



Approximating change in Agricultural Productivity using Habitat Data

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Project Background

Project Entities

- Property Owner – The Wildlands Conservancy
- Grant Manager – CalTrout
- Funding
 - California State Coastal Conservancy
 - California Department of Fish and Wildlife
- Technical Studies / California Environmental Quality Act / Permitting
 - GHD
 - Others



Project Location

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Project Area

- Eel River Estuary Preserve (EREP)
- Size: 1238 acres
- Approximately 4 miles west of the City of Ferndale in Humboldt County, California

Project Overview

- The goal of the project is to improve geomorphic and ecosystem functions that would:
 - Enhance habitat for native fisheries and aquatic species
 - Support waterfowl and wildlife species
 - Benefit agricultural land management by more effectively managing onsite flooding and sedimentation.
- Project objectives also include designing and planning for future climate scenarios and sea level rise in relation to:
 - agricultural land management
 - capacity and uses
 - dune enhancement
 - vegetative communities

Environmental Impact Report

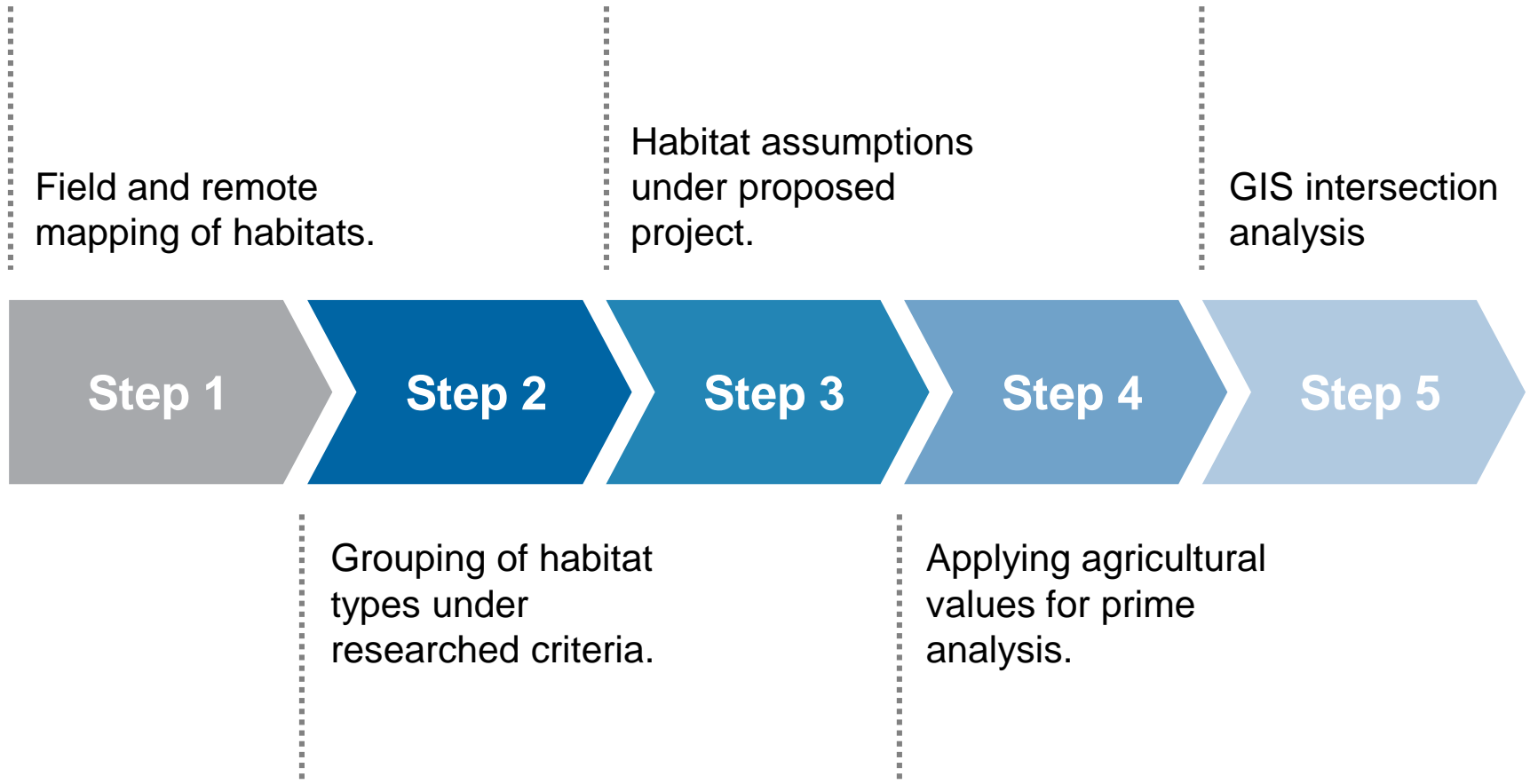
Where does this analysis fit in?

- Impacts to Agricultural Resources
 - Locating prime agricultural lands
 - Quantifying project impacts
 - Identify necessary mitigation.



Methods

Habitat Analysis



Field and Remote Habitat Mapping

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Grouping Habitat Types

Agricultural Habitats	
Pasture and/or Agricultural Wetland	<i>Agrostis stolonifera</i>
	<i>Agrostis stolonifera</i> - <i>Potentilla anserina</i>
	<i>Agrostis stolonifera</i> - <i>Distichlis spicata</i>
	<i>Potentilla anserina ssp. pacific</i>
	<i>Festuca perennis</i>
	<i>Holcus lanatus</i>
	Managed Pasture
Freshwater Emergent Herbaceous	<i>Eleocharis macrostachya</i>
	<i>Juncus effusus</i>
	<i>Juncus lescurii</i>
	<i>Rumex crispus</i>
	<i>Schoenoplectus pungens</i>

Non-Agricultural Habitats	
Saltmarsh and Brackish Herbaceous	<i>Atriplex prostrata</i> - <i>Cotula coronopifolia</i>
	<i>Bolboschoenus maritimus</i>
	<i>Distichlis spicata</i>
	<i>Sarcocornia pacifica</i>
	<i>Deschampsia caespitosa</i>
	<i>Spartina densiflora</i> Complex
	<i>Sarcocornia pacifica</i> Complex
Dune Mat	<i>Juncus breweri</i>
	<i>Abronia latifolia</i> - <i>Ambrosia chamissonis</i> Alliance
Ammophila	<i>Ammophila arenaria</i>
Beach	Beach
Forested Riparian	<i>Salix hookeriana</i>
	<i>Alnus rubra</i> - <i>Salix hookeriana</i>
Scrub shrub	<i>Baccharis pilularis</i>
Bare Ground	Bare Ground
Developments	Development
Water	Ditch
	Open Water
	Slough
	Mudflat
Roads	Improved Road
	Unimproved Road
Levee/Berms	Upland Ruderal
Dominant Invasive	Other Invasive

Proposed Project Habitat

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Applying Prime Values

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GIS Intersect Analysis

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Results and Implications

Quantitative Results

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Implications

- Guided project design
- Minimized agricultural impacts
- Maximized benefits of productivity

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