

MISSION BAY

Watershed Management Area



FY 2021 Water Quality Improvement Plan Annual Report | Executive Summary



The Mission Bay Watershed Management Area encompasses 64 square miles of highly urban land and extends from Interstate 15 in the east to Interstate 8 in the south, and Torrey Pines State Reserve to the north. The City of San Diego is the Copermitttee with jurisdiction over the Mission Bay Watershed. In 2016, the San Diego Regional Board approved the Water Quality Improvement Plan (WQIP) to protect and preserve water quality from the impact of storm water discharges in the Mission Bay Watershed. The WQIP identifies priority and highest priority water quality conditions, goals for their improvement, strategies to meet the goals, monitoring to track progress, and an adaptive management framework. The 2020-2021 Annual Report provides updates on the WQIP components during the fifth year of implementation (i.e., fiscal year (FY) 2021).

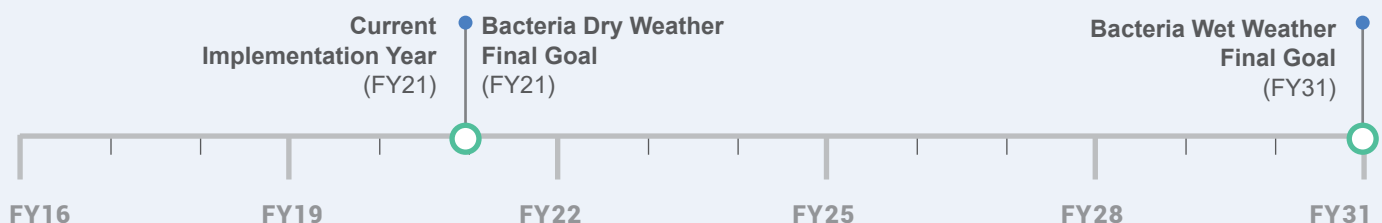


SAN DIEGO REGIONAL MUNICIPAL PERMIT

The San Diego Regional Municipal Permit was established by the San Diego Regional Board to further the Clean Water Act's objective to protect, preserve, enhance, and restore the water quality and designated beneficial uses of waters of the state. The current San Diego Regional Municipal Permit, which is the 5th permit issued since 1990, includes time-tested jurisdictional activities and a new outcome-based approach to addressing storm water.

For the FY21 Mission Bay Annual Report, the City has also created an online reporting dashboard with detailed information on the City's monitoring data, JRMP Annual Reports, and strategy implementation. Links to the dashboard are included in various sections of this report, and provided [here](#).

FINAL GOAL TIMELINE WATER QUALITY IMPROVEMENT PLAN



Highest Priority Water Quality Conditions



The City of San Diego identified **bacteria and sediment** as the highest priority water quality conditions in the Mission Bay Watershed. The highest priority water quality conditions are the foundation for establishing the WQIP goals and strategies. These goals and strategies are implemented to achieve improvements in water quality based on discharges from the City of San Diego’s municipal separate storm sewer system (MS4).

Condition Description	Potential Stressor	Season	Sub-Watersheds
Impairment of water contact recreation beneficial use (REC-1) in Tecolote Creek	Indicator Bacteria	Wet and Dry	Tecolote Creek
Impairment of Area of Special Biological Significance (ASBS) 29	Sediment ¹	Wet	Scripps
Potential impairment of REC-1 at the Pacific Ocean Shoreline ¹	Indicator Bacteria	Wet and Dry	Scripps

1. Applies to the following Pacific Ocean Shoreline locations only: Casa Beach at Children’s Pool, La Jolla Shores Beach at Avenida de la Playa, La Jolla Shores Beach at Caminito del Oro, La Jolla Shores Beach at El Paseo Grande, Pacific Beach at Grand Avenue, South Casa Beach at Coast Boulevard, Tourmaline Surf Park, Vallecitos Court, Windansea Beach at Bonair Street, Windansea Beach at Palomar Avenue, Windansea Beach at Vista de la Playa, and Whispering Sands Beach at Ravina Street

Strategies



The City of San Diego implements strategies to meet water quality goals. Strategies can include structures, which treat runoff, or practices, such as street sweeping and public outreach, and address multiple pollutants including bacteria and sediment. More details on the City's strategy implementation can be found on the City's online dashboard [here](#).

1. Grass replacement with water-wise landscaping.
2. The City of San Diego utilized the help of 662 volunteers at four clean up sites.
3. Rain barrels installed throughout the watershed.

STRATEGY HIGHLIGHTS

The City investigates discharge reports received via the ["Get it Done"](#) application, and via the City's stormwater hotline. In FY21 in the Mission Bay WMA, 585 non-stormwater discharges were investigated, 582 illicit discharges or illicit connections were eliminated, 365 enforcement actions were issued, and 271 escalated enforcement actions were issued.

Landscape-based rebates are a "gateway" for adoption of other beneficial practices, such as over-irrigation minimization. In FY21, 63 rain barrels with a combined total capacity of 3,786 gallons were installed in the Mission Bay WMA. Additionally, rebates supported the replacement of 28,423.75 square feet of grass with water-wise landscapes in FY21.

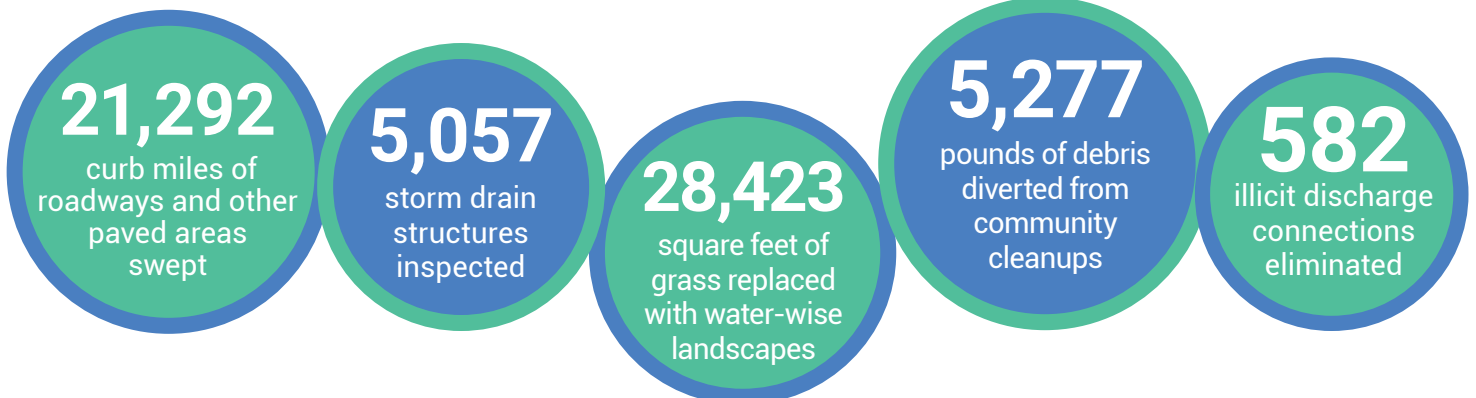
In FY20, the Storm Water Division utilized the help of 733 volunteers at 4 cleanup events sponsored by

I Love a Clean San Diego and the San Diego River Park Foundation in the Mission Bay WMA. These events diverted a total of 5,277 pounds of debris from entering the waterway and stormwater conveyances.

In the Mission Bay WMA, 5,057 storm drain structure inspections were conducted, resulting in the cleaning of 811 structures. These cleanings removed 2,523 cubic feet of debris.

A total of 634 commercial and industrial business inspections were completed, 0 follow-up inspections were completed, 97 violations were issued, 98 enforcement actions were issued, and 40 escalated enforcement actions were issued in the WMA. In addition, the City conducted property-based inspections that focus on common areas/activities shared among multiple businesses or tenants that generate pollution.

WATERSHED HIGHLIGHTS



Interim Compliance Pathways for Scripps Subwatershed (Wet Weather)

The table below summarizes the wet weather compliance pathways available to the City of San Diego to meet the goals listed in the WQIP for potential impairment of REC-1 related to bacteria and impairment of ASBS related to sediment in Scripps Subwatershed. In FY21, the City of San Diego used the receiving water compliance pathway to track progress toward the numeric goals for bacteria. ASBS compliance with wet weather discharges was achieved by March 20, 2018. Monitoring will continue to ensure that natural ocean water quality is being maintained.

Permit Section/ Compliance Date	Interim Compliance Pathways		FY21–25 WQIP Goal	WQIP FY24 Interim Goal Met ¹ (Yes/No)	TMDL FY24 Interim Goal Met (Yes/No)	
Based on Attachment E, Provision 6.c.3.f with an interim milestone of 2024	Receiving Water: % Days Exceeding WQO	Fecal coliform	37%	Yes, 0% Days Exceeding Water Quality Objectives (WQO) in FY21	Yes, 0% exceedance frequency. The interim goal of 37% for fecal coliform and <i>Enterococcus</i> are not due until FY24	
		<i>Enterococcus</i>	37%			
Or						
Based on Attachment E, Provision 6.c.3. with an interim milestone of 2024	MS4 Discharges: % Days Exceeding WQO	Fecal coliform	22%	N/A, Compliance pathway not used		
		<i>Enterococcus</i>	22%			
		Total coliform	22%			
	Or					
	MS4 Discharges: % Load Reduction	Fecal coliform	5.0%	N/A, Compliance pathway not used		
		<i>Enterococcus</i>	3.0%			
		Total coliform	2.5%			
	Or					
	MS4 Discharges: Implement Accepted WQIP		N/A, Compliance pathway not used			
	Or					
	MS4 Discharges: # of Direct or Indirect MS4 Discharges to Receiving Water	Discharges	0		N/A, Compliance pathway not used	
			0			
Or						
% of Exceedances of Final Receiving Water WQOs Due to Natural Sources	Fecal coliform	100%	N/A, Compliance pathway not used			
	<i>Enterococcus</i>	100%				
	Total coliform	100%				

1. Fiscal year goal for FY21-25 assessment period is FY24.

ASBS - Wet Weather (Sediment)

Permit Section/ Compliance Date	Interim Compliance Pathways		FY18 WQIP Exceedance and Load Reduction Goals	WQIP FY18 Goal Met (Yes/No)
Goal identified based on Attachment A Provision 2.B.2 Due March 2018	Receiving Water: % Reference Threshold Exceedance Rate	All Monitored Parameters and Biological Metrics (including sediment [TSS])	<15% Exceedance Rate of Reference Threshold	Yes, achieved
	Or			
	MS4 Discharges: % Load Reduction	Sediment	0.6%	N/A, Compliance pathway not used

Final Compliance Pathways for Scripps Subwatershed (Dry Weather)

The table below summarizes the dry weather compliance pathways available to the City of San Diego to meet the next goal listed in the WQIP for potential impairment of REC-1 related to bacteria and impairment of ASBS related to sediment in Scripps Subwatershed. In FY21, the City of San Diego used the receiving water compliance pathway for most sites. Sites EH-310 and CSD-031 used the number of discharges from the MS4 to the receiving water to track progress toward the numeric goals for bacteria.

Permit Section / Compliance Date	Interim Compliance Pathways		FY21-25 WQIP Goal	WQIP FY21 Goal Met ¹ (Yes/No)	TMDL FY21 Final Goal Met (Yes/No)		
					Geomean	SSM*	
Based on Attachment E, Provision 6.c.3.f with a final milestone of 2021	Receiving Water % Days Exceeding WQO	Fecal coliform	0%	Yes, 0% Days Exceeding WQO in FY21 ²	Yes, all sites in compliance with the dry weather geomean	No, EH-320=3% FM-080=3%	
		<i>Enterococcus</i>	0%	Yes, 0% Days Exceeding WQO in FY21 ²		No, EH-320=3% FM-080=5% FM-030=3%	
		Total coliform	0%	Yes, 0% Days Exceeding WQO in FY21 ²		Yes, all sites in compliance	
	Or						
	MS4 Discharges % Days Exceeding WQO	Fecal coliform	0%	N/A, Compliance pathway not used			
		<i>Enterococcus</i>	0%				
		Total coliform	0%				
	Or						
	MS4 Discharges % Load Reduction	Fecal coliform	99.0%	N/A, Compliance pathway not used			
		<i>Enterococcus</i>	99.9%				
		Total coliform	99.8%				
	Or						
	MS4 Discharges Implement Accepted WQIP			N/A, Compliance pathway not used			
	Or						
MS4 Discharges # of Direct or Indirect MS4 Discharges to Receiving Water	Discharges	0	Yes, Scripps site EH-310 and CSD-031 are using this pathway toward compliance with the dry weather goals. In FY21, there were no direct or indirect discharges from the MS4 to the receiving water from these sites.				
Or							
% of Exceedances of Final Receiving Water WQOs Due to Natural Sources	Fecal coliform	100%	N/A, Compliance pathway not used				
	<i>Enterococcus</i>	100%					
	Total coliform	100%					

* SSM = Single Sample Maximum

ASBS - Dry Weather (Discharges)

Permit Section / Compliance Date	Compliance Pathways		Existing Number of Discharges to Receiving Water FY21-25	WQIP FY21 Final Goal Met ¹ (Yes/No)
Goal identified based on Attachment A Provision 2.B.2 Due July 2021	# of Direct or Indirect MS4 Discharges to Receiving Water	Discharges	0	Yes, City staff continue to inspect outfalls in the ASBS drainage area and to clean catch basins to confirm that dry weather flows do not reach the ASBS.

1. WQIP fiscal year goal for FY21-25 assessment period.

2. The Scripps subwatershed has 13 beach segments that were named in the Bacteria TMDL. Bacteria TMDL Monitoring is performed individually for each segment. As part of the Scripps Bacteria TMDL Compliance Monitoring Report (Appendix C Attachment E.1), water quality exceedances are evaluated by segments each year. In FY21, the results by segments were combined and assessed to evaluate an overall WQIP subwatershed goal, which is different than the Bacteria TMDL methodology of per-segment basis. This is the second year that this evaluation was conducted on a subwatershed basis. The dry season geometric mean is used for the evaluation of FY21 goal compliance.



Interim Compliance Pathways for Tecolote Subwatershed (Wet Weather)

The table below summarizes the wet weather compliance pathways available to the City of San Diego to meet the next goal listed in the WQIP for impairment of REC-1 related to bacteria in Tecolote Subwatershed. In FY21, the City of San Diego used the receiving water compliance pathway to track progress toward the numeric goals for bacteria.

Permit Section / Compliance Date	Interim Compliance Pathways		FY21-25 WQIP Goal	WQIP FY24 Interim Goal Met ¹ (Yes/No)	TMDL FY24 Interim Goal Met (Yes/No)	
Based on Attachment E, Provision 6.c.3.f with an interim milestone of 2024	Receiving Water % Days Exceeding WQO	Fecal coliform	49%	No. WQIP interim goal not met, 100% Days Exceeding WQO in FY21	No. The interim TMDL goals of 49% for fecal coliform and 51% for <i>Enterococcus</i> are not due until FY24.	
		<i>Enterococcus</i>	51%			
Or						
Based on Attachment E, Provision 6.c.3. with an interim milestone of 2024	MS4 Discharges % Days Exceeding WQO	Fecal coliform	22%	N/A, Compliance pathway not used		
		<i>Enterococcus</i>	22%			
		Total coliform ³	22%			
	Or					
	MS4 Discharges % Load Reduction	Fecal coliform	9.0%	N/A, Compliance pathway not used		
		<i>Enterococcus</i>	6.0%			
		Total coliform	5.0%			
	Or					
	MS4 Discharges # of Direct or Indirect MS4 Discharges to Receiving Water	Discharges	0	N/A, Compliance pathway not used		
		Or				
% of Exceedances of Final Receiving Water WQOs Due to Natural Sources	Fecal coliform	100%	N/A, Compliance pathway not used			
	<i>Enterococcus</i>	100%				
Or						
MS4 Discharges Implement Accepted WQIP		N/A, Compliance pathway not used				

1. Fiscal year goal for FY21-25 assessment period is FY24



Final Compliance Pathways for Tecolote Subwatershed (Dry Weather)

The table below summarizes the dry weather compliance pathways available to the City of San Diego to meet the next goal listed in the WQIP for impairment of REC-1 related to bacteria in Tecolote Subwatershed. In FY21, the City of San Diego used the receiving water compliance pathway to track progress toward the numeric goals for bacteria.

Permit Section / Compliance Date	Interim Compliance Pathways		FY21–25 WQIP Goal	WQIP FY21 Final Goal Met ¹ (Yes/No)	TMDL FY21 Final Goal Met (Yes/No)		
					Geomean	SSM*	
Based on Attachment E, Provision 6.c.3.f with a final milestone of 2021	Receiving Water % Days Exceeding WQO	Fecal coliform	0%	Yes, 0% ² Days Exceeding WQO in FY21	Yes, 0% exceedance frequency in FY21 for the dry weather geogetic mean	No, TCNP=15% TC-MLS=5%	
		Enterococcus	0%	Yes, 0% ² Days exceeding WQO in FY21		No, TCNP=30% TC-MLS=13%	
	Or						
	MS4 Discharges % Days Exceeding WQO	Fecal coliform	0%	N/A, Compliance pathway not used			
		Enterococcus	0%				
		Total coliform	0%				
	Or						
	MS4 Discharges % Load Reduction	Fecal coliform	98.4%	N/A, Compliance pathway not used			
		Enterococcus	99.9%				
		Total coliform	99.6%				
Or							
MS4 Discharges Implement Accepted WQIP		N/A, Compliance pathway not used					
Or							
MS4 Discharges # of Direct or Indirect MS4 Discharges to Receiving Water	Discharges	0	N/A, Compliance pathway not used				
Or							
% of Exceedances of Final Receiving Water WQOs Due to Natural Sources	Fecal coliform	100%	N/A, Compliance pathway not used				
	Enterococcus	100%					

* SSM = Single Sample Maximum

1. Fiscal year goal for FY21-25 assessment period is FY21

2. Percent days exceeding calculated as the average percent exceedance frequency between the two Tecolote sites TCMLS and TCNP

Goal Tracking: Trends

Trend graphs for the Tecolote and Scripps Subwatersheds for wet weather and dry weather provide a snapshot of previous year's compliance with interim and final goals. The trend graphs are shown in Section 4.1.3 in the Annual Report.

Wet weather *Enterococcus* data from 2013 through 2021 for Tecolote Creek show that samples contain detected concentrations that are consistently above the Water Quality Objective (WQO). WQOs are levels of water quality characteristics which are established for the reasonable protection of beneficial uses of water, however, the City is developing additional strategies to work towards the FY24 TMDL goal. Tecolote Creek is not meeting the interim or final wet weather goals. Dry weather *Enterococcus* data for Tecolote Creek show that the geometric means typically meet the interim

dry weather goals, while sites are not consistently meeting the final goals. In FY21 Telecote Creek sites met both interim and final dry weather geometric mean exceedance frequency goals.

Typically, the Scripps subwatershed is meeting both interim and final goals. Wet weather *Enterococcus* data from 2013 through 2021 for the listed sites in the Scripps subwatershed show consistently good water quality at some locations, as well as improved water quality at other locations, such as Children's Pool – EH-310. Over the past five years, wet weather water quality at the Children's Pool site in particular has improved and is now meeting both interim and final goals. Similar to wet weather trends, dry weather *Enterococcus* data show that geometric means are typically below the WQOs.




Goal Progress: WQIP Final Goals

WET WEATHER

Bacteria: WQIP Final Goal Progress for FY20-21 Monitoring Year
% Exceedance frequency of wet weather goals

Bacteria Indicator	Subwatershed Results		April 2031 WQIP Final Goal
	Tecolote	Scripps	
Fecal coliform	100%	✓0%	22%
<i>Enterococcus</i>	100%	✓0%	22%
Total coliform	N/A	✓0%	22%

✓ Goal achieved




DRY WEATHER

Bacteria: WQIP Final Goal Progress for FY20-21 Monitoring Year
% Exceedance frequency of dry weather goals

Bacteria Indicator	Subwatershed Results		April 2021 WQIP Final Goal ¹
	Tecolote	Scripps	
Fecal coliform	✓0%	✓0%	0%
<i>Enterococcus</i>	✓0%	✓0%	0%
Total coliform	N/A	✓0%	0%


1. Represents WQIP Final Goal based on Bacteria TMDL dry season geometric mean exceedance frequency. Multiple dry weather Single Sample Maximum (SSM) exceedances for Scripps and Tecolote occurred in FY21.

✓ Goal achieved



Wet Weather ASBS Sediment

All monitored parameters and biological metrics including total suspended solids (TSS)




March 2018 Goal: <15% Exceedance Rate of Reference Threshold

2018 Scripps Progress

✓ Goal Achieved

Dry Weather ASBS Discharge

Number of Direct or Indirect MS4 Discharges to Receiving Water



July 2021 Goal: 0

2021 Scripps Progress

✓ Goal Achieved

Watershed Monitoring

Monitoring was performed throughout the watershed to characterize the watershed's waterbodies and to track progress toward meeting the WQIP goals. Samples were collected in streams, at beaches, and in storm drains.



Beach bacteria sampling

TYPES OF MONITORING

Receiving Water: Includes water quality monitoring in dry and wet weather, trash assessments, and hydromodification monitoring at long term monitoring stations. Long-term receiving water quality monitoring is only required once per permit term. It also includes monitoring to track long term goal progress and biological monitoring. Long-term receiving water quality monitoring was conducted 2013-2014.

Outfall Discharge Monitoring: Includes annual observational data and analytical sampling for water quality data in dry and wet weather, trash counts, and dry weather flow source investigations.

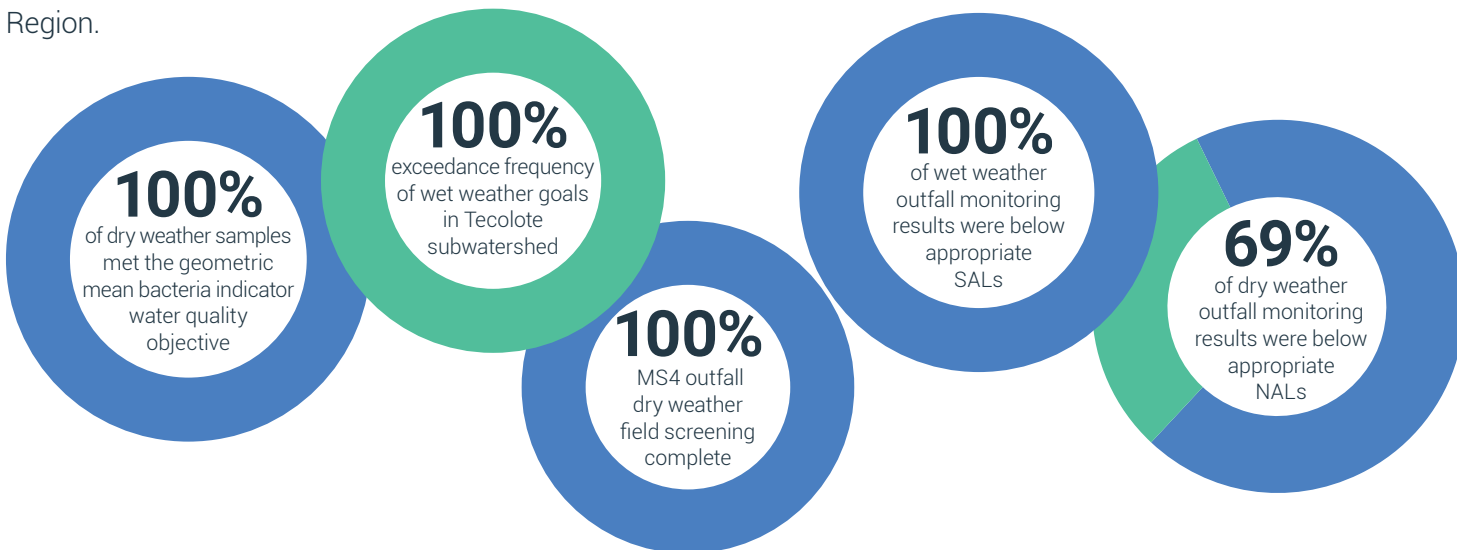
Special Studies: Includes regional studies and studies specific to the Mission Bay Watershed to focus on the highest priority water quality conditions in the San Diego Region.

BEACHES AND STREAMS

Sampling along the Pacific Ocean shoreline in the Scripps Subwatershed showed that contact recreation is protected at all times.



Storm drain in Scripps Subwatershed



Adaptive Management



Through an adaptive management process, the City is able to re-evaluate and respond to new data or triggers, and assess whether modifications to goals and/or strategies are necessary. During FY21, no major changes to pollutant sources, goals, strategies, or monitoring activities were identified. The SWD has organized a multidisciplinary tactical team that has cutting-edge technology to identify and track sources of harmful bacteria that pose human health and water quality risks throughout the City. The SWD has a Water Quality Response Team that conducts enforcement activities in an effort to improve water quality. The team is developing an adaptive management dashboard to help them visualize and assess trends in monitoring data and locations of concern.

In June 2021, the San Diego Water Board performed a review of the FY20 Mission Bay Annual Report (San Diego Water Board, 2021), which included confirmation on comments addressed by the City resulting from the September 2020 Mission Bay Annual Report review and newly identified comments to be addressed in the FY21 Annual Report. As part of the adaptive management process, the City addressed items from the June 2021 San Diego Water Board Annual Report review letter (San Diego Water Board, 2021) in this FY21 Annual Report.

The City has also addressed the additional items from Attachment 1, Adaptive Management of the August 2019 Annual Report Review Letter (San Diego Water Board, 2019) through this FY21 Annual Report. Appendix E contains a full response to these comments.

