

Water Quality Crisis in Channel Islands Harbor

Channel Islands
Neighborhood
Council

Marine
Advisory
Committee

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Channel Islands Harbor WAC

This is an executive summary of our findings and recommended actions to address the water quality crisis in Channel Islands Harbor.

All underlying documents and relevant electronic links are available from:

Marine Advisory Committee
Channel Island Neighborhood Council
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A Formidable Array of Pollutants is Damaging the Water Quality of CI Harbor

- Agricultural Field Drains
- Municipal Storm Sewers
- Residential and Commercial Waste
- Oil-Field Waste and Contaminants
- Marinas, Fuel Docks and Pump-out stations



These Pollutants have Been Present for Decades

... but, the Edison Canal had always flushed these contaminants away from the Harbor, out through the power plant and into the ocean – a much larger body of water to handle the contaminants. Even intermittent operation of the power plant kept the Harbor clear.

- NRG had an NPDES permit to flush this toxic mixture through their power plant and made mitigation payments of roughly \$100,000 annually.
- A year ago NRG/GenOn permanently shut down the Edison Canal and the Water Quality Control Board granted a permit to close the pumping, without analyzing the negative impact of the CI Harbor.
- Now, with no place else to go, these pollutants and nutrients flow south down the Canal into Channel Islands Harbor.

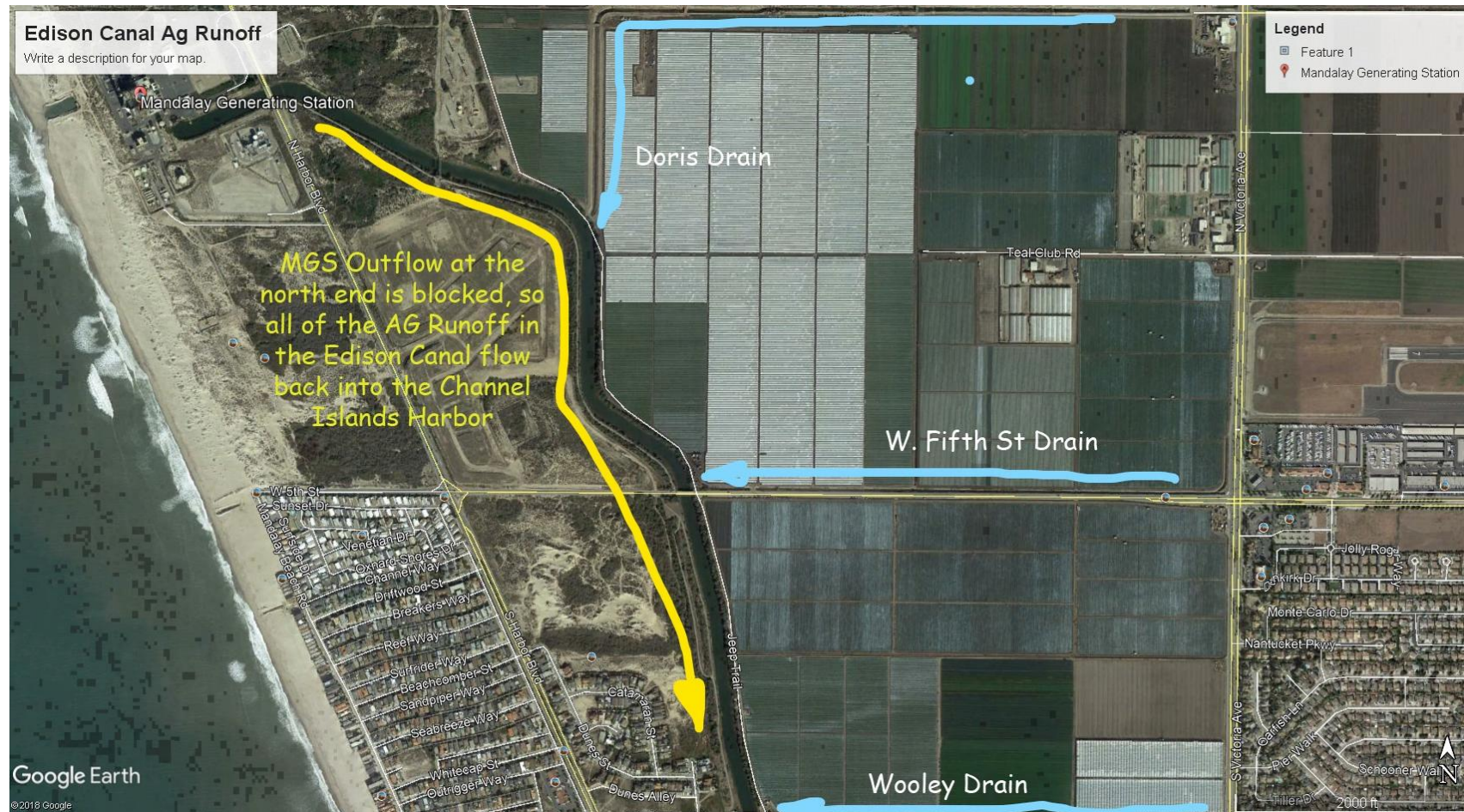
This parallels the issue facing McGrath Lake , which is finally being addressed after many years, due to pressure from Ventura Coast Keepers.



We Don't Want CI Harbor to be "Impaired Water"

- McGrath Lake is listed as a **CWA Section 303(d) Impaired Water** due to pollutants from agricultural runoff.
- **VCAILG** (Ventura County Agricultural Irrigated Lands Group) **2018 Annual Monitoring Report** showed significant exceedances (over 182-77,000%!) for nutrients, metals, pesticides and bacteria at the discharge onto McGrath Lake.
- **VCAILG** farmlands discharge the same runoff into Edison Canal/ Channel Islands Harbor, as it has been doing to McGrath Lake (the most polluted body of water in CA)
- There are no water quality monitoring sites at the discharge points into Edison Canal.
- We need one-time baseline testing for pollutants of concern to determine if on-going water quality testing is required.

1. Agricultural Field Drains



Agricultural fertilizer (“nutrient”) runoff is a major contributor to seasonal water quality issues such as algae blooms in the Harbor.
They must be eliminated to avoid a major fish kill!

1.1. Ventura County Agricultural Irrigated Lands Group (VCAILG) Field Drains

VCAILG Monitoring Report for OXD_CENTR , which discharges into McGrath Lake

Type	Constituent	Benchmark	08/29/17	03/11/18	03/22/18	Average	Exceedance
Nutrients	Nitrate-N	10	30.50	62.20	11.10	34.60	346%
Metals	Dis.Copper	3.10	3.99	6.04	6.85	5.62667	182%
Organo-chlorine	Chlordane	0.00059	ND	ND	0.00524	0.00524	888%
Pesticides	Toxaphene	0.00075	0.12200	0.15600	1.47000	0.58267	77689%
	4,4'-DDD	0.00084	DNQ	0.00664	0.19600	0.10132	12062%
	4,4'-DDE	0.00059	DNQ	0.02780	0.36500	0.19640	33288%
	4,4'-DDT	0.00059	ND	0.02480	0.17700	0.10090	17102%
Pyrethroid	Bifenthrin	0.00060	ND	ND	0.07790	0.07790	12983%
Pesticides							
Bacteria	E.coli	235	259	200	200	220	93%

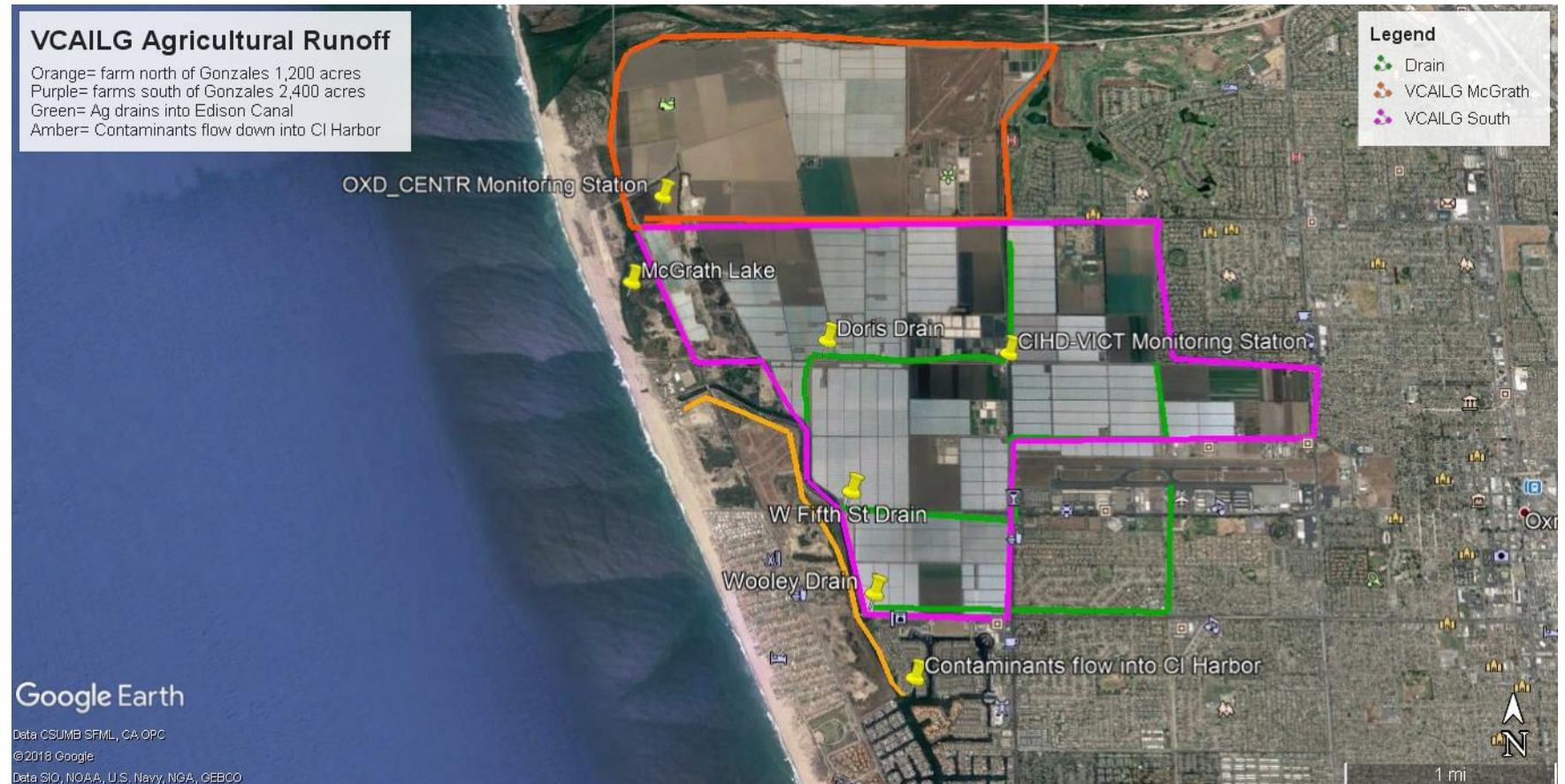
VCAILG Monitoring Report for CIHD_VICT , which discharges into Edison Canal

Type	Constituent	Benchmark	08/29/17	03/11/18	03/22/18	Average	Exceedance
Bacteria	E.coli	235/ 100 mL	NS	NS	NS		
	Fecal Coliform	200 /100 mL	NS	NS	NS		
	Total Coliform	1,000/ 100 mL	NS	NS	NS		
	Enterococc	35/ 100 us mL	NS	NS	NS		

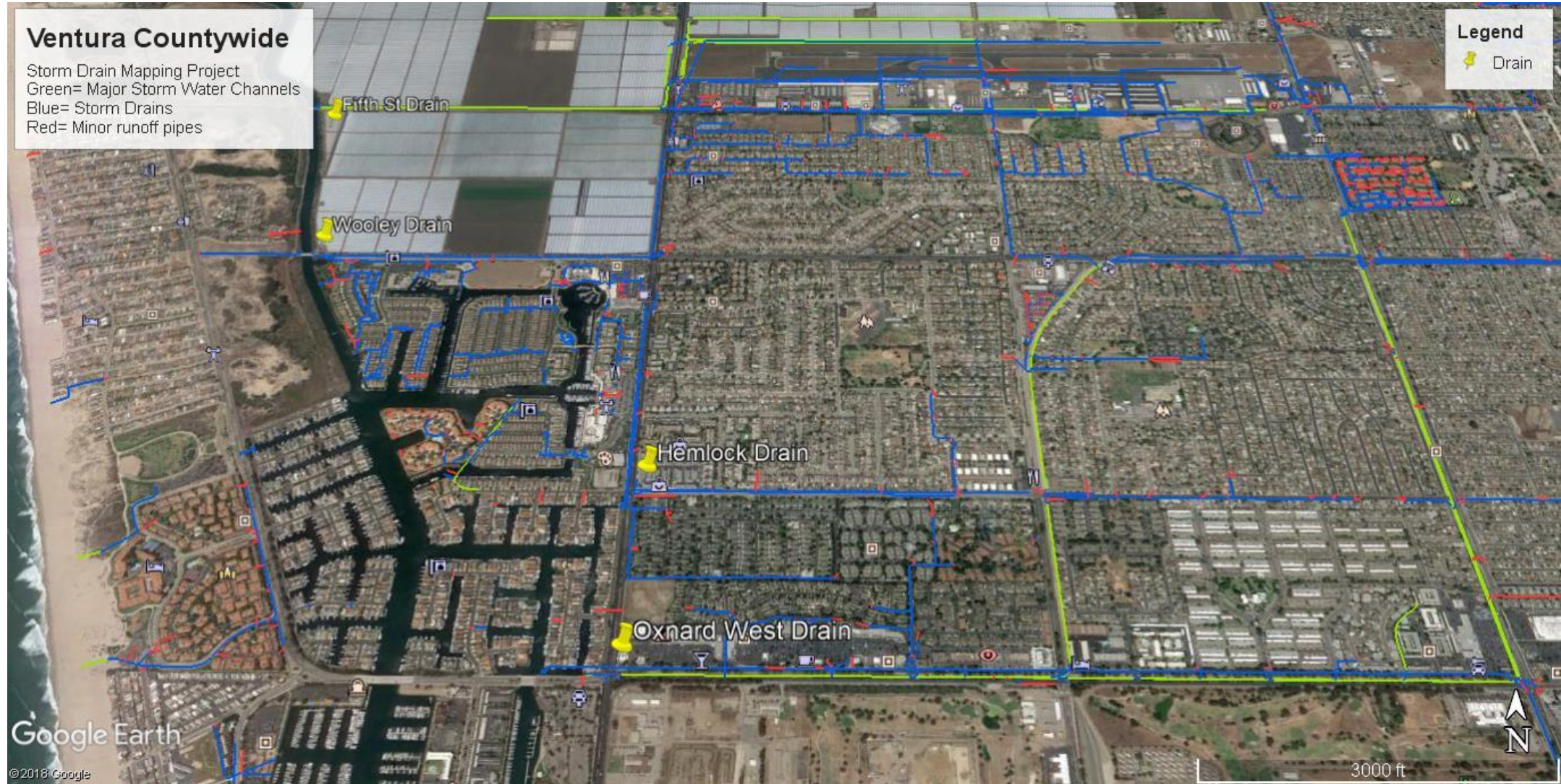
* NS= Not Sampled due to the site being dry.

- Ag fields continually exceed pollutant levels by huge amounts.
- Some contaminants are as much as 120-776 times the benchmark standards
- There are NO water quality monitoring sites at the discharge points into Edison Canal.

Action: We need rigorous Baseline Tests to identify all contaminants in Edison Canal!



2. Municipal Separate Storm Sewer Systems (MS4)

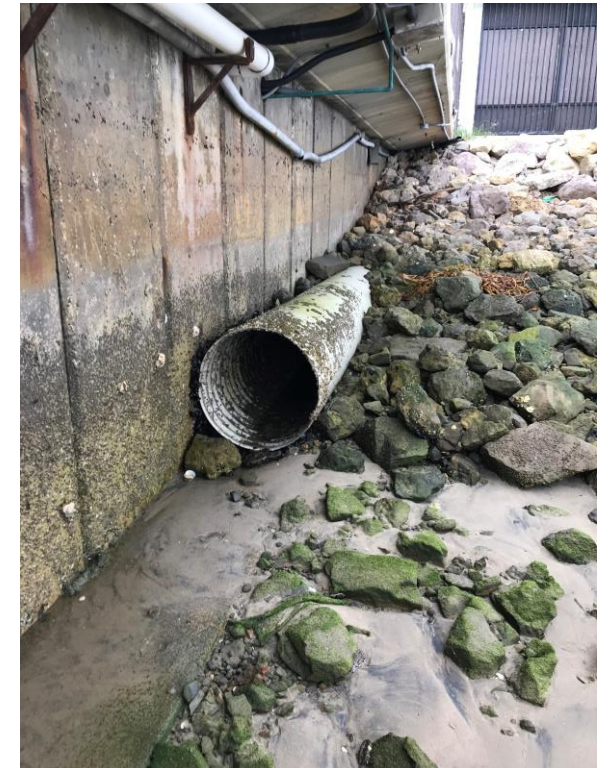


Oxnard's / Port Hueneme's storm sewer systems need to be current on all BMPs (Best Management Practices) for the reduction of pollutant loading. Target: Fall 2019.

3. Residential and Commercial Waste

Lack of monitoring and enforcement has allowed residents and businesses to drain waste water into the Harbor at dozens of locations.

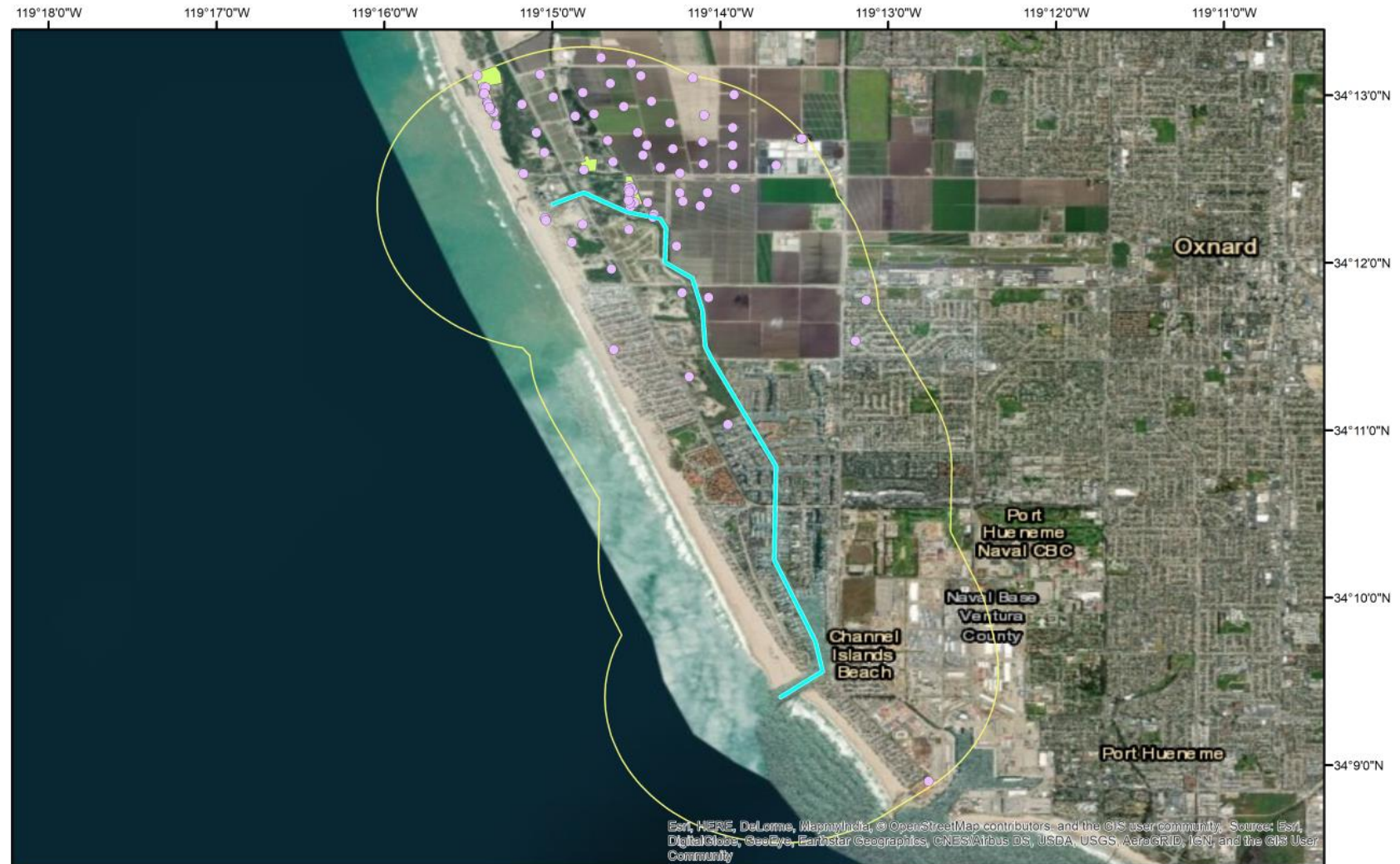
Action: citizens patrol & document issues, with strict City enforcement.



4. Oil Field Waste and Contaminants

Producing oil wells surround Edison Canal and there is continuous workover activity on these wells.

Action: establish baseline levels for the major oil field contaminants.



Legend

- D2_Wells_Clip
- CI_Harbor_canal
- FacilityBoundary_CI
- CI_Harbor_canal_1mi_Buffer

Oil & Gas Wells and Tank Facilities Within 1 Mile of Channel Islands Harbor and Canal



0 0.5 1 2 Miles

All data was taken from: <https://www.conservation.ca.gov/idog/maps>

This map is for spatial reference only and should not be used to make any legal decisions. The Department of Conservation is not liable for any such decision making or outcomes from use of this map.

Channel Islands Harbor MAC



Key Stakeholders and Impacted Parties...

There are numerous stakeholders in improving the CI Harbor water quality.

Stakeholders Responsible for Harbor Water Quality

- Centerpoint Energy –Edison Canal owner
- Water Quality Control Board – regulates water quality
- Ventura County - per extended Harbor MOU, 2004
- Oxnard City – per extended Harbor MOU, 2004
- Oxnard, Port Hueneme – storm drains that flow into CI Harbor
- Farmers – ag runoff dumps nutrients & pollutants into the Edison Canal
- Oil Companies – pumping byproducts empty into the Edison Canal
- Marinas and Boat Servicers – who dump waste into water

Parties Impacted by Harbor Water Quality

- Residents who live in the CI Harbor
- Businesses that operate in the harbor
- Marine life whose survival is in jeopardy
- All Harbor visitors & Tourists

Organizations That Can Help Solve the Problem

- LA Water Quality Control Board
- Oxnard City and Ventura County (per MOU)
- US Army Corp of Engineers – built Harbor and Canal
- CAL & Federal EPA – assist in enforcing regulations
- Environmental Groups: Wishtoyo/Ventura Coast Keepers, Heal the Bay



Immediate Action Required — All Pollutants

- 1. Ag Runoff.** Pursue all identifiable sources of contamination.
 - Shine a very bright light on the regulators. Monitor key sources independently; need additional test locations and prompt enforcement on violations.
 - Goal: Immediate and significant reduction in measured levels of specific nutrients / pollutants by June 2020. Stop ag runoff into the Edison Canal!
- 2. Storm Sewers.** Oxnard and Port Hueneme: Complete review & report on the status of all drains that enter CIH prior to the next (2019-20) storm season. Start testing for nutrients and pollutants at locations where drains enter the CIH.
- 3. Residential / Commercial Drains.** Organize resident (water-based) teams to inspect and document possible problems. Present report to Oxnard Public Works.
- 4. Oil Field Waste.** Perform a baseline study of levels of petroleum hydrocarbons, Polychlorinated Biphenyls (PCBs) and Volatile Organic Compounds (VOCs).



Constraints

- Getting funding from Mandalay Bay, Harbor Island Condo Assoc, and all businesses in the harbor
 - Seabridge and Westport have CFD2 and CFD4 to assist in funding, but should not bear sole responsibility for our Harbor.
- Lack of available resources and expertise from Oxnard due to its high deficit
 - Financial
 - Personnel - loss of key people (e.g., Sandra Burkhart) and planned cutbacks
- Addressing sources of contaminants from outside Oxnard and Ventura county jurisdiction (e.g., Port Hueneme, Farmers, etc.)

We Need Your Help...

There are potential Long Term solutions proposed in the Appendix, but in the meantime...

- Collaborate with, and support, Oxnard's efforts to monitor contaminants flowing into the Edison Canal and into CI Harbor.
 - This will require additional water testing locations (e.g., in the Edison Canal, at key storm drains that dump into the harbor)
 - Test more much more than nutrients – e.g., pesticides
 - Install storm drain filters on all storm drains
- Promote awareness and engagement at all levels of government.
- Challenge the WQCB on the issuing of VCAILG Waivers.
- Coordinate with existing non-profit initiatives.
- Issue order for all properties along the harbor to remove vegetation hanging over seawalls
- Help the City and Community prepare for another potential water quality event this summer.



Stop-Gap Actions/Plans

- Aerators were installed at Seabridge last year – with minimal improvement
- An Emergency Response Plan was developed to respond to a major fish kill
- Consultants recommending spot treatment of Hydrogen Peroxide to prevent an algae bloom
 - 4 locations identified; initial pilot at Westport = \$86,000 is a funding issue and not scalable

Long-Term Solutions

- I. **Near-Term:** Bring the intrusion of pollutants and agricultural nutrients to an absolute minimum. Within a year, raise Channel Islands Harbor to the REC-1 water standards for which it is designated. Have the Community actively engage ag interests (VCAILG) and the regulators (LA WQCB, EPA, etc..).
- II. **Long-Term:** Organize a multi-stakeholder team to investigate the re-engineering of the Edison Canal problem and propose permanent solutions.

Following are the two draft concepts.



Concept I: Near-Term

Construct a small dam with one-way tidal valves at the Wooley end of the Canal, allowing tidal water from CIH into the Canal, but not out.

- Designate and develop an alternative natural dispersion mechanism, similar to the existing field drains that empty into McGrath Lake (i.e., settling ponds).
- Possibly incorporate historic locations of salt ponds north of Wooley.
- Collaborate with existing proposals to restore the Santa Clara Estuary (McGrath Lake cleanup) - e.g., Wishtoyo Foundation.



Concept II: Long-Term

- Acquire a portion of the abandoned Mandalay Plant site for a small water treatment facility.
- Direct the Edison Canal flow to this facility where it would be processed and returned to the Ocean.
- As in Concept I, incorporate a dam with one-way tidal valves at the Wooley end of the Canal, allowing tidal water from CIH into the Canal, but not out.
- Oxnard needs assistance from CenterPoint Energy (Edison Canal owner)
 - Get them to pay for cleaning up the Edison Canal, and/or...
 - Get authorization or acquire canal ownership which was offered in the past



Long-Term: Restore the Salt Lagoons ?

Historic Salt Lagoon

Historically, the Oxnard /Ventura Coast featured numerous wetlands which have all been filled in.

Perhaps they should be restored?

Wooley Road

Future CI Harbor

Future Port Hueneme



Coastal and Estuarine Habitats

- Beach
- Dune
- Non-Tidal Lagoon