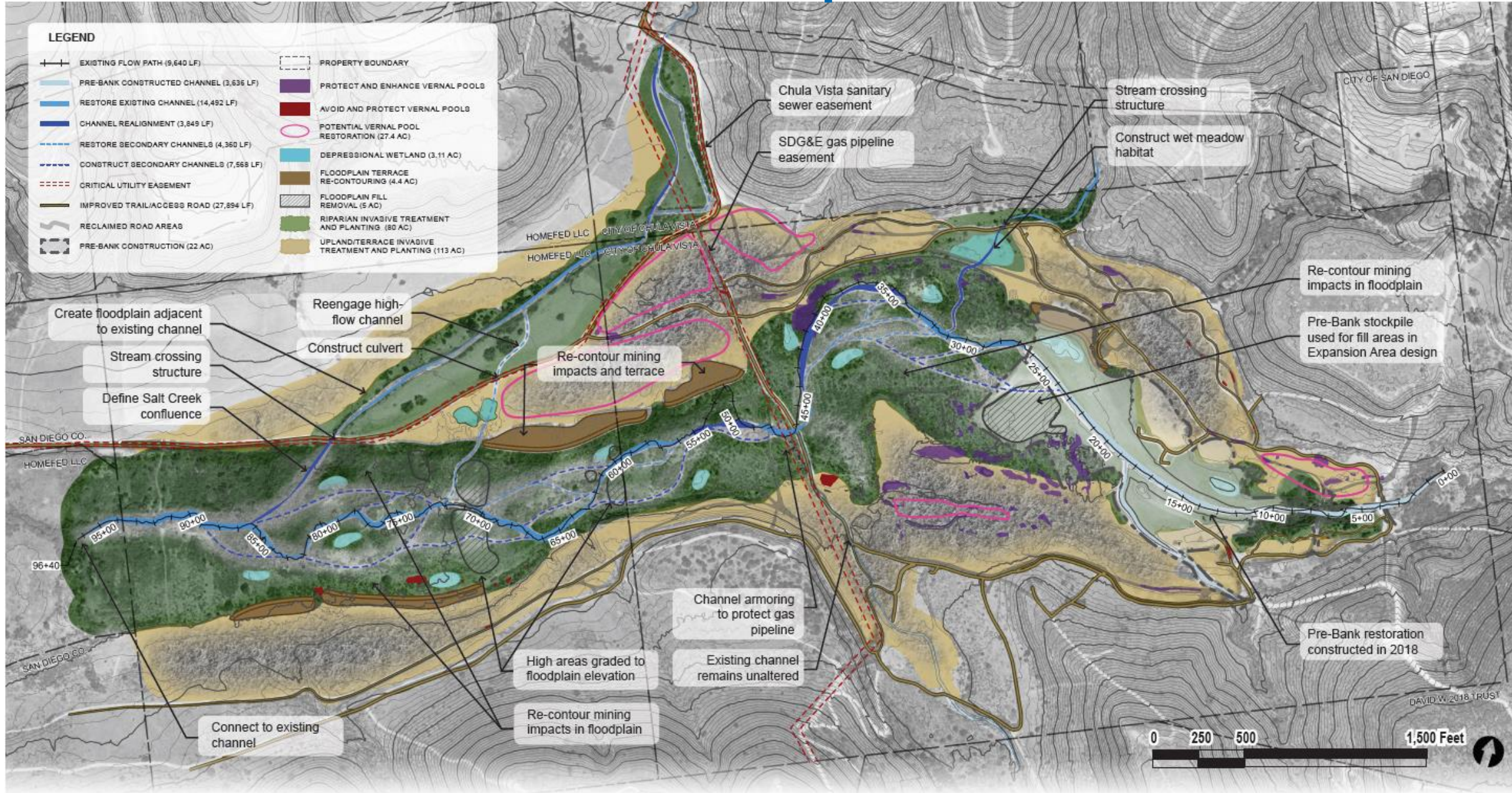


Recruited Plants

(not in plant palette)

Acmispon hermanii	Heliotropium curassavium
Ambrosia psilostachya	Heterotheca grandifolia
Antirrhinum nuttallianum	Isocoma menziesii
Artemisia californica	Iva hayesiana
Baccharis salicifolia	Juncus mexicanus
Baccharis sarothroides	Laennecia coulteri
Carex spissa	Malosma laurina
Convolvulus	Pluchea sericea
Croton setinger	Pseudognaphalium bioletti
Deinandra fasciculata	Pseudognaphalium californiensis
Datura wrightii	Psilocarphus sp.
Distichlis spicata	Solanum sp.
Euphorbia polycarpa	Stephanomeria sp.
Eriogonum fasciculatum	Xanthium strumarium
Guitierrizia sp.	Yucca whipplei

Next Steps



Make Sure Things Work




Continue to Watch and Learn



Continue to Watch and Learn





**Follow The
Flow...**



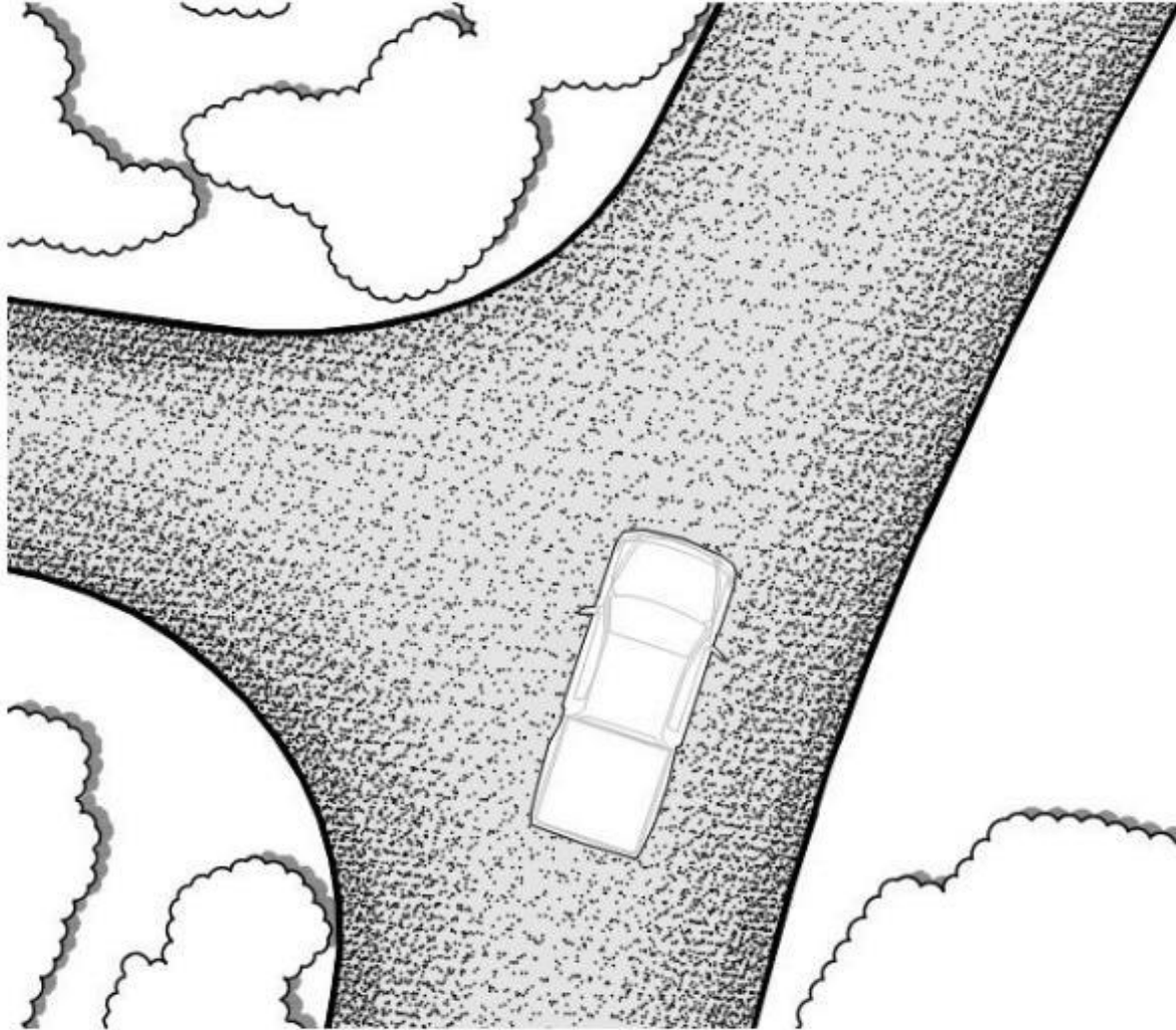
**Continue to
Observe...
Floodplain
Vernal Pools**



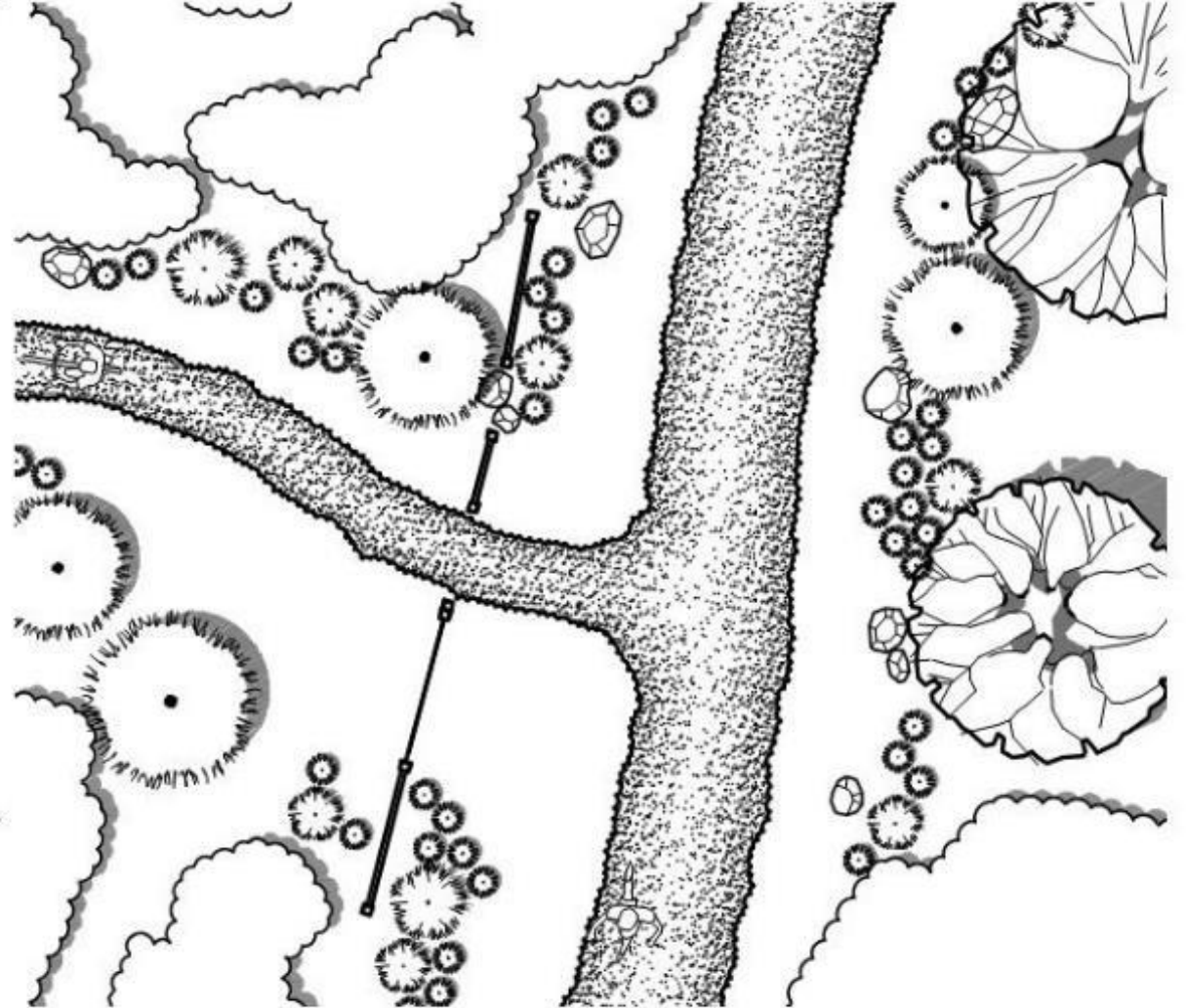


Future Trails

Existing



Proposed



Simulation of Existing Trail Improvements

Existing



Proposed



Project Benefits

- Aquatic Resources
 - Stream
 - Wetland
 - Floodplain Riparian
- Species
 - Fairy shrimp
 - Least Bell's vireo
 - Cactus wren
- Habitats
 - Native grassland
 - Wet meadow
 - Maritime succulent scrub
 - Vernal pools
 - Riparian woodland
- Other
 - Trails



Thank You!

