



STAFF REPORT

TO: Board of Commissioners

FROM: Chris Munson, Facilities Manager
Natalie Teeter, Planner/Analyst
Bill Gaalswyk, Pier Crew Lead

DATE: July 26, 2022

SUBJECT: **2022 Dredge Operations: Completed**

Recommendation / Proposed Motion

- Receive and file; no action necessary

Policy Implications

Ocean access is a priority for the District. Dredging allows boat owners access to the Trailer Boat and Mobile Hoist Pier launch areas.

District Major Objective/Goal

Objective #2 – Maintain and enhance a boater friendly atmosphere at PSL for both commercial and recreational boaters.

Fiscal Implications / Budget Status

Cost estimates associated with dredging were included in the 2021-2022 District Budget and are listed as follows:

- Dredge Supplies: \$1,000 – Miscellaneous supplies
- Dredge Operations: \$15,000 – Includes labor, mobilization / demobilization, equipment maintenance, administrative items, grunion monitoring (when disposing on Fisherman's Beach), and annual dredge fees paid to the Regional Water Quality Control Board
- Dredge Pump: \$19,999 – Repairs to the TOYO DP50 dredge pump

Alternatives Considered

None recommended at this time.

Discussion

2018: 11,932 Cubic Yards Dredged

2019: 20,482 Cubic Yards Dredged

2020: 15,680 Cubic Yards Dredged

2021: 13,984 Cubic Yards Dredged

2022: 16,397 Cubic Yards Dredged

- Dredging for the 2022 season began on March 1st and ended June 15th
 - Mobile Hoist Pier: 6,322 Cubic Yards Dredged
 - Trailer Boat Basin: 10,075 Cubic Yards Dredged

Month	Mobile Hoist Pier (CY)	Trailer Boat Basin (CY)	Total (CY)
March 2022	0	8,053	8,053
April 2022	3,582	0	3,582
May 2022	2,740	1,010	3,750
June 2022	0	1,012	1,012
2022 Season	6,322	10,075	16,397

- We have dredged slightly more this year but have completed dredging operations earlier compared to last year. This year, staff dredged longer consecutive hours earlier in the season to clear both basins out as quickly as possible. This prevented partially cleared basins from being shoaled in during mid-season swells.
- A new hour meter was installed on the dredge pump in 2019, which provides greater accuracy in recording active dredging hours versus times where the pump is operating, but not actively dredging (e.g., searching for sand, running line clear, etc.). By accounting for pump downtimes, we are able to calculate more precise dredged amounts.

Large winter swells (>10 feet) are the principal sand shoaling cause. The larger and more direct the south swell, the more sand pushed into the Trailer Boat Launch and Mobile Hoist Chute.

Significant swells (>10 feet)

- February 15 8' to 10' Northwesterly
- March 4 12' to 14' Northwesterly
- March 5 9' to 11' Northwesterly
- March 19 8' to 10' Northwesterly
- March 28 9' to 11' Westerly
- April 4 8' to 10' Northwesterly
- April 5 8' to 10' Northwesterly
- April 6 8' to 10' Northwesterly
- April 9 9' to 11' Northwesterly
- April 11 9' to 11' Northwesterly
- April 12 9' to 11' Northwesterly
- April 22 10' to 12' West Northwesterly
- April 26 8' to 10' Northwesterly
- April 30 8' to 10' Northwesterly
- May 2 8' to 10' Northwesterly
- May 7 12' to 14' Northwesterly
- May 19 9' to 11' Northwesterly
- May 20 8' to 10' Northwesterly
- June 13 8' to 10' Northwesterly

If there are additional swells or storms which bring in more sand shoaling in the next few months, we may resume dredging, but we are more than likely completed for the season.

Materials Used

- Piping: connect flanges, lay out to disposal site
- Toyo pump, control box, electrical lines and connections

Disposal Sites

- Fisherman’s Beach has proved the most beneficial in terms of recirculation of dredge material in recent years, and the operator has a visual on the outfall line
- West Bluff Beach has also been used in previous years
- Other less convenient sites are available as indicated in our permits

Human Resources

- Two or three facilities staff when setting up and breaking down
- One or two while pump is in operation

Equipment

- Little Giant Crane / 50 HP Toyo Pump

Trailer Boat Hoist Basin Design Depth

Minimum of -3 feet MLLW in areas of operation

Mobile Boat Hoist Basin Design Depth

Minimum of -5 feet MLLW in areas of operation

Mean Low Low Water (MLLW) - the average height of the lowest tide recorded at a tide station each day during a set recording period.

Dredge Totals			
Year	Active Pump Hours	Cubic Yards (CY)	(Hours & CY from dredge log spreadsheet)
2022	483	16,397	
Dredge Costs (estimates)			
Description	Quantity	Total	Percentage
Labor Hours	795.5	\$27,866.23	20%
Equipment (from hour meter)			
Crane Hours	508	\$69,088.00	50%
Dredge Pump	508	\$19,998.83	14%
Electricity (kWh)	17,925	\$5,336.96	4%
Diesel Fuel (gallons)	336	\$2,126.14	2%
Grunion Surveys		\$5,000.00	4%
Water Board Fee (estimated)		\$8,785.63	6%
Totals		\$138,201.79	100%