

# GREEN PORT

Year in Review 2023-2024

*Innovating through collaborative leadership*



## Environmental Champion

The Port of San Diego champions the safekeeping and environmental care of our dynamic waterfront. We are proud to be a leader in protecting our water, air, land, and wildlife to ensure the complete ecosystem of San Diego Bay remains a vital natural resource for generations to come. The delicate balance of a healthy San Diego Bay ecosystem is upheld through a collaborative network of programs and initiatives, each working on innovative ways to sustain our waterfront.



## The First Fully Electric Tugboat in the U.S. is Christened at the Port of San Diego.

America's first all-electric tugboat dubbed the *eWolf* and its shoreside solar charging station are the result of a partnership among the Port of San Diego, Crowley, the San Diego County Air Pollution Control District, the California Air Resources Board, the U.S. Environmental Protection Agency, and the U.S. Department of Transportation Maritime Administration. The Port, Crowley, and other partners christened the *eWolf* on June 25, 2024.

Operating with zero emissions, the vessel will reduce 30,000 annual gallons of diesel fuel use. The *eWolf* will assist in advancing decarbonization on San Diego Bay while delivering capabilities that strengthen the region's vital supply chain.

## Port of San Diego Achieves Green Marine Recertification



The Port of San Diego is ranked in the top ten percent of North American ports in the Green Marine program—North America's largest voluntary environmental certification program for the maritime industry.

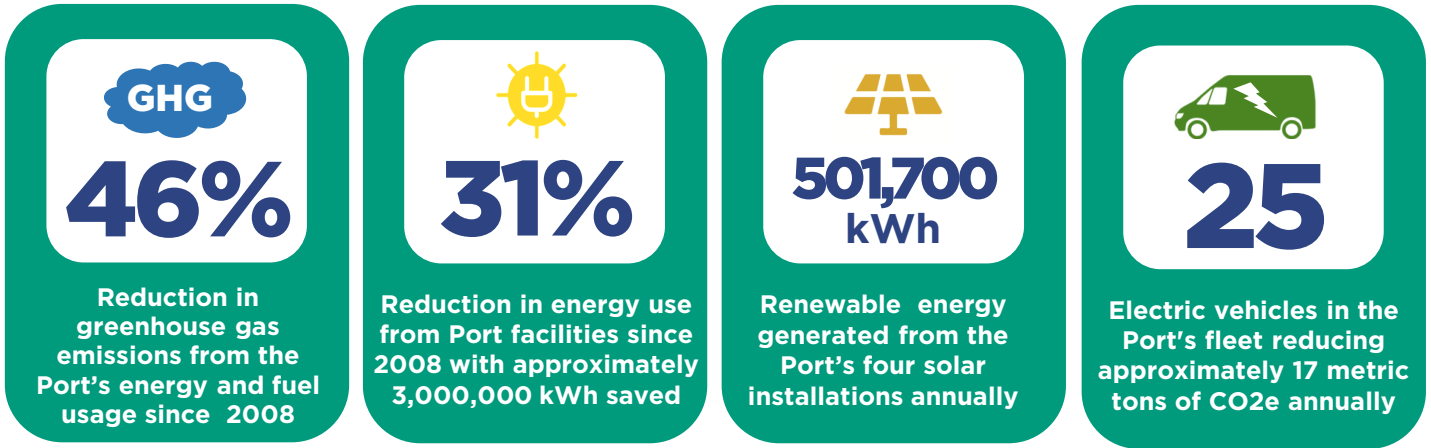


## Future of the Port

The Port of San Diego's plan for the "future of the Port," formally known as the Port Master Plan Update (PMPU), reached a major milestone this year – on February 28, 2024, the Board of Port Commissioners unanimously certified the Final Program Environmental Impact Report and approved the PMPU. The PMPU is currently undergoing review by the California Coastal Commission, with certification anticipated in 2025.



## Leading By Example – Port Sustainability at a Glance



### Waste Diversion

- **48% of waste** generated at Port facilities was recycled and diverted from local landfills.
- Two electronic waste collection events for Port employees redirected over **2,900 pounds of E-waste** from the landfill.
- **36 derelict or abandoned vessels** and their hazardous waste were cleared from in and around San Diego Bay.



### Cleanup Events

- Over **24,000 pounds of trash and debris** were removed from San Diego Bay and the Tidelands during the Creek to Bay Cleanup, Coastal Cleanup Day, Operation Clean Sweep, and Earth Day cleanups.

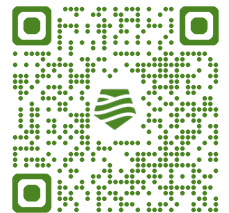


### Trash Capture Devices

- The Port installed **181 trash capture devices** in stormdrains, including five new devices to capture and prevent trash from entering the Bay.

## #ThatsMyBay FY 2024 Campaigns

**#ThatsMyBay** is an educational campaign to encourage actions everyone can take to reduce pollution from entering San Diego Bay.



**Composting:** This campaign to teach viewers about composting had **15.6 million impressions!**



**Household Hazardous Waste:** This campaign encouraged proper disposal of household hazardous waste had **2.8 million impressions!**



**Plastics:** This campaign encouraged the reduction of single-use plastics had **3.7 million impressions!**



## Environmental Conservation

### Coastal Resilient Shorelines

With over 70% of San Diego Bay's shoreline armored, the Port is piloting nature inspired shoreline solutions along the waterfront.

#### EConcrete COASTALOCK

The project was installed in 2021 along Harbor Island. Two years of monitoring indicate the tidepool shaped structures have recruited a thriving new ecosystem while ensuring the structural integrity of the shoreline remains equal to or greater than what was present before. Funded through the Port's Blue Economy Incubator Program, the Port and EConcrete received a 2024 Climate Leadership Award for Innovative Partnerships.

#### Living Shoreline

A living shoreline made up 360 reef balls was deployed in South San Diego Bay to attract native oysters. The recruitment of native oysters attaching to the reef balls, has exceeded expectations and the living shoreline is becoming stronger while decreasing shoreline erosion. Monitoring indicates a healthy native oyster population, while several aquatic and bird species have also benefitted from the presence of the reef balls.

#### Shorelines Atlas

Through a \$312,000 grant from the Office of Local Defense Community Collaboration, the Port and US Navy initiated the San Diego Bay Sustainable Shorelines Atlas (Atlas) as a planning tool to support the long-term resilience and sustainability of San Diego Bay. The Atlas will be used to assess current shoreline conditions and recommendations to implement sustainable shoreline alternatives.



### Blue Carbon Study

Results from the San Diego Bay Eelgrass Blue Carbon Study, a partnership between the Port, the U.S. Navy Region Southwest, and the U.S. Maritime Administration's Maritime Environmental & Technical Assistance Program, found that there may be a strong link between the age of an eelgrass bed and how much carbon it stores. Older eelgrass beds store significantly more carbon than newer restored beds. Data collection and reporting for year 3 of this study will include an eDNA component to determine the origin of carbon stored in eelgrass sediments.

#### Environmental DNA (eDNA)

Environmental DNA (eDNA) is the genetic material shed by organisms in the water column. By collecting biological samples, scientists can process eDNA to make new discoveries about the sources of carbon in marine sediments.

### Collaborative Action to Control Invasive Species

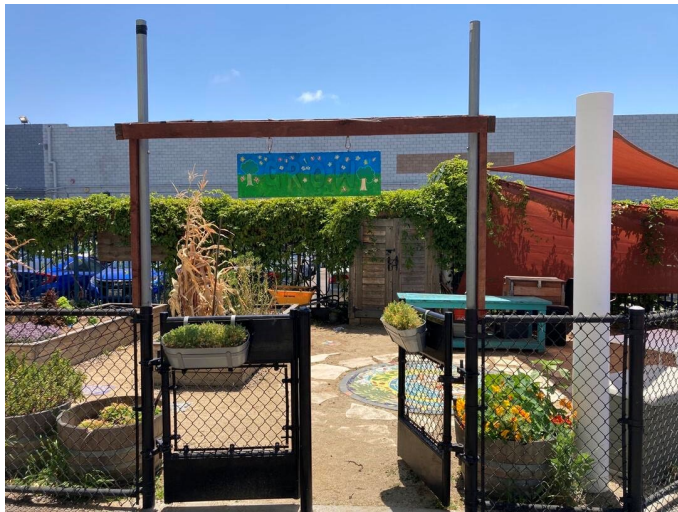
In the fall of 2023, an invasive green algae, *Caulerpa prolifera*, was discovered in the Coronado Cays, in South San Diego Bay. With \$1 million in funding from the Bipartisan Infrastructure Law, the State Water Resources Control Board Cleanup and Abatement Account, and the Port's FY24 budget, the Southern California Caulerpa Action Team (SCCAT) came together to eradicate the invasive algae. Thanks to this collaboration, all known Caulerpa in San Diego Bay has been treated and divers continue surveying to prevent any further spread. The SCCAT agencies, include California Department of Fish and Wildlife, National Marine Fisheries Service, the Regional Water Quality Control Board, and US Fish and Wildlife Service, among others.



## Maritime Clean Air Strategy

### Overview

The Maritime Clean Air Strategy (MCAS) is a strategic planning document that the Port of San Diego adopted in October 2021 to identify future projects and initiatives that reduce emissions while also supporting efficient and modern maritime operations. The MCAS recognizes that bold and transformational action is urgently needed to improve air quality and public health and build upon the prior decarbonization efforts, like the Climate Action Plan.



### Maritime Industrial Impact Fund (MIIF) Expansion

The MIIF supports projects off of Port tidelands that offset the impacts of the Ports maritime industrial activities. With public and stakeholder encouragement, the Port increased annual funding for the MIIF from 2% of annual gross maritime industrial revenue to 4%. With over \$2.5 million allocated to date, the MIIF has supported the installation of residential and school air filters, construction of the Bayshore Bikeway, and the City of National City's electric Free Rides Around National City (FRANC) program.



### Portside Community Academy

The Portside Community Academy was developed and launched by the Port of San Diego in 2023 with the goal to provide structured education on zero-emissions technologies and projects being pursued by the Port. The goal for this program is to develop a large team of community ambassadors in portside communities to increase education and awareness on the development of zero emissions technologies such as the zero-emission tugboat, all-electric mobile harbor cranes, and advancements in shore power technology that eliminates air pollution from ships idling at berth. In the past year, the Portside Academy graduated 55 participants.



### For more on the MCAS:





## Environmental Protection

### Stormwater Program



Education and use of Best Management Practices (BMPs) help to prevent pollution and illegal discharges from getting into the storm drain system and San Diego Bay. During the past year:

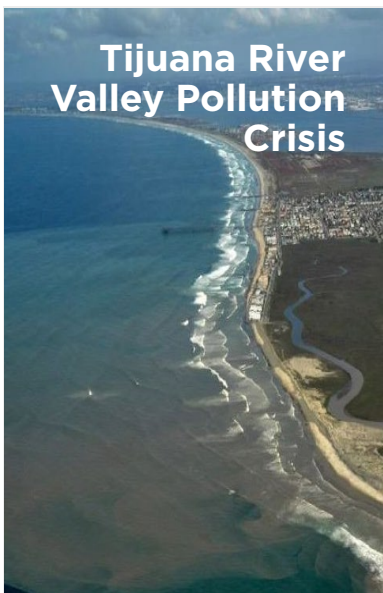
- **153 inspections** of Port and tenant facilities occurred to confirm pollution prevention requirements.
- **96% of stormwater BMPs** were properly implemented.
- **27 reports** of possible illegal discharges were investigated, include incidents of over-irrigation, vessel discharges, and oil spills.
- The Port's BMP Design Manual was updated to provide guidance for diverting, capturing and treating stormwater runoff.

### Monitoring the Health of the Bay

The Regional Harbor Monitoring Program evaluates environmental conditions and trends in San Diego Bay. Samples were collected at over 50 locations in the Bay to evaluate marine life, sediments and water quality this past summer. Results are currently being analyzed and will be included in a report about the overall health of the bay.



### Tijuana River Valley Pollution Crisis



Discharging billions of gallons of untreated sewage, trash, and other pollutants, the Tijuana River's transboundary flows degrade water quality and public health frequently closing beaches in southern San Diego County. The Port continues to collaborate with its partners to advocate for federal funding and legislative action to complete the Environmental Protection Agency's Comprehensive Infrastructure Solution, which includes expanded treatment capacity and the Tijuana River diversion. In solidarity with our regional partners, the Port adopted a resolution on April 8, 2024 declaring a local emergency for the Tijuana River Valley border pollution crisis.

### Improving our Environmental Footprint

The Port demolished old storage tanks on Tenth Avenue Marine Terminal to increase maritime operational area and remove potential pollution.





## Water and Land Use Planning

### Enhanced Park Space



**Sweetwater Park**

With construction anticipated to be completed later this year, the Port's 23rd park, Sweetwater Park within the Chula Vista Bayfront, will incorporate many elements of the surrounding area including a dunes-inspired play area, bird watching blinds, walking trails, and a 100% native plant palette.



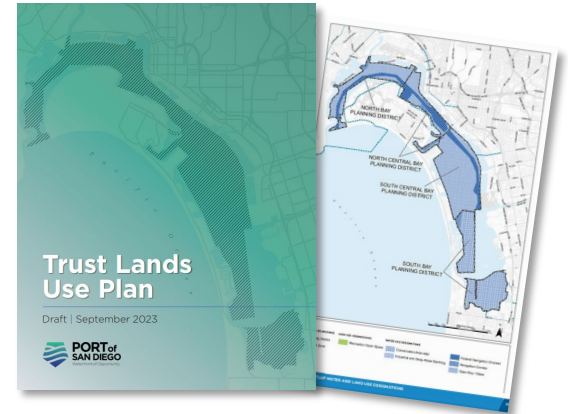
**Freedom Park at Navy Pier**

Scheduled to open in 2028, the conversion of Navy Pier to a park will provide visitors with unique experiences on the waterfront, including a nature garden, memorials and monuments, play structures, seating and shading, and interpretive signage. The new park space will connect to park areas around the USS Midway and extending to the Bob Hope Memorial, totaling nearly 10 acres, to form the largest veterans park on the West Coast.



**Pepper Park Improvements**

Pepper Park improvements will include upgrades and new amenities within the park's current footprint, including a new splash pad, a pirate-themed playground, a perched beach, an overlook/terrace, a hillside play area, and more. Construction of these improvements will begin by October 2024.



### Trust Lands Use Plan

The Port is preparing a Trust Lands Use Plan (TLUP) for the submerged lands granted to the Port's management from the State Lands Commission per Senate Bill 507. Following a public review period on a Discussion Draft of the TLUP in July 2023, the Port submitted the Draft TLUP to the Commission in October 2023. Next steps include a comprehensive environmental and coastal review process of the Draft TLUP.



### National City Balanced Plan

It is anticipated that the California Coastal Commission will certify the Port Master Plan Amendment for the National City Balanced Plan in late 2024. After certification of the Amendment, engineering design will proceed for the components of the National City Balanced Plan, including realignment of Marina Way and the expansion of Pepper Park.

## Blue Economy and Aquaculture

The Port's Blue Economy Incubator (BEI) is building a portfolio of businesses and partnerships that deliver multiple social, environmental, and economic benefits to the Port and the region by removing barriers to entrepreneurs and providing funding, key assets, and support services including entitlement and permitting assistance, and pilot project facilitation.

For more  
info on  
Aquaculture  
& Blue  
Technology:



### 5<sup>th</sup> Edition Highlights Report

The Port's BEI program released its 5<sup>th</sup> edition of its annual highlights report, showcasing the accomplishments of ongoing pilots with Sunken Seaweed, FREDsense, and San Diego Bay Aquaculture. Recently completed pilots include EConcrete, an innovative tidepool shoreline armoring technology. This pilot project showcases the potential to incorporate Nature Inclusive Design into coastal protection infrastructures, addressing challenges posed by shifting coastal climates and bolstering climate resilience.

### Innovation Opportunities

Through its BEI, the Port is seeking innovation opportunities that align with the Port Blue Economy priorities.

- Coastal Resiliency & Monitoring
- Environmental Protection & Remediation
- Maritime Decarbonization
- Nature Based Solutions
- Ocean Data
- Shellfish and Seaweed Aquaculture

### Blue Economy Incubator in the Media

Our BEI has generated national media exposure and international coverage that has reached millions of viewers in the past year including TedTalk San Diego.



### Our Impact in Numbers

**20 MILLION**  
juvenile-stage oysters expected to be produced annually when San Diego Bay Aquaculture's FLUPSY is fully permitted and operating at full capacity

**10** innovative pilot projects supported through a port-wide collaboration process

**\$172,000**  
in royalty payments that can be re-invested in supporting new pilot projects

**\$1.95 MILLION** in funding to support the launch of sustainable aquaculture and blue tech pilot projects

**500+**  
pounds of edible seaweed produced weekly by Sunken Seaweed's Humboldt shoreside tumble culture farm

**50+ DIFFERENT SPECIES**  
including sessile species, mobile invertebrates, fish, and algae – found living on EConcrete's bio-enhancing shoreline protection armor units

**Over 30 PARTNERSHIPS**  
created as part of the BEI growth strategy

**24**  
national media exposure pieces and international coverage that has reached millions of viewers in the past year

**44+ MILLION** Impressions from local, national and global media coverage around BEI innovation and investment

**\$5.4 MILLION**  
investment leveraged by Blue Economy Incubator Companies

**1000 OCEAN STARTUPS**

The Port of San Diego is proud to be the first Port in the world to be a member of 1000 Ocean Startups. The coalition of incubators, accelerators, competitions, matching platforms, and venture capital aims to restore ocean health and contribute to the United Nations Sustainability Goal 14: Life Below Water.



## Future Environmental Leaders



The Port's Environmental Education Program (EEP) educates students, teachers, and the general public about pollution prevention, environmental stewardship, healthy ecosystems, and the natural resources in and around San Diego Bay. The program supports local non-profit organizations that provide innovative environmental education curriculum to students and communities. The Port supported 11 environmental education programs through the Environmental Fund and reached over 38,753 students from 2023-2024.



The Port also supports career development for undergraduate and graduate students. Through fellowship programs including the California Sea Grant Program, the CivicSpark Fellowship Program, and the #CaliforniansForAll CollegeCorps Fellowship Program, the Port provides on-the-job experience and hands-on-training for the next generation of environmental champions.



## Michelle White Environmental Champion

Each year the Port honors environmental champions through the Michelle White Environmental Awards. For eleven years, Michelle was an important and influential member of the Port family and created the annual Green Port Month celebration.

## This Year's Recipients are:

### Port Staff:

- Christopher Brooke - *Engineering - Construction*
- Gabriella Rodriguez - *Marketing & Communications*
- Lourdes Sherman - *General Services*

### Regional Partners:

- Southern California Caulerpa Action Team

### Port Tenants:

- Crowley Maritime
- SSA Marine



Port of San Diego Environment champions the safekeeping and environmental care of our diverse ecosystems.

For more information go to:

[www.portofsandiego.org/environment](http://www.portofsandiego.org/environment)

