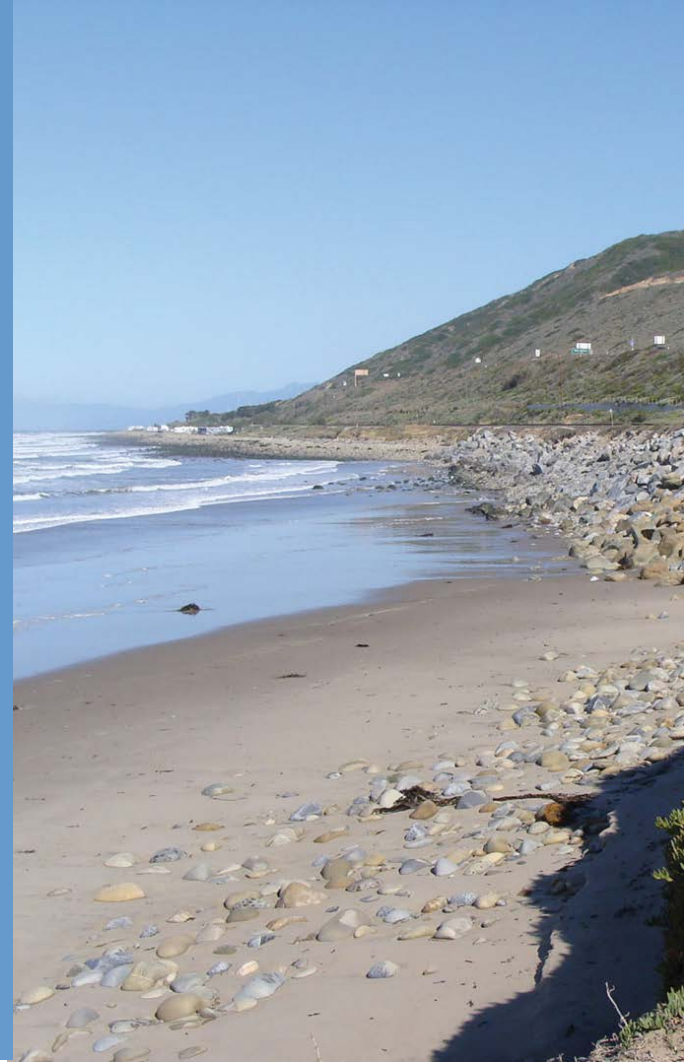


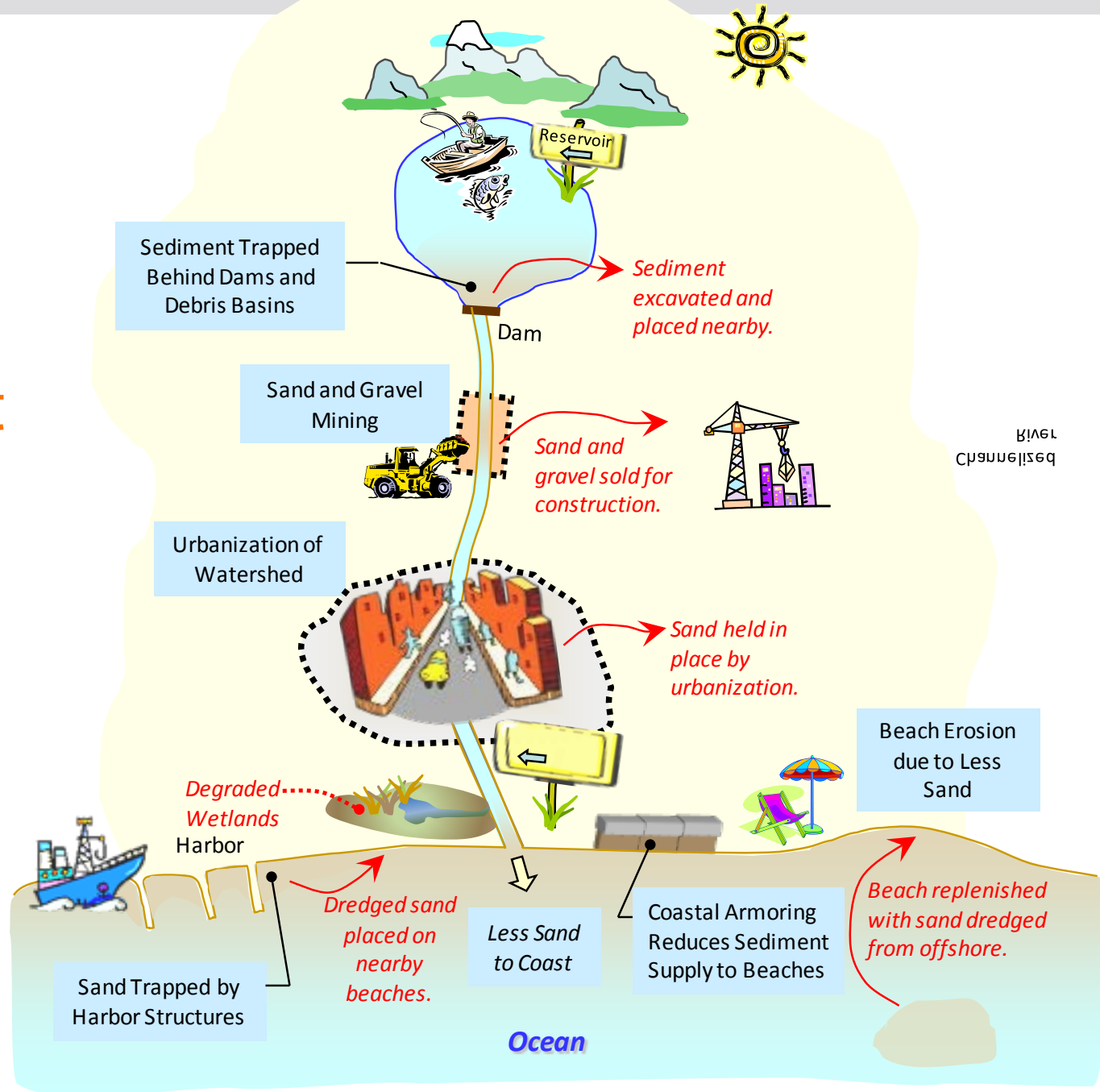
# The San Francisco Littoral Cell CRMSP

Stakeholder Advisory Group  
Meeting #2  
Daly City  
June 6, 2012

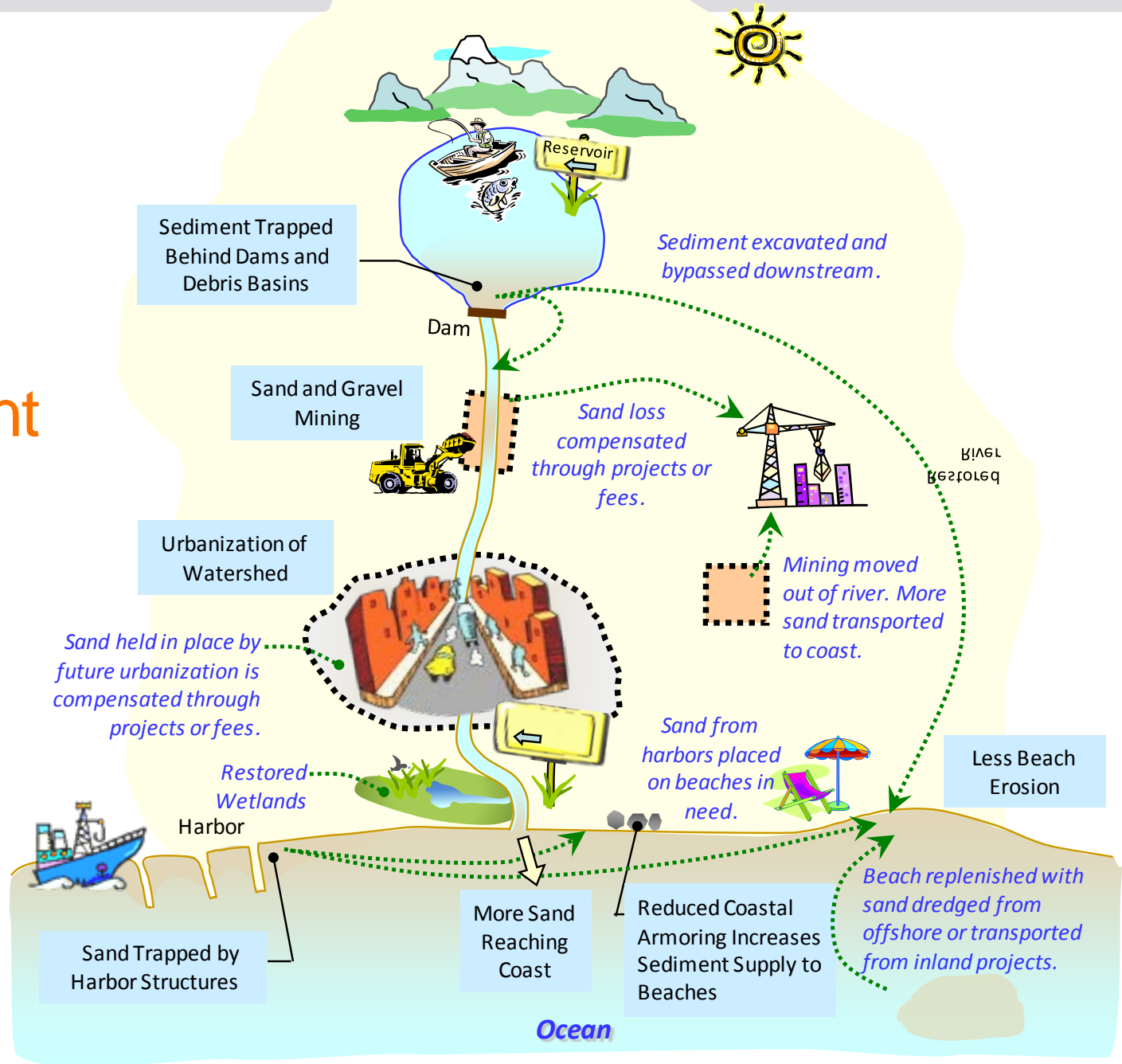
*Doug George and Bob Battalio, ESA PWA  
Athena Honore, ABAG*



# Existing Sediment Management



# Regional Sediment Management



# Project Review

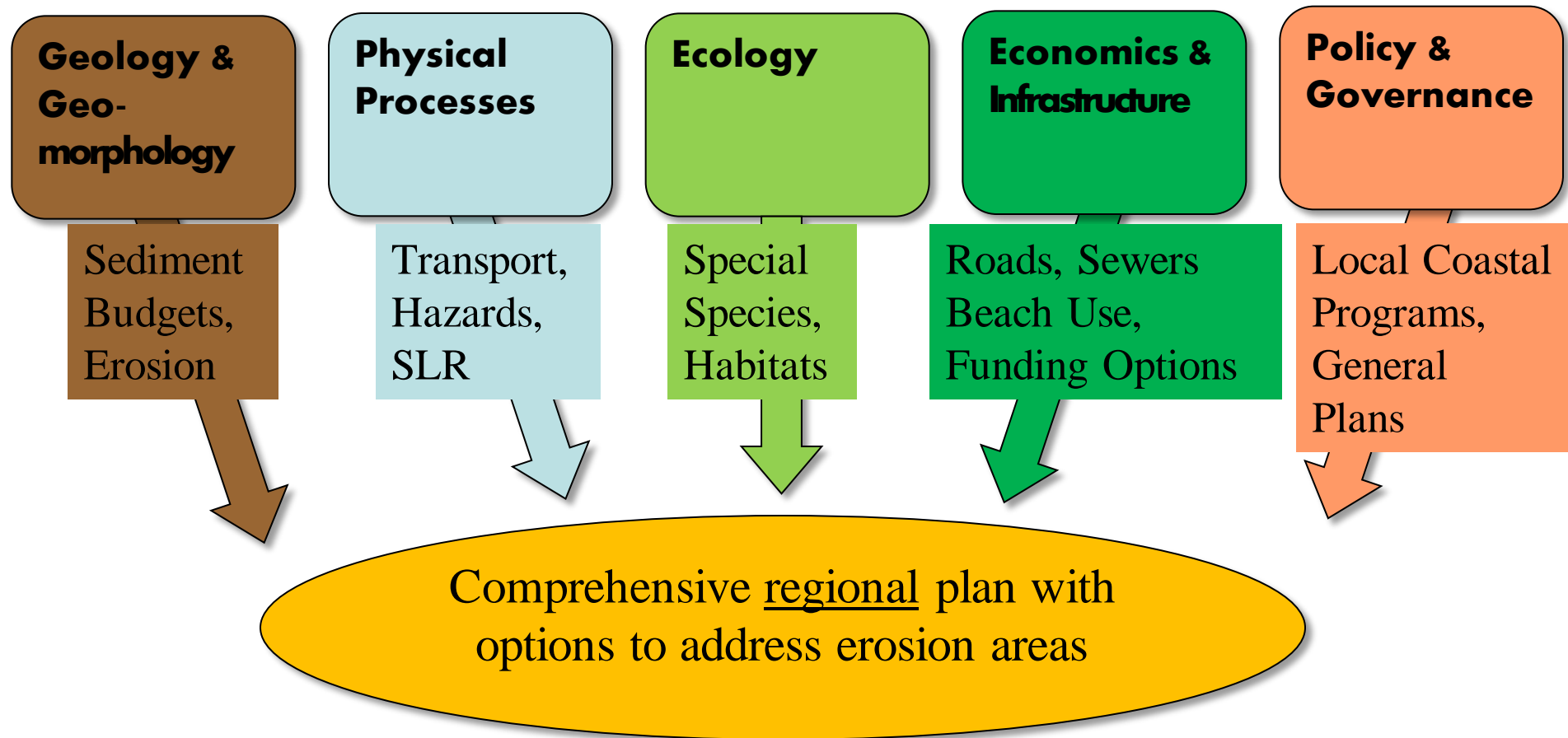


San Francisco Littoral Cell



- Primary jurisdictions:
  - San Francisco
  - Daly City
  - Pacifica
  - National Park Service (GGNRA)
  - State Parks
- 16 Reaches

# CRSMP Components



## Project Tasks

- Task 1 – Study kick off (August '11) 
- Task 2 – Data compilation (February '12) 
- Task 3 – Plan formulation → happening now
- Task 4 – Administrative Draft CRSMP (summer)
- Task 5 – Draft CRSMP (fall)
- Task 6 – Final CRSMP (winter)
- Task 7 – Outreach and Stakeholder Advisory Group

## Since SAG Meeting 1



- Database updates
- SAG member interactions
  - GFNMS, GGNRA, Caltrans, agencies from San Francisco, Pacifica
- Coastal hazard zone determination
  - Sea level rise analysis
- Infrastructure at risk
- Preliminary biology assessment
- Preliminary policy assessment
- Development of Implementation Options



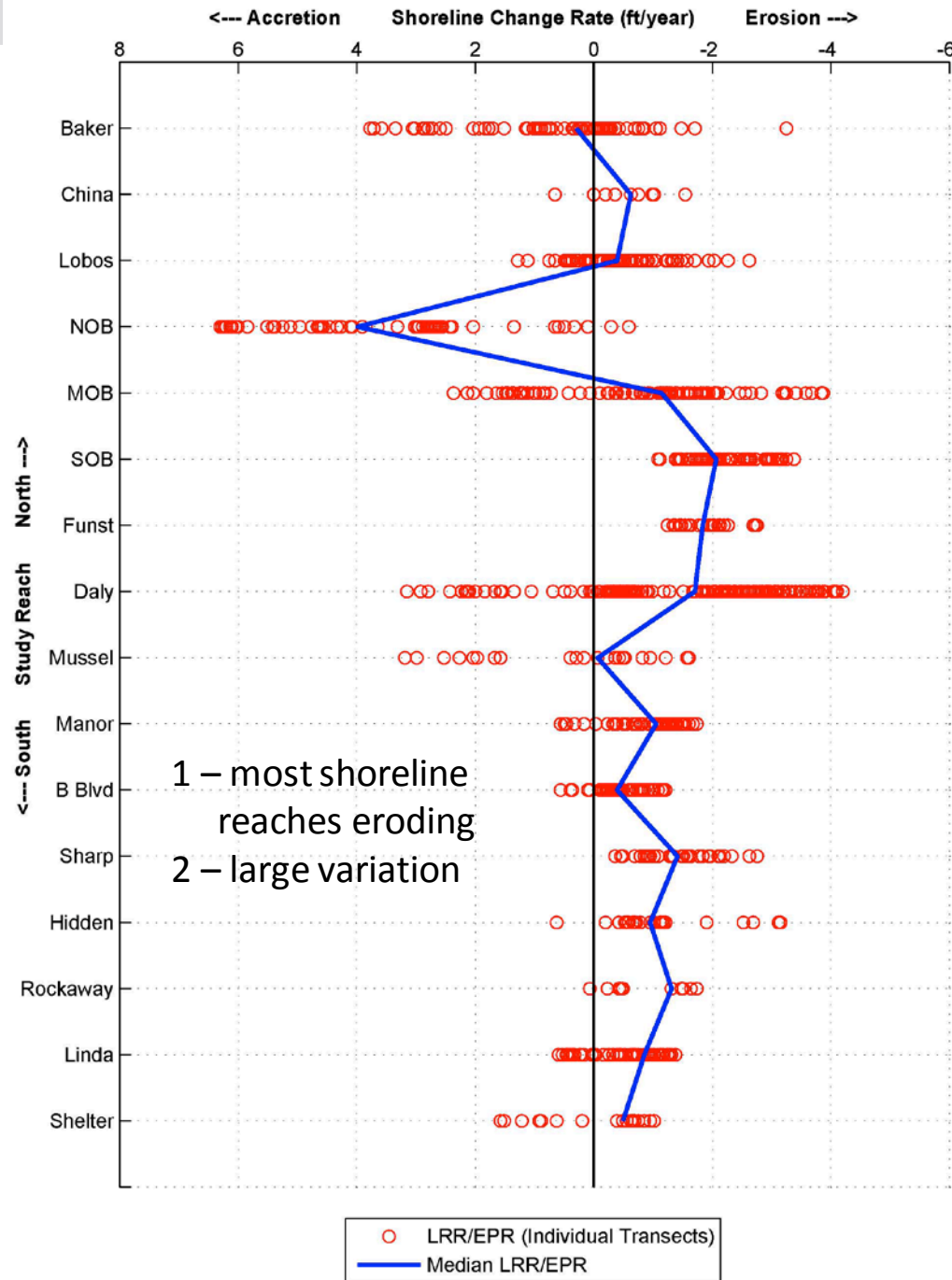
# Erosion & SLR

## Sea Level Rise Estimates (m)

### USACE (2011)

Year	“Low” (Historic Trend)	“Intermediate” (NRC Curve I)	“High” (NRC Curve III)
2000	0	0	0
2025	0.05	0.08	0.17
2050	0.10	0.19	0.47
2100	0.20	0.52	1.51

- 1 – No vertical land motion is included in estimates
- 2 – Using a historic SLR trend of 2.01 mm/year (as measured at the San Francisco NOAA tide gauge)





# Descriptions of Implementation Options



- No Action



- Beach Nourishment

- Multi-purpose Reefs



- Managed Retreat



- Armor



- Allow Natural Processes

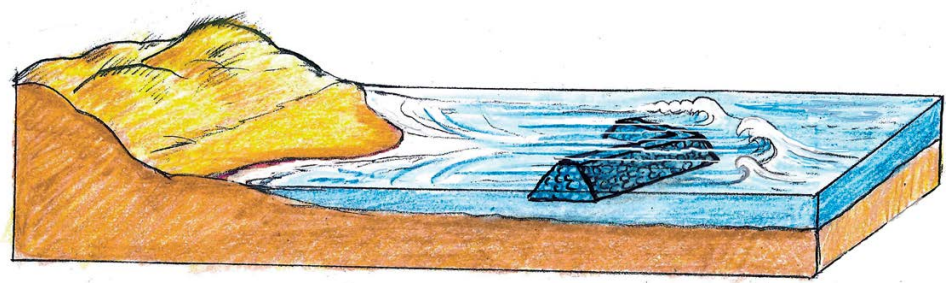




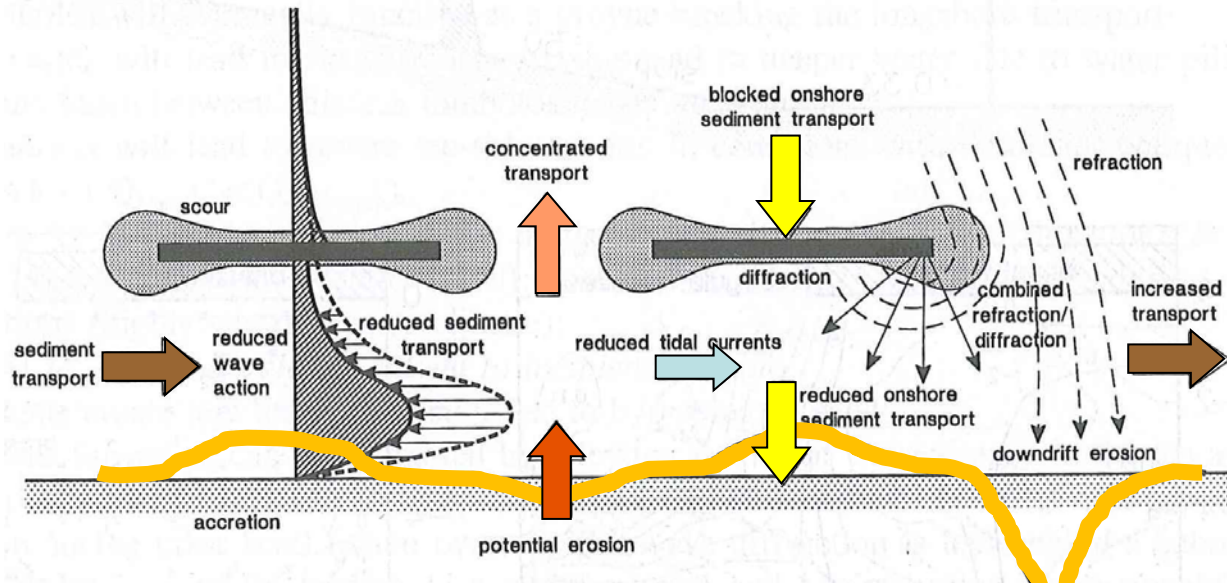
## Beach Nourishment

- Placement of sediment-water slurry directly on beach or beach face
- Key questions:
  - Sediment characteristics and sources
  - Longevity

Opportunities	Constraints
Use sediment trapped on land behind dams or removed from regular road maintenance  Rebuild dune habitat	Transportation of sediment to receiver sites  Immediate, short-term biological impacts  Habitat conversion long-term

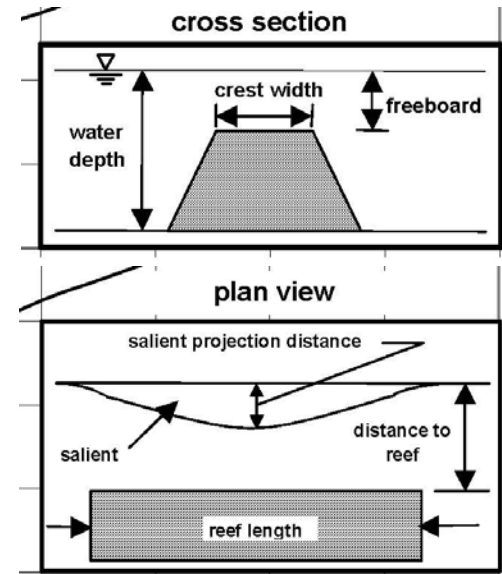
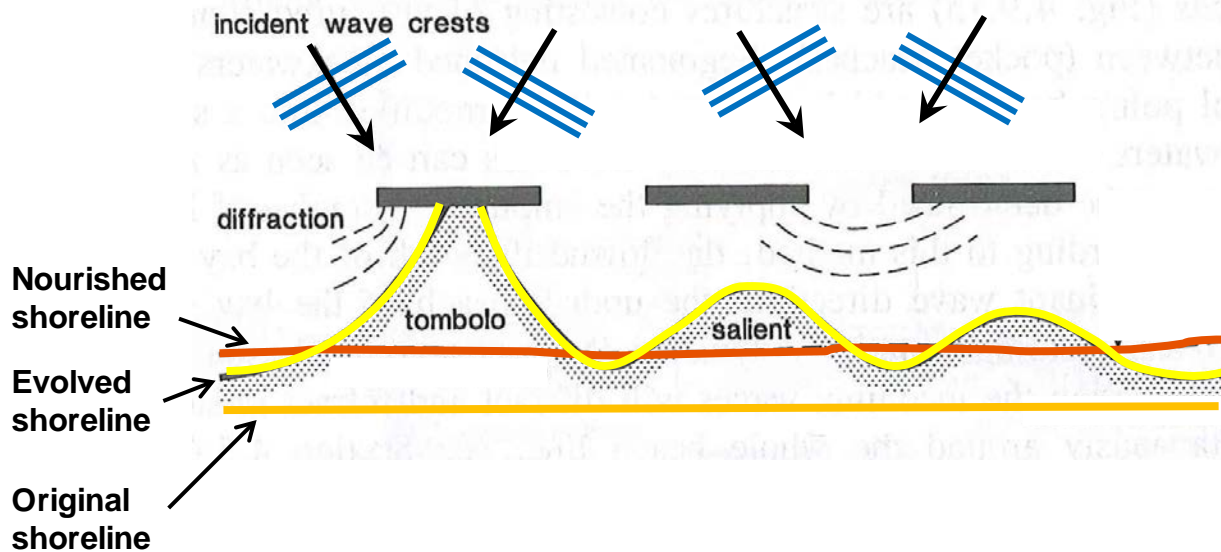


## Multi-purpose Reefs



Opportunities	Constraints
Create new habitat	High energy coastline
Enhance surf opportunities	Not been done in CA on scale necessary for SF Lit Cell CRSMP
Increase sediment retention	

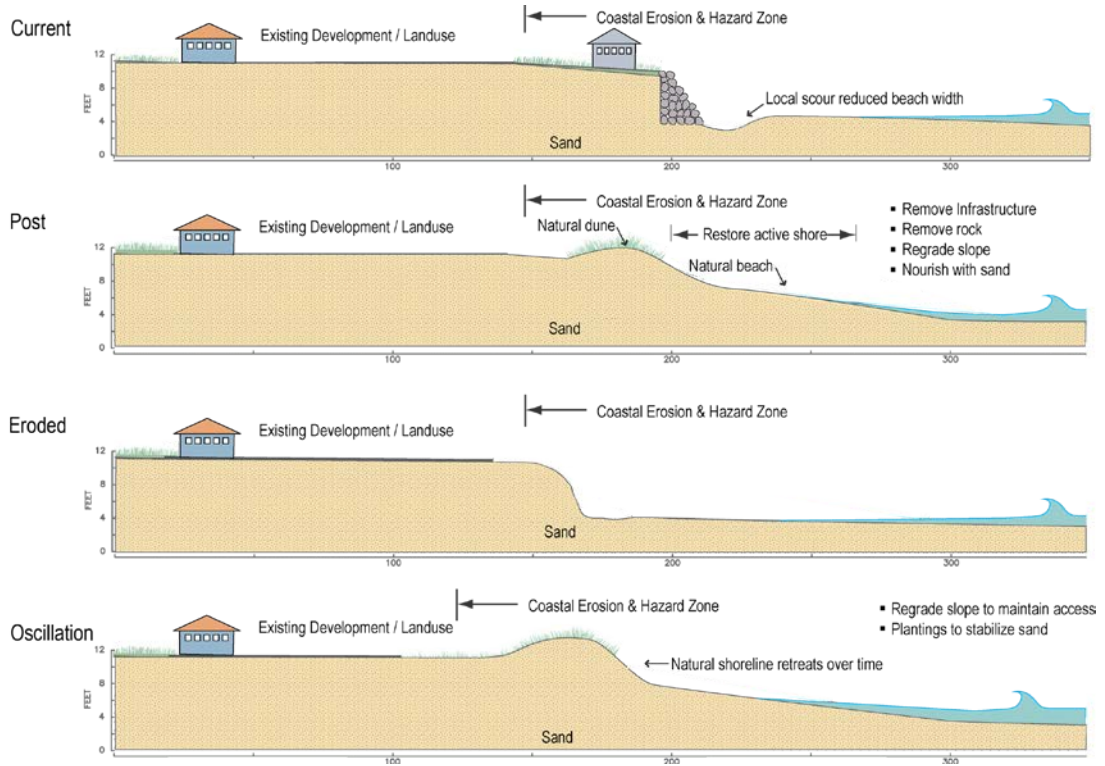
# Nourishment + Reefs



Opportunities	Constraints
<p>Increase longevity of sand placement</p> <p>(plus previously identified opportunities for each)</p>	<p>Multiple alterations to local environment</p> <p>(plus previously identified constraints for each)</p>

# Managed Retreat

## Pacifica State Beach Managed Retreat and Estuary Restoration



### Opportunities

Restoration of natural shoreline cycles and habitats

Utilize geology (go-n-slow)

Removal/reduction of development in risk zones

### Constraints

Expense

Political will

Property rights

Existing armoring

## Localized Options

- Questions for the SAG
  - How do you view the options?
  - What would make the options better/easier to implement?
  - How do the options support/disrupt ongoing or new plans?
  - Any options we have not considered?



# SF Reaches Implementation Options

Baker, China, Pt. Lobos, NOB: No Action



MOB: 1.5 million yd<sup>3</sup> Beach Nourishment



SOB:

*Opt 1* – 0.5 million yd<sup>3</sup> Beach Nourishment  
+ Managed Retreat



*Opt 2* – 0.5 million yd<sup>3</sup> Beach Nourishment  
+ Reefs



Ft. Funston: No Action



# DC Reaches Implementation Options

Daly City: No Action



Mussel Rock: Special Case - relocate or reconfigure landfill



Note: Daly City infrastructure not fully represented at this time





# Pacifica Reaches Implementation Options

Manor District, Beach Blvd:

*Opt 1* – 2.2 million yd<sup>3</sup> Beach Nourishment

*Opt 2* – Beach Nourishment + Reefs

*Opt 3* – Managed Retreat

Sharp Park:

*Opt 1* – Allowed Erosion of Levee

*Opt 2* – 0.6 million yd<sup>3</sup> Beach Nourishment

*Opt 3* – Multi-purpose Reef

*Opt 4* – Hybrid of all options

Hidden Cove: No Action

Rockaway Cove:

*Opt 1* – 0.25 million yd<sup>3</sup> Beach Nourishment

*Opt 2* – Managed Retreat

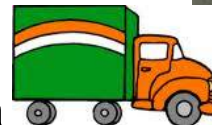
Linda Mar:

*Opt 1* – 0.7 million yd<sup>3</sup> Beach Nourishment

*Opt 2* – Managed Retreat

*Opt 3* – Managed Retreat + cobble on beach

Shelter Cove: No Action



## Next Steps

- Incorporate SAG feedback on implementation options
- Complete economic analysis
- Hold public outreach meetings in July



**by July 4**



Doug and Bob  
on sediment  
recon trips...



**Thanks!**