

Harbor Safety Committee

of the San Francisco Bay Region

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

Harbor Safety Committee of the San Francisco Bay Region

Thursday, October 10, 2019

California Maritime Academy, Richmond Maritime Safety & Security Center
756 West Gertrude Street, Richmond, 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.

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: **Jim Anderson** (M), CA Dungeness Crab Task Force; **John Berge** (M), Pacific Merchant Shipping Association; **Ted Blanckenburg** (A), AmNav Maritime Services; **Sejal Choksi-Chugh** (M), San Francisco Baykeeper; **Jeff Ferguson** (M), NOAA; **Jim Mazza** (A), US Army Corps of Engineers; **CDR Roberto Rivera** (A), United States Coast Guard; **Julian Rose** (M), Marathon Petroleum; **Capt. Paul Ruff** (A), San Francisco Bar Pilots; **Linda Scourtis** (A), Bay Conservation and Development Commission; **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 September 12, 2019 meeting was made and seconded. The minutes were approved without dissent.

Comments by Chair- Capt. Lynn Korwatch

Welcomed the committee members and audience.

Coast Guard Report- CDR Roberto Rivera

- Advised that lighted buoys are established for Fleet Week in addition to virtual AIS ATONS marking the airshow box. Enforcement of regulated areas is a priority.
- Advised that an ammonia tanker will be conducting bunkering operations this week in Anchorage 12. The USCG is involved in managing the vessel's safe transit and bunkering.
- Advised that Rule 9 violations and illegal charter issues were discussed at the recent Pacific Inter-Club Yacht Association meeting attended by the USCG. Boating license cards were also mentioned. Sejal Choksi-Chugh advised of new legislation requiring a test and safety card for boating in state waters. The card requirement will be rolled out over the next few years by age group.

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- LT Cotton read from the September- 2019 Prevention/Response Report (attached).
- Jim Anderson asked about offshore buoys and sail drones that have been observed in the region. LCDR Sheehan advised that the USCG is trying to set up a meeting with a private company operating the sail drones for scientific research.

Army Corps of Engineers Report- Jim Mazza

- Read from the US Army Corps of Engineers, San Francisco District Report (attached). The dredge Essayons is finishing up Main Ship Channel dredging. Richmond Inner Harbor dredging is complete. Suisun Bay dredging is in progress. Debris removal numbers were above average and included several abandoned vessels. Public review of the San Francisco to Stockton study is ongoing. The USACE Work Plan is available at: www.usace.army.mil/Missions/Civil-Works/Budget/

Clearinghouse Report- Marcus Freeling (report attached)

OSPR Report- Mike Zamora

- Advised of HSC membership openings (announcement attached). Capt. Ryan McKenney and Capt. Bob Carr have resigned from the HSC leaving vacancies. Additionally, open alternate member positions are available representing labor and dry cargo.
- Advised that the biennial Harbor Safety Summit was a successful event featuring several presentations. Capt. Korwatch thanked OSPR for hosting the summit and advised that HSC representatives from all over the West Coast attended. The environmental hazard posed by dielectric fluid in pipelines and cabling was discussed. Tom Cullen, OSPR Administrator, advised that he will follow up on issues related to dielectric fluid spills which are a concern.

NOAA Report- Jeff Ferguson

- Announced that NOAA's 2020 tide and current tables are available in print. This is the last year the tables will be printed and they will only be available in digital format next year. Rules now allow mariners to use electronic tables. The Coast Pilot is also approved in digital format. CDR Rivera advised that the USCG is developing policies for tide books. Capt. Korwatch asked if connectivity issues could be a problem. It was advised that the digital tables are downloadable and don't require internet access. Cybersecurity concerns were also mentioned.
- Advised that a Red Flag Warning has been issued in the region due to wind and fire danger.
- Advised that the NWS is predicting a drier winter than normal this year.

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- Advised that the NOAA vessel Nautilus is currently conducting research in the Farallones and Cordell Bank Marine Sanctuaries. For more information visit: nautiluslive.org

State Lands Commission Report- Mike Melin (report attached)

- Thanked those who attended the recent State Lands Public Service Meeting held in Martinez.

Report on the Maritime Application of UAS (drone) Technology- Capt. Paul Leyda, Cal Maritime

- Capt. Paul Leyda, Cal Maritime, gave a presentation to the committee on the maritime application of UAS technology (slides attached). Hi-definition cameras, thermal imaging and video are some of the technology commonly used on drones. HAZMAT and explosive detection can also be performed in addition to payload delivery. Cal Fire uses drones for wildfire protection. Systems include control and support equipment. Data collected by UAS technology can be transmitted in real-time or stored and archived. FAA regulations restrict drone operation in reduced visibility and require visual line of sight at all times. Maximum drone weight is 55 pounds, speed limit is 100 mph and maximum flying altitude is 400 feet. Mariners have right of way. Flight time is approximately 20 minutes due to battery life. Jamming potential and wind issues are concerns. Maritime uses for UAS technology include inspections of vessel hulls/containers, parcel delivery, SAR, port security and bridge inspections. Cal Maritime has received a grant to study drone technology for marine firefighting. Cal Maritime is also offering a UAV drone training and certification course on September 26-27 at the MSSC.
- Michael Bender, Code 42 Air, advised of cybersecurity concerns related to Chinese manufactured drones. Data from the drones could be vulnerable. Code 42 Air is testing a drone parcel delivery service to ships in Anchorage 9. CDR Rivera advised that the USCG has a pilot program using drones for SAR. Tom Cullen advised that OSPR uses drones for oil spill surveillance.

Report on the Voluntary Speed Reduction (VSR) Program- Jessica Morten, NOAA

- Jessica Morten, NOAA, gave a presentation to the committee on Vessel Speed Reduction (VSR). The goal of the VSR program is the reduction in whale ship strikes. There are four Marine Sanctuaries in California totaling over 12,000 square miles. Blue, Fin, and Humpback whales are of primary concern due to their population numbers and presence in shipping lanes. Whale strike data and modeling have predicted an increase in strikes with approximately 80 taking place per season on the US West Coast. Several methods are being used to address the issue. Reducing co-occurrence is critical and recent TSS changes have led to an estimated 60 percent

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reduction. The VSR program seeks to slow ships down to 10 knots or less thereby decreasing the likelihood of ship strikes. An incentive based program has been implemented and research is being conducted on the issue. The VSR program runs from May 1st through November 15th and has a 45 percent compliance rate in Northern California.

- Catharine Hooper, Maritime Consultant, asked about the use of whistles to warn whales of approaching vessels. Jessica Morten advised that whales don't respond ideally to auditory warnings and noise pollution can negatively impact them. It was advised that TSS changes put in place in 2013 reduced co-occurrence by concentrating shipping away from whale feeding areas. Modeling suggests that reducing co-occurrence is an effective way to reduce ship strikes. VSR is also effective and most ships do reduce speed to some extent even if not in full compliance.
- Jeff Boehm, Marine Mammal Center, advised that postmortem testing is conducted to determine the cause of whale deaths. An increased number of whales have been observed in the region recently.
- Jessica Morten advised that the Whale Alert App is useful for whale location reporting. AIS based whale reporting is possible but AIS congestion could be an issue. The incentive based program used to encourage VSR compliance includes financial payments and awards. VSR also promotes emissions reduction. Whale research and monitoring are ongoing with aerial surveys taking place in Southern California and boat based surveys in Northern California. Increasing VSR compliance is a primary focus.

Work Group Reports-

Tug Work Group- Ted Blanckenburg advised that there was nothing to report.

Navigation Work Group- Capt. Paul Ruff advised that a Work Group meeting will be held after today's HSC meeting on NOAA's VSR program.

Ferry Operations Work Group- Nothing to report.

Dredge Issues Work Group- Julian Rose advised that there was nothing to report.

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

Prevention through People Work Group- Nothing to report.

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PORTS Report- Marcus Freeling

- Advised of a recent problem with the Pier 1 MET station. Intermittent data was caused by a bad battery which has been replaced.
- Possible battery issues have been detected at the Point Potrero MET station and will be investigated.
- New Satlinks will be installed at Pier 17 and other PORTS stations which should fix stability issues.
- Advised that PORTS buoy mounted current sensors will be serviced in early November.
- Advised that PORTS data is publicly available through NOAA's Tides and Currents website.
- Capt. Korwatch advised that a USCG plan is being developed to transmit PORTS data through AIS.

Public Comment-

- It was announced that the MARAD ship Cape Hudson is participating in Fleet Week and will be holding an open house. Capt. Korwatch advised that the Jeremiah O'Brian and the Golden Bear will also be participating in Fleet Week. The Parade of Ships is tomorrow. Catharine Hooper advised that the USCG is handling Fleet Week details this year.
- Capt. Korwatch announced that the AMSC meeting has been delayed until October 15th to accommodate Fleet Week.

Old Business-

- Sejal Choksi-Chugh advised that information on California's new boater ID card can be found at: californiaboatercard.com. The card will be required for all boaters by 2025.

New Business- None

Next Meeting-

1000-1200, November 14, 2019
Port of San Francisco, Pier 1, Bayside Conference Room
The Embarcadero, San Francisco, CA

Harbor Safety Committee

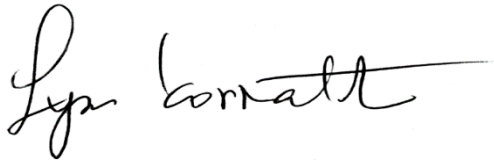
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Adjournment-

A motion to adjourn to meeting was made and seconded. The motion passed without dissent and the meeting adjourned at 11:40.

Respectfully submitted:

A handwritten signature in black ink, appearing to read "Lynn Korwatch". The signature is written in a cursive style with a long horizontal stroke extending to the right.

Capt. Lynn Korwatch

SIGNIFICANT PORT SAFETY AND SECURITY CASES (SEPTEMBER 2019)
MARINE CASUALTIES
Equipment Failure (18SEP19): A foreign flag vessel experienced surging RPMs while transiting inbound to the port of San Francisco. The causative factor was an inoperable digital governing unit on the main engine. The faulty governing unit was replaced. Class attended the vessel and witnessed successful repair and satisfactory operation of the vessel's propulsion system. Coast Guard received and reviewed Class report. Case closed.
Reduction of Propulsion (22SEP19): A U.S. flag car carrier experienced a reduction of propulsion while conducting power trials west of the sea buoy. The causative factor was a loss of fuel manifold pressure on the port engine. The crewmembers effected repairs to the manifold to regain normal propulsion. Case pends.
Loss of Propulsion (23SEP19): A U.S. flag bulk carrier experienced a loss of propulsion while conducting power trials west of the sea buoy. High condensate temperatures led to a loss of vacuum on the auxiliary condensers. As a result, the ship's #1 and #2 service turbo-generators tripped on back-pressure and caused the vessel to lose power. The crewmembers effected repairs to the plant and regained power. Case pends.
Loss of Propulsion (30SEP19): A foreign flag bulk carrier experienced a loss of propulsion while departing the Port of San Francisco. The causative factor has not yet been identified. Case pends.
VESSEL SAFETY CONDITIONS (CID)
Operational Control (30SEP2019): A U.S. flag ferry vessel was inspected in Emeryville and was issued an operational control due to an inoperable fixed bilge pump, non-operational pre-engineered fire extinguishing system, and wasted/inoperable life floats. Case pends.
Operational Control (30SEP2019): A foreign flag bulk freight vessel was inspected in Oakland and was issued operational controls for not meeting the manning requirements set forth in the vessel's minimum safe manning certificate and for having a damaged fire suit. The Administration will attest to the correction of the vessel's manning, and Class will verify procurement of a new fire suit. Case pends.
Operational Control (30SEP2019): Sector San Francisco Command Center received a notification that a U.S. flag ferry vessel had multiple cracks in a void space allowing approximately 50 gallons per day into the bilge. The vessel was issued an operational control. Case pends.
NAVIGATIONAL SAFETY
Letter of Deviation, S-Band Radar (05SEP19): Vessel was issued an inbound LOD due to an inoperable S-band radar. A technician attended the vessel while at anchorage, effected repairs, and sent Coast Guard a report for review. Case closed.
Letter of Deviation, X-Band Radar (13SEP19): Vessel was issued an inbound LOD due to an inoperable X-band radar. A technician attended the vessel while at anchorage, effected repairs, and sent Coast Guard a report for review. Case closed.
Letter of Deviation, S-Band Radar (28SEP19): Vessel was issued an inbound LOD due to an inoperable S-band radar. Case pends.
Letter of Deviation, Gyrocompass (28SEP19): Vessel was issued an inbound LOD due to an inoperable Gyrocompass. Case pends.
SIGNIFICANT INCIDENT MANAGEMENT DIVISION CASES
Letter of Warning (07SEP2019): IMD received notification of a 150 ft vessel taking on water in Stockton, CA with sheening noted in the water from dewatering efforts. IMD federalized the case and hired contractors who removed approximately 1400 gallons of oily waste and various household HAZMAT items from the vessel. The vessel was left in the water once the pollution potential was removed. The owner will decide their course of action for salvage. A NOFI and LOW were issued. Case closed.
Letter of Warning (09SEP2019): IMD received notification of a 65 ft vessel that sank at a marina in Stockton, CA. Once on scene, IMD noted that the vessel was actively sheening. The owner filed an insurance claim and hired a contractor to remove all petroleum products and remove the vessel from the water. A NOFI and LOW were issued. Case closed.
Letter of Warning (15SEP2019): IMD received notification of a ferry vessel in San Rafael, CA that experienced a hydraulic line failure resulting in the discharge of hydraulic oil. The vessel immediately secured the source and conducted cleanup of the oil. A NOFI and LOW were issued. Case Closed.
Letter of Warning (18SEP2019): IMD received notification of a ferry vessel in San Francisco, CA that ruptured a hydraulic line resulting in a discharge of hydraulic oil. The vessel immediately secured the source and conducted cleanup of the oil. A NOFI and LOW were issued. Case Closed.
Letter of Warning (21SEP2019): IMD received notification of a 27 ft catamaran that was listing severely to starboard side. During the owners dewatering efforts oily waste was pumped overboard and a sheen was present in the water. The owner ceased dewatering efforts and conducted cleanup of the oily waste. A NOFI and LOW were issued. Case closed.
Letter of Warning (27SEP2019): IMD received notification of a vessel that discharged gasoline from a leaking fuel line on the engine during fueling operations at a marina in San Francisco, CA. The owner and marina employee immediately contained the area and conducted cleanup of the product in the water. The vessel was towed by a local contractor to its slip to conduct repairs to the fuel line. A NOFI and LOW were issued. Case closed.

PREVENTION / RESPONSE - SAN FRANCISCO HARBOR SAFETY STATISTICS			
September 2019			
PORT SAFETY CATEGORIES*	Sep-2019	Sep-2018	**3yr Avg
Total Number of Port State Control Detentions:	0	1	0.28
SOLAS (0), STCW (0), MARPOL (0), ISM (0), ISPS (0)			
Total Number of COTP Orders:	2	1	4.03
Navigation Safety (2), Port Safety & Security (0), ANOA (0)			
Marine Casualties (reportable CG 2692) within SF Bay:	9	6	9.81
Allision (0), Collision (0), Fire (1), Capsize (0), Grounding (0), Sinking (0)			
Steering (1), Propulsion (5), Personnel (0), Other (1), Power (1)			
Total Number of (routine) Navigation Safety issues/Letters of Deviation:	4	5	1.78
Radar (3), 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	0	0.53
Significant Waterway events/Navigation related Cases:	0	0	0.28
Total Port Safety (PS) Cases opened	15	13	16.69
MARINE POLLUTION RESPONSE			
Pollution Discharge Sources (Vessels)	Sep-2019	Sep-2018	**3yr Avg
U.S. Commercial Vessels	1	0	0.83
Foreign Freight Vessels	0	0	0.11
Public Vessels	2	2	0.69
Commercial Fishing Vessels	0	2	0.53
Recreational Vessels	13	10	4.56
Pollution Discharge Sources (Facilities)			
Regulated Waterfront Facilities	0	0	0.36
Regulated Waterfront Facilities - Fuel Transfer	0	0	0.06
Other Land Sources	8	4	3.00
Mystery Spills - Unknown Sources	5	4	4.81
Number of Pollution Incidents within San Francisco Bay			
Spills < 10 gallons	13	14	6.42
Spills 10 - 100 gallons	1	0	1.11
Spills 100 - 1000 gallons	0	0	0.14
Spills > 1000 gallons	0	0	0.00
Spills - Unknown Size	15	8	7.25
Total Pollution Incidents	29	22	14.92
Oil Discharge/Hazardous Materials Release Volumes by Spill Size			
Estimated spill amount from U.S. Commercial Vessels	0.50	0.00	16.11
Estimated spill amount from Foreign Freight Vessels	0.00	0.00	0.17
Estimated spill amount from Public Vessels	12.00	6.00	3.27
Estimated spill amount from Commercial Fishing Vessels	0.00	2.00	7.46
Estimated spill amount from Recreational Vessels	8.00	2.00	26.72
Estimated spill amount from Regulated Waterfront Facilities	0.00	0.00	1.69
Estimated spill amount from Regulated Waterfront Facilities - Fuel Transfer	0.00	0.00	0.11
Estimated spill amount from Other Land Sources	37.00	1.00	14.53
Estimated spill amount from Unknown Sources (Mystery Sheens)	unk	unk	0.00
Total Oil Discharge and/or Hazardous Materials Release (Gallons)	57.50	11.00	70.06
Penalty Actions			
Civil Penalty Cases	0	0	0.00
Notice of Violations	0	0	0.31
Letters of Warning	6	4	3.11
Total Penalty Actions	6	4	3.42
* NOTE: Values represent all cases within the HSC jurisdiction during the period. Significant cases are detailed in the narrative.			
** NOTE: Values represent an average month over a 36 month period for the specified category of information.			

**Harbor Safety Committee
Of the San Francisco Bay Region**

**Report of the
U.S. Army Corps of Engineers, San Francisco District
October 10, 2019**

1. CORPS O&M DREDGING PROGRAM

The following report covers the planned FY 2019 dredging program for San Francisco Bay. While this program is subject to change based on a number of variables, it is based on actual FY 19 appropriations including the FY 2019 Work Plan. Please refer to the Local Notice to Mariners for details of dredge operations.

FY 2019 DREDGING

- a. **SF Main Ship Channel** – FY 19 dredging was planned with expected work originally forecast to be completed in June by Essayons. Maintenance and repairs required Essayons to remain in dry-dock for longer than anticipated. Based on additional time in repairs the number of days allocated to actual dredging on West Coast projects was reduced. However, the Essayons reported to SF Main Ship Channel and began dredging on 19 July and demobilized on 31 July. Based on revised availability for the Essayons and remaining material above grade, the Essayons is planned for a remobilization on **10 October** for an additional 5-7 days.
- b. **Richmond Inner Harbor** – The Richmond Inner Dredging Episode bids were opened on 29 April. Bid evaluations were conducted and the contract was awarded on 14 May to Curtin Maritime. Dredging commenced in mid-June and **was completed 1 October**.
- c. **Richmond Outer Harbor (and Richmond Long Wharf)** –In alignment with last year’s proposal to alternate Hopper dredging between Pinole Shoals and Richmond Outer, dredging for Richmond Outer dredging was conducted with the Essayons and completed in November 2018. Richmond Outer was deferred in FY19.
- d. **Oakland Harbor** –The FY 19 Dredging contract was accelerated to allow for additional placement time. On 21 June, the Division Counsel denied the Agency Protest and the contract was awarded on 24 June to Manson Dredging. NTP was issued on July 9th and dredging is currently underway.
- e. **Redwood City Harbor** – The 2019 dredging contract was planned as a partnership with the Coastal Conservancy in order to place material at a beneficial reuse site. All Environmental coordination including confirmatory sediment testing and analysis for suitability of planned upland placement has been approved. Contract awarded on 17 June to R.E. Staite. A public meeting was held on 26 July and was well received by the community. The NTP was issued on 1 July and dredging is underway.
- f. **San Pablo Bay (Pinole Shoal)** –In alignment with last year’s proposal to alternate Gov’t Hopper dredging Pinole will be dredged in 2019. The Essayons demobilized from SF Main and finished dredging on 08 August.

- g. **Suisun Bay Channel (and New York Slough)** – 2019 Clamshell contract was awarded to R.E. Staite on 17 July. Notice to Proceed was issued on 26 July. **Dredging is starting later than expected and will begin in early October but is still scheduled to be complete by the end of November.**

2. DEBRIS REMOVAL – Debris removal for September 2019 was 71.5 tons. Dillard: 41.5 tons; other boats: 30 tons, including 5 abandoned vessels. Average for September from 2009 to 2018 is 37.5 tons (Range: 9.5-70.5 tons).

BASEYARD DEBRIS COLLECTION TOTALS:

MONTH	RACCOON	DILLARD	MISC	TOTAL
2019	TONS	TONS	TONS	TONS
JAN	55	0	78	133
FEB	40	0	50	90
MAR	40	29.5	15	84.5
APR	45	35	450	530
MAY	25	136	36	197
JUN	14.5	0	30	44.5
JUL	13.5	0	45	58.5
AUG	0	10	17	27
SEP	0	41.5	30	71.5
OCT	0	0	0	0
NOV	0	0	0	0
DEC	0	0	0	0

YR TOTAL
1,236

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 Draft Report & EIS was released on 10 MAY 19 and is going through concurrent public review, policy review and Agency Technical Review (ATR) through 24 JUN 19. USACE, the NFS, and related stakeholders held a public meeting on 11 JUN 19 for public comment. **Concurrent Review comments are being addressed and a final draft is being developed.**

The draft can be found at:

<http://www.saj.usace.army.mil/About/DivisionsOffices/Planning/EnvironmentalBranch/EnvironmentalDocuments.aspx>

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 June 6, 2019.
Berkeley Marina (Entrance Channel): Condition survey of July 17, 2019.
Islais Creek Channel: Condition survey of July 12, 2019.
Larkspur Ferry Channel: Condition survey of July 11, 2019.
Main Ship Channel: Condition survey of August 8 & 9, 2019.
Mare Island Strait: Condition survey of July 10, 2018.
Marinship Channel (Richardson Bay): Condition survey of August 6, 2019.
Napa River: Condition survey of July 10, 2019.
Northship Channel: Condition survey of June 27, 2019.
Oakland Inner Harbor: Condition survey of July 24-30, 2019.
Oakland Outer Harbor: Condition survey of July 31, 2019.
Petaluma River (Across-the-Flats): Condition survey of December 19, 2017.
Petaluma River (Main Channel): Condition survey of December 12-13, 2017.
Petaluma River (Extended Channel): Condition survey of March 19-26, 2018.
Pinole Shoals Channel: Condition survey of August 19-29, 2019.
Redwood City Harbor: Condition survey of May 24-28, 2019.
Richmond Inner Harbor: Condition survey of February 26, 2019.
Richmond Inner Harbor (Santa Fe Channel): Condition survey of December 20, 2016.
Richmond Outer Harbor (Longwharf): Condition survey of July 23, 2019.
Richmond Outer Harbor (Southampton Shoal): Condition survey of July 19, 2019.
Sacramento River Deep Water Ship Channel: Condition survey of August 7, 2019.
San Bruno Shoal: Condition survey of September 26, 2019.
San Leandro Marina (and Channel): Condition survey of March 30 and April 1, 2015.
San Rafael (Across-the-Flats): Condition survey of September 24, 2019.
San Rafael (Creek): Condition survey of September 24, 2019.
Stockton Ship Channel: Condition survey of August 13-17, 2019.
Suisun Bay Channel: Condition survey of September 13-17, 2019.
Suisun Bay Channel (Bullshead Reach): Condition survey of September 13-17, 2019.
Suisun Bay Channel (New York Slough): Condition survey of September 25, 2019.

Disposal Site Condition Surveys:

SF-08 (Main Ship Channel Disposal Site): Condition survey of June 11, 2019.

SF-09 (Carquinez): Condition survey of October 1, 2019.

SF-10 (San Pablo Bay): Condition survey of October 1, 2019.

SF-11 (Alcatraz Island): Condition survey of October 2, 2019.

SF-16 (Suisun Bay Disposal Site): Condition survey of October 2, 2019.

SF-17 (Ocean Beach Disposal Site): Condition survey of June 11, 2019.

Requested Surveys:




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

NEW WEB ADDRESS – USACE WORK PLAN:

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

O&M DREDGING PLAN FOR FY19*

Projects	Bid Opening Award Date	FY 2020												Estimated CY	Dredge Type	Placement Site
		APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB				
Redwood City Harbor	22 May/17 Jun		♦	♦										616kcy	Clam Shell	SF-11
Richmond Inner Harbor	29 Apr/14 May	♦	♦											300kcy	Clam Shell	DODS/upland least cost
Combined Sac/San Joaquin	10 Jun/27 Jun			♦	♦									350kcy	Pipeline	Various Upland
Oakland Harbor	8 May/26 June		♦											750kcy	Clam Shell	DODS/upland
Suisun Bay Channel	28 Jun/17 Jul			♦	♦									132kcy	Clam Shell	SF-16
Crescent City	19 Jun /1 Jul			♦	♦									100kcy	Clam Shell/ PipeLine	Whaler/ HOODS
Hopper																
SF Main Ship Channel	N/A				■			■						350kcy	Essayons	OBDS/ SF-8
San Pablo Bay/Mare Island Straight	N/A						■							200kcy	Essayons	SF-11/SF-10
Humboldt Bar & Entrance	N/A		■	■										1200kcy	Yaquina/ WCH	HOODS
Richmond Outer Harbor	N/A															

	New SPN Contract including Mobilization	
	Baseline	
	West Coast Hopper Contract	♦
	Government Dredge	♦
	Environmental Window	
	Environmental Window Change	
	Bid Opening	
	Contract Award	

* Program execution is based on the FY19 President’s Budget, Workplan and Federal Standard plan for each project.

Date of Update: 4 October 2019



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@sfmtx.org

San Francisco Clearinghouse Report

October 10, 2019

- ✎ In September the clearinghouse did not contact OSPR regarding any possible escort violations.
- ✎ In September the clearinghouse did not receive any notifications of vessels arriving at the Pilot Station without escort paperwork.
- ✎ The clearinghouse has not contacted OSPR in 2019 regarding possible escort violations. The clearinghouse contacted OSPR 1 time in 2018 about a possible escort violation. 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 2006; 16 times in 2005; 24 times in 2004; twice in 2003; twice in 2002; 6 times in 2001; 5 times in 2000.
- ✎ In September there were 108 tank vessel arrivals; 17 ATBs, 6 Chemical Tankers, 18 Chemical/Oil Tankers, 33 Crude Oil Tankers, 23 Product Tankers, and 11 Tugs with Barges.
- ✎ In September there were 289 total vessel arrivals.

San Francisco Bay Clearinghouse Report For September 2019

San Francisco Bay Region Totals

	<u>2019</u>		<u>2018</u>	
Tanker arrivals to San Francisco Bay	80		66	
ATB arrivals	17		11	
Barge arrivals to San Francisco Bay	11		11	
Total Tanker and Barge Arrivals	108		88	
Tank ship movements & escorted barge movements	327		261	
Tank ship movements	185	56.57%	163	62.45%
Escorted tank ship movements	153	46.79%	133	50.96%
Unescorted tank ship movements	32	9.79%	30	11.49%
Tank barge movements	142	43.43%	98	37.55%
Escorted tank barge movements	16	4.89%	12	4.60%
Unescorted tank barge movements	126	38.53%	86	32.95%

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	211		316		0		164		691	
Unescorted movements	89	42.18%	152	48.10%	0	0.00%	69	42.07%	310	44.86%
Tank ships	76	36.02%	123	38.92%	0	0.00%	61	37.20%	260	37.63%
Tank barges	13	6.16%	29	9.18%	0	0.00%	8	4.88%	50	7.24%
Escorted movements	122	57.82%	164	51.90%	0	0.00%	95	57.93%	381	55.14%
Tank ships	114	54.03%	149	47.15%	0	0.00%	86	52.44%	349	50.51%
Tank barges	8	3.79%	15	4.75%	0	0.00%	9	5.49%	32	4.63%

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 2019

San Francisco Bay Region Totals

	<u>2019</u>		<u>2018</u>	
Tanker arrivals to San Francisco Bay	588		787	
ATB arrivals	123		123	
Barge arrivals to San Francisco Bay	104		143	
Total Tanker and Barge Arrivals	692		1,053	
Tank ship movements & escorted barge movements	3,014		3,398	
Tank ship movements	1,704	56.54%	1,853	54.53%
Escorted tank ship movements	1,376	45.65%	1,458	42.91%
Unescorted tank ship movements	328	10.88%	395	11.62%
Tank barge movements	1,310	43.46%	1,545	45.47%
Escorted tank barge movements	181	6.01%	227	6.68%
Unescorted tank barge movements	1,129	37.46%	1,318	38.79%

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	1,831		2,947		0		1,294		6,072	
Unescorted movements	819	44.73%	1,422	48.25%	0	0.00%	582	44.98%	2,823	46.49%
Tank ships	654	35.72%	1,102	37.39%	0	0.00%	519	40.11%	2,275	37.47%
Tank barges	165	9.01%	320	10.86%	0	0.00%	63	4.87%	548	9.03%
Escorted movements	1,012	55.27%	1,525	51.75%	0	0.00%	712	55.02%	3,249	53.51%
Tank ships	948	51.77%	1,353	45.91%	0	0.00%	640	49.46%	2,941	48.44%
Tank barges	64	3.50%	172	5.84%	0	0.00%	72	5.56%	308	5.07%

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.



STATE OF CALIFORNIA
THE NATURAL RESOURCES AGENCY

October 07, 2019

ANNOUNCEMENT FOR:

Harbor Safety Committee of the San Francisco Bay Region Membership

The Office of Spill Prevention and Response (OSPR), is accepting applications for membership on the Harbor Safety Committee of the San Francisco Bay Region. The OSPR is seeking applicants for the following positions:

- Representative of Tank Ship Operators (Alternate Member)
- Representative of Labor Organizations (Alternate Member)
- Representative of Pilot Organizations (Primary Member)
- Representative of Dry Cargo Vessel Operators (Alternate Member)

Qualified individuals who reside in the San Francisco Bay area are encouraged to apply. A Harbor Safety Committee application can be obtained at the following internet site:

<https://www.wildlife.ca.gov/OSPR/Marine-Safety/Harbor-Safety/Harbor-Safety-Application>

Please follow the instructions for e-mailing an electronic application along with a current resume as indicated on the online application. Applications will be accepted until the position is filled.

If you have questions regarding the requirements for a position, or the application process, please contact Mr. Michael Zamora at e-mail address michael.zamora@wildlife.ca.gov, or by telephone at (916) 327-9406.

Conserving California's Wildlife Since 1870



CALIFORNIA STATE LANDS COMMISSION

HARBOR SAFETY COMMITTEE MONTHLY REPORT - SEPTEMBER COMPARISON

VESSEL TRANSFERS

	Total Transfers	Total Vessels Monitored	Total Transfers Percentage
SEPTEMBER 1 - 30, 2018	200	87	43.50
SEPTEMBER 1 - 30, 2019	232	73	31.47

CRUDE OIL / PRODUCT TOTALS

	Crude Oil (D)	Crude Oil (L)	Overall Product (D)	Overall Product (L)	GRAND TOTAL
SEPTEMBER 1 - 30, 2018	15,185,000		19,385,893	6,244,594	25,630,487
SEPTEMBER 1 - 30, 2019	13,599,900	595,000	20,893,500	7,690,780	28,584,280

OIL SPILL TOTAL

	<u>TERMINAL</u>	<u>VESSEL</u>	<u>Total</u>	<u>Gallons Spilled</u>
SEPTEMBER 1 - 30, 2018	0	0	0	0
SEPTEMBER 1 - 30, 2019	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.

Maritime Application of UAS

Getting Started



Drone Lexicon

<i>UAS</i>	Unmanned aerial <u>system</u> (more on this in a minute)
<i>UAV</i>	Unmanned aerial vehicle (RC a/c, amateur rocket or drone in this case)
<i>Drone</i>	Collective name of pilotless UAV
<i>RPIC</i>	Remote Pilot in Charge
<i>VO</i>	Visual Observer
<i>BVLOS</i>	Beyond visual line-of-sight
<i>Part 107</i>	FAA's "Small Unmanned Aircraft" regulations
<i>AGL</i>	Above ground level

A UAV – What Is It Really?

3 Things

1. Eye in the sky – situational awareness
2. **UAV** is a platform for data collection
 - Payload sensors:
 - **Imagery**
 - **HiDef photography**
 - **Thermal imagery**
 - **Video**
 - **Detectors** –
 - **HAZMAT (incl. chemical detection)**
 - **Explosives**
 - **CBRN**
3. A portable positioning system in of itself



UAV – What Else Can It Carry?

- **Other payloads:**
 - Small parcel delivery
 - Floatation drop
 - Limited fire suppression (unless tethered)
 - Buoy markers
 - Ambulance (AED, blood, trauma kits)
 - Cell phone / radio
 - Spot light
 - Bull horn
 - Audio recorder

UAVS



Types of UAV



**Fixed
Wing**

Types of UAV



DJI shseller

**Rotary
Wing**

Types of UAV



**Multi
Rotor**



WHAT MAKES A UAS ?

Unmanned Aerial System

Why is it a “**system**” and not just a flying **UAV** drone?



Unmanned Aerial System

- The bird (**UAV**) we see is only one component in an overall **“system”** comprised of:
 - *Operational doctrine*
 - *Computer control, radio & Tx equipment*
 - *Support equipment*
 - *Training / certification*
 - *Launch & flight procedures*
 - *Flight crew:*
 - *Air boss (for multi-unit ops)*
 - *RPIC*
 - *VO (why?)*
 - *Payload/Sensor Specialist*



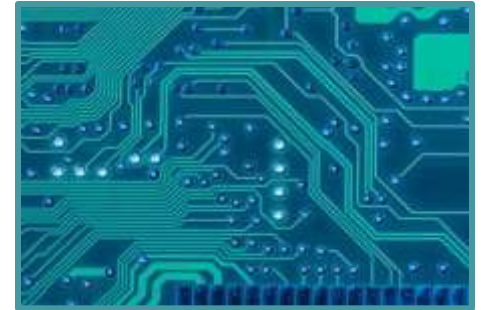
Unmanned Aerial System

- ***Positioning system***
- ***Sensors***
- ***Payloads***
- ***Maintenance***
- ***Program documentation***
- ***Analytics (data)***



UAS Sensor Analytics

- **UAVs** are airborne sensor platforms for data collection.
- Data collected is many times in a raw form.
- It is what you do with the data after collection that makes UAS missions valuable.
- Archiving data.



UAS Sensor Analytics

- The data often needs processing or interpreting to make its value “***actionable.***”
- Sometimes, this is near instantaneous and sometimes it requires sophisticated post-processing data manipulation, transportability or importation to other software.



UAS Data Preservation

- **UAS can collect a large amount of data.**
- **Certain data may need long-term preservation for many reasons:**
 - **Inspection logging**
 - **Post-incident investigation**
 - **Insurance purposes**
 - **Management playback for later analysis**
 - **Trend monitoring**





UAS LIMITS

FAA Regulation Limits:

(certain waivers available)

Total must be < 55 lbs.

≤ 400 ft. AGL

Daylight only

Not BVLOS of RPIC/VO

Not over people

Less than 100 mph

Visibility ≥ 3 miles, clear clouds

Must give way to manned aircraft

Not in controlled airspace

(see reference)

Not from a moving vehicle unless...

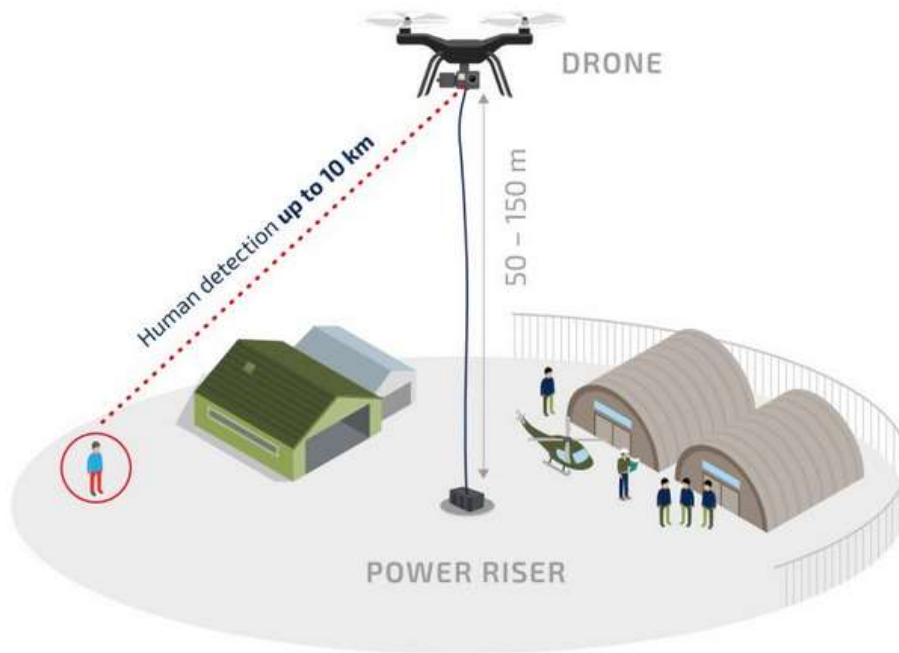
UAS Limitations Today

- **System / Mechanical:**
 - Endurance (battery capacity \approx 20 min.)
 - Payload weight & dimensions
 - Cyber or jamming interruption potential
 - High-wind instability
 - Buoyancy
 - Fly-aways

Long-Lasting Surveillance

Tethered UAV

Up to 12 hours endurance



Near Future UAS Improvements

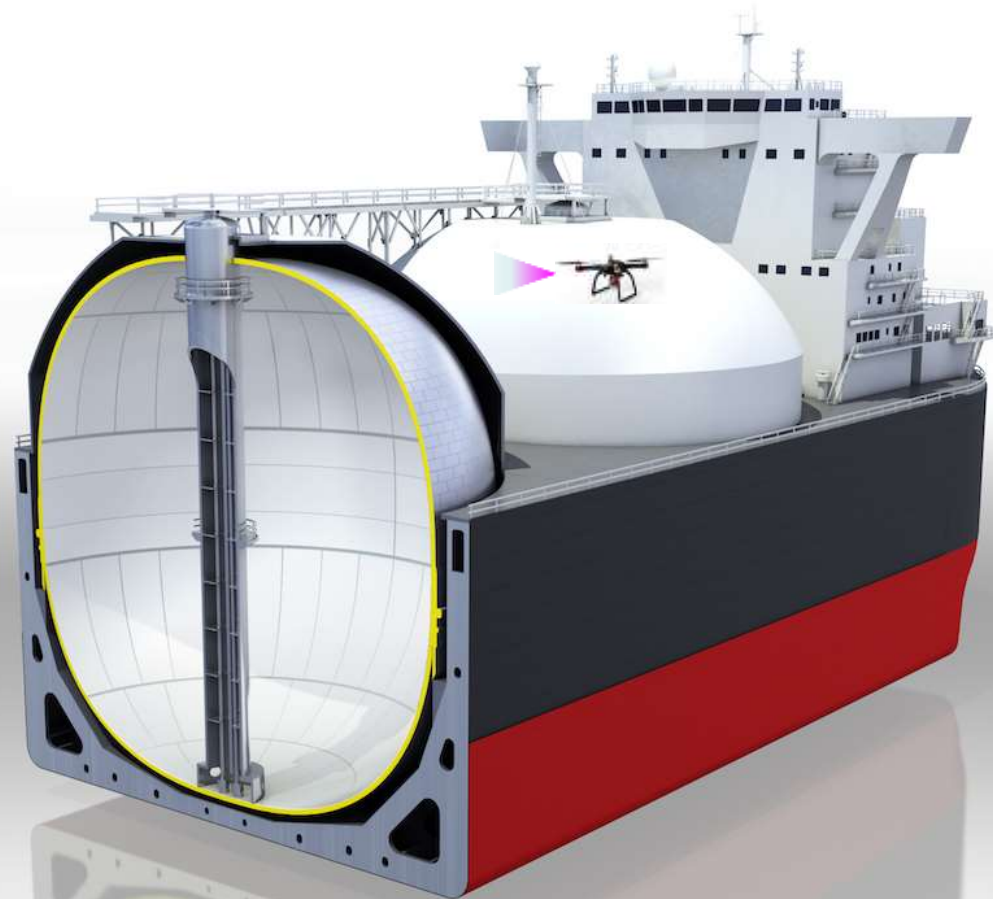
- **FAA National UAS Regional Traffic Management System**
- **BVLOS Permission**
- **Night Operations**
- **Over People** (automatic failure parachute recovery systems)
- **Multi-UAV Coordination & Local Area Traffic Control**
- **Cyber Hardening**
- **Anti-Drone Countermeasures**
- **Increased Payloads**

Potential UAS Uses – Maritime

What Can You Imagine Them For?







Airbus Parcel Delivery

e.g. Code 42



Potential Maritime UAS Applications & Missions

- **Marine Firefighting** (*both boat or dock launched*)
- **Search and Rescue - SAR** (*inshore & offshore*)
- **Maritime Port Security** (*container ship screening at offshore pilot station*)
 - **CBRN**
- **Port Law Enforcement**
- **Cruiseship Man Over Board - MOB**
- **Vessel Gas Release Plume monitoring**
 - **LNG loading/discharge area monitoring**
- **Bridge or Tank Inspections**
 - **Structure & infrastructure**



Potential Maritime UAS Applications & Missions

- **Regatta / Marine Events** (*Traffic Monitoring/Incursion, swimmer watch*)
- **Beach shark over-watch** (*tethered*)
- **Fish & Game** (*marine mammal counting*)
- **Marine Research** (*buoy placement*)
- **Commercial Fishing** (*school spotting*)
- **Part & Parcel Delivery for Offshore/Anchored Vessels**



Potential Maritime UAS Applications & Missions

- **Oil Spill Monitoring**



UAS Technology in Maritime Safety



UAV in Marine Safety



Offshore SAR

(4:00)

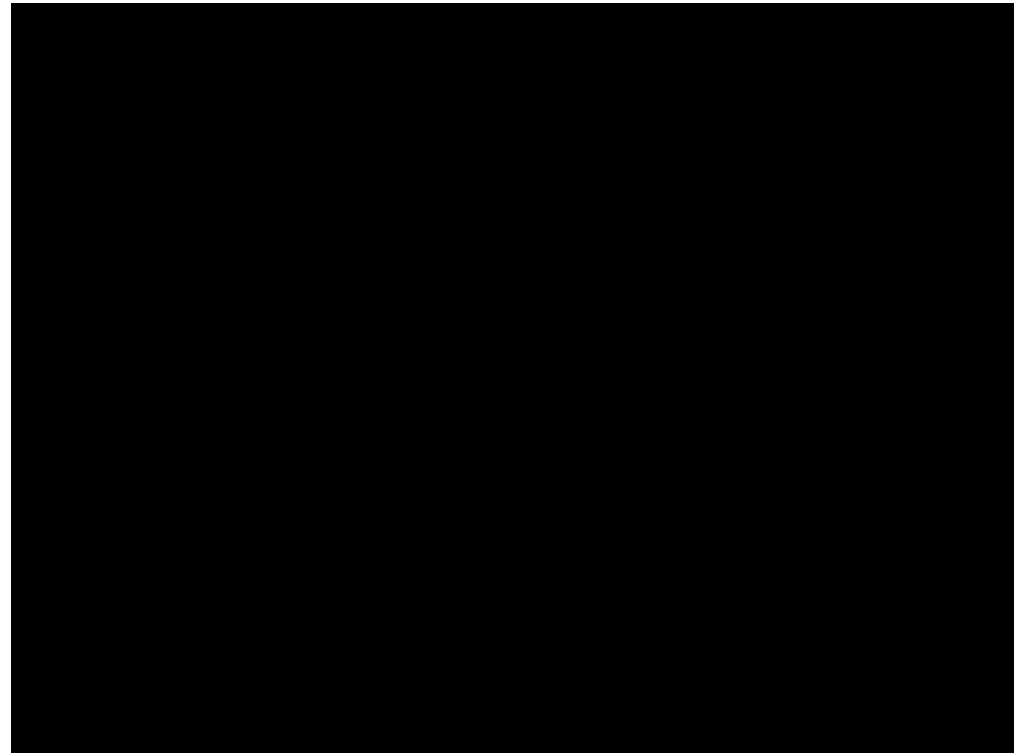
[UAV SAR British.mp4](#)

Internal Ship Fire

(1:40)

[UAS Ship Internal Fire Test.mp4](#)

New UAV Marine Deployment



1:20

CSU Innovation Grant Award

Training in UAV for Marine Firefighting



CSU The California State University
COMMISSION ON THE EXTENDED UNIVERSITY



Eyes Where Fireman Access Is Limited or Its Hard to See



(2:00)

To Prevent This Maybe?



Monitoring Applied
FF Water for
Accuracy &
Accumulation



Sound Like This Technology Will Work For You?

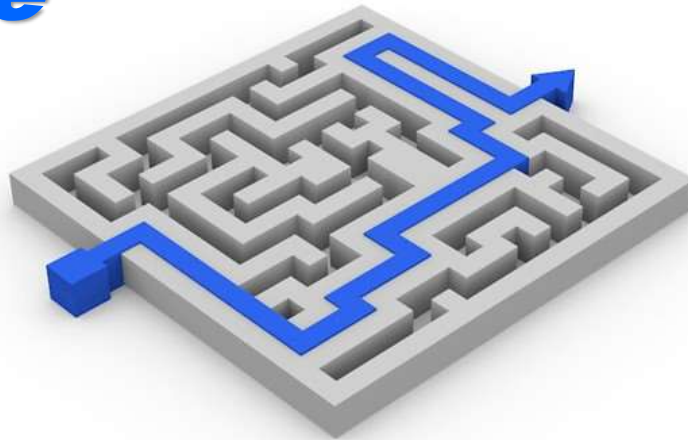
For those with new
UAS programs or
thinking about
adopting the
technology in the
future -

Strategize for
“institutionalizing”
your program for:

**The
Long Run**



UAS Knowledge Maze



HOW DO I GET STARTED?

Need Help With?

- Identifying correct equipment & sensors?
- Data connectivity & VPN configuration?
- Staffing needed?
- Operational doctrine development?
- Data collection, analytics & storage?
- Certification / registration needed?
- Field training & tips?
- FAA waivers?
- Phone apps?



Cal Maritime & UVU

THE LEADING UNIVERSITY IN UAV TRAINING



Live FAA 107 Knowledge Exam Prep
Course & Basic Drone Flight Overview



CAL MARITIME
SAFETY AND SECURITY CENTER

UAV Basic Flight Training for New Organizational Programs

- On-line self-paced learning for FAA Part 107 exam (**separate FAA fee**).
- 3-day basic flight instruction from unboxing to emergency procedures.
- 4:1 student to instructor ratio.
- Provided practice UAS equipment (**standardized hardware DJI Mavic Dual**)



Protecting Blue Whales and Blue Skies in California's National Marine Sanctuaries



Photo credit: John Calambokidis / Cascadia Research



Jessica Morten, Resource Protection Specialist
with NOAA's Channel Islands and Cordell Bank National Marine Sanctuaries





BLUE

Minimum population = 1,551
ESA status: Endangered

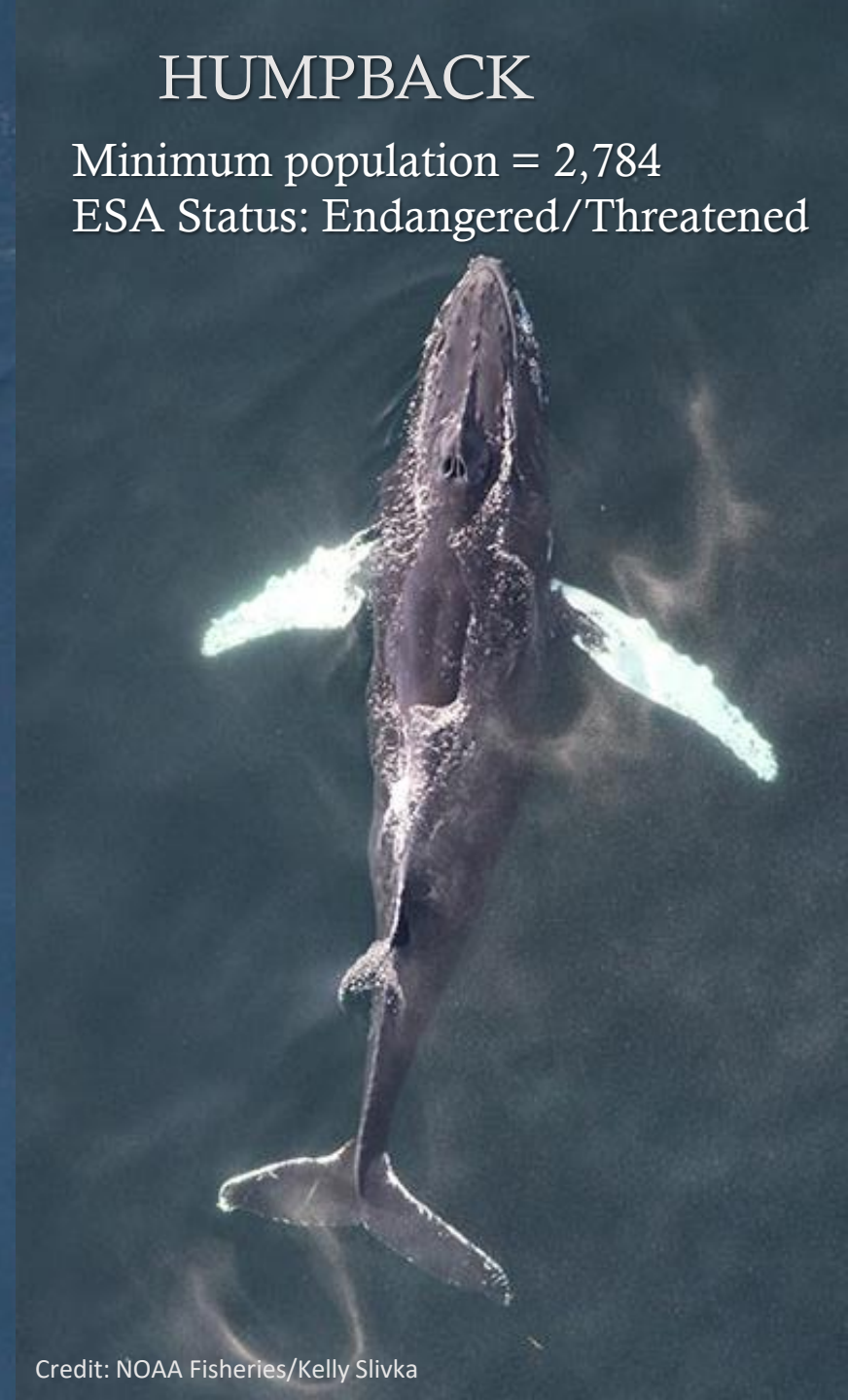
Credit: NOAA CINMS/Sean Hastings



FIN

Minimum population = 8,127
ESA status: Endangered

Credit: NOAA Fisheries/Marcy Lee

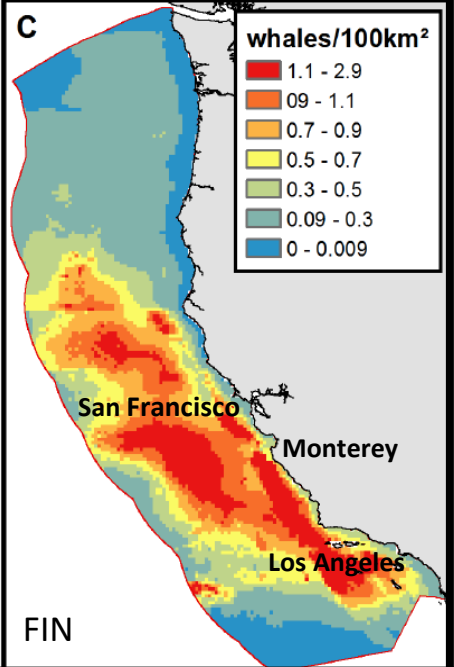
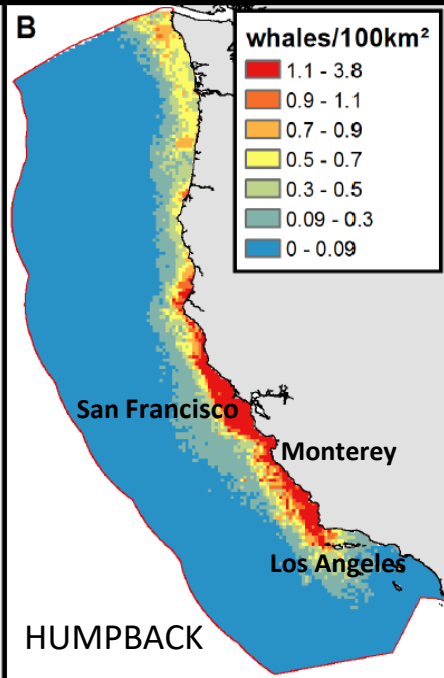
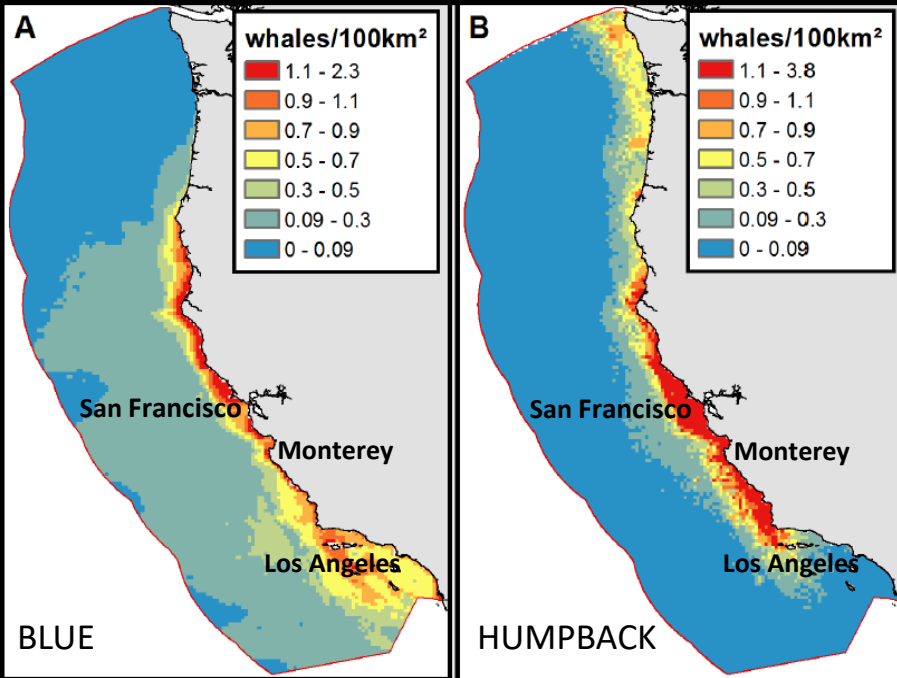


HUMPBACK

Minimum population = 2,784
ESA Status: Endangered/Threatened

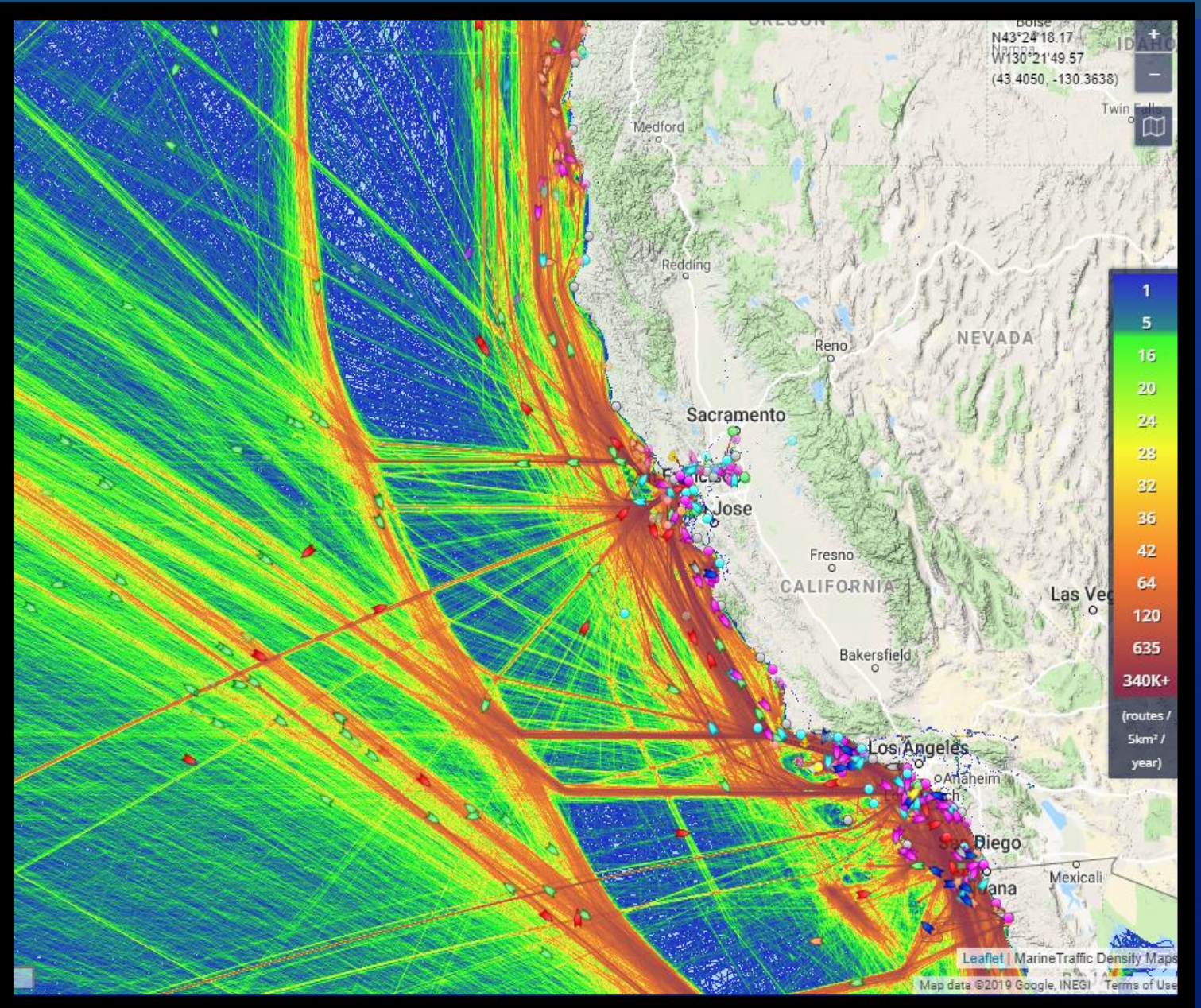
Credit: NOAA Fisheries/Kelly Slivka

Density Map of 2017 Shipping Traffic off of California



Species Distribution Model density of: blue whales (A), humpback whales (B), & fin whales (C).

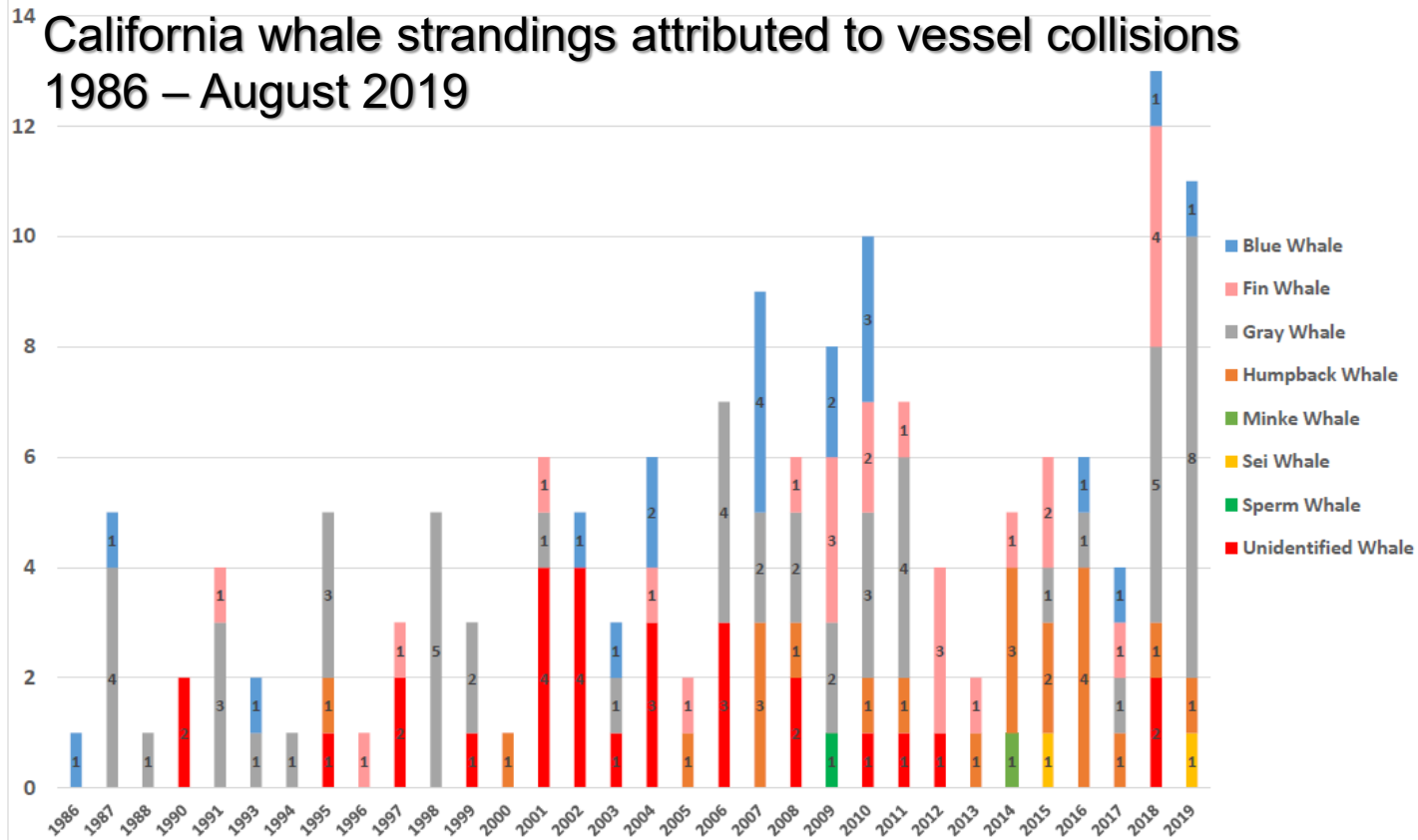
Density predictions derived from Becker et al. 2016.



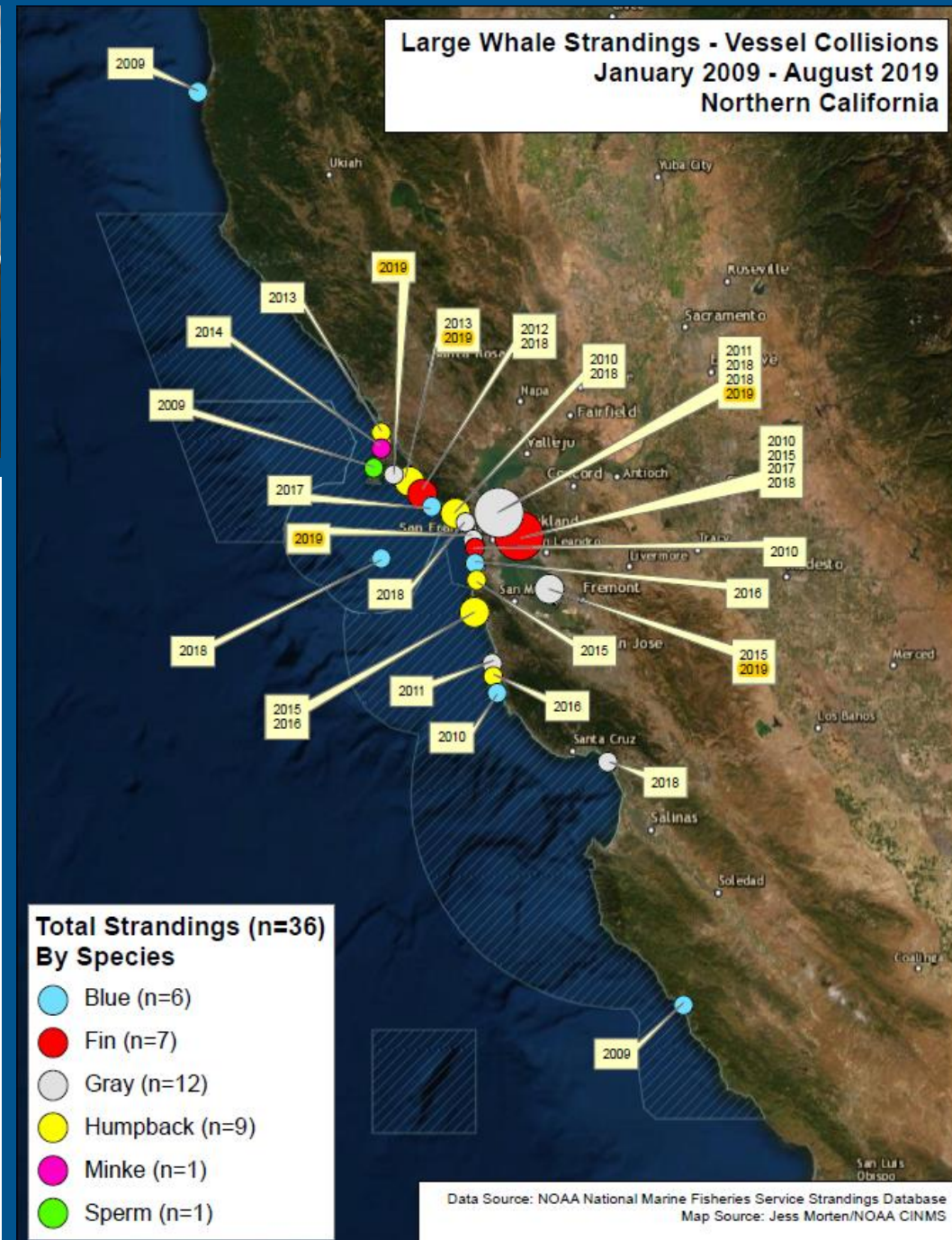
Recorded Strikes in California



California whale strandings attributed to vessel collisions 1986 – August 2019



Large Whale Strandings - Vessel Collisions
January 2009 - August 2019
Northern California

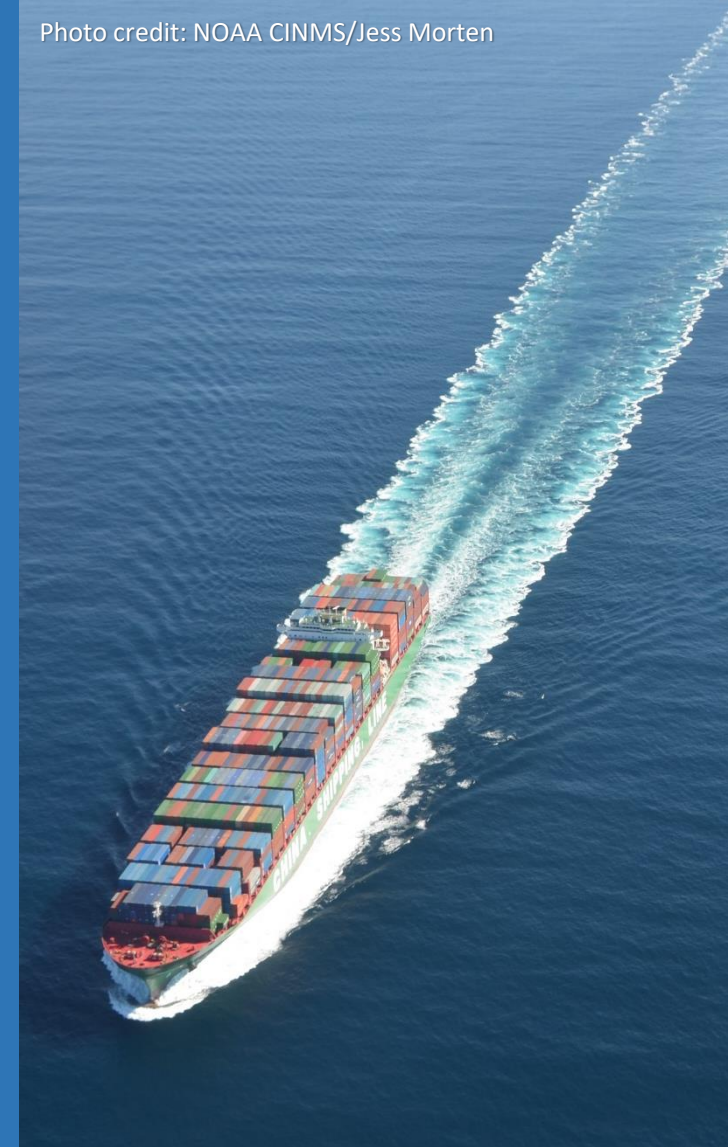


Methods to Reduce Ship Strike Risk

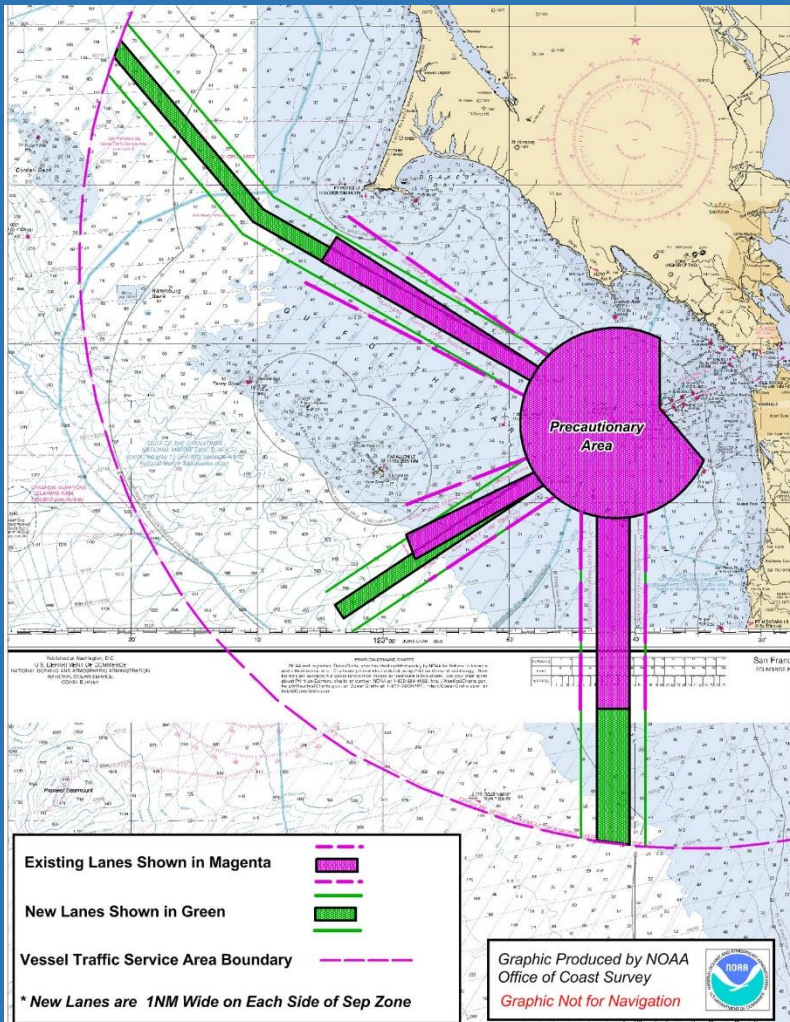


1. Reducing co-occurrence of whales and ships by adjusting Traffic Separation Schemes;
2. Establishing seasonal voluntary Whale Advisory and Speed Reduction Zones;
3. Establishing an incentive-based Vessel Speed Reduction program;
4. Supporting ongoing related research

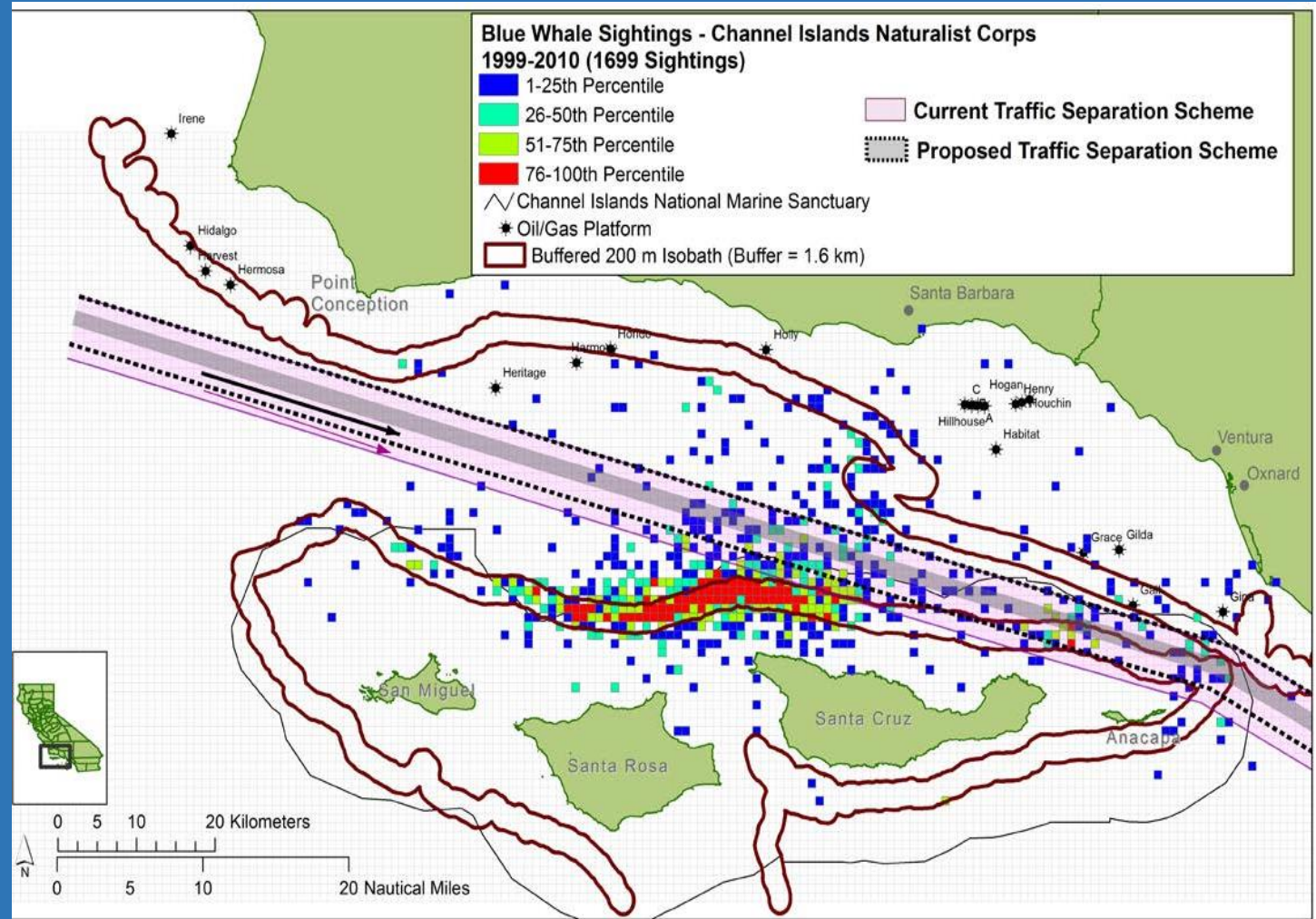
Photo credit: NOAA CINMS/Jess Morten



1. Reduce Co-occurrence

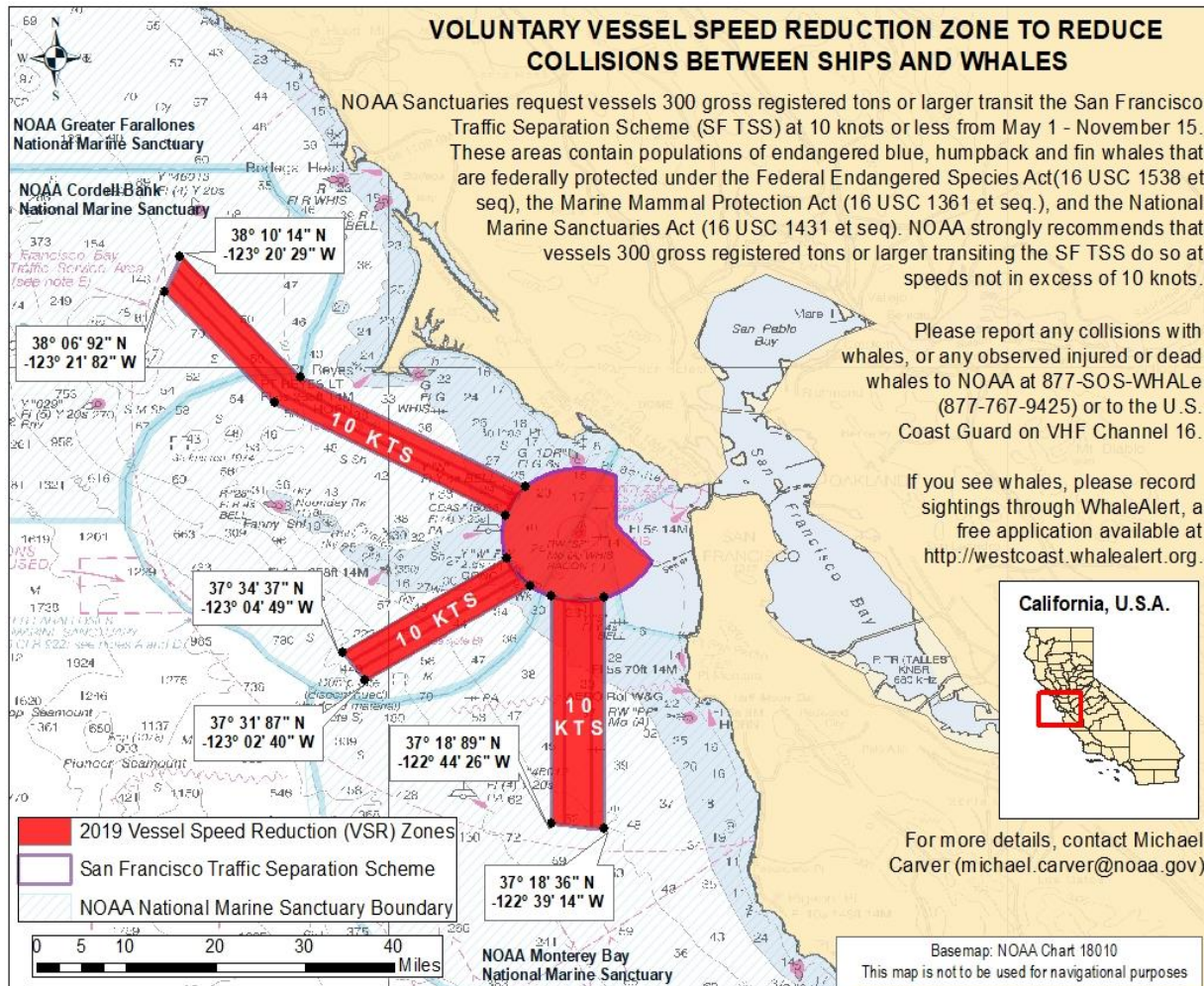


Amendments to the San Francisco Bay Traffic Separation Scheme - 2013

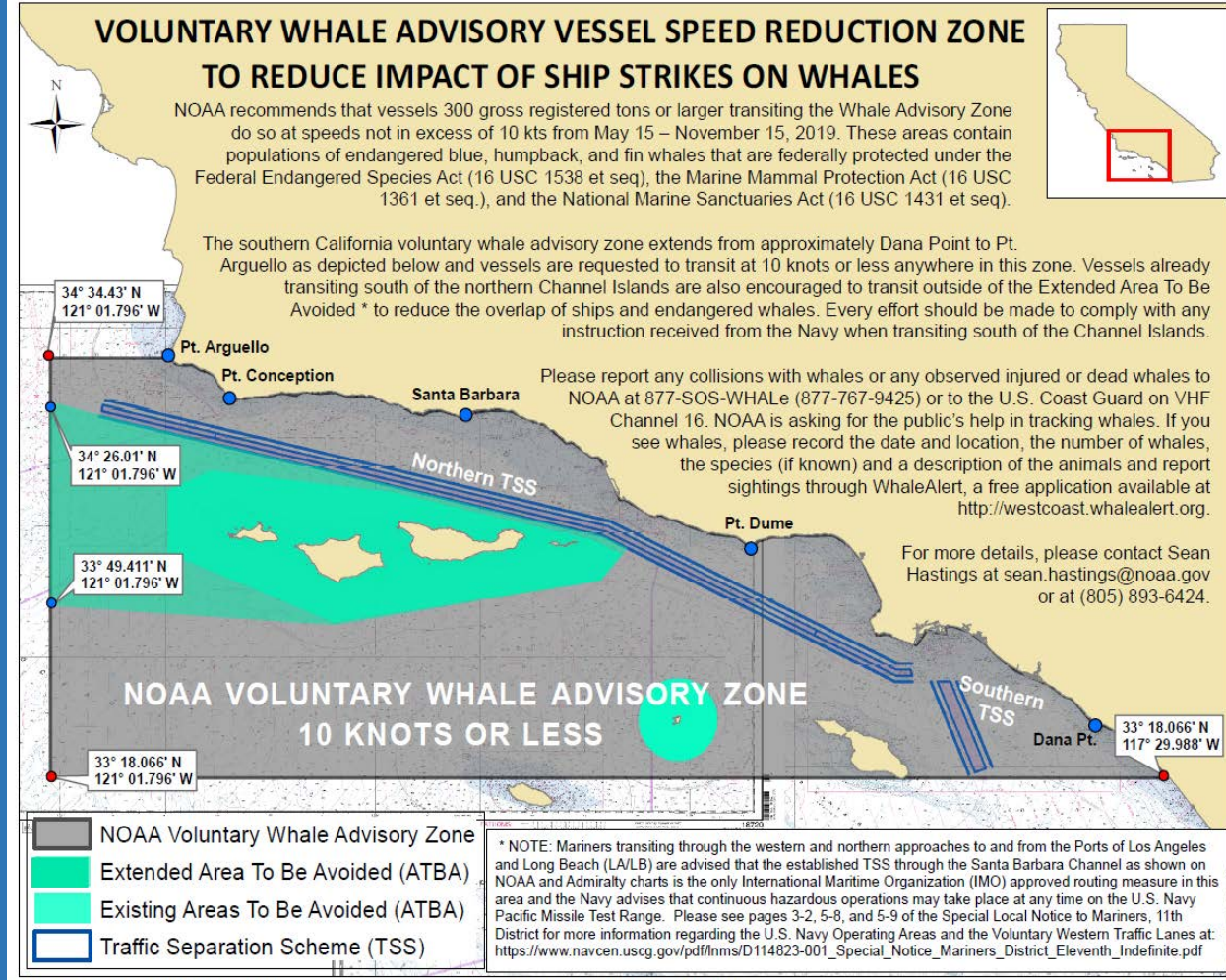


Amendments to the Santa Barbara Channel Traffic Separation Scheme - 2013

2. Voluntary Slow Speed Zones (NOAA request to all ships 300 gross registered tons or more)



2019 SF Bay Region
May 1 – November 15, 2019



2019 Southern California
May 15 – November 15, 2019

NOAA Voluntary Slow Speed Requests



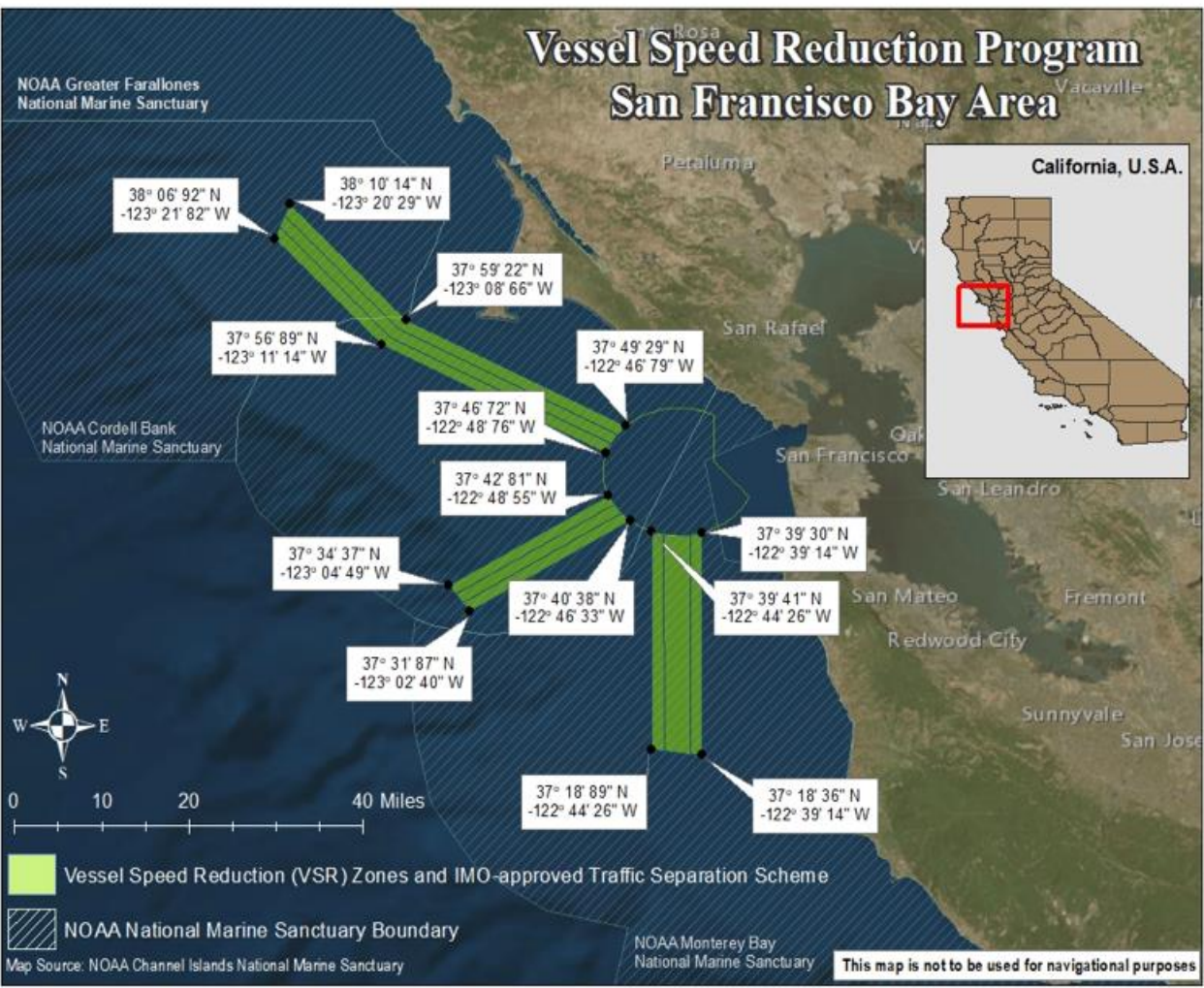
Percentage cooperation of vessels 300 GRT or more, by year

<u>Region</u>	<u>2017</u>	<u>2018</u>
San Francisco Bay Region NOAA Voluntary Slow Speed Request	45%	45%
Santa Barbara Channel Region NOAA Voluntary Slow Speed Request (NOTE: CINMS VSR geographic zone and timeframe has varied year to year)	18%	23%

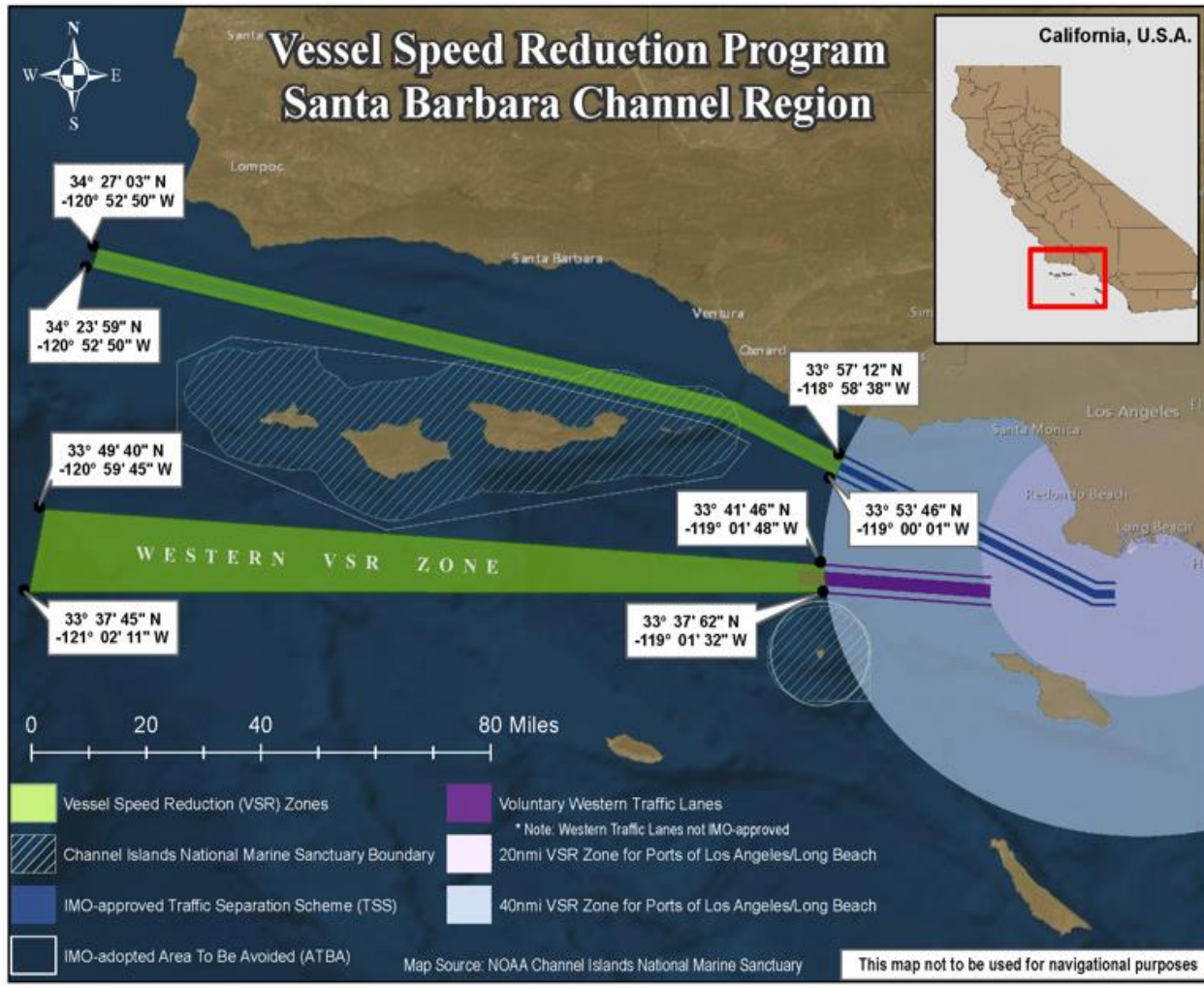
Photo credit: Lotti Keenan / Island Packers



3. Incentive-Based Program (enrollment open to container and car carrier lines)



2019 SF Bay Region
Incentive Program VSR Zones



2019 Southern California
Incentive Program VSR Zones

Incentive Program Year	2014	2016	2017	2018	2019 (MID-SEASON NUMBERS)
# Participating Companies	7	10	11	12	15
# Participating Vessels	14	31	59	280*	215*
Nautical Miles Traveled at 10 kts or less by participating vessels *NOTE: Program changed to fleet approach in 2018	2,700 nm	5,000 nm	12,630 nm	46,026 nm*	58,691 nm*

Incentive Program Awards Ceremony
Port of LA - March 6, 2019



2019 Incentive Program Participants



Incentive-Based Program Air Emissions Reduction Benefits



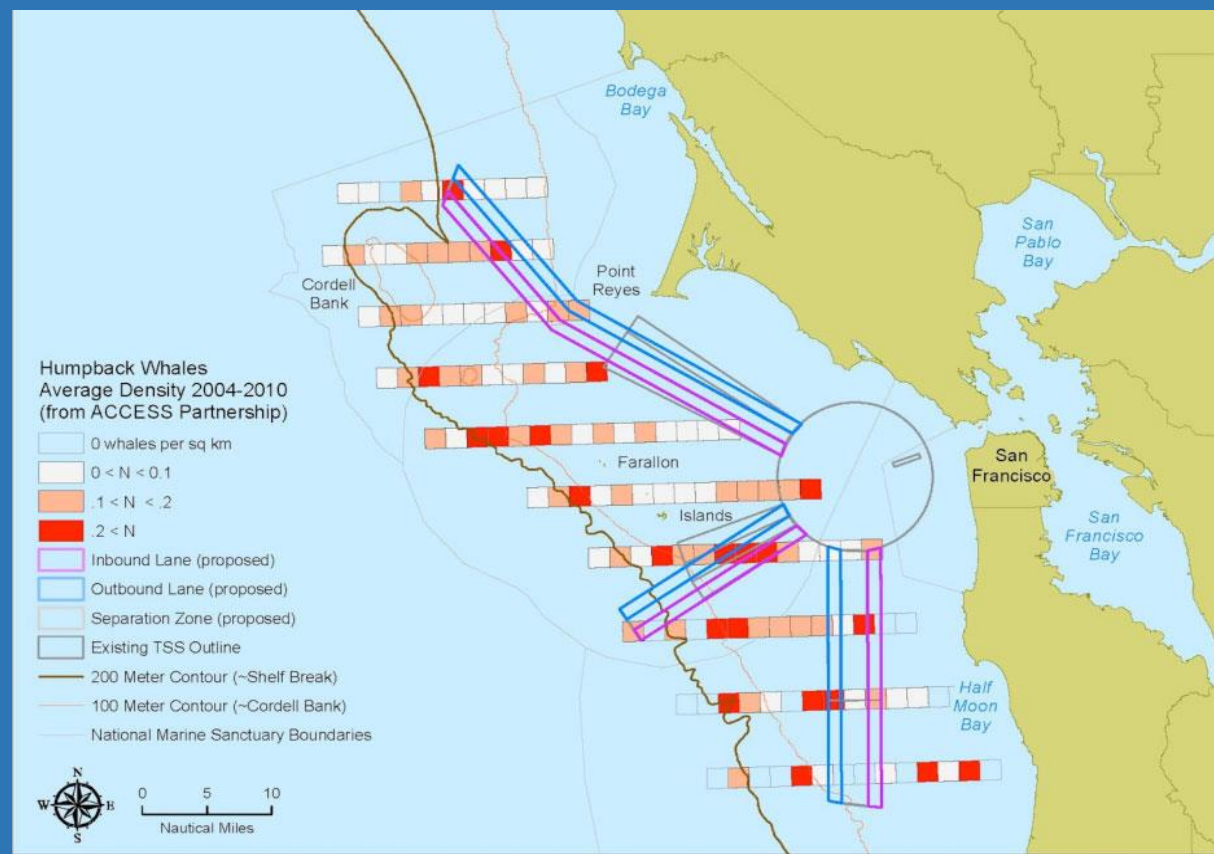
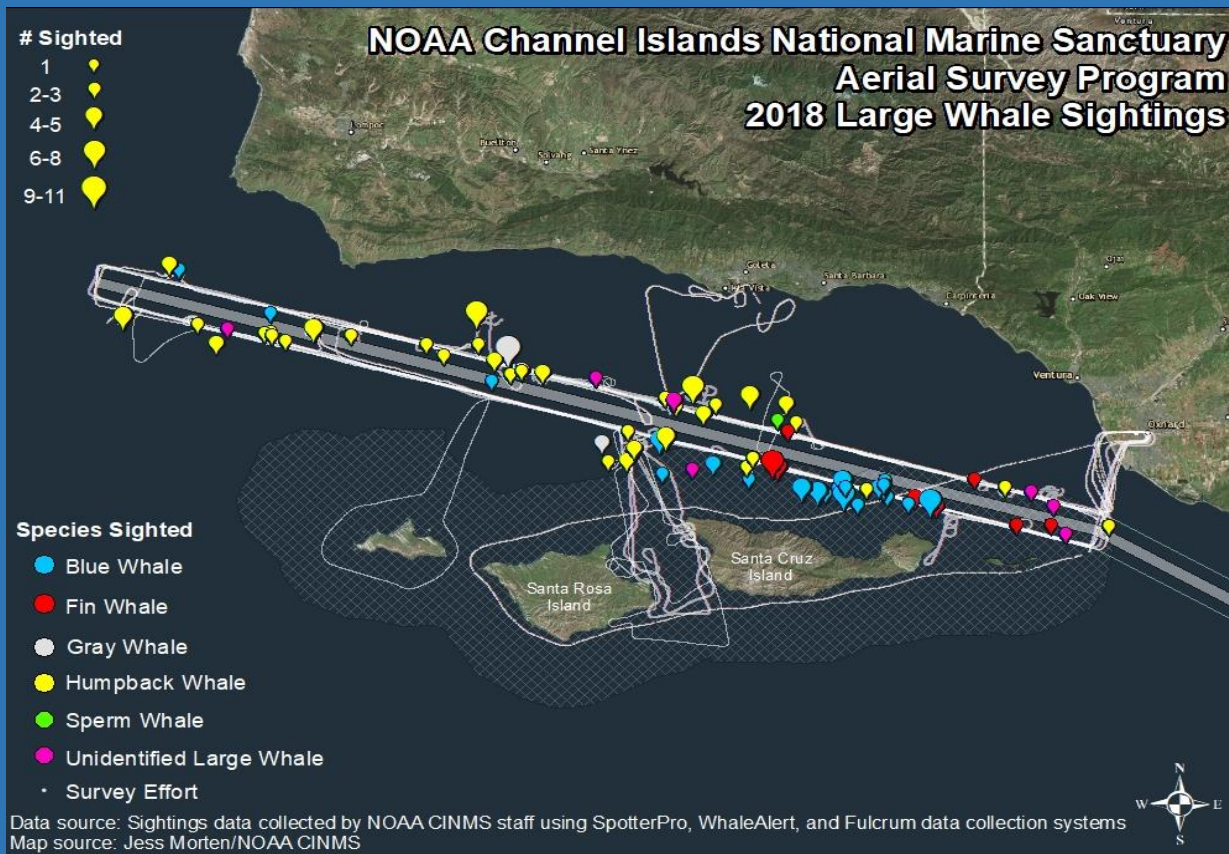
Estimated Emission Reductions

Data source: Starcrest LLC

Incentive Program Year	2014	2016	2017	2018
NO_x	12.4 tons	25.6 tons	83.5 tons	266 tons
GHG	535 MT GHG	1,005 MT GHG	2,630 MT GHG	8,668 MT GHG



4. Ongoing Research and Monitoring



Next Steps for West Coast Ship Strike Work



- ❖ Continue to work towards 100% cooperation with VSR requests in California:
 - Increase overall awareness of VSR efforts
 - Continue conversations to better understand barriers + constraints
- ❖ Continue to explore other options for VSR policy



Thank you

Jess Morten, Resource Protection Specialist contractor
with Greater Farallones Association & University of California Santa Barbara
for NOAA Channel Islands and Cordell Bank National Marine Sanctuaries
E-mail: jessica.morten@noaa.gov

Michael Carver, Deputy Superintendent
NOAA Cordell Bank National Marine Sanctuary
E-mail: michael.carver@noaa.gov

Sean Hastings, Resource Protection Coordinator
NOAA Channel Islands National Marine Sanctuary
E-mail: sean.hastings@noaa.gov