

Mandated by the California Oil Spill
Prevention and Response Act of 1990
Harbor Safety Committee of the San Francisco Bay Region
Thursday, May 12, 2016
Port of San Francisco, Pier 1 Conference Center
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 10:03.

Alan Steinbrugge (A), Marine Exchange, confirmed the presence of a quorum of the HSC.

Committee members (M) and alternates (A) in attendance with a vote: **Jim Anderson** (M), California Dungeness Crab Task Force; **John Berge** (M), Pacific Merchant Shipping Association; **Capt. Bob Carr** (M), San Francisco Bar Pilots; **Chad Culbertson** (M), Chevron Shipping Company; **Kevin Donnelly** (A), Water Emergency Transportation Authority; **Jeff Ferguson** (M), NOAA; **Aaron Golbus** (M), Port of San Francisco; **Ben Huber** (M), Westar Marine Services; **Phil Kipper** (A), San Francisco Bay Keeper; **Duncan McFarlane** (A), Shell Martinez; **Lt.Col. John Morrow** (M), US Army Corps of Engineers; ; **Jeff Robbins** (M), General Steamship Corp.; **Linda Scourtis** (A), Bay Conservation and Development Commission; **Capt. Greg Stump** (M), United States Coast Guard.

The meetings are always open to the public.

Approval of the Minutes-

A motion to accept the minutes of the April 14, 2016 meeting was made and seconded. The minutes were approved without dissent.

Comments by Chair- Capt. Lynn Korwatch

Welcomed the committee members and audience. Announced that the Marine Exchange is hosting their annual MayDay party this evening at Pier 27.

Coast Guard Report- Capt. Greg Stump

- Advised that a multi-agency meeting has been scheduled to discuss issues regarding recent incidents in which vessels have struck power lines at the Port of Stockton causing outages.
- Advised of USCG MSIB 07-16 issued on April 1, 2016 regarding updates to OSRO guidelines.
- Advised that the container vessel CMA GGM Benjamin Franklin and other ultra large vessels are no longer planning to call West Coast ports at this time.



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- Advised of USCG MSIB 009/16 issued on April 28, 2016 regarding equivalency to SOLAS regulations.
- Advised of a USCG News Release from June 30, 2015 regarding a \$5000 fine issued to a man who jumped into the water from a passenger vessel.
- Advised that there have been several recent incidents at Ocean Beach in San Francisco where people have be swept out to sea and urged the public, especially tourists, to be cautious.
- LT Ramirez read from the April- 16 Prevention/Response Report (attached). Advised that the USCG's annual report will be released next week.

Army Corps of Engineers Report- Lt.Col. John Morrow

- Announced that Rob Lawrence, Chief of the Dredge Material Management Office, is retiring
 after many years of service and will be greatly missed. Today will be his last HSC meeting.
- Rob Lawrence read from the US Army Corps of Engineers, San Francisco District Report (attached).
- Capt. Korwatch thanked Rob Lawrence for his work with the HSC.
- Jim Anderson thanked the Army Corps for their assistance with a recent salmon release.

Clearing House Report- Alan Steinbrugge (report attached)

OSPR Report- David Mighetto

- Advised of an OSPR announcement letter dated May 12, 2016 advertising open SF HSC positions for commercial fishing representatives, pleasure boat operator representatives, labor organization representatives and port authority representatives. Qualified candidates are encouraged to apply.
- Advised that he attended the Tug Work Group meeting on May 6, 2016 chaired by Bob Gregory.
 Requirements of SB 414 were discussed including the assessment of regional tug capabilities to provide emergency towing assistance to vessels in distress within the area of responsibility.
 Mike Coyne, OSPR, is the project manager assigned to SB 414 HSC issues.

NOAA Report- Jeff Ferguson

 Advised that recent chart updates for Richmond, Redwood City and south of Alcatraz have been applied and the new versions are available for download.



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- Advised that NRT6 has been surveying Suisun Bay. Several obstructions and a wreck have been found and added to the chart.
- Advised that 2016 survey planning is underway and encouraged the maritime community to report any shoaling or other issues.
- Advised of a voluntary 10kt speed reduction in effect from May 1st to November 15th in our local marine sanctuaries to help protect whales. Report sightings through noaa.gov or use the Whale Alert app. Sean Kelley, USCG VTS, advised of increased whale activity being reported in recent days. Jim Anderson advised of a project in development aiming to provide real-time whale sighting notifications. John Berge asked where VTS gets its whale reports from. Sean Kelley advised that whale sightings are most often reported by commercial vessels via marine channel 14 or 16.
- Advised that El Nino is declining and is expected dissipate within the month. There is currently a
 75% chance of La Nina developing next year possibly leading to drier conditions.

State Lands Commission Report- Richard Hernandez (report attached)

Work Group Reports-

HSC Plan Work Group- Linda Scourtis advised that the 2015 Plan Update is underway and requested work group reports be submitted by next week.

Tug Work Group- Bill Fairchild advised that a work group meeting was held on May 6, 2016 to discuss SB 414 and the emergency towing assessment. A rough draft is being formed which will be put up for a vote by the HSC when finalized.

Navigation Work Group- Capt. Robert Carr advised that he is taking over chairmanship of the Navigation Work Group from Capt. Bruce Horton. A meeting is being scheduled to look at issues relating to marine cables and pipelines.

Ferry Operations Work Group- Kevin Donnelly advised that WETA ferry ridership has continued to increase prompting expansion of the summer schedule. Several new ferry boats are expected to be added to the fleet in the next few years in order to meet ridership demand.

Dredge Issues Work Group- Chad Culbertson advised that a work group meeting will be held directly after today's HSC meeting.

PORTS Work Group- Nothing to report.



Mandated by the California Oil Spill Prevention and Response Act of 1990 Prevention through People Work Group- Nothing to Report

PORTS Report- Alan Steinbrugge

- Advised that the two existing buoy mounted current sensors will be serviced next week.
- Advised that installation of the new current sensor on Buoy 4 in the Oakland Channel is slated for July, 2016.
- Advised that the Oakland Middle Harbor Park weather station should be upgraded and back online in July, 2016.
- Advised that planning is underway with the Port of San Francisco to install a Pier 27 weather station.

Public Comment-

- Catherine Hooper, Port of San Francisco consultant, advised that Fleet Week planning is
 underway. The parade of ships will be on October 7, 2016. Participating naval ships will dock
 along the northern waterfront this year and will be available for public access before departure
 on October 11th. The Blue Angels will also be performing their annual airshow.
- Mickey Price, USCG, advised of a proposed addition of real AIS transmitters to Main Ship
 Channel Buoys 1 and 2. Buoy flashing will be altered as a result. More information is posted in
 the current Local Notice to Mariners and feedback is welcome. Capt. Korwatch asked about the
 pushing of PORTS data through AIS. The Coast Guard advised that broadcasting PORTS data is
 possible with the technology and is being studied.

Old Business- None

New Business- None

Next Meeting-

1000-1200, June 9, 2016 Port of Oakland, Exhibit Room 530 Water Street Oakland, CA



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

A motion to adjourn was made and seconded. The motion passed without dissent and the meeting adjourned at 10:50.

Respectfully submitted:

Gapt. Lynn Korwatch

PREVENTION / RESPONSE - SAN FRANCISCO HARBOR SAFETY STATISTICS							
April 2016							
PORT SAFETY CATEGORIES*	Apr-2016	Apr-2015	**3yr Avg				
Total Number of Port State Control Detentions:	0	2	0.81				
SOLAS (0), STCW (0), MARPOL (0), ISM (0), ISPS (0)							
Total Number of COTP Orders:	3	2	4.75				
Navigation Safety (3), Port Safety & Security (0), ANOA (0)							
Marine Casualties (reportable CG 2692) within SF Bay:	11	8	11.56				
Allision (1), Collision (0), Fire (0), Capsize (0), Grounding (0), Sinking (1)							
Steering (1), Propulsion (6), Personnel (2), Other (0), Power (0)							
Total Number of (routine) Navigation Safety issues/Letters of Deviation:	4	14	4.25				
Radar (1), Gyro (2), Steering (0), Echo Sounder (0), AIS (1)							
AIS-835 (0), ARPA (0), Speed Log (0), R.C. (0), Other (0)							
Reported or Verified "Rule 9" or other Navigational Rule Violations:	1	0	0.64				
Significant Waterway events/Navigation related Cases:	0	0	0.47				
Total Port Safety (PS) Cases opened	19	26	22.47				
MARINE POLLUTION RESPONSE							
Pollution Discharge Sources (Vessels)	Apr-2016	Apr-2015	**3yr Avg				
U.S. Commercial Vessels	0	0	0.92				
Foreign Freight Vessels	0	0	0.14				
Public Vessels	0	0	0.58				
Commercial Fishing Vessels	0	0	0.53				
Recreational Vessels	1	2	4.42				
Pollution Discharge Sources (Facilities)							
Regulated Waterfront Facilities	0	0	0.28				
Regulated Waterfront Facilities - Fuel Transfer	0	0	0.00				
Other Land Sources	3	0	1.69				
Mystery Spills - Unknown Sources	6	3	4.42				
Number of Pollution Incidents within San Francisco Bay							
Spills < 10 gallons	4	2	6.11				
Spills 10 - 100 gallons	0	0	1.25				
Spills 100 - 1000 gallons	0	0	0.25				
Spills > 1000 gallons	0	0	0.06				
Spills - Unknown Size	6	3	5.42				
Total Pollution Incidents	10	5	13.08				
Oil Discharge/Hazardous Materials Release Volumes by Spill Size							
Estimated spill amount from U.S. Commercial Vessels	0.00	0.00	14.81				
Estimated spill amount from Foreign Freight Vessels	0.00	0.00	8.44				
Estimated spill amount from Public Vessels	0.00	0.00	1.48				
Estimated spill amount from Commercial Fishing Vessels	0.00	0.00	13.90				
Estimated spill amount from Recreational Vessels	1.00	3.00	39.63				
Estimated spill amount from Regulated Waterfront Facilities	0.00	0.00	5.78				
Estimated spill amount from Regulated Waterfront Facilities - Fuel Transfer	0.00	0.00	0.00				
Estimated spill amount from Other Land Sources	3.00	0.00	33.28				
Estimated spill amount from Unknown Sources (Mystery Sheens)	unk	0.00	3.14				
Total Oil Discharge and/or Hazardous Materials Release (Gallons)	4.00	3.00	120.47				
Penalty Actions							
Civil Penalty Cases	0	0	0.11				
Notice of Violations	0	0	0.67				
Letters of Warning	0	2	2.72				
Total Penalty Actions	0	2	3.50				
* NOTE: Values represent all cases within the HSC jurisdiction during the period. Significant of	ases are detail	ed in the narra	tiv e.				
** NOTE: Values represent an average month over a 36 month period for the specified cate	gory of informati	tion.					

SIGNIFICANT PORT SAFETY AND SECURITY CASES (April 2016)

MARINE CASUALTIES

Loss of Propulsion (17APR16): A foreign flag bulk freight vessel experienced a loss of propulsion while transiting to the Port of Stockton. The vessel was able to moor safely. A COTP order was issued requiring documentation from the Class Society surveyor. Class attended the vessel and witnessed satisfactory operation of the vessel's main propulsion systems. LOP was not attributed to fuel switching. COTP Order was lifted. Case Closed.

Equipment Failure (20APR16): A foreign flag tank vessel experienced a fuel leak in the engine room while transiting outbound from the Port of Stockton. A COTP Order was issued to the vessel requiring the vessel to return to berth and remain until documentation was received from the Class Society surveyor. Class attended the vessel and confirmed proper operation of high pressure fuel lines and the fuel oil system. COTP Order was lifted. Case Closed.

Loss of Steering (23APR16): A foreign flag tank vessel experienced a temporary loss of steering while transiting outbound to Anchorage 9. The vessel was able to engage the secondary steering pump and regain steering. A COTP order was issued requiring the vessel to proceed to Anchorage 9 with a one tug escort and remain there until documentation was received from the Class Society surveyor. Technicians & Class Surveyor onboard could not identify the causative factors for the loss of steering. An amendment to the COTP Order was approved requiring a one tug escort from Anchorage 9 to Rodeo 8 and then out to sea. Case Closed.

VESSEL SAFETY CONDITIONS

Operational Control (13APR16): A U.S flag passeneger vessel was issued a CG-835 No-Sail requiring the vessel to repair its starboard engine throttle. Coast Guard witnessed corrected deficiencies and No-Sail has been lifted. Case Closed.

GENERAL SAFETY CASES

Nothing Significant to Report

NAVIGATIONAL SAFETY

Letter of Deviation (LOD), Inop Gyro Compass (17APR16): Vsl issued an inbound LOD.

Letter of Deviation (LOD), Inop Gyro Compass (20APR16): Vsl issued an inbound LOD.

Letter of Deviation (LOD), Inop X-Band Radar (24APR16): Vsl issued an inbound LOD.

Letter of Deviation (LOD), Inop AIS (27APR16): Vsl issued an outbound LOD.

All LODs cleared.

SIGNIFICANT INCIDENT MANAGEMENT DIVISION CASES

Nothing significant to report

Harbor Safety Committee Of the San Francisco Bay Region

Report of the U.S. Army Corps of Engineers, San Francisco District May 12, 2016

1. CORPS O&M DREDGING PROGRAM

The following is this year's O & M dredging program for San Francisco Bay. The FY16 O&M dredging program is subject to change, please refer to the Local Notice to Mariner for details of dredge operations.

FY 2015 DREDGING

- a. SF Main Ship Channel Completed 29 May 2015.
- **b.** Redwood City Harbor I Completed 4 July 2015.
- c. Richmond Outer Harbor (and Richmond Long Wharf) Completed 21 October 2015.
- d. Suisun Bay Channel (and New York Slough) Completed 22 November 2015.
- e. Richmond Inner Harbor Completed 15 December 2015.
- **f.** Redwood City Harbor II Completed 6 January 2016.
- g. San Pablo Bay (Pinole Shoal) Completed 2 February 2016.
- h. Oakland Harbor Expected completion extended to 31 May 2016.

FY 2016 DREDGING (PLANNED)

- **a. SF Main Ship Channel** Estimated start May 2016, estimated completion mid June 2016, government hopper.
- **b.** Richmond Outer Harbor (and Richmond Long Wharf) Estimated start early June 2016, estimated completion mid June 2016, government hopper.
- **c. Richmond Inner Harbor** Estimated start early August 2016, estimated completion Late October 2016. Contracted clamshell.
- **d.** San Pablo Bay (Pinole Shoal) Estimated start late September 2016, estimated completion end of September, government hopper.
- e. Redwood City Harbor Estimated start mid- August 2016, estimated completion early November 2016. San Bruno Shoal will also be dredged in Oct 2016, contingent on sediment suitability and environmental approvals. Work to be accomplished by either government hopper or contracted clamshell.
- **f. Oakland Harbor** Estimated start early August 2016, estimated completion end of November 2016, contracted clamshell.

- **g.** Suisun Bay Channel (and New York Slough) Estimated start mid-October, estimated completion end of November 2016 (if contracted clamshell). Estimated start early October 2016, estimated completion mid-October 2016 (if government hopper).
- h. Napa River Channel Estimated start early August, estimated completion end of November 2016, hydraulic pipeline.
- **2. DEBRIS REMOVAL** Debris removal for April 2016 was 117 tons. Dillard: 42 tons; other boats: 75 tons, includes 7 derelict /abandoned vessels brought in and demolished in partnership with Richardson Bay Regional Agency. Average for April from 2006 to 2015 is 68.7 tons. (Range: 26 117 tons). Raccoon has returned and will be back out on patrol after a few shake down trips (about two weeks)

BASEYARD DEBRIS COLLECTION TOTALS:

MONTH	RACCOON	DILLARD	MISC	TOTAL
2016	TONS	TONS	TONS	TONS
JAN	0	61	12	73
FEB	0	62	15	77
MAR	0	34.5	3	37.5
APR	0	42	75	117
MAY				
JUN				
JUL				
AUG				
SEP				
OCT				
NOV				
DEC				

YR TOTAL
304.5

3. UNDERWAY OR UPCOMING HARBOR IMPROVEMENTS

None to report.

4. EMERGENCY (URGENT & COMPELLING) DREDGING

No urgent dredging in 2016.

5. OTHER WORK

San Francisco Bay to Stockton – No funds were received in 2015. The Tentative Selected Plan milestone is to be reached in FY16 with the use of carryover funds (from FY 14). A request is in progress for additional time and funding to complete the study in late 2018 (FY 19).

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 Nov. 2014.

Berkeley Marina (Entrance Channel): Condition survey of September 23, 2014.

Bull's Head Shoal: February 15, 2013 condition survey.

Islais Creek Channel: Condition survey of September 25, 2014.

Main Ship Channel: Post-dredge survey of May 27, 2015. Mare Island Strait: Condition survey of September 24, 2014.

Marinship Channel (Richardson Bay): Condition survey of September 21, 2014.

Napa River: Condition surveys of early March 2016.

New York Slough: Condition survey of mid-July 2015. Northship Channel: Condition survey of late July 2015

Oakland Entrance Channel: Post-dredge survey of Dec 2014 – Jan 2105.

Oakland Inner Harbor (Reach 4-6): Post-dredge survey of mid-April and early May 2016.

Oakland Inner Harbor (Reach 3): Post-dredge survey of late-March 2016.

Oakland Inner Harbor Turning Basin: As above.

Oakland Outer Harbor: Composite survey of mid-Dec 2015 to mid-Feb 2016.

Petaluma River: Condition survey of mid-September 2014. **Pinole Shoal Channel:** Condition survey of Jan. 12-26, 2016.

Redwood City Harbor: Post-dredge survey of Dec 2015-Jan 2016, for Reaches 4-5A

Richmond Inner Harbor: Condition survey of April 14, 2016.

Richmond Outer Harbor (Longwharf): Condition survey of late July 2015.

Richmond Outer Harbor (Southampton Shoal): Post-dredge survey of mid-October 2015.

Sacramento River Deep Water Ship Channel: Condition Survey Feb 9-12, 2016.

San Bruno Shoal: Condition survey of Feb 4, 2016.

San Leandro Marina (and Channel): Condition survey of March 30 – April 1, 2015. San Rafael Across-the-Flats / San Rafael Creek: Condition surveys of May 2013.

Stockton Ship Channel: Condition survey of Feb 22-25, 2016.

Suisun Bay Channel: Condition survey of March 2016.

Disposal Site Condition Surveys:

SF-08 (Main Ship Channel Disposal Site): Condition survey of March 2013

SF-09 (Carquinez): Condition survey of March 2, 2015.

SF-10 (San Pablo Bay): Condition survey of March 2, 2015.

SF-11 (Alcatraz Island): May 5 condition survey is now posted.

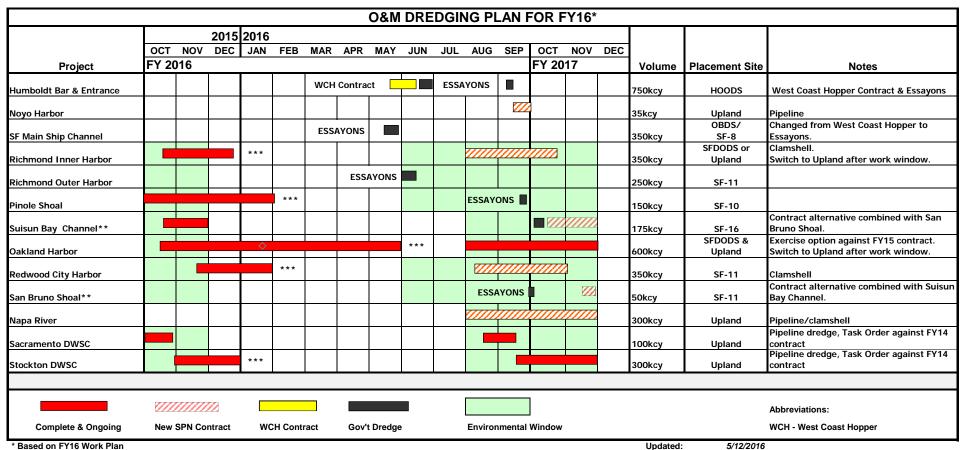
SF-16 (Suisun Bay Disposal Site): Condition survey of May, 2012. SF-17 (Ocean Beach Disposal Site): Condition survey of March 2013.

Requested Surveys:

Sacramento/Stockton scheduled all through May Suisun Bay Channel/New York Slough scheduled for May 4-18 Alcatraz Disposal Site: June 3

Oakland Inner and Outer Harbors: June 1 thru June 15

NEW WEB ADDRESS - USACE WORK PLAN: www.usace.army.mil/missions/civilworks/budget.



^{*} Based on FY16 Work Plan

^{**} Plan A - Dredging by Essayons, Back-up Plan - Dredging by New SPN Contract

^{***} Environmental Window Extension Granted



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

May 12, 2016

- In April the clearinghouse did not need to contact OSPR regarding any possible escort violations.
- In April the clearinghouse did not receive any notifications of vessels arriving at the Pilot Station without escort paperwork.
- The Clearinghouse contacted OSPR 1 time in 2016 about possible escort violations. The Clearinghouse contacted OSPR 3 time 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 any possible escort violations, 3 times in 2011, 6 times in 2010, 8 time 2009; 4 times 2008; 9 times in 2007; 9 times in 2006; 16 times in 2005; 24 times in 2004; twice in 2003; twice in 2002; 6 times in 2001; 5 times in 2000.
- In April there were 85 tank vessel arrivals; 12 ATB's, 7 Chemical Tankers, 14 Chemical/Oil Tankers, 2 LPG, 25 Crude Oil Tankers, 15 Product Tankers, and 10 Tugs with Barges.
- In April there were 288 total arrivals.

San Francisco Bay Clearinghouse Report For April 2016

San Francisco Bay Region Totals

	2016		$\underline{2015}$	
Tanker arrivals to San Francisco Bay	63		59	
ATB arrivals	12		11	
Barge arrivals to San Francisco Bay	10		24	
Total Tanker and Barge Arrivals	85		94	
Tank ship movements & escorted barge movements	299		324	
Tank ship movements	151	50.50%	155	47.84%
Escorted tank ship movements	108	36.12%	95	29.32%
Unescorted tank ship movements	43	14.38%	60	18.52%
Tank barge movements	148	49.50%	169	52.16%
Escorted tank barge movements	20	6.69%	40	12.35%
Unescorted tank barge movements	128	42.81%	129	39.81%

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

Escorts reported to OSPR

0

0

Movements by Zone	Zone 1	%	Zone 2	%	Zone 4	%	Zone 6	%	Total	%
Total movements	173		277		0		136		586	
Unescorted movements	84	48.55%	157	56.68%	0	0.00%	74	54.41%	315	53.75%
Tank ships	67	38.73%	122	44.04%	0	0.00%	59	43.38%	248	42.32%
Tank barges	17	9.83%	35	12.64%	0	0.00%	15	11.03%	67	11.43%
Escorted movements	89	51.45%	120	43.32%	0	0.00%	62	45.59%	271	46.25%
Tank ships	85	49.13%	105	37.91%	0	0.00%	48	35.29%	238	40.61%
Tank barges	4	2.31%	15	5.42%	0	0.00%	14	10.29%	33	5.63%

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 2016

San Francisco Bay Region Totals

	2016		2015	
Tanker arrivals to San Francisco Bay	251		691	
ATB arrivals	54		108	
Barge arrivals to San Francisco Bay	71		256	
Total Tanker and Barge Arrivals	322		1,055	
Tank ship movements & escorted barge movements	1,278		3,617	
Tank ship movements	708	55.40%	2,088	57.73%
Escorted tank ship movements	490	38.34%	1,304	36.05%
Unescorted tank ship movements	218	17.06%	720	19.91%
Tank barge movements	570	44.60%	1,529	42.27%
Escorted tank barge movements	121	9.47%	572	15.81%
Unescorted tank barge movements	449	35.13%	1,105	30.55%

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

Escorts reported to OSPR

1

Movements by Zone	Zone 1	%	Zone 2	%	Zone 4	%	Zone 6	%	Total	%
Total movements	751		1,123		0		545		2,419	
Unescorted movements	350	46.60%	536	47.73%	0	0.00%	282	51.74%	1,168	48.28%
Tank ships	254	33.82%	350	31.17%	0	0.00%	197	36.15%	801	33.11%
Tank barges	96	12.78%	186	16.56%	0	0.00%	85	15.60%	367	15.17%
Escorted movements	401	53.40%	587	52.27%	0	0.00%	263	48.26%	1,251	51.72%
Tank ships	355	47.27%	484	43.10%	0	0.00%	192	35.23%	1,031	42.62%
Tank barges	46	6.13%	103	9.17%	0	0.00%	71	13.03%	220	9.09%

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.



CALIFORNIA STATE LANDS COMMISSION

HARBOR SAFETY COMMITTEE MONTHLY REPORT - APRIL COMPARISON

VESSEL TRANSFERS

	Total Transfers	Total Vessel Monitors	Total Transfer Percentage	
APRIL 1 - 30, 2015	205	66	32.20	
APRIL 1 - 30, 2016	217	113	52.07	

CRUDE OIL / PRODUCT TOTALS

	Crude Oil (D)	Crude Oil (L)	Overall Product (D)	Overall Product (L)	GRAND TOTAL
APRIL 1 - 30, 2015	12,966,000	210,000	17,224,296	9,720,601	26,944,897
APRIL 1 - 30, 2016	13,606,141	0	18,569,767	7,305,993	25,875,760

OIL SPILL TOTAL

APRIL 1 - 30, 2015	Terminal	Vessel	Facility	Total	Gallons Spilled
	0	0	0	0	0
APRIL 1 - 30, 2016	0	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.