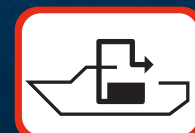
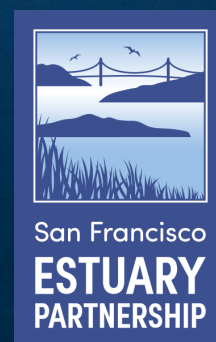


CALIFORNIA CLEAN VESSEL ACT PUMPOUT AND DUMP STATION PERFORMANCE REPORT 2021



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TABLE OF CONTENTS

INTRODUCTION..... 3

Purpose 3

Key Partners..... 3

Pump Types 4

Pumpout System Types 5

Dump Station Systems Types..... 6

Maintenance Recommendations 7

Why Monitor? 9

Monitoring Range & Frequency 9

Monitoring Parameters 10

Pumpout Nav App..... 11

Methodology 12

Region Details..... 13

SOUTHERN CALIFORNIA..... 14

SAN LUIS OBISPO COUNTY 15

Morro Bay Harbor 16

SANTA BARBARA COUNTY 17

Santa Barbara Harbor 18

VENTURA COUNTY..... 19

Ventura Harbor 20

Channel Islands Harbor 21

LOS ANGELES COUNTY 22

Marina del Rey Harbor 23

King Harbor..... 24

Port of Los Angeles 25

Port of Long Beach/Shoreline 26

Port of Long Beach/Los Alamitos 27

ORANGE COUNTY 28

Huntington Harbour 29

Newport Harbor..... 30

Dana Point Harbor 31

SAN DIEGO COUNTY 32

Oceanside Harbor..... 33

Mission Bay 34

San Diego Bay/Shelter and Harbor Islands 35

San Diego Bay/Glorietta Bay & South San Diego 36

SOUTHERN CALIFORNIA 2021 DUMP STATION OPERATIONAL STATUS..... 37

NORTHERN CALIFORNIA..... 38

SAN FRANCISCO North Bay 39

SAN FRANCISCO East Bay..... 41

SAN FRANCISCO West Bay..... 43

SAN FRANCISCO South Bay 45

SACRAMENTO/SAN JOAQUIN RIVER DELTA North..... 47

SACRAMENTO/SAN JOAQUIN RIVER DELTA South 49

MONTEREY BAY Peninsula and Santa Cruz Harbor 51

NORTHERN CALIFORNIA 2021 DUMP STATION OPERATIONAL STATUS..... 53

RESOURCES 54

Front cover Image: Santa Barbara Harbor
 Photo by Earl Wilcox

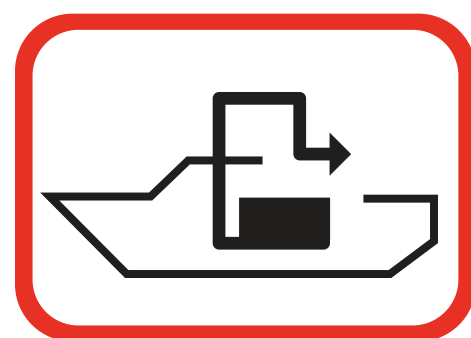
Back cover Image: Pat Douglass

Design by Yuju Yeo, All My Sisters



PURPOSE

This California Clean Vessel Act Pumpout and Dump Station Performance Report highlights findings on the condition and operational status of pumpout and dump stations during 2021. 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.



Pumpout unit logo



Dump station unit logo

KEY PARTNERS

NORTHERN CALIFORNIA



San Francisco Estuary Partnership (SFEP), a National Estuary Program, has monitored 82 pumpout stations throughout the San Francisco Bay, Sacramento-San Joaquin River Delta, and Monterey Bay regions since 2008. www.sfestuary.org/boating / (415) 778-6687

SOUTHERN CALIFORNIA



The Bay Foundation (TBF), a 501(c)3 non-profit organization has monitored 72 pumpout stations from Santa Barbara to San Diego County since 2008. Morro Bay National Estuary Program (MBNEP) has monitored pumpout units in San Luis Obispo County since 2019. www.santamonicabay.org / (888) 301-2527

The Santa Monica Bay National Estuary Program (SMBNEP) is one of the United States Environmental Protection Agency's 28 National Estuary Programs, dedicated to protecting and restoring water quality and the ecological integrity of estuaries of national significance. This report furthers the objectives and goals of the SMBNEP's Comprehensive Conservation and Management Plan. www.smbnep.org.



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. It is funded by the Sport Fish Restoration and Boating Trust Fund, and administered 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 P.O. Box 942896, Sacramento, CA 94296.

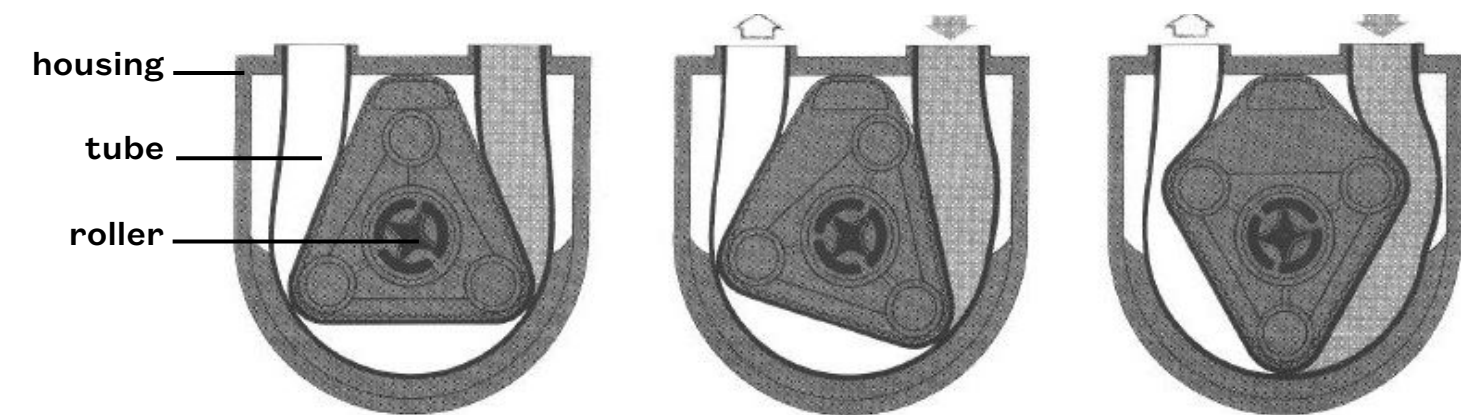


PUMP TYPES

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

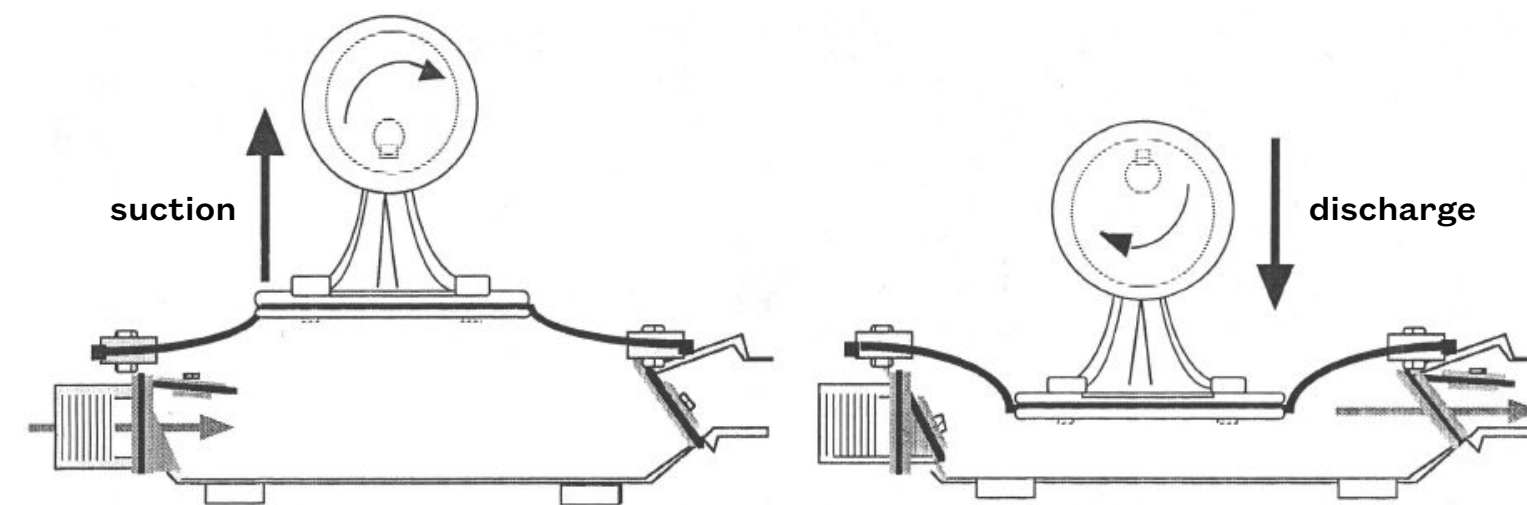
PERISTALTIC

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.



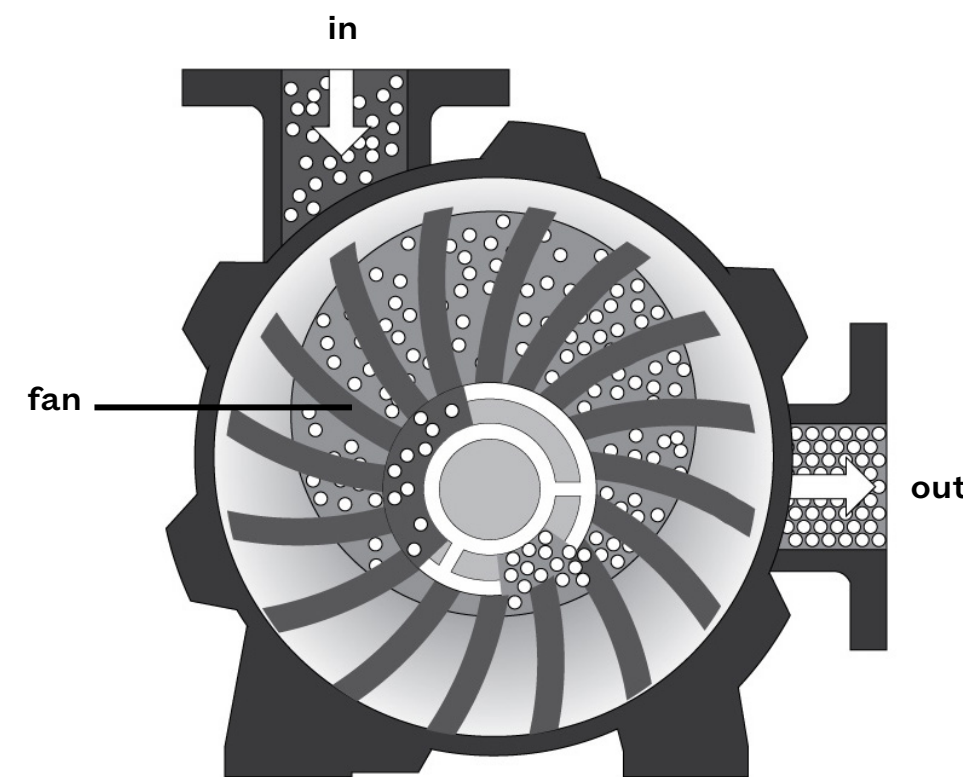
DIAPHRAGM

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. The fan forces contents forward, increasing pressure in front of, and decreasing pressure behind the fan, creating suction that allows contents to move through the lines.



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 of, and decreasing pressure behind the fan, creating suction that allows contents to move through the lines.



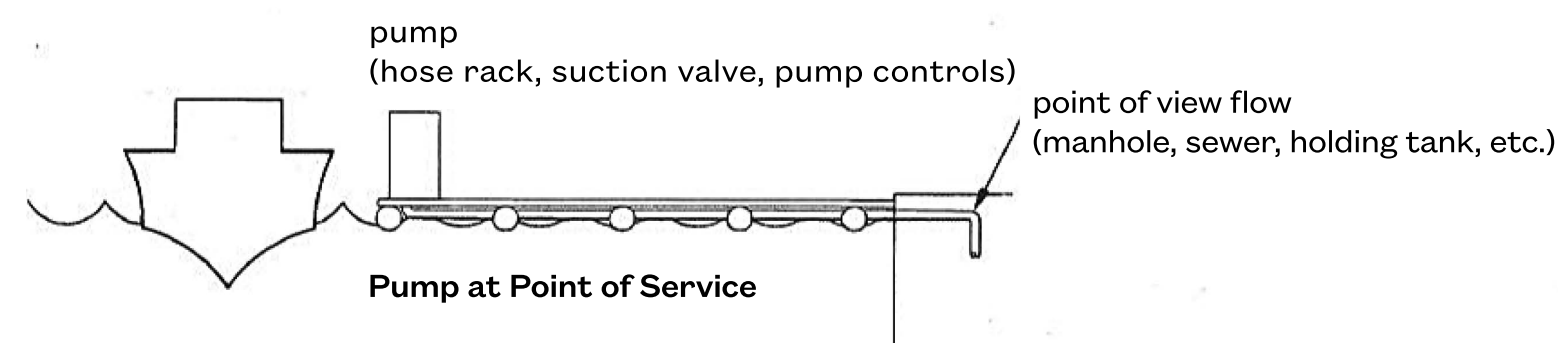
Peristaltic pump
Photo by TBF



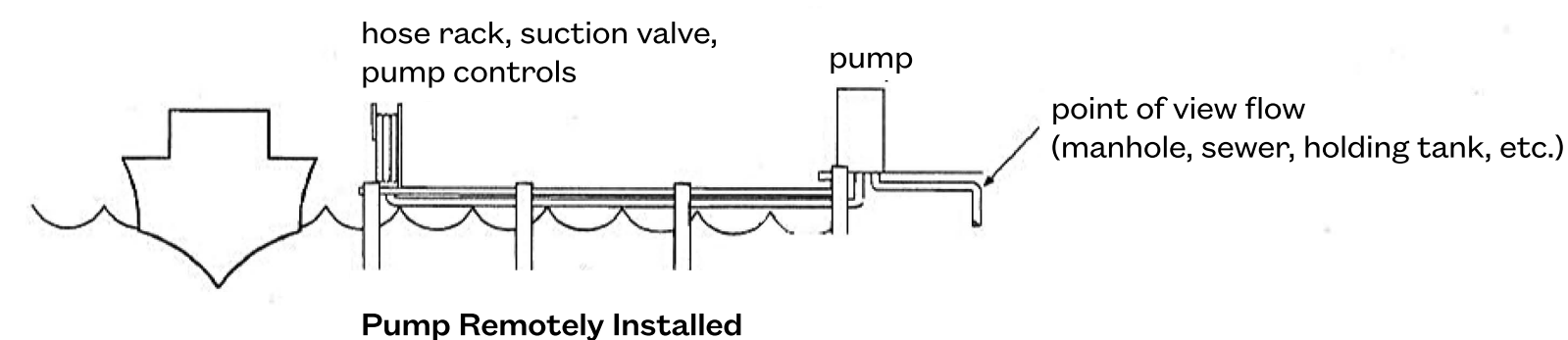
PUMPOUT SYSTEM TYPES

STATIONARY PUMPOUT

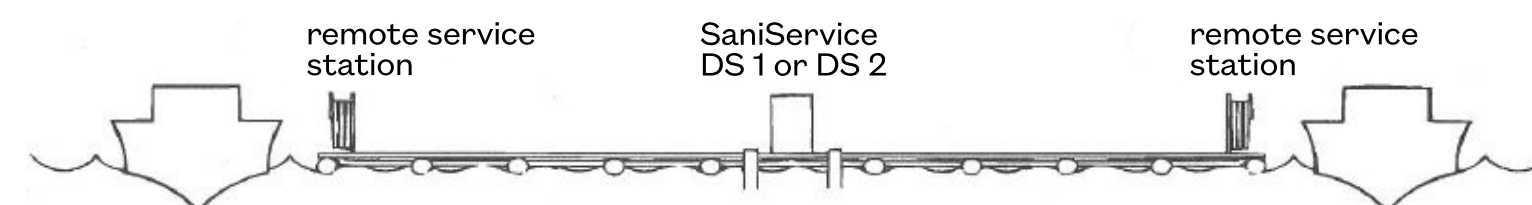
Pumpout systems are typically found as a stand-alone feature within a marina. They are located dockside where there is sufficient space for a boater to dock and not affect others around them. There are several configurations for these systems:



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 Westpoint Harbor
Photo by SFEP



In-slip pumpout tank at Oyster Cove Marina
Photo by SFEP

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, 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.

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 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 TBF

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.



DUMP STATION SYSTEM TYPES

GRAVITY-DRAINED DUMP STATION



Gravity-drained dump station in Santa Barbara Harbor
Photo by TBF

Some portable toilet dump stations are installed as stand-alone systems without a connection to a motor. These units are gravity-drained, also known as “gravity-fed”, and function through the force of gravity which pushes and drains sewage into an underground holding tank, which is often without sewer utility connections.

MOTORIZED DUMP STATION

Dump stations can also be connected to a motor. A connection to a motor allows for the disposal unit to move sewage to its final sewer/septic destination, away from the immediate vicinity. Depending on the unit and the way it is installed, motorized dump stations can connect to either onshore sewer lines, septic systems, or to storage tanks for the disposal of waste.



Dump station (right) installed at the point of service
Photo by TBF



Dump station installed remotely from point of service
Photo by TBF

Most motorized dump stations are directly connected to pumpout stations’ sewer lines, infrastructure, and motor, providing the mechanics to pump waste for its disposal. Motors directly connected to dump stations can be operated either through an ‘On’ and ‘Off’ button installed on the dump station unit or through the neighboring and connected pumpout stations’ ‘On’ and ‘Off’ buttons. Similar to pumpout units, dump stations powered by these shared motors can be installed either at the point of service or remotely, depending on the make and model.



Motorized dump station
Photo by TBF

There are several models of motorized dump stations that include electric parts in various degrees (such as on/off switches, ejector pumps, auto-risers, electric ball valves, and sensory systems, etc.), and they can be connected to and powered by the pumpout station’s motor in a range of ways.

VARIATIONS OF MOTORIZED DUMP STATION CONNECTION TO PUMPOUT INFRASTRUCTURE



A gravity-drained dump station manually connected to a pumpout unit’s infrastructure by attaching the pumpout unit’s hose to the dump station waste fitting
Photo by SFEP

Some dump stations are not directly connected to pumpout sewer lines or a motor but are still used in tandem with pumpout systems. To ensure contents are properly disposed of, these units must be manually connected to a pumpout station’s infrastructure. The dump station unit’s contents are pumped out using a pumpout station’s parts and power. For these units, a pumpout unit’s suction hose is connected to the dump station’s waste piping ball check valve to provide vacuum power and to pump out waste.

In some cases, a motorized dump station’s connection to a sewer line must be manually opened by utilizing a ball valve. This allows for pressure to enter the unit from the shared motor and for it to function remotely or at point of service.



Motorized dump station requiring the manual opening of its ball valve for drainage
Photo by TBF

PUMPOUT WAND ATTACHMENT

Although not technically a dump station, a pumpout wand functions to provide the same service that a dump station provides to boaters. Rather than installing a dump station, some marinas opt to retrofit their pre-existing pumpout units with a suction wand attachment. To do this, the pumpout unit’s nozzle is removed from the hose’s coupler and a suction wand is inserted in its place.



Pumpout wand attachment and supporting parts
Photo by KECO Pump & Equipment



Pumpout unit retrofitted with a port-a-potty wand attachment
Photo by TBF



MAINTENANCE RECOMMENDATIONS

PUMPOUT STATIONS

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 whether equipment is missing.



Good



Good



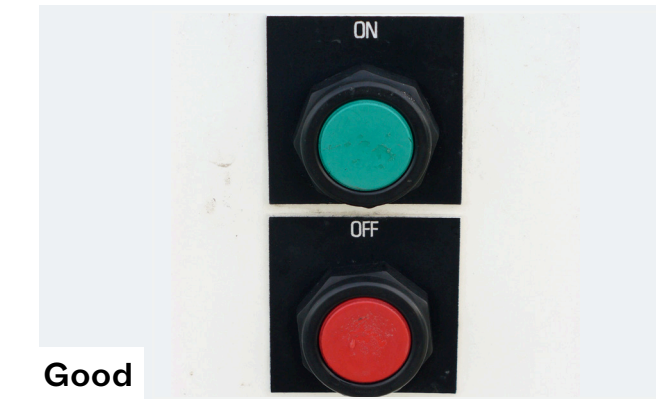
Good



Good



Good



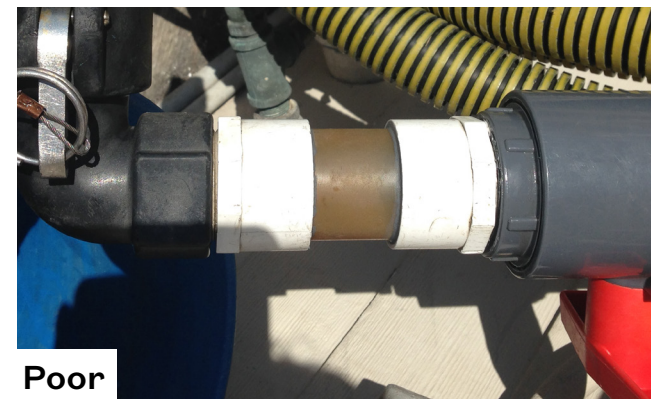
Good



Good



Poor



Poor



Poor



Poor



Poor



Poor



Poor

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. The number of repairs on one hose should be limited as performance will degrade over time.

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.

ON/OFF BUTTON

Make sure that on and off buttons are easy to find and labeled accordingly.

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.



MAINTENANCE RECOMMENDATIONS

DUMP STATIONS

Dump station maintenance is also key for ensuring consistent operation. These units are often connected to the same motor as a pumpout machine, so any issue seen with a dump station can be indicative of a larger problem. Marina operators should regularly inspect the hose connections and internal housing for wear and tear on the machine.



Good



Good



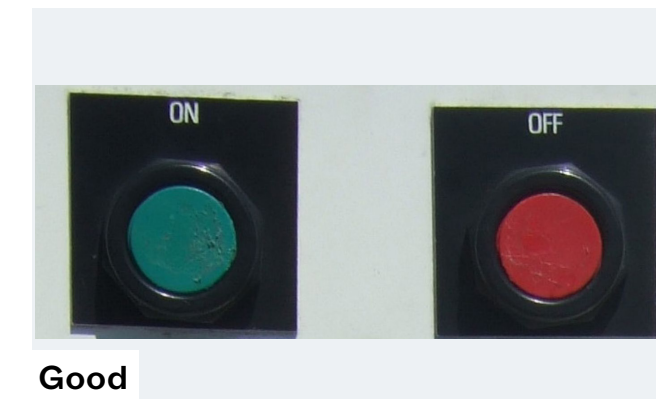
Good



Good



Good



Good



Good



Poor



Poor

HOUSING

The housing of the machinery should be intact, structurally sound, and clean. Make sure the encasing around the machine is not dented, punctured, or broken in a way that would damage the mechanisms inside. Also, ensure that there is no debris or garbage inside of the dump station.

LID

Make sure that the lid closes completely, can be secured, and is not broken or damaged. A lid that does not close could allow sewage be expelled out while the machine is running.

HINGES

Ensure that the hinges connecting the lid to the housing are not rusted, broken, or missing.

BALL VALVE

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

RINSE HOSE

Check that the rinse hose is available and can be used to clear out lingering sewage from the inside of the dump station after boaters are finished using it.

ON/OFF BUTTON

Make sure that on and off buttons are easy to find and labeled accordingly.

SIGNAGE

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

UNUSUAL NOISES

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



WHY MONITOR?

The goals of sewage pumpout station and dump station monitoring are to decrease sewage discharged into waterways by ensuring California's pumpout and dump station network is operational, well-maintained, accessible, and available to recreational boaters.

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

- ensure stationary pumpout and dump station equipment is operational at all times and provide sewage pollution prevention services to California recreational boaters.
- track the general condition and evaluate performance of pumpout stations.
- track the general condition of dump stations.
- update the Pumpout Nav app accordingly so units status is accurate.
- assist facilities that do not meet Division of Boating and Waterway's (DBW) grant requirements by offering a reliable source of technical assistance and resources.
- promote the installation and proper maintenance of pumpout and dump stations by informing facilities of DBW grant opportunities.
- maintain contact with recipients of DBW's grant funding for recreational boaters.
- provide additional sewage management resources to recreational boaters.

MONITORING RANGE & FREQUENCY

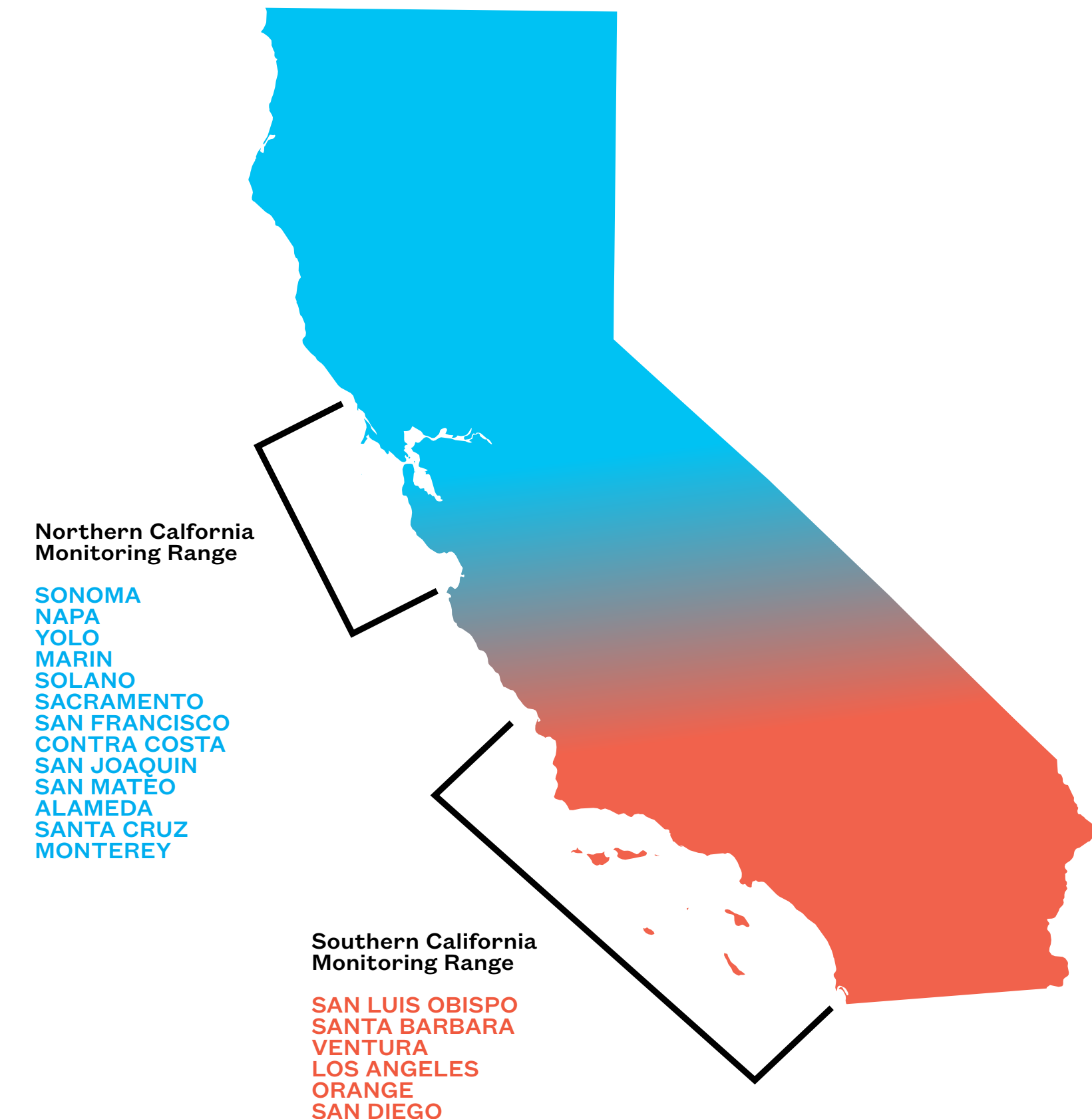
SOUTHERN CALIFORNIA

In 2021, The Bay Foundation and Morro Bay National Estuary Program monitored 72 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.





MONITORING PARAMETERS

The free Pumpout Nav app is used to standardize data collection, improve efficiency, and reduce error. 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 recent monitoring. The monitoring effort and follow-up allow staff to work collaboratively with facility managers to resolve any problems that may arise.

PUMPOUT STATIONS



Signage in Balboa Yacht Basin
Photo by Carrie Baldwin

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

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

Specific pumpout 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

Condition of parts are rated.

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



Hour counter
Photo by TBF

Each motor unit should be 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 number of hours that the motor runs. 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 MBNEP

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 TBF

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.

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.



Dye tablet dissolving in 5 gallon bucket of water
Photo by TBF

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 that Morro Bay National Estuary Program, San Francisco Estuary Partnership, The Bay Foundation, and California State Parks Division of Boating and Waterways keep in close contact with facility managers that operate both dump stations and pumpout stations. These organizations are available for questions, clarification on monitoring, and a reliable source for technical assistance.

DUMP STATIONS

Dump stations are monitored for many of the same parameters as pumpout stations, however due to the simplicity of these units, usability scores are not calculated.

The monitoring teams note the presence or absence of the following signage:

- Dump station symbol
- Funding credit
- Instructions for dump station operation
- Hours of operation
- Cost
- Contact number for problems
- On/off buttons

Specific dump station parts inspected (not rated) by the monitoring teams include:

- Housing
- Lid
- Hinges
- Ball valve
- Rinse hose
- On/off buttons

Other parameters recorded during site visits include: make and model of dump station, presence and motor type of each unit, the operability status of each unit, and any notable recent developments.

Documenting baseline information about dump stations, such as their motor type and operational status, helps to provide a reliable directory of region-specific dump stations to boaters with portable toilets.



PUMPOUT NAV APP

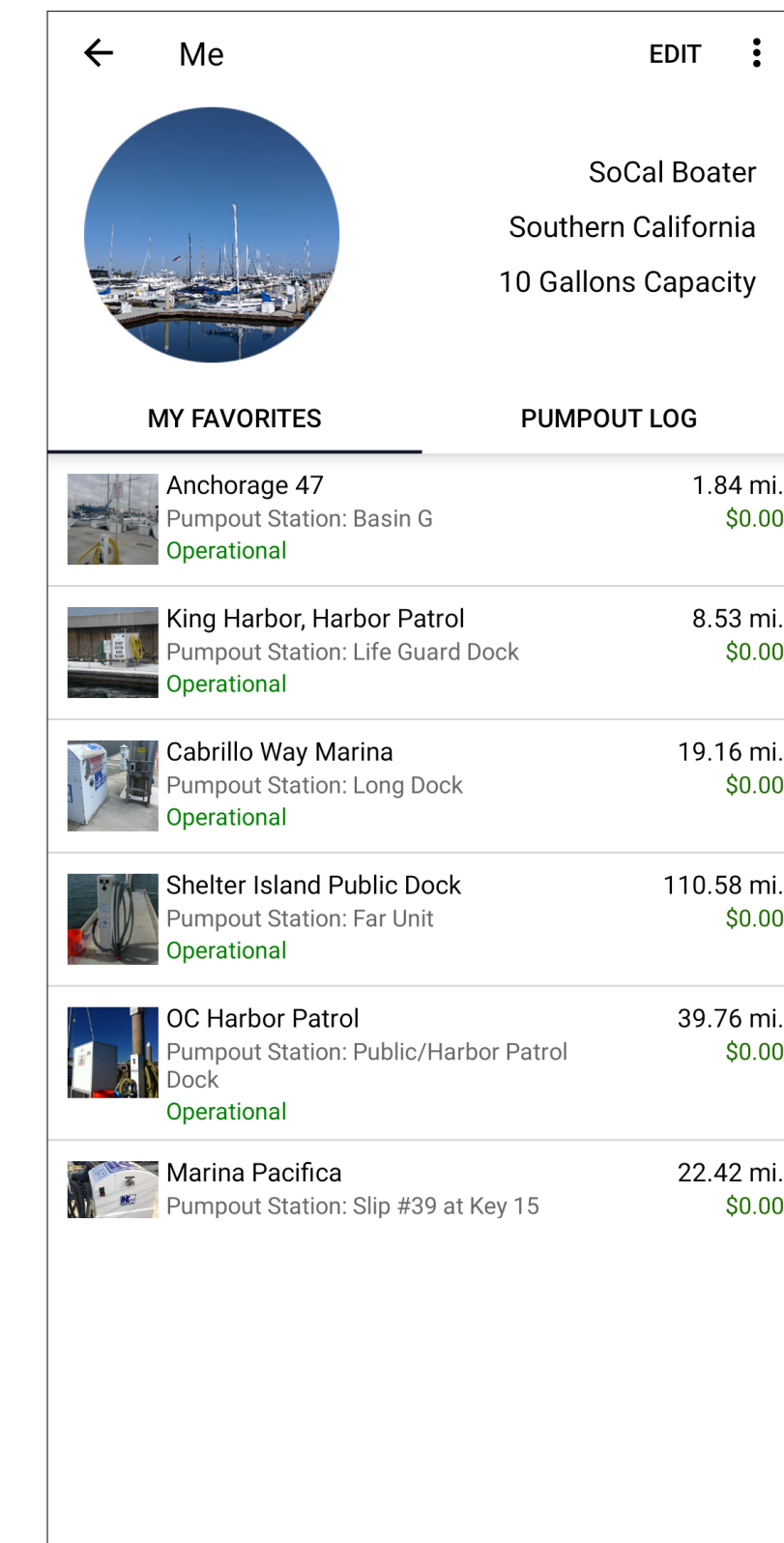
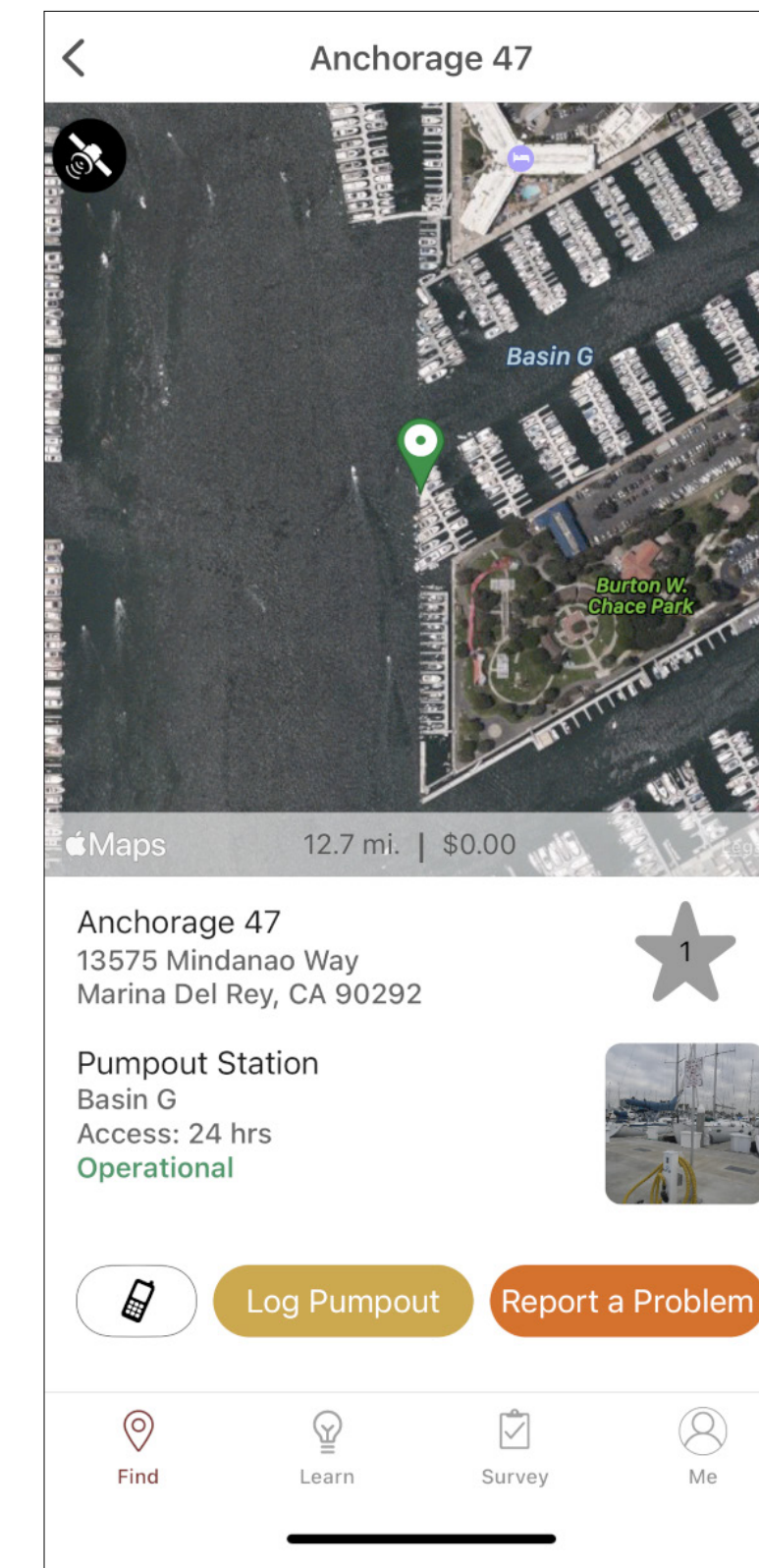
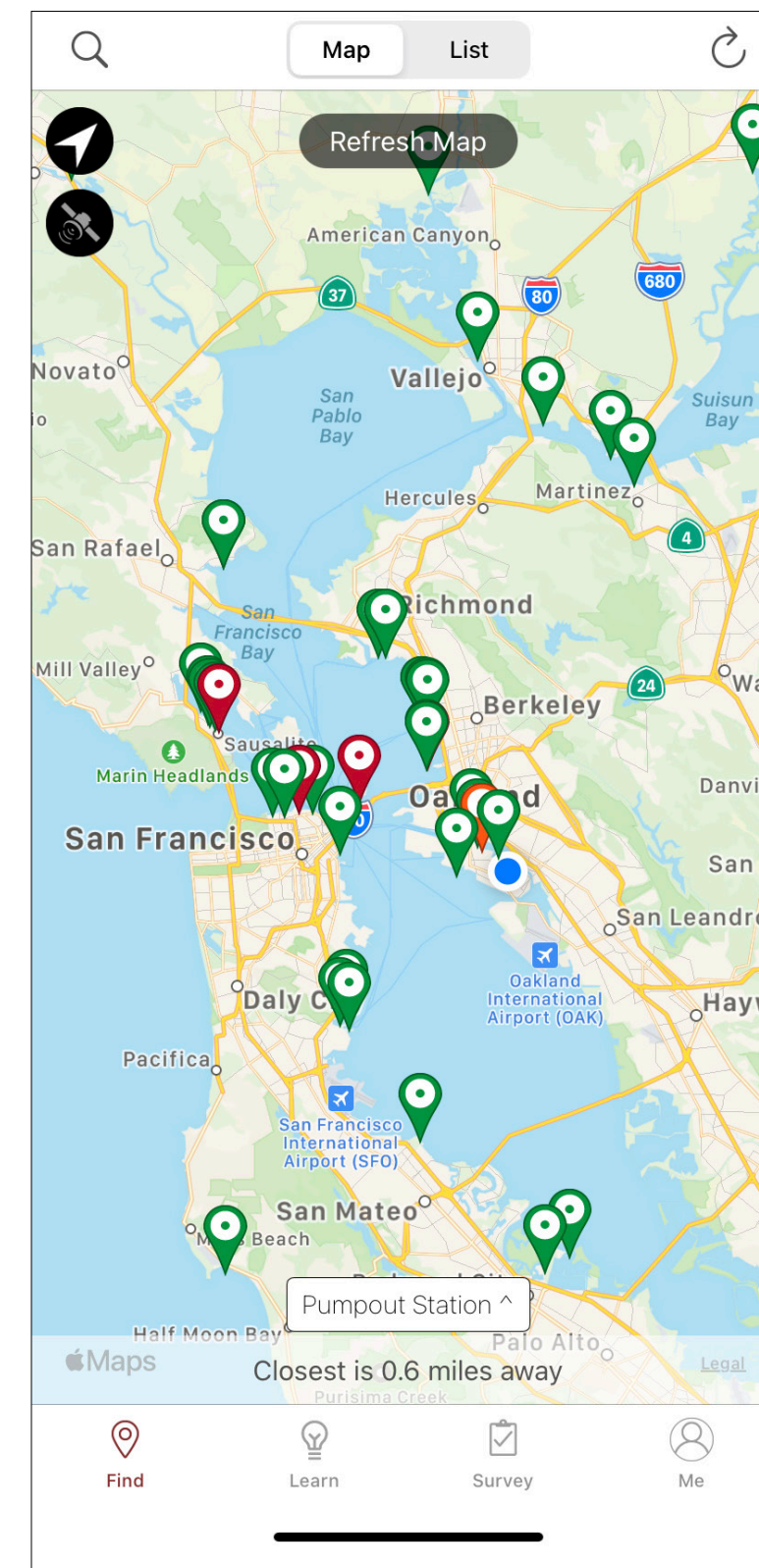
[Pumpout Nav](#), a free iOS and Android app, is designed for boater use on-the-go and aboard the vessel. It helps boaters find participating sewage pumpout stations, dump stations, and floating restrooms closest to their current location. Pumpout Nav automatically finds the boater's location and suggests 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. Pumpout Nav additionally includes participating units in the states of Washington and 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.



Pumpout Nav app logo



Pumpout Nav app user interface displaying closest pumpout units.



METHODOLOGY

PUMPOUT STATIONS

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 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.



MBNEP staff filling 5-gallon bucket in order to test vacuum time
Photo by MBNEP



REGION DETAILS

This report analyzes the data from the three monitoring efforts in 2021.

This report compiles information about pumpout stations from regions of Northern and Southern California and is separated by County, Harbor, Port, Bay, or Delta Region. Each section includes a corresponding map, and a "2021 Pumpout Usability Snapshot and Operational Status" table. 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 "2021 Pumpout Usability Snapshot and Operational Status" table includes facility information, pump types, triannual usability percentage snapshots (as calculated on pg. 12), and triannual unit-specific operational statuses.

Under the "Spring", "Summer", and "Fall" columns lie "Usability Snapshot (%)" and "Operational Status" subcolumns. In certain instances, under the "Usability Snapshot (%)" subcolumn, the "-" symbol is used to show that "Non-Accessible" units have no usability percentage. Under the "Operational Status" column 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 identified with 'Out of Order' signs or warning tape, and are recognized as 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).

In addition, each region in the report contains a corresponding dump station-specific page including a "2021 Dump Station Operational Status" table. The "2021 Dump Station Operational Status" table includes facility information, motor type, and triannual unit-specific operational statuses. Units are either labeled as "Non-Accessible" and "Non-Operational" under the season they were monitored in. Similarly to pumpout stations, an "Operational" status indicates that the unit was operational. A "Non-Operational" status indicates that the unit was not in operation.

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.



Port of Los Angeles, Angels Gate
Photo by John Hollenbeck

SOUTHERN CALIFORNIA



SAN LUIS OBISPO COUNTY

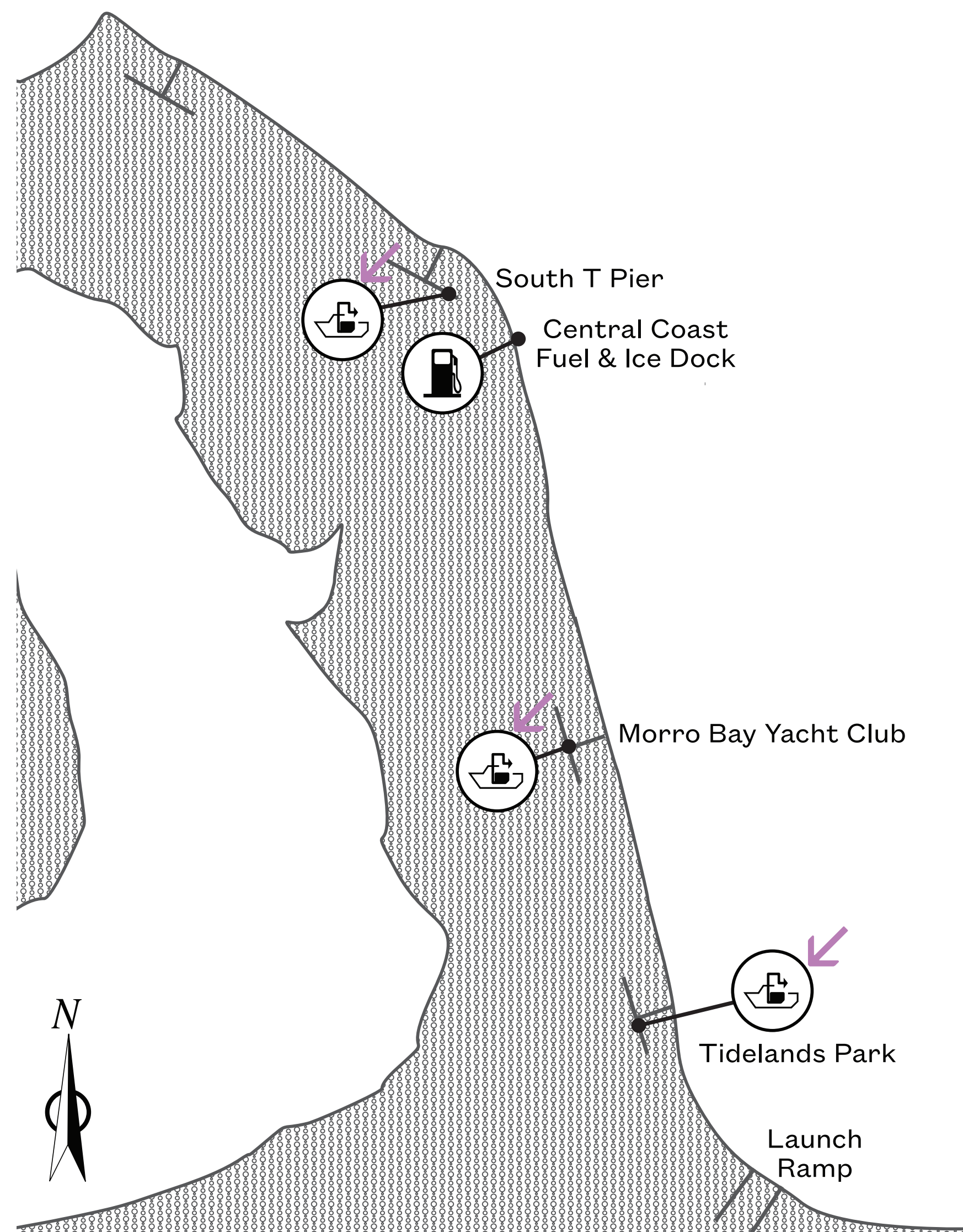
Morro Bay Harbor



A lovely sunset by the water's edge featuring Morro Bay moorings
Photo by TBF



SAN LUIS OBISPO — MORRO BAY HARBOR

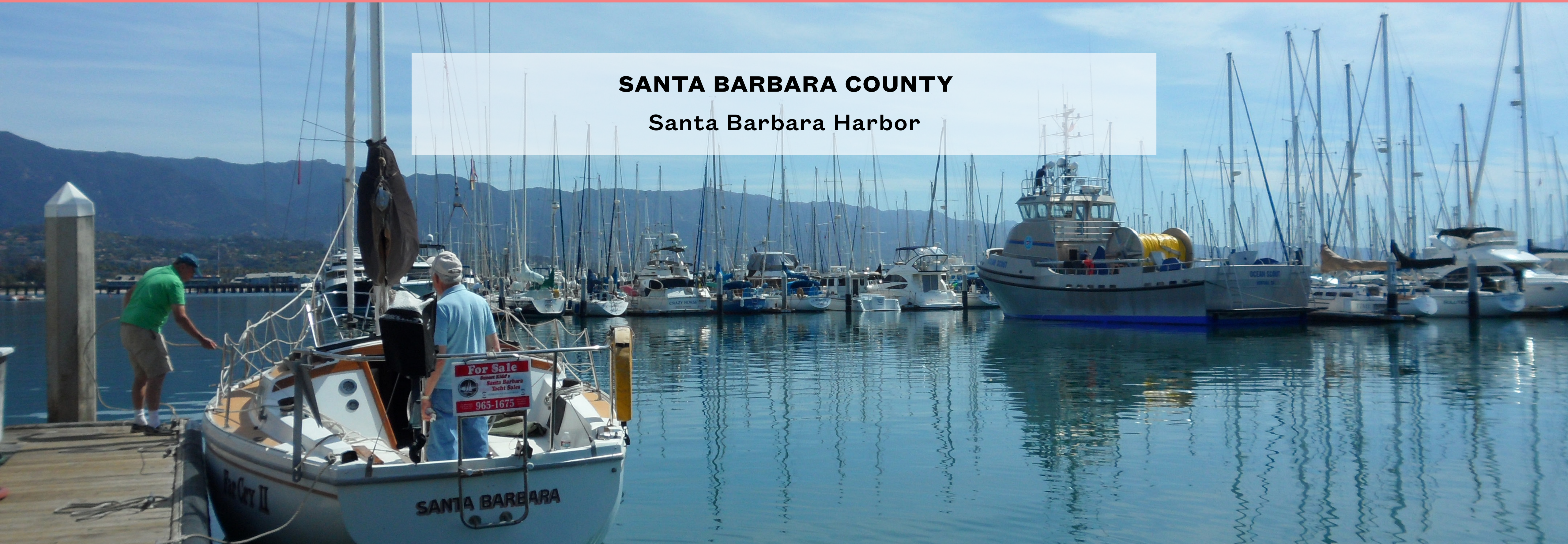


2021 PUMPOUT USABILITY SNAPSHOT AND OPERATIONAL STATUS

FACILITY	PUMP TYPE	SPRING		SUMMER		FALL	
		USABILITY SNAPSHOT (%)	OPERATIONAL STATUS	USABILITY SNAPSHOT (%)	OPERATIONAL STATUS	USABILITY SNAPSHOT (%)	OPERATIONAL STATUS
Morro Bay Yacht Club	Peristaltic	33	Non-Operational	87	Operational	72	Non-Operational
South T Pier	Diaphragm	51	Operational	-	Non-Accessible	42	Non-Operational
Tideland's Park	Peristaltic	60	Operational	81	Operational	73	Operational



Morro Bay beauty
Photo by TBF



SANTA BARBARA COUNTY

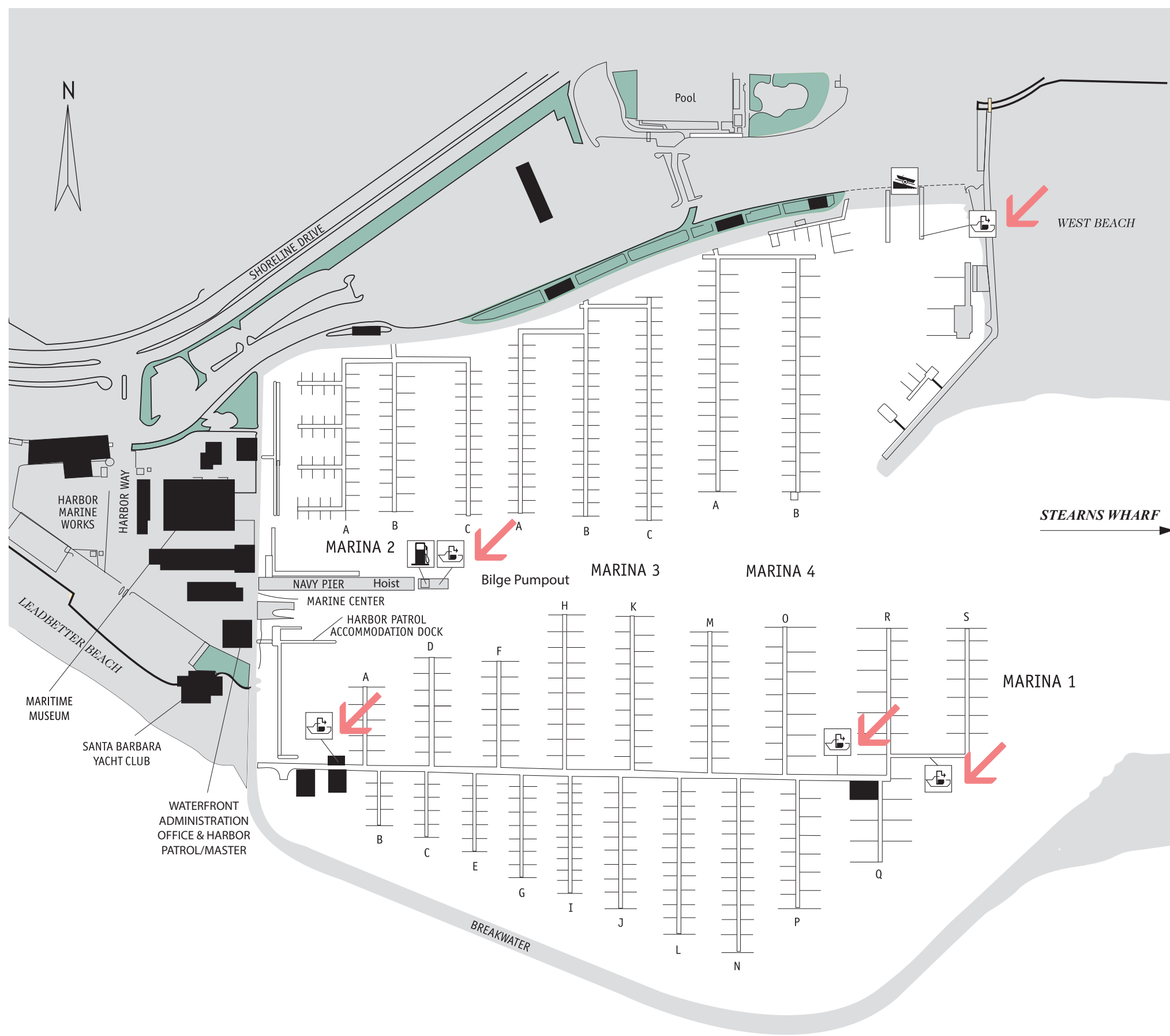
Santa Barbara Harbor

Santa Barbara Harbor features beautiful views from the docks
Photo by TBF

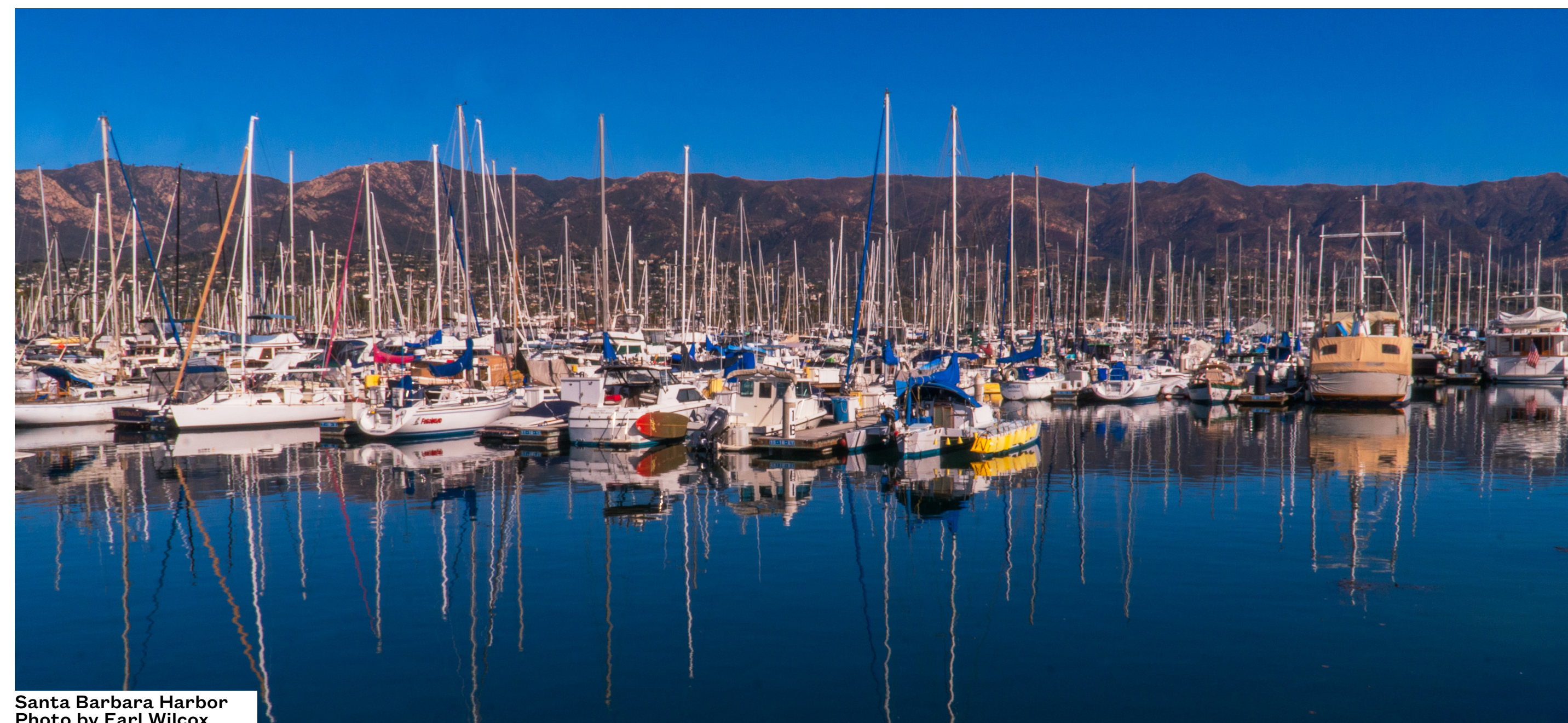


SANTA BARBARA — SANTA BARBARA HARBOR

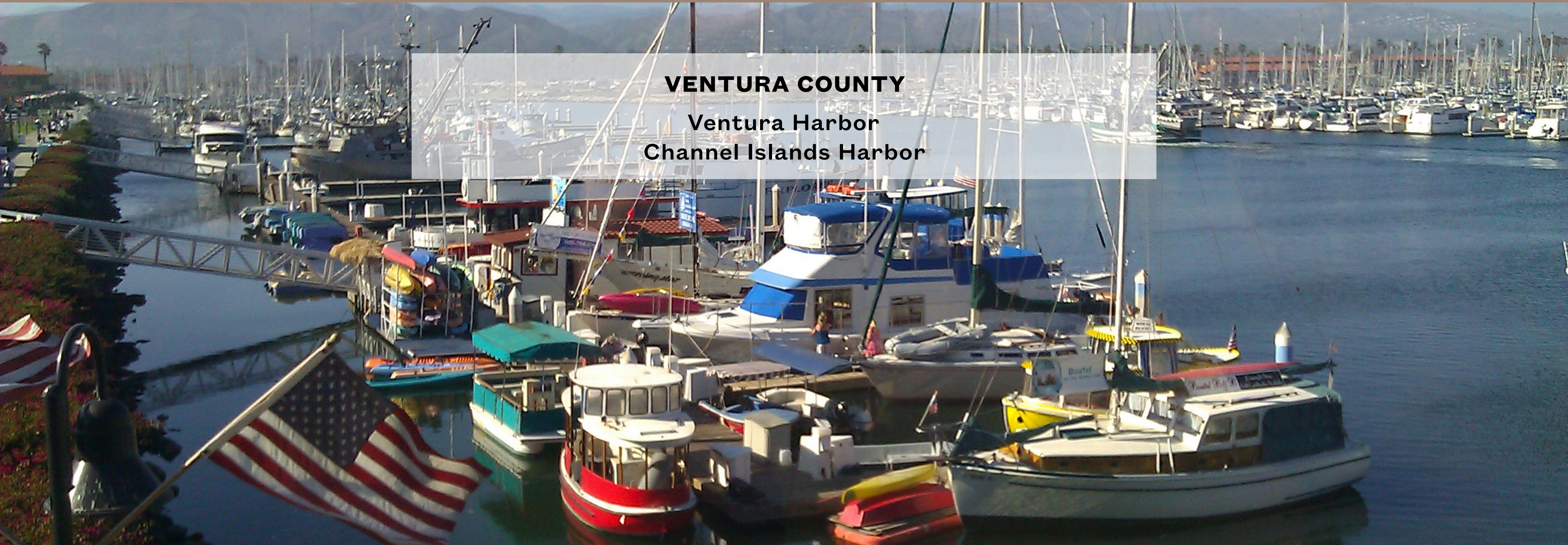
2021 PUMPOUT USABILITY SNAPSHOT AND OPERATIONAL STATUS



FACILITY	PUMP TYPE	SPRING		SUMMER		FALL	
		USABILITY SNAPSHOT (%)	OPERATIONAL STATUS	USABILITY SNAPSHOT (%)	OPERATIONAL STATUS	USABILITY SNAPSHOT (%)	OPERATIONAL STATUS
Boat Launch	Peristaltic	97	Operational	97	Operational	94	Operational
Fuel Dock	Peristaltic	83	Operational	73	Operational	90	Operational
Marina One, Far unit, RS finger	Peristaltic	77	Operational	80	Operational	71	Operational
Marina One, Mid unit, PQ finger	Peristaltic	88	Operational	90	Operational	88	Operational
Marina One, Near unit, west of A finger	Peristaltic	91	Operational	91	Operational	91	Operational



Santa Barbara Harbor
Photo by Earl Wilcox



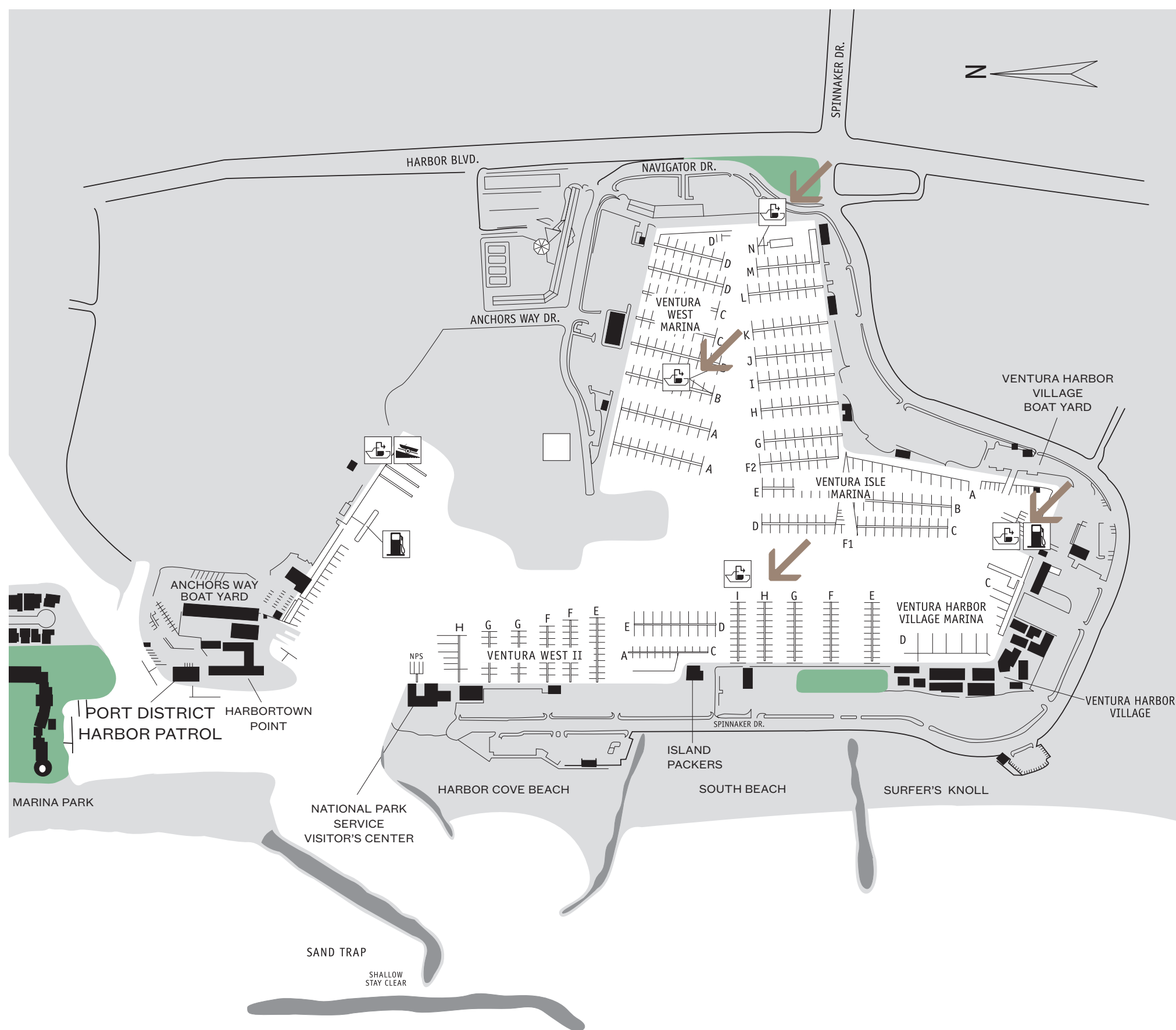
VENTURA COUNTY
Ventura Harbor
Channel Islands Harbor

Mountain and harbor view from Ventura Harbor
Photo by Michelle Staffield



VENTURA — VENTURA HARBOR

2021 PUMPOUT USABILITY SNAPSHOT AND OPERATIONAL STATUS



FACILITY	PUMP TYPE	SPRING		SUMMER		FALL	
		USABILITY SNAPSHOT (%)	OPERATIONAL STATUS	USABILITY SNAPSHOT (%)	OPERATIONAL STATUS	USABILITY SNAPSHOT (%)	OPERATIONAL STATUS
Ventura Harbor Island Packers	Peristaltic	74	Operational	75	Operational	79	Operational
Ventura Harbor Marine Fuel, far	Diaphragm	71	Operational	93	Operational	28	Non-Operational
Ventura Harbor Marine Fuel, near	Diaphragm	52	Operational	93	Operational	28	Non-Operational
Ventura Isle Marina, N Dock	Diaphragm	33	Non-Operational	-	Non-Accessible	78	Operational
Ventura West Marina, B dock left/east	Diaphragm	73	Operational	86	Operational	78	Operational
Ventura West Marina, B dock right/west	Diaphragm	67	Operational	33	Non-Operational	0	Non-Operational



Boats docked at the port!
Photo by Priya Karkare



VENTURA — CHANNEL ISLANDS HARBOR

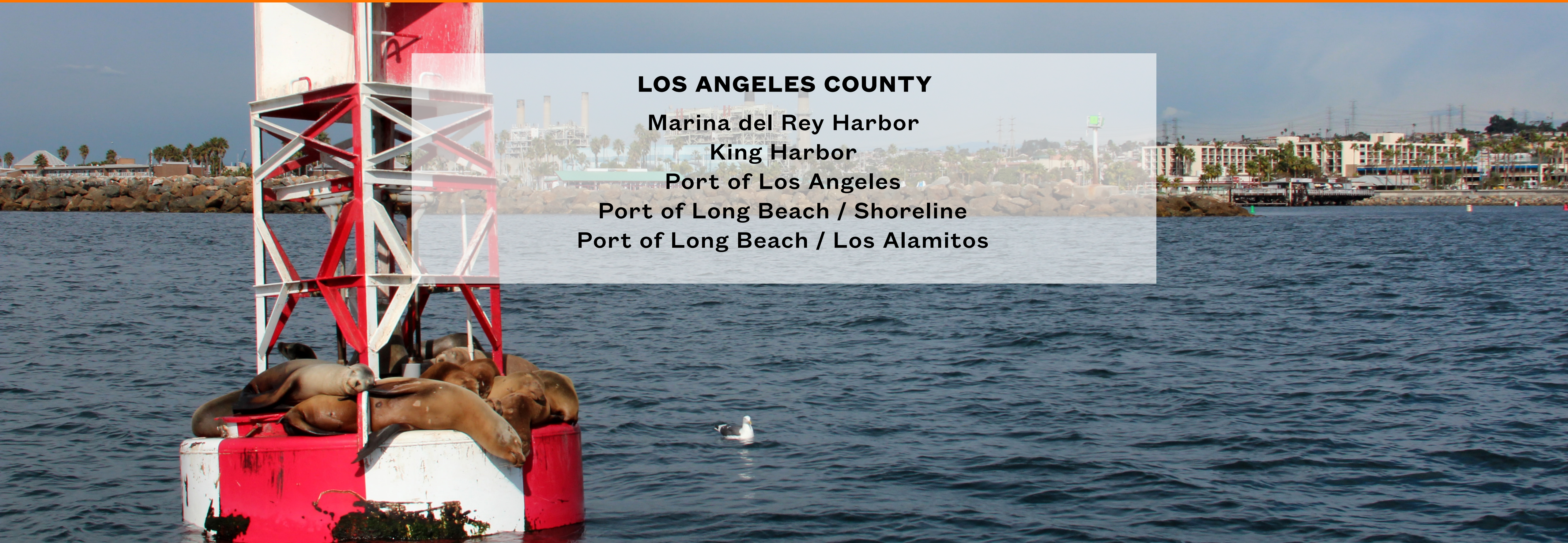


2021 PUMPOUT USABILITY SNAPSHOT AND OPERATIONAL STATUS

FACILITY	PUMP TYPE	SPRING		SUMMER		FALL	
		USABILITY SNAPSHOT (%)	OPERATIONAL STATUS	USABILITY SNAPSHOT (%)	OPERATIONAL STATUS	USABILITY SNAPSHOT (%)	OPERATIONAL STATUS
East Bank Guest Dock, far	Peristaltic	28	Non-Operational	90	Operational	91	Operational
East Bank Guest Dock, near	Peristaltic	92	Operational	97	Operational	97	Operational
Peninsula Park, County Guest Dock	Peristaltic	45	Operational	94	Operational	94	Operational
Harbor Patrol Dock	Peristaltic	94	Operational	89	Operational	89	Operational
Seabridge Marina, F dock	Peristaltic	97	Operational	-	Non-Accessible	97	Operational



Boats docked in Channel Islands harbor
Photo by Zachary Theodore on Unsplash



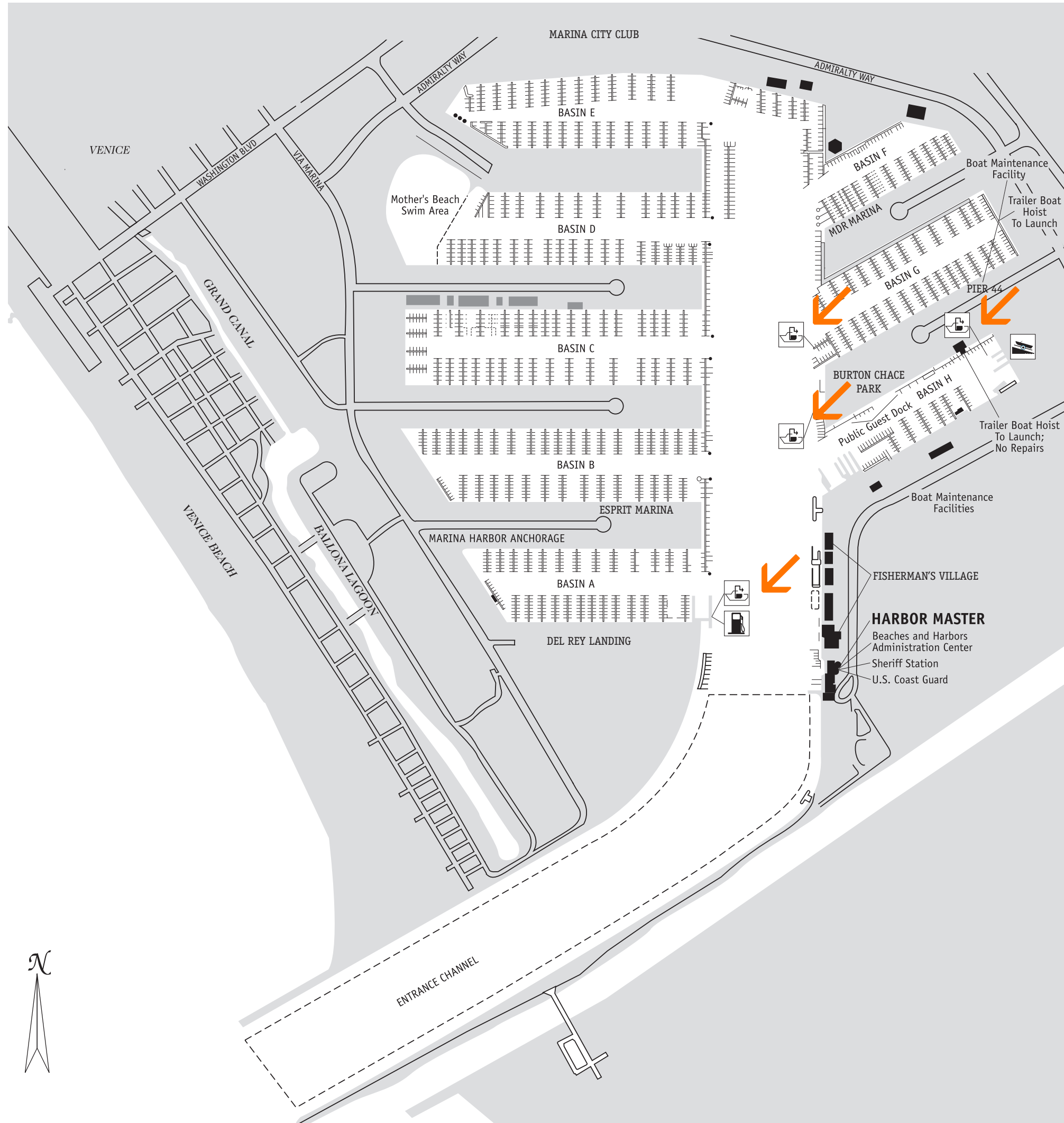
LOS ANGELES COUNTY
 Marina del Rey Harbor
 King Harbor
 Port of Los Angeles
 Port of Long Beach / Shoreline
 Port of Long Beach / Los Alamitos

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



LA — MARINA DEL REY HARBOR

2021 PUMPOUT USABILITY SNAPSHOT AND OPERATIONAL STATUS



FACILITY	PUMP TYPE	SPRING		SUMMER		FALL	
		USABILITY SNAPSHOT (%)	OPERATIONAL STATUS	USABILITY SNAPSHOT (%)	OPERATIONAL STATUS	USABILITY SNAPSHOT (%)	OPERATIONAL STATUS
Anchorage 47	Peristaltic	87	Operational	87	Operational	87	Operational
Burton Chace Park	Peristaltic	86	Operational	94	Operational	97	Operational
Del Rey Landing, far	Peristaltic	90	Operational	85	Operational	74	Operational
Del Rey Landing, near	Peristaltic	84	Operational	81	Operational	81	Operational
Launch Ramp	Peristaltic	82	Operational	82	Operational	81	Operational



Glassy waters at Marina del Rey Harbor
Photo by Roger Lipera on Unsplash



LA — KING HARBOR

2021 PUMPOUT USABILITY SNAPSHOT AND OPERATIONAL STATUS



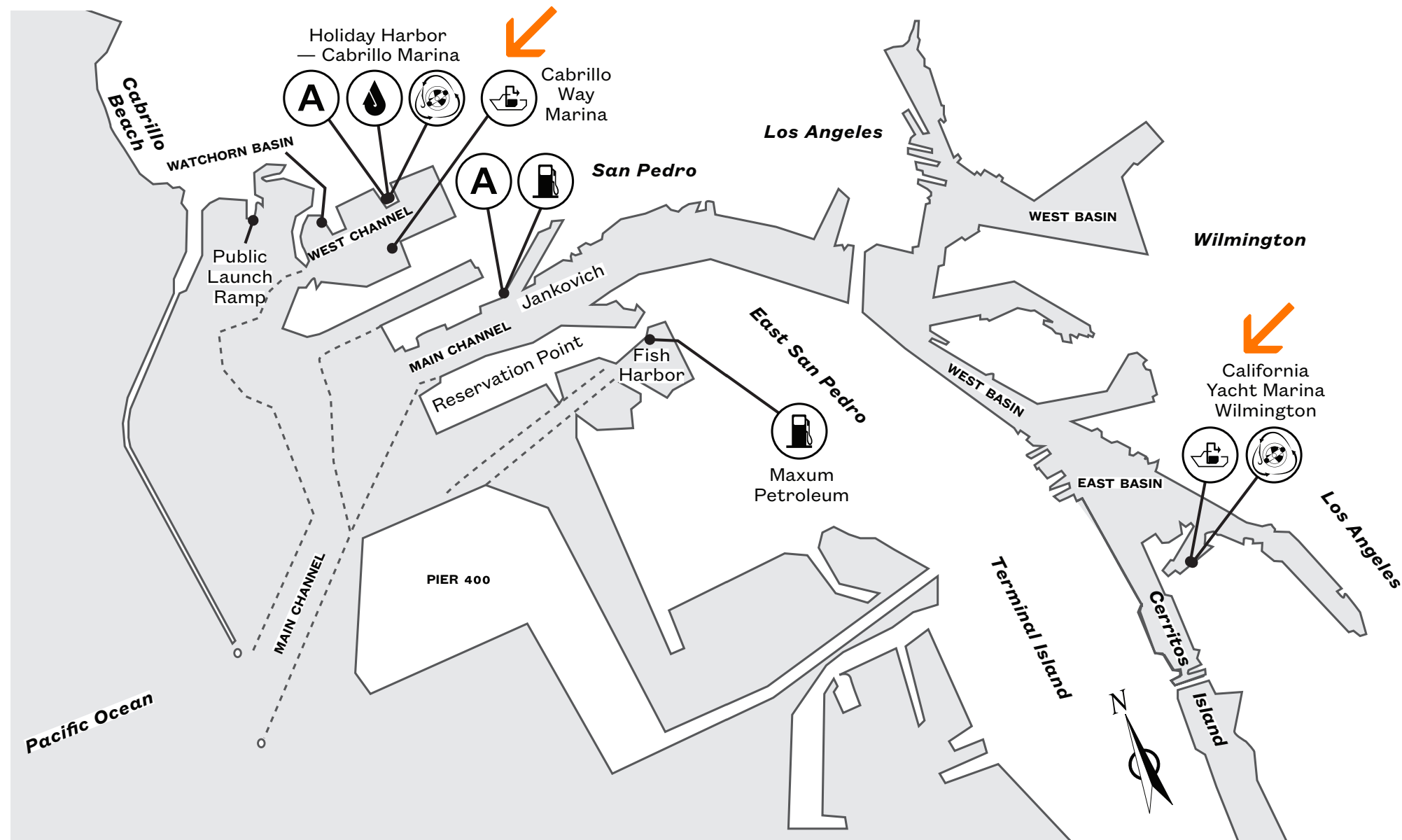
FACILITY	PUMP TYPE	SPRING		SUMMER		FALL	
		USABILITY SNAPSHOT (%)	OPERATIONAL STATUS	USABILITY SNAPSHOT (%)	OPERATIONAL STATUS	USABILITY SNAPSHOT (%)	OPERATIONAL STATUS
Harbor Patrol	Peristaltic	80	Operational	94	Operational	88	Operational



Photo by Kris Delano



LA — PORT OF LOS ANGELES



2021 PUMPOUT USABILITY SNAPSHOT AND OPERATIONAL STATUS

FACILITY	PUMP TYPE	SPRING		SUMMER		FALL	
		USABILITY SNAPSHOT (%)	OPERATIONAL STATUS	USABILITY SNAPSHOT (%)	OPERATIONAL STATUS	USABILITY SNAPSHOT (%)	OPERATIONAL STATUS
Cabrillo Way Marina	Diaphragm	65	Operational	94	Operational	94	Operational
California Yacht Marina, Wilmington, F Dock	Peristaltic	38	Operational	22	Non-Operational	72	Operational

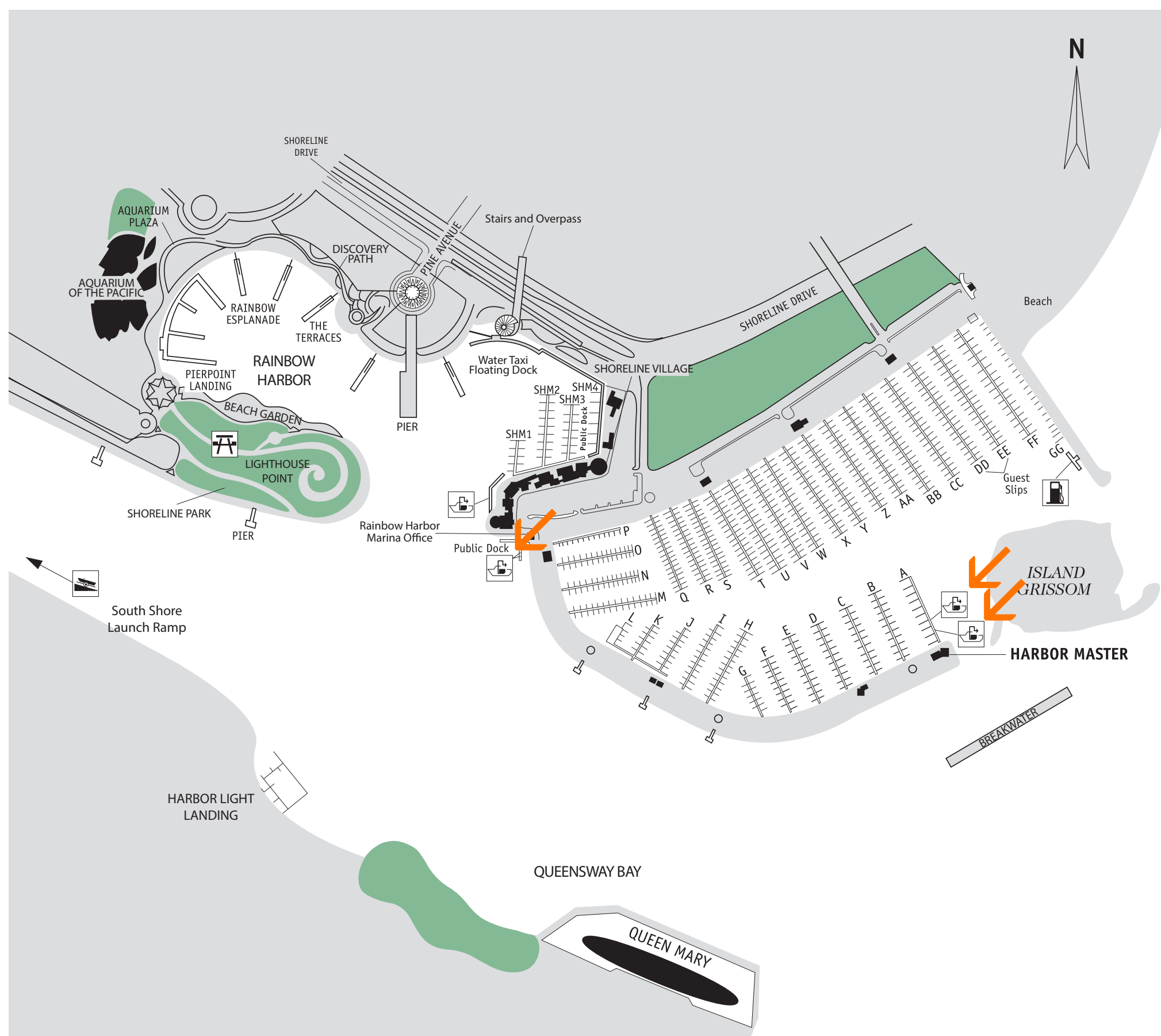


Point Vicente Lighthouse and scenic coastline cliffs
Photo by Thomas Poster



LA — PORT OF LONG BEACH / Shoreline

2021 PUMPOUT USABILITY SNAPSHOT AND OPERATIONAL STATUS



FACILITY	PUMP TYPE	SPRING		SUMMER		FALL	
		USABILITY SNAPSHOT (%)	OPERATIONAL STATUS	USABILITY SNAPSHOT (%)	OPERATIONAL STATUS	USABILITY SNAPSHOT (%)	OPERATIONAL STATUS
Shoreline Marina Office, A dock far	Peristaltic	72	Operational	81	Operational	83	Operational
Shoreline Marina Office, A dock near	Peristaltic	69	Operational	69	Operational	22	Non-Operational
Shoreline Marina, Public Dock, far	Peristaltic	71	Operational	89	Operational	58	Operational
Shoreline Marina, Public Dock, mid	Peristaltic	39	Non-Operational	17	Non-Operational	17	Non-Operational
Shoreline Marina, Public Dock, near	Peristaltic	17	Non-Operational	33	Non-Operational	17	Non-Operational

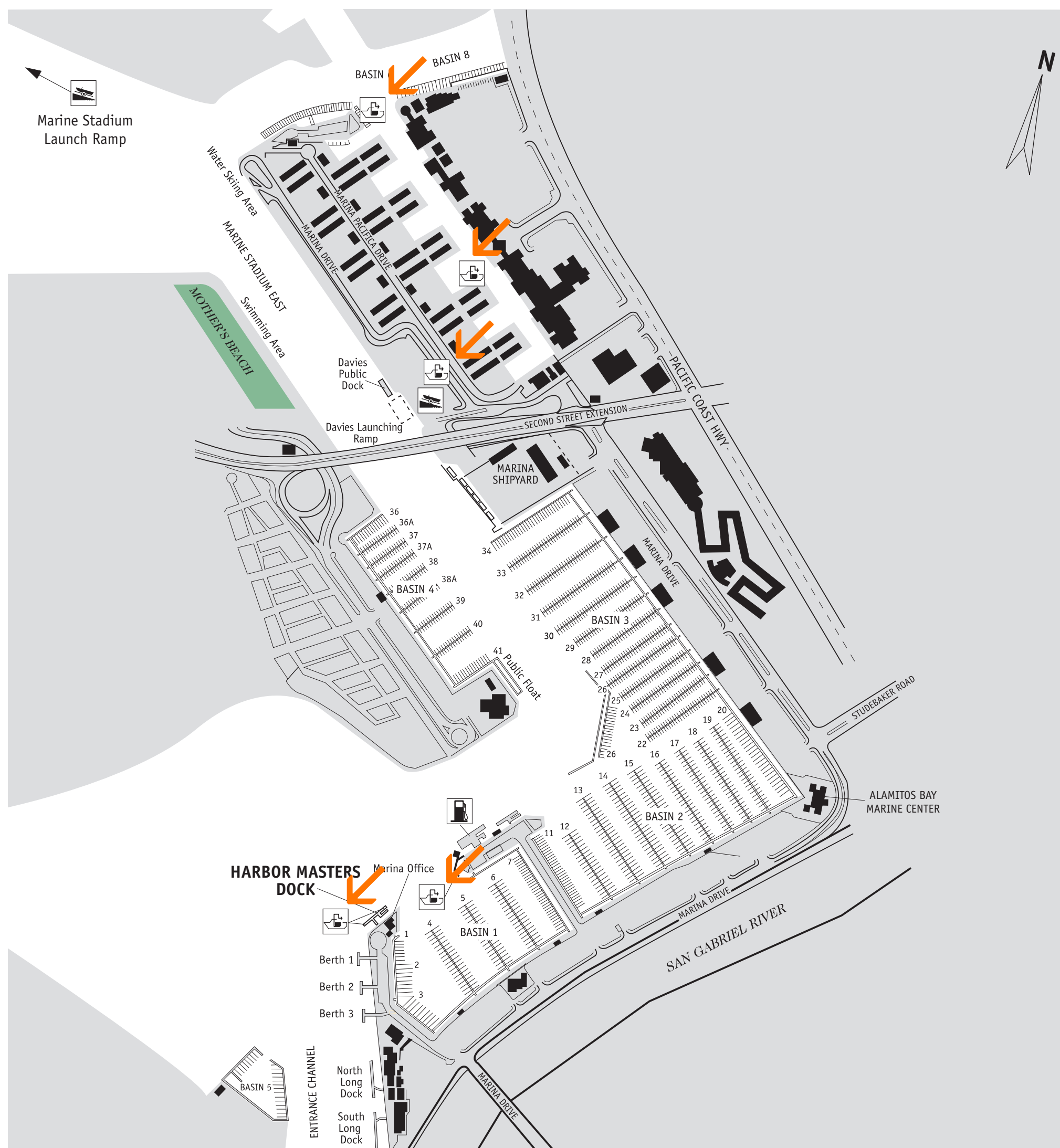


Shoreline Village marina scenic boats
Photo by John Hollenbeck



LA — PORT OF LONG BEACH / Los Alamitos

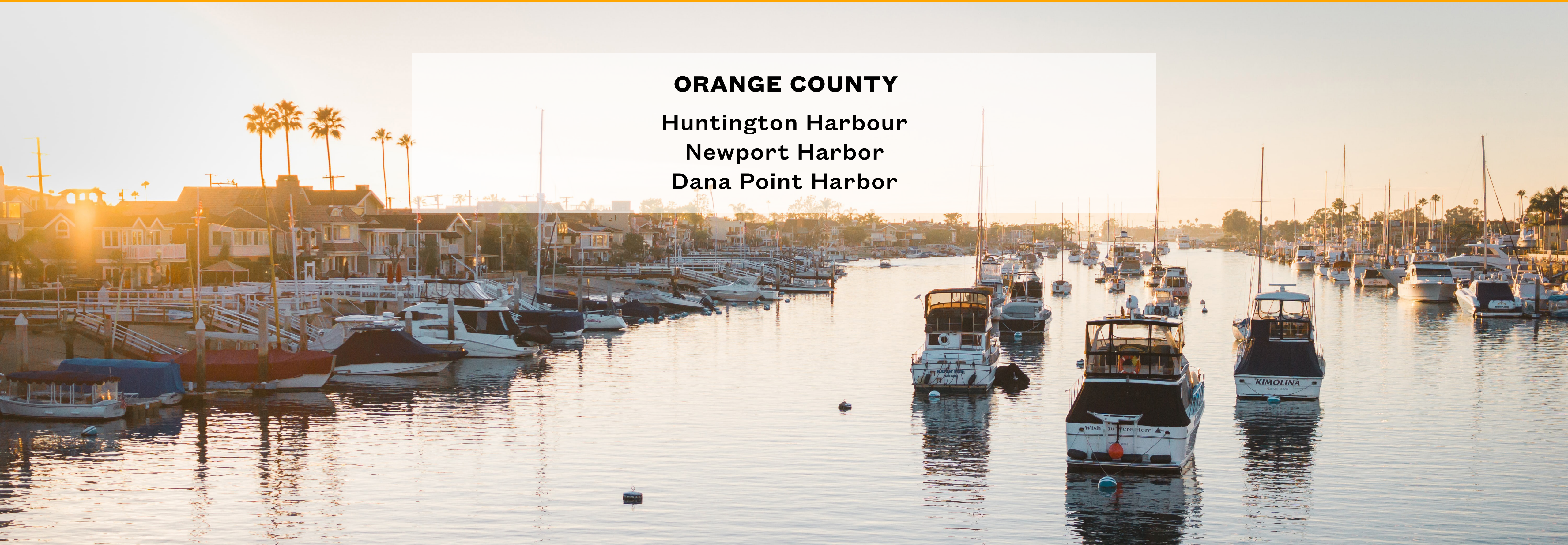
2021 PUMPOUT USABILITY SNAPSHOT AND OPERATIONAL STATUS



FACILITY	PUMP TYPE	SPRING		SUMMER		FALL	
		USABILITY SNAPSHOT (%)	OPERATIONAL STATUS	USABILITY SNAPSHOT (%)	OPERATIONAL STATUS	USABILITY SNAPSHOT (%)	OPERATIONAL STATUS
Los Alamitos Davies Launching Ramp	Peristaltic	39	Non-Operational	17	Non-Operational	58	Operational
Los Alamitos Fire Department, Marine Station	Peristaltic	89	Operational	94	Operational	75	Operational
Los Alamitos Harbor Master Dock, near	Peristaltic	83	Operational	67	Operational	72	Operational
Los Alamitos Harbor Master Dock, far	Peristaltic	94	Operational	89	Operational	89	Operational
Marina Pacifica, Slip #039 at Key 15	Peristaltic	92	Operational	97	Operational	94	Operational
Marina Pacifica, Slip #165 at Key 1	Peristaltic	86	Operational	89	Operational	93	Operational



Photo by John Hollenbeck

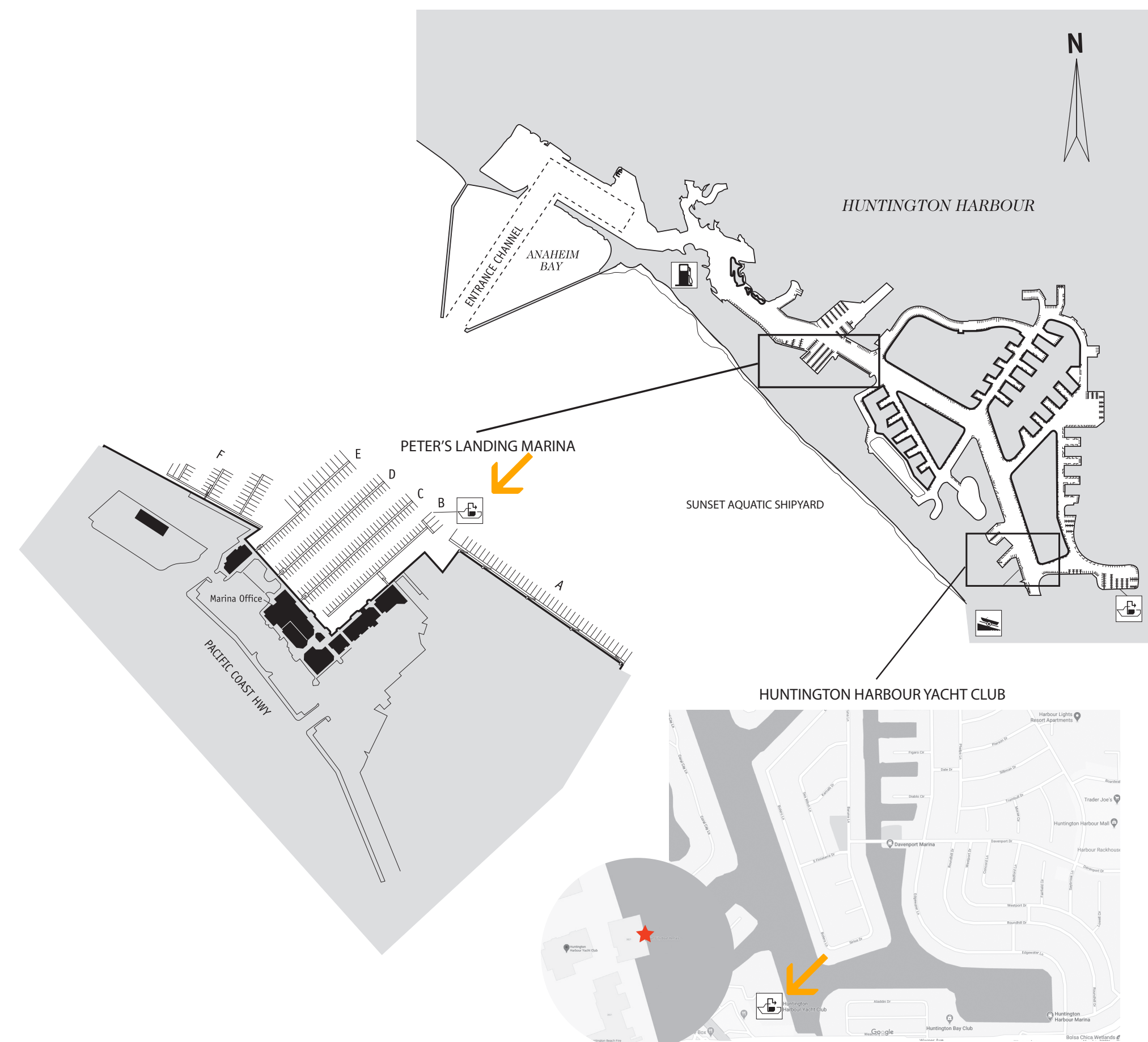


ORANGE COUNTY
 Huntington Harbour
 Newport Harbor
 Dana Point Harbor

Newport Harbor offers picturesque views
Photo by Christopher Chen on Unsplash

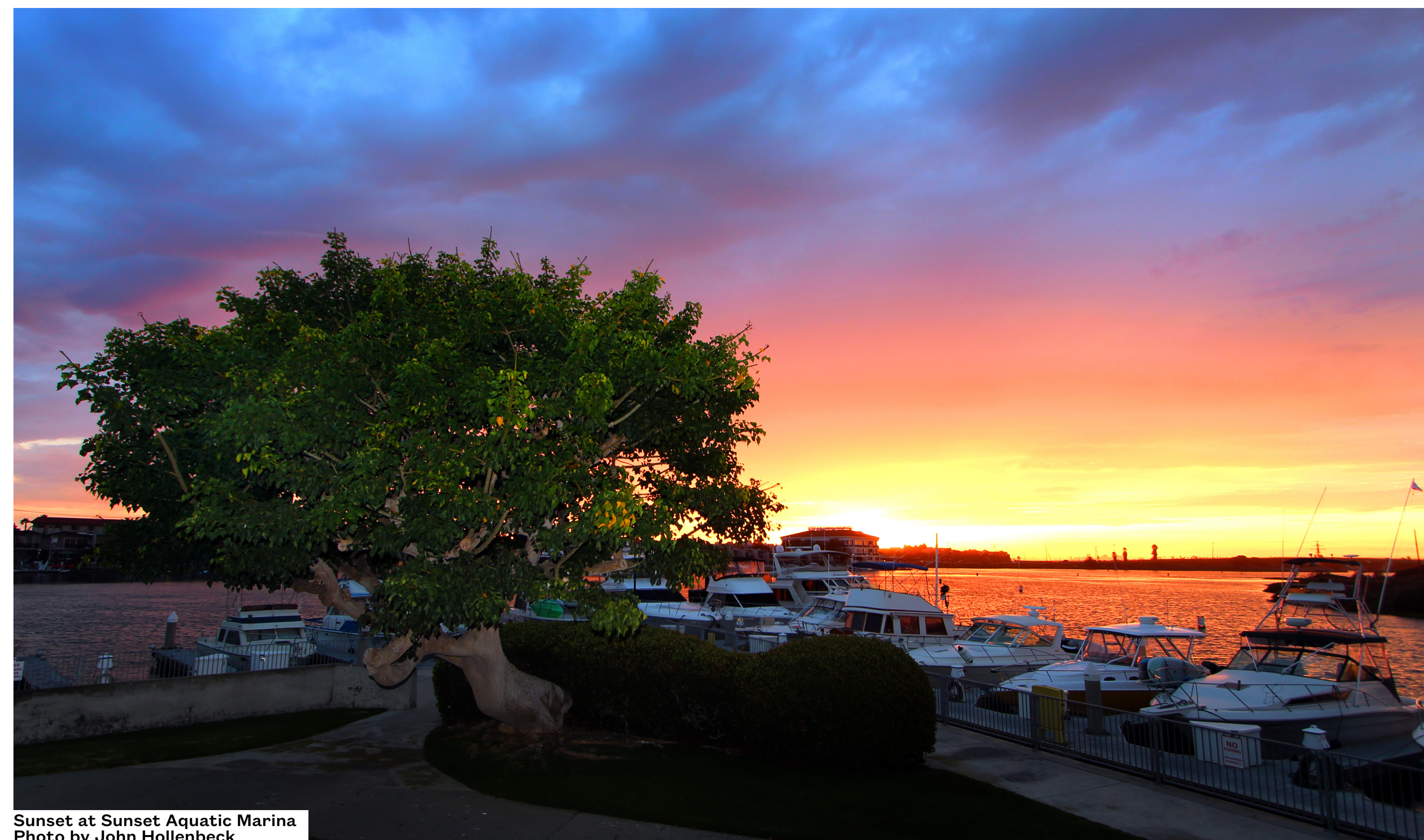


ORANGE — HUNTINGTON HARBOUR



2021 PUMPOUT USABILITY SNAPSHOT AND OPERATIONAL STATUS

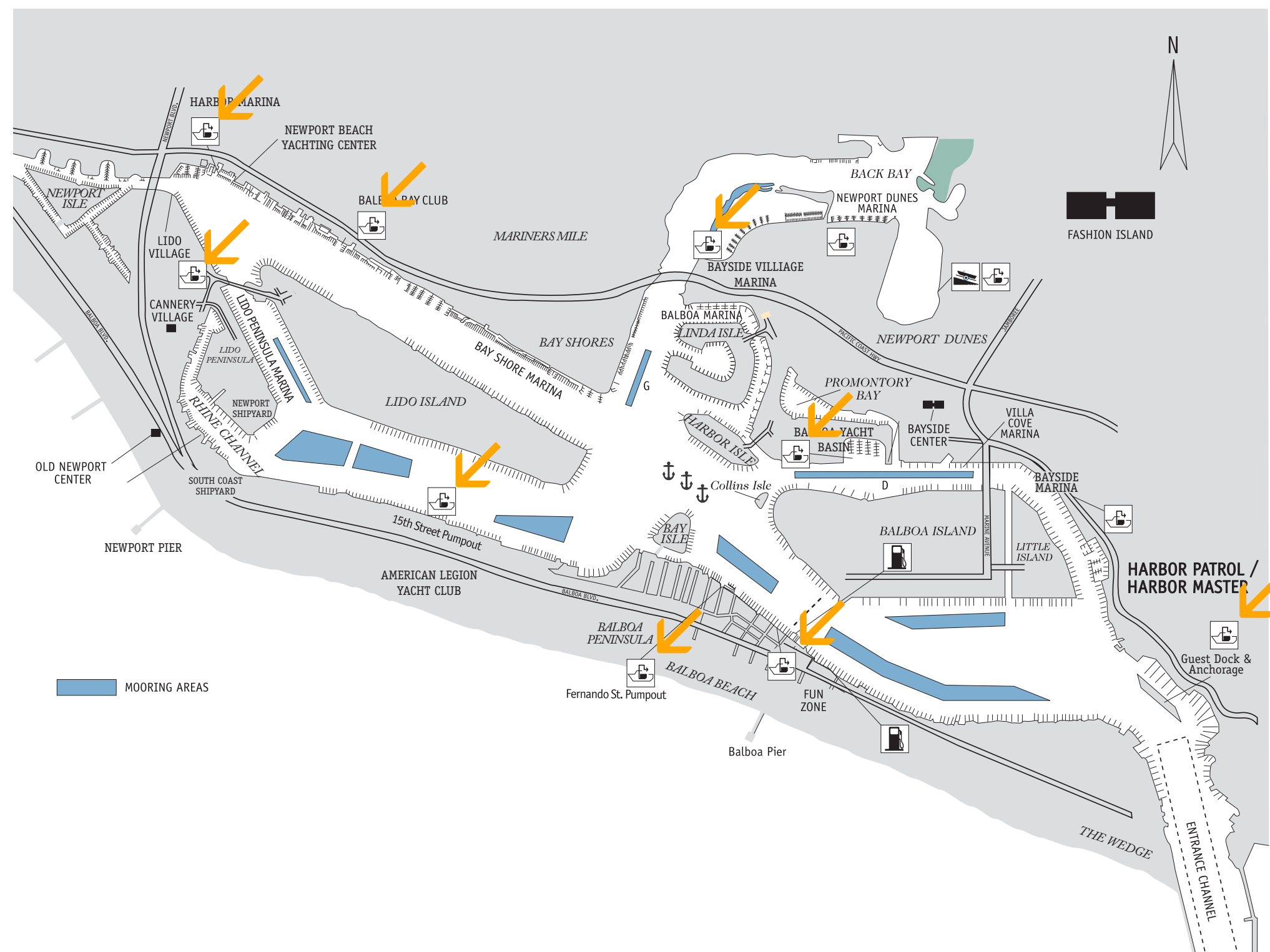
FACILITY	PUMP TYPE	SPRING		SUMMER		FALL	
		USABILITY SNAPSHOT (%)	OPERATIONAL STATUS	USABILITY SNAPSHOT (%)	OPERATIONAL STATUS	USABILITY SNAPSHOT (%)	OPERATIONAL STATUS
Huntington Harbour Yacht Club, Fire Department	Diaphragm	17	Non-Operational	17	Non-Operational	17	Non-Operational
Peter's Landing Marina, B Dock	Peristaltic	56	Operational	55	Operational	89	Operational



Sunset at Sunset Aquatic Marina
Photo by John Hollenbeck

ORANGE — NEWPORT HARBOR

2021 PUMPOUT USABILITY SNAPSHOT AND OPERATIONAL STATUS



FACILITY	PUMP TYPE	SPRING		SUMMER		FALL	
		USABILITY SNAPSHOT (%)	OPERATIONAL STATUS	USABILITY SNAPSHOT (%)	OPERATIONAL STATUS	USABILITY SNAPSHOT (%)	OPERATIONAL STATUS
15th Street, far	Diaphragm	91	Operational	92	Operational	92	Operational
15th Street, near	Peristaltic	91	Operational	81	Operational	97	Operational
Balboa Bay Club	Peristaltic	92	Operational	75	Operational	80	Operational
Balboa Fun Zone	Peristaltic	53	Operational	-	Non-Accessible	93	Operational
Balboa Yacht Basin	Peristaltic	94	Operational	94	Operational	75	Operational
Bayside Village Marina	Peristaltic	97	Operational	92	Operational	88	Operational
Fernando Street	Peristaltic	47	Operational	-	Non-Accessible	92	Operational
Lido Marina Village	Peristaltic	77	Operational	74	Operational	69	Operational
OC Harbor Patrol	Peristaltic	94	Operational	94	Operational	85	Operational

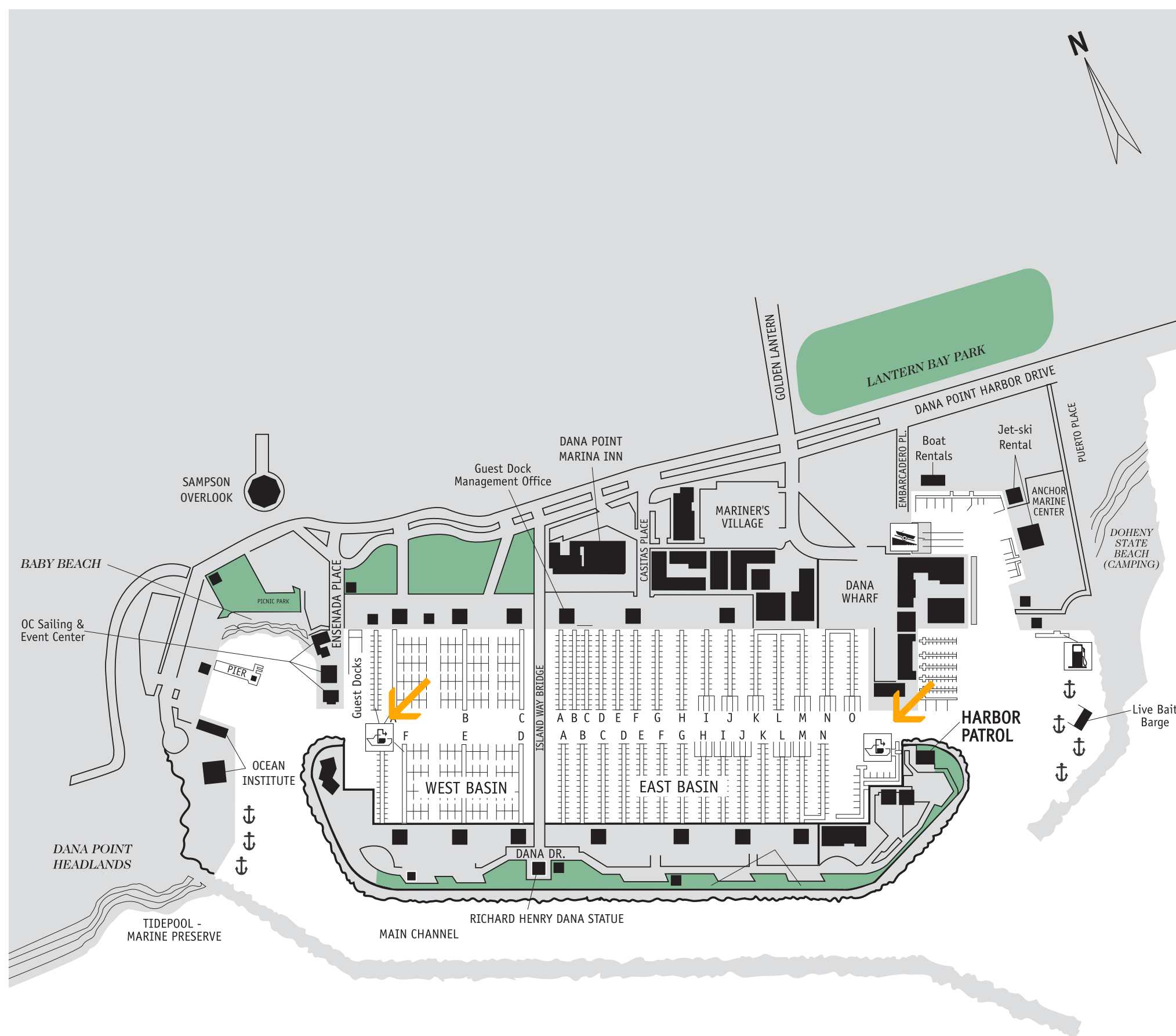


Pink sunset in Newport Harbor
Photo by Jason Middlekauff



ORANGE — DANA POINT HARBOR

2021 PUMPOUT USABILITY SNAPSHOT AND OPERATIONAL STATUS



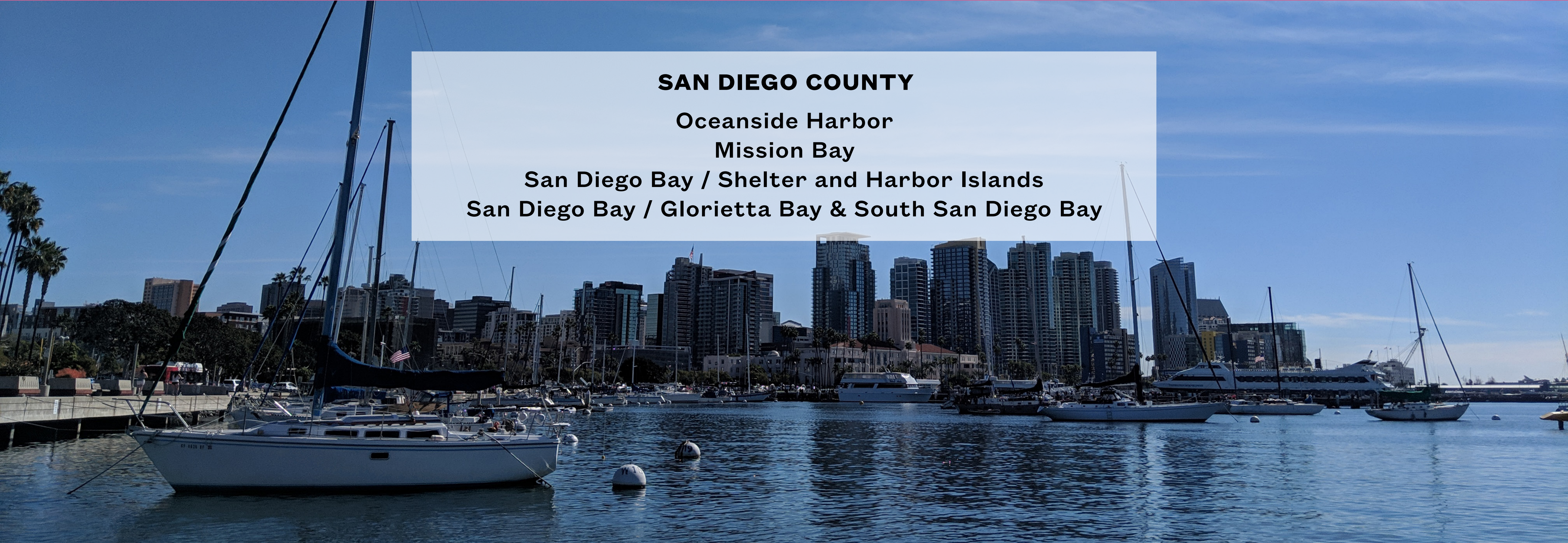
FACILITY	PUMP TYPE	SPRING		SUMMER		FALL	
		USABILITY SNAPSHOT (%)	OPERATIONAL STATUS	USABILITY SNAPSHOT (%)	OPERATIONAL STATUS	USABILITY SNAPSHOT (%)	OPERATIONAL STATUS
Dana West Marina, A dock side tie	Peristaltic	94	Operational	89	Operational	76	Operational
Dana West Marina, F dock side tie	Peristaltic	94	Operational	72	Operational	81	Operational
Dana Point Marina, East Basin, Guest Dock, end tie	Peristaltic	86	Operational	74	Operational	83	Operational
Sheriff's Harbor Patrol, pumpout dock	Peristaltic	97	Operational	97	Operational	-	Non-Accessible



Serene Dana Point cliffs with boats docked
Photo by Pat Douglass



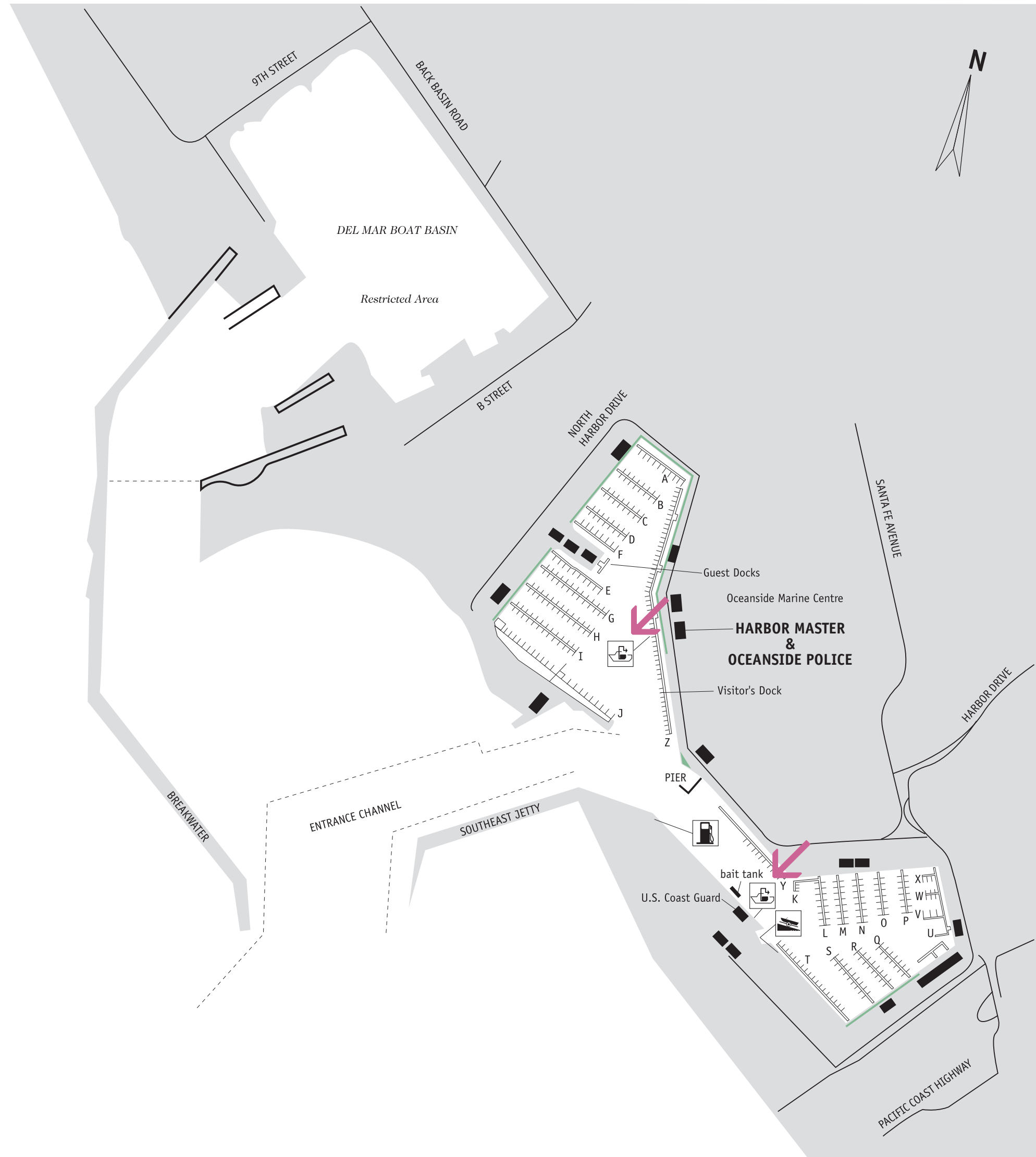
SAN DIEGO COUNTY
Oceanside Harbor
Mission Bay
San Diego Bay / Shelter and Harbor Islands
San Diego Bay / Glorietta Bay & South San Diego Bay



A view of downtown San Diego
Photo by Kim Riley



SAN DIEGO — OCEANSIDE HARBOR



2021 PUMPOUT USABILITY SNAPSHOT AND OPERATIONAL STATUS

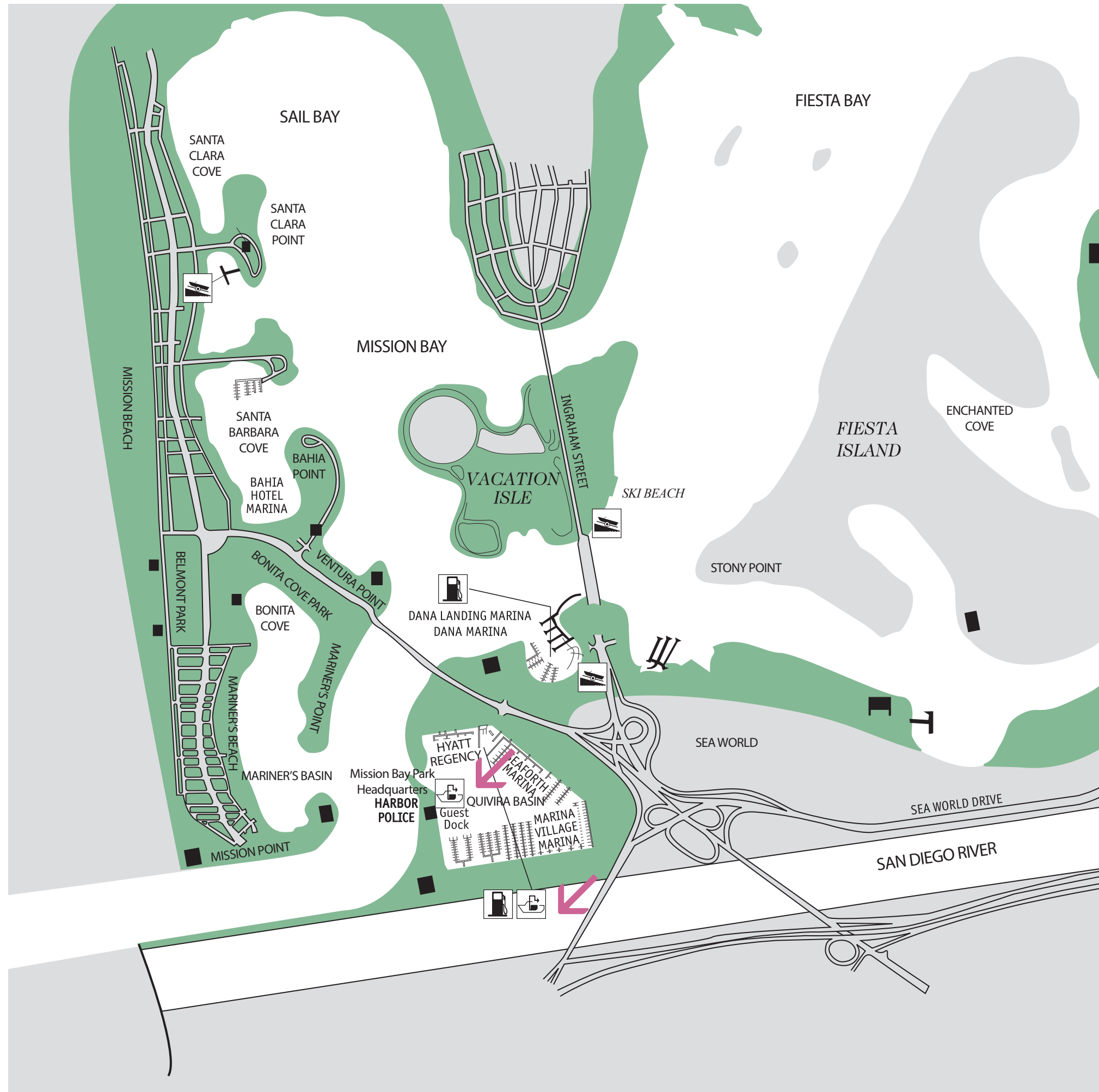
FACILITY	PUMP TYPE	SPRING		SUMMER		FALL	
		USABILITY SNAPSHOT (%)	OPERATIONAL STATUS	USABILITY SNAPSHOT (%)	OPERATIONAL STATUS	USABILITY SNAPSHOT (%)	OPERATIONAL STATUS
Department of Harbor and Beaches, Office	Peristaltic	86	Operational	70	Operational	56	Operational
U.S. Coast Guard Auxiliary, far	Peristaltic	47	Non-Operational	92	Operational	83	Operational
U.S. Coast Guard Auxiliary, near	Peristaltic	90	Operational	74	Operational	47	Operational



Majestic clouds approaching Oceanside Harbor
Photo by TBF



SAN DIEGO — MISSION BAY



2021 PUMPOUT USABILITY SNAPSHOT AND OPERATIONAL STATUS

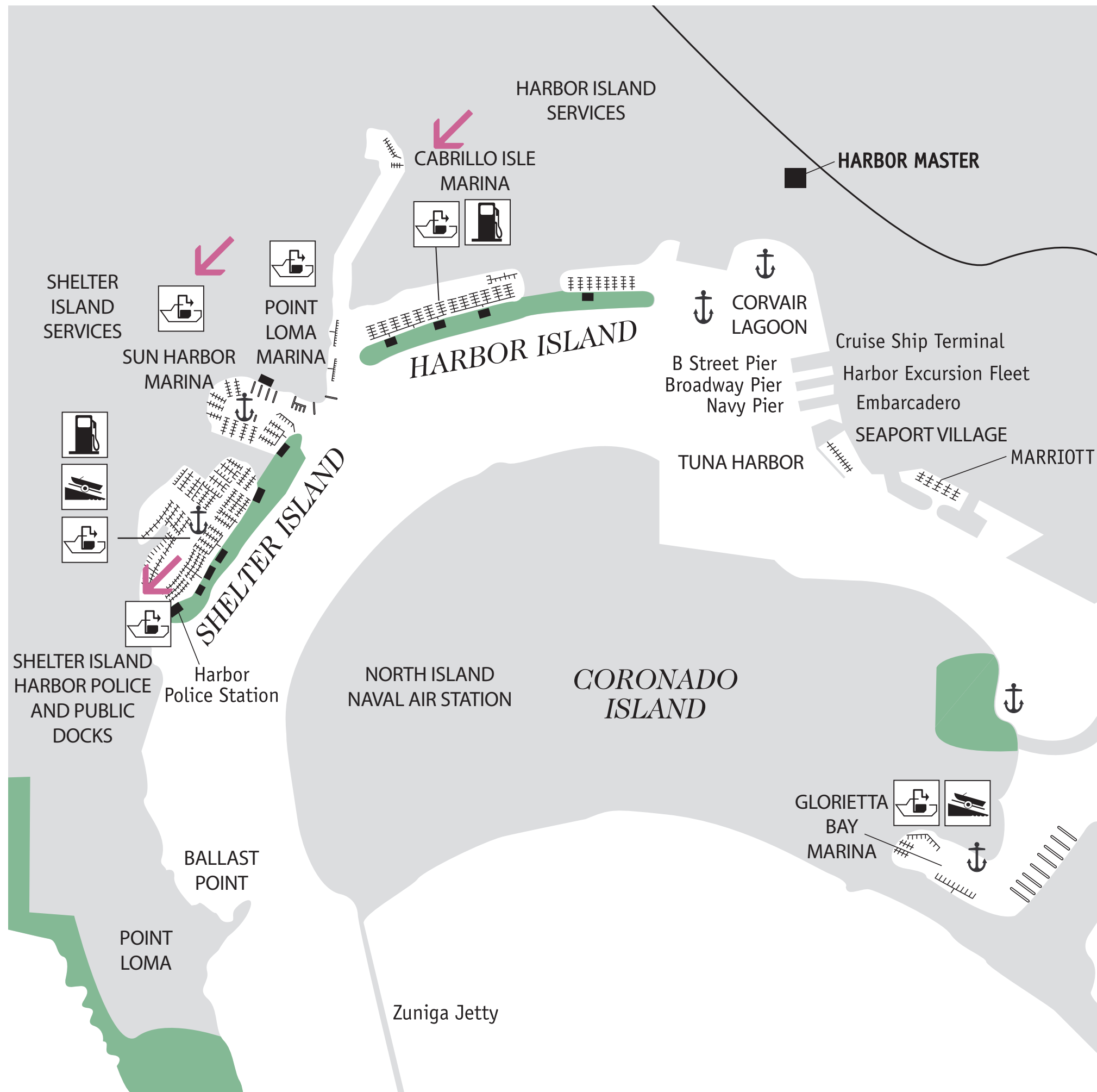
FACILITY	PUMP TYPE	SPRING		SUMMER		FALL	
		USABILITY SNAPSHOT (%)	OPERATIONAL STATUS	USABILITY SNAPSHOT (%)	OPERATIONAL STATUS	USABILITY SNAPSHOT (%)	OPERATIONAL STATUS
Hyatt Regency	Peristaltic	97	Operational	86	Operational	62	Operational
Mission Bay Park Headquarters, left	Peristaltic	94	Operational	94	Operational	84	Operational
Mission Bay Park Headquarters, right	Peristaltic	55	Operational	89	Operational	86	Operational



Mission Bay kayak and boats
Photo by TBF

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

2021 PUMPOUT USABILITY SNAPSHOT AND OPERATIONAL STATUS



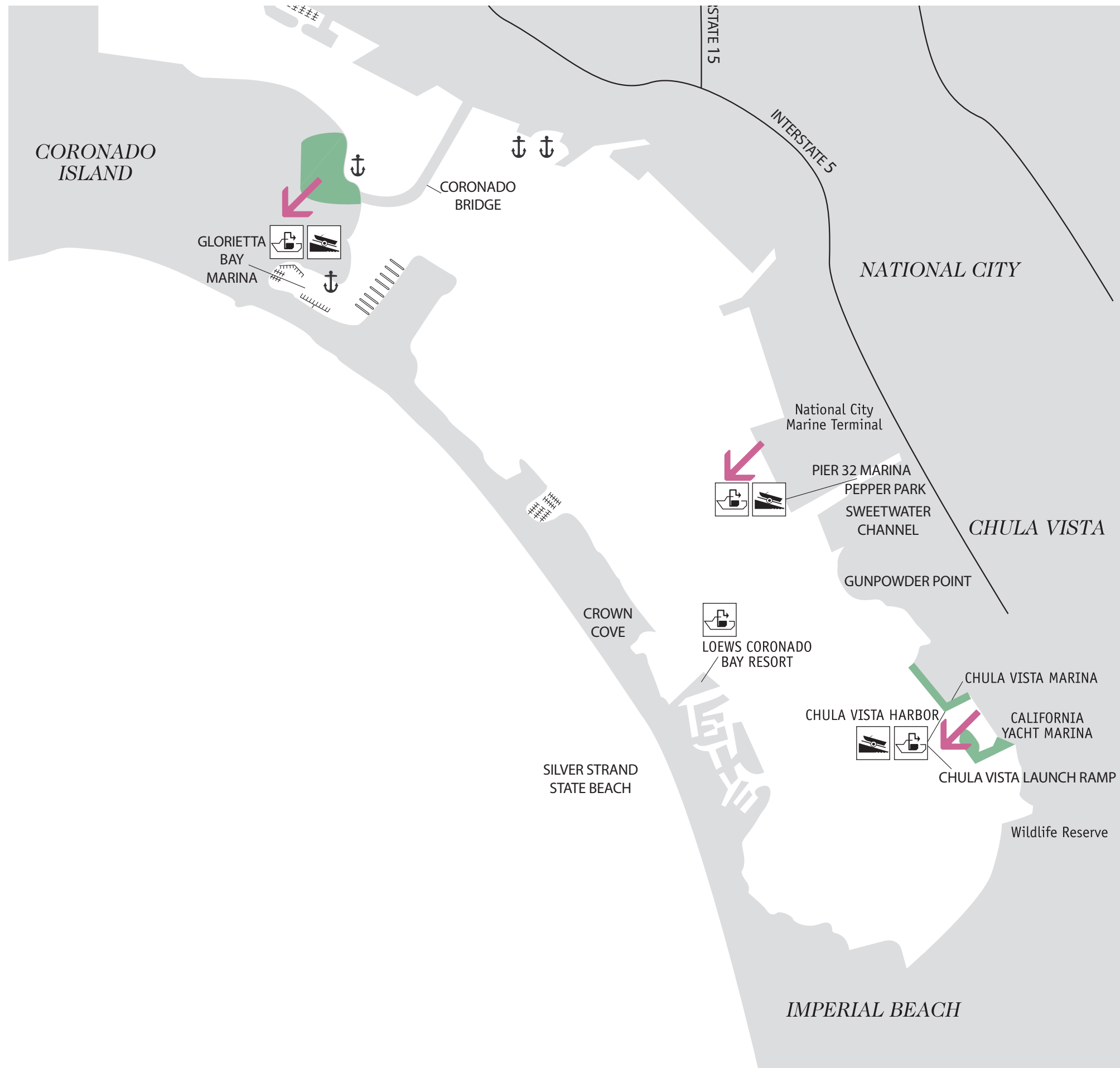
FACILITY	PUMP TYPE	SPRING		SUMMER		FALL	
		USABILITY SNAPSHOT (%)	OPERATIONAL STATUS	USABILITY SNAPSHOT (%)	OPERATIONAL STATUS	USABILITY SNAPSHOT (%)	OPERATIONAL STATUS
Cabrillo Isle Marina, G Dock	Peristaltic	0	Non-Operational	0	Non-Operational	0	Non-Operational
Laurel St. & Harbor Dr. / airport	Diaphragm	94	Operational	28	Non-Operational	83	Operational
Shelter Island Harbor Police Dock, far	Peristaltic	80	Operational	65	Operational	68	Operational
Shelter Island Harbor Police Dock, near	Peristaltic	62	Operational	67	Operational	74	Operational
Shelter Island Public Dock, far	Peristaltic	33	Non-Operational	47	Operational	-	Non-Accessible
Shelter Island Public Dock, near	Peristaltic	84	Operational	28	Non-Operational	-	Non-Accessible
Sun Harbor Marina, near	Peristaltic	97	Operational	96	Operational	90	Operational
Sun Harbor Marina, far	Peristaltic	98	Operational	88	Operational	78	Operational



Gloomy day in San Diego Bay
Photo by TBF



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



2021 PUMPOUT USABILITY SNAPSHOT AND OPERATIONAL STATUS

FACILITY	PUMP TYPE	SPRING		SUMMER		FALL	
		USABILITY SNAPSHOT (%)	OPERATIONAL STATUS	USABILITY SNAPSHOT (%)	OPERATIONAL STATUS	USABILITY SNAPSHOT (%)	OPERATIONAL STATUS
Chula Vista Launch Ramp	Peristaltic	83	Operational	83	Operational	84	Operational
Chula Vista Marina	Peristaltic	74	Operational	64	Operational	50	Operational
Glorietta Bay Marina, B dock left	Peristaltic	53	Operational	63	Operational	89	Operational
Glorietta Bay Marina, B dock right	Peristaltic	78	Operational	78	Operational	33	Non-Operational
Pepper Park Launch Ramp	Peristaltic	92	Operational	-	Non-Accessible	81	Operational



Calm waters in San Diego Bay
Photo by TBF



SOUTHERN CALIFORNIA 2021 DUMP STATION OPERATIONAL STATUS



FACILITY	MOTOR TYPE	SPRING	SUMMER	FALL
San Luis Obispo Morro Bay, Tidelands Park	Peristaltic	Not recorded	Operational	Operational
Santa Barbara Harbor, Boat Launch	Peristaltic	Operational	Operational	Operational
Santa Barbara Harbor, Marina One	Peristaltic	Operational	Operational	Operational
Ventura Harbor, Ventura West Marina	Diaphragm	Operational	Operational	Operational
Huntington Harbor, Huntington Harbor Yacht Club, Fire Department	Diaphragm	Operational	Operational	Non-Operational
Newport Harbor, Bayside Village Marina	Peristaltic	Operational	Operational	Operational
Dana Point Harbor, Sheriff's Harbor Patrol, pumpout dock	Peristaltic	Non-Accessible	Non-Accessible	No longer monitoring
San Diego Bay, Glorietta Bay & South San Diego, Glorietta Bay Marina, B dock	Peristaltic	Operational	Operational	Operational



TBF staff testing dump station operational status
Photo by TBF



Bayside Village Marina dump station
Photo by TBF

NORTHERN CALIFORNIA



SAN FRANCISCO'S NORTH BAY

Antioch Marina

Benicia Marina

Glen Cove Marina

Loch Lomond Marina

Martinez Marina

Napa Valley Marina

Petaluma Marina

Pittsburg Marina

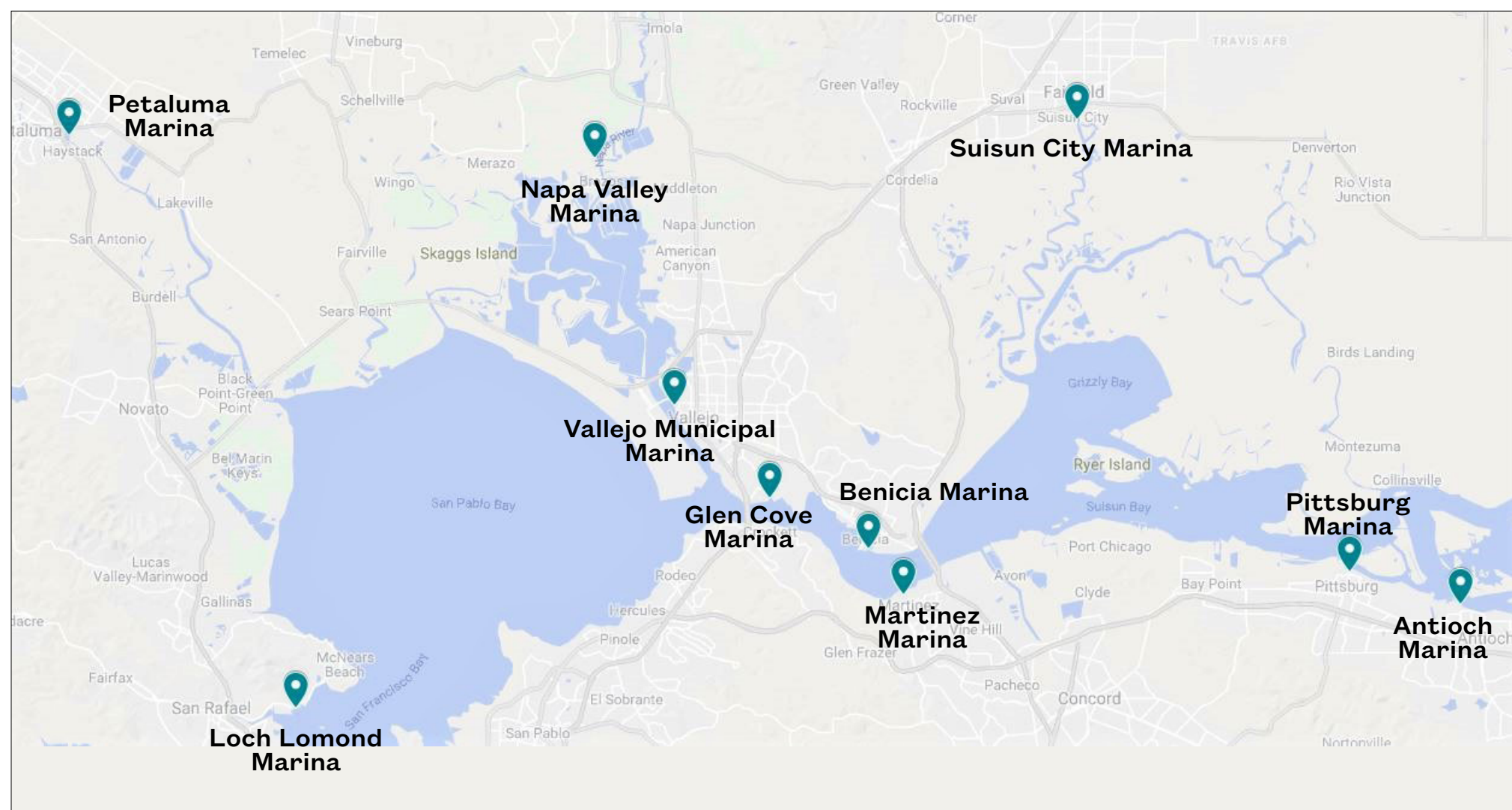
Suisun City Marina

Vallejo Municipal Marina

A sunny day view of Petaluma Marina
Photo by Liz Juvera



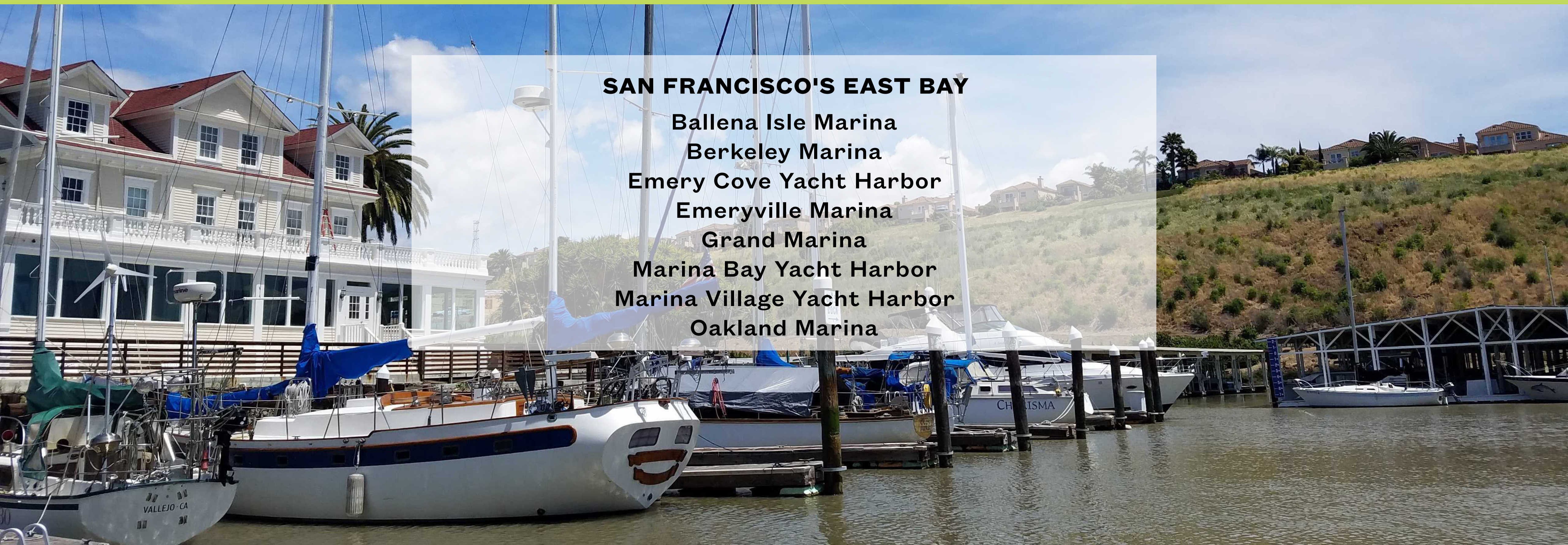
SAN FRANCISCO — **NORTH BAY**



Rowboat on gentle waters in Northern California. Photo by SFEP

2021 PUMPOUT USABILITY SNAPSHOT AND OPERATIONAL STATUS

FACILITY	PUMP TYPE	SPRING		SUMMER		FALL	
		USABILITY SNAPSHOT (%)	OPERATIONAL STATUS	USABILITY SNAPSHOT (%)	OPERATIONAL STATUS	USABILITY SNAPSHOT (%)	OPERATIONAL STATUS
Antioch Marina, Guest Dock	Vacuum	11	Non-operational	-	Removed from surveying	-	Removed from surveying
Benicia Marina	Peristaltic	75	Operational	71	Operational	71	Operational
Glen Cove Marina	Peristaltic	94	Operational	-	Non-accessible	-	Non-accessible
Loch Lomond Marina, Fuel Dock North	Peristaltic	64	Operational	70	Operational	65	Operational
Loch Lomond Marina, Fuel Dock South	Peristaltic	64	Operational	69	Operational	78	Operational
Martinez Marina	Peristaltic	94	Operational	-	Non-accessible	94	Operational
Napa Valley Marina	Diaphragm	86	Operational	-	Non-accessible	79	Operational
Petaluma Marina	Peristaltic	83	Operational	83	Operational	75	Operational
Pittsburg Marina, Fuel Dock North	Peristaltic	88	Operational	87	Operational	70	Operational
Pittsburg Marina, Fuel Dock South	Peristaltic	88	Operational	81	Operational	77	Operational
Pittsburg Marina, Guest Dock	Peristaltic	84	Operational	84	Operational	-	Non-accessible
Suisun City Marina	Peristaltic	71	Operational	74	Operational	78	Operational
Vallejo Municipal Marina, Fuel Dock	Peristaltic	28	Operational	28	Operational	63	Operational
Vallejo Municipal Marina, J Dock	Peristaltic	77	Operational	83	Operational	69	Operational



SAN FRANCISCO'S EAST BAY

Ballena Isle Marina

Berkeley Marina

Emery Cove Yacht Harbor

Emeryville Marina

Grand Marina

Marina Bay Yacht Harbor

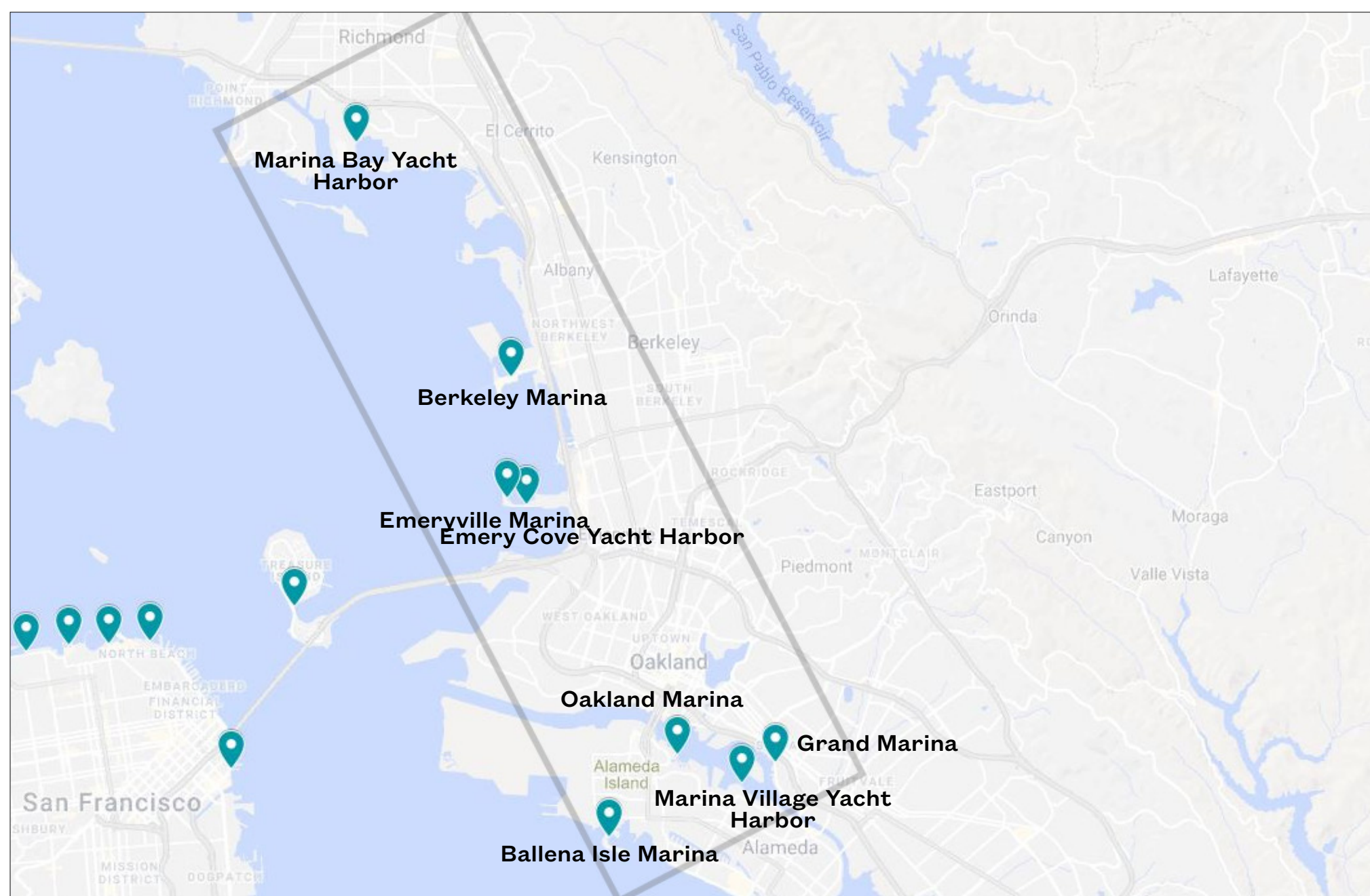
Marina Village Yacht Harbor

Oakland Marina

Boats berthed at Emery Cove Marina
Photo by Liz Juvera



SAN FRANCISCO — **EAST BAY**



2021 PUMPOUT USABILITY SNAPSHOT AND OPERATIONAL STATUS

FACILITY	PUMP TYPE	SPRING		SUMMER		FALL	
		USABILITY SNAPSHOT (%)	OPERATIONAL STATUS	USABILITY SNAPSHOT (%)	OPERATIONAL STATUS	USABILITY SNAPSHOT (%)	OPERATIONAL STATUS
Ballena Isle Marina	Peristaltic	81	Operational	74	Operational	28	Non-operational
Berkeley Marina, G Dock	Peristaltic	89	Operational	78	Operational	89	Operational
Berkeley Marina, I Dock	Peristaltic	69	Operational	83	Operational	78	Operational
Berkeley Marina, C Dock East	Peristaltic	70	Operational	73	Operational	62	Operational
Berkeley Marina, C Dock West	Peristaltic	33	Non-operational	92	Operational	92	Operational
Emery Cove Yacht Harbor, Dock A	Peristaltic	33	Non-operational	33	Non-operational	33	Non-operational
Emery Cove Yacht Harbor, Dock S	Peristaltic	33	Non-operational	33	Non-operational	73	Operational
Emeryville Marina	Peristaltic	76	Operational	76	Operational	83	Operational
Grand Marina	Peristaltic	84	Operational	78	Operational	33	Non-operational
Marina Bay Yacht Harbor, D Dock	Peristaltic	90	Operational	61	Operational	68	Operational
Marina Bay Yacht Harbor, G Dock	Peristaltic	69	Operational	77	Operational	72	Operational
Marina Village Yacht Harbor, Gate 8	Peristaltic	28	Non-operational	92	Operational	92	Operational
Marina Village Yacht Harbor, Gate 10	Peristaltic	89	Operational	87	Operational	89	Operational
Oakland Marina, Jack London Square	Peristaltic	33	Non-operational	0	Non-operational	89	Operational



Bright, cloudy day for berthers at Ballena Isle Marina
Photo by Liz Juvera



SAN FRANCISCO'S 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

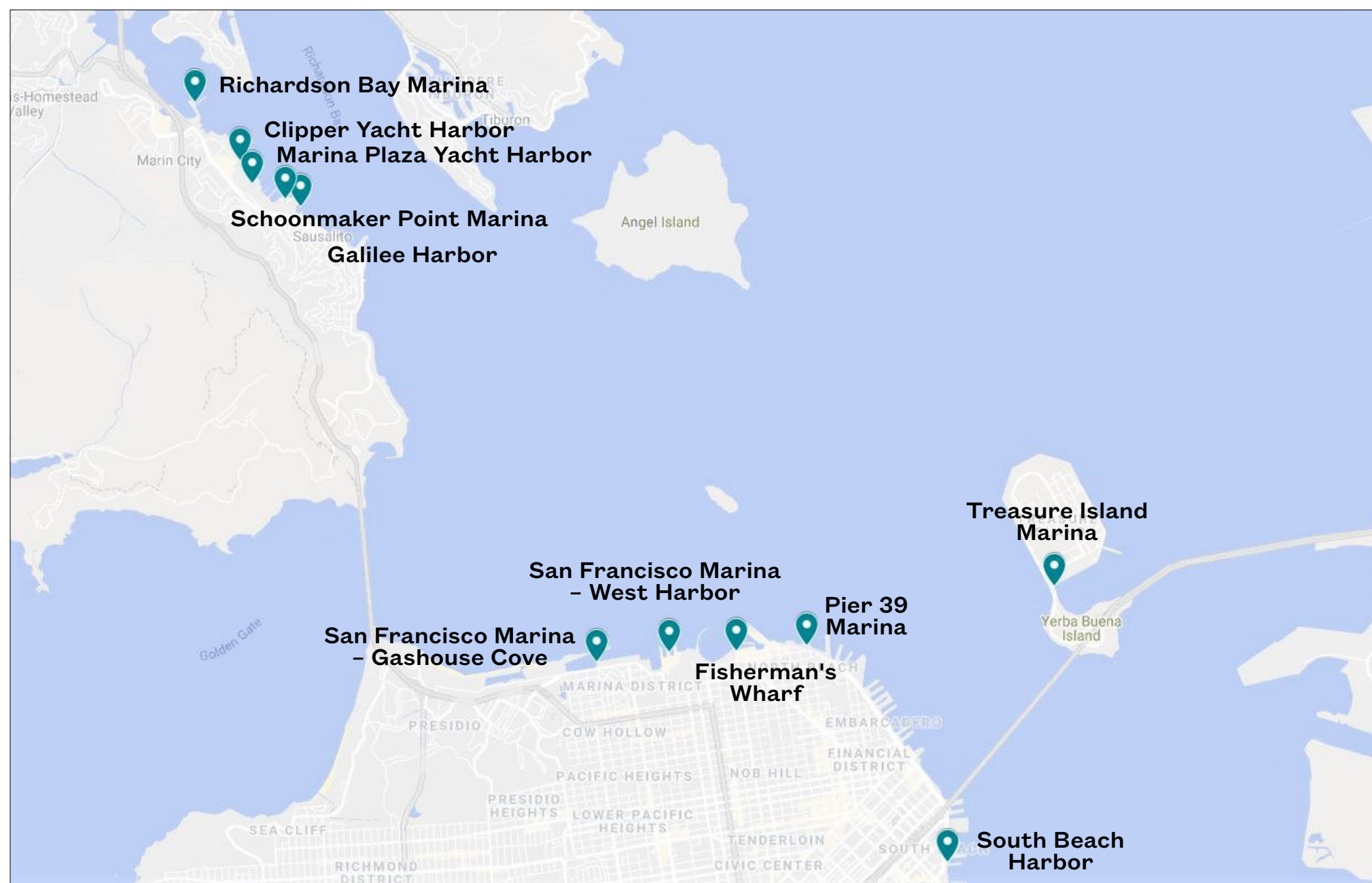
South Beach Yacht Harbor

Treasure Island Marina

A view from Richardson Bay Marina
Photo by SFEP



SAN FRANCISCO — WEST BAY

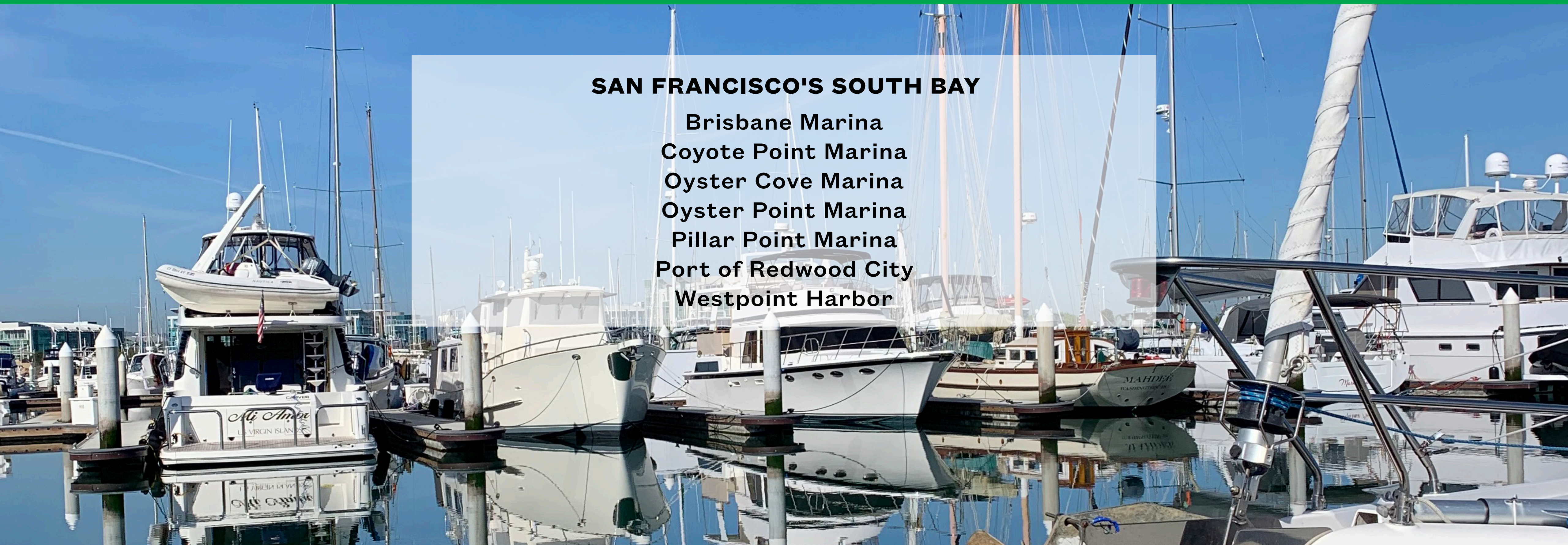


2021 PUMPOUT USABILITY SNAPSHOT AND OPERATIONAL STATUS

FACILITY	PUMP TYPE	SPRING		SUMMER		FALL	
		USABILITY SNAPSHOT (%)	OPERATIONAL STATUS	USABILITY SNAPSHOT (%)	OPERATIONAL STATUS	USABILITY SNAPSHOT (%)	OPERATIONAL STATUS
Clipper Yacht Harbor	Peristaltic	92	Operational	75	Operational	88	Operational
Fisherman's Wharf	Peristaltic	0	Non-operational	0	Non-operational	0	Non-operational
Galilee Harbor	Diaphragm	66	Operational	28	Non-operational	86	Operational
Marina Plaza Harbor	Peristaltic	6	Non-operational	80	Operational	74	Operational
Pier 39 Marina	Peristaltic	94	Operational	97	Operational	97	Operational
Richardson Bay Marina	Peristaltic	90	Operational	94	Operational	97	Operational
San Francisco Marina - Gashouse Cove	Peristaltic	64	Operational	69	Operational	83	Operational
San Francisco Marina - West Harbor	Peristaltic	94	Operational	97	Operational	94	Operational
Schoonmaker Point Marina	Peristaltic	89	Operational	-	Non-accessible	28	Non-operational
South Beach Yacht Harbor	Peristaltic	92	Operational	97	Operational	90	Operational
Treasure Island Marina	Peristaltic	-	Non-accessible	-	Non-accessible	-	Non-accessible



The San Francisco downtown skyline
Photo by SFEP



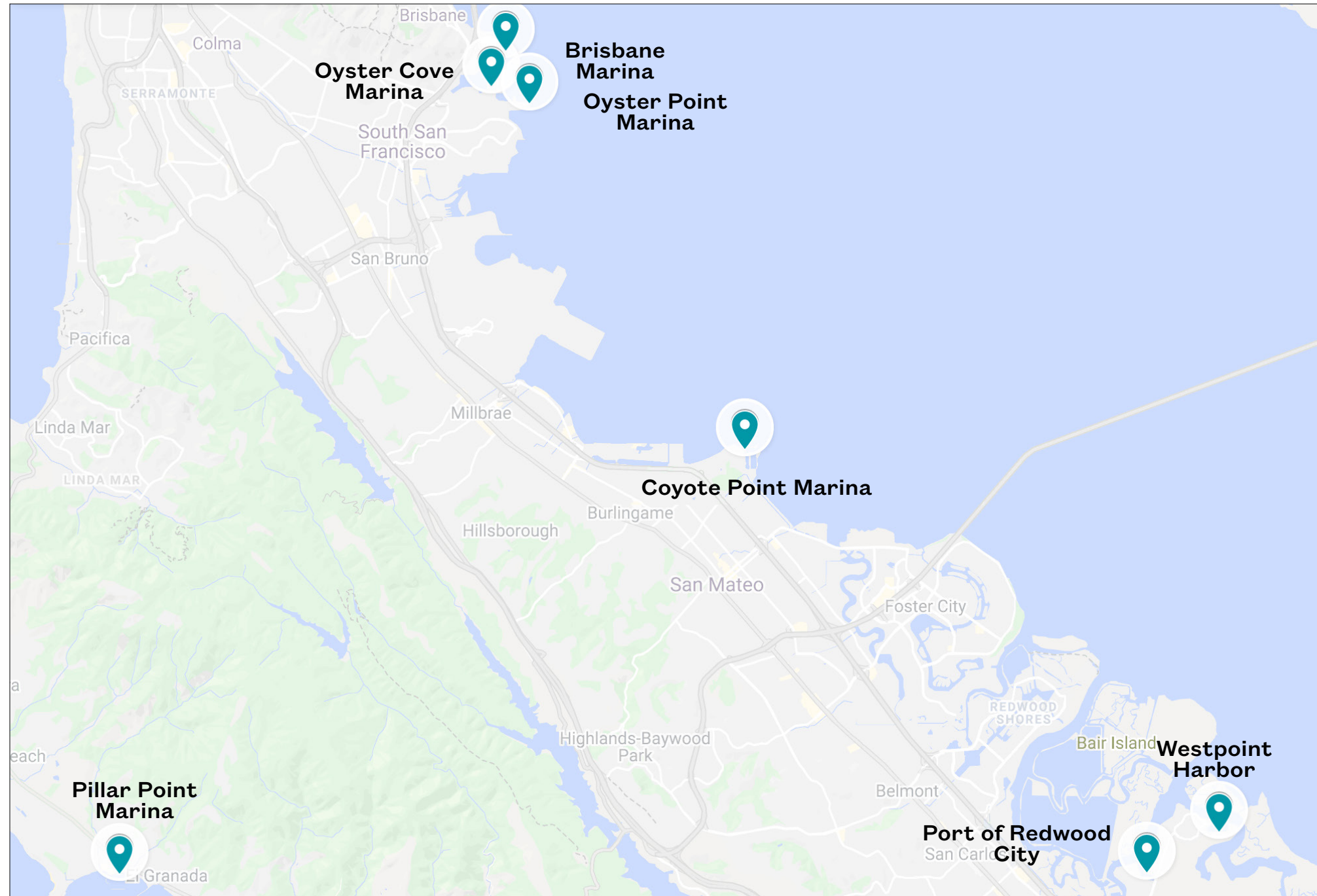
SAN FRANCISCO'S SOUTH BAY

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

Boats berthed at Westpoint Harbor
Photo by SFEP



SAN FRANCISCO — **SOUTH BAY**

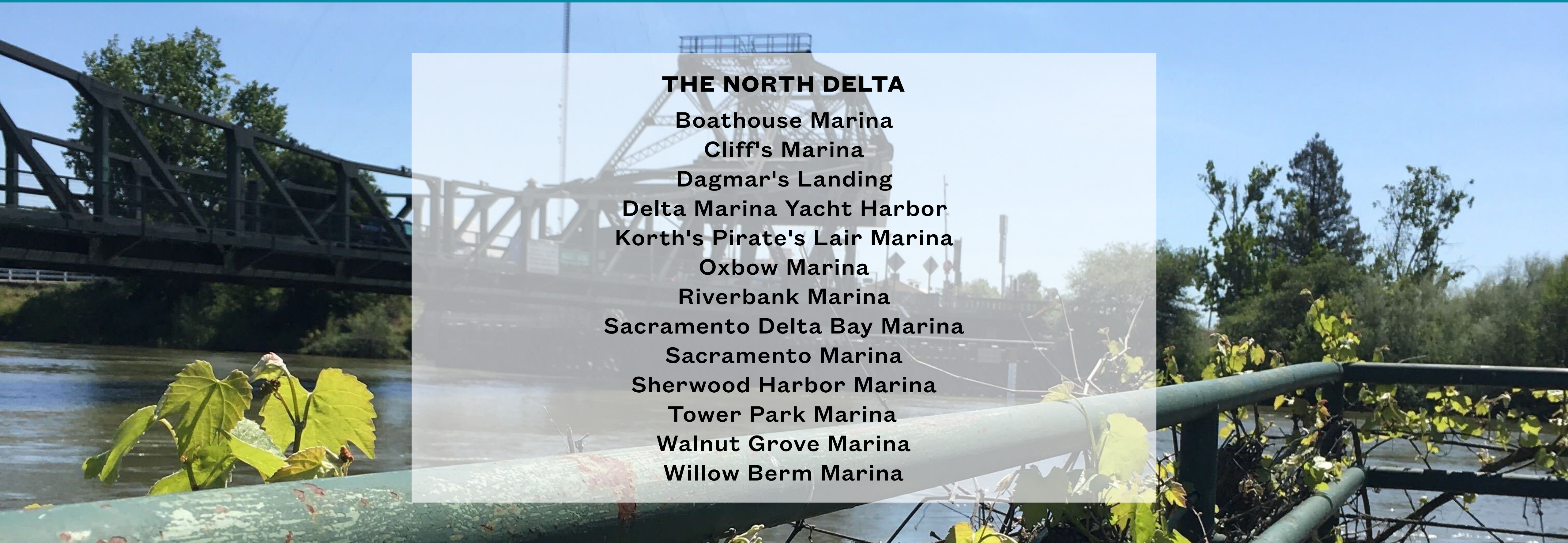


2021 PUMPOUT USABILITY SNAPSHOT AND OPERATIONAL STATUS

FACILITY	PUMP TYPE	SPRING		SUMMER		FALL	
		USABILITY SNAPSHOT (%)	OPERATIONAL STATUS	USABILITY SNAPSHOT (%)	OPERATIONAL STATUS	USABILITY SNAPSHOT (%)	OPERATIONAL STATUS
Brisbane Marina	Peristaltic	89	Operational	89	Operational	83	Operational
Coyote Point Marina	Peristaltic	89	Operational	89	Operational	89	Operational
Oyster Cove Marina	Peristaltic	94	Operational	94	Operational	92	Operational
Oyster Point Marina	Vacuum	-	Non-accessible	-	Non-accessible	-	Non-accessible
Pillar Point Marina	Peristaltic	94	Operational	92	Operational	94	Operational
Port of Redwood City	Peristaltic	94	Operational	94	Operational	94	Operational
Westpoint Harbor	Peristaltic	87	Operational	33	Non-operational	33	Non-operational



Scene of boat jibs high in the sky
Photo by SFEP



THE 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

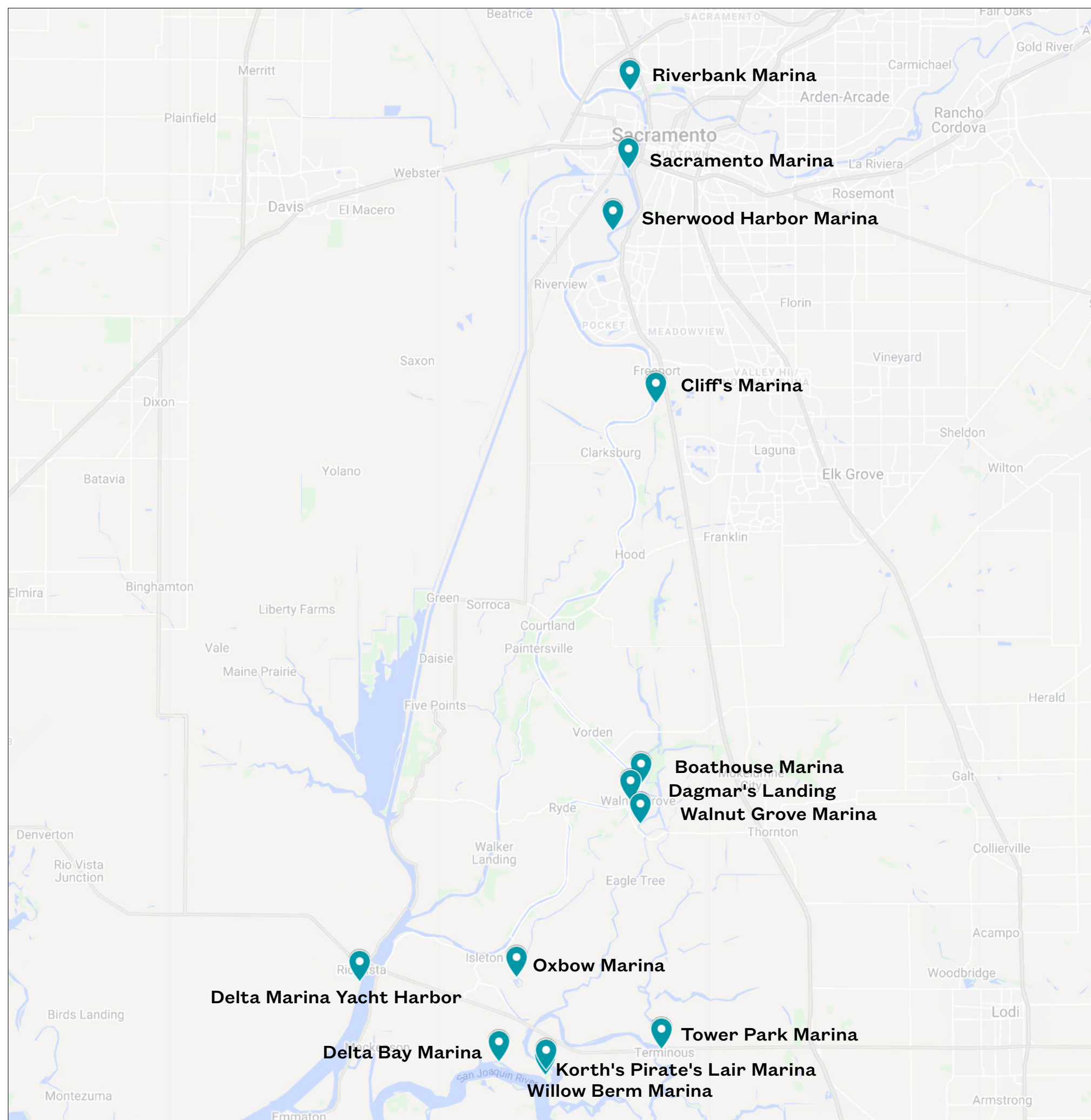
Willow Berm Marina

A view of a bridge overpass in the Sacramento-San Joaquin Delta region
Photo by Natasha Dunn



SACRAMENTO-SAN JOAQUIN RIVER DELTA — NORTH DELTA

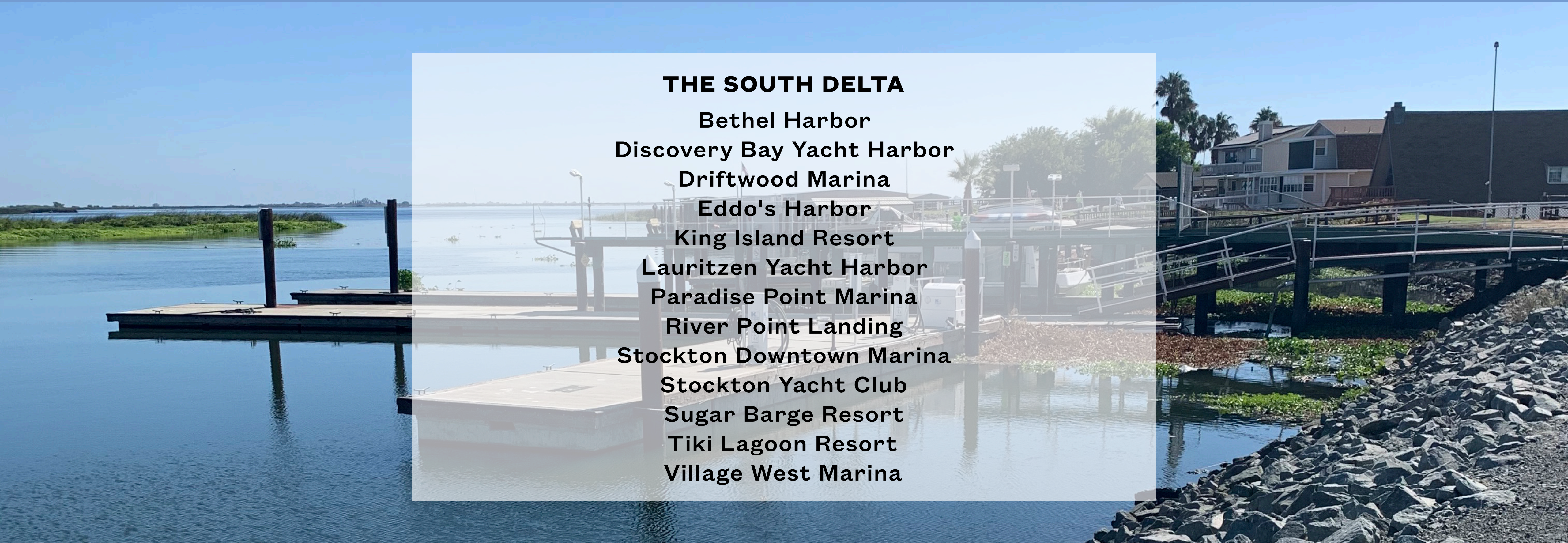
2021 PUMPOUT USABILITY SNAPSHOT AND STATUS



FACILITY	PUMP TYPE	SPRING		SUMMER		FALL	
		USABILITY SNAPSHOT (%)	OPERATIONAL STATUS	USABILITY SNAPSHOT (%)	OPERATIONAL STATUS	USABILITY SNAPSHOT (%)	OPERATIONAL STATUS
Boathouse Marina	Diaphragm	-	Non-accessible	80	Operational	80	Operational
Cliff's Marina	Diaphragm	73	Operational	81	Operational	-	Non-accessible
Dagmar's Landing	Diaphragm	83	Operational	-	Non-accessible	-	Non-accessible
Delta Bay Marina	Peristaltic	80	Operational	63	Operational	42	Operational
Delta Marina Yacht Harbor	Peristaltic	81	Operational	84	Operational	81	Operational
Korth's Pirate's Lair Marina	Peristaltic	86	Operational	82	Operational	33	Non-operational
Oxbow Marina	Peristaltic	91	Operational	94	Operational	90	Operational
Riverbank Marina	Peristaltic	81	Operational	33	Non-operational	84	Operational
Sacramento Marina	Peristaltic	-	Non-accessible	85	Operational	90	Operational
Sherwood Harbor Marina	Peristaltic	33	Non-operational	97	Operational	94	Operational
Tower Park Marina	Peristaltic	85	Operational	94	Operational	-	Non-accessible
Walnut Grove Marina	Peristaltic	94	Operational	94	Operational	94	Operational
Willow Berm Marina, Fuel Dock North	Vacuum	94	Operational	79	Operational	79	Operational
Willow Berm Marina, Fuel Dock South	Vacuum	84	Operational	85	Operational	84	Operational



A small rowboat tied to a dock on calm waters
Photo by Natasha Dunn



THE 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

An empty boat ramp alongside houses on a levee in the Delta
Photo by Natasha Dunn



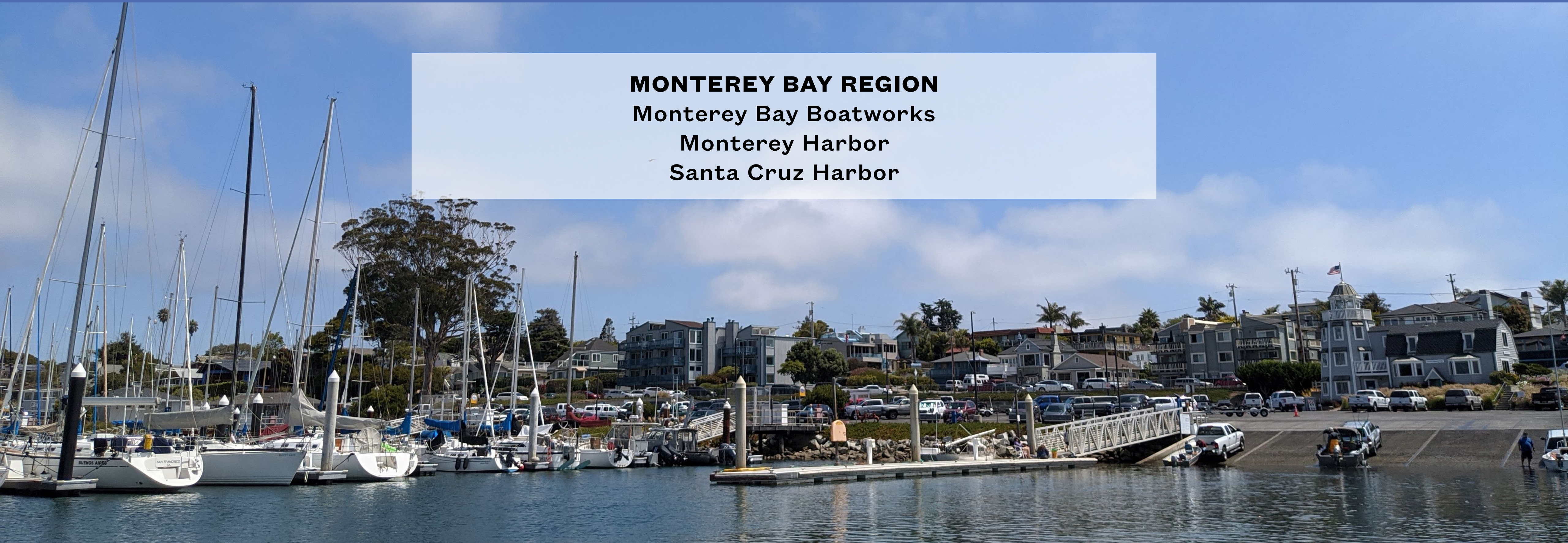
SACRAMENTO-SAN JOAQUIN RIVER DELTA — **SOUTH DELTA**

2021 PUMPOUT USABILITY SNAPSHOT AND STATUS



Serene waters and willow-lined banks in the Delta
Photo by Natasha Dunn

FACILITY	PUMP TYPE	SPRING		SUMMER		FALL	
		USABILITY SNAPSHOT (%)	OPERATIONAL STATUS	USABILITY SNAPSHOT (%)	OPERATIONAL STATUS	USABILITY SNAPSHOT (%)	OPERATIONAL STATUS
Bethel Harbor, Service Dock East	Peristaltic	-	Non-accessible	-	Non-accessible	90	Operational
Bethel Harbor, Service Dock West	Peristaltic	-	Non-accessible	-	Non-accessible	93	Operational
Discovery Bay Yacht Harbor	Diaphragm	87	Operational	86	Operational	71	Operational
Driftwood Marina	Peristaltic	92	Operational	92	Operational	92	Operational
Eddo's Harbor	Diaphragm	28	Non-operational	28	Non-operational	28	Non-operational
King Island Resort	Peristaltic	0	Non-operational	0	Non-operational	0	Non-operational
Lauritzen Yacht Harbor, Fuel Dock East	Peristaltic	88	Operational	85	Operational	84	Operational
Lauritzen Yacht Harbor, Fuel Dock West	Peristaltic	88	Operational	93	Operational	84	Operational
Paradise Point Marina, Far Left Unit	Diaphragm	0	Non-operational	0	Non-operational	0	Non-operational
Paradise Point Marina, Middle Left Unit	Diaphragm	0	Non-operational	0	Non-operational	0	Non-operational
Paradise Point Marina, Middle Right Unit	Diaphragm	0	Non-operational	0	Non-operational	0	Non-operational
Paradise Point Marina, Far Right Unit	Diaphragm	0	Non-operational	0	Non-operational	0	Non-operational
River Point Landing	Vacuum	80	Operational	76	Operational	64	Operational
Stockton Downtown Marina	Peristaltic	33	Non-operational	33	Non-operational	28	Non-operational
Stockton Yacht Club	Peristaltic	72	Operational	79	Operational	45	Operational
Sugar Barge Resort	Diaphragm	85	Operational	-	Non-accessible	81	Operational
Tiki Lagoon Resort	Vacuum	64	Operational	49	Non-operational	60	Operational
Village West Marina	Peristaltic	94	Operational	92	Operational	86	Operational

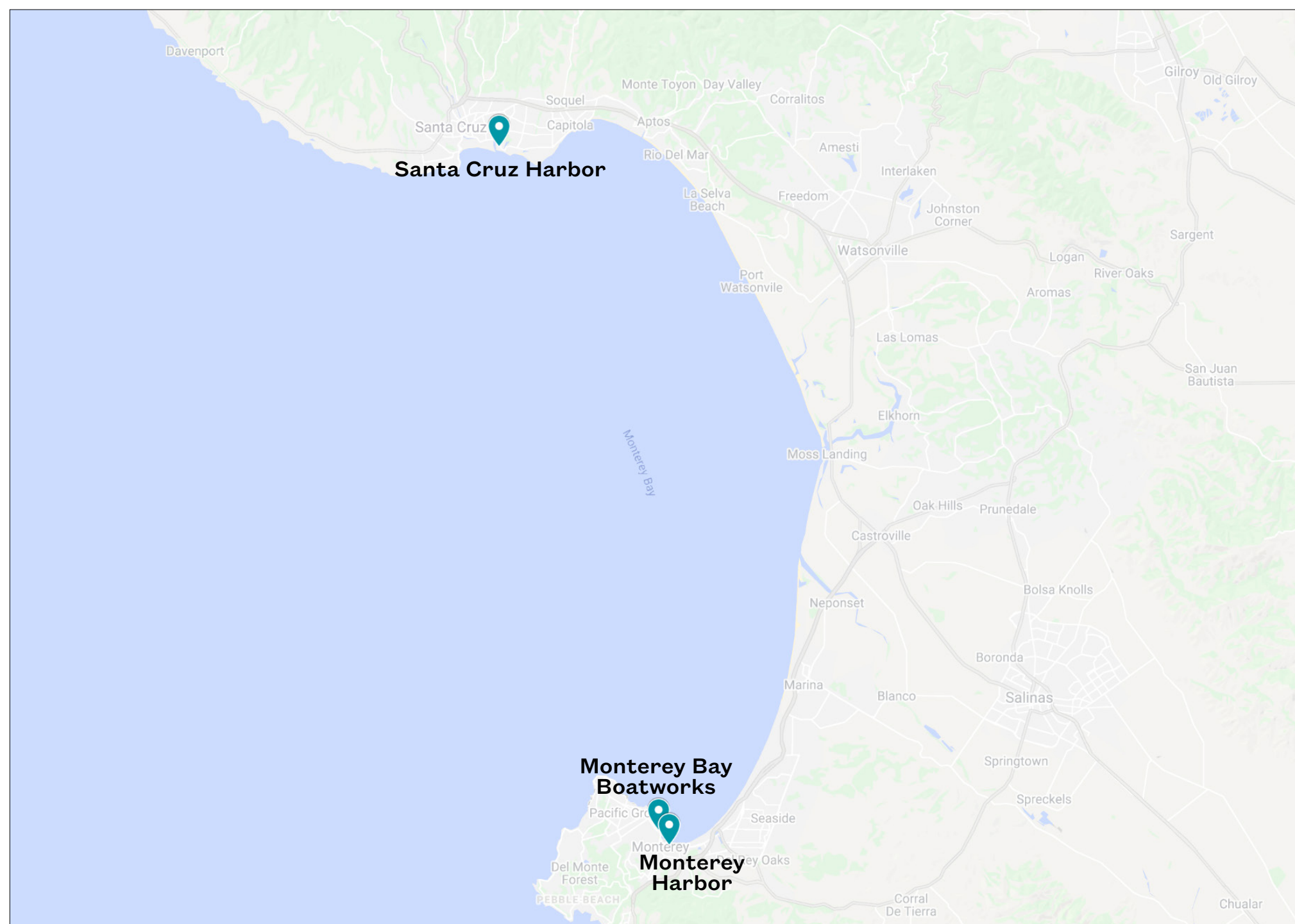


MONTEREY BAY REGION
Monterey Bay Boatworks
Monterey Harbor
Santa Cruz Harbor

A busy boat ramp at the Santa Cruz Harbor
Photo by Liz Juvera



MONTEREY BAY — MONTEREY PENINSULA AND SANTA CRUZ HARBOR



2021 PUMPOUT USABILITY SNAPSHOT AND STATUS

FACILITY	PUMP TYPE	SPRING		SUMMER		FALL	
		USABILITY SNAPSHOT (%)	OPERATIONAL STATUS	USABILITY SNAPSHOT (%)	OPERATIONAL STATUS	USABILITY SNAPSHOT (%)	OPERATIONAL STATUS
Monterey Bay Boatworks	Peristaltic	94	Operational	94	Operational	94	Operational
Monterey Harbor	Peristaltic	94	Operational	94	Operational	94	Operational
Santa Cruz Harbor	Peristaltic	89	Operational	89	Operational	80	Operational



Commercial fishing boats parked in the Monterey Harbor
Photo by Liz Juvera



NORTHERN CALIFORNIA 2021 DUMP STATION OPERATIONAL STATUS



FACILITY	MOTOR TYPE	SPRING	SUMMER	FALL
Brisbane Marina	Peristaltic	Not recorded	Operational	Operational
Loch Lomand Marina	Peristaltic	Not recorded	Operational	Non-operational
Oyster Cove Marina	Peristaltic	Not recorded	Operational	Operational
Riverbank Marina	Peristaltic	Not recorded	Non-operational	Operational
Stockton Downtown Marina	Peristaltic	Not recorded	Not recorded	Non-operational
Sugar Barge Marina	Peristaltic	Not recorded	Non-operational	Non-operational



Wind turbines and dramatic clouds stun while out monitoring in the Delta
Photo by Natasha Dunn



Boats berthed at the Santa Cruz Harbor
Photo by Liz Juvera



RESOURCES

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

<https://www.santamonicabay.org/what-we-do/projects/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.cleanvasel&hl=en>

MOBILE PUMPOUT COMPANIES

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



LIQUID GOLD
SASA POINT CA

King