

Del Mar Habitat Evolution Study



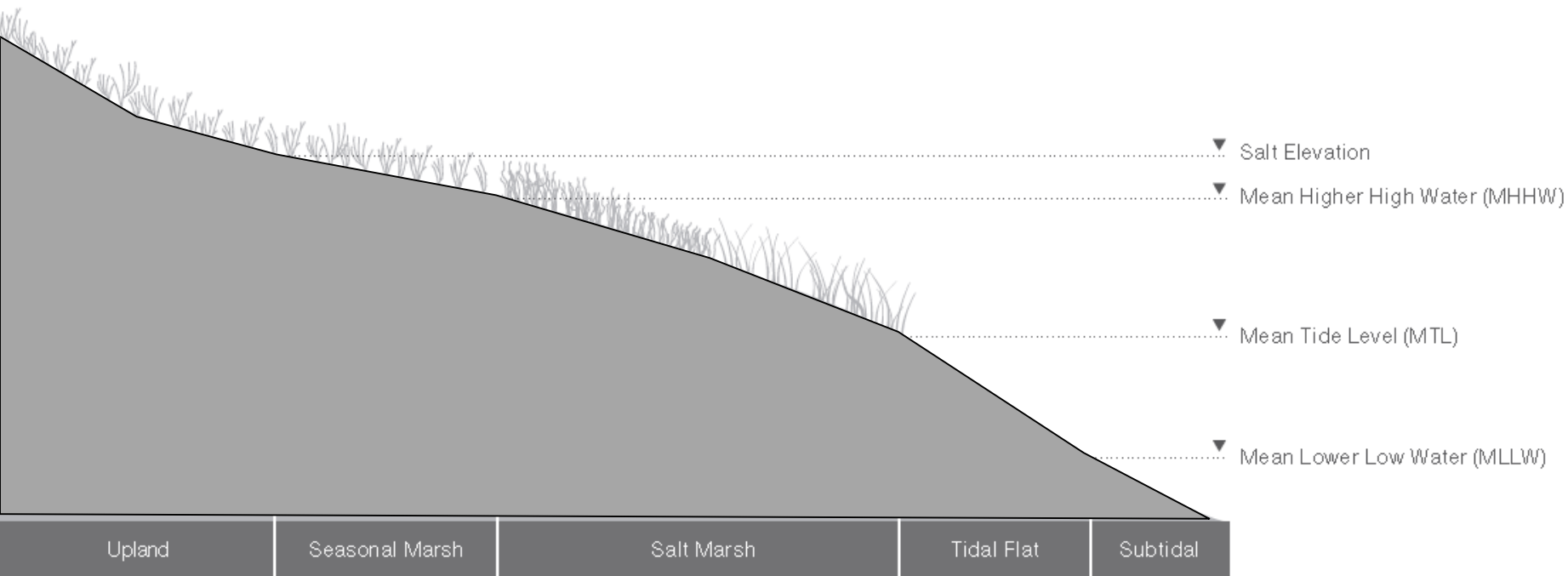
March 22, 2018

Lindsey Sheehan

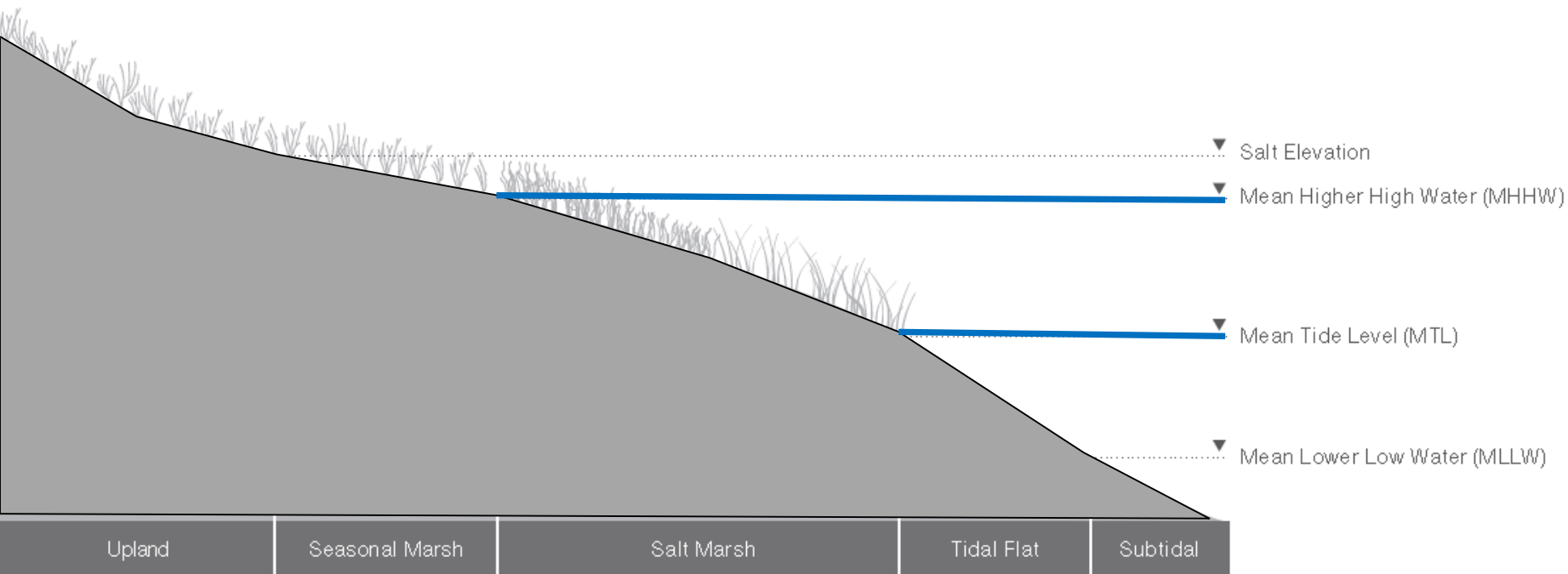
Task 3 – Lagoon Habitat Evolution Assessment

- Why develop this assessment?
 - Vulnerability Assessment identified risks to lagoon habitats with sea-level rise
- What is the purpose of this assessment?
 - Identify vulnerable habitats
 - Identify and evaluate adaptation options
 - Identify where wetland habitat could migrate with SLR
 - Evaluate potential for future habitat migration areas and corridors
- How was the assessment done?
 - Sea Level Affecting Marshes Model (SLAMM)
 - GIS analysis of available areas and risks

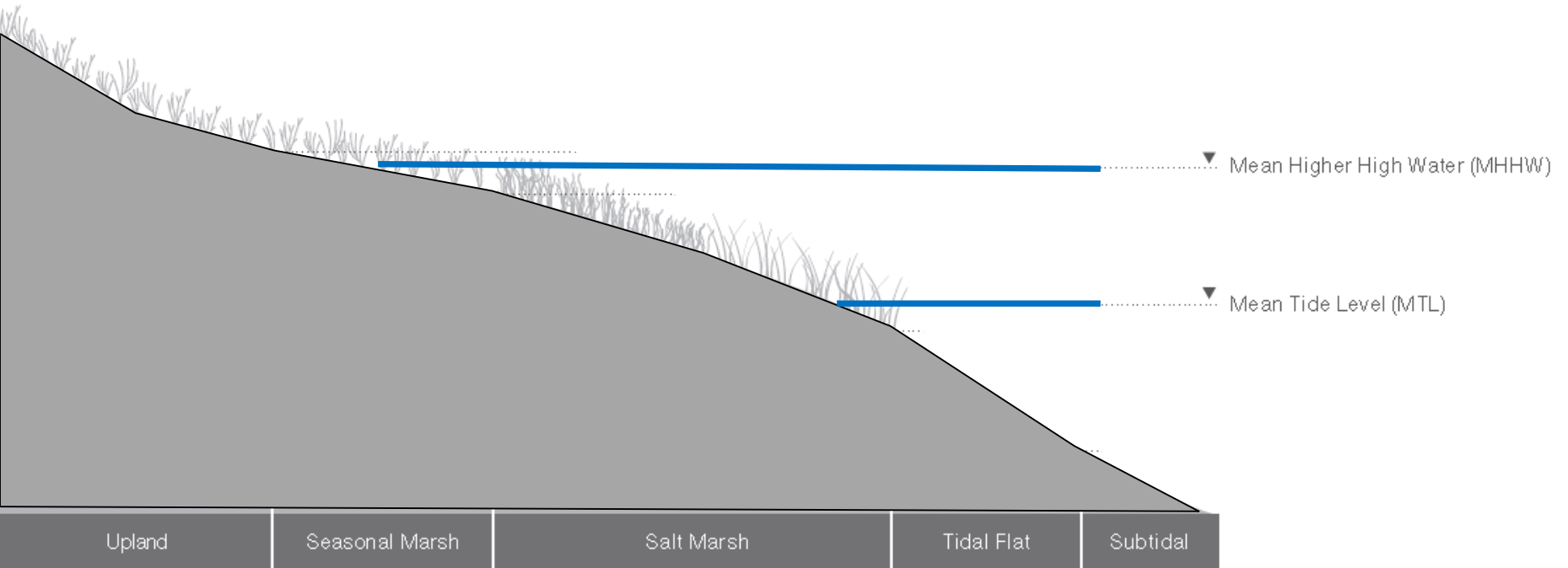
Conceptual Habitat Model



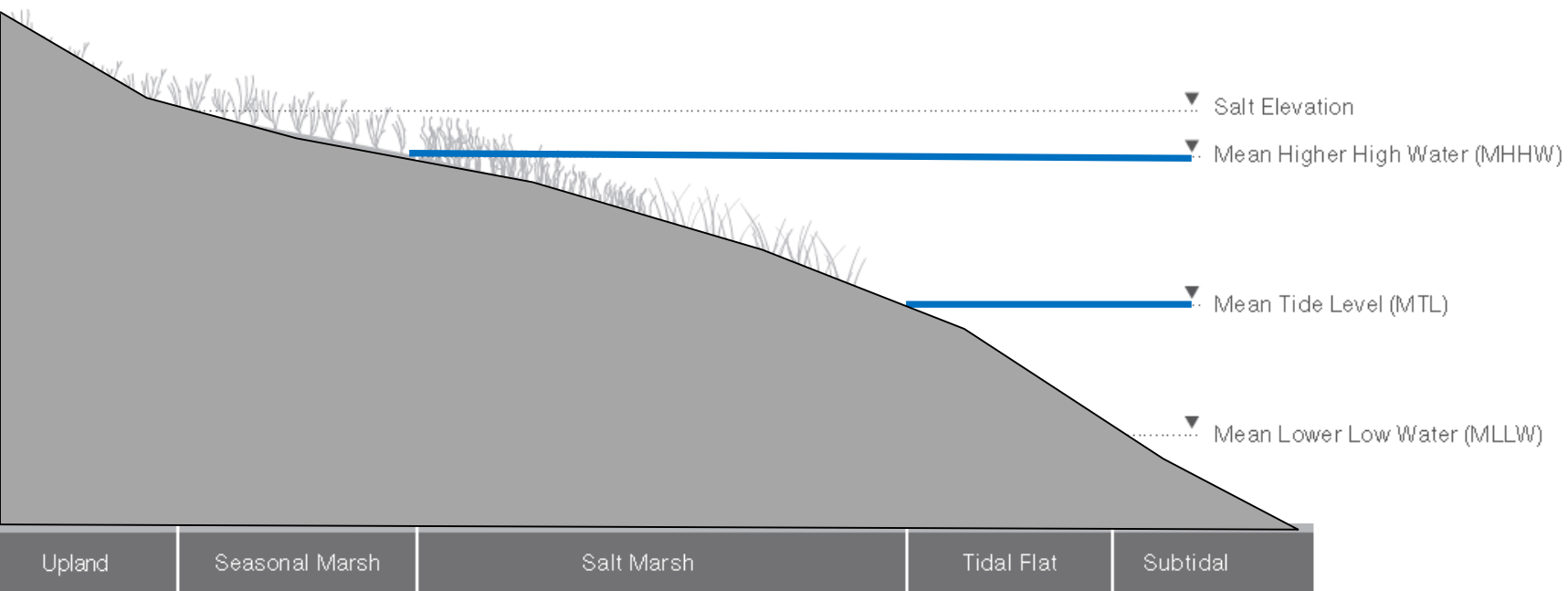
Marsh Habitat Zones



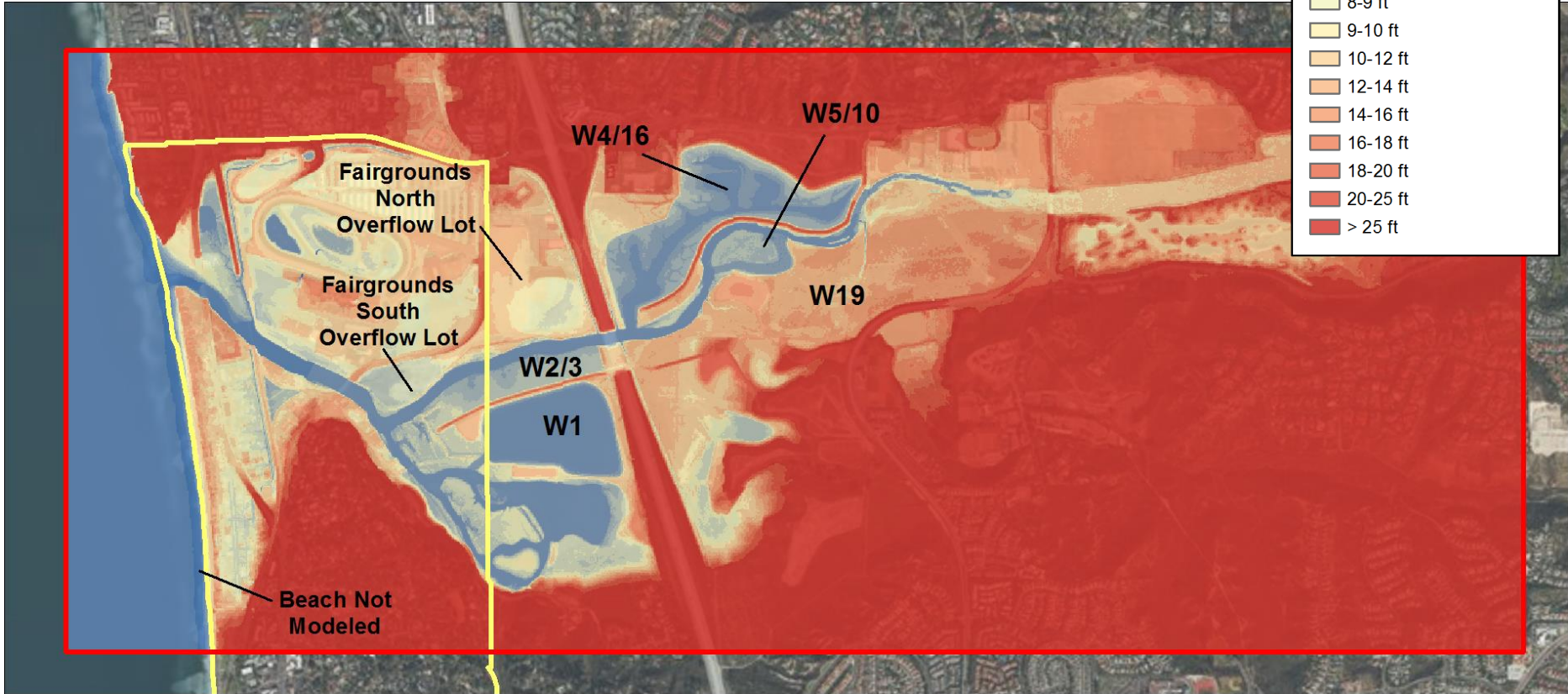
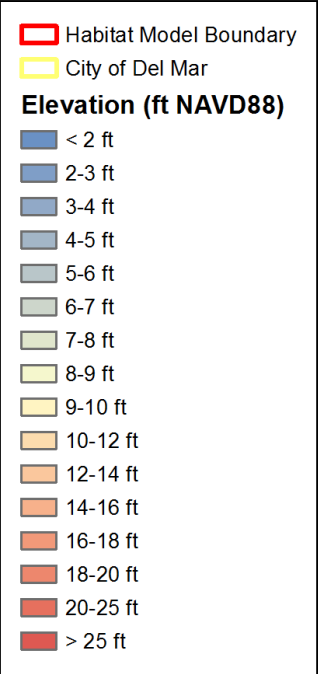
Marsh Habitat Zones



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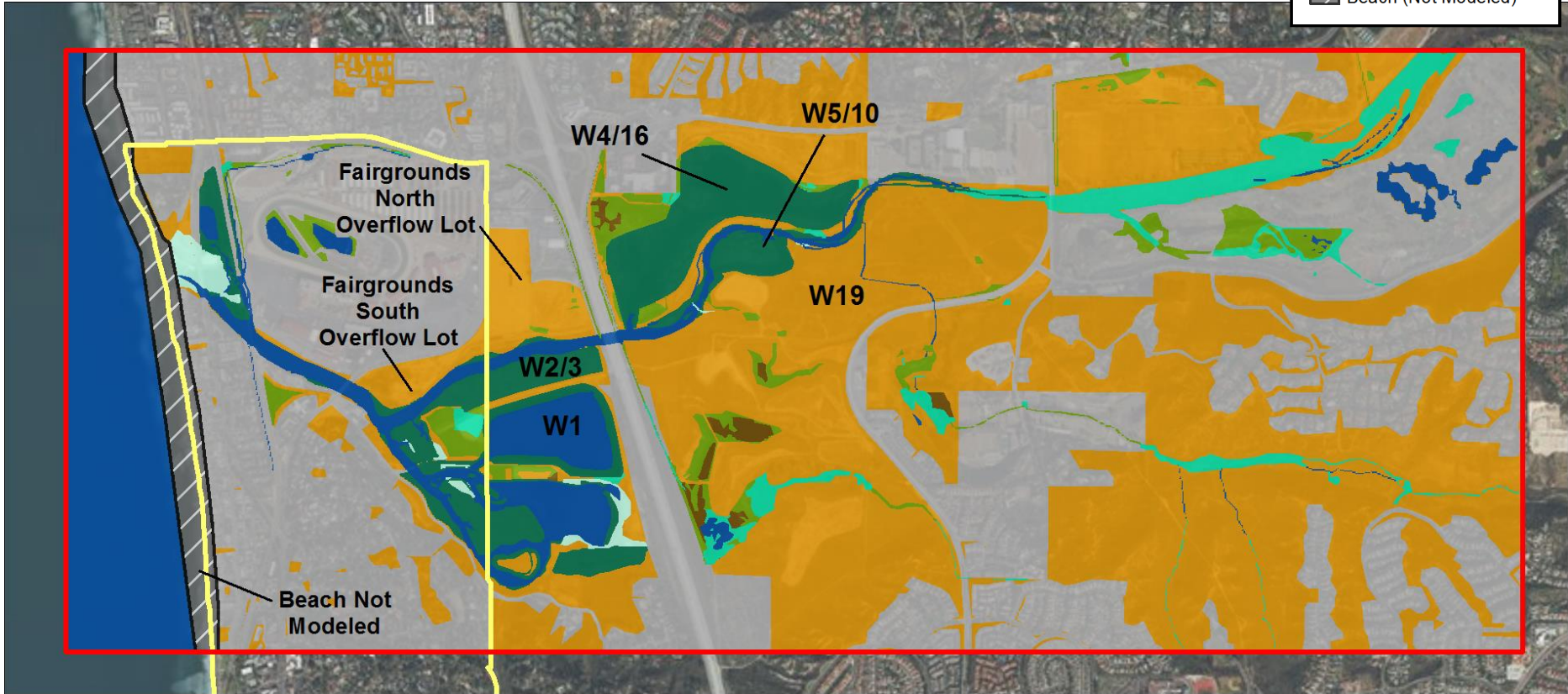


Existing Topographic Data



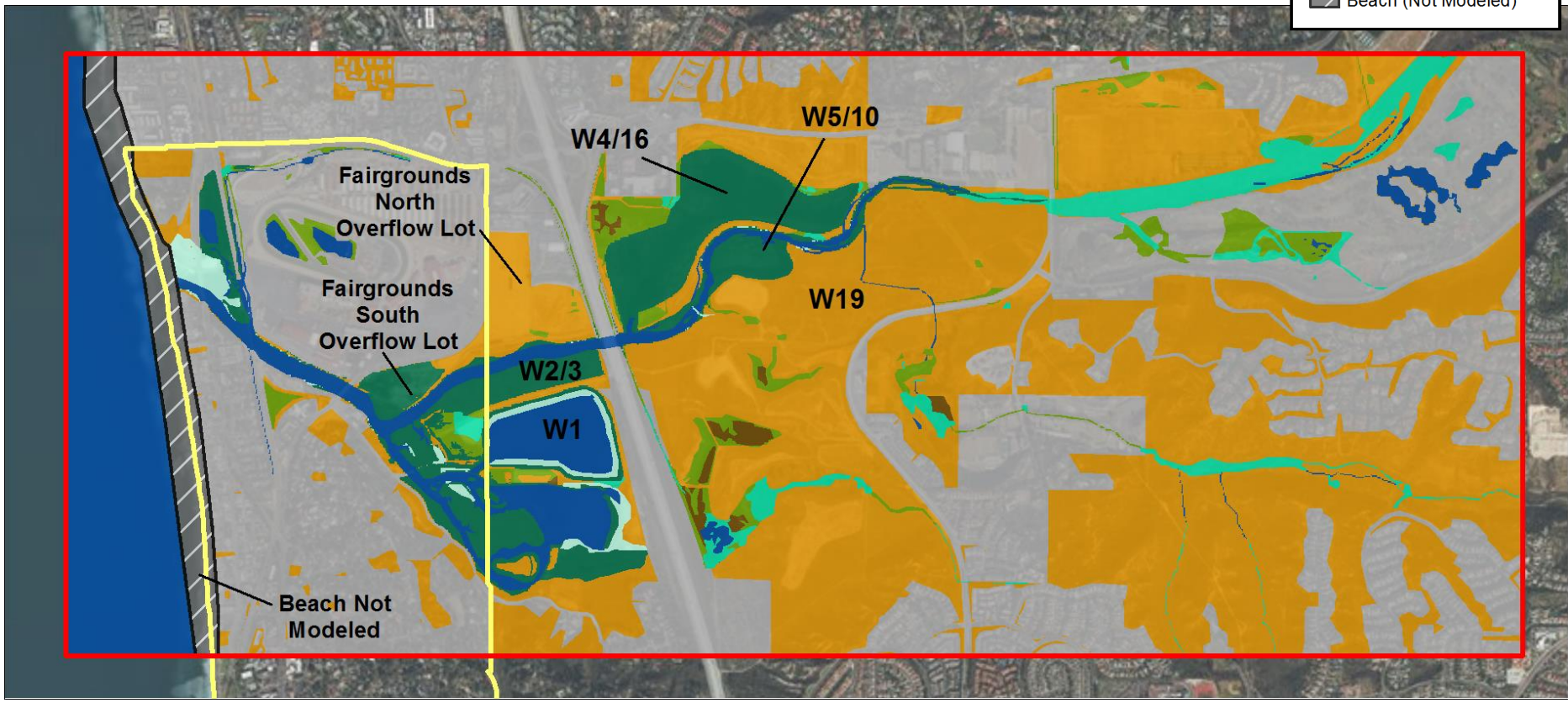
Existing Wetland Habitat Data

- Habitat Model Boundary
- City of Del Mar
- Developed Dry Land
- Undeveloped Dry Land
- Freshwater Marsh
- Seasonal Marsh
- Salt Marsh
- Tidal Flat
- Ponded/Mudflat
- Open Water
- Beach (Not Modeled)



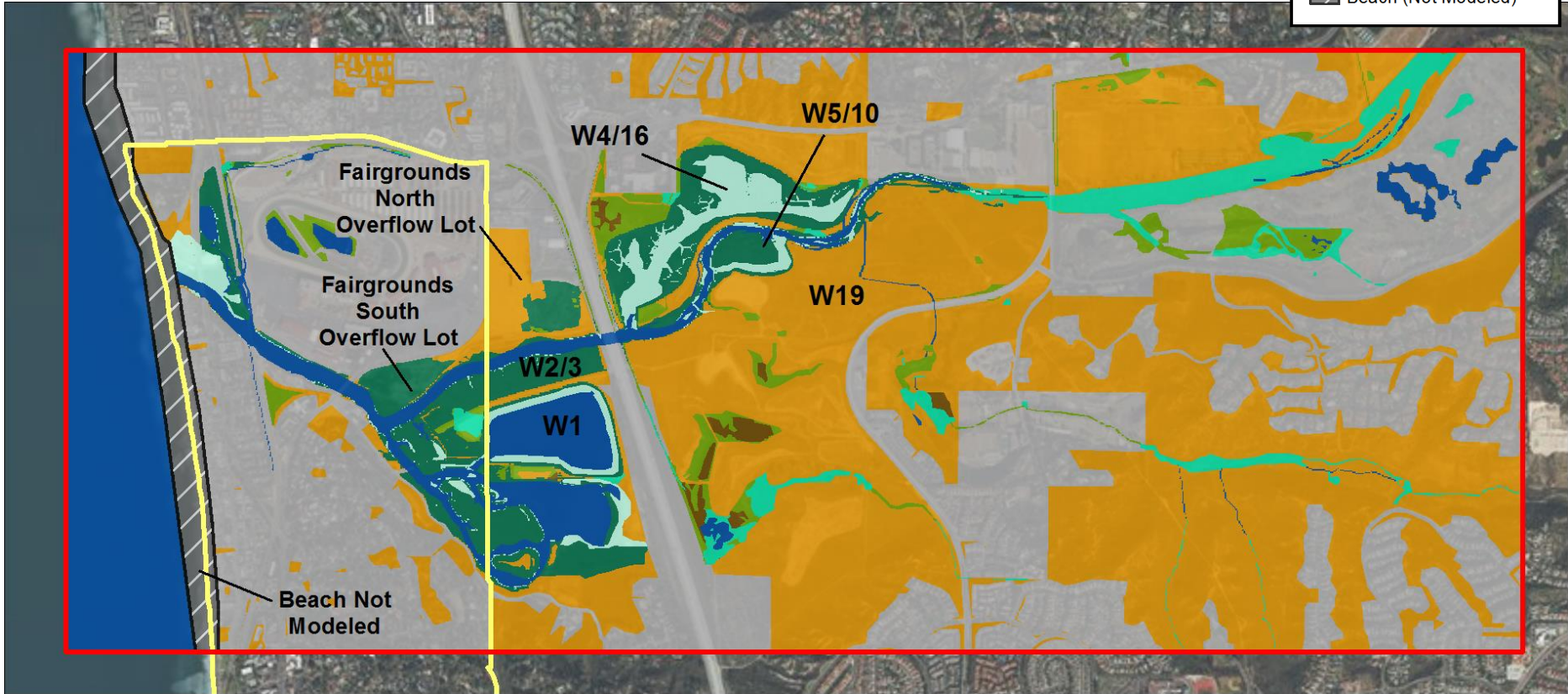
Modeled Wetland Habitat +1.0ft SLR

-  Habitat Model Boundary
-  City of Del Mar
-  Developed Dry Land
-  Undeveloped Dry Land
-  Freshwater Marsh
-  Seasonal Marsh
-  Salt Marsh
-  Tidal Flat
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-  Open Water
-  Beach (Not Modeled)



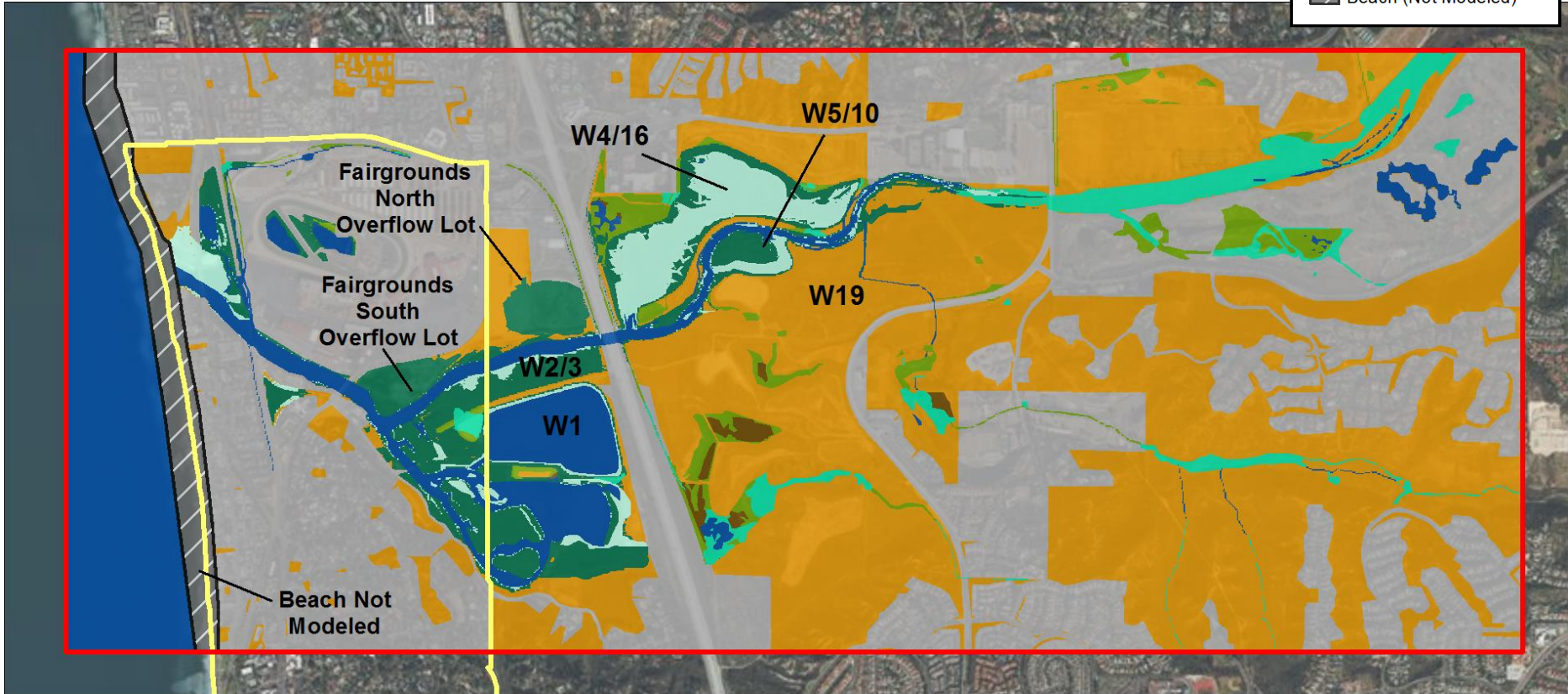
Modeled Wetland Habitat +2.0ft SLR

- Habitat Model Boundary
- City of Del Mar
- Developed Dry Land
- Undeveloped Dry Land
- Freshwater Marsh
- Seasonal Marsh
- Salt Marsh
- Tidal Flat
- Ponded/Mudflat
- Open Water
- Beach (Not Modeled)



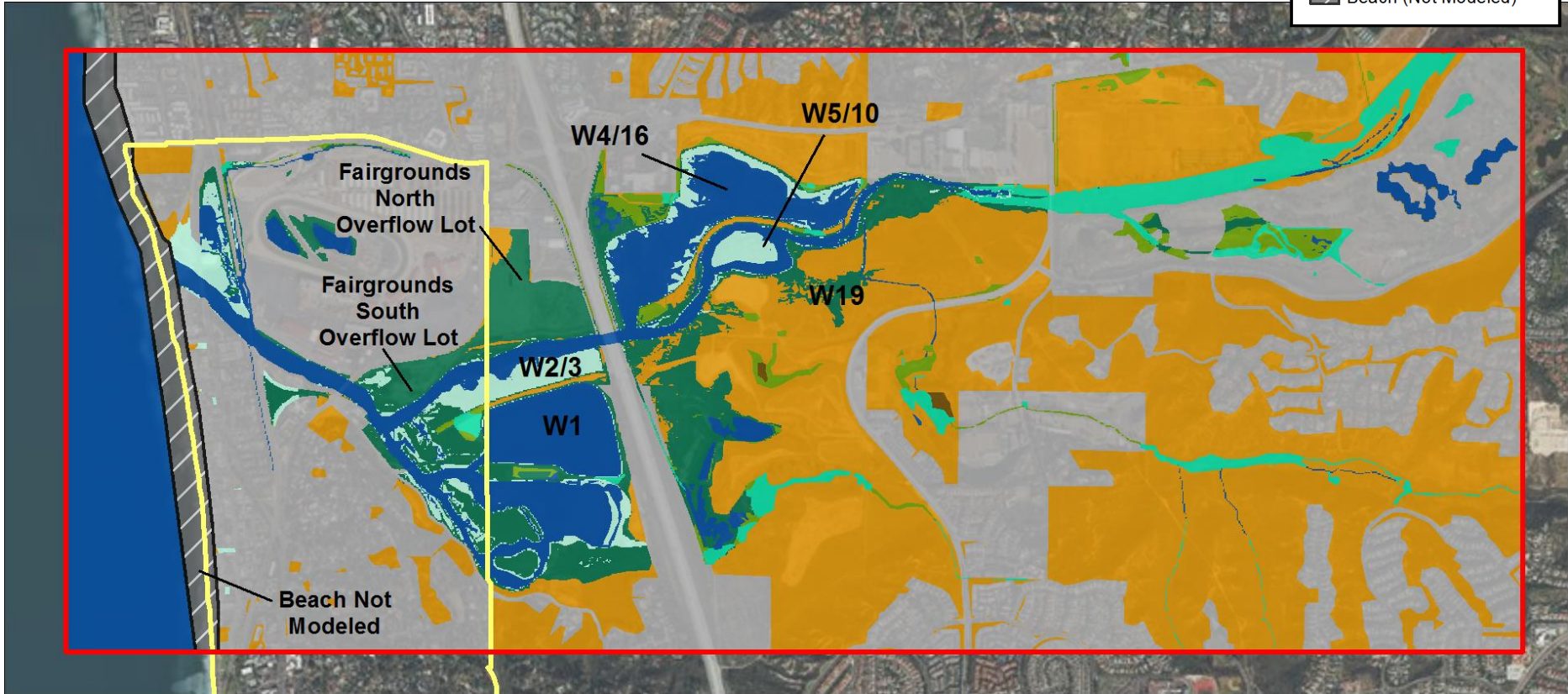
Modeled Wetland Habitat +3.2ft SLR

- Habitat Model Boundary
- City of Del Mar
- Developed Dry Land
- Undeveloped Dry Land
- Freshwater Marsh
- Seasonal Marsh
- Salt Marsh
- Tidal Flat
- Ponded/Mudflat
- Open Water
- Beach (Not Modeled)



Modeled Wetland Habitat +5.5ft SLR

- Habitat Model Boundary
- City of Del Mar
- Developed Dry Land
- Undeveloped Dry Land
- Freshwater Marsh
- Seasonal Marsh
- Salt Marsh
- Tidal Flat
- Ponded/Mudflat
- Open Water
- Beach (Not Modeled)



Conclusions & Recommendations

- Triangle-shaped area between railroad and Jimmy Durante could potentially be restored to support resilient marsh habitat
 - Would likely require flood management measures (e.g., perimeter levee)
- The Del Mar Fairgrounds north overflow lot could support marsh migration/restoration, but conflicts with parking
- The seasonal wetland areas east of I-5 and south of San Dieguito River provide opportunities for marsh migration, but require further investigation and coordination with the City of San Diego
- The planned W19 restoration would create salt marsh in the near-term and could potentially provide pathways for marsh transgression to seasonal wetland areas east of I-5.

Management and Adaptation Measures

- Identify potential conservation areas
- Limit allowable uses
- Zoning setbacks
- Conservation easements
- Potential land acquisition

Questions?

