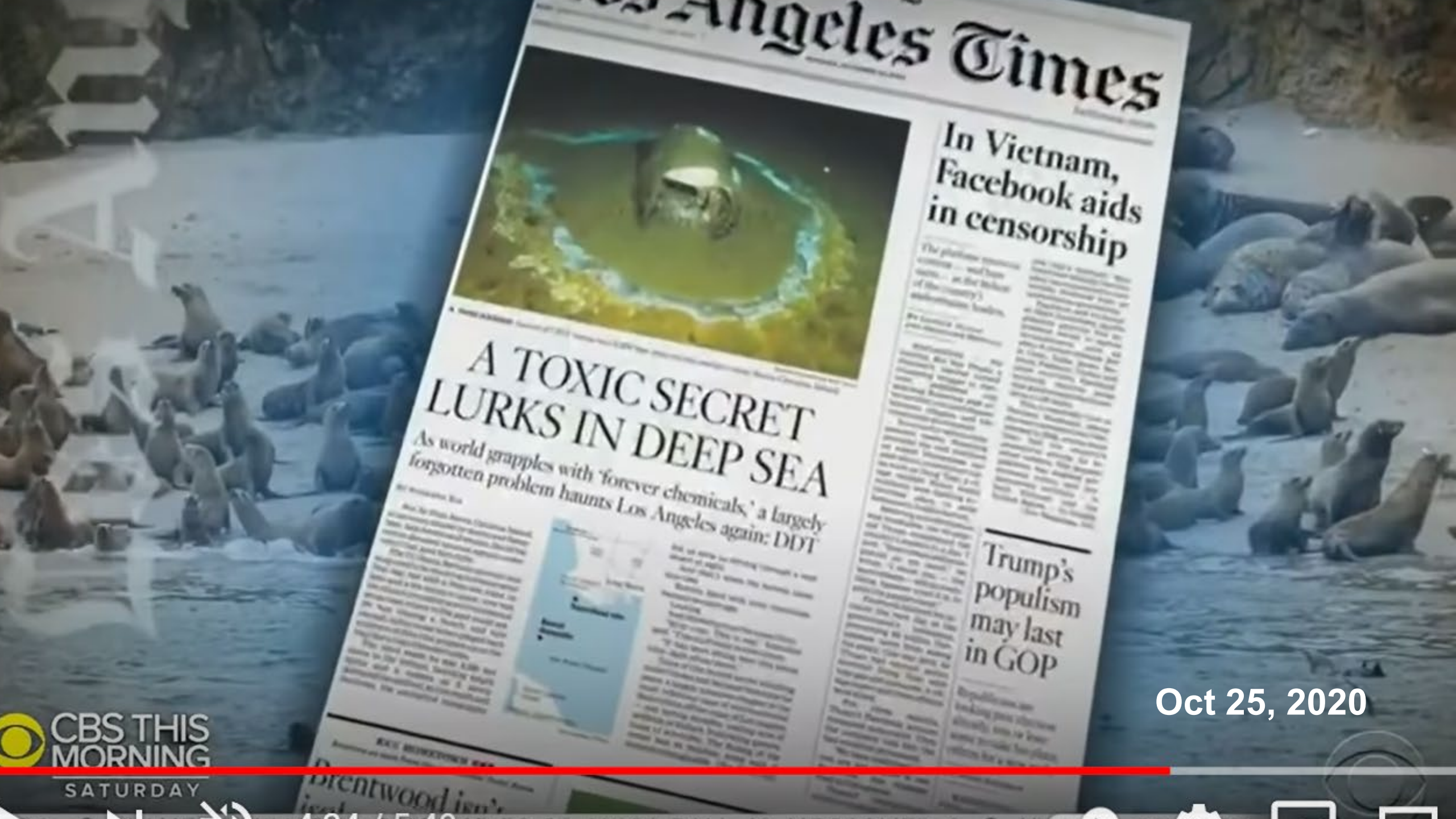


Federal/State Workgroup Deep-Water Ocean Disposal Off Southern CA Coast

May 17, 2022



John Chesnutt
US EPA Region 9
Superfund Division



Los Angeles Times



A TOXIC SECRET LURKS IN DEEP SEA

As world grapples with 'forever chemicals,' a largely forgotten problem haunts Los Angeles again: DDT

In Vietnam, Facebook aids in censorship

Trump's populism may last in GOP

Oct 25, 2020

Brentwood isn't
104.15.40

L.A.'s coast was once a DDT dumping ground.

Editorial: We need faster action on removing the DDT graveyard off the L.A. coast

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Hazardous waste survey off Palos Verdes Peninsula concludes

79° Los Angeles



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California sea lions' deaths from mysterious cancer linked to Herpes and DDT, experts say



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- 1 Police arrest man accused of abducting, sexually assaulting and shooting 12-year-old Miami boy
- 2 2 dead, 3 injured in wrong-way crash that prompted closures on 110 Freeway in downtown L.A.

SANTA BARBARA NEWS-PRESS

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Home Local Feinstein calls for cleanup of toxic DDT site

Local

Feinstein calls for cleanup of toxic DDT site

by Grayce McCormick | March 14, 2021 | 0 comment

CLIMATE & ENVIRONMENT

Sea lions are dying from a mysterious cancer. The culprits? Herpes and DDT



The Marine Mammal Center's chief pathologist Patrick Deegan, right, and fellow Maggie Martinez perform a necropsy on a California sea lion that was euthanized due to sarcomatous cancer. (Bill Hurstwell / Marine Mammal Center)

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The things migrants carried — and dropped — as they crossed the border

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Here are a bunch of things you can do to try to get a COVID vaccine in California

CALIFORNIA

A tale of two reckonings: How should Manhattan Beach atone for its racist past?

TELEVISION

Addison Rae taught Jimmy Fallon TikTok dances, but Twitter remembers who created them

HIGH SCHOOL SPORTS

The Times' high school baseball rankings



CATALINA ISLAND CHAMBER OF COMMERCE

Barbara, had the loan of a

CLIMATE & ENVIRONMENT

Deep-sea 'Roombas' will comb ocean floor for DDT waste barrels near Catalina



The Sally Ride, one of the most technologically advanced research ships in the country, will serve as a control center for two underwater robots tasked with combing and mapping the seafloor. (Erik Apstein / UC-San Diego)

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The things migrants carried — and dropped — as they crossed the border

CALIFORNIA

Here are a bunch of things you can do to try to get a COVID vaccine in California

CALIFORNIA

A tale of two reckonings: How should Manhattan Beach atone for its racist past?

TELEVISION

Addison Rae taught Jimmy Fallon TikTok dances, but Twitter remembers who created them

HIGH SCHOOL SPORTS

The Times' high school baseball rankings



United States Senate

March 8, 2021

Ms. Jane Nishida
Acting Administrator
Environmental Protection Agency



CalEPA
California Environmental
Protection Agency

Dear Acting Administrator Nishida:

April 13, 2021

I write regarding DDT contain-
ers you prioritize urgent and meaningful
human and environmental health.

Deborah Jordan
Acting Regional Administrator
Region 9
U.S. Environmental Protection Agency
75 Hawthorne Street
San Francisco, CA 94104
jordan.deborah@epa.gov

From 1947 to 1983, Montrose
manufacturer of DDT, was located in
on DDT, production continued for al-
practice to dispose of industrial waste
the Montrose Chemical site to the S.
investigation of these containers
contaminated sewage dumped in the

Re: Remediation of DDT off Palos Verdes Peninsula

Dear Acting Regional Administrator Jordan:

Thank you for all that you and the U.S. EPA Region IX team a-
environmental agenda shared by both President Biden and G-

I am writing today in regard to the extensive contamination of
waste from the Montrose Chemical Corporation plant property
remains on the ocean floor on the Palos Verdes Shelf and in th-
significant environmental and public health issues for neighbor-



COUNTY OF LOS ANGELES
BOARD OF SUPERVISORS

KENNETH HAHN HALL OF ADMINISTRATION
500 WEST TEMPLE STREET
LOS ANGELES, CALIFORNIA 90012

May 7, 2021

Michael S. Regan
Administrator

COMMITTEE ON THE JUDICIARY - RANKING MEMBER
SELECT COMMITTEE ON INTELLIGENCE
COMMITTEE ON APPROPRIATIONS
COMMITTEE ON RULES AND ADMINISTRATION



International Marine Mammal Project
Earth Island Institute • The David Brower Center
2150 Allston Way, Suite 460
Berkeley CA 94704-1302 USA
Tel: 510-859-9100 www.savedolphins.eii.org



Gavin Newsom
Governor

Jared Blumenfeld
Secretary for Environmental Protection

Benjamin Friedman, Acting NOAA Administrator
National Oceanic & Atmospheric Administration
1401 Constitution Avenue NW, Room 5128
Washington, DC 20230

May 28, 2021

Michael S. Regan, Administrator ✓
Environmental Protection Agency
Mail Code: 1101A
1200 Pennsylvania Avenue, N.W.
Washington, DC 20460

Congress of the United States
Washington, DC 20515

November 29, 2021

Xavier Becerra
Secretary
Department of Health and Human Services
Washington, DC 20201

Michael S. Regan
Administrator
Environmental Protection Agency
Washington, DC 20460

Dear Secretary Becerra and Administrator Regan:

Thank you for your public service. Recent rese-
startling increase in cancer in sea lions along th-
increase may be attributable to the presence of
into the ocean, which affects the food supply th-
coast was previously used as a DDT dumping g-
that sea lions do, and the obvious question is if
lions, is this DDT also causing a spike in cance-
actions necessary to answer that critical health

ERIC ALEGRIA, MAYOR
DAVID L. BRADLEY, MAYOR PRO TEM
JOHN CRUKSHANK, COUNCIL MEMBER
KEN DYDA, COUNCIL MEMBER
BARBARA FERRARO, COUNCIL MEMBER

March 10, 2021

Via Email

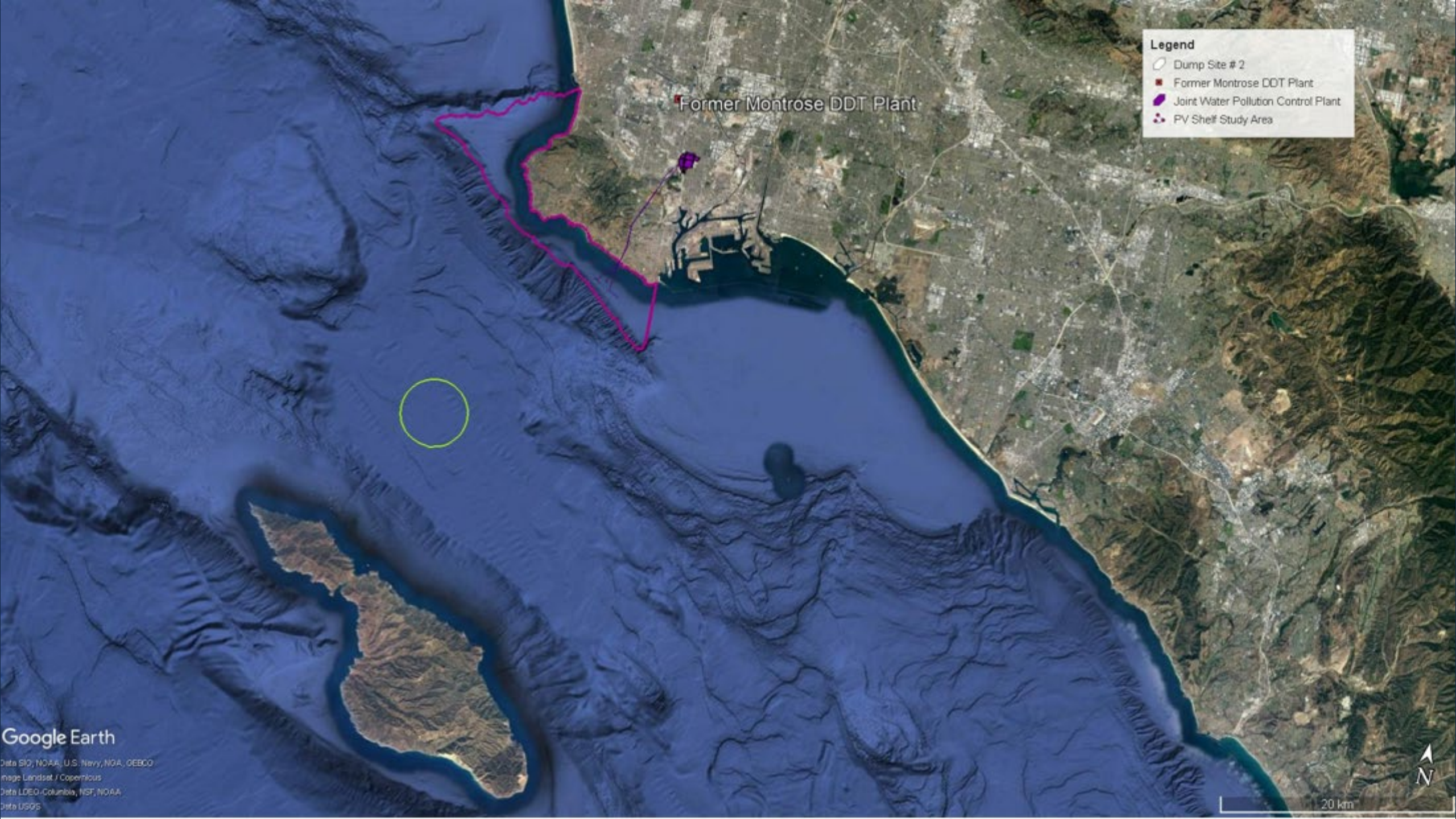
Dr. Deborah Jordan, Deputy Regional Administrator
Region 9, Pacific Southwest Office, U.S. Environmental Protection Agency
75 Hawthorne Street
San Francisco, CA 94105

SUBJECT: Assessment of Offshore DDT Dumping

Dear Dr. Jordan,

The City of Rancho Palos Verdes is troubled by the revelations reported in the Los Angeles
Times regarding the true extent of DDT dumping off the coast of the Palos Verdes Peninsula.





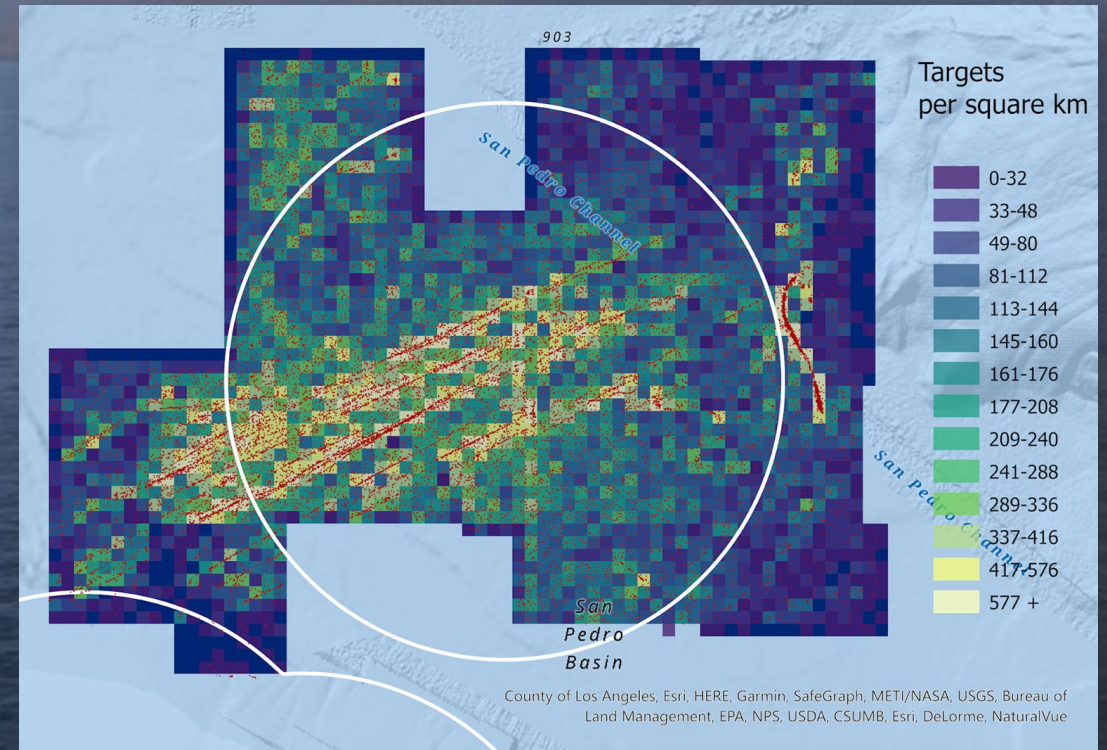
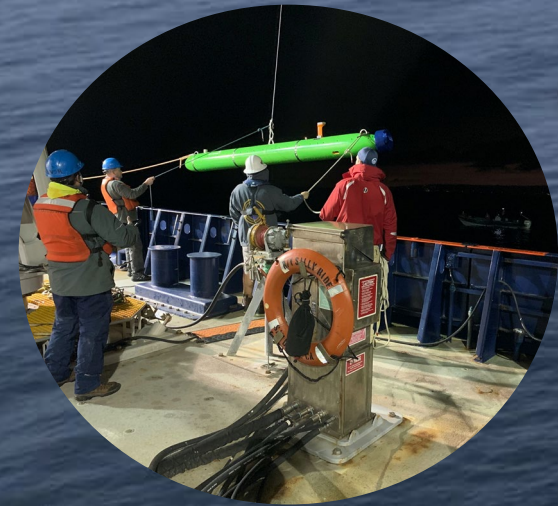
Former Montrose DDT Plant

Legend

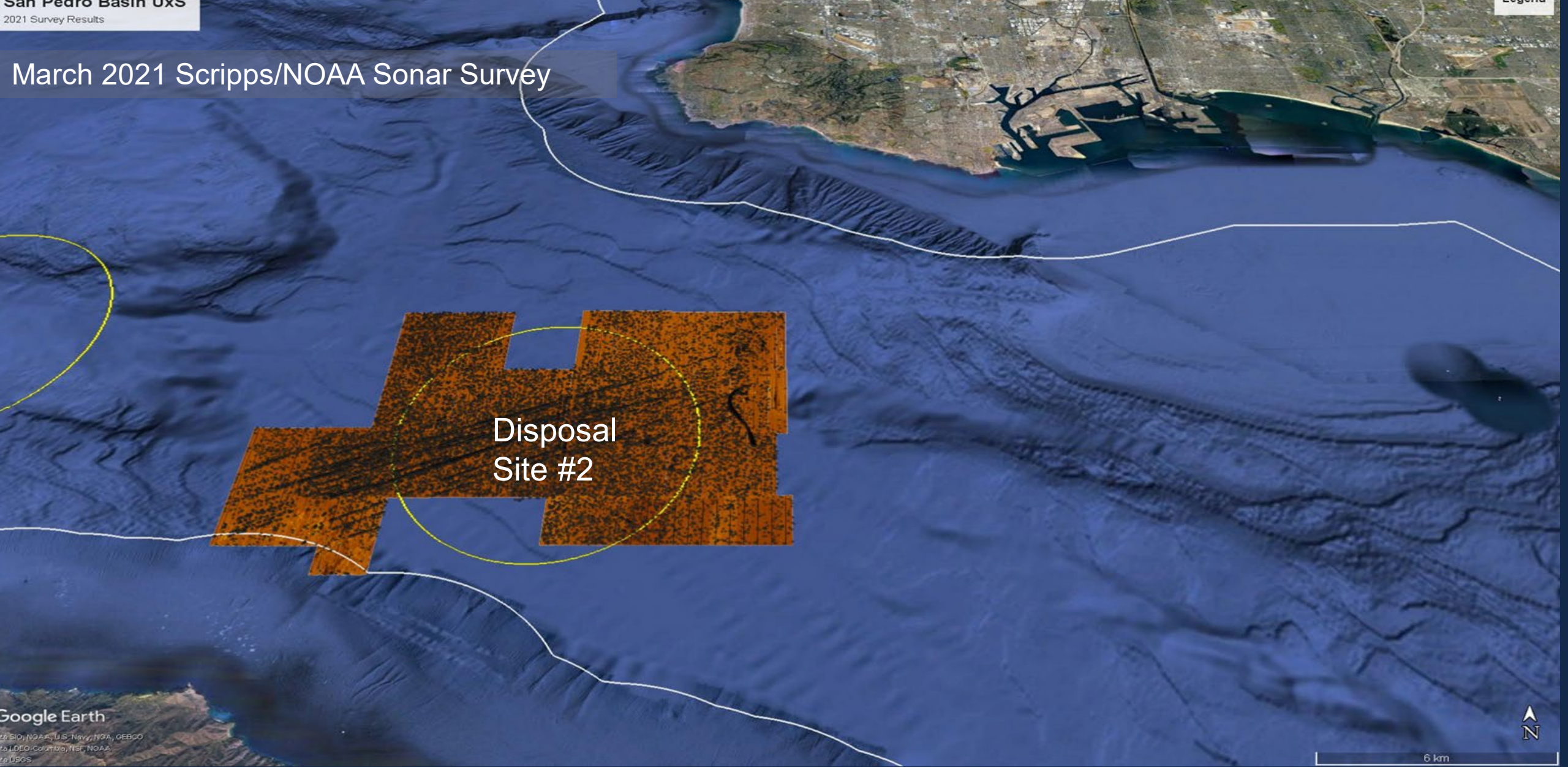
- Dump Site # 2
- Former Montrose DDT Plant
- Joint Water Pollution Control Plant
- PV Shelf Study Area

March 2021 Survey - Scripps through an MOU with NOAA conducted a survey on the R/V *Sally Ride*.

- 148 square kilometers; 36,000 acres
- Water depth: 3000'
- Greater than 25,000 barrel-like targets
- Excess of 100,000 debris objects
- Nature of targets varied through dump site
- Debris field approaches CA State Waters
- Emerging Robotics and "Big Data" Analytics enabled this study



March 2021 Scripps/NOAA Sonar Survey



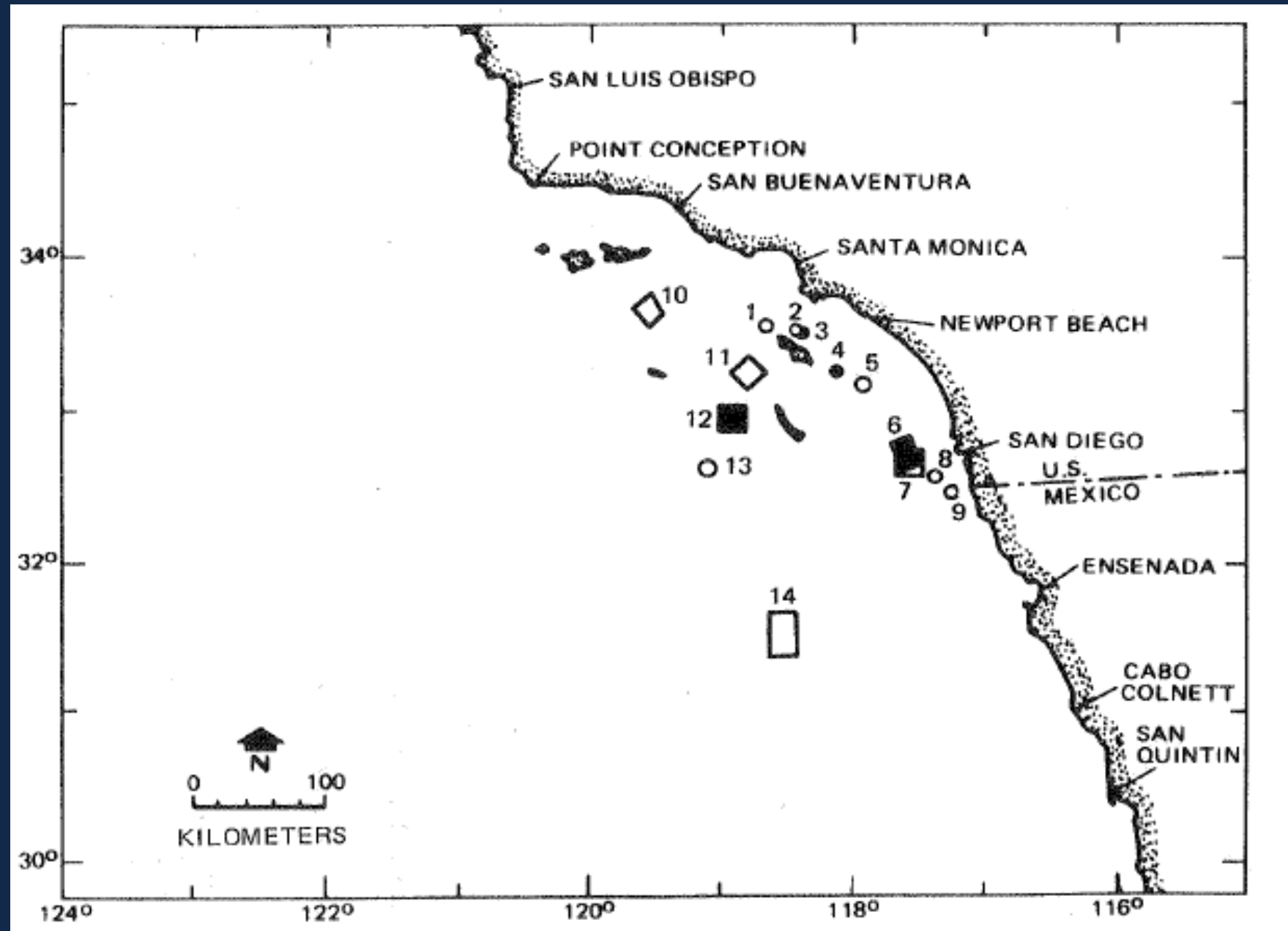
Google Earth
© 2021 SIO, NOAA, U.S. Navy, NGA, GEBCO
© 2021 LDEO-CO-UTS, NSF, NOAA
© 2021 USGS

6 km

Initial Assessment

There are fourteen documented deep-water ocean disposal sites off the Southern CA coast that received chemical, refinery, and other wastes from a variety of sources between the 1930's and the early 1970's.

Very little information is available as to the conditions of these sites, and whether their contamination poses, or could pose, risks to environmental or human health.



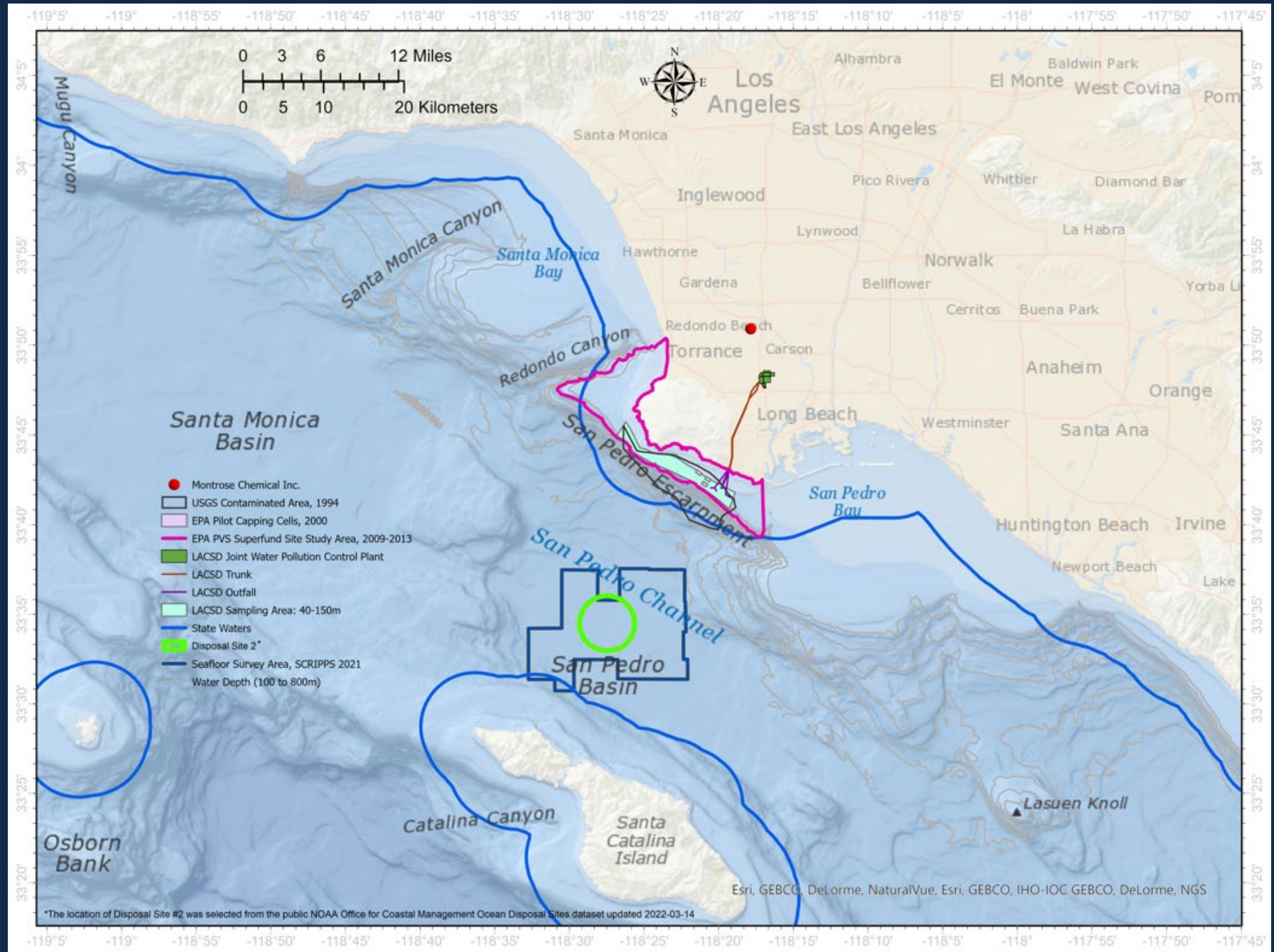
Source: 1973 Southern CA Coastal Water Research Project (SCCWRP) Report

Table 4-31

SUMMARY OF WASTES DUMPED INTO THE
SOUTHERN CALIFORNIA BIGHT, 1931-71

Type of Wastes	Major Dumping Sites*	Record Period	Estimated Total During Record Period (M tons)	Estimated Present Tonnage** (M tons/yr)
Refinery Wastes	3	1946-71	480,000	1,800
Chemical Wastes	2, 3	1965-71	2,800	470
	4	1947-71	5,700	210
	7	1960-67	140	-
Filter Cake	8	1969-70	320,000	-
Oil Drilling Wastes	2	1966-70	3,000,000	-
Refuse and Garbage	4	1931-71	47,000	1,200
	5	1944-70	7,400	-
	9	1947-68	90,000	-
Radioactive Wastes	10, 14	1946-68		-
Military Explosives	6, 11, 12	1945-70		-
Miscellaneous Wastes				250

Disposal Site #2



Senior leaders from Federal and State agencies meet regularly to discuss Disposal Site #2 and Next Steps

Participating agencies include:

- United States EPA
- National Oceanic and Atmospheric Administration
- United States Department of the Interior
- California Natural Resources Agency
- California EPA
- California State Water Resources Control Board
- Los Angeles Regional Water Quality Control Board
- California Department of Toxic Substances Control

Actions Being Discussed by the Participating Agencies – Focusing on Site #2

1. Document the Operational and Regulatory History of Disposal Site #2
2. Identify Areas of Significant Drum Disposal and the Nature of Contamination at Disposal Site #2
3. Evaluate Southern California Bight Environmental Conditions and Trends
4. If Conditions at Disposal Site #2 Are Determined to Threaten Human Health or the Environment – Conduct Technology Screening for Disposal Site #2

1. Operational and Regulatory History of Disposal Site #2

Objective: Identify contaminants of concern (COCs), wastes and volumes disposed, and entities that produced the waste

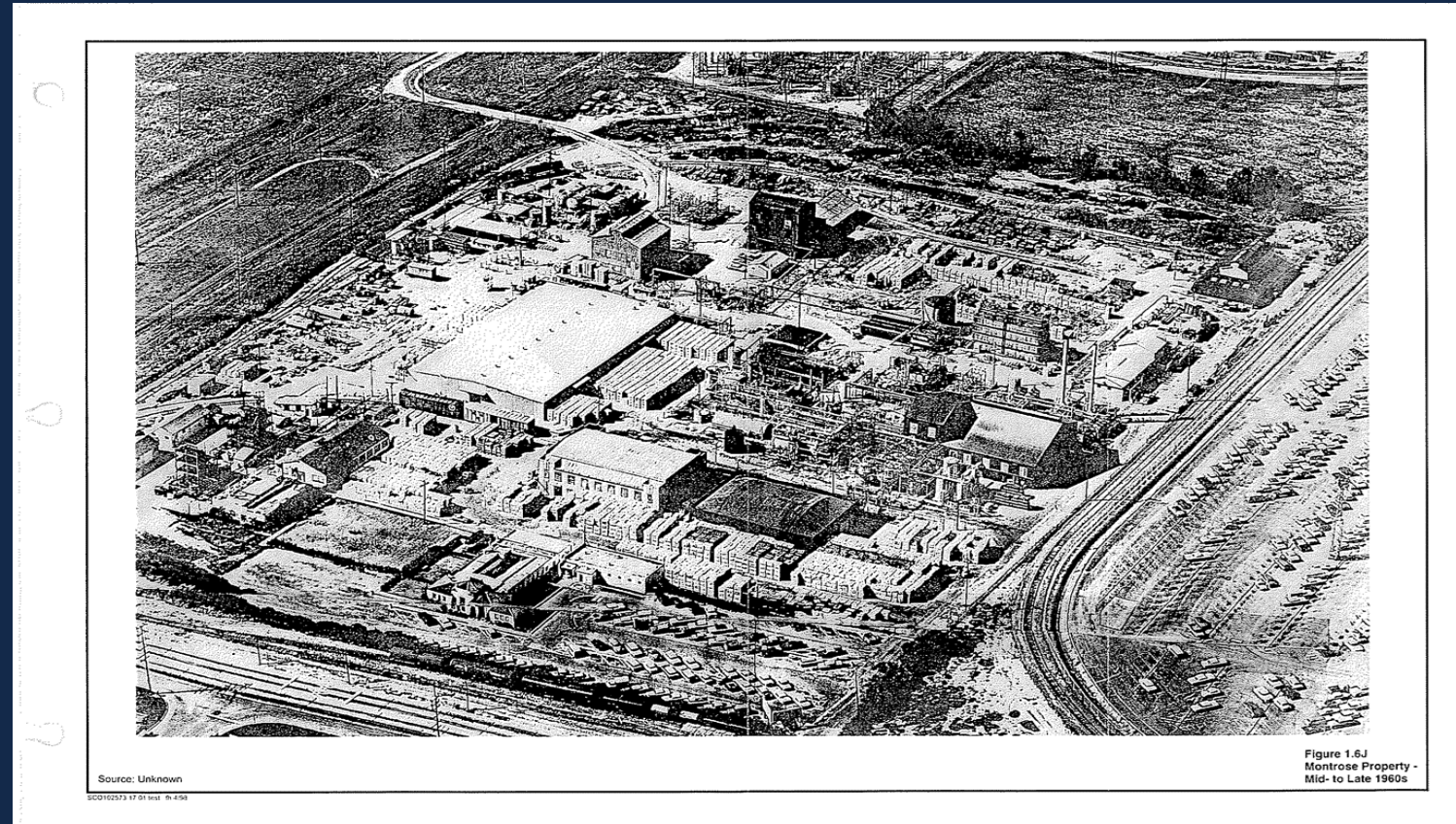
Actions:

- a) Continue review of Montrose DDT Plant's operational history
- b) Locate and review supporting references and documents for the 1985 Los Angeles Regional Water Quality Control Board Report
- c) Locate and review Los Angeles Regional Water Quality Control Board records and documents regarding administration of Waste Discharge Requirements during 1961-1970
- d) Locate and review local records regarding pre-1961 operation and waste disposal

1. Operational and Regulatory History of Disposal Site #2

Status: a) Completed analysis of Montrose Plant operational history:

- DDT-containing waste from Montrose deposited in Pacific Ocean disposal sites as a bulk liquid from barge holding tanks.
- EPA has also concluded that Montrose did not use or arrange for drums to be used for the ocean disposal of acid waste containing DDT from the Montrose Torrance plant.



b-d) Continue to review records coming in from Federal, State, and local agencies.

2. Extent of Drum Disposal and Nature of Contamination – Disposal Site #2

Objective: Identify Areas of Significant Drum Disposal. Provide information regarding the contaminants and their concentrations present in sediment

Actions:

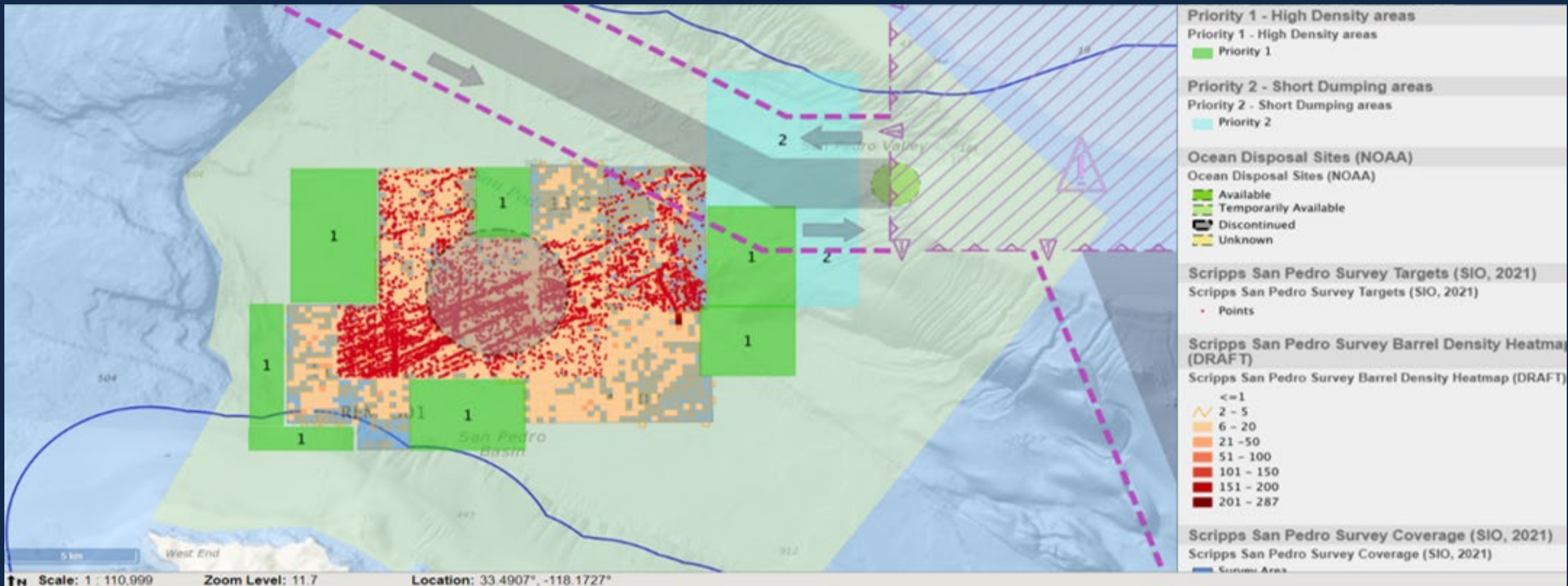
- a) Conduct follow-up sonar survey of Disposal Site #2
- b) Conduct targeted sediment sampling, possibly including water and biota

Status: Workgroup of Federal and State technical/scientific staff and managers have developed priorities for the additional sonar survey, a dynamic conceptual site model, and an initial strategy for an environmental sampling and analysis plan (approaches for statistical design, analytical chemistry, and sampling techniques, focusing on sediments)

Proposed Sonar Survey Priority Areas

Priority 1: High Density - Delineate areas with the greatest target density to capture additional barrel density

Priority 2: Short Dumping - Disposal history indicates that there may have been waste disposal short of the permitted Disposal Site #2



Conceptual Site Model (CSM) for Disposal Site #2

Purpose: Consolidate existing information that will support evaluations of risk to human health and marine life from historical activities at the site (for broad audience)

The model includes three interrelated components:

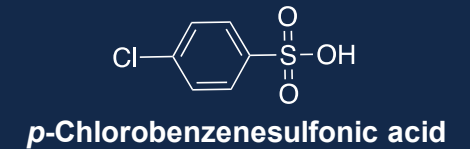
- Physical fate and transport pathways for wastes, including contaminants of concern, and environmental media of concern
- Potential exposure pathways and adverse effects to marine life, including food web pathways for bioaccumulative contaminants in deep-sea sediments
- Potential exposure pathways and concerns for humans

CSM - Contaminants of Potential Concern

- Chemical Waste (2800 metric tons (MT))**

Examples (including DDT metabolites):

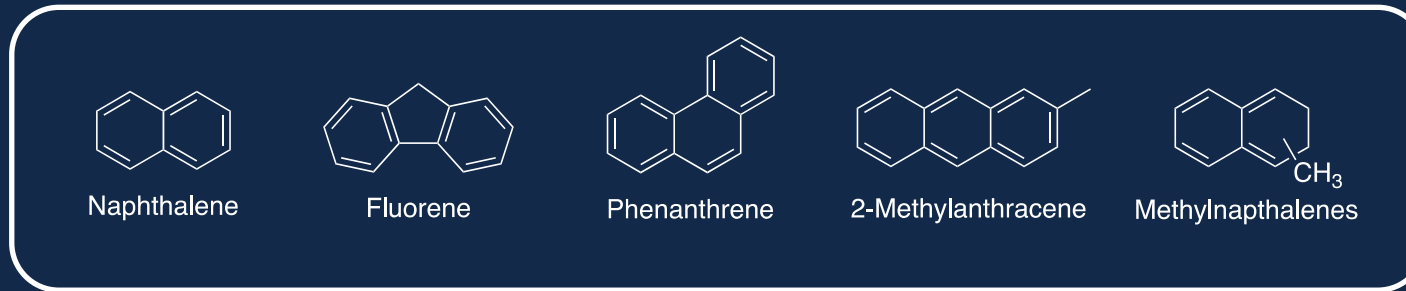
DDX



- Oil Drilling Wastes (3,000,000 MT) and Oil Refinery Wastes (480,000 MT)**

Examples:

PAH



(Polycyclic Aromatic Hydrocarbons)

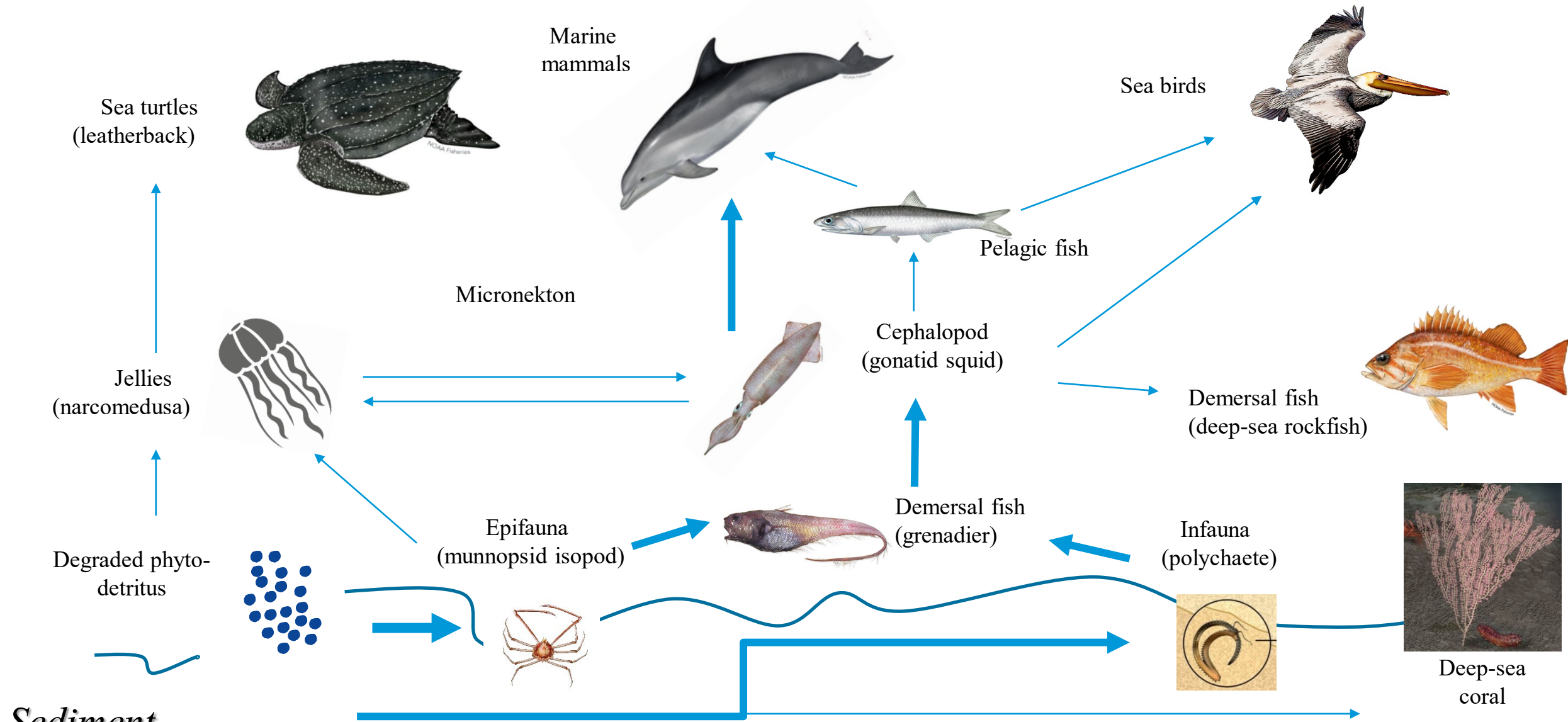
NSOs

Nitrogen-, sulfur-, and oxygen-substituted heterocycles

Metals /
Metalloids

Arsenic, cadmium, cobalt, chromium, copper, mercury, nickel, lead, vanadium, zinc

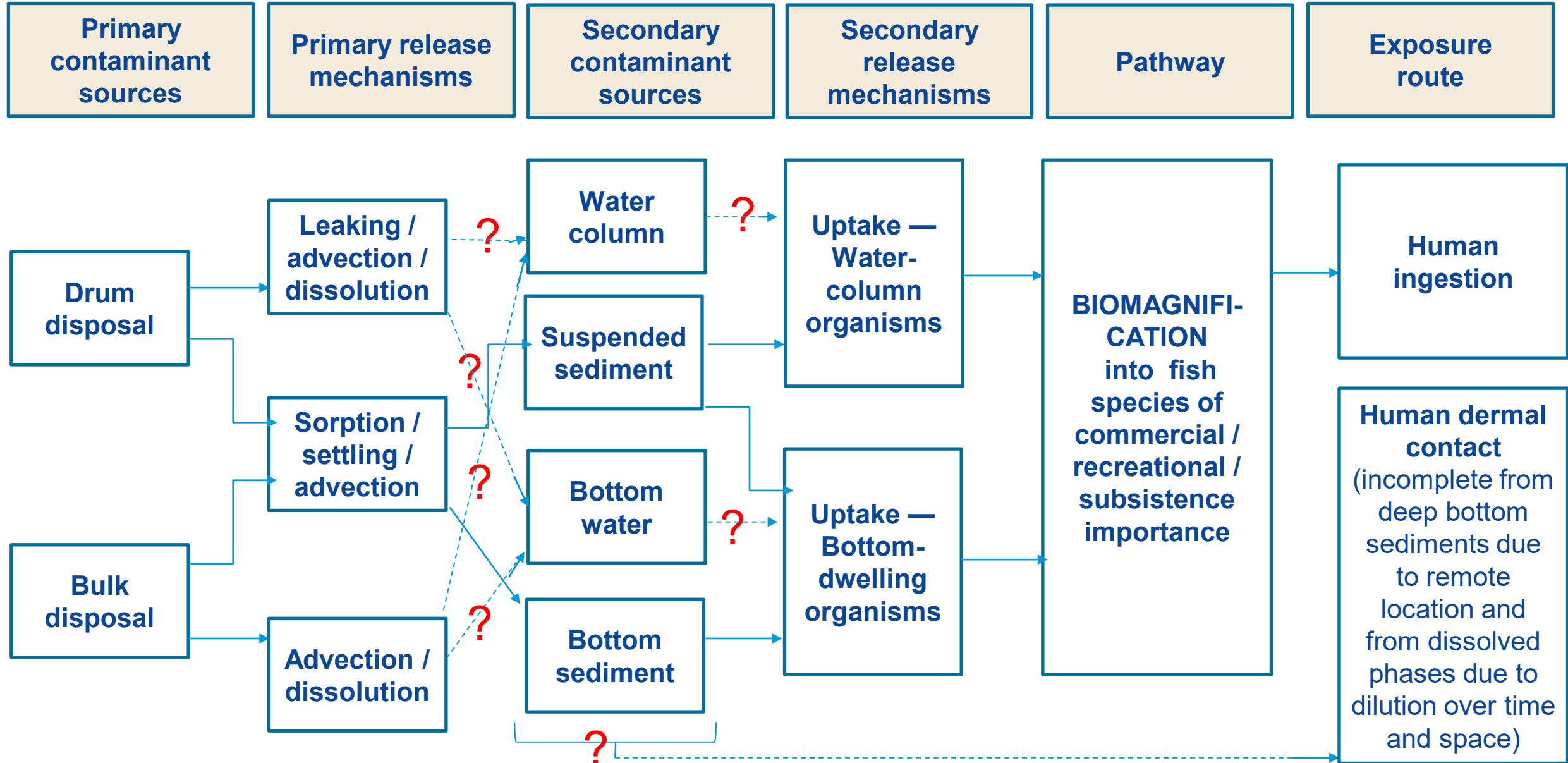
Food Web Relevant to Deep-Sea Sediment Bioaccumulative Contaminants



*Sediment
Contamination*

Illustration not to scale

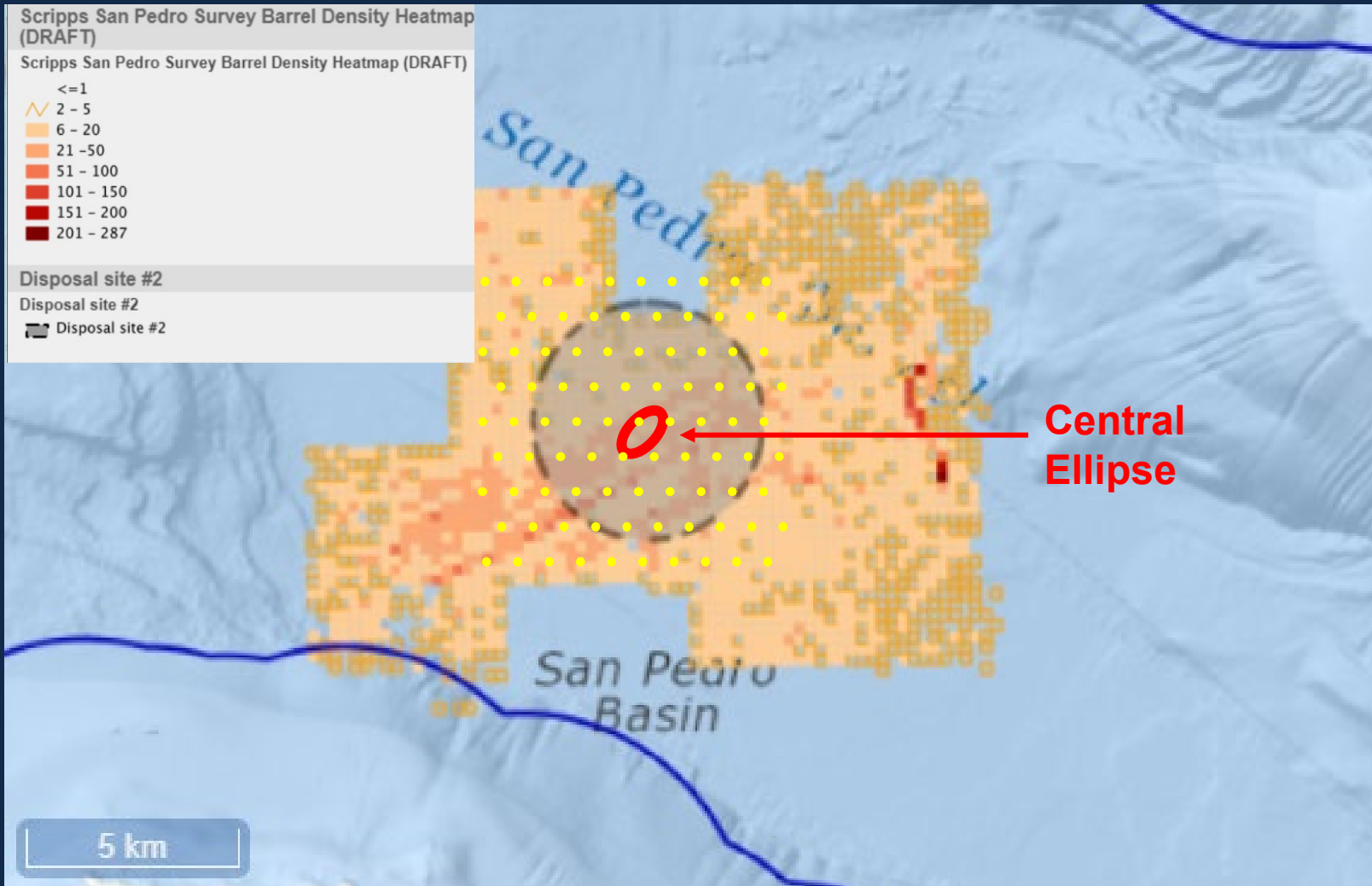
Potential human health exposure pathways – hydrophobic contaminants



Primary concern: consumption of fish that accumulate hydrophobic contaminants from sediments

Environmental Sampling and Analysis Plan

- Initial Conceptual Design Elements -



Concentrated samples in **Central Ellipse** (high barrel density in Disposal Site 2) and in Reference Area.

Null hypotheses that would likely be addressed with sufficient statistical power:

- Mean concentrations of COCs (e.g., DDT) in ellipse are \leq reference conditions
- Mean concentrations of COCs (e.g., DDT) in ellipse are \leq ecological risk-based thresholds
- Mean concentrations of COCs (e.g., DDT) in ellipse are \leq conc. at outer perimeter of study site
- Concentrations of COCs (e.g., DDT) are independent of barrel density within the study area

Additional hypotheses with less statistical power:

- Concentrations of COCs (e.g., DDT) do not vary with distance from the central ellipse
- The association between concentrations of COCs and distance do not vary directionally

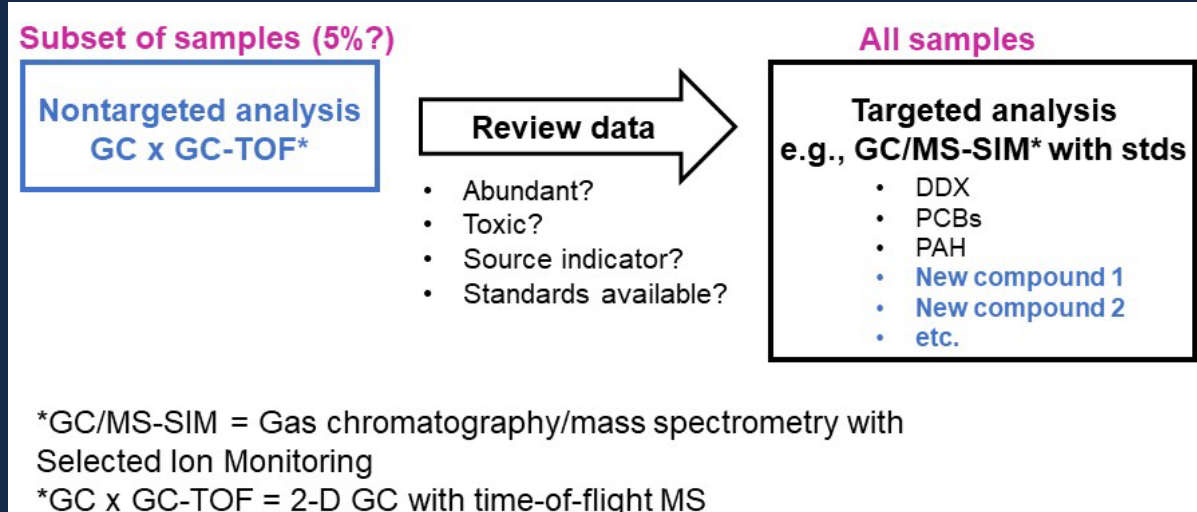
Potential Analytical Chemistry Approach

Analytes will be targeted based on (1) known/suspected toxicity to human health and marine biota and (2) potential use for contaminant source identification.

Potential analytes for sediment analysis

Targeted primarily based on toxicity, but also as source indicator	Targeted primarily as a source indicator
DDX (DDT, DDE, DDD, DDMU, DDNU; 2,4'- and 4,4'-isomers)	PCBs (for DDX/PCB ratio as source indicator vs. Palos Verdes)
PAH (includes alkyl-substituted PAH and NSOs)	Barium (as indicator of oil drilling waste; included in metals analysis)
TCPM and TCPMOH [tris(4-chlorophenyl)methane and tris(4-chlorophenyl)methanol] (all isomers that are commercially available)	Hopanoid biomarkers (diagnostic of petroleum source, including natural seeps in Southern California Bight)
Metals / metalloids	^{210}Pb (for age-dating of sediment cores)

Hybrid nontargeted-targeted analysis of organic contaminants



- Use US EPA methods when appropriate (e.g., metals by ICP-AES or ICP-MS; PCB congeners by GC/MS-SIM)
- Would need academic collaborators for GC x GC-TOF analysis
- Integrate rigorous QA/QC into all analyses to maximize data reliability

San Pedro Basin: Potential Reference Site Criteria



- Proximity to DS2
- Up-current of DS2
- Similar depth, bathymetry, sediment, diss. oxygen levels as DS2
- Not influenced by:
 - Other permitted disposal sites
 - Other known contaminant sources (e.g. seeps, outfalls, ag. runoff)

Outreach/Collaboration:

- EPA website – coming soon
- Conversations with scientific community. Coordinating with Scripps and UCSB regarding congressional appropriation
- Continued updates to congressional offices, local officials, NGOs, and others

The screenshot shows the EPA website interface. At the top left is the EPA logo and the text "United States Environmental Protection Agency". To the right is a search bar with "Search EPA.gov" and a magnifying glass icon, and a "Hide Admin Info" button. Below this is a blue navigation bar with links for "Environmental Topics", "Laws & Regulations", "Report a Violation", and "About EPA".

The main content area has a header "Related Topics: [Ocean Dumping](#)" and a "CONTACT US" link. The title of the page is "Southern California Ocean Disposal Site". Below the title are three tabs: "View", "Group Dashboard", and "Revisions".

Under "On this page:" there is a list of links: [History](#), [What is the issue?](#), [What is being done about it?](#), [Frequently Asked Questions](#), [Recreational Activities](#), [Fishing and Wildlife](#), and [Documents](#). The "Documents" link has a sub-list: [Correspondence](#), [Reports](#), and [Presentations](#).

There is a map showing the Southern California coast with 14 deep-water locations marked. A legend is visible in the bottom left of the map. Below the map is a caption: "Figure 1: Shows the approximate placement of the 14-deep-water locations (click image to enlarge). Source: 1973 Southern CA Coastal Water Research Project (SCCWBP) Report (PDF) [EXIT](#)".

The "History" section begins with the heading "History" and contains the following text: "From the 1930s until the early 1970s, multiple government agencies (the California Regional Water Quality Control Board, the U.S. Army Corps of Engineers, or local agencies), approved ocean disposal of domestic, industrial, and military waste at 14 deep-water locations off the coast of Southern California. Waste disposed included: refinery wastes, filter cakes and oil drilling wastes, chemical wastes, refuse and garbage, military explosives and radioactive wastes. Waste disposal at these 14 designated sites stopped in the 1970s. Very little is known about the history of this deep-ocean disposal, the nature of the wastes, or waste sources." Below this text is a link: "See: [Ocean Dumping Under Los Angeles Regional Water Quality Control Board, March 1985](#) [EXIT](#)".

The "What is the issue?" section has the heading "What is the issue?" and contains the text: "On October 25, 2020, the [Los Angeles Times published an article](#) [EXIT](#) about historic deep-water ocean disposal of DDT waste by Montrose Chemical Corp. of California (Montrose). The deep-water disposal site (Disposal Site #2) is located in the San Pedro Channel 12 miles (19 km) from

On the right side of the page, there are two sidebars. The top one is blue and titled "For More Information on Ocean Dumping". It contains the text: "Contact [Judy Huang](#) (huang.judy@epa.gov) at (415) 972-3681 or [TBD](#)". The bottom one is yellow and titled "Collaborating Agencies". It contains the text: "The agencies listed below are working together to address Ocean Disposal Site #2:" followed by a list of agencies: [U.S. Environmental Protection Agency \(EPA\)](#), [National Oceanic and Atmospheric Administration \(NOAA\)](#), [Office of Marine and Aviation Operations](#), and [Office of Response and Restoration Assessment](#). Each agency link has an "EXIT" button next to it.

Questions ?

