

State *of the* Bay

analysis of the environmental conditions of Santa Monica Bay

2010
2015

Santa Monica Bay Restoration Commission

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State of the Bay Report 2010

ACCOMPLISHMENTS

- Wastewater Treatment
- Beach Water Quality
- Habitat Protection

HABITAT CONDITIONS

FOCUS ON WATER QUALITY

- Pathogens and Indicator Bacteria
- Trash
- Water Resources

FOCUS ON NATURAL RESOURCES

- Habitat Restoration
- Control of Invasive Species
- Remediation of Contaminated Sediments
- Species of Special Interest
- Fish, Fishing, and Fishery Management
- Marine Protected Areas

LOOKING AHEAD

- Climate Change
 - Sea level rise and beach erosion
 - Ocean acidification
- Harmful Algal Blooms
- Atmospheric Deposition
- Contaminants of Emerging Concern

State of the Bay Report 2015 (DRAFT)

HABITAT CONDITIONS

FOCUS ON WATER RESOURCES

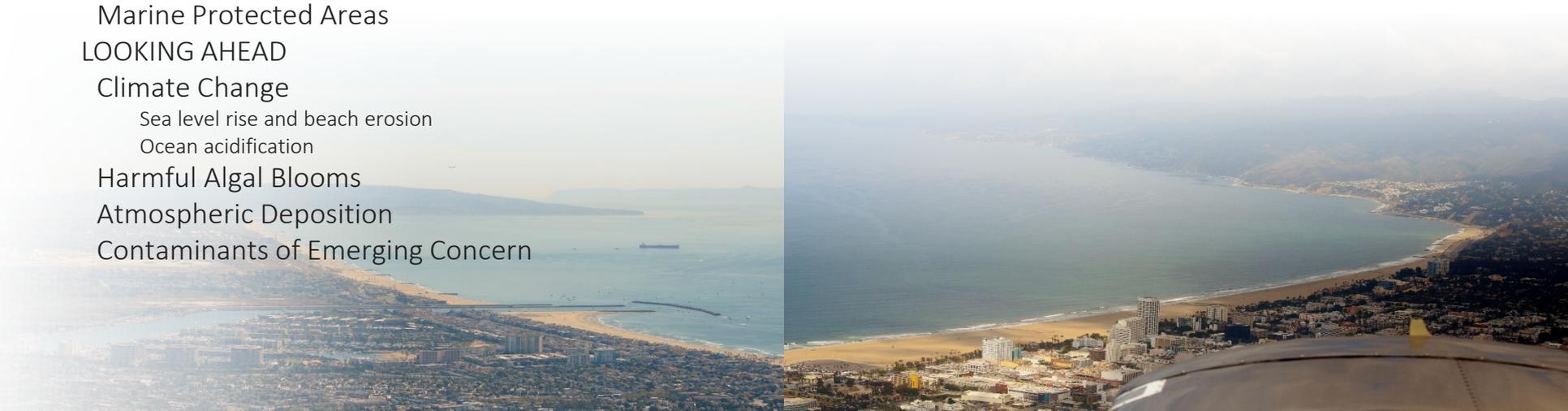
- Water Supply and Use
- Existing Water Quality Programs
- Emerging Water Quality Issues

FOCUS ON NATURAL RESOURCES

- Habitat
- Species
- Threats

LOOKING AHEAD

- Climate Change Predictions and Impacts on Species
- Ocean Acidification
- Cyanotoxins in streams
- Desalination, Once Through Cooling and San Onofre



Habitat Conditions



Creeks and Streams: CRITICAL to EXCELLENT depending on location



Coastal Wetlands and Lagoons: POOR with one GOOD exception



Coastal Dunes and Bluffs: POOR with one GOOD exception



Sandy Beaches: POOR to FAIR depending on location



Rocky Intertidal: Mostly POOR with a few FAIR exceptions



Seagrass Beds: FAIR to GOOD based on limited data



Rocky Reefs: CRITICAL to FAIR depending on location



Soft Bottom: POOR to EXCELLENT depending on location



Open Ocean: FAIR to GOOD based on limited data

How to Read the Habitat Conditions Assessment

Status:	CRITICAL	POOR	FAIR	GOOD	EXCELLENT
Characteristics:	Defaunation and loss of key ecosystem functions	Significantly reduced biodiversity and some loss of ecosystem function	Reduced biodiversity and reduced level of ecosystem function	Biodiversity and ecosystem function are similar to pristine conditions	Biodiversity and ecosystem function are equivalent to pristine conditions

WATER RESOURCES

Water Supply & Use

2010

- Water demand remains same while population continues to rise.
- Water recycling has increased but only fills 10% of demand
- 2 desalination proposed, but has high energy costs and reduces incentive to conserve*

2015 (IDEAS)

- Water conservation and LID have increased*
- Source of our water has changed**



WATER RESOURCES

Existing Water Quality Programs

2010

- Improvements in wastewater treatment
- TMDL Status Update
- Better sewer maintenance improved beach water quality
- LFDs improved beach water quality in dry weather but wet weather still problem
- Compliance with Trash TMDL is on target and 50% complete

2015 (IDEAS)

- TMDL Status Update
- Automatic LFDs improved bacterial TMDL compliance during winter dry weather***
- Compliance with Trash TMDL & decreased trash in the bay? What about riparian areas?
- TMDLs for metals, toxics, & pesticides have been in place since 2006, how have conditions changed?



WATER RESOURCES

Emerging Water Quality Issues

2010

- Contaminants of Emerging Concern entering waterways but not monitored or removed (Looking Ahead)
- Harmful Algal Blooms have been increasing (Looking Ahead)

2015 (IDEAS)

- Contaminants of Emerging Concern, more data available about toxicity.
- Nutrients, coastal hypoxia, and HABs*



2010

- Over 2,500 acres of open space protected
- Summary of several restoration projects in a range of habitats
- Proposed Marine Protected Areas

2015 (IDEAS)

- Habitat restoration activities and acres restored by habitat
- Ballona Wetlands baseline monitoring data
- MPA implementation and baseline monitoring data



2010

- Special Status Species Update
- Western snowy plovers potentially nesting on SMB beaches
- Giant sea bass recovering
- Steelhead trout recovery hindered by die-off in 2009
- Marine mammals and seabirds use submarine canyons

2015 (IDEAS)

- Special Status Species Update
- Green abalone restoration
- Grunion update*
- Marine Mammals*
- (Sea star wasting disease)



2010

- Fishery management hindered by availability of data and lack of FMPs (kelp bass example)
- White seabass may be recovering after gillnet ban
- Palos Verdes Shelf remediation and human health risk

2015 (IDEAS)

- Progress in fishery management
- Fish contamination in SMB vs elsewhere and new insights from fish tracking**



Natural RESOURCES

Threats

2010

- Invasive Species (top invaders)
- New Zealand mudsnail found
- Crayfish removal from Trancas Creek

2015 (IDEAS)

- New Zealand mudsnails spreading
- Sediment management
- Growth of agriculture in Santa Monica Mountains



Looking Ahead

2010

- Aerial deposition of metals
- Climate Change (drought, sea-level rise, ocean acidification)
- Harmful Algal Blooms on the rise (now in Water Resources)
- Desalination and OTC (sidebar in Water Supply story)
- Contaminants of Emerging Concern (now in Water Resources)

2015 (IDEAS)

- Climate Change
- Ocean Acidification (upwelling makes the Bay vulnerable)
- Low O₂ zones, nutrients & HABs
- Cyanotoxins in streams
- Desalination, OTC and closure of San Onofre Nuclear Generating Station



What are your priorities?

