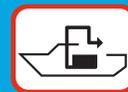




PUMPOUT REPORT 2020

**California Clean Vessel Act
Pumpout Performance Report**

**San Francisco Estuary Partnership
The Bay Foundation**



The Bay Foundation
8334 Lincoln Blvd. #310
Los Angeles, CA 90045
(888) 301 2527
www.santamonicabay.org

San Francisco Estuary Partnership
375 Beale Street, Suite 700
San Francisco, CA 94105
(415) 778 6687
www.sfestuary.org/boating

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Cover photos:

Catalina moorings at sunset by Kim Riley

Port of Long Beach, Los Alamitos Bay by John Hollenbeck

Design by Yuju Yeo, All My Sisters

Discharging sewage overboard creates environmental and human health problems, especially in a state with more than four million recreational boaters. To reduce the negative impacts of discharging sewage overboard, all boaters are encouraged to use sewage management facilities, including pumpout stations, dump stations, floating restrooms, and mobile pumpout services. Since 2008, the San Francisco Estuary Partnership and The Bay Foundation have monitored public sewage pumpout stations throughout the state. In 2019, Morro Bay National Estuary Program began monitoring sewage pumpout stations within Morro Bay Harbor. All monitoring is funded by California State Parks Division of Boating and Waterways through the Clean Vessel Act grant program. This Pumpout Report highlights findings on the condition and operational status of pumpout stations in 2020.

—→ KEY PARTNERS

NORTHERN CALIFORNIA

San Francisco Estuary Partnership (SFEP), a National Estuary Program, monitors 82 pumpout stations throughout the San Francisco Bay, Sacramento-San Joaquin River Delta, and Monterey Bay regions. www.sfestuary.org/boating / (415) 778-6687

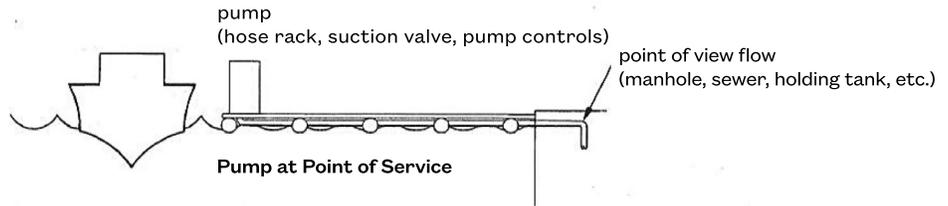
SOUTHERN CALIFORNIA

The Bay Foundation (TBF), a 501(c)3 non-profit organization, and Morro Bay National Estuary Program (MBNEP) monitor 73 pumpout stations from San Luis Obispo County to San Diego County. www.santamonibay.org / (888) 301-2527

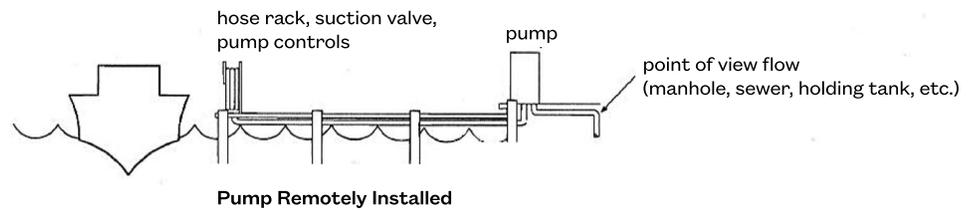
Funding for this project is provided by a grant from California State Parks Division of Boating and Waterways (DBW) through the federal Clean Vessel Act (CVA) grant program. This program provides grants to both public and private boating facilities for up to 75 percent of the construction, renovation, operation, and maintenance of pumpout and dump stations to service recreational vessels. Funding comes from the Sport Fish Restoration and Boating Trust Fund, administered federally by the U.S. Fish and Wildlife Service. For more information, visit www.dbw.parks.ca.gov, call (888) 326-2822, or contact: California State Parks Division of Boating and Waterways One Capitol Mall, Suite 500, Sacramento, CA 95814

STATIONARY PUMPOUT

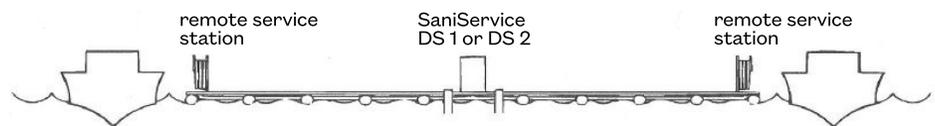
Pumpout systems are typically found as a stand-alone feature within a marina. They are located dockside where there is sufficient space for a boater to dock and not affect others around them. There are several configurations for these systems:



This diagram shows the pump system (hose rack and pump) as one unit, at the point of service.



This diagram shows the pump as two separate entities. The hose rack is at the point of service while the pump is set apart, either at the end of the dock or it can be located landside.



This diagram shows the layout with multiple hose stations connected to a single pump. This allows two or more users of a pump and may be set up to allow for remote operation. Careful design of this configuration is needed for optimal performance.

IN-SLIP PUMPOUT

Another option available to marinas includes in-slip pumpout systems. There are several variations to this type of system. However, this system allows a boater to empty the sewage holding tank without leaving the slip. Variations include:



In-slip hose cart at West Point Harbor.
Photo by San Francisco Estuary Partnership

Option 1: The marina installs a centralized pumpout station with multiple pumpout hydrants located throughout the marina, and spaced (approximately 40 feet to 60 feet apart) so that a portable hose can reach from the hydrant, located on the dock, to each nearby vessel. The pumpout hose is mounted on a mobile cart. The cart with the hose is wheeled to each boat as it needs pumpout servicing. The hose is unreeled and connected to both the hydrant and boat to be serviced. Wireless transmitters are available that allow convenient on-off operation without the need for someone to run back to the pump each time it needs activating.

Option 2: The marina installs multiple pumpout hydrants throughout the marina, and spaced so that a portable hose can reach from the hydrant to each nearby vessel. A mobile cart containing both a sewage pump and hose is then wheeled to each boat as it needs pumpout servicing. The hose is unreeled and connected to both the hydrant and boat to be serviced. The sewage pump is activated and uses the hydrant and piping system to discharge the boat's holding tank contents.



In-slip pumpout tank at Oyster Cover Marina.
Photo by San Francisco Estuary Partnership

Option 3: The marina uses a mobile cart that is equipped with a sewage pumpout, hose, and small holding tank (typically 20 to 40 gallons). This cart is located on the docks and is wheeled to each boat as it needs pumpout servicing. The cart, now loaded with sewage is then wheeled to a hydrant located somewhere on the docks and the pump is now used to discharge the sewage landside for disposal and treatment.

MOBILE PUMPOUT

In many areas of California, boaters can have their boat sewage removed by a [mobile service](#). Mobile service vessels are retrofitted to hold a large quantity of sewage and can typically pump out dozens of vessels before having to discharge into a dockside pumpout system. This service can be managed by a contractor or provided by the marina itself, or simply allowed on premises as a boater solicited service.



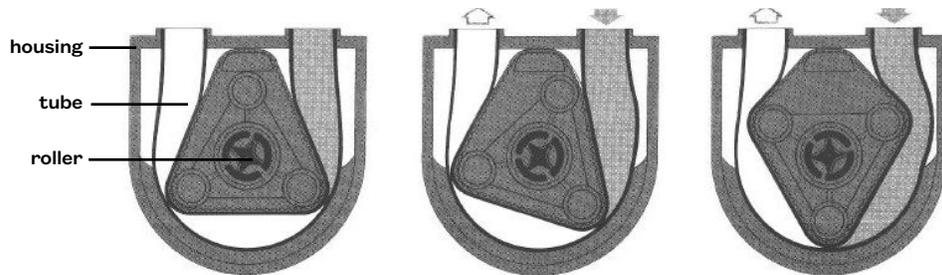
Mobile pumpout service in Marina del Rey Harbor
Photo by The Bay Foundation

There are benefits and drawbacks to each of these setups, but the benefits of mobile pumpouts are very clear. One of the largest obstacles boaters cite when asked about their sewage discharge is convenience. Mobile pumpouts are a great solution as they can be arranged when boaters are not at the marina. This hands free option is relatively inexpensive and can be a very attractive addition to a marina's compendium of services.

There are three primary types of pumps used in a sewage pumpout system.

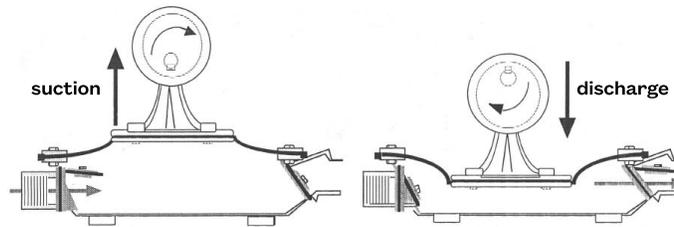
PERISTALTIC

Peristaltic pumps work by displacement, alternating compression and relaxation on a tube, drawing contents into the tube and creating suction. The tube is located in an enclosed housing and is compressed by a roller.



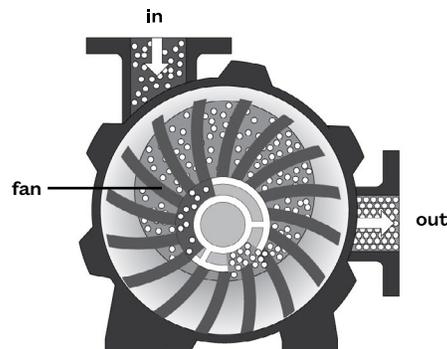
DIAPHRAGM

Diaphragm pumps work by displacement. They use the backward and forward motion of a diaphragm (or membrane) to fill and empty a chamber with the contents being pumped, creating a suction. This pump works like a plunger.



VACUUM

Vacuum pumps work by creating a pressure difference, usually with the use of a fan. The fan forces contents forward increasing pressure in front and decreasing pressure behind the fan, this creates suction. A vacuum (which creates a pressure difference) is what allows humans to drink through a straw.



→ MAINTENANCE RECOMMENDATIONS



Preventative maintenance is the best solution for avoiding problems. Marina operators should inspect the pump and pump enclosure on a weekly basis and, when possible, daily. These inspections should check for leaks, cracks, unusual wear, and if there is missing equipment.

HOSE

Look for damage that could affect performance of the system, like tears or a collapsed hose wall. To keep repair costs down, sections of hose can be repaired rather than replacing the entire hose; however the number of repairs on one hose should be limited as to not impede optimum operation.



SIGHT GLASS

Look for cracks and make sure the movement of effluent is visible through the sight glass.



NOZZLE

Look for signs of wear, including cracks and tears. Ensure that the tip has not been cut off and there is a backflow flap in place.



BALL VALVE

Check that handles are not broken and can be easily rotated.



HOUR COUNTER

Ensure that the hour counter is not broken and functions properly.



SIGNAGE

Ensure there is adequate signage and it is legible. Signage should include pumpout symbol, funding credit, instructions, hours of operation, pumpout cost, contact number for problems, and on/ off buttons.

UNUSUAL NOISES

Turn the pump on and listen for unusual noises including squeaking, rattling, and grinding, also listen for air leaks, specifically around threaded connections.

Photo credit:

1. Victoria Gambale, 2. The Bay Foundation,
3. J. Harvell, 4. Michelle Staffield,
5. Victoria Gambale, 6. Victoria Gambale

→ WHY MONITOR PUMPOUT STATIONS?

The goal of pumpout station monitoring is to promote a sense of accountability for condition and operational status of pumpout stations, promote useful pollution prevention amenities for boaters, and decrease the amount of sewage discharged into waterways.

Pumpout station monitoring allows Morro Bay National Estuary Program, San Francisco Estuary Partnership, and The Bay Foundation to:

- ensure stationary pumpout equipment is operational for use at all times.
- track the general condition and evaluate performance of pumpout stations.
- assist facilities that do not meet Division of Boating and Waterways (DBW) grant requirements by offering a reliable source of technical assistance and resources.
- promote the installation and proper maintenance of pumpout stations.
- maintain contact with recipients of DBW's grant.

→ MONITORING RANGE & FREQUENCY

SOUTHERN CALIFORNIA

In 2020, The Bay Foundation and Morro Bay National Estuary Program monitored 73 publicly accessible pumpout stations in 14 Southern California harbors from Morro Bay to San Diego.

NORTHERN CALIFORNIA

San Francisco Estuary Partnership monitors 82 publicly accessible pumpout stations in 66 Northern California marinas throughout the San Francisco Bay and Delta and Monterey Bay.

All units were monitored triannually. Because monitoring is only conducted three times per year, the analysis presented in this report is a snapshot of how units performed during limited on-site visits.

Due to the coronavirus pandemic, many pumpout units monitored during the year 2020 were either not accessible or not working at their highest efficiency. This was due to a variety of reasons. Marina staffing was reduced to adhere to social distancing protocol and some units were closed off completely to reduce the spread of COVID-19.

→ MONITORING PARAMETERS



Signage in Balboa Yacht Basin
Photo by Carrie Baldwin

Pumpout Nav app is used to standardize data collection, improve efficiency, and reduce error.

Morro Bay National Estuary Program, San Francisco Estuary Partnership, and The Bay Foundation note the presence or absence of the following signage:

- Pumpout symbol
- Funding credit
- Instructions for pumpout operation
- Hours of operation
- Pumpout usage cost
- Contact number for problems
- On/off buttons

Condition of parts are rated.

0 = absent, 1 = needs repair, 2 = worn, 3 = excellent

Specific parts rated by Morro Bay National Estuary Program, San Francisco Estuary Partnership, and The Bay Foundation include:

- Hose
- Nozzle
- Sight glass
- Pedestal
- On/off buttons
- Motor unit
- Ball valve
- Nozzle's backflow flap



Hour counter
Photo by The Bay Foundation

Each motor unit is equipped with an hour counter meter. During site visits, a reading from the meter is recorded. The meter is activated by the motor once it is engaged and counts the elapsed time that the motor runs. The time logged by the meter gives insight to how often the unit is being used. However, due to the immense variation in pumpout type, process technique, and the use of “delay” switches, determining an accurate quantity of sewage pumped from the hour counter is not feasible.



Vacuum pressure
Photo by Morro Bay National Estuary Program

Vacuum pressure is an indication of how well the unit operates and is measured during each monitoring event, in inches of mercury (inHg). By attaching a vacuum gauge to the end of a pumpout hose or nozzle, a reading is taken after a one minute adjustment period has elapsed. Vacuum pressure varies from 0 to 30 inHg. According to equipment manufacturers the optimum vacuum pressure is 22 inHg.



Vacuum time
Photo by The Bay Foundation

Vacuum time is another indication of how well the unit operates. During each monitoring event, this is measured by timing how long it takes a pumpout to evacuate five gallons of water. The optimum vacuum time is less than 10 seconds.



Dye tablet dissolving in 5 gallon bucket of water
Photo by Georgia Tunioli

As a courtesy, Morro Bay National Estuary Program, San Francisco Estuary Partnership, and The Bay Foundation offer complimentary dye tablet testing. This test can help identify leaks in the plumbing of a sewage pumpout system. The results of this test are not presented in this report.

Other parameters recorded during site visits include: make and model of pumpout, pump type, approximate distance from pump to hose stand, and any notable recent developments.

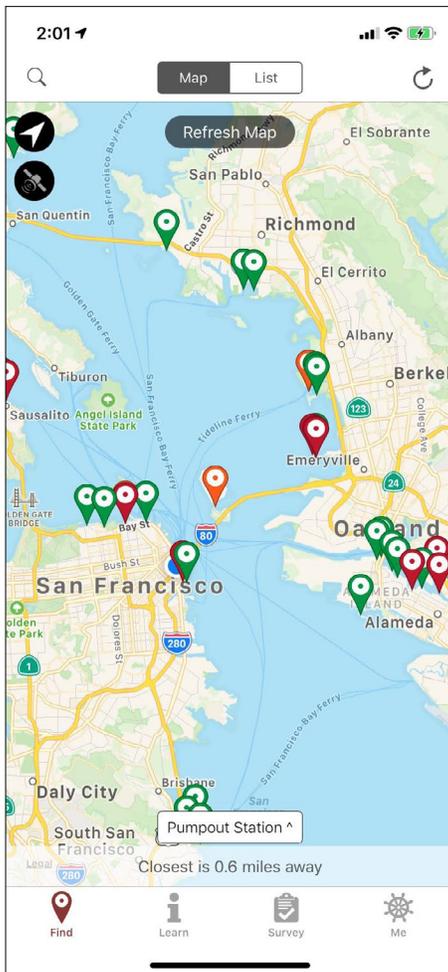
Although vacuum pressure and vacuum time tests are used as an indication of how well a unit works, they are not directly comparable to how quickly the unit will empty sewage from a boat's holding tank. These measurements, along with other data collected, are used collaboratively to determine the overall condition of a pumpout station and offer assistance and recommendations to facility operators when needed.

It is important to Morro Bay National Estuary Program, San Francisco Estuary Partnership, The Bay Foundation, and California State Parks Division of Boating and Waterways to keep in close contact with facility managers and be available for questions, clarification on monitoring, and be a reliable source for technical assistance. All monitoring results get emailed directly to participating facility managers through the Pumpout Nav app. Additional follow up is initiated via email or phone with the managers if there were issues of concern from the monitoring. The monitoring effort and follow up allow staff to work collaboratively with facility managers to resolve any problems that may arise.

→ PUMPOUT NAV APP



Pumpout Nav App logo



Pumpout Nav App user interface displaying closest pumpout units.

Pumpout Nav, a free iOS and Android app, is designed for boater use on-the-go and aboard the vessel. It helps boaters geolocate sewage pumpout stations, dump stations, and floating restrooms closest to their current location. Pumpout Nav automatically finds the boater's location and suggests the closest sewage disposal unit on a map or as a list. The app displays each facility's operational status, cost, hours, and detailed location within the marina or harbor. It also provides instructions on how to use a pumpout station and information about the environmental risks and applicable regulations regarding sewage discharge. Additional personalized features allow boaters to create a list of their favorite sewage disposal units, log their pumpouts, and choose their boating region. In 2020, Pumpout Nav service extended nationally to encompass the states of Washington, Oregon, and the Lake Champlain region of Vermont, New York, and Quebec.

Pumpout Nav is equipped with a crowdsourcing function that allows any user to flag non-functional sewage disposal units throughout California. If boaters find a non-operational unit, they can report the issue directly through the app and submit photos. When a boater reports a problem, the facility manager and the local Clean Vessel Act Program staff are notified via email. The email alert will let facilities know their disposal unit could be down and should be inspected. The local Clean Vessel Act Program staff can follow up with facility managers to apply for Clean Vessel Act funding to address the issue, if needed.

Pumpout Nav also has a monitoring feature that allows Morro Bay National Estuary Program, San Francisco Estuary Partnership, and The Bay Foundation to record monitoring data while in the field. The app is used to standardize data collection, improve efficiency, and reduce error. Once the data is entered and submitted through the app, an automated email is sent to the facility manager summarizing the results of that monitoring effort.

Percentage	Description
90-100	Excellent
80-89	Good
70-79	Fair
60-69	Poor
0-59	Very Poor

In order to standardize the analysis throughout the state for direct comparisons, three parameters are used to determine percentages: vacuum pressure, vacuum time, and condition of parts (specifically hose and nozzle). These three parameters are considered equally important and therefore each parameter represents 33.33% of the total percentages.

The vacuum pressure is calculated as a percentage. The reading is divided by 22, the optimum pressure according to equipment manufacturers. For example, a reading of 21 divided by 22 is 0.9545, which equals 95.45% for vacuum pressure.

The vacuum time is calculated as a percentage. Vacuum time is grouped into 5 second increments from 0 to 60 and assigned a number:

- 0 to < 5 seconds = 12
- 5 to < 10 seconds = 11
- 10 to < 15 seconds = 10
- 15 to < 20 seconds = 9
- 20 to < 25 seconds = 8
- 25 to < 30 seconds = 7
- 30 to < 35 seconds = 6
- 35 to < 40 seconds = 5
- 40 to < 45 seconds = 4
- 45 to < 50 seconds = 3
- 50 to < 55 seconds = 2
- 55 to < 60 seconds = 1
- 60 and greater = 0

The assigned number is divided by 12, to develop a percentage based on the assigned number from 0-12 as shown in the list.

For example, a vacuum time of 9.95 seconds is assigned an 11, divided by 12 is 0.9166, which equals 91.66% for vacuum time.

The condition of parts is calculated as a percentage. The hose and nozzle are rated on a scale of 0 to 3: 0 absent, 1 needs repair, 2 worn, 3 excellent. The two readings are averaged and divided by 3. For example, if the nozzle was rated as a 2 and the hose rated as a 3, the average is 2.5 divided by 3 is 0.8333, which equals 83.33% for condition of parts.

The three percentages from vacuum pressure, vacuum time, and condition of parts are then averaged together. For example, the average of the three percentages above is 90.15%. This percentage indicates the likelihood that a boater will have a successful experience at the pump. We will define this concept as “usability snapshot” in the tables to follow.

This report analyzes the data from the three monitoring efforts in 2020.

This report compiles information from regions of Northern and Southern California and is separated by County, Harbor, Port, Bay, or Delta Region. Each section includes a corresponding map, a "2020 Usability Snapshot (%)" table, and a pumpout unit "Status" table. In both tables, units that were monitored for at least one of the three monitoring events were included in the report. When a unit was no longer monitored during this reporting period, the note "Stopped Monitoring" was added.

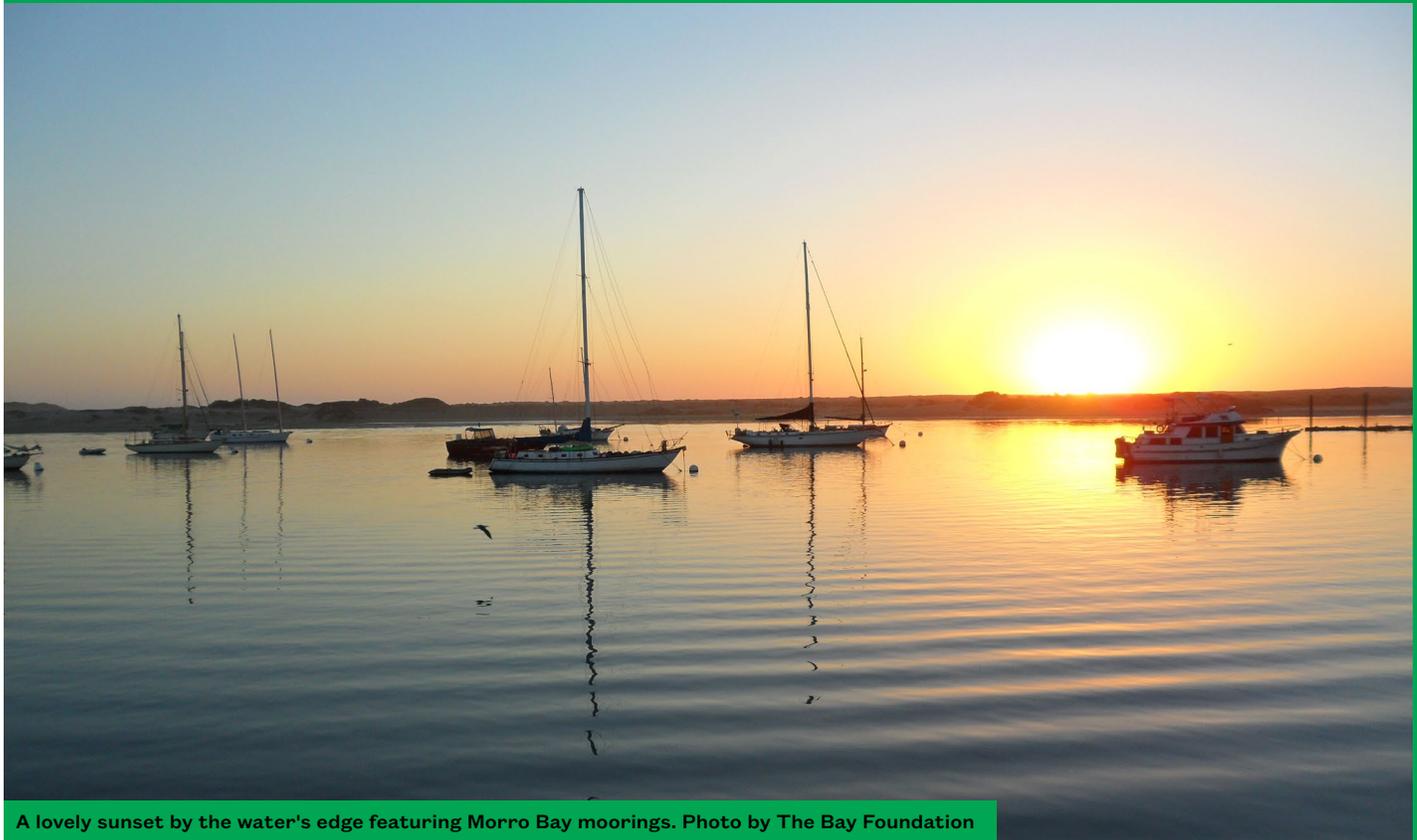
The "2020 Usability Snapshot (%)" table includes facility information, triannual usability percentage snapshots (as calculated on pg. 12), and pump types. Under the "Spring", "Summer", and "Fall" columns in certain instances, acronyms such as "N/A", "N/O" are used to describe units as "Non-Accessible" and "Non-Operational" under the season they were monitored in.

The pumpout unit "Status" table includes facility information and triannual unit-specific operational statuses. Under the "Spring", "Summer", and "Fall" columns an "Operational" status indicates that the unit was operational and accessible. A "Non-Operational" status indicates that the unit was not in operation. Non-operational units are designated through 'Out of Order' signs, warning tape, or become non-operational due to hardware issues such as a broken motor or nonexistent vacuum pressure.

A "Non-Accessible" unit status indicates a unit that could not be physically reached or tested by monitoring staff. This inaccessibility was due to marina closures, units being stored away due to health and safety concerns, or building projects (among other reasons). It is important to note that during the triannual 2020 monitoring visits, more units were deemed non-accessible than in years past. This was largely due to the COVID-19 pandemic's impact on the evaluators' access to the pumpout units, whether units were shut off, and/or due to an absence of marina staff on-site to provide unit access.

To prevent the spread of COVID-19, monitoring and marina staff followed guidance from public health officials including the United States Centers for Disease Control and Prevention, the California Department of Public Health, and local county health officials when conducting surveys.

SAN LUIS OBISPO COUNTY

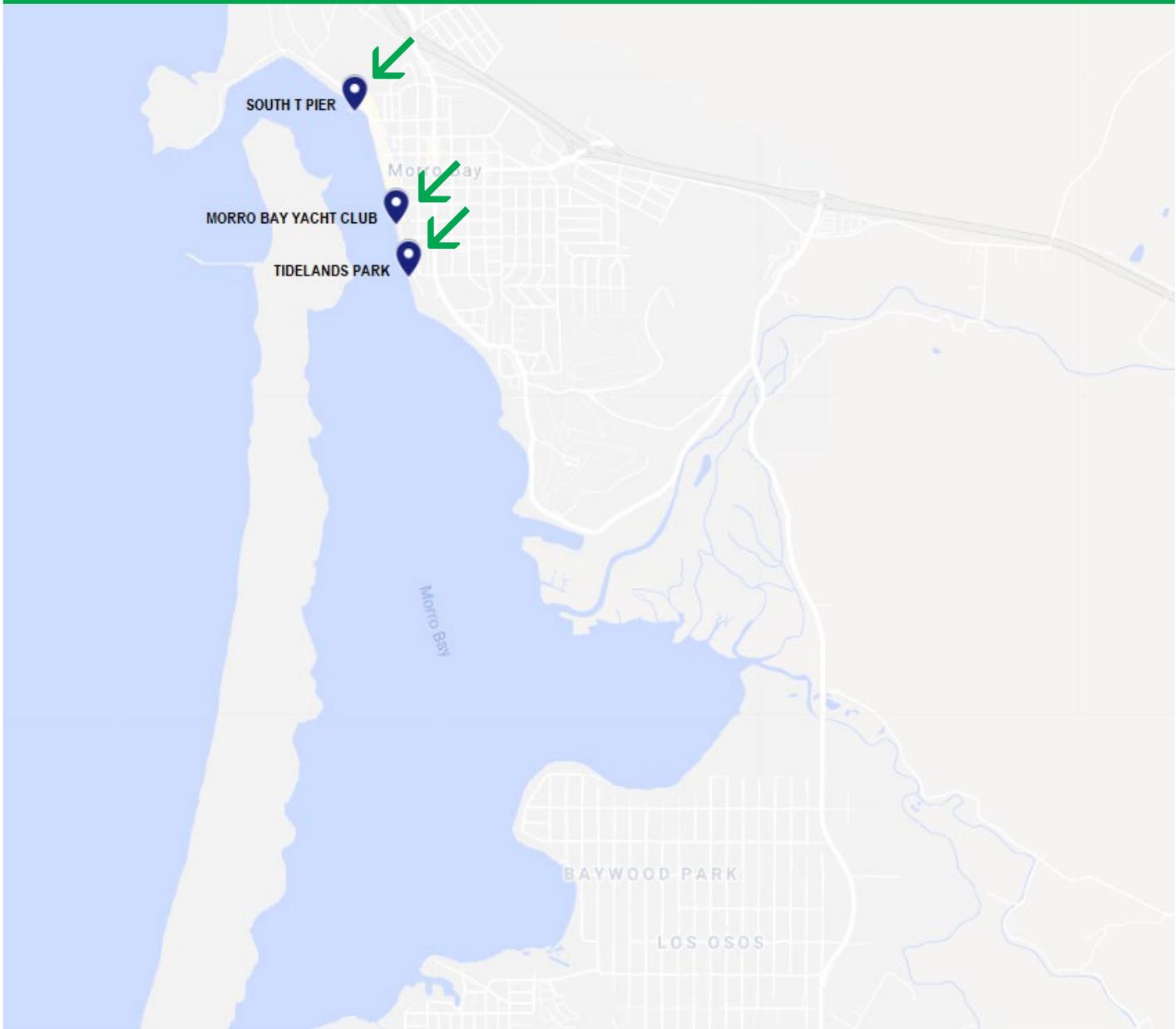


A lovely sunset by the water's edge featuring Morro Bay moorings. Photo by The Bay Foundation

SAN LUIS OBISPO COUNTY IS HOME TO ONE HARBOR

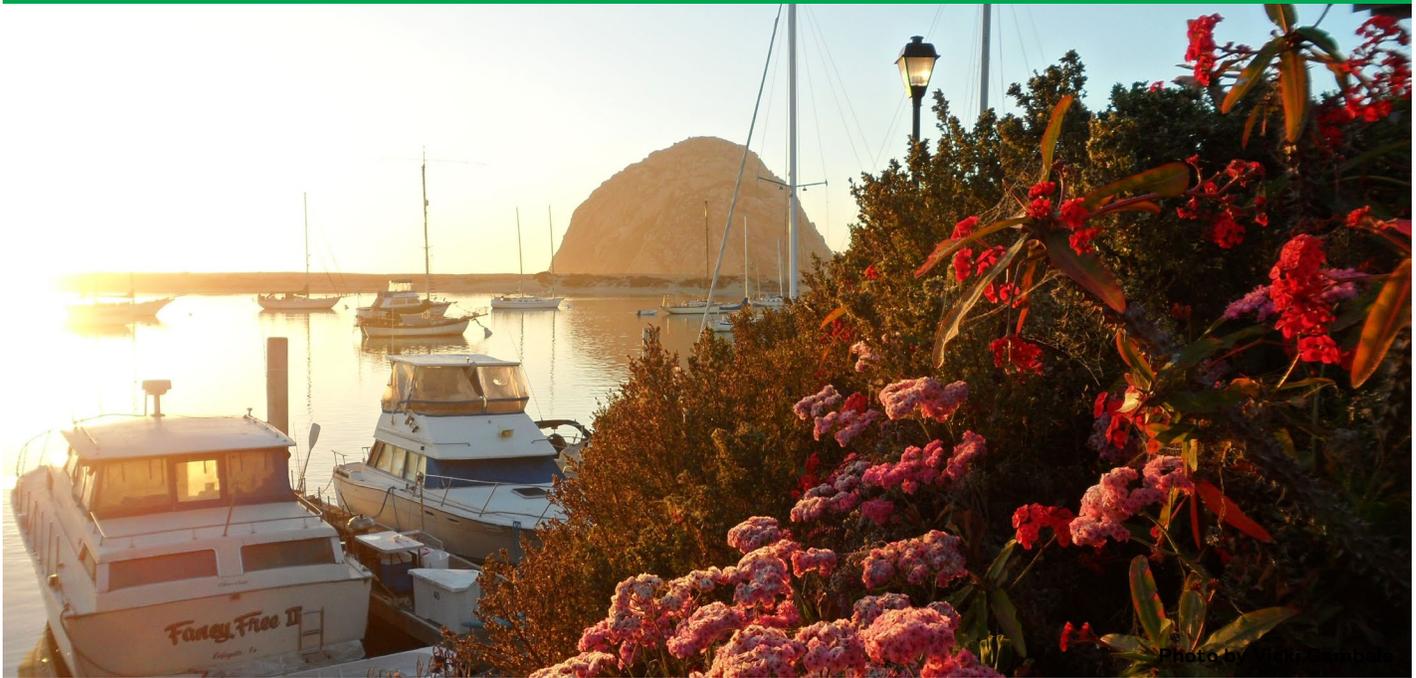
SAN LUIS OBISPO — MORRO BAY HARBOR

SAN LUIS OBISPO — MORRO BAY HARBOR



FACILITY	2020 USABILITY SNAPSHOT (%)			PUMP TYPE
	SPRING	SUMMER	FALL	
Morro Bay Yacht Club	36	79	75	Peristaltic
South T Pier	57	56	65	Diaphragm
Tidelands Park	63	30	58	Peristaltic

SAN LUIS OBISPO — MORRO BAY HARBOR



—> MONITORING DETAILS

FACILITY	STATUS		
	SPRING	SUMMER	FALL
Morro Bay Yacht Club	Operational	Operational	Operational
South T Pier	Operational	Operational	Operational
Tidelands Park	Operational	Operational	Operational

SANTA BARBARA COUNTY



Santa Barbara Harbor features beautiful views from the docks. Photo by Victoria Gambale

SANTA BARBARA COUNTY IS HOME TO ONE HARBOR

SANTA BARBARA — SANTA BARBARA HARBOR

SANTA BARBARA — SANTA BARBARA HARBOR



FACILITY	2020 USABILITY SNAPSHOT (%)			PUMP TYPE
	SPRING	SUMMER	FALL	
Boat Launch	N/O*	94	94	Peristaltic
Fuel Dock	91	83	86	Peristaltic
Marina One, Far unit, RS finger	88	87	86	Peristaltic
Marina One, Mid unit, PQ finger	91	91	91	Peristaltic
Marina One, Near unit, west of A finger	96	94	88	Peristaltic

* N/O signifies a unit that was Non-Operational. N/A signifies a unit that was Non-Accessible.

SANTA BARBARA — SANTA BARBARA HARBOR



Photo by Vicki Gambale

→ MONITORING DETAILS

FACILITY	STATUS		
	SPRING	SUMMER	FALL
Boat Launch	Non-Operational	Operational	Operational
Fuel Dock	Operational	Operational	Operational
Marina One, Far unit, RS finger	Operational	Operational	Operational
Marina One, Mid unit, PQ finger	Operational	Operational	Operational
Marina One, Near unit, west of A finger	Operational	Operational	Operational

VENTURA COUNTY



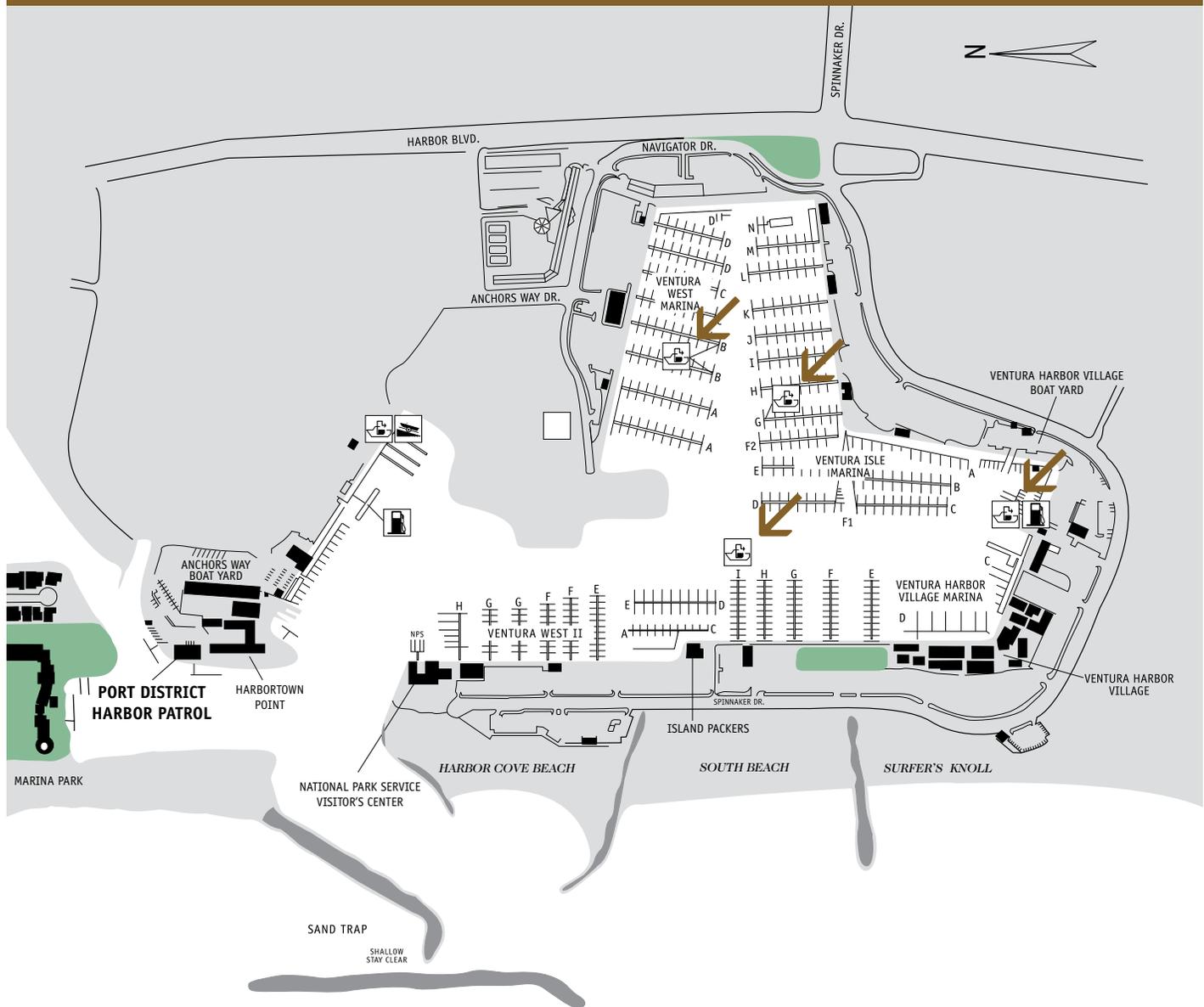
Mountain and harbor view from Ventura Harbor. Photo by Michelle Staffield

VENTURA COUNTY IS HOME TO TWO HARBORS

VENTURA — **VENTURA HARBOR**

VENTURA — **CHANNEL ISLANDS HARBOR**

VENTURA — VENTURA HARBOR



FACILITY	2020 USABILITY SNAPSHOT (%)			PUMP TYPE
	SPRING	SUMMER	FALL	
Ventura Harbor Island Packers	58	85	60	Peristaltic
Ventura Harbor Marine Fuel, far	N/O*	N/O*	90	Diaphragm
Ventura Harbor Marine Fuel, near	N/O*	N/O*	86	Diaphragm
Ventura Isle Marina, G Dock	87	87	79	Diaphragm
Ventura West Marina, B dock left/east	91	87	81	Diaphragm
Ventura West Marina, B dock right/west	88	78	79	Diaphragm

* N/O signifies a unit that was Non-Operational. N/A signifies a unit that was Non-Accessible.

VENTURA — VENTURA HARBOR

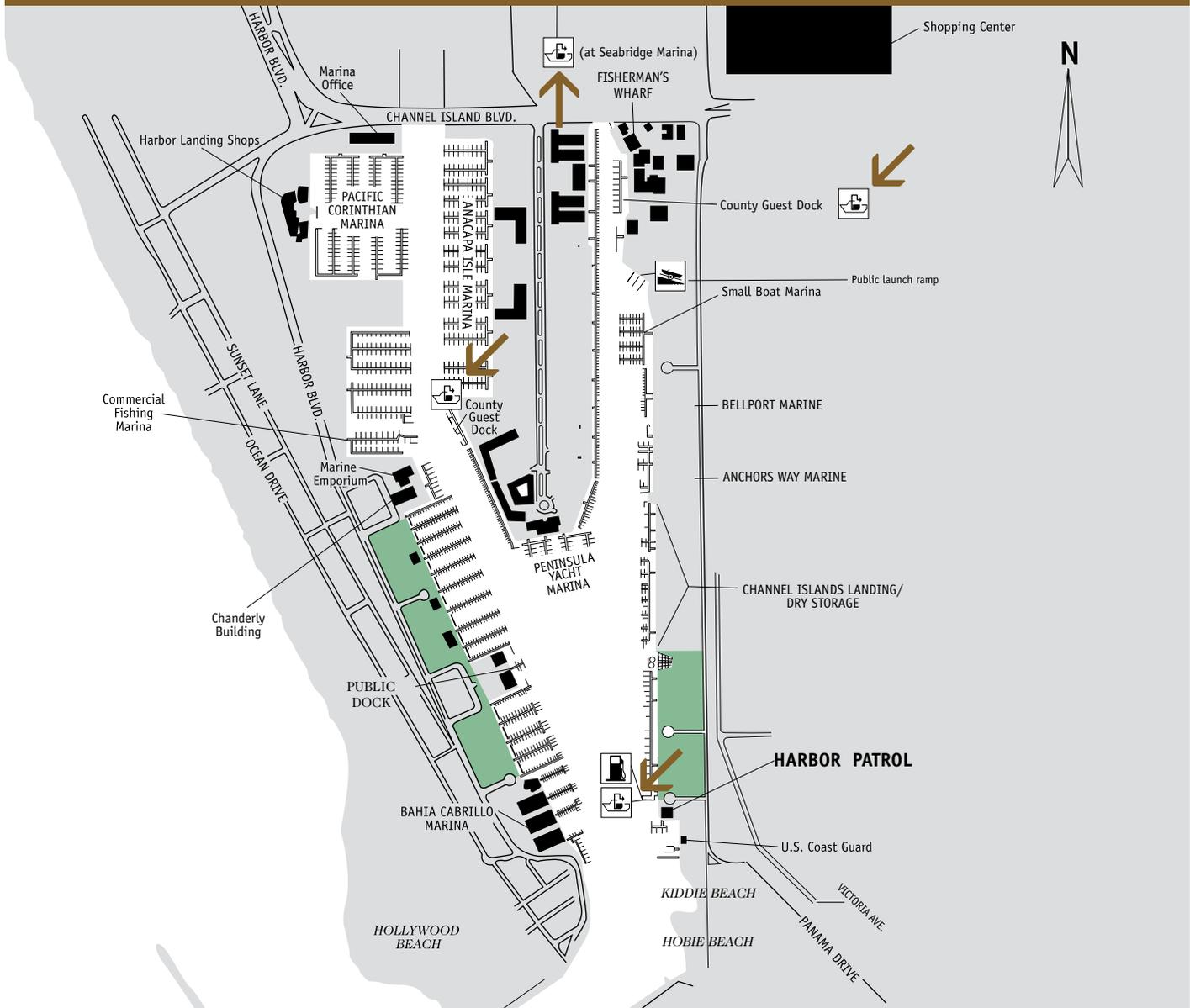


Photo by Justin Bilow

→ MONITORING DETAILS

FACILITY	STATUS		
	SPRING	SUMMER	FALL
Ventura Harbor Island Packers	Operational	Operational	Operational
Ventura Harbor Marine Fuel, far	Non-Operational	Non-Operational	Operational
Ventura Harbor Marine Fuel, near	Non-Operational	Non-Operational	Operational
Ventura Isle Marina, G Dock	Operational	Operational	Operational
Ventura West Marina, B dock left/east	Operational	Operational	Operational
Ventura West Marina, B dock right/west	Operational	Operational	Operational

VENTURA — CHANNEL ISLANDS HARBOR



FACILITY	2020 USABILITY SNAPSHOT (%)			PUMP TYPE
	SPRING	SUMMER	FALL	
East Bank Guest Dock, far	94	97	N/O*	Peristaltic
East Bank Guest Dock, near	97	97	97	Peristaltic
Peninsula Park, County Guest Dock	91	90	87	Peristaltic
Harbor Patrol Dock	97	94	94	Peristaltic
Seabridge Marina, F dock	N/A*	N/A*	N/A*	Peristaltic

* N/O signifies a unit that was Non-Operational. N/A signifies a unit that was Non-Accessible.

VENTURA — CHANNEL ISLANDS HARBOR



Photo by Zachary Theodore on Unsplash

→ MONITORING DETAILS

FACILITY	STATUS		
	SPRING	SUMMER	FALL
East Bank Guest Dock, far	Operational	Operational	Non-Operational
East Bank Guest Dock, near	Operational	Operational	Operational
Peninsula Park, County Guest Dock	Operational	Operational	Operational
Harbor Patrol Dock	Operational	Operational	Operational
Seabridge Marina, F dock	Non-Accessible	Non-Accessible	Non-Accessible

LOS ANGELES COUNTY



Sea lions rest on a buoy just outside King Harbor. Photo by John Hollenbeck

LOS ANGELES COUNTY IS HOME TO FIVE HARBORS

LA — **MARINA DEL REY HARBOR**

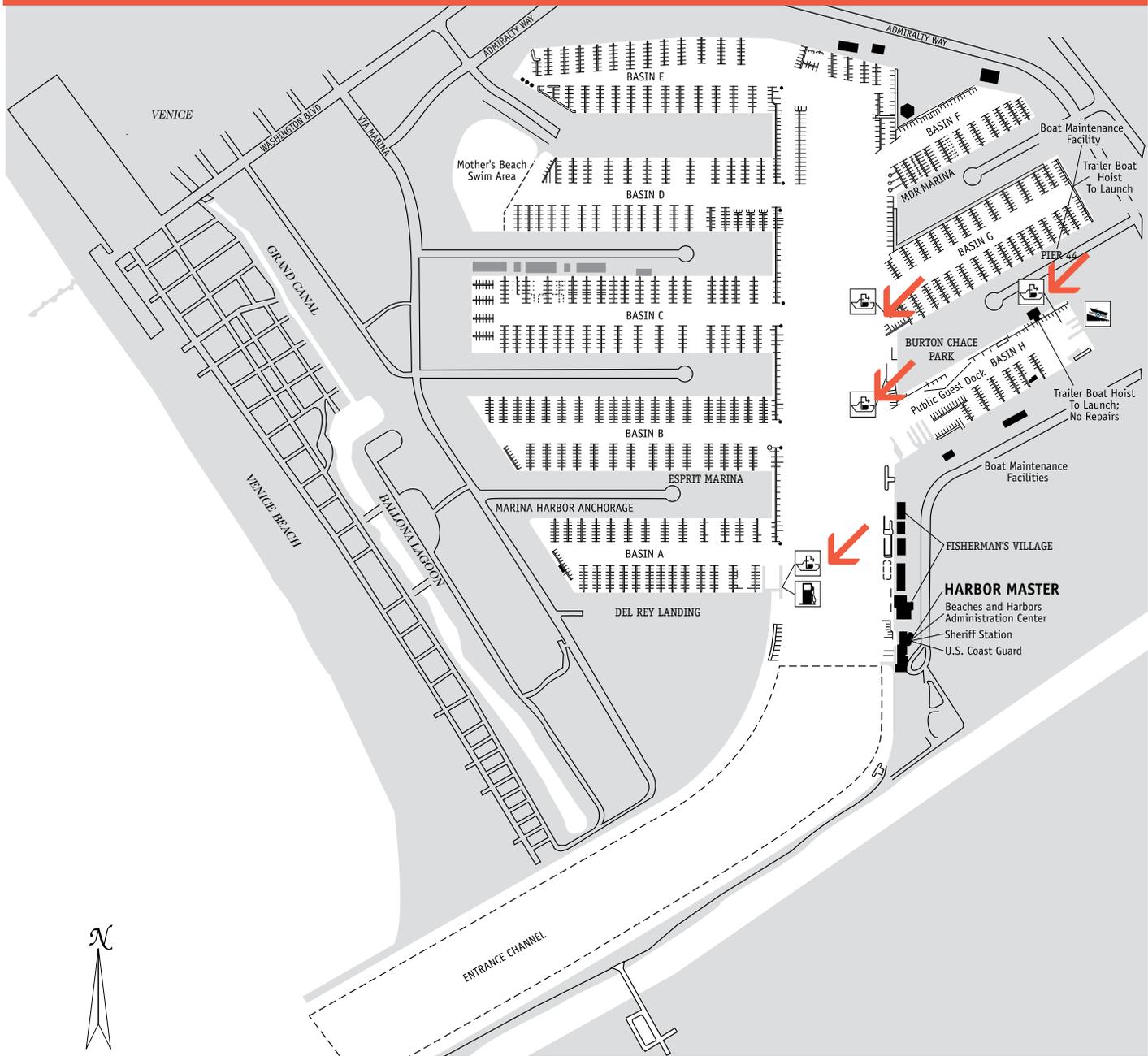
LA — **KING HARBOR**

LA — **PORT OF LOS ANGELES**

LA — **PORT OF LONG BEACH** / Shoreline

LA — **PORT OF LONG BEACH** / Los Alamitos

LA — MARINA DEL REY HARBOR



FACILITY	2020 USABILITY SNAPSHOT (%)			PUMP TYPE
	SPRING	SUMMER	FALL	
Anchorage 47	87	N/O*	85	Peristaltic
Burton Chace Park	97	90	81	Peristaltic
Del Rey Landing, far	81	N/A*	N/A*	Peristaltic
Del Rey Landing, near	60	N/A*	N/A*	Peristaltic
Launch Ramp	87	82	81	Peristaltic

* N/O signifies a unit that was Non-Operational. N/A signifies a unit that was Non-Accessible.

LA — MARINA DEL REY HARBOR

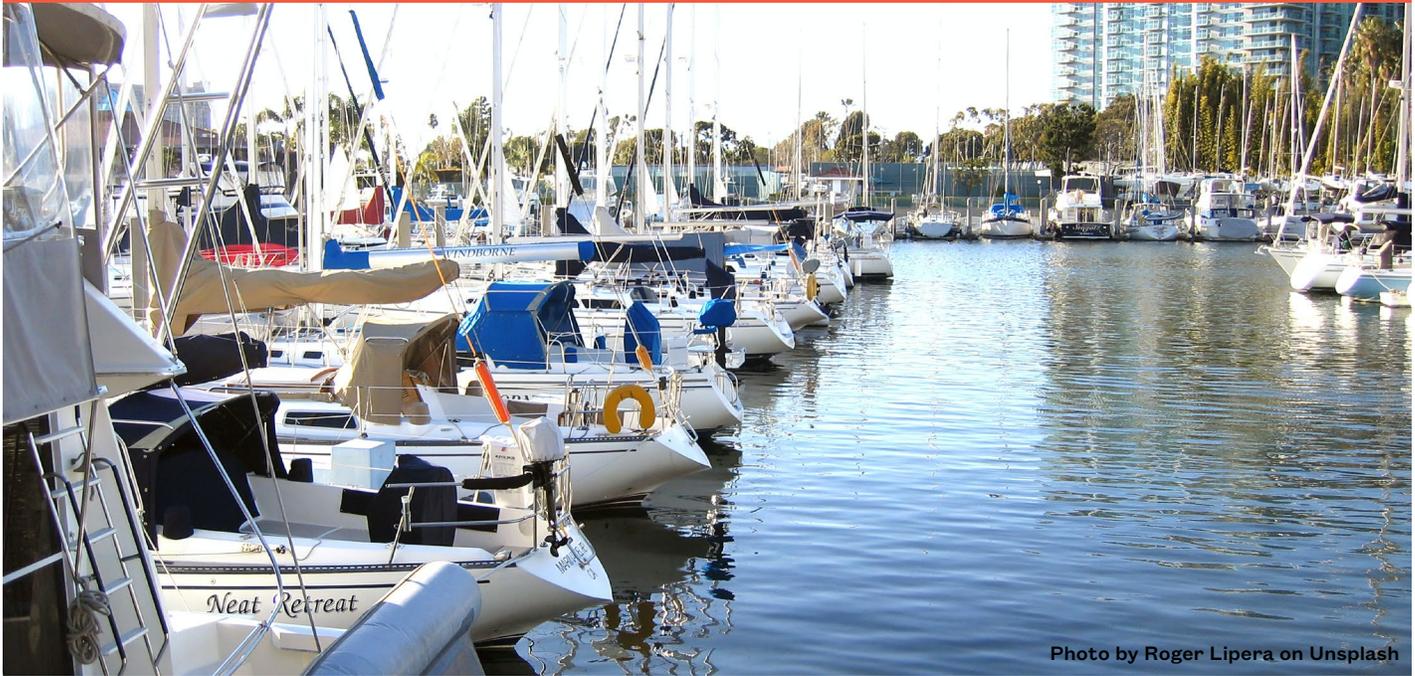
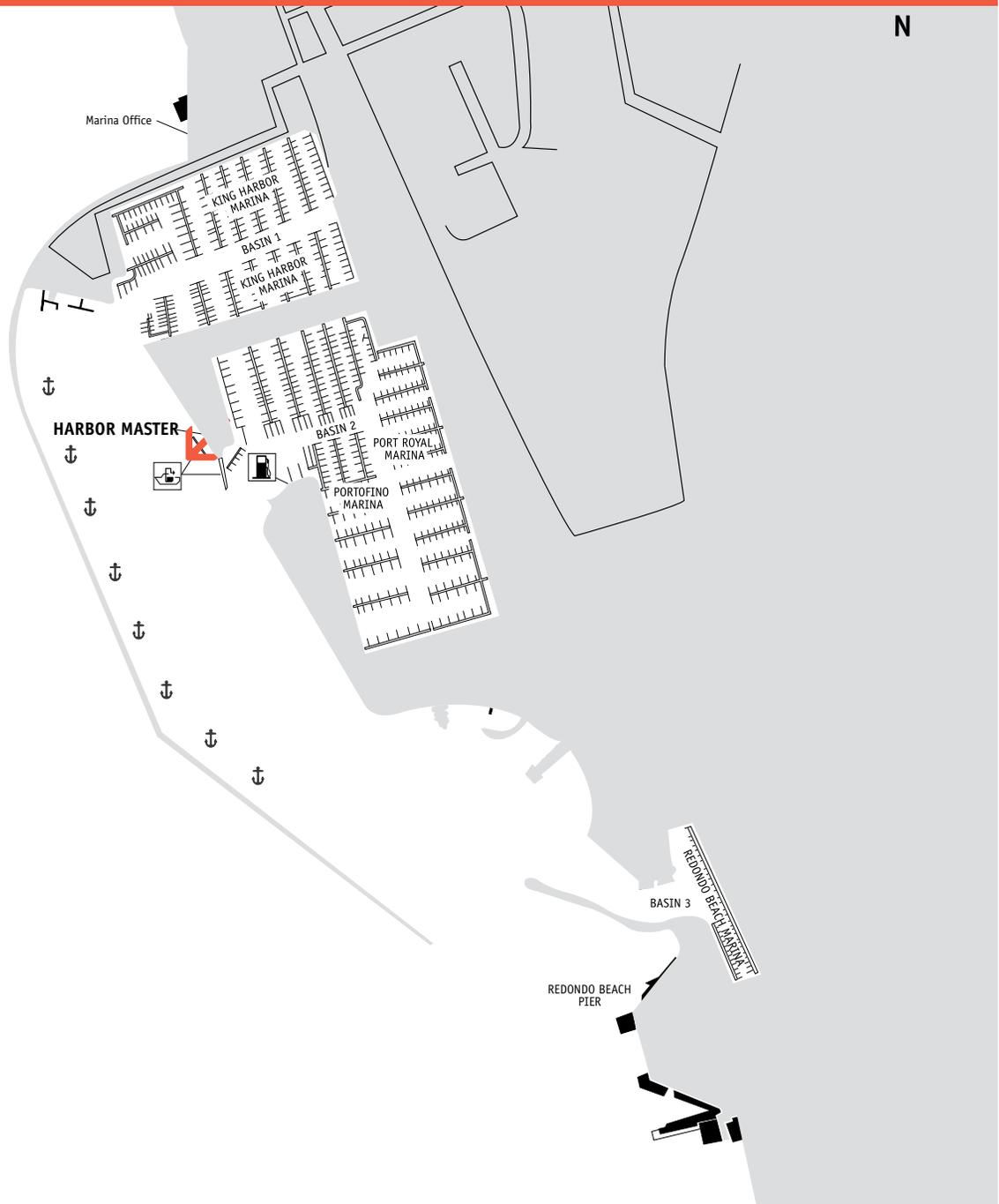


Photo by Roger Lipera on Unsplash

→ MONITORING DETAILS

FACILITY	STATUS		
	SPRING	SUMMER	FALL
Anchorage 47	Operational	Non-Operational	Operational
Burton Chace Park	Operational	Operational	Operational
Del Rey Landing, far	Operational	Non-Accessible	Non-Accessible
Del Rey Landing, near	Operational	Non-Accessible	Non-Accessible
Launch Ramp	Operational	Operational	Operational

LA — KING HARBOR



FACILITY	2020 USABILITY SNAPSHOT (%)			PUMP TYPE
	SPRING	SUMMER	FALL	
Harbor Patrol	N/A*	67	63	Peristaltic

* N/O signifies a unit that was Non-Operational. N/A signifies a unit that was Non-Accessible.

LA — KING HARBOR

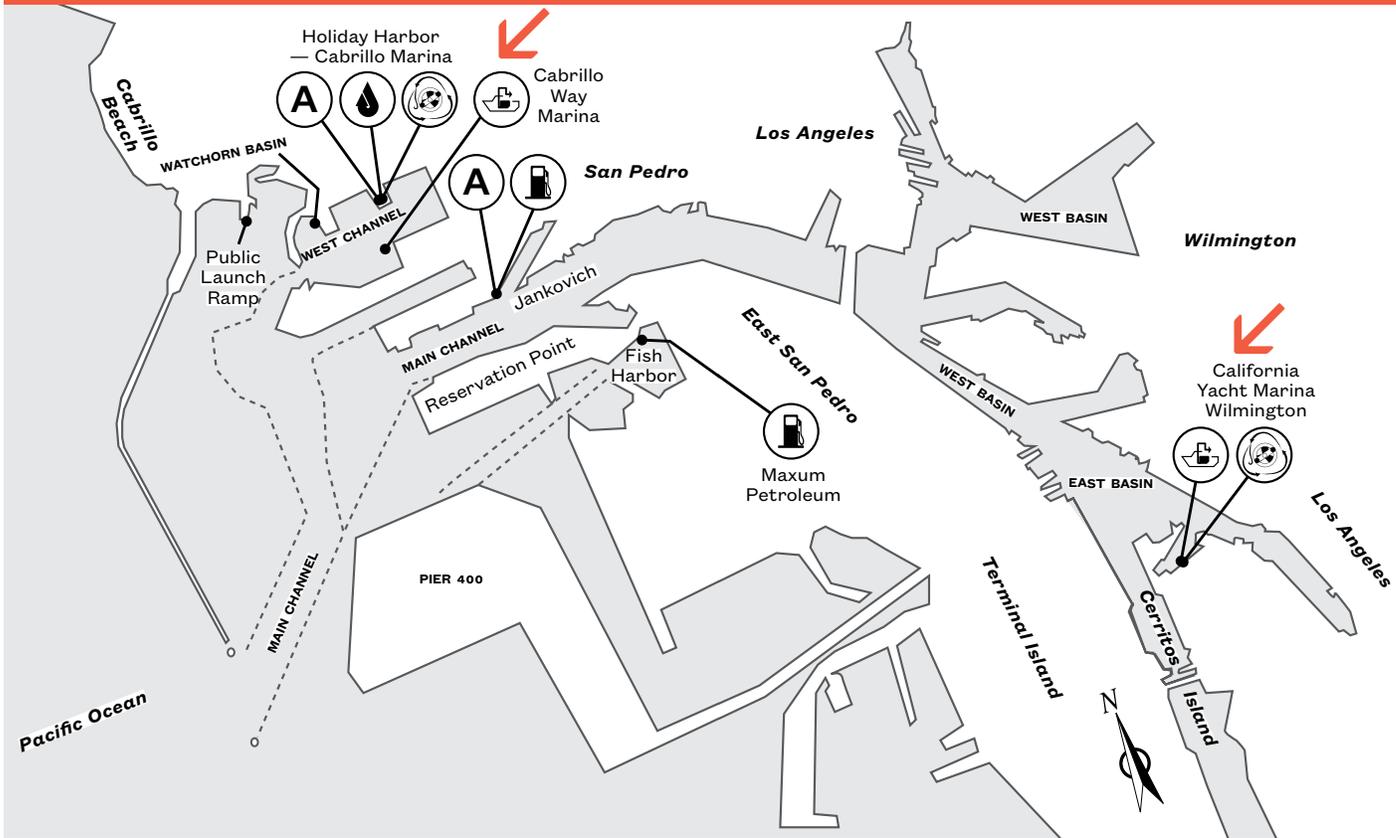


Photo by Kris Delano

→ MONITORING DETAILS

FACILITY	STATUS		
	SPRING	SUMMER	FALL
Harbor Patrol	Non-Accessible	Operational	Operational

LA — PORT OF LOS ANGELES



FACILITY	2020 USABILITY SNAPSHOT (%)			PUMP TYPE
	SPRING	SUMMER	FALL	
Cabrillo Way Marina	96	94	80	Diaphragm
California Yacht Marina, Wilmington, F Dock	94	N/O*	97	Peristaltic

* N/O signifies a unit that was Non-Operational. N/A signifies a unit that was Non-Accessible.

LA — PORT OF LOS ANGELES

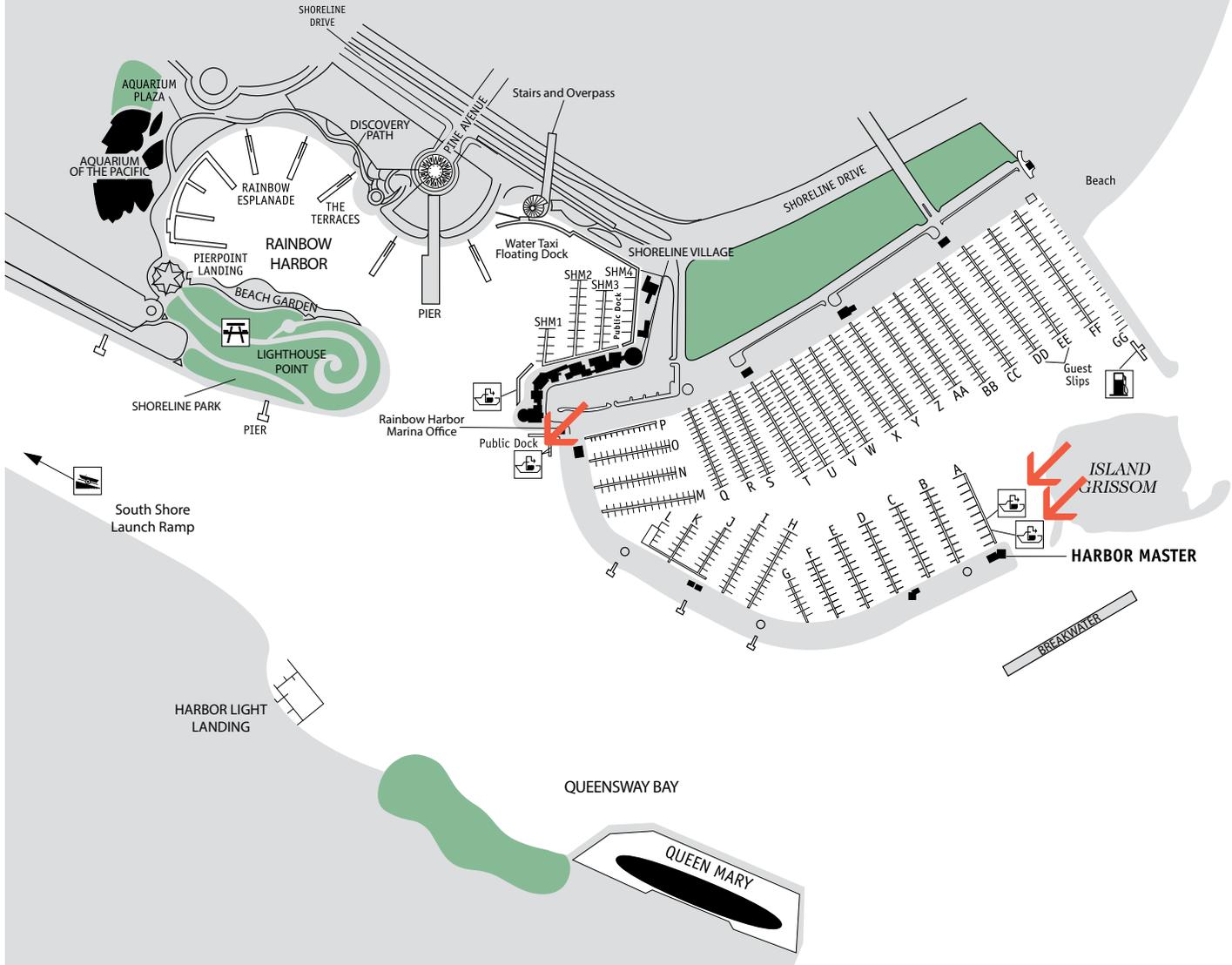


Photo by Thomas Poster

→ MONITORING DETAILS

FACILITY	STATUS		
	SPRING	SUMMER	FALL
Cabrillo Way Marina	Operational	Operational	Operational
California Yacht Marina, Wilmington, F Dock	Operational	Non-Operational	Operational

LA — PORT OF LONG BEACH – SHORELINE



FACILITY	2020 USABILITY SNAPSHOT (%)			PUMP TYPE
	SPRING	SUMMER	FALL	
Shoreline Marina Office, A dock far	N/O*	97	81	Peristaltic
Shoreline Marina Office, A dock near	97	94	75	Peristaltic
Shoreline Marina, Public Dock, far	87	91	90	Peristaltic
Shoreline Marina, Public Dock, mid	88	87	44	Peristaltic
Shoreline Marina, Public Dock, near	92	86	62	Peristaltic

* N/O signifies a unit that was Non-Operational. N/A signifies a unit that was Non-Accessible.

LA — PORT OF LONG BEACH – SHORELINE

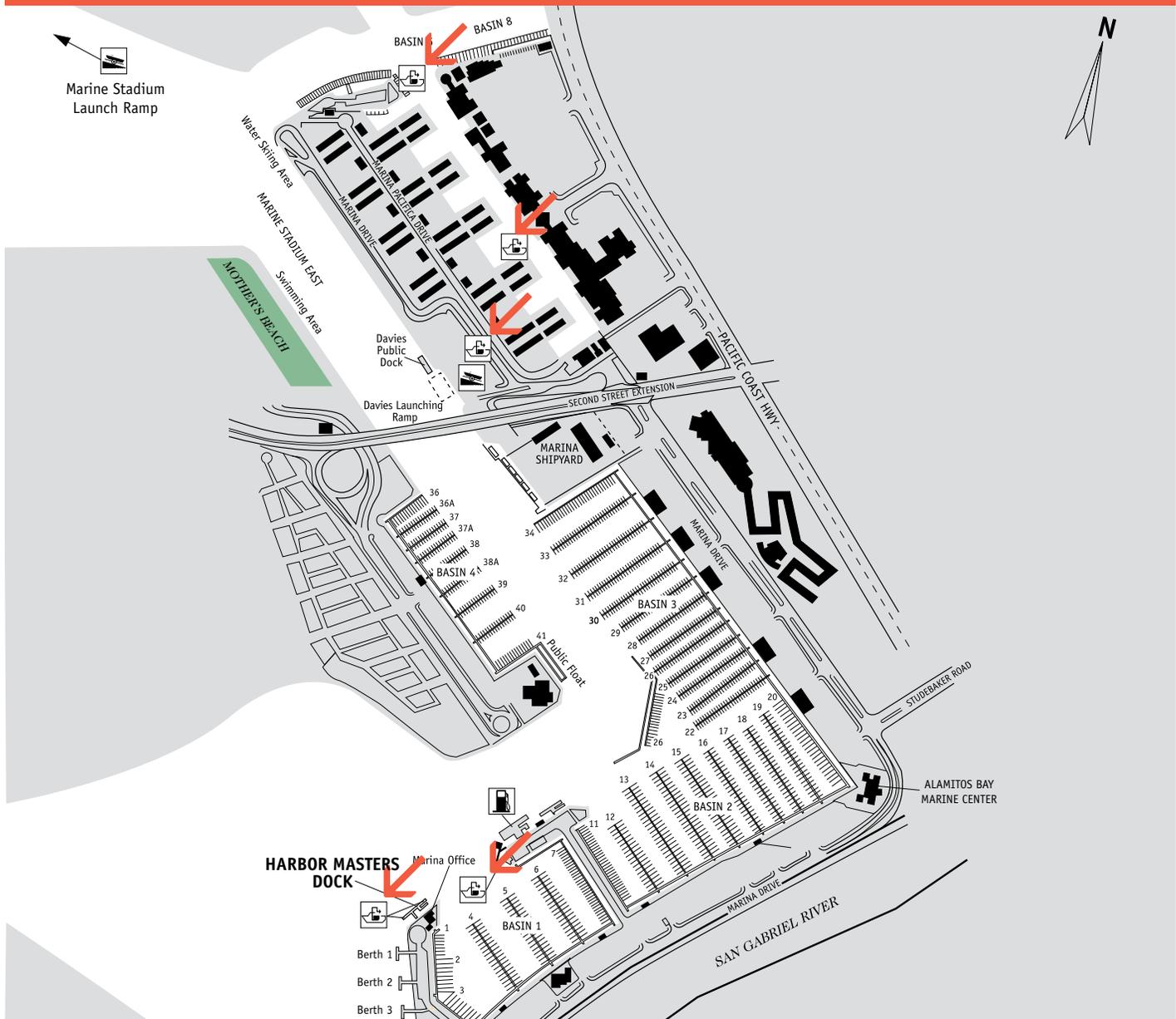


Photo by John Hollenbeck

—> MONITORING DETAILS

FACILITY	STATUS		
	SPRING	SUMMER	FALL
Shoreline Marina Office, A dock far	Non-Operational	Operational	Operational
Shoreline Marina Office, A dock near	Operational	Operational	Operational
Shoreline Marina, Public Dock, far	Operational	Operational	Operational
Shoreline Marina, Public Dock, mid	Operational	Operational	Operational
Shoreline Marina, Public Dock, near	Operational	Operational	Operational

LA — PORT OF LONG BEACH – LOS ALAMITOS



FACILITY	2020 USABILITY SNAPSHOT (%)			PUMP TYPE
	SPRING	SUMMER	FALL	
Los Alamitos Davies Launching Ramp	82	83	81	Peristaltic
Los Alamitos Fire Department, Marine Station	97	89	86	Peristaltic
Los Alamitos Harbor Master Dock, near	87	94	86	Peristaltic
Los Alamitos Harbor Master Dock, far	94	94	86	Peristaltic
Marina Pacifica, Slip #039 at Key 15	N/O*	97	97	Peristaltic
Marina Pacifica, Slip #165 at Key 1	97	100	93	Peristaltic

* N/O signifies a unit that was Non-Operational. N/A signifies a unit that was Non-Accessible.

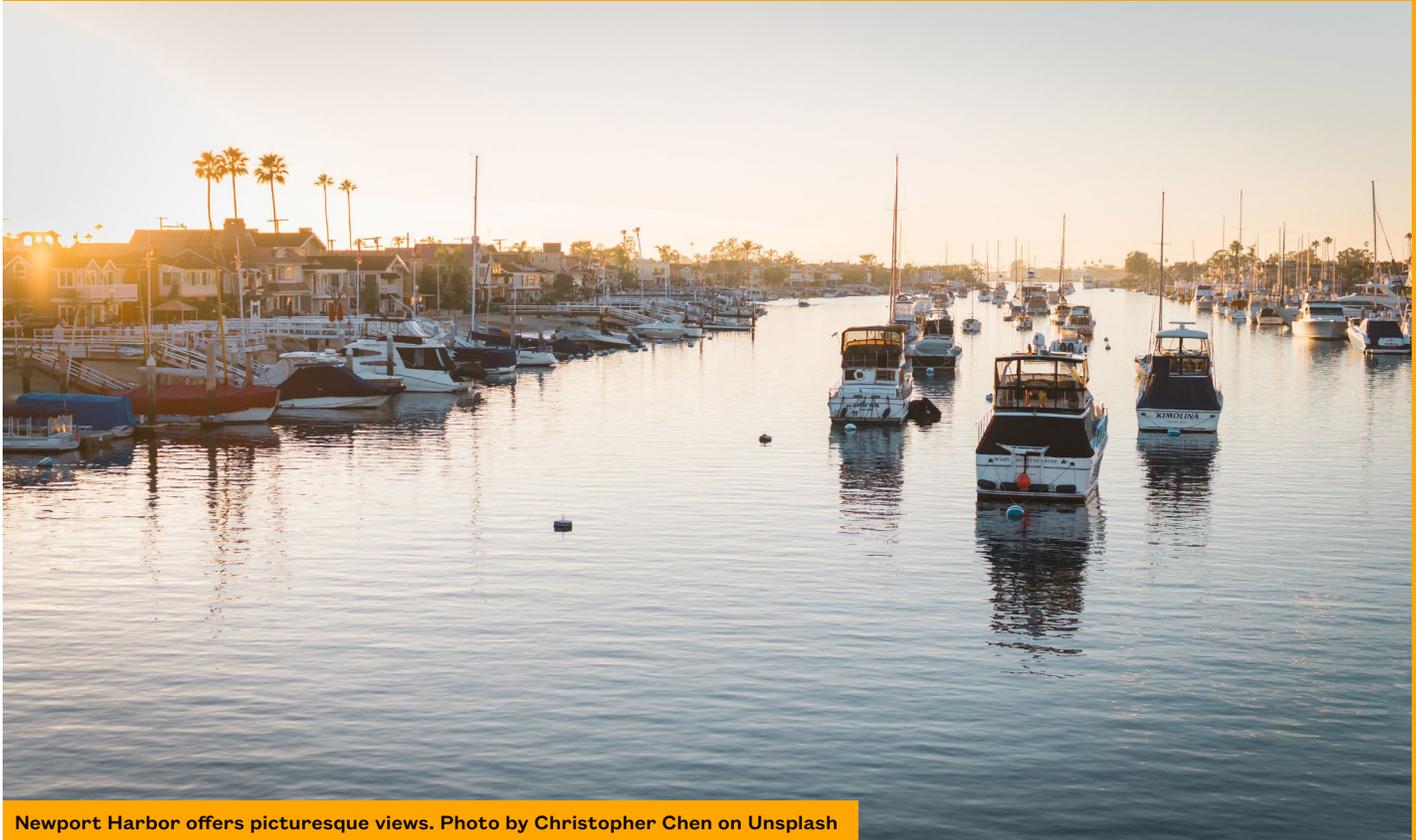
LA — PORT OF LONG BEACH – LOS ALAMITOS



→ MONITORING DETAILS

FACILITY	STATUS		
	SPRING	SUMMER	FALL
Los Alamitos Davies Launching Ramp	Operational	Operational	Operational
Los Alamitos Fire Department, Marine Station	Operational	Operational	Operational
Los Alamitos Harbor Master Dock, near	Operational	Operational	Operational
Los Alamitos Harbor Master Dock, far	Operational	Operational	Operational
Marina Pacifica, Slip #039 at Key 15	Non-Operational	Operational	Operational
Marina Pacifica, Slip #165 at Key 1	Operational	Operational	Operational

ORANGE COUNTY



Newport Harbor offers picturesque views. Photo by Christopher Chen on Unsplash

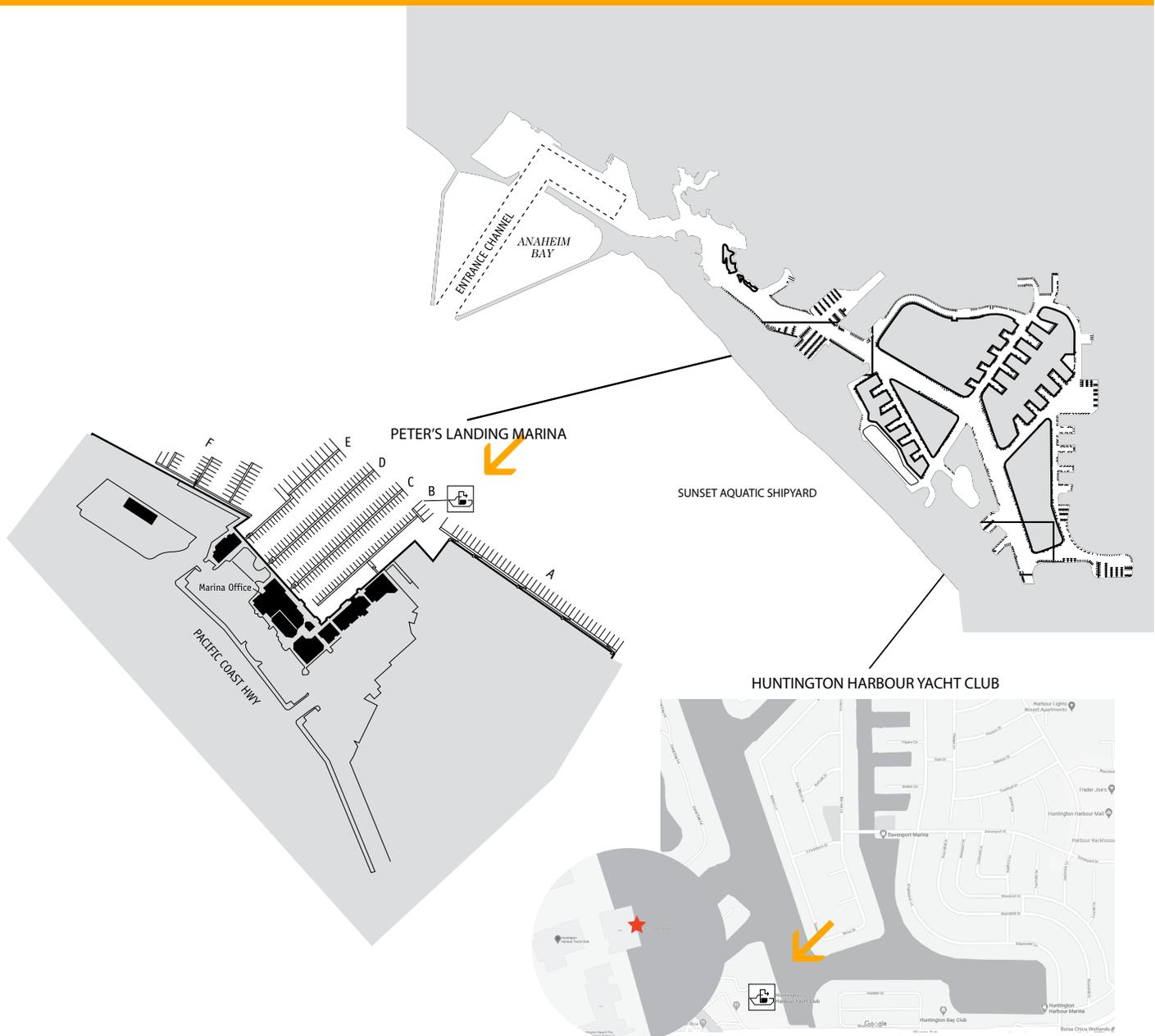
ORANGE COUNTY IS HOME TO THREE HARBORS

ORANGE — **HUNTINGTON HARBOUR**

ORANGE — **NEWPORT HARBOR**

ORANGE — **DANA POINT HARBOR**

ORANGE — HUNTINGTON HARBOUR



FACILITY	2020 USABILITY SNAPSHOT (%)			PUMP TYPE
	SPRING	SUMMER	FALL	
Huntington Harbour Yacht Club, Fire Department	97	N/O*	68	Diaphragm
Peter's Landing Marina, B Dock	87	68	57	Peristaltic

* N/O signifies a unit that was Non-Operational. N/A signifies a unit that was Non-Accessible.

ORANGE — HUNTINGTON HARBOUR

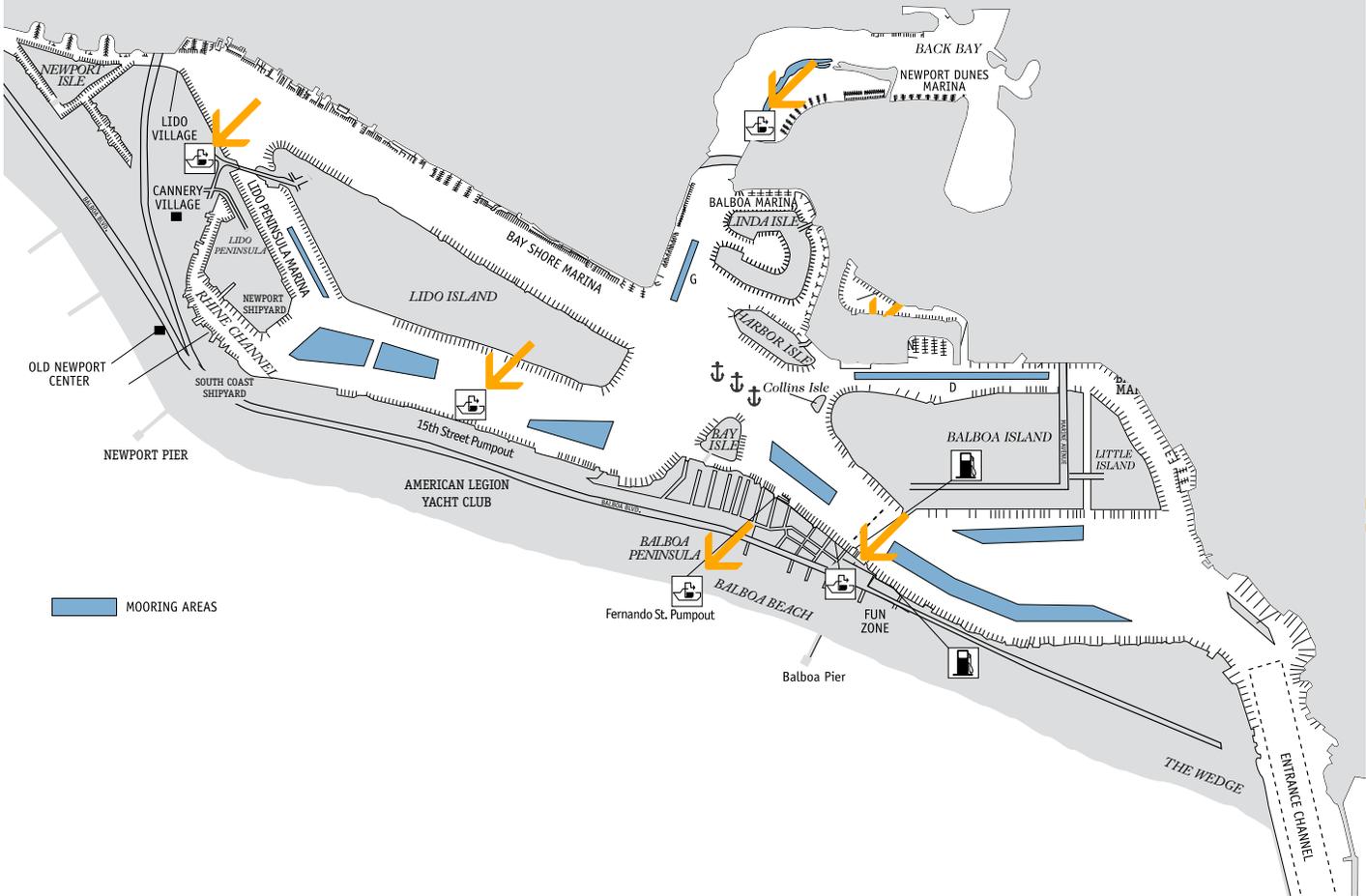


Photo by John Hollenbeck

—> MONITORING DETAILS

FACILITY	STATUS		
	SPRING	SUMMER	FALL
Huntington Harbour Yacht Club, Fire Department	Operational	Non-Operational	Operational
Peter's Landing Marina, B Dock	Operational	Operational	Operational

ORANGE — NEWPORT HARBOR



FACILITY	2020 USABILITY SNAPSHOT (%)			PUMP TYPE
	SPRING	SUMMER	FALL	
15th Street, far	71	38	86	Diaphragm
15th Street, near	94	93	92	Peristaltic
Balboa Bay Club	94	97	93	Peristaltic
Balboa Fun Zone	91	66	76	Peristaltic
Balboa Yacht Basin	97	97	89	Peristaltic
Bayside Village Marina	91	N/A*	N/A*	Peristaltic
Fernando Street	90	70	63	Peristaltic
Lido Marina Village	97	62	82	Peristaltic
OC Harbor Patrol	97	78	94	Peristaltic

* N/O signifies a unit that was Non-Operational. N/A signifies a unit that was Non-Accessible.

ORANGE — NEWPORT HARBOR

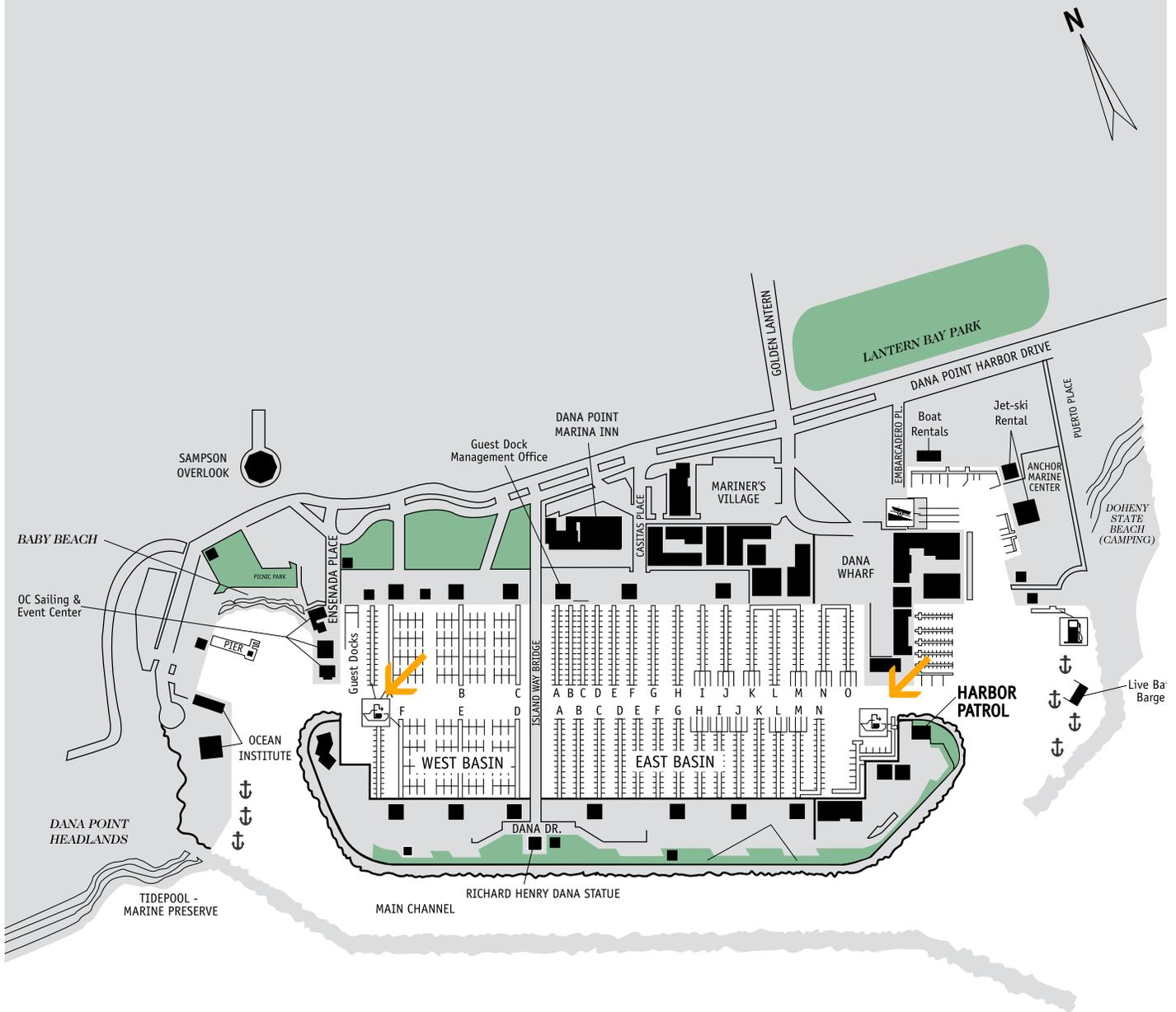


Photo by Jason Middlekauff

—> MONITORING DETAILS

FACILITY	STATUS		
	SPRING	SUMMER	FALL
15th Street, far	Operational	Operational	Operational
15th Street, near	Operational	Operational	Operational
Balboa Bay Club	Operational	Operational	Operational
Balboa Fun Zone	Operational	Operational	Operational
Balboa Yacht Basin	Operational	Operational	Operational
Bayside Village Marina	Operational	Non-Accessible	Non-Accessible
Fernando Street	Operational	Operational	Operational
Lido Marina Village	Operational	Operational	Operational
OC Harbor Patrol	Operational	Operational	Operational

ORANGE — DANA POINT HARBOR



FACILITY	2020 USABILITY SNAPSHOT (%)			PUMP TYPE
	SPRING	SUMMER	FALL	
Dana West Marina, A dock side tie	97	94	88	Peristaltic
Dana West Marina, F dock side tie	97	94	87	Peristaltic
Dana Point Marina, East Basin, Guest Dock, end tie	94	89	73	Peristaltic
Sheriff's Harbor Patrol, pumpout dock	81	55	92	Peristaltic

ORANGE — DANA POINT HARBOR



Photo by Pat Douglass

—> MONITORING DETAILS

FACILITY	STATUS		
	SPRING	SUMMER	FALL
Dana West Marina, A dock side tie	Operational	Operational	Operational
Dana West Marina, F dock side tie	Operational	Operational	Operational
Dana Point Marina, East Basin, Guest Dock, end tie	Operational	Operational	Operational
Sheriff's Harbor Patrol, pumpout dock	Operational	Operational	Operational

SAN DIEGO COUNTY



A view of downtown San Diego. Photo by Kim Riley

SAN DIEGO COUNTY IS HOME TO THREE HARBORS

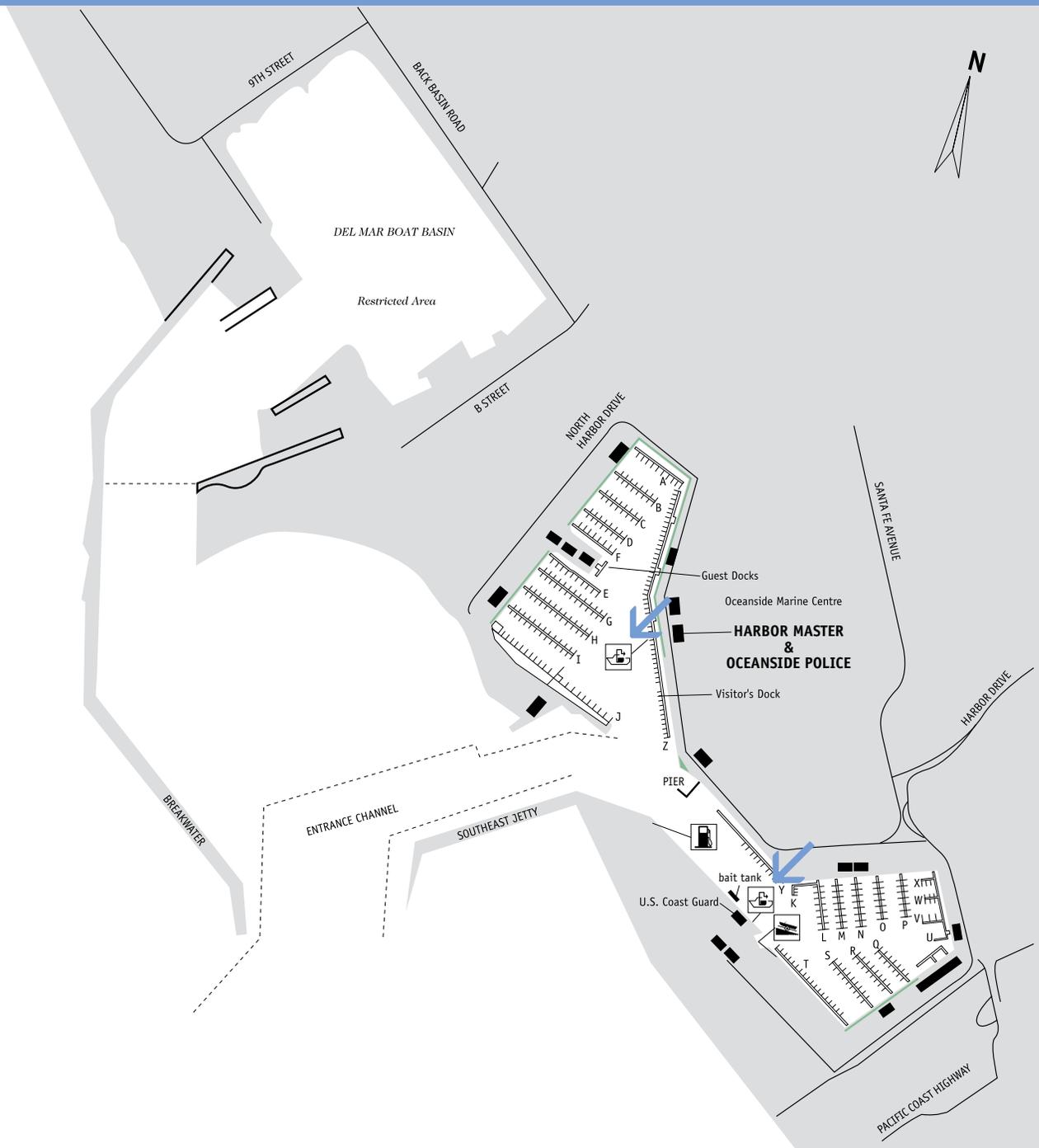
SAN DIEGO — **OCEANSIDE HARBOR**

SAN DIEGO — **MISSION BAY**

SAN DIEGO — **SAN DIEGO BAY** / Shelter and Harbor Islands

SAN DIEGO — **SAN DIEGO BAY** / Glorietta Bay & South San Diego Bay

SAN DIEGO — OCEANSIDE HARBOR



FACILITY	2020 USABILITY SNAPSHOT (%)			PUMP TYPE
	SPRING	SUMMER	FALL	
Department of Harbor and Beaches, Office	94	81	96	Peristaltic
U.S. Coast Guard Auxiliary, far	97	89	85	Peristaltic
U.S. Coast Guard Auxiliary, near	100	91	86	Peristaltic

SAN DIEGO — OCEANSIDE HARBOR



Photo by Grace Lee

→ MONITORING DETAILS

FACILITY	STATUS		
	SPRING	SUMMER	FALL
Department of Harbor and Beaches, Office	Operational	Operational	Operational
U.S. Coast Guard Auxiliary, far	Operational	Operational	Operational
U.S. Coast Guard Auxiliary, near	Operational	Operational	Operational

SAN DIEGO — MISSION BAY



FACILITY	2020 USABILITY SNAPSHOT (%)			PUMP TYPE
	SPRING	SUMMER	FALL	
Hyatt Regency	N/O*	94	94	Peristaltic
Mission Bay Park Headquarters, left	100	96	94	Peristaltic
Mission Bay Park Headquarters, right	97	94	32	Peristaltic

* N/O signifies a unit that was Non-Operational. N/A signifies a unit that was Non-Accessible.

SAN DIEGO — MISSION BAY

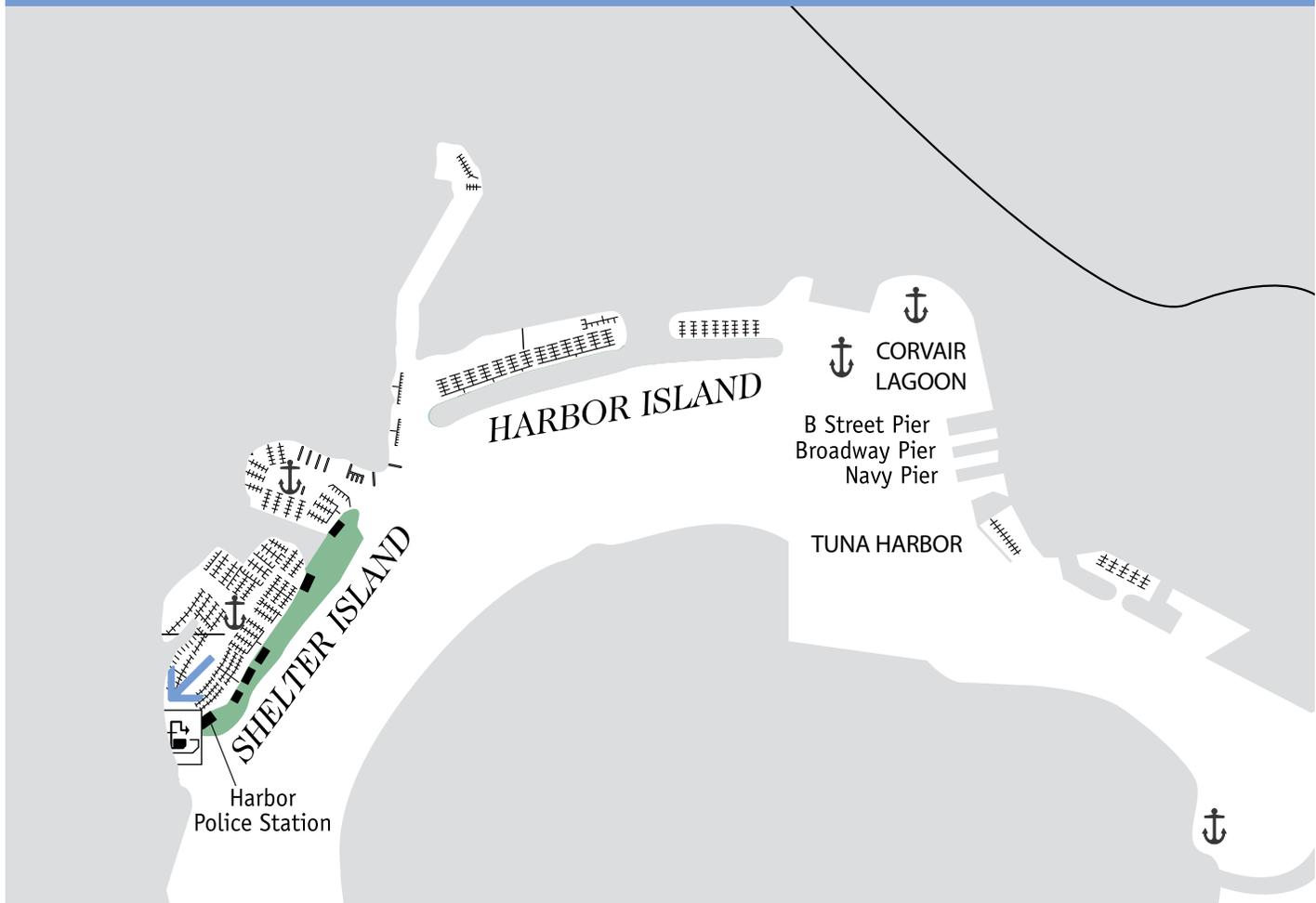


Photo by Michelle Stanfield

—> MONITORING DETAILS

FACILITY	STATUS		
	SPRING	SUMMER	FALL
Hyatt Regency	Non-Operational	Operational	Operational
Mission Bay Park Headquarters, left	Operational	Operational	Operational
Mission Bay Park Headquarters, right	Operational	Operational	Operational

SAN DIEGO — SAN DIEGO BAY / Shelter and Harbor Islands



FACILITY	2020 USABILITY SNAPSHOT (%)			PUMP TYPE
	SPRING	SUMMER	FALL	
Cabrillo Isle Marina, G Dock	81	N/O*	N/O*	Peristaltic
Laurel St. & Harbor Dr. / airport	100	94	97	Peristaltic
Shelter Island Harbor Police Dock, far	97	78	71	Diaphragm
Shelter Island Harbor Police Dock, near	N/O*	61	71	Diaphragm
Shelter Island Public Dock, far	97	N/O*	80	Peristaltic
Shelter Island Public Dock, near	100	N/O*	84	Peristaltic
Sun Harbor Marina, near	97	N/O	47	Peristaltic
Sun Harbor Marina, far	100	97	N/O*	Peristaltic

* N/O signifies a unit that was Non-Operational. N/A signifies a unit that was Non-Accessible.

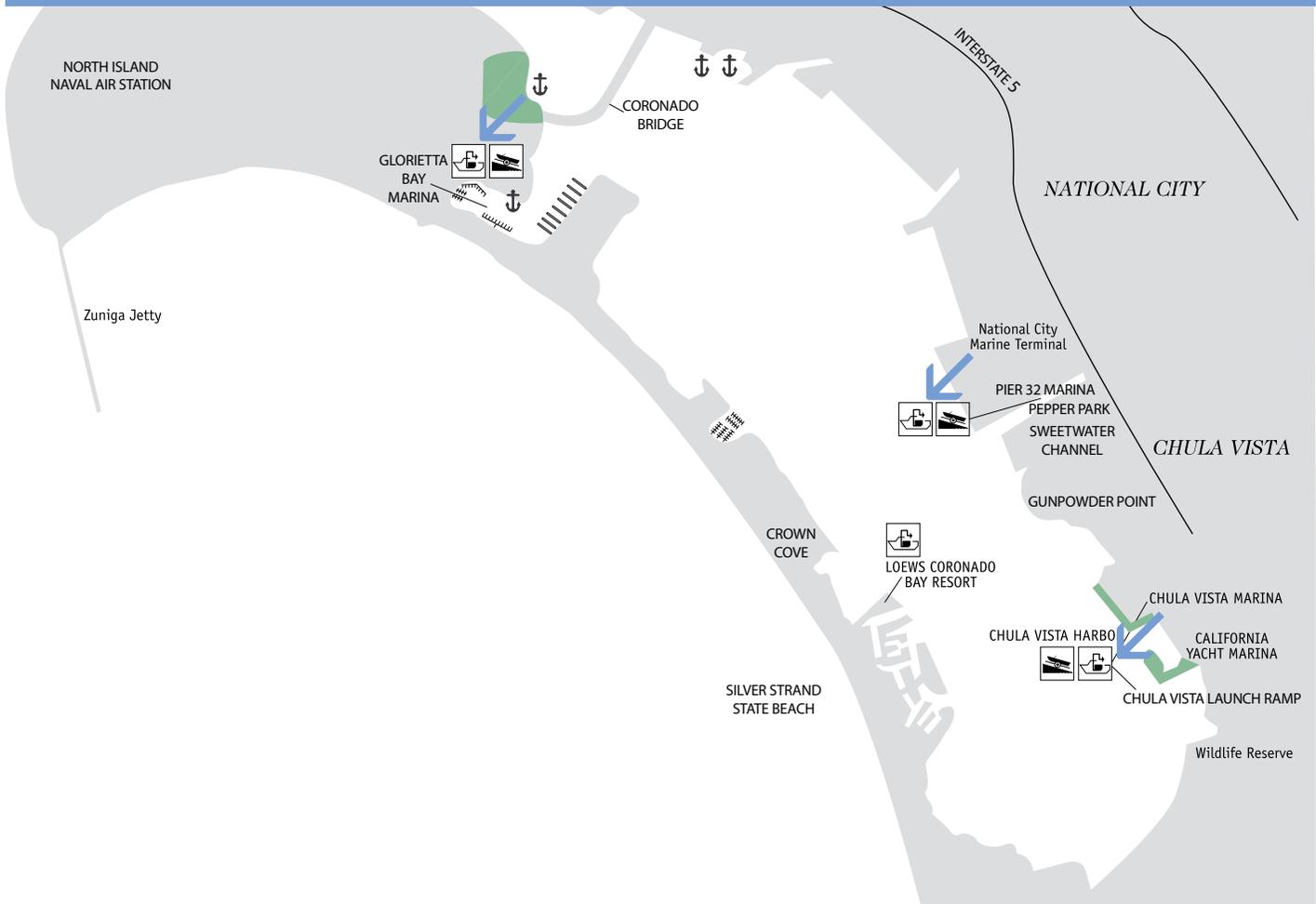


Photo by Kim Riley

→ **MONITORING DETAILS**

FACILITY	STATUS		
	SPRING	SUMMER	FALL
Cabrillo Isle Marina, G Dock	Operational	Non-Operational	Non-Operational
Laurel St. & Harbor Dr. / airport	Operational	Operational	Operational
Shelter Island Harbor Police Dock, far	Operational	Operational	Operational
Shelter Island Harbor Police Dock, near	Non-Operational	Operational	Operational
Shelter Island Public Dock, far	Operational	Non-Operational	Operational
Shelter Island Public Dock, near	Operational	Non-Operational	Operational
Sun Harbor Marina, near	Operational	Non-Operational	Operational
Sun Harbor Marina, far	Operational	Operational	Non-Operational

SAN DIEGO — SAN DIEGO BAY / Glorietta Bay & South San Diego



FACILITY	2020 USABILITY SNAPSHOT (%)			PUMP TYPE
	SPRING	SUMMER	FALL	
Chula Vista Launch Ramp	97	97	85	Peristaltic
Chula Vista Marina	88	88	73	Peristaltic
Glorietta Bay Marina, A dock	N/O*	Stopped monitoring**	Stopped monitoring**	Peristaltic
Glorietta Bay Marina, B dock left	82	70	70	Peristaltic
Glorietta Bay Marina, B dock right	N/O	71	84	Peristaltic
Pepper Park Launch Ramp	97	N/O	86	Peristaltic

* N/O signifies a unit that was Non-Operational. N/A signifies a unit that was Non-Accessible.

** Monitoring was stopped at Glorietta Bay Marina, A Dock as a result of the unit only being available to two large vessels permanently docked at either side of the unit.



Photo by Kim Riley

→ **MONITORING DETAILS**

FACILITY	STATUS		
	SPRING	SUMMER	FALL
Chula Vista Launch Ramp	Operational	Operational	Operational
Chula Vista Marina	Operational	Operational	Operational
Glorietta Bay Marina, A dock	Non-Operational	Stopped monitoring*	Stopped monitoring*
Glorietta Bay Marina, B dock left	Operational	Operational	Operational
Glorietta Bay Marina, B dock right	Non-Operational	Operational	Operational
Pepper Park Launch Ramp	Operational	Non-Operational	Operational

* Monitoring was stopped at Glorietta Bay Marina, A Dock as a result of the unit only being available to two large vessels permanently docked at either side of the unit.

SAN FRANCISCO BAY – NORTH BAY



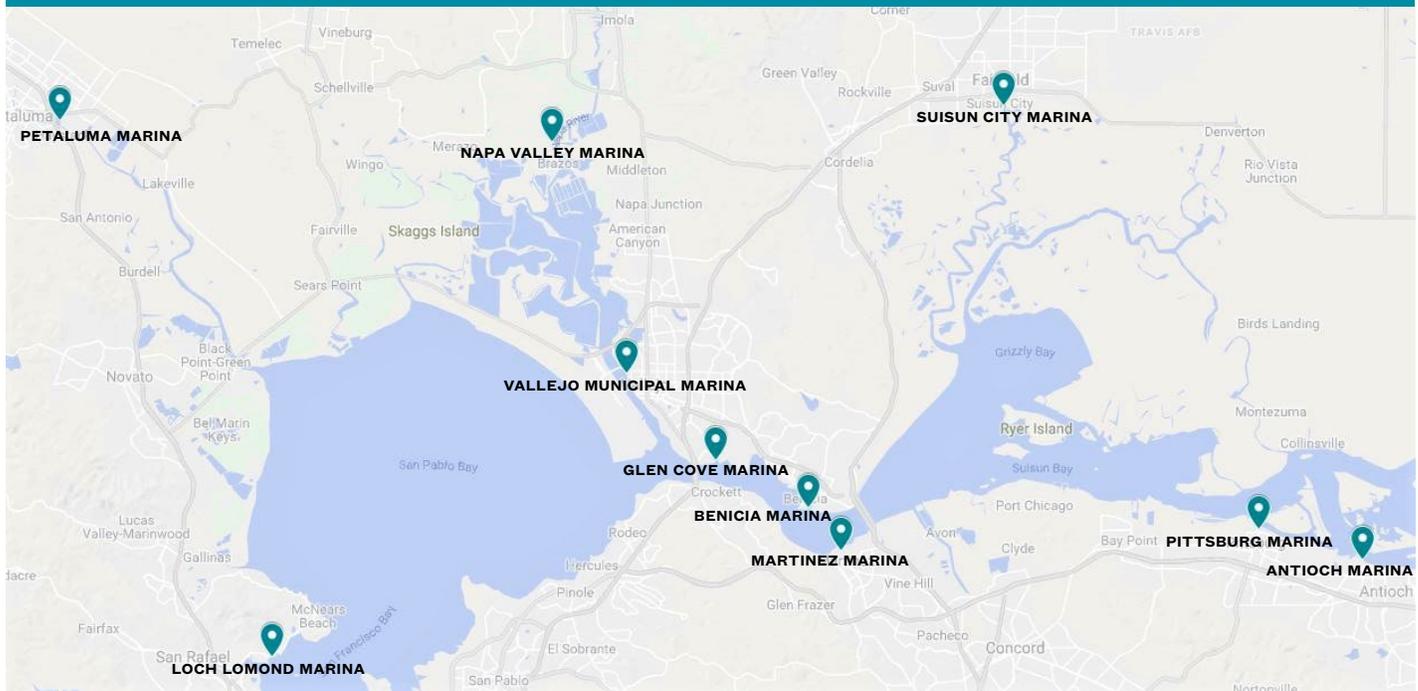
Photo by Liz Juvera

SAN FRANCISCO BAY'S NORTHERN REGION HOUSES TEN MARINAS

SAN FRANCISCO — **NORTH BAY**

Antioch Marina
Benicia Marina
Glen Cove Marina
Loch Lomond Marina
Martinez Marina
Napa Valley Marina
Petaluma Marina
Pittsburg Marina
Suisun City Marina
Vallejo Municipal Marina

SAN FRANCISCO — NORTH BAY



FACILITY	2020 USABILITY SNAPSHOT (%)			PUMP TYPE
	SPRING	SUMMER	FALL	
Antioch Marina, Guest Dock	71	N/A*	N/A*	Vacuum
Benicia Marina	89	89	81	Peristaltic
Glen Cove Marina	N/A*	94	N/A*	Peristaltic
Loch Lomond Marina, Fuel Dock North	58	71	63	Peristaltic
Loch Lomond Marina, Fuel Dock South	58	67	63	Peristaltic
Martinez Marina	89	89	89	Peristaltic
Napa Valley Marina	N/A*	79	83	Diaphragm
Petaluma Marina	N/A*	86	86	Peristaltic
Pittsburg Marina, Fuel Dock North	93	88	88	Peristaltic
Pittsburg Marina, Fuel Dock South	89	83	87	Peristaltic
Pittsburg Marina, Guest Dock	93	78	33	Peristaltic
Suisun City Marina	67	78	68	Peristaltic
Vallejo Municipal Marina, Fuel Dock	80	78	N/A*	Peristaltic
Vallejo Municipal Marina, J Dock	86	86	N/A*	Peristaltic

* N/O signifies a unit that was Non-Operational. N/A signifies a unit that was Non-Accessible.

SAN FRANCISCO — NORTH BAY

→ MONITORING DETAILS

FACILITY	STATUS		
	SPRING	SUMMER	FALL
Antioch Marina, Guest Dock	Operational	Non-Accessible	Non-Accessible
Benicia Marina	Operational	Operational	Operational
Glen Cove Marina	Non-Accessible	Operational	Non-Accessible
Loch Lomond Marina, Fuel Dock North	Operational	Operational	Operational
Loch Lomond Marina, Fuel Dock South	Operational	Operational	Operational
Martinez Marina	Operational	Operational	Operational
Napa Valley Marina	Non-Accessible	Operational	Operational
Petaluma Marina	Non-Accessible	Operational	Operational
Pittsburg Marina, Fuel Dock North	Operational	Operational	Operational
Pittsburg Marina, Fuel Dock South	Operational	Operational	Operational
Pittsburg Marina, Guest Dock	Operational	Operational	Non-Operational
Suisun City Marina	Operational	Operational	Operational
Vallejo Municipal Marina, Fuel Dock	Operational	Operational	Non-Accessible
Vallejo Municipal Marina, J Dock	Operational	Operational	Non-Accessible



Photo by San Francisco Estuary Partnership

SAN FRANCISCO BAY – EAST BAY



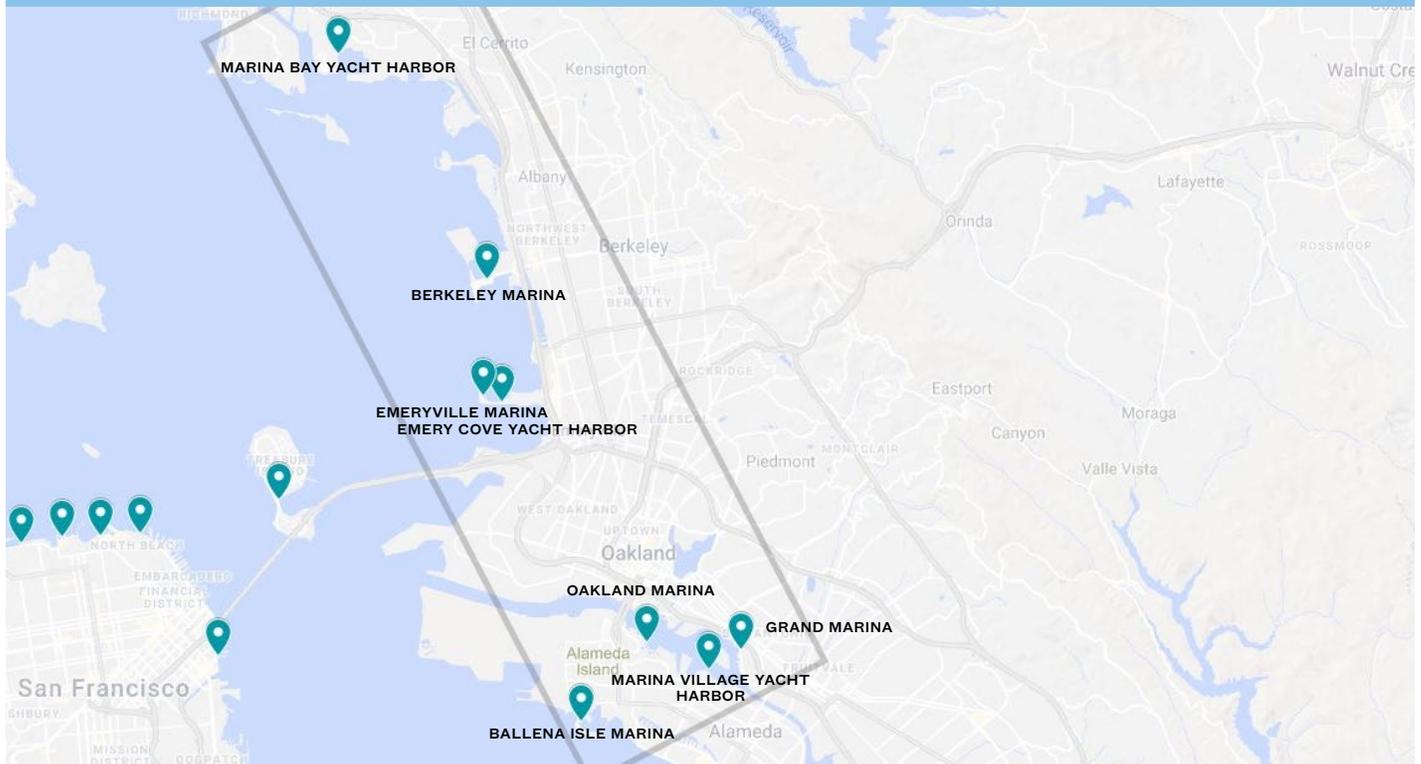
Photo by Liz Juvera

SAN FRANCISCO BAY'S EASTERN REGION HOUSES EIGHT MARINAS

SAN FRANCISCO — **EAST BAY**

Ballena Isle Marina
Berkeley Marina
Emery Cove Yacht Harbor
Emeryville Marina
Grand Marina
Marina Bay Yacht Harbor
Marina Village Yacht Harbor
Oakland Marina

SAN FRANCISCO — EAST BAY



FACILITY	2020 USABILITY SNAPSHOT (%)			PUMP TYPE
	SPRING	SUMMER	FALL	
Ballena Isle Marina	86	89	81	Peristaltic
Berkeley Marina, G Dock	84	86	86	Peristaltic
Berkeley Marina, I Dock	86	86	86	Peristaltic
Berkeley Marina, C Dock East	86	92	76	Peristaltic
Berkeley Marina, C Dock West	33	89	33	Peristaltic
Emery Cove Yacht Harbor, Dock A	33	33	33	Peristaltic
Emery Cove Yacht Harbor, Dock S	33	33	33	Peristaltic
Emeryville Marina	48	60	78	Peristaltic
Grand Marina	86	86	87	Peristaltic
Marina Bay Yacht Harbor, D Dock	N/A*	84	77	Peristaltic
Marina Bay Yacht Harbor, G Dock	N/A*	84	84	Peristaltic
Marina Village Yacht Harbor, Gate 8	89	89	86	Peristaltic
Marina Village Yacht Harbor, Gate 10	89	89	89	Peristaltic
Oakland Marina, Jack London Square	78	74	75	Unknown

* N/O signifies a unit that was Non-Operational. N/A signifies a unit that was Non-Accessible.

SAN FRANCISCO — EAST BAY

→ MONITORING DETAILS

FACILITY	STATUS		
	SPRING	SUMMER	FALL
Ballena Isle Marina	Operational	Operational	Operational
Berkeley Marina, G Dock	Operational	Operational	Operational
Berkeley Marina, I Dock	Operational	Operational	Operational
Berkeley Marina, C Dock East	Operational	Operational	Operational
Berkeley Marina, C Dock West	Non-Operational	Operational	Non-Operational
Emery Cove Yacht Harbor, Dock A	Non-Operational	Non-Operational	Non-Operational
Emery Cove Yacht Harbor, Dock S	Non-Operational	Non-Operational	Non-Operational
Emeryville Marina	Operational	Operational	Operational
Grand Marina	Operational	Operational	Operational
Marina Bay Yacht Harbor, D Dock	Non-Accessible	Operational	Operational
Marina Bay Yacht Harbor, G Dock	Non-Accessible	Operational	Operational
Marina Village Yacht Harbor, Gate 8	Operational	Operational	Operational
Marina Village Yacht Harbor, Gate 10	Operational	Operational	Operational
Oakland Marina, Jack London Square	Operational	Operational	Operational



Photo by Liz Juvera

SAN FRANCISCO BAY – WEST BAY



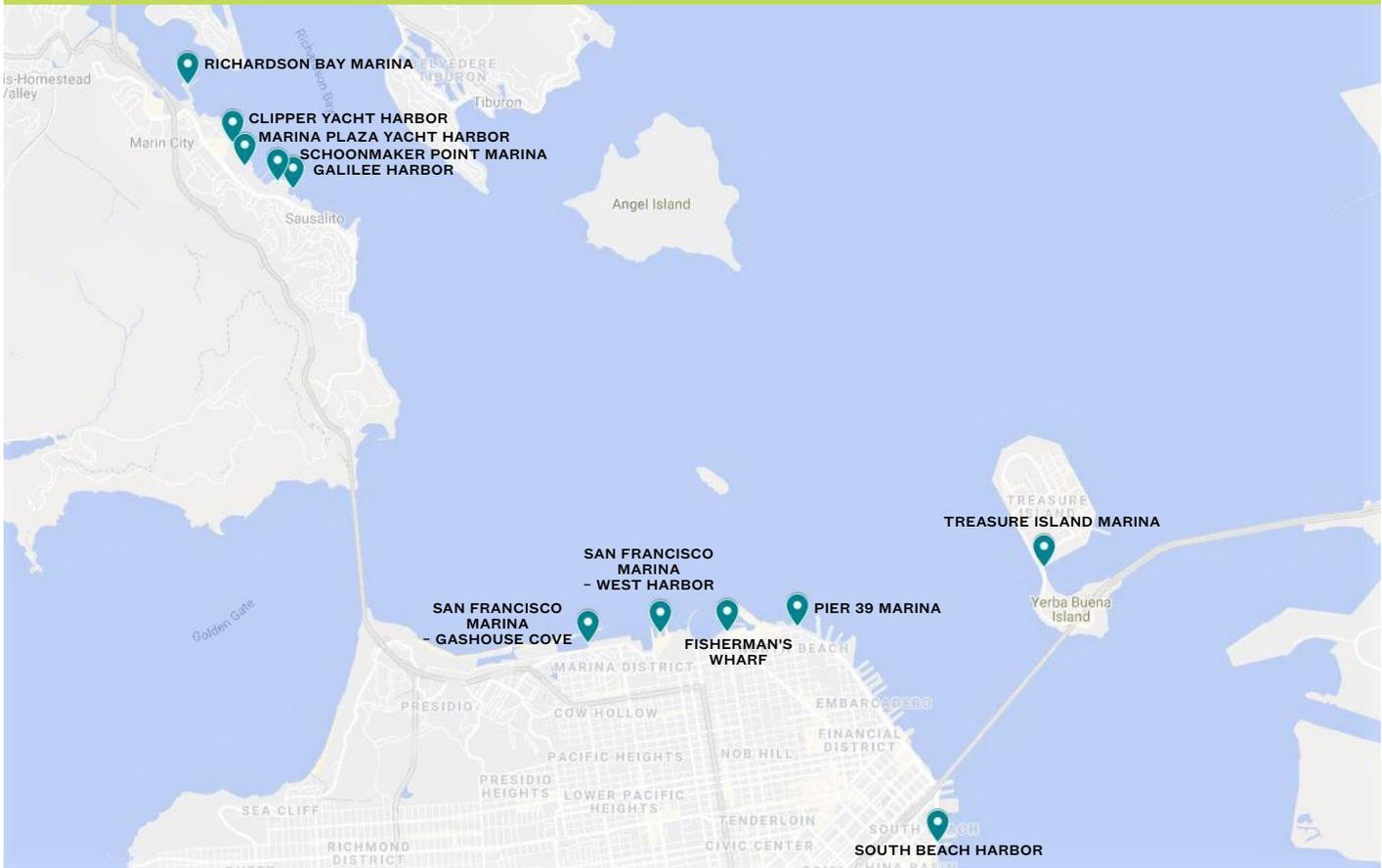
Photo by San Francisco Estuary Partnership

SAN FRANCISCO BAY'S WESTERN REGION HOUSES ELEVEN MARINAS

SAN FRANCISCO — **WEST BAY**

Clipper Yacht Harbor
Fisherman's Wharf
Galilee Harbor
Marina Plaza Harbor
Pier 39 Marina
Richardson Bay Marina
San Francisco Marina - Gashouse Cove
San Francisco Marina - West Harbor
Schoonmaker Point Marina
South Beach Yacht Harbor
Treasure Island Marina

SAN FRANCISCO — WEST BAY



FACILITY	2020 USABILITY SNAPSHOT (%)			PUMP TYPE
	SPRING	SUMMER	FALL	
Clipper Yacht Harbor	97	88	85	Peristaltic
Fisherman's Wharf	N/A*	0	0	Peristaltic
Galilee Harbor	N/A*	80	76	Diaphragm
Marina Plaza Harbor	22	11	6	Peristaltic
Pier 39 Marina	97	97	94	Peristaltic
Richardson Bay Marina	94	94	86	Peristaltic
San Francisco Marina - Gashouse Cove	78	71	69	Peristaltic
San Francisco Marina - West Harbor	89	N/A*	28	Peristaltic
Schoonmaker Point Marina	92	N/A*	89	Peristaltic
South Beach Yacht Harbor	92	87	89	Peristaltic
Treasure Island Marina	N/A*	N/A*	N/A*	Peristaltic

* N/O signifies a unit that was Non-Operational. N/A signifies a unit that was Non-Accessible.

SAN FRANCISCO — WEST BAY

→ MONITORING DETAILS

FACILITY	STATUS		
	SPRING	SUMMER	FALL
Clipper Yacht Harbor	Operational	Operational	Operational
Fisherman's Wharf	Non-Accessible	Non-Operational	Non-Operational
Galilee Harbor	Non-Accessible	Operational	Operational
Marina Plaza Harbor	Non-Operational	Non-Operational	Non-Operational
Pier 39 Marina	Operational	Operational	Operational
Richardson Bay Marina	Operational	Operational	Operational
San Francisco Marina - Gashouse Cove	Operational	Operational	Operational
San Francisco Marina - West Harbor	Operational	Non-Accessible	Non-Operational
Schoonmaker Point Marina	Operational	Non-Accessible	Operational
South Beach Yacht Harbor	Operational	Operational	Operational
Treasure Island Marina	Non-Accessible	Non-Accessible	Non-Accessible



Photo by San Francisco Estuary Partnership

SAN FRANCISCO BAY – SOUTH BAY



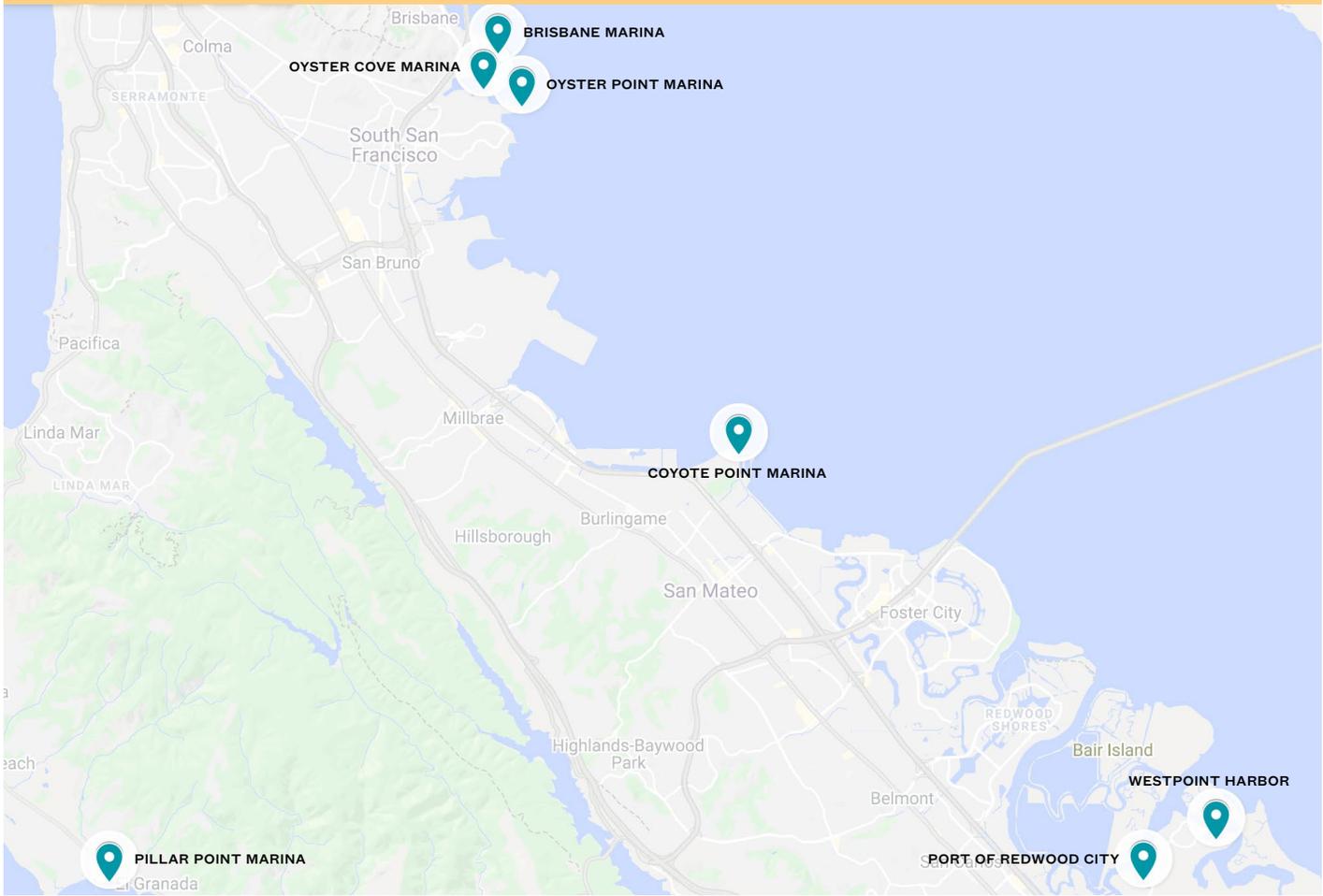
Photo by San Francisco Estuary Partnership

SAN FRANCISCO'S SOUTHERN REGION INCLUDES SEVEN MARINAS

SAN FRANCISCO — **SOUTH BAY**

Brisbane Marina
Coyote Point Marina
Oyster Cove Marina
Oyster Point Marina
Pillar Point Marina
Port of Redwood City
West Point Harbor

SAN FRANCISCO — SOUTH BAY



FACILITY	2020 USABILITY SNAPSHOT (%)			PUMP TYPE
	SPRING	SUMMER	FALL	
Brisbane Marina	97	97	89	Peristaltic
Coyote Point Marina	28	N/A*	89	Peristaltic
Oyster Cove Marina	89	N/A*	89	Peristaltic
Oyster Point Marina	74	65	62	Vacuum
Pillar Point Marina	87	53	53	Peristaltic
Port of Redwood City	97	97	94	Peristaltic
West Point Harbor	82	87	80	Peristaltic

* N/O signifies a unit that was Non-Operational. N/A signifies a unit that was Non-Accessible.

SAN FRANCISCO — SOUTH BAY



Photo by San Francisco Estuary Partnership

→ MONITORING DETAILS

FACILITY	STATUS		
	SPRING	SUMMER	FALL
Brisbane Marina	Operational	Operational	Operational
Coyote Point Marina	Non-Operational	Non-Accessible	Operational
Oyster Cove Marina	Operational	Non-Accessible	Operational
Oyster Point Marina	Operational	Operational	Operational
Pillar Point Marina	Operational	Non-Operational	Operational
Port of Redwood City	Operational	Operational	Operational
West Point Harbor	Operational	Operational	Operational

SACRAMENTO-SAN JOAQUIN RIVER DELTA – NORTH DELTA



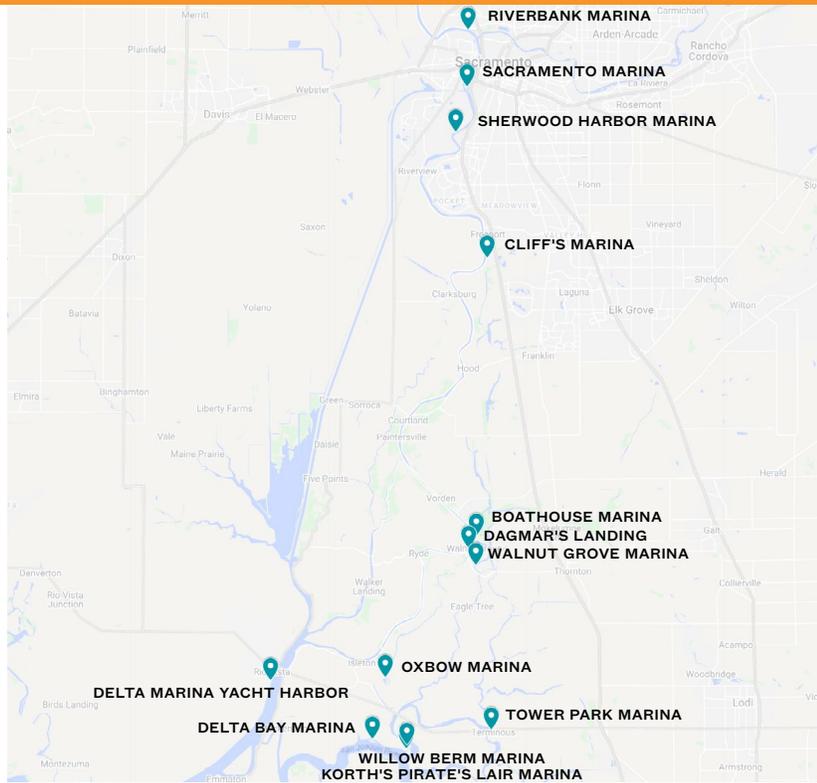
Photo by Natasha Dunn

THE SACRAMENTO-SAN JOAQUIN RIVER DELTA NORTH REGION HOUSES THIRTEEN MARINAS

SACRAMENTO & SAN JOAQUIN RIVER DELTA — **NORTH DELTA**

- Boathouse Marina
- Cliff's Marina
- Dagmar's Landing
- Delta Marina Yacht Harbor
- Korth's Pirate's Lair Marina
- Oxbow Marina
- Riverbank Marina
- Sacramento Delta Bay Marina
- Sacramento Marina
- Sherwood Harbor Marina
- Tower Park Marina
- Walnut Grove Marina
- Willow Berm Marina

SACRAMENTO-SAN JOAQUIN RIVER DELTA — NORTH DELTA



FACILITY	2020 USABILITY SNAPSHOT (%)			PUMP TYPE
	SPRING	SUMMER	FALL	
Boathouse Marina	N/A*	33	28	Diaphragm
Cliff's Marina	90	75	71	Diaphragm
Dagmar's Landing	N/A*	N/A*	N/A*	Diaphragm
Delta Bay Marina	63	65	70	Peristaltic
Delta Marina Yacht Harbor	89	33	83	Peristaltic
Korth's Pirate's Lair Marina	72	83	86	Peristaltic
Oxbow Marina	90	75	94	Peristaltic
Riverbank Marina	91	88	87	Peristaltic
Sacramento Marina	N/A*	N/A*	N/A*	Peristaltic
Sherwood Harbor Marina	94	97	93	Peristaltic
Tower Park Marina	85	90	90	Peristaltic
Walnut Grove Marina	73	94	N/A*	Unknown
Willow Berm Marina, Fuel Dock North	81	72	76	Vacuum
Willow Berm Marina, Fuel Dock South	82	79	85	Vacuum

* N/O signifies a unit that was Non-Operational. N/A signifies a unit that was Non-Accessible.

SACRAMENTO-SAN JOAQUIN RIVER DELTA — NORTH DELTA



Photo by Natasha Dunn

→ MONITORING DETAILS

FACILITY	STATUS		
	SPRING	SUMMER	FALL
Boathouse Marina	Non-Accessible	Non-Operational	Non-Operational
Cliff's Marina	Operational	Operational	Operational
Dagmar's Landing	Non-Accessible	Non-Accessible	Non-Accessible
Delta Bay Marina	Operational	Operational	Operational
Delta Marina Yacht Harbor	Operational	Non-Operational	Operational
Korth's Pirate's Lair Marina	Operational	Operational	Operational
Oxbow Marina	Operational	Operational	Operational
Riverbank Marina	Operational	Operational	Operational
Sacramento Marina	Non-Accessible	Non-Accessible	Non-Accessible
Sherwood Harbor Marina	Operational	Operational	Operational
Tower Park Marina	Operational	Operational	Operational
Walnut Grove Marina	Operational	Operational	Non-Accessible
Willow Berm Marina, Fuel Dock North	Operational	Operational	Operational
Willow Berm Marina, Fuel Dock South	Operational	Operational	Operational

SACRAMENTO-SAN JOAQUIN RIVER DELTA – SOUTH DELTA



Photo by Natasha Dunn

THE SACRAMENTO-SAN JOAQUIN RIVER DELTA SOUTH REGION HOUSES THIRTEEN MARINAS

SACRAMENTO-SAN JOAQUIN RIVER DELTA — **SOUTH DELTA**

Bethel Harbor
Discovery Bay Yacht Harbor
Driftwood Marina
Eddo's Harbor
King Island Resort
Lauritzen Yacht Harbor
Paradise Point Marina
River Point Landing
Stockton Downtown Marina
Stockton Yacht Club
Sugar Barge Resort
Tiki Lagoon Resort
Village West Marina
Village West Marina

SACRAMENTO-SAN JOAQUIN RIVER DELTA — SOUTH DELTA



FACILITY	2020 USABILITY SNAPSHOT (%)			PUMP TYPE
	SPRING	SUMMER	FALL	
Bethel Harbor, Service Dock East	91	82	90	Peristaltic
Bethel Harbor, Service Dock West	93	84	91	Peristaltic
Discovery Bay Yacht Harbor	87	67	84	Diaphragm
Driftwood Marina	68	72	77	Peristaltic
Eddo's Harbor	22	25	22	Diaphragm
King Island Resort	N/A*	N/A*	N/A*	Peristaltic
Lauritzen Yacht Harbor, Fuel Dock East	93	88	97	Peristaltic
Lauritzen Yacht Harbor, Fuel Dock West	93	87	88	Peristaltic
Paradise Point Marina, Far Left Unit	N/A*	N/A*	N/A*	Diaphragm
Paradise Point Marina, Middle Left Unit	N/A*	N/A*	N/A*	Diaphragm
Paradise Point Marina, Middle Right Unit	N/A*	N/A*	N/A*	Diaphragm
Paradise Point Marina, Far Right Unit	N/A*	N/A*	N/A*	Diaphragm
River Point Landing	83	73	33	Vacuum
Stockton Downtown Marina	87	90	93	Peristaltic
Stockton Yacht Club	79	84	92	Peristaltic
Sugar Barge Resort	87	N/A*	84	Diaphragm
Tiki Lagoon Resort	65	62	62	Vacuum
Village West Marina	90	87	94	Peristaltic

* N/O signifies a unit that was Non-Operational. N/A signifies a unit that was Non-Accessible.

SACRAMENTO-SAN JOAQUIN RIVER DELTA — SOUTH DELTA



Photo by Natasha Dunn

→ MONITORING DETAILS

FACILITY	STATUS		
	SPRING	SUMMER	FALL
Bethel Harbor, Service Dock East	Operational	Operational	Operational
Bethel Harbor, Service Dock West	Operational	Operational	Operational
Discovery Bay Yacht Harbor	Operational	Operational	Operational
Driftwood Marina	Operational	Operational	Operational
Eddo's Harbor	Non-Operational	Operational	Non-Operational
Holland Riverside Marina	Non-Operational	Non-Operational	Non-Operational
King Island Resort	Non-Accessible	Non-Accessible	Non-Accessible
Lauritzen Yacht Harbor, Fuel Dock East	Operational	Operational	Operational
Lauritzen Yacht Harbor, Fuel Dock West	Operational	Operational	Operational
Paradise Point Marina, Far Left Unit	Non-Accessible	Non-Accessible	Non-Accessible
Paradise Point Marina, Middle Left Unit	Non-Accessible	Non-Accessible	Non-Accessible
Paradise Point Marina, Middle Right Unit	Non-Accessible	Non-Accessible	Non-Accessible
Paradise Point Marina, Far Right Unit	Non-Accessible	Non-Accessible	Non-Accessible
River Point Landing	Operational	Operational	Non-Operational
Stockton Downtown Marina	Operational	Operational	Operational
Stockton Yacht Club	Operational	Operational	Operational
Sugar Barge Resort	Operational	Non-Accessible	Operational
Tiki Lagoon Resort	Operational	Operational	Operational
Village West Marina	Operational	Operational	Operational

MONTEREY BAY – MONTEREY PENINSULA AND SANTA CRUZ



Photo by Liz Juvera

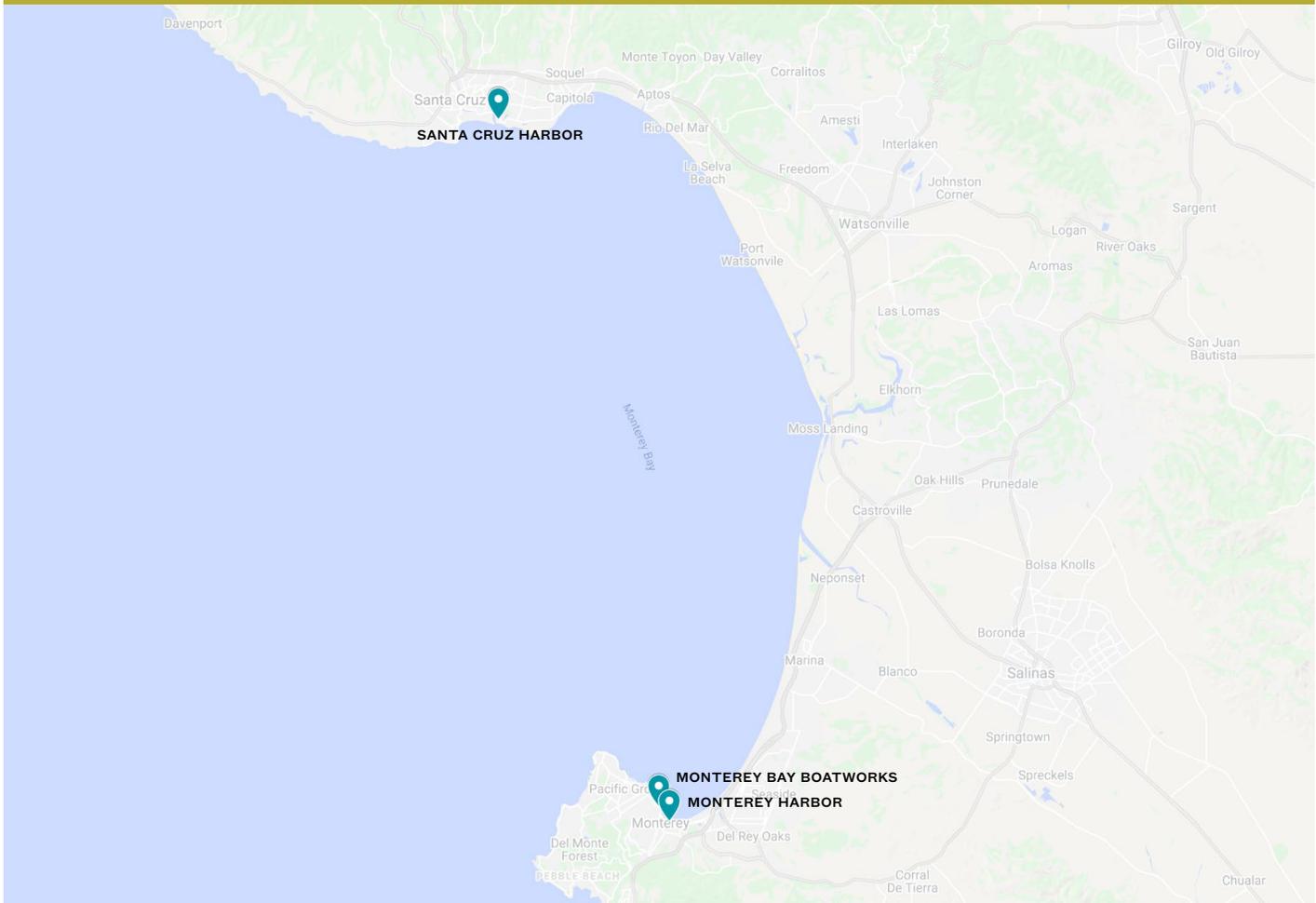
THE MONTEREY BAY REGION HOUSES THREE MARINAS

MONTEREY BAY —

MONTEREY PENINSULA AND SANTA CRUZ HARBOR

Monterey Bay Boatworks
Monterey Harbor
Santa Cruz Harbor

MONTEREY BAY — MONTEREY PENINSULA AND SANTA CRUZ



FACILITY	2020 USABILITY SNAPSHOT (%)			PUMP TYPE
	SPRING	SUMMER	FALL	
Monterey Bay Boatworks	N/A*	94	97	Peristaltic
Monterey Harbor	N/A*	92	97	Peristaltic
Santa Cruz Harbor	N/A*	89	92	Peristaltic

* N/O signifies a unit that was Non-Operational. N/A signifies a unit that was Non-Accessible.

MONTEREY BAY — MONTEREY PENINSULA AND SANTA CRUZ



Photo by Liz Juvera

→ MONITORING DETAILS

FACILITY	STATUS		
	SPRING	SUMMER	FALL
Monterey Bay Boatworks	Non-Accessible	Operational	Operational
Monterey Harbor	Non-Accessible	Operational	Operational
Santa Cruz Harbor	Non-Accessible	Operational	Operational

CALIFORNIA STATE PARKS DIVISION OF BOATING AND WATERWAYS

www.dbw.ca.gov

SAN FRANCISCO ESTUARY PARTNERSHIP

www.sfestuary.org/boating

THE BAY FOUNDATION

www.santamonicabay.org

THE BAY FOUNDATION CLEAN BOATING MATERIALS

www.santamonicabay.org/explore/our-communities/clean-boating/

PUMPOUT NAV APP

iOS

<https://itunes.apple.com/us/app/pumpout-nav-marina-pumpout-finder/id1148752109?mt=8>

Android

<https://play.google.com/store/apps/details?id=com.ecom.cleanvessel&hl=en>

MOBILE PUMPOUT COMPANIES

https://dbw.parks.ca.gov/?page_id=30405