

Mandated by the California Oil Spill Prevention and Response Act of 1990

Harbor Safety Committee of the San Francisco Bay Region Thursday, November 8, 2018 Port of San Francisco, Pier 1, Bayside Conference Room The Embarcadero, San Francisco, CA

Capt. Lynn Korwatch (M), Marine Exchange of the San Francisco Bay Region (Marine Exchange), Chair of the Harbor Safety Committee (HSC); called the meeting to order at 10:05.

Marcus Freeling (A), Marine Exchange, confirmed the presence of a quorum of the HSC.

Committee members (M) and alternates (A) in attendance with a vote: John Berge (M), Pacific Merchant Shipping Association; Ted Blanckenburg (A), AmNav Maritime Services; Sejal Choksi-Chugh (M), San Francisco Baykeeper; Jeff Ferguson (M), NOAA; Aaron Golbus (M), Port of San Francisco; Scott Grindy (M), San Francisco Small Craft Harbor; Capt. Thomas Kirsch (M), Blue and Gold Fleet; Andrew Marshall (M), Port of Benicia; Jim Mazza (A), US Army Corps of Engineers; CDR Roberto Rivera (A), United States Coast Guard; Julian Rose (M), Andeavor; Capt. Paul Ruff (A), San Francisco Bar Pilots; Linda Scourtis (A), BCDC; Justin Taschek (A), Port of Oakland.

The meetings are always open to the public.

Approval of the Minutes-

A motion to accept the minutes of the October 11, 2018 meeting was made and seconded. The minutes were approved without dissent.

Comments by Chair- Capt. Lynn Korwatch

Recognized Veteran's Day on the November 11th. Welcomed the committee members and audience.

Coast Guard Report- CDR Roberto Rivera

- Announced that Bob Blomerth has been hired as the new director of VTS following Sean Kelley's retirement.
- Advised of the Ocean Cleanup Project which deployed on October 3rd. The project is aimed at reducing the Great Pacific Garbage Patch which encompasses 1.6 million square kilometers of ocean.



Mandated by the California Oil Spill Prevention and Response Act of 1990

- Advised that 73 towing vessels in the region require USCG Certificate of Inspection. Third party inspection options are available.
- Advised of two incidents in October. A ferry vessel suffered equipment failure with passengers on board and a cargo vessel had multiple steering failures before repairs were made.
- LCDR Rebecca Deakin read from the October- 2018 Prevention/Response Report (attached). The three loss of steering cases involved the same vessel. Vessel names are not published while a case investigation is still active.

Army Corps of Engineers Report- Jim Mazza

 Read from the US Army Corps of Engineers, San Francisco District Report (attached). Main Ship Channel dredging is currently taking place. The Richmond Inner Harbor dredging contract protest has been resolved but the environmental working window is an issue. On October 28th a dredge mechanical problem resulted in the improper disposal of dredge material in Oakland Harbor. The sediment was not found to be harmful and no cleanup required. Debris removal was less than average in October. A draft report is being prepared for the San Francisco Bay to Stockton study. A new Pinole Shoal condition survey was conducted and will be posted soon.

Clearinghouse Report- Marcus Freeling (report attached)

OSPR Report- Mike Zamora

- Advised that the comment period is over for changes being proposed to OSPR's inland regulations. The updated regulations have been finalized and resubmitted to the Office of Administrative Law.
- Advised that OSPR has prepared a letter of recognition for Bob Gregory, Foss Maritime, who is retiring.

NOAA Report- Jeff Ferguson

- Advised that recent USACE surveys have been applied to NOAA charts.
- Advised that voluntary speed reduction put in place to protect whales ends on November 15th.
- Advised that the NWS predicts a dryer than average winter with an 80 percent chance of a weak El Nino.

Harbor Safety Committee of the SF Bay Region November 8, 2018 Page 2



Mandated by the California Oil Spill Prevention and Response Act of 1990

State Lands Commission Report- Mike Moline (report attached)

Work Group Reports-

Tug Work Group- Ted Blanckenburg advised that there was nothing to report. Capt. Korwatch presented Foss colleagues with a Certificate of Appreciation for Bob Gregory who is retiring after many years of service on the HSC.

Navigation Work Group- Capt. Paul Ruff advised that a work group meeting was recently held on Sail GP event planning.

Ferry Operations Work Group- Capt. Thomas Kirsch advised that there was nothing to report.

Dredge Issues Work Group- Julian Rose advised of a letter being prepared that will be sent to the Army Corps outlining recommendations for Pinole Shoal dredging. A survey of the channel was conducted last week. An e-navigation conference was held on November 6-7 at Cal Maritime. Topics included autonomous ships, vessel position monitoring, data analysis, virtual AIS and remote piloting. Capt. Korwatch advised that another e-navigation conference will be taking place in Seattle.

PORTS Work Group- Justin Taschek advised that there was nothing to report.

Prevention through People Work Group- Scott Grindy advised of a cooperative project called Bay Area Marina Operations focusing on safety and security. Abandoned boats are a primary concern and can pose an environmental hazard.

PORTS Report- Marcus Freeling

- Advised that the UP Railroad Bridge wind station is still offline due to bridge electrical issues. UP has confirmed that they are in the process of repairing the electric cable and power should be restored soon. Thanks to the Bar Pilots for assisting with this issue.
- Advised that PORTS IP modems are in the process of being upgraded to newer models. The upgrades should improve connection and maintain functionality of PORTS stations. Some new modems have poor signal strength and upgraded antennas will be installed.
- Advised that PORTS data is publicly available through NOAA's Tides and Currents website.



Mandated by the California Oil Spill Prevention and Response Act of 1990

Public Comment- None

Old Business- None

New Business-

- Sejal Choksi-Chugh advised that the impacts of sea-level rise can be visualized with shoreline footage provided by Google. Links and information on contaminated lands predicted to be inundated are available on the San Francisco Baykeeper website. Capt. Korwatch noted that San Francisco's seawall project was approved by the voters in the recent election. Aaron Golbus advised that the port is excited and that work on the seawall is expected to begin within the next five years. Capt. Korwatch asked about San Francisco's proposed fire station development. Aaron Golbus advised of permitting issues with the project.
- Capt. Korwatch advised that there will not be a December HSC meeting.
- It was announced that the annual Bar Pilot party will be held on December 13th and includes a toy drive

Next Meeting-

1000-1200, January 10, 2019 California Maritime Academy, Richmond Maritime Safety & Security Center 756 West Gertrude Street, Richmond, CA

Adjournment-

A motion to adjourn was made and seconded. The motion passed without dissent and the meeting adjourned at 10:44.

Respectfully submitted:

Lyp Cornalt

Capt. Lynn Korwatch

Harbor Safety Committee of the SF Bay Region November 8, 2018 Page 4

PREVENTION / RESPONSE - SAN FRANCISCO HARBOR	R SAFETY ST	ATISTICS	
October 2018			
PORT SAFETY CATEGORIES*	Oct-2018	Oct-2017	**3yr Avg
Total Number of Port State Control Detentions:	2	0	0.44
SOLAS (1), STCW (0), MARPOL (1), ISM (0), ISPS (0)			
Total Number of COTP Orders:	3	4	3.33
Navigation Safety (0), Port Safety & Security (3), ANOA (0)			
Marine Casualties (reportable CG 2692) within SF Bay:	9	14	9.83
Allision (1), Collision (1), Fire (0), Capsize (0), Grounding (0), Sinking (0)			
Steering (1), Propulsion (1), Personnel (4), Other (0), Power (1)			
Total Number of (routine) Navigation Safety issues/Letters of Deviation:	1	1	2.47
Radar (0), Gyro (1), Steering (0), Echo Sounder (0), AIS (0)			
ARPA (0), Speed Log (0), R.C. (0), Other (0)			
Reported or Verified "Rule 9" or other Navigational Rule Violations:	0	1	0.44
Significant Waterway events/Navigation related Cases:	1	0	0.39
Total Port Safety (PS) Cases opened	16	20	16.92
MARINE POLLUTION RESPONSE			
Pollution Discharge Sources (Vessels)	Oct-2018	Oct-2017	**3yr Avg
U.S. Commercial Vessels	2	0	0.72
Foreign Freight Vessels	0	0	0.08
Public Vessels	0	0	0.58
Commercial Fishing Vessels	1	0	0.38
Recreational Vessels	2	6	
	2	0	2.94
Pollution Discharge Sources (Facilities)	0	0	0.00
Regulated Waterfront Facilities	0	0	0.08
Regulated Waterfront Facilities - Fuel Transfer	0	0	0.00
Other Land Sources	1	1	1.31
Mystery Spills - Unknown Sources	9	4	4.08
Number of Pollution Incidents within San Francisco Bay			
Spills < 10 gallons	4	4	3.92
Spills 10 - 100 gallons	1	2	1.00
Spills 100 - 1000 gallons	0	0	0.14
Spills > 1000 gallons	0	0	0.00
Spills - Unknown Size	10	4	5.31
Total Pollution Incidents	15	10	10.36
Oil Discharge/Hazardous Materials Release Volumes by Spill Size			
Estimated spill amount from U.S. Commercial Vessels	3.00	0.00	7.54
Estimated spill amount from Foreign Freight Vessels	0.00	0.00	8.50
Estimated spill amount from Public Vessels	0.00	0.00	2.57
Estimated spill amount from Commercial Fishing Vessels	1.00	0.00	7.43
Estimated spill amount from Recreational Vessels	25.00	6.00	21.63
Estimated spill amount from Regulated Waterfront Facilities	0.00	0.00	0.11
Estimated spill amount from Regulated Waterfront Facilities - Fuel Transfer	0.00	0.00	0.00
Estimated spill amount from Other Land Sources	5.00	1.00	10.64
Estimated spill amount from Unknown Sources (Mystery Sheens)	unk	unk	0.00
Total Oil Discharge and/or Hazardous Materials Release (Gallons)	34.00	7.00	58.42
Penalty Actions			
Civil Penalty Cases	0	0	0.00
Notice of Violations	0	0	0.25
Letters of Warning	4	0	2.58
Total Penalty Actions	4	0	2.83
* NOTE: Values represent all cases within the HSC jurisdiction during the period. Significant c	cases are detail	ed in the narrat	ive

SIGNIFICANT PORT SAFETY AND SECURITY CASES (OCT 2018) MARINE CASUALTIES

Loss of steering (04OCT18): A foreign flag bulk carrier experienced a loss of steering while transiting in the San Francisco Bay. A Captain of the Port Order was issued permitting the vessel to proceed to Anchorage 7 with a three tug escort. Upon daylight, the vessel shifted to Anchorage 9 and remained there until Coast Guard received a report from the vessel's class surveyor attesting to the causative factors of the loss of steering. A full analysis was conducted on the system to ensure the system was in proper working order. Class surveyor and Coast Guard attended the vessel and witnessed satisfactory operation of the vessel's steering gear and associated systems. The Captain of the Port Order was lifted upon vessel's departure from San Francisco Bay. Case closed.

Loss of Steering and Propulsion, (12OCT18): After previous losses of steering and propulsion incidents in San Francisco Bay, a Captain of the Port Order was issued to a foreign flag bulk carrier vessel requiring a one tug escort while operating in San Francisco Bay. The Captain of the Port Order was lifted upon vessel's departure from San Francisco Bay. Case closed.

Loss of Steering and Propulsion, (24OCT18): After previous losses of steering and propulsion incidents in San Francisco Bay, a Captain of the Port Order was issued to a foreign flag bulk carrier vessel requiring a one tug escort while operating in San Francisco Bay. The Captain of the Port Order remains in effect until permanent repairs are made to the vessel's steering system. A Class surveyor shall attest to repairs and Coast Guard shall witness satisfactory operation of the vessel's steering gear and associated systems. Case pends.

VESSEL SAFETY CONDITIONS

Vessel Detention (04OCT18): A foreign flag bulker was detained for both MARPOL and SOLAS deficiencies. Detainable deficiencies included improper execution of the vessel's garbage management plan and lifesaving deficiencies. Flag Surveyors, Class Surveyors and Coast Guard Examiners witnessed the corrected deficiencies. The detention was lifted. Case closed.

Vessel Detention (18Oct18): A U.S. flagged small passenger vessel was detained for an inoperable bilge system. Operator effected temporary repairs to the system; Coast Guard witnessed satisfactory operation and approved temporary repairs until permanent repairs can be made at vessel's next drydock. Case closed.

NAVIGATIONAL SAFETY

Letter of Deviation (LOD), (08OCT18): A foreign flag freight vessel was issued an outbound letter of deviation for an inoperable Gyrocompass. Gyrocompass was repaired and tested with satisfactory results. Case closed.

SIGNIFICANT INCIDENT MANAGEMENT DIVISION CASES

Letter of Warning, (05OCT18): A U.S. flag recreational sailing vessel, discharged 3 gallons of diesel into Vallejo Marina due to a hole in the fuel tank. The bilge pump was secured and clean ups were conducted. A LOW was issued to the owner. Case closed.

Letter of Warning, (08OCT18): A fuel dock discharged 1 gallon of gasoline into Oyster Point Marina due to a flex joint failure which caused a pinhole leak in the gasoline line. The valve was secured and sorbent boom put in place. A LOW was issued to the fuel dock. Case closed.

Letter of Warning, (19OCT18): A U.S. flag passenger ferry discharged 2 ounces of hydraulic oil into San Francisco Bay due to an equipment failure. Clean ups were conducted. A LOW was issued to the company. Case closed.

Letter of Warning, (29OCT18): A 28' U.S. flag recreational vessel, discharged an unknown amount of diesel into Pillar Point Harbor. Harbormaster placed hard boom around the vessel. Owner hired Parker Diving to remove fuel. A LOW was issued to the owner. Case closed.

Harbor Safety Committee Of the San Francisco Bay Region

Report of the U.S. Army Corps of Engineers, San Francisco District November 8, 2018

1. CORPS O&M DREDGING PROGRAM

The following report covers the FY 2018 dredging program for San Francisco Bay. This program is subject to change based on a number of variables including final FY 2018 appropriations and Corps Work Plan. Please refer to the Local Notice to Mariner for details of dredge operations.

FY 2018 DREDGING

- **a. SF Main Ship Channel** Project is now being executed based on 2 dredging episodes, the first of which was completed by the Essayons on 6/6/18 with the second episode scheduled to be completed by the Stuyvesant. This episode has been initiated with an expected completion week of 12 November.
- b. Richmond Inner Harbor FY 18 dredging contract was awarded on 4 September but a protest was received by the District thereby delaying mobilization. Protest has been resolved and the contractor has been mobilized. Current challenge is to complete by 30 November. Because of late mobilization an extension to the Environmental Window may be requested. Production rates will inform future requests.
- c. Richmond Outer Harbor (and Richmond Long Wharf) –In alignment with last year's proposal to alternate Hopper dredging, planned dredging for Richmond Outer will proceed with Essayons. Due to scheduling issue with the West Coast Hopper Contract the Essayons will perform the dredging with two Episodes. The first episode was completed in June and the second episode was completed at the end of October.
- **d.** Oakland Harbor The 2018 dredge cycle is expected to start in September with planned upland disposal through November. Contract has been awarded, contractor has been mobilized with dredging initiated.
- e. **Redwood City Harbor** 2018 dredge cycle has been postponed to 2019. With Mob/Demob and limited carryover funds the projected contract was deemed to be less than cost efficient and the decision was made to plan for a larger scale maintenance dredging episode in alignment with the semi-annual cycle.
- **f.** San Pablo Bay (Pinole Shoal) –In alignment with last year's proposal to alternate Gov't Hopper dredging Pinole will be deferred in 2018.
- g. Suisun Bay Channel (and New York Slough) 2018 Clamshell cycle has been awarded with work currently ongoing and expected completion prior to 30 November.

2. DEBRIS REMOVAL – Debris removal October 2018 was 23 tons. Raccoon: 4 tons; Dillard: 12 tons; other boats: 7 tons. Average for October from 2008 to 2017 is 38 tons (Range: 8.5-70.5 tons).

MONTH	RACCOON	DILLARD	MISC	TOTAL
2018	TONS	TONS	TONS	TONS
JAN	45	0	50	95
FEB	20	18	50	88
MAR	20	46.5	17	83.5
APR	26	35.5	15	76.5
MAY	3	10	15	28
JUN	10	25	75	110
JUL	10	13.5	105	128.5
AUG	26	5	27	58
SEP	20	28.5	11	59.5
OCT	4	12	7	23
NOV	0	0	0	0
DEC	0	0	0	0

BASEYARD DEBRIS COLLECTION TOTALS:

YR TOTAL
750

3. UNDERWAY OR UPCOMING HARBOR IMPROVEMENTS

None to report.

4. EMERGENCY (URGENT & COMPELLING) DREDGING

None to report.

5. OTHER WORK

San Francisco Bay to Stockton – The study is now being conducted by the Wilmington District to more efficiently match the study with available resources. Funding was allocated in the FY17 work plan. The Tentatively Selected Plan (TSP) milestone for Phase I (Western Reach) of the project was held on 29 June 2016 utilizing FY14 carryover funds. The recommended plan is to deepen the Phase I reach of the project from a depth of -35 feet to -38 feet MLLW. The final report is scheduled to be approved in February 2019. Additional funding was allocated to the project for FY18 and the schedule is being reassessed. The team has been remobilized after the Hurricane relief effort and is preparing the draft report.

HYDROGRAPHIC SURVEY UPDATE

Address of Corps' web site for completed hydrographic surveys:

http://www.spn.usace.army.mil/Missions/Surveys,StudiesStrategy/HydroSurvey.aspx

The following surveys are posted:

Alameda Point Navigation Chanel: Condition survey of May 23, 2018. Berkeley Marina (Entrance Channel): Condition survey of July 9, 2018. Islais Creek Channel: Condition survey of July 17, 2018. Larkspur Ferry Channel: Condition survey of July 9, 2018. Main Ship Channel: Condition survey of April 5, 2018. Mare Island Strait: Condition survey of July 10, 2018. Marinship Channel (Richardson Bay): Condition survey of December 7, 2017. Napa River: Condition survey of May 9-10, 2018. Northship Channel: Condition survey of June 29, 2018. **Oakland Entrance Channel (Reach 1A-1C):** Post-dredge surveys of January 17 & 19, 2018. Oakland Inner Harbor: Condition survey of June 14, 2018. Oakland Outer Harbor: Condition survey of June 15, 2018. Petaluma River (Across-the-Flats): Condition survey of September 12-14, 2014. Petaluma River (Main Channel): Condition survey of December 12-13, 2017. Petaluma River (Extended Channel): Condition survey of March 19-26, 2018. Pinole Shoal Channel: Condition survey of July 23-26, 2018. Redwood City Harbor: Condition survey of February 7-8, 2018. Richmond Inner Harbor: Condition survey of June 26, 2018. Richmond Inner Harbor (Santa Fe Channel): Condition survey of December 20, 2016. Richmond Outer Harbor (Longwharf): Condition survey of August 7, 2018. Richmond Outer Harbor (Southampton Shoal): Condition survey of August 7, 2018. Sacramento River Deep Water Ship Channel: Condition survey of May 17-21, 2018. San Bruno Shoal: Condition survey of July 11, 2018. San Leandro Marina (and Channel): Condition survey of March 30 and April 1, 2015. San Rafael (Across-the-Flats): Condition survey of September 24, 2018. San Rafael (Creek): Condition survey of September 24, 2018. Stockton Ship Channel: Condition survey of May 14-17, 2018. Suisun Bay Channel: Condition survey of May 31 & June 1, 2018. Suisun Bay Channel (Bullshead Reach): Condition survey of April 19, 2017. Suisun Bay Channel (New York Slough): Condition survey of May 31 & June 1, 2018.

Disposal Site Condition Surveys:

SF-08 (Main Ship Channel Disposal Site): Condition survey of May 3, 2018.
SF-09 (Carquinez): Condition survey of September 17, 2018.
SF-10 (San Pablo Bay): Condition survey of September 17, 2018.
SF-11 (Alcatraz Island): Condition survey of October 11, 2018.
SF-16 (Suisun Bay Disposal Site): Condition survey of July 3, 2018.
SF-17 (Ocean Beach Disposal Site): Condition survey of May 4, 2018.

Requested Surveys:

Pre/Post-dredge and condition surveys are scheduled to occur thru November for all of San Francisco District's in-bay projects which are planned to be dredged in FY18/FY19.

NEW WEB ADDRESS – USACE WORK PLAN:

http://www.usace.army.mil/Missions/Civil-Works/Budget/



Harbor Safety Committee of the San Francisco Bay Region Clearing House

c/o Marine Exchange of the San Francisco Bay Region 505 Beach Street, Suite 300 San Francisco, California 94133-1131 415-441-6600 fax 415-441-3080 hsc@sfmx.org

San Francisco Clearinghouse Report

November 8, 2018

- In October the clearinghouse did not contact OSPR regarding any possible escort violations.
- In October the clearinghouse did not receive any notifications of vessels arriving at the Pilot Station without escort paperwork.
- The clearinghouse has contacted OSPR a total of 1 time in 2018 regarding possible escort violations. The clearinghouse did not contact OSPR in 2017 about possible escort violations. The clearinghouse contacted OSPR 1 time in 2016 about a possible escort violation. The clearinghouse contacted OSPR 3 times in 2015 about possible escort violations. The clearinghouse contacted OSPR 5 times regarding possible escort violations in 2014. The clearinghouse contacted OSPR 1 time in 2013. The clearinghouse contacted OSPR 3 times in 2012 regarding possible escort violations, 3 times in 2011, 6 times in 2010, 8 time 2009; 4 times 2008; 9 times in 2007; 9 times in 2002; 6 times in 2001; 5 times in 2000.
- In October there were 100 tank vessel arrivals; 11 ATBs, 9 Chemical Tankers, 16 Chemical/Oil Tankers, 28 Crude Oil Tankers, 1 LPG, 19 Product Tankers, and 16 Tugs with Barges.
- In October there were 296 total vessel arrivals.

San Francisco Bay Clearinghouse Report For October 2018

San Francisco Bay Region Totals

i	<u>2018</u>		<u>2017</u>	
Tanker arrivals to San Francisco Bay	73		76	
ATB arrivals	11		15	
Barge arrivals to San Francisco Bay	16		15	
Total Tanker and Barge Arrivals	100		106	
Tank ship movements & escorted barge movements	335		349	
Tank ship movements	197	58.81%	200	57.31%
Escorted tank ship movements	141	42.09%	155	44.41%
Unescorted tank ship movements	56	16.72%	45	12.89%
Tank barge movements	138	41.19%	149	42.69%
Escorted tank barge movements	27	8.06%	25	7.16%
Unescorted tank barge movements	111	33.13%	124	35.53%

Percentages above are percent of total tank ship movements & escorted barge movements for each item.

Escorts reported t			to OSPR			0		0		
Movements by Zone	Zone 1	%	Zone 2	%	Zone 4	%	Zone 6	%	Total	%
Total movements	193		323		0		156		672	
Unescorted movements	85	44.04%	161	49.85%	0	0.00%	72	46.15%	318	47.32%
Tank ships	61	31.61%	106	32.82%	0	0.00%	57	36.54%	224	33.33%
Tank barges	24	12.44%	55	17.03%	0	0.00%	15	9.62%	94	13.99%
Escorted movements	108	55.96%	162	50.15%	0	0.00%	84	53.85%	354	52.68%
Tank ships	99	51.30%	136	42.11%	0	0.00%	66	42.31%	301	44.79%
Tank barges	9	4.66%	26	8.05%	0	0.00%	18	11.54%	53	7.89%

Notes:

1. Information is only noted for zones where escorts are required.

2. All percentages are percent of total movements for the zone.

3. Every movement is counted in each zone transited during the movement.

4. Total movements is the total of all unescorted movements and all escorted movements.

San Francisco Bay Clearinghouse Report For 2018

San Francisco Bay Region Totals

	<u>2018</u>		<u>2017</u>	
Tanker arrivals to San Francisco Bay	657		797	
ATB arrivals	103		146	
Barge arrivals to San Francisco Bay	118		150	
Total Tanker and Barge Arrivals	775		1,093	
Tank ship movements & escorted barge movements	3,157		3,562	
Tank ship movements	1,738	55.05%	2,075	58.25%
Escorted tank ship movements	1,362	43.14%	1,618	45.42%
Unescorted tank ship movements	376	11.91%	457	12.83%
Tank barge movements	1,419	44.95%	1,487	41.75%
Escorted tank barge movements	195	6.18%	218	6.12%
Unescorted tank barge movements	1,224	38.77%	1,269	35.63%

2010

0

Percentages above are percent of total tank ship movements & escorted barge movements for each item.

Escorts reported to OSPR

0

......

Movements by Zone	Zone 1	%	Zone 2	%	Zone 4	%	Zone 6	%	Total	%
Total movements	1,952		3,069		0		1,357		6,378	
Unescorted movements	902	46.21%	1,547	50.41%	0	0.00%	615	45.32%	3,064	48.04%
Tank ships	731	37.45%	1,181	38.48%	0	0.00%	551	40.60%	2,463	38.62%
Tank barges	171	8.76%	366	11.93%	0	0.00%	64	4.72%	601	9.42%
Escorted movements	1,050	53.79%	1,522	49.59%	0	0.00%	742	54.68%	3,314	51.96%
Tank ships	958	49.08%	1,331	43.37%	0	0.00%	668	49.23%	2,957	46.36%
Tank barges	92	4.71%	191	6.22%	0	0.00%	74	5.45%	357	5.60%

Notes:

1. Information is only noted for zones where escorts are required.

2. All percentages are percent of total movements for the zone.

3. Every movement is counted in each zone transited during the movement.

4. Total movements is the total of all unescorted movements and all escorted movements.



HARBOR SAFETY COMMITTEE MONTHLY REPORT - OCTOBER COMPARISON

VESSEL TRANSFERS

	Total Transfers	Total Vessels Monitored		tal Transfers rcentage	
OCTOBER 1 - 31, 2017	235	82	3	4.89	
OCTOBER 1 - 31, 2018	237	80	3	3.76	
CRUDE OIL / PRODUC	T TOTALS				
	Crude Oil (D)	Crude Oil (L)	Overall Product (D) Overall Product (L)	GRAND TOTAL
OCTOBER 1 - 31, 2017	17,261,500		22,155,300	8,373,967	30,529,267
OCTOBER 1 - 31, 2018	14,920,000		21,775,300	7,155,942	28,931,242
OIL SPILL TOTAL					
		TERMINAL	VESSEL	Total	Gallons Spilled
OCTOBER 1 - 31, 2017		0	0	0	0
OCTOBER 1 - 31, 2018		0	0	0	0

Disclaimer:

Please understand that the data is provided to the California State Lands Commission from a variety of sources; the Commission cannot guarantee the validity of the data provided to it.