

CALIFORNIA NATURAL RESOURCES AGENCY Annual Report on the Salton Sea Management Program

March 2021

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Prepared for:

State Water Resources Control Board 1001 | Street Sacramento, CA 95814

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CONTENTS

Exe	cutive Summaryvii	
Project Deliveryviii		
Planningix		
Partnershipsix		
Com	munity Engagement and Transparencyx	
Goir	ng Forwardx	
1 In	troduction and Purpose1	
1.1	Notable Highlights Since Preparation of	
	2020 Annual Report 2	
1.2	Updates for State Water Resources Control	
	Board Order WR 2017-0134 3	
1.3	COVID-19 Impacts and Responses	
1.4	Report Organization 3	
2 SS	SMP Project Delivery7	
2.1	Land Access7	
2.2	Projects Completed8	
2.3	Projects in Progress9	
2.4	Potential Future Projects under	
	Consideration18	
3 Pl	anning19	
3.1	DSAP Development and Preparation	
3.2	Environmental Planning20	
3.3	Long-Range Planning Beyond SSMP Phase I:	
	10-Year Plan22	
3.4	Organizational Capacity22	
3.5	Funding Status and Planning25	
3.6	Program Management26	
4 Pa	artnerships29	
4.1	Audubon California29	
4.2	Bureau of Land Management	

4.3	California Air Resources Board)
4.4	Colorado River Basin Regional Water	
	Quality Control Board30)
4.5	Imperial Irrigation District30)
4.6	Imperial County)
4.7	Imperial County Air Pollution Control	
	District)
4.8	Natural Resources Conservation Service (NRCS)	1
4.9	Riverside County	I
4.10	Salton Sea Authority32	2
4.11	South Coast Air Quality Management	
	District	2
4.12	Torres Martinez Tribe and Other Tribal	
	Coordination	2
4.13	U.S. Army Corps of Engineers	2
4.14	U.S. Bureau of Reclamation	3
4.15	U.S. Fish and Wildlife Service	3
5 Co	ommunity Engagement3	5
5.1	Community Engagement Plan and	
	Engagement Committee Charter	5
5.2	Engagement Activities	ó
5.3	Update on Local Salton Sea Presence	7
6 Ne	ext Steps	9
6.1	Kev Program Activities in 2021	9
6.2	Key Program Activities in 202240)
6.3	Key Program Activities in 202340)
6.4	Meeting State Water Board Order WR	
	2017-0134 Targets	I
7 References43		

Appendix A. Current Conditions at the

S	Salton Sea45		
A.1	Inflows	45	
A.2	Salton Sea Elevation and Salinity	45	
A.3	Exposed Lakebed Area	47	
A.4	Salton Sea Water Quality	47	
A.5	Air Quality Data		
A.6	Bird Survey Data	60	
A.7	Fish Survey Data	61	
Appendix B. Funding Status63			

FIGURES

Figure 1. Landownership around the Salton Sea 8
Figure 2. Projects completed at the Salton Sea in 20209
Figure 3. Projects in progress and potential future projects under consideration at the Salton Sea. The DSAP project planning areas typically contain multiple landowners. Project implementation on these planning areas will proceed based on completion of land access agreements
Figure 4. Computer generated imagery of the SCH Project, looking toward the New River Delta. Shown are the habitat ponds to be created on the east and west of the New River, including islands of different shapes to provide avian nesting and loafing sites
Figure 5. Detailed land characterization at the Clubhouse site (see Figure 3 for general site location). The colored areas within the site are USBR-owned land, with the colors indicating the extent of

vegetation cover and whether the land is below the ordinary high water mark (OHWM) or an aquatic habitat.12 Figure 6. Detailed land characterization at the Tule Wash site (see Figure 3 for general Figure 7. Detailed land characterization at the San Felipe Fan site (see Figure 3 for Figure 8. Detailed land characterization at the Bombay Beach and Bombay Beach West sites (see Figure 3 for general site location)......15 Figure 9. Detailed land characterization at the North Shore site (see Figure 3 for general site location)......16 Figure 10. Audubon Bombay Beach Wetland Restoration Project......18 Figure 11. Salton Sea Management Program project delivery timeline......20 Figure 12. Salton Sea project areas included in the NEPA process......21 Figure 13. Salton Sea Management Program organizational chart......24 Figure 14. SALSA model prediction and actual water surface elevation (NAVD88 Figure 15. Observed salinity (expressed as total dissolved solids, or TDS) at the Salton Sea (2004-2020)......46 Figure 16. Historical lakebed (playa) exposure estimated by IID from 2002-2019, and projections for 2020. Source: IID (2020), End-Of-Year 2019 Playa Exposure Estimate......46 Figure 17. Water quality monitoring station locations......47

Figure 18. Dissolved selenium concentrations at locations in the Salton Sea......48 Figure 19. Dissolved selenium concentrations in river inflows to the Salton Sea......48 Figure 20. Temperature and dissolved oxygen concentrations at Salton Sea Station SS-3......49 Figure 22. Torres-Martinez wind rose plots for the 2010 to 2011 time period (top) and for the 2018 to 2019 time period (bottom)......51 Figure 23. Torres-Martinez box plots for the 2010 to 2011 time period (top) and for the 2018 to 2019 time period (bottom) with a linear y-axis......52 Figure 24. Torres-Martinez box plots for the 2010 to 2011 time period (top) and for the 2018 to 2019 time period (bottom) with a logarithmic y-axis......53 Figure 25. Bombay Beach wind rose plots for the 2010 to 2012 time period (top) and for the 2017 to 2019 time period (bottom)......54 Figure 26. Bombay Beach box plots for the 2010 to 2012 time period (top) and for the 2017 to 2019 time period (bottom) with a linear y-axis.....55 Figure 27. Bombay Beach box plots for the 2010 to 2012 time period (top) and for the 2017 to 2019 time period (bottom) with a logarithmic y-axis......56 Figure 28. Naval Test Base wind rose plots for the 2010 to 2011 time period (top) and for the 2018 to 2019 time period (bottom)......57 Figure 29. Naval Test Base box plots for the

Figure 29. Naval Test Base box plots for the 2010 to 2011 time period (top) and for

the 2018 to 2019 time period (bottom)	
with a linear y-axis	58
Figure 30. Naval Test Base box plots for the	
2010 to 2011 time period (top) and for	
the 2018 to 2019 time period (bottom)	
with a logarithmic y-axis	59
Figure 31. Locations of 2020 Audubon waterbird	
survey sites (Audubon, 2020)	50
Figure 32. Bird shoreline survey counts at the	
Salton Sea from 2012 to 2020	51
Figure 33. Locations surveyed in Harrity 20206	52

TABLES

Fable 1. Activities Identified in State Water Board Order WR 2017-0134	.4
Table 2. State Water Board Order Targets and Planned Project Completion4	41
Table 3. Water Inflow by Year and River, in thousand acre-feet	45
Fable 4. Bird Shoreline Surveys at the Salton Sea from 2012 to 2020	51
Funding Available for the Salton Sea Management Program	53

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PROJECT TEAM

This Annual Report was prepared by staff from the California Natural Resources Agency (CNRA), California Department of Fish and Wildlife (CDFW), the California Department of Water Resources (DWR), the California Air Resources Board (CARB), and the following consultants supporting the Salton Sea Management Program: Cardno, ESA, and Tetra Tech.

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EXECUTIVE SUMMARY

The Salton Sea Management Program (SSMP) made progress in 2020 toward reducing exposed lakebed and creating habitat at the Salton Sea (Sea). Even amid challenges posed by the global COVID-19 pandemic, delivering projects that improve conditions for residents as well as wildlife at the Sea remains a key priority for the Newsom Administration. The SSMP worked closely with local, State, Tribal and federal partners to advance important work in 2020 and is poised to build on that momentum in 2021.



The SSMP Team remains focused on the following goals:

- Drive implementation of the SSMP's Phase I: 10-Year Plan, which aims to improve conditions around the Sea by constructing 30,000 acres of projects to suppress dust from exposed lakebed and create habitat for fish and birds;
- Establish a long-term pathway for the Salton Sea beyond the Phase I: 10-Year Plan;
- Continue to build the SSMP Team to enable the State to deliver projects; and
- Strengthen partnerships with local leaders and communities to deliver projects and institutionalize inclusive community engagement within and across SSMP projects.

Since the last annual report submitted by the California Natural Resources Agency (CNRA) to the State Water Resources Control Board (State Water Board) in March 2020, the SSMP Team has strengthened its organizational structure, gathered input from community members, local leaders and interested groups, and worked with partners to plan and implement projects. This report provides updates on completed SSMP projects, the status of planning activities, ongoing partnerships and community engagement activities.

Project Delivery

The SSMP team marked progress by beginning construction on the Species Conservation Habitat (SCH) project, the State's first largescale project to reduce exposed lakebed and create environmental habitat. Following initial onsite work in late fall, the State's design-build contractors, Kiewit Infrastructure West Co., began construction in January 2021 on the \$206.5 million project located at the southern end of the Sea on both sides of the New River.

The SCH project will create a network of ponds and wetlands to provide important fish and bird habitat and suppress dust emissions to improve regional air quality as the Salton Sea recedes. The project will cover approximately 4,110 acres, an increase over the previously estimated 3,770 acres due to an updated design. Construction is expected to continue through the end of 2023.

The State team obtained site access to the SCH area in May 2019 and subsequently executed a water use agreement with Imperial Irrigation District (IID) to enable the project. The SCH is anticipated to create as many as 3,000 jobs over the course of construction.

In addition to launching the SCH, the SSMP Team completed approximately 755 acres of temporary dust suppression projects at the southern end of the Salton Sea in 2020 as an interim proactive measure to treat areas of exposed lakebed due to dropping Sea levels. Work completed included the 112-acre Bruchard Road Dust Suppression Project (January 2020), the 306-acre New River East Project (November 2020) and the 280-acre New River West Project (December 2020). The three temporary surface roughening projects were located within the footprint of the SCH project and will be inundated with water upon completion of the SCH project.

The projects used surface roughening, an erosion control practice, to create furrows that will slow wind down as it sweeps over exposed lakebed and physically trap soil particles entering the roughened area from upwind sources.

The SSMP Team shared its near-term plans for interim projects to help control dust with the release of the Dust Suppression Action Plan (DSAP) in July 2020. The DSAP is a guidance

document that outlines 9,800 acres of project planning areas on exposed lakebed around the Sea, identifies potential dust suppression concepts, and describes the steps needed to transition from concept to on-the-ground implementation over the next few years. The approximately 755 acres of projects completed in 2020 are part of this plan.

Since the State is not a significant landowner at the Sea, collaboration with various land-owning entities is critical to the SSMP Team's ability to implement projects. Land-access agreements and permits must be secured prior to conducting detailed soil testing or beginning construction work. Thus, the SSMP is prioritizing work to secure land access in areas with the highest emissivity potential to construct additional projects in strategic locations along the perimeter of the Sea. These will help control dust from exposed lakebed areas and limit Sea-related impacts on air quality for communities such as Salton City, Bombay Beach and North Shore.

Computer generated imagery of the SCH Project, looking west with the New River in center, and habitat ponds with islands on either side.



The SSMP Team spent considerable time in 2020 working with various land-owning entities towards obtaining permits and agreements needed to facilitate delivery of additional dust suppression projects in 2021 and 2022. For 2021, dust suppression projects and monitoring are being planned at six sites for which land access is expected shortly: Clubhouse, Tule Wash, San Felipe Fan, Bombay Beach and Bombay Beach West and North Shore.

Planning

The SSMP Team is partnering with the U.S. Army Corps of Engineers to complete an Environmental Assessment (EA) under the National Environmental Policy Act (NEPA) by fall 2021. The draft project description was released for public comment in August 2020, and three online public meetings were held during September 2020 to receive feedback. Upon completion, this NEPA process will enable federal permitting for the full 30,000 acres of projects identified in the Phase I: 10-Year Plan document.

While the SSMP Team is executing the Phase I: 10-Year Plan, it is simultaneously developing a path forward for long-term restoration and management of the Sea beyond the first decade. This long-range plan is required to be completed by CNRA and submitted to the State Water Board. A key input for the long-range plan is a feasibility analysis of water importation concepts for the Sea. The SSMP Team is currently finalizing a contract to convene an independent review panel to conduct a feasibility analysis beginning in spring 2021.

The results of the independent feasibility analysis will inform restoration options for the long-range plan. Public engagement to launch development of the long-range plan will begin concurrently with the independent review of water importation proposals—in the spring of 2021, and the plan will be completed by the end of 2022, as required by State Water Board Order WR-0134. The plan will establish a strategy for long-term restoration, and options evaluated to inform this plan will include project buildout based on projected future water inflows within the Salton Sea watershed as well as water importation for a whole-Sea alternative, if importation is found to be feasible..

Partnerships

The SSMP Team recognizes the crucial role of partnerships in meeting its restoration goals, through collecting data, facilitating project implementation, and helping obtain funding sources. Close collaboration with local governments, including Imperial County, Riverside County, Imperial Irrigation District, Imperial County Air Pollution Control District, and the Salton Sea Authority has proven essential to recent progress implementing projects. Likewise, close coordination and cooperation with State and federal agencies, including the Colorado River Basin Regional Water Quality Control Board, State Water Resources Control Board, California Air Resources Board, U.S. Army Corps of Engineers, U.S. Bureau of Reclamation and U.S. Fish and Wildlife Service, has enabled progress to date.

The SSMP Team continues to work with local partners, including Riverside County and the Salton Sea Authority, to implement the approximately 160-acre North Lake Demonstration Project, which eventually could be integrated into a larger North Lake concept. The concept envisions construction of a 4,030acre horseshoe-shaped lake at the north end of the Sea to control dust and create habitat for fish and birds. The 2020-2021 State budget allocated \$19.25 million in Proposition 68 funding for the North Lake Demonstration Project.

The SSMP Team is also meeting with local stakeholders and partners to collaborate on a broad range of projects and planning activities. Examples of collaborative efforts include:

- Collaboration with Imperial County and Imperial County Air Pollution Control District to develop the Desert Shores Channel Restoration Project. The project would create habitat and suppress dust by refilling currently dewatered channels with water at a salinity level that provides habitat for fish and supports piscivorous birds.
- The SSMP Team has been working with Audubon California to support a 750-acre wetland at Bombay Beach that would suppress dust while also creating managed wetland habitat on the east side of the Sea.

The SSMP Team engaged with air quality agencies to develop the Dust Suppression Action Plan. The team worked with IID and the regional air districts (Imperial County Air Pollution Control District and South Coast Air Quality Management District) to learn from their data collection, planning and field research on dust suppression around the Sea. The California Air Resources Board (CARB) was also an active participant in helping the SSMP Team identify and review dust control strategies and monitoring requirements. These partnerships have guided the team's planning for dust suppression projects.

The SSMP Team continues to develop a broader strategy for federal funding and partnership opportunities to assist with implementation of the SSMP. The team entered into a funding agreement with USBR to support implementation of dust suppression projects. The team is also working with partners to pursue available federal funding sources, including with the federal Natural Resources Conservation Service.

Community Engagement and Transparency

In 2020, the SSMP Team continued to place a strong focus on community engagement. The Engagement Committee, consisting of representatives from stakeholder groups, local leaders, governmental agencies, and Tribal governments, held three meetings in 2020 and helped shape the State's public workshops, refined a draft Community Engagement Plan and worked on a draft committee charter. These activities will gain further momentum in 2021 as the SSMP Team adds staff at the Sea dedicated to community engagement and communication.

The SSMP Team hosted six public workshops, for both the DSAP and Phase I: 10-Year Plan Project Description, to share information and gather feedback. The SSMP Team also accepted written comments during a 30-day period for each and posted all comments received, both written and verbal, online.

The SSMP Team continues to use the comprehensive website, www.saltonsea.ca.gov, to provide information on SSMP projects and opportunities to offer input. The State also continues to share news and updates via the e-newsletter that debuted in November 2019. The Salton Sea Management Program Update provides information on project delivery, upcoming meetings, and other relevant information, offers opportunities for feedback, and is distributed through the California Natural Resources Agency Salton Sea Listserv.

The SSMP Team also is working to increase its physical presence at the Sea by establishing a local Salton Sea Program Office at the Wister Unit of the Imperial Wildlife Area in Niland, Imperial County.

Going Forward

With expanded staffing for the SSMP during 2020, and the further planned addition of 10 new staff in 2021, the program is building stronger institutional capacity to meet the growing demands of completing the wide range of projects now on the drawing board. The SSMP Team has learned from the experience of completing approximately 755 acres of dust suppression projects in 2020, and from the initiation of the SCH project. This experience will help refine future work plans and implementation schedules in the coming years.

The team looks forward to working with local, Tribal, State and federal partners to rapidly expand the acreage of completed projects in the year ahead. Although the acreage of completed projects is presently below annual targets identified in State Water Resources Control Board Order WR 2017-0134, the completion of land access agreements and major projects such as the SCH should help put the team on track to meet the cumulative acreage target by 2023.

Because the State is not a significant landowner at the Salton Sea, catching up with and achieving annual acreage targets is dependent on focused collaboration between the State and major landowners to execute land access agreements in a timely way. The SSMP Team will continue to prioritize implementing projects on lands where the State has secured site control while it also works to develop master land use agreements to enable project delivery.

INTRODUCTION AND PURPOSE

The Salton Sea Management Program (SSMP) — led by the California Natural Resources Agency (CNRA) in collaboration with the California Department of Water Resources (DWR) and the California Department of Fish and Wildlife (CDFW) made progress in 2020 toward reducing exposed lakebed and creating habitat at the Salton Sea (Sea). Even amid challenges posed by the global COVID-19 pandemic, delivering projects that improve conditions for residents as well as wildlife at the Sea remains a key priority for the Newsom Administration. The SSMP worked with local, State and federal partners to advance important work in 2020 and is poised to build on that momentum in 2021.



At the highest level, the SSMP Team remains focused on the following goals:

> Drive implementation of the SSMP's Phase I: 10-Year
> Plan, which aims to improve conditions around the Sea by constructing 30,000

Report Goals

Building on last year's SSMP Annual Report, this report highlights project planning and implementation activities during 2020 to meet the requirements of State Water Resources Control Board Order WR 2017-0134. Also described are the capacity of the SSMP Team to meet future goals, ongoing engagement with regional partners and local communities, and an update on the funding status of the program.

acres of projects to suppress dust from exposed lakebed and create habitat for fish and birds;

- Establish a long-term pathway for the Salton Sea beyond the Phase I: 10-Year Plan;
- Continue to build the SSMP Team to enable the State to deliver projects; and
- Strengthen partnerships with local leaders and communities to deliver projects and institutionalize inclusive community engagement within and across SSMP projects.

1.1 Notable Highlights Since Preparation of 2020 Annual Report

The SSMP marked a significant milestone in 2020 with the initiation of the Species Conservation Habitat (SCH) project, the first major habitat project of the Phase I: 10-Year Plan. The project will encompass approximately 4,110 acres of exposed lakebed located at the southern end of the Salton Sea, east and west of the New River. The SCH will create a network of ponds with islands and areas of varying water depths to serve as fish and bird habitat. Through legislative authority obtained for the SSMP, DWR is utilizing a Design-Build procurement process for the SCH project and awarded the contract to Kiewit Infrastructure West Co. in September 2020. Following initial planning steps and site preparation in fall 2020, construction began in January 2021. The project is expected to be completed by the end of 2023.

To facilitate the start of construction, DWR worked with federal and State partners to secure updated permits to reflect current construction methods and features. The permits were considered and issued on a condensed timeline that demonstrated a high level of collaboration.

In a sign of continued commitment to Salton Sea restoration, Governor Newsom and the Legislature approved the addition of 10 new staff positions dedicated full time to implementing the SSMP as part of the 2020—2021 State budget. Eight of these staff will be based near the Salton Sea, with a new SSMP office in Imperial County hosting at least six SSMP Team members. In addition, four previously vacant staff positions were filled in 2020.

In addition to the new positions, the 2020-2021 budget authorized \$19.25 million in Proposition 68 bond funds to support the implementation of the North Lake Demonstration Project, an approximately 160-acre habitat project at the northern end of the Salton Sea in Riverside County. This project will be implemented through a partnership among the SSMP Team, the Salton Sea Authority, and Riverside County. The budget also includes \$28 million for the New River Improvement Project, which aims to address pollution exposure challenge, create public health benefits and enhance access to green, healthy spaces for Calexico residents. The funding included \$18 million in one-time General Fund support and \$10 million from Proposition 68.

The SSMP Team engaged with communities around the Sea in 2019 and 2020 to solicit ideas for dust suppression projects. The team also worked with Imperial Irrigation District (IID) and the regional air districts (Imperial County Air Pollution Control District, ICAPCD and South Coast Air Quality Management District, SCAQMD) to learn from their data collection, planning and field research on dust suppression around the Sea. The California Air Resources Board (CARB) was also an active participant in helping the SSMP Team identify and review dust control strategies and monitoring requirements. This input was used to produce the draft DSAP released in February 2020. After receiving additional public feedback and consulting with air guality authorities, landowners and tribes, the SSMP team completed a revised DSAP in late July that outlines 9,800 acres of project planning areas on exposed lakebed around the Sea, identifies potential dust suppression concepts, and describes the steps needed to transition from concept to on-the-ground implementation over the next few years. The plan will serve as a "living document" that will be refined over time through continued collaboration with local air pollution control districts, landowners, and other stakeholders. The SSMP Team completed approximately 755 acres of dust suppression projects in 2020. Future dust suppression activities will also be informed by monitoring and adaptive management of completed projects.

The State is not a significant landowner around the perimeter of the Sea, where the exposed lakebed will develop, and most SSMP 10-Year Plan projects are expected to be constructed on land owned by federal or local agencies. Therefore, over the course of 2020, the SSMP Team worked with major landowning entities to develop formal land access agreements that would allow such construction. These access agreements are being pursued with the U.S. Bureau of Reclamation (USBR), the Bureau of Land Management (BLM), and IID.

For SSMP projects on federally owned land or with impacts on federally managed resources,

federal approvals must be secured to implement these projects. To facilitate those approvals as well as environmental permits, the SSMP Team and U.S. Army Corps of Engineers (USACE) are developing an Environmental Assessment (EA) for the Phase I: 10-Year Plan. The USACE will be the lead agency for an EA, which is intended to provide comprehensive NEPA compliance for 10-Year Plan projects. A draft Project Description was presented for public review in August 2020 and workshops in September 2020. It covers the habitat and dust suppression projects identified in the Phase I: 10-Year Plan. Completion of this comprehensive National Environmental Policy Act (NEPA) process upfront will allow the SSMP Team to seek federal permits and access rights to implement projects on federal lands more quickly than would be possible by undergoing NEPA compliance for each project individually. The process will result in procedures for USACE permitting that streamline the final approval for each project.

1.2 Updates for State Water Resources Control Board Order WR 2017-0134

Table 1 provides an overview of the reporting requirements defined in State Water Board Order WR 2017-0134. This annual report goes beyond the requirements in the order and provides an update on the extensive range of management, planning, permitting, and construction activities intended to support the delivery of future SSMP milestones. The order also requires an update on environmental conditions at the Sea. This information is summarized in Appendix A of the report.

1.3 COVID-19 Impacts and Responses

The 2020–21 State budget for the SSMP reflects the Newsom Administration's commitment to improving conditions around the Sea, despite the many competing funding needs resulting from the COVID-19 pandemic. The State budget provides additional funding for 10 new positions for the SSMP and for the North Lake Demonstration Project as described in subsequent chapters.

The State Water Resources Control Board annual workshop, originally scheduled for March 18, 2020, in El Centro, was postponed because of the COVID-19 pandemic. The workshop was held virtually on August 19, and the SSMP Team provided an update on the status of program implementation. All public meetings related to SSMP projects conducted after mid-March 2020 were held online. These meetings were held with extensive outreach and simultaneous translation provided in Spanish, to make program updates as widely accessible as possible.

Other challenges posed by the COVID pandemic include staff being reassigned to contact tracing, loss of staff time from mandatory furlough days, loss of staff time from quarantining, care of family members, or other needs, and increased administrative requirements for response and protocols planning and reporting. The inability of staff to be present in close quarters limited the performance of some types of field data collection.

Even with these challenges, 2020 was a year of significant progress for the SSMP, as outlined throughout this report.

1.4 Report Organization

This report follows the general outline of the 2020 Annual Report. Chapter 2 summarizes land access status and projects delivered and currently in progress. Chapter 3 describes planning activities at various levels, such as program planning, environmental planning, and funding to support the future implementation of the Phase I: 10-Year Plan projects. Chapter 4 describes the extensive partnerships across the region that have been formed to facilitate the development of projects, including federal, State, local, and Tribal agencies, and other non-governmental organizations. Chapter 5 presents engagement with the community and stakeholders. Chapter 6 describes the near-term steps in project delivery and planning for meeting the longer-term targets of State Water Board Order WR 2017-0134. Appendix A contains a summary of recent environmental conditions data at the Sea, including inflows, water elevation, water quality, air quality, and bird and fish abundance. Appendix B provides a detailed breakdown of funding sources for the SSMP.

ltem	Reporting Requirement	SSMP Activity
(i)	Completed projects and milestones achieved in the prior year.	The following are some key highlights:
		Executed a contract in September 2020 for the construction of the SCH project, began detailed design and early site preparation activities in fall 2020, and started construction in January 2021.
		Conducted public meetings and a 30-day public review period and engaged stakeholders to develop the Dust Suppression Action Plan (DSAP). The DSAP was released in July 2020 and the first set of dust suppression projects was completed, totaling approximately 755 acres.
		Initiated discussions with various land-owning entities toward securing land access agreements needed to facilitate delivery of additional projects in 2021 and 2022.
		Developed Phase 1:10-Year Plan draft Project Description for the anticipated EA. The draft project description was released for public comment in August 2020, an'd three online public meetings were held during September 2020.
		Entered a Memorandum of Understanding (MOU) with the Salton Sea Authority to support the broader goals of Salton Sea restoration and the SSMP.
		Received authorization in the 2020-2021 budget for \$19.25 million in Proposition 68 bond funds to implement the 160- acre North Lake Demonstration Project.
		Received authorization in the 2020-2021 budget for 10 new SSMP positions and began hiring process.
		Entered an MOU with Imperial County Air Pollution Control District to coordinate on the Desert Shores Channel Restoration Project.
		Selected a location and began work on establishing new local office in Imperial County.
(ii)	Amount of acreage of completed projects that provide dust suppression and habitat, broken down by habitat	Dust suppression projects: approximately 755 acres completed. Work completed includes the 112-acre Bruchard Road Dust Suppression Project (January 2020), the 306-acre New River East Project (November 2020) and the 280-acre New River West Project (December 2020).
	type.	Habitat projects: initiation of SCH project (approximately 4,110 acres)

Table 1. Activities Identified in State Water Board Order WR 2017-0134

ltem	Reporting Requirement	SSMP Activity
(iii)	Upcoming projects to be completed and milestones to be achieved prior to the next annual progress report.	The following are some key activities planned in 2021:
		Continue construction of the SCH project;
		Contingent upon securing land access agreements, implement 1,000 to 2,000 acres of dust suppression and habitat projects and begin designing projects for another 2,000 to 3,000 acres.
		Complete the Final EA for the Phase I: 10-Year Plan.
		Pursue federal funding opportunities for SSMP projects qualifying for Farm Bill and other funding sources.
		Finalize grant agreement with SSA for the North Lake Demonstration project, complete environmental compliance, and secure land access and a water supply.
		Support advancement of other projects led by partner organizations as described in Chapter 2.
		Establish new local office in Imperial County.
(iv)	Status of financial resources and permits that have not been secured for future projects.	Additional funding will be required to meet the acreage requirements in the State Water Board Order. Upon completion of the Phase 1: 10-Year Plan EA, funding needs will be better defined and updated accordingly. The financial status of the SSMP is described in Chapter 3.
(v)	Any anticipated departures from the dates and acreages identified in Condition 24 of the State Water Board Order.	There have been departures from project delivery dates. Based on current understanding of the steps required to implement additional projects, Chapter 6 describes anticipated dates to achieve the acreage schedule.
(vi)	Progress toward development of the long-range plan described in Condition 26.	The SSMP Team is currently finalizing a contract to convene an independent review panel to conduct a feasibility analysis for water importation beginning in spring 2021.
		The results of the independent feasibility analysis will inform restoration options for the long-range plan. Public engagement to launch development of the long-range plan will begin—concurrently with the independent review of water importation proposals—in the spring of 2021.
(vii)	Should an annual milestone shortfall exceed 20 percent of a year's annual obligation, the report will also include a plan that will cure the deficiency within 12 months.	The State's vision for project delivery is described throughout this report and is summarized in Chapter 6.



Since CNRA's last report to the State Water Board in March 2020, the SSMP Team has continued implementation of dust suppression projects and initiated construction of the SCH, the first major habitat project at the Salton Sea. This chapter describes projects that have been constructed and others that are in progress, beginning with a discussion of the land access process, which is a key first step in all project delivery.



SSMP PROJECT DELIVERY

2.1 Land Access

Land access planning is a critical component of the SSMP. The State is not a significant landowner at the Salton Sea and must rely on voluntary landowner cooperation to obtain access agreements and implement projects. Land is owned by local, State, Tribal and federal entities - all with differing processes and procedures for land access. There are also a significant number of private landowners on affected parcels. There is not a template that can be applied across the board to streamline the process. A breakdown of ownership on the roughly 235,000 acres of land around and under the Sea shows the following major landowners: IID (106,000 acres); USBR (82,000 acres); BLM (12,000 acres); and the Torres Martinez Tribe (10,500 acres) (Figure 1). Of the remaining 25,000 acres, only 3,900 acres are owned by the State and the rest by other entities. Because of this limited landownership, the SSMP must enter into a land access agreement(s) for each project site before project design can be finalized and implementation can begin. Varied landownership also impacts project timelines and increases costs for project delivery. Each project site may span multiple parcels under different ownership, so multiple land use agreements may be required for implementation of a single project.





Currently, the SSMP Team is seeking access agreements with the following entities: USBR (approximately 2,600 acres), IID (approximately 1,700 acres) and BLM (approximately 130 acres). The team has been actively engaged over 2020 to develop these agreements. The status of current land access agreements is described in further detail below. When these agreements are completed, the process of implementing projects on up to 4,500 acres will begin. Securing these access agreements is critical because site access is needed in order to conduct detailed site investigations and create specific project designs required to obtain permits and ultimately implement projects. Land access will also be sought for air guality monitoring equipment at the northern end of the Salton Sea.

The timing of these and future land access agreements will dictate the planning and implementation schedule for the rest of 2021 and beyond and will also affect the SSMP Team's ability to deliver on the State Water Board Order WR-0134 annual targets for habitat and dust suppression projects. The SSMP Team will continue to prioritize land access with a goal of securing access on 3,000 – 4,000 acres annually until site control has been reached on the acreage amount needed to fully implement all Phase-1: 10-Year Plan projects.

2.2 Projects Completed

Projects completed in 2020 fall within areas to which the SSMP has access in the footprint of the SCH Project area and are shown in **Figure 2**. Projects completed thus far are part of the Phase A projects in the DSAP, which were intended to be implemented rapidly once land access and relevant permits were obtained. The Phase A projects use surface roughening as an interim step to reduce dust emissions, a process that is effective where the clay and silt content of the exposed lakebed is relatively high. Although surface roughening can be constructed rapidly on the ground, it is considered a temporary dust suppression measure, to be used while more sustainable long-term dust suppression methods are implemented. In the

Figure 2. Projects completed at the Salton Sea in 2020.



specific instance of the dust suppression projects within the SCH Project area, these are to be covered by ponds when the SCH Project is fully implemented.

2.2.1 Bruchard Road Project (112 acres)

The SSMP Team completed the Bruchard Road Dust Suppression Project in January 2020. The project, located near the mouth of the New River at the Salton Sea, was the first project completed under the SSMP and was designed to proactively treat areas of exposed lakebed identified as having emissivity potential based on available monitoring data collected to date.

The project used surface roughening to reduce the site's potential for emissivity. Surface roughening created 2- to 3-foot ridges and furrows perpendicular to the prevailing wind direction. This approach modifies the airflow, decreasing wind velocity at the soil surface, and physically trapping soil particles that enter the roughened area from upwind sources. Surface roughening was favored for this project because it is expected to provide quick, waterless, and effective dust control of the soil types present at the site. It is also compatible with the subsequent construction of the SCH Project over this area.

2.2.2 New River East Project (341 Acres)

The second DSAP project site is located on the east side of the New River and is called the New River East Project. This project, conducted during November 2020, consisted of 341 acres of surface roughening.

2.2.3 New River West Project (302 Acres)

The New River West Project is also located within the footprint of the SCH project. A total of 302 acres of surface roughening was completed in December 2020.

2.3 Projects in Progress

Projects in progress at the Salton Sea are shown in **Figure 3**, illustrating the wide range of activities currently being undertaken by the SSMP Team and its partners toward restoration of the Sea and its surrounding communities.

2.3.1 Species Conservation Habitat (approximately 4,110 acres)

Implementation of the approximately 4,110-acre SCH project is moving forward at full steam. The SSMP team received complete proposals in spring 2020 from three prequalified designbuild teams. In August 2020, DWR announced that it had selected Kiewit Infrastructure West Co. for the SCH project design-build contract. **Figure 3.** Projects in progress and potential future projects under consideration at the Salton Sea. The DSAP project planning areas typically contain multiple landowners. Project implementation on these planning areas will proceed based on completion of land access agreements.



Kiewit Infrastructure West Co. and DWR finalized the contract in September 2020. Following initial onsite work in the fall, construction of this major habitat project began in January 2021 and marked a notable milestone for the SSMP. A computer-generated visual of the project concept with ponds on either side of the New River is shown in **Figure 4**.

The SCH project will restore approximately 4,110 acres of shallow water habitat lost as a result of

the Salton Sea's increasing salinity and reduced area as the Sea recedes. The project currently includes the following elements:

- Berms and levees to retain water for developing habitat ponds, manage flooding from the New River and surrounding catchment areas, and allow access around the Project area;
- Islands and habitat features for avian loafing and nesting;

- Interceptor ditches to collect and divert agricultural runoff away from the project site and provide connectivity between agricultural drains, allowing desert pupfish migration between drains;
- Salton Sea pump station and saline delivery pipeline to deliver saline water to the habitat ponds, including the Salton Sea causeway, dredge channel, and offshore disposal area;
- New River intake/diversion to deliver brackish water to the habitat ponds;
- Sediment/mixing ponds to provide a zone where saline and brackish water are mixed to the appropriate proportions for support of target aquatic species;
- Buffer zone pump station to deliver mixed water extracted from the habitat ponds to exposed lakebed areas upstream of the habitat ponds to aid in invasive species management and dust suppression;
- Passive recreation facilities for public viewing of the project area; and
- Operation and maintenance facilities and access roads.

2.3.2 DSAP Projects in Progress

The SSMP Team released the DSAP in July 2020 to accelerate priority SSMP projects that limit dust emissions and restore habitat at the Sea. The DSAP serves as a high-level roadmap that charts necessary tasks, coordination and timelines to plan and execute projects. It was shaped by important input received from local communities, **Figure 4.** Computer generated imagery of the SCH Project, looking toward the New River Delta. Shown are the habitat ponds to be created on the east and west of the New River, including islands of different shapes to provide avian nesting and loafing sites.



stakeholders and regulatory agencies. The DSAP identifies up to 9,800 acres of project planning areas on exposed or soon to be exposed lakebed around the Sea, describes potential dust suppression concepts, and outlines the steps needed to transition from concept to on-theground implementation over the next few years. The project planning areas are shown in **Figure 3**.

The DSAP proposes to implement dust suppression projects using a two-phased approach, as appropriate, at strategic locations along the perimeter of the Sea focusing on areas with the highest emissivity potential. Phase A projects which comprise waterless techniques to suppress dust are being implemented as a temporary proactive measure to limit potential emissions from exposed lakebed areas. Project sites that initially receive Phase A dust control methods, such as temporary surface roughening will be transitioned in the future to more sustainable Phase B treatments such as vegetation planting and shallow water habitat. Although Phase B projects are expected to include more complex planning and design requirements, opportunities to accelerate implementation of Phase B projects will be pursued in areas where site conditions are not suitable for Phase A projects and/or efficiencies and ecological benefits can be maximized by constructing more sustainable Phase B projects.

Additional dust suppression work planned for 2021 is described below.

2.3.2.1 U.S. Bureau of Reclamation and SSMP Collaborative Projects (approximately 2,600 acres)

The SSMP Team is partnering with the U.S. Bureau of Reclamation (USBR) to develop projects on approximately 2,600 acres of USBR-owned land within the planning areas identified in the DSAP. The SSMP Team's focus is on prioritizing portions of these planning areas where the State is currently being provided land access by the USBR. The six project areas identified include portions of the following: Clubhouse, Tule Wash, San Felipe Fan, Bombay Beach, Bombay Beach West, and the North Shore (**Figure 3**).

The initial project concept in the DSAP included Phase A projects that comprise waterless techniques to suppress dust to be implemented first, and Phase B projects that typically use water and will provide both dust suppression and habitat values for the life of the program. However, based on the current timelines, the SSMP Team proposes to develop designs and implementation for Phase B projects beginning in 2021. In situations where Phase B concept implementation has the potential to be delayed, Phase A waterless techniques such as surface roughening, creation of engineered roughness, and sand fencing may be used as a temporary measure. Water sources to be considered include stormwater and groundwater. Activities proposed also include a request to drill groundwater monitoring wells to evaluate their potential for use in these project areas.

Significant progress is being made to secure a land access agreement and complete the associated NEPA compliance. The Categorical Exclusion process is expected to be completed in early spring 2021 (see Section 3.2), with an executed land access agreement completed shortly afterwards. Further steps with anticipated dates are as follows:

- Collaboration, partnering, and further design through spring 2021.
- Additional permitting and site investigations through spring and summer 2021.
- Implementation beginning late summer/fall 2021.

The following is a project overview proposed for each of the sites with partial USBR ownership.

Clubhouse: This site provides a good test case for illustrating the approach to be used by the SSMP Team to implement dust suppression across a complex landscape. The USBR planning area for this site is approximately 400 acres. The existing land cover at the site is presented in **Figure 5**, showing exposed lakebed areas that are covered by vegetation, or below the current water level,

Figure 5. Detailed land characterization at the Clubhouse site (see Figure 3 for general site location). The colored areas within the site are USBR-owned land, with the colors indicating the extent of vegetation cover and whether the land is below the ordinary high water mark (OHWM) or an aquatic habitat.



or consisting of aquatic habitat. Project work at this site is envisioned as a Phase B project over the ~400-acre area and will encompass existing wetland and vegetated areas. The work will be initiated in 2021. Where water access is a limit in the near term, waterless approaches will be considered as a temporary measure. The northern end of the planning area has approximately 75 acres of sand dunes which could be stabilized using a combination of sand fencing and vegetation to keep the sand from migrating onto the exposed lakebed.

Tule Wash: The USBR planning area for this site is estimated to be ~1,217 acres. The existing land cover at the site is presented in **Figure 6**. As above, project work will be initiated in 2021 as a Phase B project supporting existing vegetated and wetland areas. This will involve an initial project design and water supply investigation, including monitoring groundwater at the site. Once the water supply is understood, the project design will be finalized. The project will include vegetation establishment in the dry lakebed. Where water access is a limit in the near term, waterless approaches will be considered as a temporary measure.

San Felipe Fan: The USBR planning area for this site is estimated to be ~660 acres. The existing land cover at the site is presented in Figure 7. The same basic approach will be used as proposed for the Clubhouse and Tule Wash sites. The project could be designed to construct lateral ditches along the contours so the stormwater can be retained in the ditches and infiltrate to the soil for vegetation uptake. The water withdrawal using stormwater flooding may be constrained by the presence of endangered desert pupfish in San Felipe Creek. If water access continues to be a limit in the near term, waterless approaches will be considered as a temporary measure. Figure 6. Detailed land characterization at the Tule Wash site (see Figure 3 for general site location).



Bombay Beach: The USBR planning area for this site is estimated to be 250 acres and is being designed to complement the areas that are slated for the Audubon California wetland restoration

project (see Section 2.2.6). The land cover at this site and the adjacent Bombay Beach West site is shown in **Figure 8**. Phase A surface roughening can be implemented on up to ~170 acres with



Figure 7. Detailed land characterization at the San Felipe Fan site (see Figure 3 for general site location).

the soil crust limiting the number of available acres. The Phase A project is proposed for 2021.

The Phase B project will also be designed around the restoration project on up to the

entire 250-acre parcel. The preferred site design includes vegetation planted in the furrows to provide long-term dust suppression and habitat compatible with and enhancing the wetland habitat on the site. This project could utilize existing water sources from the ephemeral wash using a water agreement or a potential groundwater well in the future, as needed, to enhance the existing wetted acres and provide water to enhance upland and wetland vegetation at the site. Due to coordination with the Audubon project the Phase B project is proposed for 2022.

Bombay Beach West: Bombay Beach West includes approximately 90 acres of USBR property which is leased by the California Department of Parks and Recreation. Additional partnering and collaboration will ensure that project design meets the needs of all partnering agencies. The Phase A project would be to develop a vegetation establishment pilot study to address water quality, soil type, and the amount of water needed for successful establishment of vegetation. The pilot study would be developed and implemented in 2021.

The Phase B project would use the information learned in Phase A to establish vegetation according to the water quantity and quality on up to 90 acres.

North Shore: The North Shore project includes approximately 24 USBR acres. Land cover for this site is shown in **Figure 9**. Based on community input during the DSAP development process in early 2020, this site was identified as a potential emission source. Prior to any project being implemented at this location, air quality monitoring will be conducted for at



Figure 8. Detailed land characterization at the Bombay Beach and Bombay Beach West sites (see Figure 3 for general site location).

least one wind season to determine emissivity information. The monitoring will involve real time measurement of saltation activity and particulate matter concentrations at different locations across the planning area (see Section 2.3.2.3). The SSMP Team will work with the SCAQMD to develop the monitoring plan and with landowners to obtain site access at certain monitoring locations. No project is currently proposed at this site, but if the site is determined to be emissive, a targeted approach will be developed. Due to the need to collect data for a year, this site will be designed in 2022 as determined by the monitoring data.

2.3.2.2 DSAP Groundwater Monitoring

Groundwater monitoring is an important part of the dust suppression plan because groundwater resources are proposed to support the establishment of vegetation on the exposed dry lakebed to reduce emissivity of the soil. Installing monitoring wells to observe the spatial and temporal changes of groundwater levels and salinity is an essential step for planning and management of vegetation in dust suppression areas.

Ten 50-foot-deep monitoring wells are proposed to be installed within the dust suppression areas of Tule Wash, Clubhouse, Bombay Beach, Wister Frink, San Felipe Fan, and Kane Spring. Two deep water test wells are being considered for installation near the two proposed monitoring wells at the Clubhouse and San Felipe Fan dust suppression areas.

Continuing work in 2021 will include finalizing the land access agreements with landowners, developing the well construction specifications to solicit bids from drilling contractors, and installing wells.



Figure 9. Detailed land characterization at the North Shore site (see Figure 3 for general site location).

2.3.2.3 Air Quality Monitoring Program

Monitoring is required to quantitatively evaluate performance effectiveness of dust controls used at the Salton Sea. The SSMP Team is planning the placement of monitoring devices to quantify emissions from proposed dust suppression project areas. To determine the relative magnitude of the mass transport

and thus the effectiveness of control areas, the saltation activity and dust concentration upwind of and within the project areas will be monitored. Measurements are needed at multiple locations to understand natural and anthropogenic causes of dust and sand transport variability for surfaces. The planned measurements include: (1) saltation activity (frequency and magnitude), (2) ambient concentrations of particulate matter 10 micrometers or less in diameter (PM10), and (3) meteorology (i.e., wind speed, wind direction, relative humidity, temperature, barometric pressure, precipitation, and soil moisture). A 360-degree camera will also be used to collect a time series of high-resolution panoramic photos to aid in dust source-area identification.

Monitoring is being done in collaboration with IID at dust suppression sites within the SCH footprint (Bruchard Road, New River East, and New River West projects). Additional monitoring by the SSMP Team is also planned along the northern shore of the Sea, to assess emissivity from Coachella exposed lakebed and North Shore sites.

2.3.3 North Lake Demonstration Project (approximately 160 acres)

The 2020–2021 budget includes \$19.25 million in Proposition 68 funding to implement the North Lake Demonstration Project. This project will be jointly developed by the SSMP, the Salton Sea Authority, and Riverside County. The State will analyze the project as part of the EA process for the Phase I: 10-Year Plan. Stakeholder and public input will be solicited to inform the design and public access features of the Project.

The North Lake Demonstration Project consists of an approximately 160-acre lake located at the northern end of the Salton Sea, in Riverside County near the community of North Shore. The demonstration project would be considered the first phase of a project in the Whitewater Area identified in the Phase I: 10-Year Plan. The demonstration project could be designed as either freshwater or brackish water habitat. This project could be integrated into a larger North Lake concept, envisioned as a ~4,030-acre horseshoe-shaped lake.

2.3.4 North Shore Harbor Revitalization Project

The Salton Sea Authority, working with Riverside County, is leading a project that will rehabilitate the North Shore Beach and Yacht Club Harbor and restore access to the Salton Sea. The project will re-establish boat access at the North Shore Beach and Yacht Club Harbor (NSBYCH) for scientific research vessels and public use. Work includes dredging of sediment found at NSBYCH, including the channel to the Salton Sea, to a depth of approximately six feet. By removing excessive accumulation of sedimentation of silt, sludge, dead vegetation, and other debris from the harbor, the project will allow for access of research vessels to collect data and monitor conditions at the Sea. This information is vital to the successful implementation and monitoring of environmental restoration and habitat projects at the Salton Sea, including the SSMP projects. Additionally, the dredging of the marina will restore aquatic environment and fish corridors, as well as create natural in-sea flows in the marina.

The Authority has secured a total of \$1.6 million from the Coachella Valley Mountains Conservancy and USBR for the project, and the SSMP will provide the remaining \$500,000 to fully fund the project.

2.3.5 Desert Shores Channel Restoration Project (approximately 30 acres)

The marina adjacent to the Desert Shores community has become disconnected from the Sea, and channels are losing water as the water elevation continues to recede. Implementation of the Desert Shores Channel Restoration Project would refill the five southernmost boat channels in the Desert Shores marina.

The pilot project aims to meet the project goals of habitat restoration and dust suppression by refilling the channels with water at a salinity level that provides habitat for fish and supports piscivorous birds. In addition, habitat benefits are anticipated through revegetation and conventional or floating islands.

The project would construct a berm across the former boat channel connection to the Salton Sea. Then water would be pumped from the Salton Sea and mixed with a freshwater source into the channels contained by the berm at a rate sufficient to refill the channels, offset losses from evaporation and seepage, and circulate water. The pump would be on a floating platform in the Salton Sea to allow it to be moved as the Sea continues to recede. In order to meet habitat goals, an additional water supply would be needed to mix with Salton Sea water.

2.3.6 Audubon Bombay Beach Wetland Restoration Project (approximately 750 acres)

The SSMP is coordinating with Audubon to advance the Bombay Beach Wetland Project which aims to stabilize, preserve, and enhance an existing emergent wetland. The Project will be included for analysis as part of the EA process for the 10-Year Plan. It consists of a wetland and surrounding vegetated area that has developed where several prominent washes converge and groundwater is discharged, providing sufficient water for development of emergent wetland and pond habitat for waterbirds (shorebirds, waterfowl, and rails) and algal-based invertebrates.

The objective of the Bombay Beach Wetland Project (**Figure 10**) is to stabilize, preserve, and enhance (where feasible) emergent wetland, freshwater pool and brine pool habitat, and to make surplus water available for vegetation-based dust control on adjacent exposed lakebed areas.

Design concepts being considered include development of a retention basin to contain high discharges and protect the wetland area, promoting shallow groundwater infiltration upslope from the wetland. Water overflowing from the basin will be dispersed for use in the habitat area and for vegetation-based dust control. In the wetland area, low impact habitat preservation and enhancement techniques will be used together with periodic tamarisk removal to enhance and preserve the existing habitat. New habitat areas including shallow ponds and emergent wetlands will be developed on the exposed lakebed downslope from the existing habitat areas as the Sea recedes.

2.4 Potential Future Projects under Consideration

2.4.1 IID and SSMP Coordinated Projects (approximately 1,700 acres)

The SSMP is seeking to formalize its coordination with IID in order to plan, implement, and monitor dust suppression projects around the Salton Sea. Close coordination with IID will allow the SSMP Team to continue to learn from IID's experience and develop the air quality component of the SSMP in a way that is compatible with IID's Salton Sea Air Quality Mitigation Program. Over 2020, the SSMP Team met regularly with IID to coordinate activities on dust suppression projects. Through that coordination, the SSMP Team adopted a set of sites identified by IID in their Proactive Dust Suppression Plan (PDCP). These were identified in the DSAP with the intent to implement these as high priority sites.

The SSMP Team also submitted a draft land access agreement to IID for three sites (located

at the San Felipe Fan, Bombay Beach, and Wister Frink project areas) to advance implementation of these projects. The total acreage for the project sites is approximately 1,700 acres. Further planning and project implementation at these sites is contingent on securing land access.

2.4.2 Wister Unit Marsh Bird Habitat Restoration Project (approximately 150 acres)

A bird habitat restoration project is proposed for development at the Wister Unit Marsh. This area

was historically operated as waterfowl ponds but has fallen into disrepair. The old ponds are now overgrown with tamarisk and other vegetation and the earthen berms are no longer in good condition. The project envisions ponds that will support wetland species such as Ridgeway's rail, black rail, other secretive marsh birds and other avian species. There may also be an opportunity to add in a pupfish or tui chub pond. The project also involves interpretive walking trails to support recreational use of the marsh.





PLANNING In 2020, the SSMP Team has intensified its planning activities on several fronts to continue its strategic vision for delivering dust suppression and habitat projects in the remaining years of the Phase I: 10-Year Plan. Planning for, and implementation of, the DSAP is ongoing. The draft Project Description for the EA for the Phase I: 10-Year Plan was developed, which will provide comprehensive NEPA compliance for Phase I: 10-Year Plan projects.



The SSMP Team has begun the process to meet its commitment for longterm planning beyond Phase I. In addition to increasing the number of staff on the SSMP Team, the SSMP increased its capacity through contracted services. Each of these planning tracks is shown in **Figure 11** and is further described below.

3.1 DSAP Development and Preparation

The SSMP Team conducted a robust public engagement effort in late 2019 and early 2020 at communities around the Sea to solicit ideas and feedback for upcoming dust suppression projects. Written and oral feedback received during this engagement was used to produce the draft DSAP released in February 2020. After receiving additional public feedback and consulting with air quality authorities, landowners, and tribes, the SSMP team completed a revised DSAP in July and posted it on the Salton Sea website. The updated plan will serve as a "living document" that will be refined over time through continued collaboration with local air pollution control districts, monitoring and adaptive management, as well as continued engagement with the communities and stakeholders around the Sea.

The SSMP Team is actively coordinating with federal and local partners to meet regulatory requirements, obtain necessary permits, and negotiate

Figure 11. Salton Sea Management Program project delivery timeline.



land access agreements for Phase A and Phase B projects. **Figure 11** shows the range of acreages for implementation, contingent on completion of land access agreements.

3.2 Environmental Planning

Federal approvals for SSMP projects must be secured to implement these projects. Accordingly, the SSMP Team and USACE have developed a draft Project Description for the anticipated EA for the Phase I: 10-Year Plan. The USACE is the lead agency for the EA, which is intended to provide comprehensive NEPA compliance for Phase I: 10-Year Plan projects. The draft Project Description covers the habitat and dust suppression projects identified in the Phase I: 10-Year Plan, including but not limited to the expansion of the SCH project, creation of habitat

ponds at the Alamo River, the North Lake Demonstration Project, the larger North Lake concept, the Desert Shores Channel Restoration Project; the Audubon Wetland Restoration Project, DSAP projects that have a federal nexus, and a variety of other dust suppression and habitat projects on the exposed lakebed (Figure 12). The EA will also include a Watershed Plan component, funded by a cooperative agreement between the federal Natural **Resources** Conservation Service and CNRA. Inclusion of this Watershed Plan component will allow the SSMP to leverage federal funding opportunities for future SSMP projects qualifying for Farm Bill funds. Completion of this comprehensive NEPA process upfront will allow the SSMP Team to seek federal permits and access rights to implement projects on federal lands faster than would be possible by undergoing NEPA compliance for each project individually.

The draft Project Description was released to the public in August 2020 for a 30-day comment period. Through this process, the SSMP Team sought additional public input to further refine

the draft Project Description and identify a range of project alternatives to be considered in the EA. The State is also seeking feedback as to how the public would like to access the Sea and what compatible community amenities should be prioritized.

The SSMP Team and USACE planned two sets of virtual public meetings and solicitation of comments. The first series of three virtual workshops, held in September 2020, were attended by more than 200 people. Approximately 400 pages of oral and written



Figure 12. Salton Sea project areas included in the NEPA process.

comments and attachments were received and subsequently posted on the website. The USACE will release a public notice to kick off the formal NEPA scoping process in March 2021, with a 30-day comment period. The Draft EA is scheduled to be released by June 2021, also with a 30-day comment period. This will be another opportunity for the public to comment on the draft EA. The EA is scheduled to be completed by fall 2021.

Additional authorizations can be obtained upon completion of the EA, such as the U.S. Fish and Wildlife Service (USFWS) Section 7 Consultation for endangered species impacts and the State Section 401 Certification. This comprehensive NEPA compliance process will enable the SSMP to proceed with full implementation of Phase I: 10-Year Plan projects in an expedited manner. To the extent possible, the SSMP Team will work on permitting activities simultaneously with finalizing the NEPA document.

3.3 Long-Range Planning Beyond SSMP Phase I: 10-Year Plan

While the SSMP Team is executing the Phase I: 10-Year Plan, it is simultaneously developing a path forward for long-term restoration and management of the Sea beyond the first decade. The State Water Board Order WR-0134 requires that a long-range plan be submitted by CNRA to the Water Board by 2022. One key input for the long-range plan is a review of water importation concepts for the Sea. The SSMP

planned to hire an independent third-party organization to objectively evaluate the merit of water importation as a long-term strategy for restoration of the Sea. Toward this end, the State conducted two Requests for Proposals (RFP) in 2020 to secure a firm to set up an independent reviewer panel for water importation. However, neither RFP received any bids in response. Immediately upon learning that the second RFP did not receive any bids, the SSMP Team reached out to several entities to discuss their capacity and interest in conducting an independent feasibility analysis of the proposals. An independent reviewer candidate has been selected and the SSMP Team is currently finalizing the contract for work to begin in spring 2021.

The results of the independent review study will inform restoration options for the long-range plan. Public engagement to launch development of the long-range plan will begin—concurrently with the review of water importation proposals in spring 2021, and the plan will be completed by the end of 2022. The plan will establish a strategy for long-term restoration, and options evaluated to inform this plan will include project build-out based on projected future water inflows within the Salton Sea watershed as well as water importation for a whole-Sea alternative, if importation is found to be feasible.

3.4 Organizational Capacity

Despite the impacts of COVID-19 on the State budget for the 2020–2021 fiscal year, Governor

Newsom proposed and the Legislature approved the addition of 10 staff positions dedicated full time to implementing the SSMP. Eight of these staff will be based near the Salton Sea, with a new SSMP office in Imperial County hosting at least six SSMP team members. Of the 10 new positions, three positions have been filled, two positions have been advertised and hiring is in process, and vacancy announcements for the five remaining positions will soon be posted. In addition, four previously vacant staff positions were filled in 2020. New staff members are presented in **Box 1**.

Among other things, the planning and implementation of restoration on such a large scale requires robust public communication and outreach, air quality expertise, efficient project management, effectiveness and compliance monitoring, and biological monitoring and assessment to inform species status in planning and management efforts. The addition of these positions will fulfill these needs and meet the SSMP's accelerated project delivery schedule. This will allow the SSMP to build and maintain momentum as the amount of ongoing work around the Sea necessarily increases to deliver projects. In addition, the establishment of a new local Salton Sea office will enhance business operation and increase the program's local presence to more effectively serve the public and surrounding communities.

In 2020, the SSMP Team was reorganized as shown in **Figure 13**. Teams at DWR and CDFW are to be led by a Career Executive Assignment

Box 1. Ten new staff positions were approved for the SSMP in the 2020-2021 State budget year, several of which have been filled. Additionally, some vacant positions have been filled. New staff assigned to or hired for the program are shown below.



Catherine Flores Cavanaugh was officially

Cavanaugh was officially assigned to the SSMP Team in August as the Department of Water Resources' lead counsel for the Salton Sea. Her primary areas of focus have been real estate acquisition and legal oversight of land management for major habitat mitigation and restoration projects.



Jerald Kellum joined the SSMP Team in January 2021 as Fish and Wildlife Technician. He performs habitat maintenance and management in support of species around the Sea.



Bonnie Sabel joined the SSMP Team in August as a staff services analyst for the California Department of Fish and Wildlife. She is responsible for procurement, analytical support of fiscal reports, and administrative support.



Melinda Dorin joined the SSMP Team in May as a program manager with the Department of Water Resources. Her work focuses on the Species Conservation Habitat Project and assisting with permitting and biological resources in other areas of the program.



Charley Land joined the SSMP Team in August as a senior environmental scientist (specialist) with the California Department of Fish and Wildlife. He serves as the scientific and regulatory lead for the Salton Sea Program.



Tonya Marshall joined the SSMP Team in January 2021 as a senior environmental scientist (supervisory) with the California Department of Fish and Wildlife. Her work involves conducting biological analysis in support of environmental compliance.

Gail Sevrens joined the SSMP Team in February and serves as Manager of the Salton Sea Program for the California Department of Fish and Wildlife. She coordinates across the program and oversees all areas of the CDFW program. Figure 13. Salton Sea Management Program organizational chart.



(CEA) position. This has been implemented at CDFW and is in process at DWR. The SSMP Team consists of 26 positions assigned full time to the SSMP, reflecting the 10-position increase from the 16 staff shown in the last annual report, and includes staff from CNRA (three positions), CDFW (nine positions), and DWR (14 positions). The SSMP Team filled four existing vacancies in 2020: CEA (CDFW), Senior Environmental Scientist (Specialist) (CDFW), Staff Services Analyst (CDFW), and Program Manager I (DWR). Of the 10 new full-time staff positions for the SSMP, the team hired one new position (attorney, DWR), recruited candidates to fill two new positions, and more recruitments are underway. Besides increasing the number of staff on the SSMP Team, the SSMP has access to specialized staff through contracted services for planning, environmental analysis, engineering, outreach, and dust project implementation. This contract capacity is in addition to that in place for the SCH Project.

3.5 Funding Status and Planning

With the enactment of the 2020-2021 Budget Act, the State has now appropriated \$345.3 million in funding for Salton Sea-related activities, primarily from voter-approved general obligation bonds since the execution of the Ouantification Settlement Agreement in 2003. The current sources and expenditures of SSMP funding from a variety of State and federal sources are shown in Appendix B. Funding to date has allowed the State to: administer the SSMP; grow organizational capacity as described above; complete environmental documents and acquire permits; procure contracts and agreements for goods and services; conduct surveys and studies; and allocate funds for several projects, such as the SCH Project, North Lake Demonstration Project, New River Improvement Project and various dust suppression and habitat projects among others.

In August 2020, the SSMP team awarded a design-build contract to Kiewit Infrastructure West Co. to implement the SCH project. A total of \$206.5 million has been allocated for the SCH project; this includes funds for the design-build contract and other contract and staff support for implementation. In addition, approximately \$15 million -\$20 million in existing bond funds will be allocated to implement priority dust suppression and habitat projects.

The final 2020-2021 state budget adopted by the Legislature and signed by Governor Newsom includes \$19.25 million in Proposition 68 funding to support the implementation of the North Lake Demonstration Project. This project will be jointly developed by the SSMP, the Salton Sea Authority, and Riverside County. The Salton Sea Authority and the SSMP Team are preparing a grant agreement between the State and the Authority with execution of the agreement expected in the coming weeks.

The budget also includes \$28 million in funding for the New River Improvement Project, which aims to address pollution exposure challenges, create public health benefits and enhance access to green, healthy spaces for Calexico residents. The funding includes \$18 million in one-time General Fund support and \$10 million from Proposition 68.

Other planned expenditures for the SSMP include technical and administrative staff support over 2021-2024, and specialized contractor support for environmental compliance planning and permitting, dust suppression project design and analysis, monitoring implementation, and the long-range planning effort.

The SSMP Team anticipates these existing funding sources will cover only a portion of the funding needed to meet all commitments identified in the 10-Year Plan. The SSMP Team intends to update funding requirements after completing the Phase 1: 10-Year Plan EA as project types, operations, locations, and other costs will be better defined and will allow more accurate cost estimates. In recognition of the funding needs, the SSMP Team continues to develop a broader strategy for federal funding and partnership opportunities to assist with implementation of the SSMP. The Natural Resources Conservation Service (NRCS) has extended a \$650,000 cooperative agreement to provide assistance to the SSMP for the Salton Sea Watershed Management Plan under the NRCS Watershed Flood Prevention Operations Program. This will enable the State to apply for

Biological reconnaissance at the Salton Sea.



additional NRCS funding for implementation of projects included in the plan. The USBR has also awarded a \$695,000 grant to the SSMP to proactively research, identify and implement options to mitigate dust emissions from exposed Salton Sea lakebed. These projects are in furtherance of meeting the SSMP's acreage targets under its 10-year plan. The grant may be amended to increase the funding award and includes a state cost share, providing a model framework for how state and federal funds can be leveraged to provide additional public health and environmental benefits at the sea.

3.6 Program Management

Three broad-range efforts are underway to assist the SSMP Team with tracking projects, gathering environmental data from around the Sea toward a Salton Sea Science Program, and for data management in compliance with California's transparent data mandates.

3.6.1 Program Management Tool

The SSMP Team has developed a draft Program Management Tool (PMT) to track tasks and the schedule of major SSMP elements: planning and permitting, project delivery, engagement and outreach, and administration and budget planning. Initially, the PMT will serve as an internal tool for use by the SSMP Team. The PMT allows managers to identify critical path elements and staffing needs across SSMP elements. Information on individual projects is captured in a framework (based on Microsoft Project

Field survey on Salton Sea lakebed.



Online) to show the detailed tasks, durations, and dependencies for planning and implementation. SSMP staff maintain and update the PMT tasks and timelines for reporting to stakeholders and partners as needed. Further development as an interactive web-based public-facing PMT will be implemented as a future phase.

3.6.2 Salton Sea Science Program and Monitoring Implementation Plan (MIP)

As the SSMP Team is working to get projects going on the ground, it is collaborating and coordinating with federal, state, and local partners to collect environmental conditions data at the Sea. The SSMP Team is in the process of developing a comprehensive and integrated science program that will prioritize, coordinate and oversee monitoring, data collection, data analysis, and an adaptive management strategy to support restoration actions at the Salton Sea. Variables to be monitored will include biological resources (avian, fish, plankton and macroinvertebrate), hydrology and waterquality, geography and geology, air-quality, and socioeconomics. Understanding the success of restoration actions at the Salton Sea and longterm trends in environmental conditions will depend on current and reliable information collected in partnership with other regional stakeholders. While the additional staff positions provided to the SSMP (as discussed in Section 3.4) will support these efforts, a strong stakeholder presence is also seen as key for establishing a successful comprehensive Salton Sea science program.

A Monitoring Implementation Plan (MIP) is being developed and will guide measurement of important resources at the Salton Sea, as described above. The MIP will identify, prioritize, and describe monitoring activities to be
implemented by DWR and CDFW under the SSMP. The MIP is intended to complement other monitoring being conducted in the region. This information will help the SSMP evaluate the status and trends of the Sea's waters and natural resources, as well as serve as a basis of comparison to evaluate projects implemented for dust suppression and habitat restoration. The MIP is expected to be released in mid- to late 2021.

3.6.3 Data Management

California Assembly Bill 1755 (Open and Transparent Water Data Act, AB 1755) requires California State agencies to make data publicly available and to develop protocols for data sharing, documentation, quality control, and promotion of opensource platforms and decision support tools related to water data. Managing the large amount and variety of data collected for the Salton Sea program in an organized, efficient, and useful manner will be important for maximizing the utility of the data, allowing reporting for internal and external users over the many years that the program is planned to be in existence, and helping to meet the statewide AB 1755 goals related to open data access. Public access to Salton Sea data will be via the CNRA Open Data Platform, online at data.cnra.ca.gov. To achieve the data access goals, a separate SSMP data management system (SSMP-DMS) is envisioned to house all DWR and CDFW data associated with the Salton Sea, provide streamlined import and export of these data, and provide tools for data visualization, analysis, and reporting. Because of the large volume of data that will be collected, importing data to the SSMP-DMS will be automated where possible. For example, the SSMP-DMS will be set up to automatically access any data being collected via sensors (e.g., high frequency data on air quality related parameters that are related to performance of the planned dust suppression projects). For other types of data, an easy-touse data import interface will be developed. To ensure data are of the highest quality, the SSMP-DMS will include tools to streamline the quality assurance (QA) of these data. The Salton Sea database management system is expected to be released in 2021.

Meteorological and air quality sensing equipment at the Salton Sea.





PARTNERSHIPS

Partnerships with stakeholders, tribes, and local, State, and federal agencies are crucial to help fulfil the goals of the SSMP. The SSMP Team is working with partners to pursue available funding sources, develop projects, share data, improve outreach and engagement, and streamline planning and approval processes. In addition, the team is collaborating with partners to develop templates for land access, water availability, and public access opportunities and other elements key to the success of the SSMP. The SSMP Team also is engaging with partners to address scientific data gaps and identify priorities that can be incorporated into a monitoring implementation plan for the SSMP.



4.1 Audubon California

The SSMP Team has continued to partner with Audubon California to address data gaps and develop new projects. CDFW is working with Audubon California to assist in carrying out and incorporating their monthly shoreline surveys into the Salton Sea Monitoring Implementation Plan and identifying strategies to share data between SSMP partners. In addition, the SSMP Team has been working with Audubon California to support the 750-acre Bombay Beach Wetland Project, which would suppress dust while also creating managed wetland habitat on the east side of the Sea (additional details on this project are provided in Chapter 2). The SSMP Team will support this project through incorporation into the NEPA EA being developed for the Phase I: 10-Year Plan.

4.2 Bureau of Land Management

The SSMP Team is working on land access and permitting documents to support dust suppression projects on BLM land. The State would implement the projects and will coordinate with BLM. The anticipated footprint of dust suppression projects on BLM land is 132 acres. Also, a portion of the ongoing SCH Project is being constructed on BLM land.

4.3 California Air Resources Board

The California Air Resources Board (CARB) continues to be an active participant in dust suppression project activities with the SSMP Team. CARB staff helped in the preparation of the DSAP in 2020. On an ongoing basis, CARB staff are working with the SSMP Team to identify and review dust control strategies and monitoring requirements at individual project sites.

4.4 Colorado River Basin Regional Water Quality Control Board

The construction or operation of some SSMP projects may have impacts on water bodies that are regulated by the Colorado River Basin Regional Water Quality Control Board (CRBRWQCB). This may include direct discharges of pollutants (regulated by the National Pollutant Discharge Elimination System, or NPDES, permit) or stormwater discharges from project areas (requiring a Stormwater Pollution Prevention Plan or SWPPP). Depending on the project, an application would be filed with the CRBRWQCB.

Accordingly, the SSMP Team has increased coordination with CRBRWQCB to discuss SSMP program milestones and progress, upcoming permit needs, and to provide input into CRBRWQCB planning processes. A regular standing meeting has been established to provide ongoing collaboration for project permitting and implementation.

4.5 Imperial Irrigation District

The SSMP Team and IID have been collaborating on a broad range of Salton Sea management priorities, including the SCH Project, DSAP development, dust suppression project planning and implementation, air quality monitoring, biological monitoring, data management strategies, and public engagement.

In addition to collaborating on projects, IID has been supporting the SSMP Team with biological monitoring and developing an approach for sharing data among stakeholders. CDFW, IID, and other partners have been cooperating to develop a pupfish interconnection plan that will be implemented around the Salton Sea and may eventually be integrated into SSMP projects.

Finally, the SSMP Team has submitted a request for land access to IID to develop dust suppression projects and also an interagency agreement for continued support between the State and IID.

4.6 Imperial County

Imperial County and the SSMP Team have significant and complementary interests regarding the development and enhancement of activities that restore the Salton Sea, and Imperial County has sought to assist the SSMP Team with its restoration goals by soliciting Statements of Interest from local landowners willing to implement dust suppression projects on their property. The SSMP Team recognizes that partnership with local agencies could provide

Project planning at the Salton Sea.



substantial public benefits and will continue to coordinate with Imperial County to identify lands and projects that may be eligible for funding opportunities.

4.7 Imperial County Air Pollution Control District

In July 2020, CNRA and the ICAPCD signed an MOU documenting their intent to coordinate and collaborate on the Desert Shores Channel Restoration Project described in Chapter 2. The project proposes to refill channels located between residences on the Salton Sea shoreline in the disadvantaged community of Desert Shores to provide habitat or air quality benefits. ICAPCD will lead efforts to plan the project. It will also lead outreach and communication efforts, in coordination with CNRA. Under the MOU, CNRA will analyze and document the project's public benefits as part of the NEPA EA for the Phase I: 10-Year Plan and as required for funding under the SSMP. CNRA, ICAPCD and Imperial County are meeting once a month to engage of review and development of the project.

In addition, the SSMP Team coordinated with the ICAPCD during the development of the DSAP, especially related to project areas in Imperial County. The State is committed to working collaboratively with the ICAPCD prior to interim dust suppression project construction. This coordination has already started, and the State will continue to work with the ICAPCD in the planning associated with DSAP projects within its jurisdiction.

4.8 Natural Resources Conservation Service (NRCS)

The NRCS of the US Department of Agriculture has entered a Cooperative Agreement with CNRA to provide \$650,000 for the development of a Watershed Management Plan for the Salton Sea. This plan needs to follow a specific format outlined in the NRCS's National Watershed Program Manual for approved projects to be eligible for future NRCS funding. The SSMP Team is working with the NRCS as a Cooperating Agency to incorporate the Watershed Management Plan into the NEPA process being undertaken with the USACE, and is identifying the scope of projects and funding levels that may be available for future SSMP projects.

4.9 Riverside County

The SSMP Team has partnered with Riverside County and various stakeholders to develop and refine the North Lake concept. This concept envisions the construction of an approximately 4,030-acre horseshoe-shaped lake at the north end of the Salton Sea to create habitat for fish and birds, and provide for dust control and recreational uses. The North Lake concept is part of the EA document being developed for the SSMP. The Salton Sea Authority is also part of this process as described below.

Public workshop in Bombay Beach, February 2020.

As the initial phase of the North Lake Project concept, the SSMP Team began work with Salton Sea Authority and Riverside County on the development of concepts and a grant agreement for the North Lake Demonstration Project described in Chapter 2, Section 2.2.3. Riverside County is also working with the Salton Sea Authority on a project that will rehabilitate the North Shore Beach and Yacht Club Harbor and restore access to the Salton Sea as described in Chapter 2, section 2.2.4.



4.10 Salton Sea Authority

The Salton Sea Authority is a Joint Powers Authority with a focus on protecting human health and revitalizing the environment and economy of the Salton Sea. The Authority's board members represent five of the major stakeholders at the Sea: Coachella Valley Water District, County of Imperial, County of Riverside, IID, and Torres Martinez Desert Cahuilla Indians. This representation makes the Authority uniquely positioned to assist in planning and implementation of the SSMP.

CNRA and the Authority have entered an MOU outlining how the parties will coordinate and consult to support the broader goals of Salton Sea restoration and the SSMP. The MOU contemplates continued close coordination between the Authority and the SSMP to ensure prompt communication of local priorities to CNRA through the Authority, as outlined in the MOU, and to seek out federal funding opportunities for projects that will help restore the Sea.

As noted in Chapter 2, the Authority is leading the North Shore Beach and Yacht Club Harbor (NSBYCH) project and the North Lake Demonstration Pilot Project, working with Riverside County. For the NSBYCH project, the Authority has secured a total of \$1.6 million from the Coachella Valley Mountains Conservancy and the U.S. Bureau of Reclamation. In addition, the State will provide \$500,000 to fund this project. The North Lake Demonstration Project received \$19.25 million to plan, design, and implement the approximately 160-acre lake in partnership with the State and Riverside County.

4.11 South Coast Air Quality Management District

The South Coast Air Quality Management District (SCAQMD) has regulatory authority over the contribution or control of anthropogenic fugitive dust emissions in the Salton Sea region within Riverside County. Dust control projects located within SCAQMD's jurisdiction are subject to applicable Air District Rules and Regulations. The SSMP Team coordinated with the SCAQMD during the development of the DSAP, especially related to project areas in Riverside County.

The State will work collaboratively with the SCAQMD prior to construction. This coordination has already started, and the State will continue to work with the SCAQMD in the planning associated with DSAP projects within its jurisdiction.

4.12 Torres Martinez Tribe and Other Tribal Coordination

The Torres Martinez Desert Cahuilla Indians are a major landowner along the northern shore of the Salton Sea in the vicinity of the Whitewater River. The State will coordinate with them on all potential projects being considered for future development, including the earliest stages, and work with the Tribe to gather field data to help evaluate potential alternative approaches for dust suppression. The Tribe also hosted one of the community workshops regarding the DSAP in March 2020.

CNRA engaged in a Tribal Consultation process with tribes that may be affected by the DSAP and completed that process in July 2020. CNRA's goal is to understand Tribal interests and concerns early in the development of conceptual SSMP projects, and CNRA remains committed to open communication with all tribes that may be affected by SSMP projects under the CNRA Tribal Communication and Consultation Policy. The policy requires the SSMP to provide tribes with an opportunity for government-to-government consultation early in project development to ensure Tribal input is considered and cultural resources are protected. This policy was implemented most recently during development of the DSAP, for which the SSMP contacted 25 Tribal Nations to seek input.

4.13 U.S. Army Corps of Engineers

The USACE and DWR entered into an agreement under the Water Resources Development Act (WRDA) to facilitate funding of the NEPA process as well as permitting for SSMP projects. The SSMP Team is working closely with the USACE with the goal of completing the NEPA process in 2021. USACE is the lead agency on the EA and its staff are supporting the preparation of the EA and were key presenters in the September 2020 workshops that kicked off the process (see Section 3.2). USACE staff have also been engaged in preparing the Aquatic Resources Delineation in support of the New River East and West Dust Projects and providing an amended 404 Permit on an expedited timeline for the SCH Project.

4.14 U.S. Bureau of Reclamation

The SSMP Team has entered into a funding agreement with USBR for \$695,000 to support implementation of dust suppression projects. The funds will be used to research, implement, and monitor various options to mitigate dust emissions that originate from the exposed lakebed. DWR will lead this effort and will coordinate with the appropriate State, federal, and local agencies and stakeholders to plan and implement dust suppression projects at the Salton Sea. The grant may be amended to increase the funding award and includes a state cost share, providing a model framework for how state and federal funds can be leveraged to provide additional public health and environmental benefits at the Sea.

The SSMP is also collaborating with USBR to develop and implement habitat and dust suppression projects on up to 2,600 acres of USBR administered lands.

4.15 U.S. Fish and Wildlife Service

The USFWS operates the Sonny Bono Salton Sea National Wildlife Refuge in Imperial County. USFWS partners with the SSMP Team on monitoring and information sharing and collaboration on desert pupfish relocation as part of the SCH Project. USFWS also plays a key regulatory role for all SSMP activities that may affect federally endangered species at the Salton Sea. The SSMP Team worked collaboratively with the USFWS to complete the Biological Opinion required for the SCH project over a compressed time frame in November 2020.

Air quality monitoring equipment installation at the Bruchard Road site.





5 COMMUNITY ENGAGEMENT In 2020, the SSMP Team continued to place a strong focus on community engagement. The SSMP Team continued to refine the draft Community Engagement Plan that will guide the State's long-term approach to engaging with the Salton Sea community, while incorporating Engagement Committee and stakeholder input. With these refinements in mind, the team began work on updating the draft Engagement Committee charter. The goal of the charter is to develop and actively maintain an engagement program that enables consistent two-way communication, creates opportunities for community members to share concerns and provide input, and ultimately contributes to delivery of projects that improve conditions for communities around the Salton Sea.



The Engagement Committee, consisting of representatives from stakeholder groups, community-based organizations, local leaders, governmental agencies, and Tribal governments, held three meetings in 2020. With the input and assistance of the Engagement Committee, the SSMP Team hosted six public workshops, for both the DSAP and EA Project Description, to share information and gather feedback.

5.1 Community Engagement Plan and Engagement Committee Charter

Even as the SSMP Team continues to work with the Engagement Committee to refine the Community Engagement Plan, key elements already are being implemented as the State works to solicit input from community members and incorporate that input in to SSMP decisions. The Community Engagement Plan is aimed at institutionalizing practices to keep community members informed and actively engaged in the planning and implementation of the SSMP.

The draft Community Engagement Plan was the focus of the September 2020 Engagement Committee meeting as well as a dedicated Working Group session in November 2020. During the Working Group session, the need to further develop the Committee's draft charter was identified as a key prerequisite to completion of the Community Engagement Plan. The SSMP Team therefore focused the December 2020 Engagement Committee meeting on the draft charter, solicited written input, and led a discussion identifying key needs and issue areas of the draft charter. Work on the charter and Community Engagement Plan will continue in 2021.

5.2 Engagement Activities

The Engagement Committee consists of representatives from stakeholder groups, community-based organizations, local leaders, governmental agencies, and Tribal governments. The SSMP Engagement Committee serves as the hub and primary venue to plan engagement activities. In 2020, quarterly meetings were held in June, September, and December (the March meeting was cancelled because of COVID-19). The Engagement Committee enlists leaders of local community groups and NGOs to help steer SSMP engagement efforts, reach community members through varying communications channels, and increase community engagement in SSMP planning activities.

The SSMP Team conducted a robust public engagement effort in late 2019 and early 2020 in communities around the Sea to solicit ideas for dust suppression projects. Written and oral feedback received during this engagement was used to produce the draft DSAP released in February 2020, and to further refine the final Plan released in July 2020. Community meeting in Bombay Beach, February 2020.



To gather public opinion for the draft Project Description for the EA (see Section 3.2), the SSMP Team and USACE planned two sets of virtual public meetings containing mechanisms for solicitation of comments. The first series of three workshops, held in September 2020, were attended by more than 200 people in total. Approximately 400 pages of oral and written comments and attachments were received and posted on the website. The second series will be an opportunity for the public to comment on the draft EA in the summer of 2021. The Working Group of the Engagement Committee was formed to discuss upcoming SSMP engagement needs and strategies. In addition to the assistance provided on the Community Engagement Plan, the Working Group provided guidance to plan and conduct public workshops in September 2020. This role was essential to maximize community input, particularly among underserved communities, during the COVID-19 pandemic.

Ongoing updates to the community and stakeholders are being disseminated through

the SSMP e-newsletter and a dedicated website (saltonsea.ca.gov) established in 2020.

Comite Civico del Valle (CCV), a communitybased organization, has a contract with the State to perform a community outreach, education, and engagement campaign. The objectives of this campaign are to provide outreach and education to local residents about Salton Sea conditions, solutions, and management, and to engage community members and encourage participation in the decision-making process through attending meetings and workshops. In 2020, CCV assisted with outreach and implementation of the community DSAP and EA Project Description workshops, conducted outreach via social media and advertising, drafted and distributed press releases, and produced and distributed radio and TV ads and public service announcements. CCV also provided information about the SCH project, conducted a school flag program to educate students and families regarding air quality, and maintained a website and social media accounts with information.

Kiewit Infrastructure West, the design-build contractor for the SCH project, developed a draft Community Outreach Plan to describe its community outreach activities for the SCH, both independent of and in coordination with State activities. The intent of the Community Outreach Plan is to support SSMP community outreach activities to foster long-term community awareness of the work at the Salton Sea; inform the local community and stakeholders regarding the design, construction, and schedule of the SCH; foster cooperation and understanding of neighboring property owners and community organizations regarding construction impacts such as traffic and air quality mitigation; and communicate employment and other economic opportunities.

5.3 Update on Local Salton Sea Presence

The SSMP Team has selected a location and begun work on establishing new temporary offices at the Wister Unit of the Imperial Wildlife Area at Niland in Imperial County. The purpose

Community meeting in Thermal, March 2020.

is to enhance business operations and increase SSMP local presence. The office will be centrally located to current and future State-funded habitat and air quality projects and to key communities, is a State-owned public facility, and establishment therefore will have a short lead time compared with other options.

The SSMP Team has identified the site footprint and is planning for utilities and securing a temporary modular office. The new local office is anticipated to be open for business by spring of 2021.





In the near term, the SSMP Team is fully focused on completing the projects in progress, as described in Chapter 2, and on developing project concepts necessary to complete the vision outlined in the Phase I: 10-Year Plan. With the benefit of experience of projects completed and in progress, the SSMP Team has made significant advances in developing schedules for project development, from conceptual design and permitting to final design and construction.



NEXT STEPS

As the State is not a significant landowner at the Salton Sea, the SSMP Team is involved in extensive engagement with a wide range of landowners around the perimeter of the Sea, reflecting recognition of the critical role of land access. The SSMP Team is prioritizing project construction based on success in securing the necessary land access.

This chapter highlights the key next steps to be taken in the years ahead, in terms of project development and positioning for future elements of the Phase I: 10-Year Plan.

6.1 Key Program Activities in 2021

The year 2021 will be a period of major advancement in constructing the SCH project. As noted earlier in this report, site preparation activities began in 2020, and major construction broke ground in January 2021. The SCH project will cover approximately 4,110 acres. Construction is expected to continue through the end of 2023.

Based on ongoing work on developing land access agreements, the SSMP expects to have 3,000 - 4,000 acres of additional land access to start developing projects. Of this acreage, it is estimated that 1,000 – 2,000 acres of dust suppression projects will be implemented in 2021.

The SSMP Team and U.S. Army Corps of Engineers will work on completing the EA for the Phase I: 10-Year Plan. The EA will provide comprehensive NEPA compliance for subsequent Phase I: 10-Year Plan projects. The EA is scheduled to be completed by the fall of 2021. Upon completion, this comprehensive NEPA compliance process will enable the SSMP to proceed with projectspecific permitting in an expedited manner. In addition, the Watershed Management Plan will be completed and allow the SSMP to leverage federal funding opportunities for future SSMP projects qualifying for Farm Bill funds.

A grant agreement for the North Lake Demonstration project between DWR and the Salton Sea Authority will be completed, and the project is expected to select a preferred alternative and move to conceptual design and permitting in 2021. In addition, efforts to secure land access agreements and a water supply will be advanced.

The SSMP Team will start work on developing the long-range plan in 2021, outlining activities to be undertaken for Salton Sea restoration beyond 2028. This plan will be submitted to the State Water Board by the end of 2022. Related to this effort, an independent reviewer panel will evaluate the feasibility of long-term water importation options over 2021-2022.

Other projects led by partner organizations will be advanced in 2021. Audubon California will move forward on implementing a wetland project spanning approximately 750 acres near the town of Bombay Beach. Conceptual designs for this project will be developed in 2021, and environmental compliance for this project will be addressed through the EA being developed for the Phase I: 10-Year Plan. The Desert Shores Channel Restoration Project will move toward implementation in 2021.

6.2 Key Program Activities in 2022

The SSMP Team's goal is to obtain an additional 3,000 – 4,000 acres of land access in 2022 to implement future projects.

Based on land access previously obtained in 2021, dust suppression projects across 2,000 – 3,000 acres will be implemented.

The North Lake Demonstration Project is expected to advance, through completion of the EA and permitting, securing land access and a water supply and the selection of a contractor for implementation. The project is expected to be initiated in 2022.

Work on the Audubon California wetland restoration project at Bombay Beach and on the Desert Shores Channel Restoration Project will commence. A bird habitat restoration project spanning 150 acres is planned for development at the Wister Unit Marsh.

While the SSMP Team continues to implement the Phase I: 10-Year Plan, it is simultaneously developing a path for long-term restoration and management of the Salton Sea beyond 2028. The development of the long-term plan will begin in 2021 and be completed by the end of 2022.

6.3 Key Program Activities in 2023

To meet the annual State Water Board targets, the SSMP Team goal is to obtain an additional 3,000 – 4,000 acres of land access in 2023 to implement future projects. Of this acreage, approximately 2,000 – 3,000 acres of dust suppression projects are envisioned.

The 4,110-acre SCH project will be completed. Additional shallow habitat projects may be developed at other locations around the Sea on newly exposed lakebed. Current analysis of

Sampling at the Salton Sea.



satellite data suggests several thousand acres of potential wetland locations around the perimeter of the Sea.

6.4 Meeting State Water Board Order WR 2017-0134 Targets

The State Water Board Order sets out annual targets that the SSMP Team has been working toward. While the initial development of projects in 2018-2020 has been lower than the acreage

targets, the team anticipates a significant increase as some major projects are completed in coming years, as shown in **Table 2**. Based on this high-level summary, the team expects to meet the cumulative targets by 2023. While this is an ambitious near-term goal, the team recognizes that the requirement for continued expansion of acreages extends beyond 2023. The team will update the project pipeline annually to forecast the project delivery schedule three years into the future through 2028. The team is working diligently toward this goal through building in-house technical capacity and through partnerships with other interested entities all around the perimeter of the Sea. Ongoing efforts for project implementation over the past two years have highlighted the role of landowner cooperation and timely land access as a key step in the SSMP Team meeting its annual commitments to the State Water Board.

Table 2. State Water Board Order Targets and Planned Project Completion

Year End Goal	Habitat and Dust Suppression Projects, WR 2017-0134 Target Acres	Cumulative WR 2017- 0134 Target Acres	Completed and Planned Land Access Acres	Cumulative Land Access Acres	Completed and Planned Acres	Cumulative Completed and Planned Acres (Mid- Range)	Projects Completed
2018	500	500					
2019	1,300	1,800	4,110	4,110			
2020	1,700	3,500		4,110	755	755	Dust suppression projects
2021	3,500	7,000	3,000 - 4,000	7,600	1,000 – 2,000	2,255	Dust suppression and habitat projects
2022	1,750	8,750	3,000 – 4,000	11,200	3,000 – 4,000	5,755	Dust suppression and habitat projects; Bombay Beach wetland; Wister Marsh; North Lake Demonstration; Desert Shores
2023	2,750	11,500	3,000 - 4,000	14,700	6,100 – 7,100	11,600*	SCH Project; Dust suppression projects
2024	2,700	14,200					
2025	3,400	17,600					
2026	4,000	21,600	To be developed				
2027	4,000	25,600					
2028	4,200	29,800					

*Does not include 755 acres of temporary dust suppression in the SCH footprint area completed in 2020 and to be covered by the SCH Project in 2023.





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APPENDIX A. CURRENT CONDITIONS AT THE SALTON SEA

This appendix provides an update on current conditions in the Salton Sea region, including Salton Sea inflows, elevation and salinity, exposed lakebed, water quality, air quality, and data on bird and fish abundance.

A.1 Inflows

Table 3 presents water inflow to the Salton Sea by year and river for the calendar years 2015 to 2020. Despite the ending of mitigation water flows at the end of 2017, total estimated inflows to the Salton Sea remain stable overall. In 2020, total inflow was 1,025 thousand acre-feet, slightly higher than the inflow in 2019. While recent inflows (2015–2020) have remained relatively stable, they are nonetheless mucmh lower than the rate of evaporative loss from the surface of the Sea. For this reason, the Sea continues to decline in elevation.

Year	Whitewater River	Alamo River	New River	Sum of River Inflow	Inflow including drains, small creeks, and GW
2015	43	554	407	1,004	1,103
2016	47	548	421	1,016	1,116
2017	46	534	398	979	1,075
2018	45	572	330	947	1,041
2019	52	557	317	927	1,019
2020	51	554	328	933	1,025

Table 3. Water Inflow by Year and River, in thousand acre-feet

A.2 Salton Sea Elevation and Salinity

The elevation of the Sea is measured daily, and lakebed exposure can be estimated from the elevation-area relationship of the Sea. For the SSMP, there is a need to develop future projections of lakebed exposure, because a large fraction of the State Board Order WR-0134 project construction will likely occur on land that is currently underwater. Notably, there is need to estimate exposed lakebed on the time-scale of 5–10 years to support planning efforts. Thus far, the SSMP Team has used a computer program developed by IID called SALSA2 (Salton Sea Elevation Model version 2)

to estimate future changes in elevation. SALSA2 assumes projected future inflows to calculate the elevation and salinity of the Sea. Because future flows are only estimates, the SALSA2 model runs consider two flow ranges, one with conditions similar to what they are currently and another that assumes a larger reduction in inflows. These model outputs can be used to bracket near-term expected elevations and lakebed exposure for planning purposes.

The water surface elevation measured on December 31, 2020 was 236.4 feet below mean sea level (msl). **Figure 14** illustrates the observed Salton Sea water surface elevation compared





with SALSA2 model predictions. The water surface elevation in 2020 was generally consistent with model predictions assuming "low uncertainty" flows (i.e., inflows similar to current levels). Depending on future flows, another five feet of elevation decline is expected over the next five years.

Salinity data are collected by the Bureau of Reclamation (**Figure 15**). For each date when data is collected, there are typically six data points representing surface and bottom samples taken at three separate locations at the Sea. Salinity at the Sea has continued to increase over the past two decades, and appeared to show a more rapid increase over the most recent period. The most recent reported salinity levels sampled in January 2020 average 74,000 mg/l, greater than twice the salinity of ocean water. The January 2020 average salinity of 74,000 mg/l is a large increase over the prior average salinity value of 69,000 mg/l, measured in June 2019. Because salinity sampling at later dates in 2020 was not conducted because of COVID-19 restrictions, it is not yet evident whether the rapidly increasing salinity trend continued in 2020. **Figure 15.** Observed salinity (expressed as total dissolved solids, or TDS) at the Salton Sea (2004-2020).



Figure 16. *Historical lakebed (playa) exposure estimated by IID from 2002-2019, and projections for 2020. Source: IID (2020), End-Of-Year 2019 Playa Exposure Estimate.*



A.3 Exposed Lakebed Area

Since 2003, there has been a steady decline in the surface water elevation of the Salton Sea. That decline continued in 2020 with 2,400 acres of lakebed estimated to have been exposed, based on the elevation-area relationship of the Sea. Some of the exposed lakebed has developed a vegetation cover or is covered by agricultural drainage, making it less likely to be emissive.

IID estimated approximately 7,000 acres of lakebed exposed by the receding Sea in 2020,

based on SALSA2 model results (**Figure 16**). However, this may be an overestimate. Recent inflows have been higher than inflow values used in the SALSA2 model runs, and higher Sea elevations have been observed than those predicted by the model (**Figure 14**).

A.4 Salton Sea Water Quality

Dissolved selenium sampled at the Salton Sea at locations shown in **Figure 17**, as reported by USBR and the California Environmental Data



Exchange Network (CEDEN) between 2002 and 2017, ranged from 0.3 to 4.3 micrograms per liter (µg/L) (**Figure 18**). Two large spikes were observed in 2005 and 2007, but dissolved concentrations have otherwise remained consistent over this time period. Average selenium was approximately 1.2 µg/L over the period 2002 to 2017. Data were collected by the Bureau of Reclamation in 2018 and 2019; however, the data were reported as nondetectable at a large detection limit (> 20 µg/L), so are not reported on this figure.

Dissolved concentrations of selenium in the New, Alamo, and Whitewater rivers averaged 6.7 micrograms per liter (µg/L), 6.6 µg/L, and 2.4 µg/L, respectively, over the 2002 to 2020 period (**Figure 19**), using USBR and CEDEN data sets. Higher concentrations of dissolved selenium were sampled in the source rivers than in the dissolved concentrations sampled in the Sea, indicating that selenium partitions readily to sediment and is sequestered there under anaerobic conditions (Setmire and Schroeder 1998; DWR and CDFW 2013).

Dissolved selenium data in the rivers from the USBR data sets were quite different from the CEDEN data. USBR data from the river sites were extremely consistent and generally low compared with CEDEN data. The difference could be a result of analysis or collection methods. While concentrations were higher in CEDEN data sets

17



Figure 18. Dissolved selenium concentrations at locations in the Salton Sea.

than USBR data sets in all three rivers prior to 2010, the two data sources came into better agreement after 2010.

Within the CEDEN data sets, concentrations of selenium in the source rivers from upstream locations (blue markers) to downstream locations (green markers) can be compared. Overall, dissolved selenium typically increases spatially from the downstream location to the outlet for Whitewater and Alamo rivers. For the New River, though, there is no discernable pattern between selenium concentrations at the upstream location and downstream locations.

Temperature and dissolved oxygen profiles are collected at three locations by USBR. Data as a function of time and depth are shown in **Figure 20**. These plots illustrate the seasonality of temperature and dissolved oxygen, and the decreasing depth of the Sea's bottom. Dissolved oxygen values are lower at depth, on account of a strong sediment oxygen demand from the bottom. Thus, these values show a strong vertical gradient, with low dissolved oxygen conditions reaching shallower depths in some years. Over the roughly 15-year period over which these data have been reported,





2015 2016 2018 2019 2020

2017







while there are large annual and seasonal differences, there does not appear to be a visually discernible temporal trend.

A.5 Air Quality Data

Three stations, Torres-Martinez, Bombay Beach, and Naval Test Base were chosen to present air quality and meteorological observations of the north, east, and southwest of the Salton Sea (**Figure 21**). Individually, these stations show that a strong correlation exists between high wind speeds and PM₁₀ concentrations; however, the degree to which winds blowing from the exposed lakebed correlate with high PM₁₀ concentrations varies from station to station and year to year. Wind rose plots illustrate how hourly PM₁₀ concentrations and wind speeds vary based on wind direction, which was discretized into bins of size 5°. Two wind rose plots were created for each station: one representing average conditions for the beginning of this decade and the second representing conditions for the end of the decade. In each case, more than one year of data was used to smooth the effect of the large data gaps that exist in the dataset. Additionally, an arc has been overlaid on the plot to show the directions from which wind passes over exposed lakebed towards the station. The wind rose plots focus on hours when PM₁₀ concentrations exceed micrograms per cubic meter (50 µg/m³) to more effectively show the high concentration events. Although the 50 µg/m³ cutoff value is a convenient point to separate the high concentration events, it does not represent a standard or criterion.

On the other hand, box plots capture trends in PM_{10} concentrations that were less than 50 µg/m³ as well. The box plots correspond to the same two time periods as the wind rose plots for each station. They are used to more clearly delineate the relationship between PM_{10} concentrations and wind speeds. The plots were separated based on whether the winds blew from the exposed lakebed or from other sources.

The data used to construct both the wind rose and the box plots combines the hourly air quality and meteorological observation databases compiled by IID and DWR. As each organization





has a different way of processing the data, at each station, for each hour, the data from these two sources were compared to check for agreement. Although some missing values were filled using archival downloads from AQMIS (Air Quality and Meteorological Information System), there are still gaps in observations as a result of instrument malfunctioning, calibration errors, and other issues as explained by the monthly and quarterly instrumentation reports. The following descriptions should be used when referring to figures in this section:

 Wind rose diagrams: Wind directions have been discretized into bins of size 5°. Average wind speeds in each direction are plotted at the center of the wind rose. The surrounding variegated color bars show the proportion of hourly PM₁₀ observations that were within a specified range. Hourly PM₁₀ concentrations have been filtered to exclude values below 50 µg/m³ and the color ranges are logarithmic. The exposed lakebed direction is delineated by the orange arc.

Box plots: Plots in orange (left) capture trends in PM₁₀ concentrations when winds are blowing from the Exposed Lakebed Direction while those on the right capture trends in PM₁₀ concentrations when winds are blowing from other directions. A box plot shows the range of PM₁₀ concentrations for a wind speed bin of 2 meters per second (m/s). The line inside of each box is the median. The top and bottom edges of each box are the upper and lower quartiles, respectively. The size of the box represents the interquartile range (IQR). Outliers are values which are more than 1.5 x IQR away from the top or the bottom of the box.

A.5.1 Torres Martinez

The Torres-Martinez station is situated at the northern tip of the Salton Sea. **Figure 22** shows that winds at this station were observed to be blowing particularly fast from the northwest and from the southeast. This was observed both at the beginning of the decade (from 2010 to 2011) and at the end of the decade (from 2018 to 2019). From 2010 to 2011, PM_{10} concentrations were highest when winds were blowing from 300° to 330°. The tall wedges in **Figure 22**, the wind rose plot, corresponding to this range of wind directions shows that PM_{10} concentrations were very often greater than 100 µg/m³. This became even more pronounced from 2018 to 2019, when hourly PM_{10} concentrations sometimes crossed

Figure 22. Torres-Martinez wind rose plots for the 2010 to 2011 time period (top) and for the 2018 to 2019 time period (bottom).



1,000 $\mu g/m^3$ when winds were blowing from between 300° and 330°.

Conversely, winds blowing from the exposed lakebed did not often correlate with the particularly high PM_{10} concentrations recorded earlier in the decade. On average, PM_{10} concentrations were only 28 µg/m³ during hours when winds were blowing from the exposed lakebed. This was consistent with observations at the end of the decade as well, although **Figure 22** (bottom) shows that in the later years, a more defined bulge appears within the exposed lakebed arc, particularly in the range of 100° to 140°.

This observation is mirrored in the box plots for Torres-Martinez (**Figure 23** and **Figure 24**). On the left, where PM_{10} concentrations and wind speeds are shown for winds blowing from the exposed lakebed, we see that when wind speeds are between 6 to 8 m/s, PM_{10} concentrations often range from 100 to 400 µg/m³ (**Figure 24**, top-left) with a single outlier above 1,000 µg/m³ in 2010 to 2011 (**Figure 23**, top-left). This increases to a range from 60 to 800 µg/m³ in later years (**Figure 24**, bottomleft). This is consistent with the non-uniform way in which the area of the exposed lakebed in the Northern part of the Salton Sea has been growing over the years and shows that the growing area of exposed lakebed has a distinct effect on average PM_{10} concentrations observed when winds are blowing from it.

A.5.2 Bombay Beach

The Bombay Beach station is located along the eastern shore of the Salton Sea. From this vantage point, the arc created by the exposed lakebed is significantly wider and, consequently, winds blow from the direction of the exposed lakebed far more frequently than observed at Torres-Martinez. **Figure 25** (top) shows that, on average, PM_{10} concentrations are far more likely to exceed 50 µg/m³ when winds are blowing from the exposed





Figure 24. Torres-Martinez box plots for the 2010 to 2011 time period (top) and for the 2018 to 2019 time period (bottom) with a logarithmic y-axis.





Figure 25. Bombay Beach wind rose plots for the 2010 to 2012 time period (top) and for the 2017 to 2019 time period (bottom).



lakebed, averaging 23 $\mu g/m^3,$ compared with 18 $\mu g/m^3$ when winds are blowing from elsewhere.

This trend is consistent in later years (**Figure 25**, bottom) where hourly PM_{10} concentrations average 30 µg/m³ when winds are blowing from the exposed lakebed, as opposed to 22 µg/m³ otherwise. In both time periods, wind speeds are fastest when wind directions range from 230° to 260°. This directional trend strongly correlates with high PM_{10} concentrations, particularly in the time period from 2017 to 2019 when concentrations begin to exceed 1,000 µg/m³.

When comparing the box plots between the two time periods, regardless of the speed of the wind, when the wind is blowing from the exposed lakebed, PM_{10} concentrations rarely exceed 500 μ g/m³ in the early years (**Figure 26**, top-left). On the other hand, in the later years, at lower wind speeds, there are more outliers corresponding to PM_{10} concentrations above 500 μ g/m³ (**Figure 26**, bottom-left). Once wind speeds exceed 10 to 12 m/s, there is an exponential increase in the range of PM_{10} concentrations (**Figure 26**, bottom-left, and **Figure 27**, bottom-left). For nonlakebed wind sources, the relationship between the range of PM_{10} concentrations and the wind speed bin is largely preserved across the years (**Figure 26**, right, and **Figure 27**, right).

A.5.3 Naval Test Base

The Naval Test Base station is situated at the southwestern corner of the Salton Sea. The lakebed exposure rate in this region has been relatively high, exposing more of the lakebed with each passing year, and demonstrating more dramatic intra-decadal changes. **Figure 28** (top) shows that in the early years, hourly PM_{10} concentrations regularly exceed 100 µg/m³ when winds were blowing from the west. Average wind speeds are high and winds blow more frequently from this direction. When winds are blowing from the exposed lakebed, though, there is almost no correlation Figure 26. Bombay Beach box plots for the 2010 to 2012 time period (top) and for the 2017 to 2019 time period (bottom) with a linear y-axis.





Figure 27. Bombay Beach box plots for the 2010 to 2012 time period (top) and for the 2017 to 2019 time period (bottom) with a logarithmic y-axis.









between average wind speed and PM_{10} concentrations. In general, though, the average concentration of PM_{10} is 26 μ g/m³, regardless of the direction from which the winds are blowing.

In contrast, in the 2018 to 2019 time period, average PM_{10} concentrations increased more significantly when winds were blowing from other sources and reached an average of 49 µg/m³ compared with 32 µg/m³ when winds were blowing from the exposed lakebed (**Figure 28**, bottom). The westerly winds identified previously often corresponded with PM₁₀ concentrations that exceeded 1000 µg/m³, whereas there was no strong signal in the PM₁₀ concentrations originating from the exposed lakebed arc in the wind rose plot.

Figure 29 and Figure 30, the box plots for Naval Test Base, show that in the early years, there was a weak correlation between wind speed and PM₁₀ concentrations when winds were blowing from the exposed lakebed (Figure 29, top-left) but that this relationship was somewhat strengthened in the later years, particularly when wind speeds are in the range of 6 to 8 m/s or greater (Figure 29, bottom-left, Figure 30, bottom-left). When winds came from other sources, there is a strong correlation between wind speed and PM₁₀ concentration that strengthened in the latter part of the decade (Figure 29, left). In most cases, when we compare the same wind speed bin from both sources, the PM₁₀ concentrations are greater when the winds are blowing from the exposed lakebed as the strong signal attributed to the Westerly winds is dampened when looking at winds that originate from other directions as well. In fact, looking at Figure 29 (top), when wind speeds are just 8 to 10 m/s, interquartile PM_{10} concentrations are in Figure 29. Naval Test Base box plots for the 2010 to 2011 time period (top) and for the 2018 to 2019 time period (bottom) with a linear y-axis.



Figure 30. Naval Test Base box plots for the 2010 to 2011 time period (top) and for the 2018 to 2019 time period (bottom) with a logarithmic y-axis.







Figure 31. Locations of 2020 Audubon waterbird survey sites (Audubon, 2020).

the range of 300 to 1500 μ g/m³ when winds are blowing from the exposed lakebed compared with 300 to 600 μ g/m³ otherwise.

A.6 Bird Survey Data

Audubon California facilitated surveys during August through November of 2020 across 14 points located around the Salton Sea shoreline which focus on shorebirds, waterfowl, wading birds, and seabirds (**Figure 31**).

Half of the species diversity this year consisted of shorebirds including sandpipers, godwits, plovers, and the black-necked stilt. More than 12,000 of the 26,000 individual birds counted from August through November 2020 have been shorebirds, comprising over 50 percent of the bird population in this 3-month span.

Thousands of waterfowl and shorebirds, specifically northern shovelers and least sandpipers, have been observed using the shoreline at the end of Poe Rd. In October 2019, Audubon staff observed only 140 northern shovelers and 140 sandpiper individuals of various species at this point, compared with the 400 and 1,000 respectively that were seen in October 2020, in addition to the more than 3,000 northern shovelers and 3,000 sandpipers spotted in November 2020 (Audubon, 2020).

Results of Salton Sea shoreline surveys of shorebird populations by Point Blue Conservation Science from 2012 to 2020 are presented in **Figure 32** and **Table 4**. Data shown are summed for all locations around the perimeter of the Sea. While the underlying causes of the variations are complex, and there are many site-to-site variations, it appears that the 2020 total shorebird counts were more than twice as high as for 2019. The shoreline has been challenging to access, owing to the receding water and increased vegetation growing at the drain mouths. During the Point Blue Shorebird Survey in November, observers noted a large number of northern shovelers, peeps, and an increased number of snowy, semipalmated, and black-bellied plovers and kildeers.

CDFW staff monitored several wetland habitats establishing around the southern shoreline of the Sea and documented the presence of Yuma Ridgway's rail and California black rail. Burrowing owls have been observed in burrows at areas of created surface roughening and exposed lakebed where piles of debris or vegetation is located. Pre-construction monitoring occurred before any planned project activities to prevent impacts to both species.

The Idaho Cooperative Fish and Wildlife Research Unit initiated a study in 2020 with biologists from Sonny Bono Salton Sea National Wildlife Refuge

Year	Method	Segments (partial or complete)	Total shorebirds
2012	Airboat	19	29,000
2013	Airboat	18	25,566
2014	Airboat	19	23,035
2015	Airboat	19	20,336
2018	Foot + ATV	12	33,305
2019	Foot	9	9,330
2020	Foot + ATV	11	21,552

Table 4. Bird Shoreline Surveys at the Salton Sea from 2012 to 2020

to better understand the selenium risk to Yuma Ridgway's rails in unmanaged marshes around the Salton Sea (**Figure 33**). The project aims to document the frequency, phenology, and destination of annual migratory and dispersal movements by Yuma Ridgway's rails and determine the selenium risk to Yuma Ridgway's rails in managed and unmanaged marshes around the Salton Sea. Results from 2020 include the first documented migrations from rails that bred in marshes near the Salton Sea (Harrity, 2020).

A.7 Fish Survey Data

Pupfish: Desert pupfish populations were monitored in the northern and southern regions of the Salton Sea in 2020. Populations appear to be doing relatively well in some drains and shoreline pools/ponds, Varner Harbor, North Shore Marina (NSBYC), and Hot Mineral Spa Creek. In 2020 conditions improved in San Felipe Creek, with improved flow and the return of perennial water to areas that had dried during the summer months from 2017–2019. The desert pupfish population in San Felipe Creek

was abundant in 2020, but it is unclear whether improved conditions will continue in 2021. Flow in Salt Creek dried completely or nearly so, resulting in the need to salvage pupfish and move them to nearby refuges. The population was abundant in Lower Salt Creek until conditions deteriorated in mid-to-late summer. Most desert pupfish populations are negatively impacted by non-native species, and some populations are threatened with extirpation from habitat desiccation or detrimental changes in water quality. State scientists have concluded that increasing salinity in the Salton Sea will eventually displace the desert pupfish from the Salton Sea entirely, regardless of intervention.

Figure 32. Bird shoreline survey counts at the Salton Sea from 2012 to 2020.



Other Fish: The most abundant non-native fishes captured during surveys of various waters were mosquitofish, sailfin molly and porthole livebearer (the latter at the north end drains/pools only). Species comprising a much smaller percentage of the catch included tilapia (probably three species), red shiner, and bluegill. One species (jumping quabine) was found in only one habitat (Hot Mineral Spa Creek). Movement of fishes in some drains and pools may be hindered by dense vegetation in the upper playa. CDFW did not conduct protocol fish surveys in the lake, but some fish are still present in the Salton Sea. Various bird species have been observed successfully foraging on small fish near the eastern shoreline. It is suspected but not



Figure 33. Locations surveyed in Harrity 2020.

confirmed that young fish such as tilapia are not reproducing in the lake but are instead entering the Salton Sea from irrigation drains.

Other Species: Other species captured included red swamp crayfish, bullfrog tadpoles, Rio Grande leopard frog tadpoles, and assorted snail species. Spiny soft-shelled turtles, adult bullfrogs, and adult Rio Grande leopard frogs were observed in some areas.
APPENDIX B. FUNDING STATUS

Table 5. Funding	Available for the Salton Sea M	lanagement Program

Source	Authorized (\$ M)	Appropriated (\$ M)	Expended as of 09/30/2020 (\$ M)	Available for Additional Commitments (\$ M)	Use
State ^a					
DWR - Prop 50	\$19.3	\$19.2	\$19.2	\$0.10	2003-2007 Programmatic EIR/EIS and related studies and planning activities (completed).
DWR via WCB - Prop 50	\$8.75	\$8.75	-	-	\$8.75M of \$14M allocated/reserved specifically for the Salton Sea for Species Conservation Habitat (SCH) construction.
DWR & IID via WCB - Prop 50	\$4.8	\$4.8	\$4.3	-	 \$1M to DWR 2008 Salton Sea planning. \$3.3M allocated to IID for construction of power lines to Species Conservation Habitat project (completed). \$0.5M of \$14M allocated to DWR and reserved for SCH construction.
DWR via WCB - Prop 12	\$4.75	\$4.75	-	_	\$4.75M allocated/reserved for SCH.

Source	Authorized (\$ M)	Appropriated (\$ M)	Expended as of 09/30/2020 (\$ M)	Available for Additional Commitments (\$ M)	Use
DWR via CDFW - Prop 84	\$44.1	\$39.4	\$17.6	\$4.7	Since 2008, SCH planning, design, and staffing (\$14.4 M), plus \$21M allocated/reserved for SCH construction, \$600K for construction management, and \$3M for Financial Assistance Program projects including Red Hill Bay, Seawater Marine Habitat Pilot, Torres-Martinez Wetlands.
DWR (State Operations) - Prop 1	\$20.0	\$20.0	\$12.6	\$5.7	Staffing and other design costs for SSMP projects. (Of the \$20M appropriated, \$5.5M is committed to existing Salton Sea Projects).
DWR (Construction) - Prop 1	\$60.0	\$60.0	-	-	Construction of SCH projects.
CNRA - Prop 68	\$165.7	\$141.1	\$2.2	\$24.6	\$111.1M specifically for construction of SCH projects. Other \$30M for related purposes.
Salton Sea Authority (New River/North Lake) Prop 68 ^b	\$29.25	\$29.25	-	-	\$29.25M appropriated in Bud Act of 20 for SSA New River Project, (\$10M) and North Lake Project (\$19.25M).
Salton Sea Authority (New River) General Fund	\$18.0	\$18.0	-	-	\$18M appropriated Bud Act 2020 for SSA New River Project.
Revive the Salton Sea Fund	\$0.1	-	-	\$0.1	Tax Check Off Box - Collected \$184k per SCO 6/30/19 Report.
General Fund/Reimbursements	\$350/\$150k annually	\$350/\$150k annually	\$350/\$150k annually	N/A	CDFW receives \$300k, CNRA \$200k for positions supporting the Salton Sea annually.
CDFW Water Agency Contribution (Salton Sea Restoration Fund) ^{c,d}	\$68.5	\$16.6	\$16.6	see footnotes	Annual surveys to monitor bird and fish populations at the Sea, including state and federal endangered species, staff development of various implementation and monitoring plans, issuance of Section 1600 permits, CEQA review, QSA Implementation Team staffing, etc.
State Total	\$374.8	\$345.3	\$55.9	\$35.2	

Source	Authorized (\$ M)	Appropriated (\$ M)	Expended as of 09/30/2020 (\$ M)	Available for Additional Commitments (\$ M)	Use
Federal					
NRCS (to state) & Bureau of Reclamation	\$1.4	\$1.4	-	-	Planning activities including preparing a Watershed Management Plan.
Federal Total	\$1.4	\$1.4	-	-	

Footnotes:

^a Bond Funds provided reflect the bond allocations available after statewide bond costs and outyear amounts already committed to by the Legislature. Statewide bond costs are authorized "off the top" in each bond act for things like the State Treasurer's Cost of issuing the bonds, Department of Finance's Costs of auditing bond expenditures, etc. Exact amounts are published on the CNRA bond accountability website.

^b The Salton Sea Authority is a Joint Powers Authority (JPA) of local stakeholder groups including the Torres Martinez Desert Cahuilla tribe, two water agencies, and two county governments.

^c The QSA Authority is a JPA comprised of the State and three water districts: The Imperial Irrigation District, the Coachella Valley Water District, and the San Diego County Water Authority.

^d While a total of \$68.5 million will be ultimately be available, \$42 million in payments must be collected between now and 2047 to support any expenditures from the fund. Expenditures are monitored to ensure expenses do not exceed available cash.

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