

San Francisco Bay Sand Mining Briefing

BCDC Permit Nos. 2013.003.00 Lind Marine

2013.004.00 Hanson Aggregates

2013.005.00 Suisun Associates

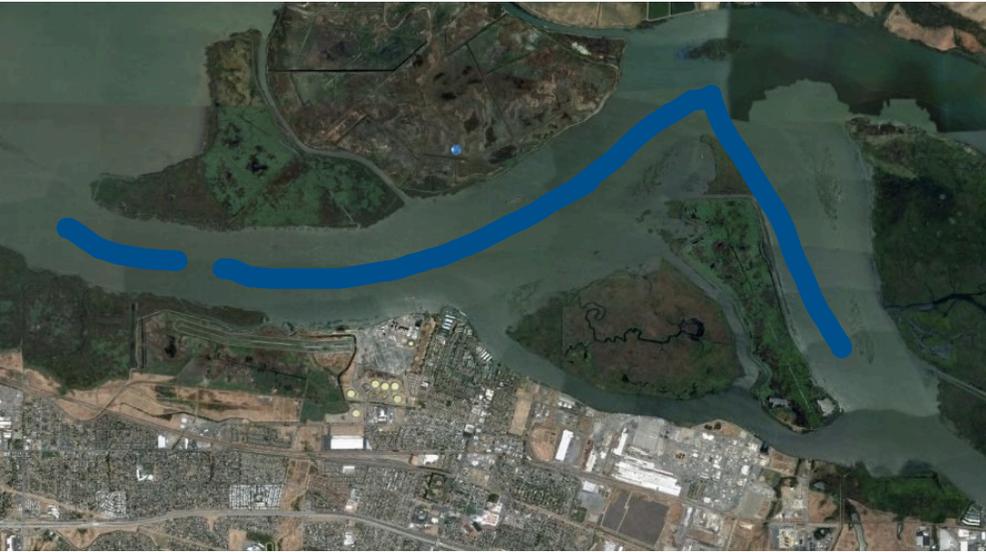


BCDC Permits for Sand Mining: Central Bay



- Hanson Aggregates leased SLC tidelands
- 4 lease areas, consisting of 9 parcels
- 1.141 million cubic yards of mining annually
- Peak mining year of up to 1.395 million cubic yards

BCDC Permits for Sand Mining: Suisun Bay



Suisun Channel

- Suisun Associates – Hanson Aggregate & Lind Marine
- 2 parcels leased SLC tidelands
- Partially within BCDC jurisdiction
- 185,000 cubic yards of mining annually
- Peak mining year of up to 235,000 cubic yards



Middle Ground Shoal

- Lind Marine
- Private lease, 1 parcel
- 100,000 cubic yards of mining annually
- Peak mining year of 120,000 cubic yards

Commission Questions (2015)

- What are the impacts of mining to the benthic ecology of the Bay?
 - BTAC Action (Benthic Technical Advisory Committee)
 - Benthic Study
- Bay Sand Resources - STAC Action (Sand Technical Advisory Committee)
 - How much sand is available to mine?
 - Is the mined sand relic or in transport?
 - Is the sand being replenished?
 - Is mining affecting the transport of sand to other Bay and outer coast resources, e.g. beaches?

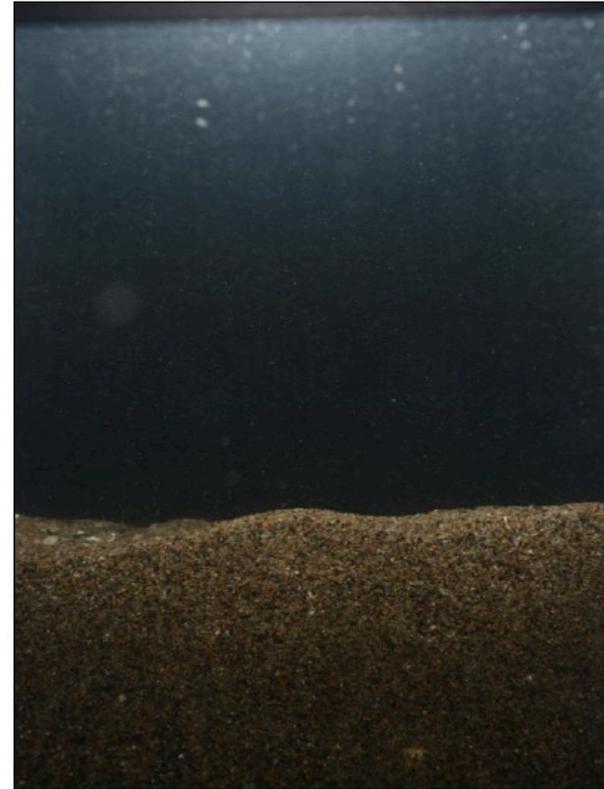
Benthic Study

Does sand mining have an impact on the benthic community ?

- Followed the study plan protocol
- Useful - provided broad scale assessment of the benthic community profiles sand within lease areas, grain size analysis
- BCDC staff considers it inconclusive for mined areas due to lack of sampling and study limitations

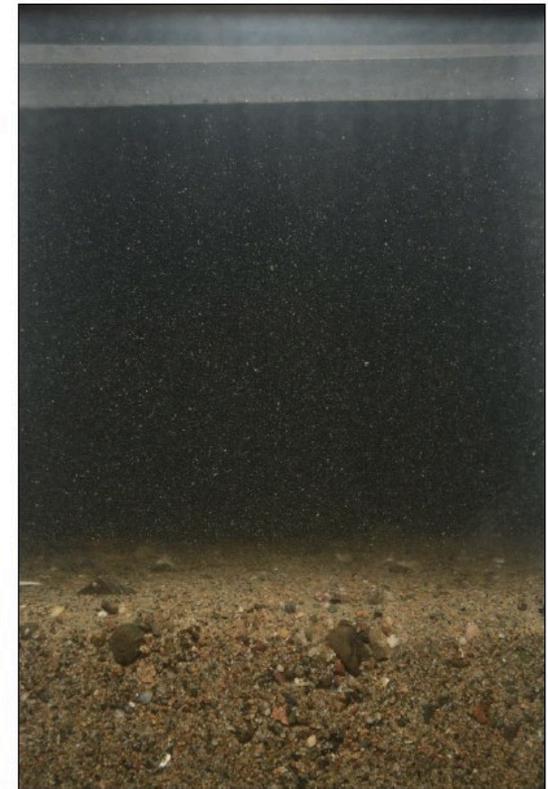
Point Knox Shoal SPI Samples

Baseline SPI Image: CB18-B



Baseline Sample

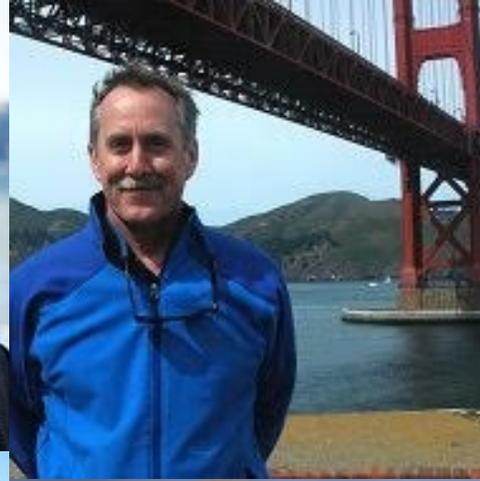
Post-Mining SPI Image: CB18-A



Post Mining Sample

Sand Transport Studies

- Sand Technical Advisory Committee (2018):
Management questions, reviewed study scopes
 - USACE, NMFS, BCDC, SLC, SCC, CDFW, BayKeeper, CCC, GFNMS
- Science Coordinator – Revell Coastal (2018/19):
Identified members & managed science panel;
new coordinator required
- Independent Science Panel (2019): Conceptual models and study development
 - USGS, USGS Emeritus, Integral, ESA, and UC Davis

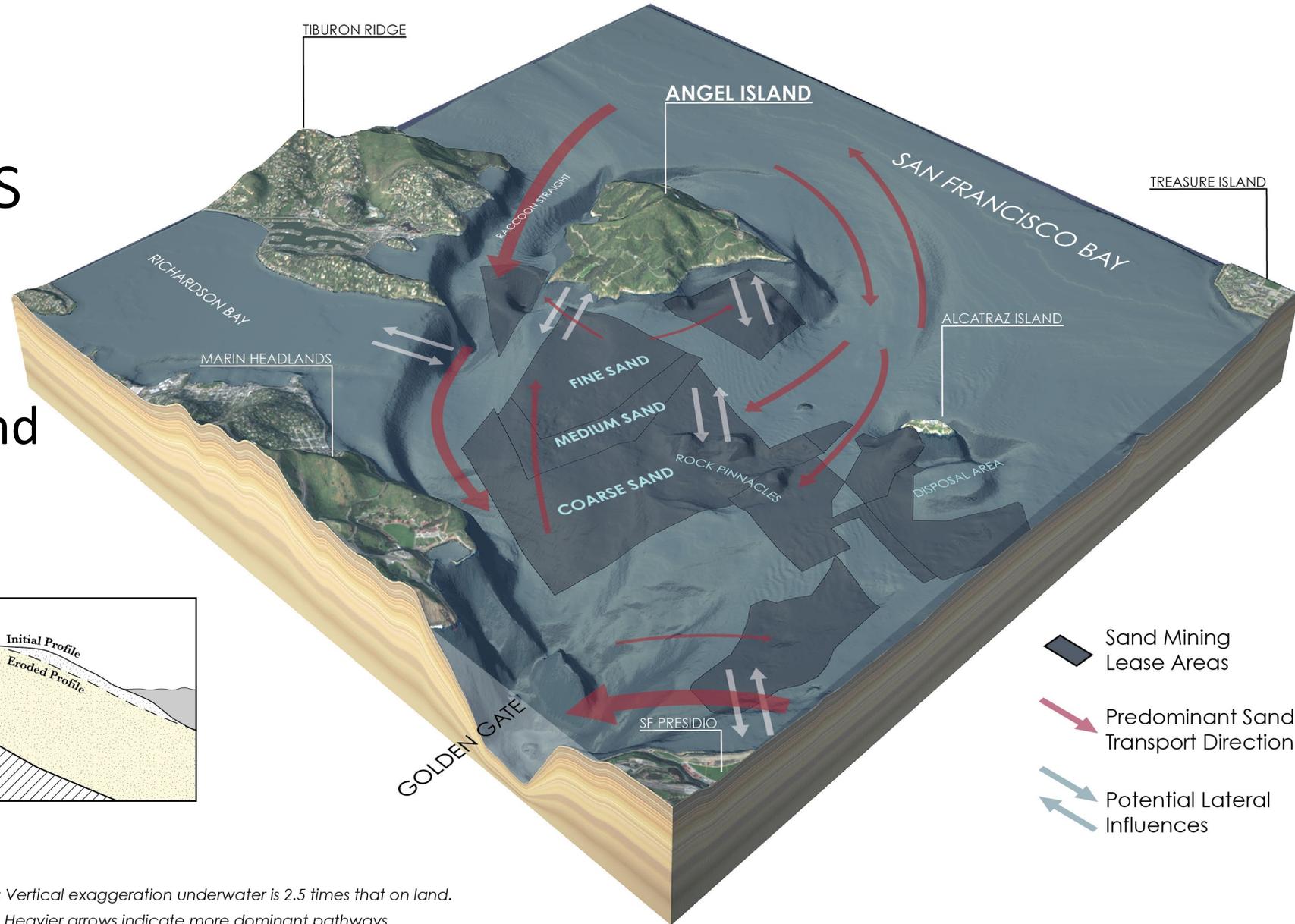
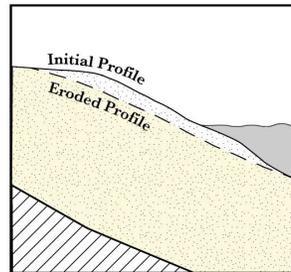


LEASE SCALE

Sand Transport Studies Progress

Conceptual model of sand transport developed

“working hypothesis”



Note: Vertical exaggeration underwater is 2.5 times that on land.
Heavier arrows indicate more dominant pathways

Sand Transport Studies Progress

- First scope of work completed – single water year multibeam survey and change analysis (report in final review)
- Novel “ring analysis” identifies rough estimate of replenishment for two survey comparison periods (~50%),
 - identifies sand in transport and relic depending on location
- Three additional scopes of work written: sand budget, stratigraphy, & bedform analysis and transport pathways
- Draft request for proposals in review (SCC)

Sand Transport Studies Timeline

- July 1 – August 15, 2020 – Request for Proposals advertised
- August 15, 2020 - Proposals due
- August 15 – September 15, 2020 – Proposals reviewed by Independent Science Panel
- September 3, 2020 – SCC Board Meeting: Request to distribute funds
- October 2020 - Contract(s) executed
- November 2020 – December 2022 – Studies underway
- Spring 2023 – Independent Science Panel reviews findings and provides recommendations to Commission on management questions

Questions?

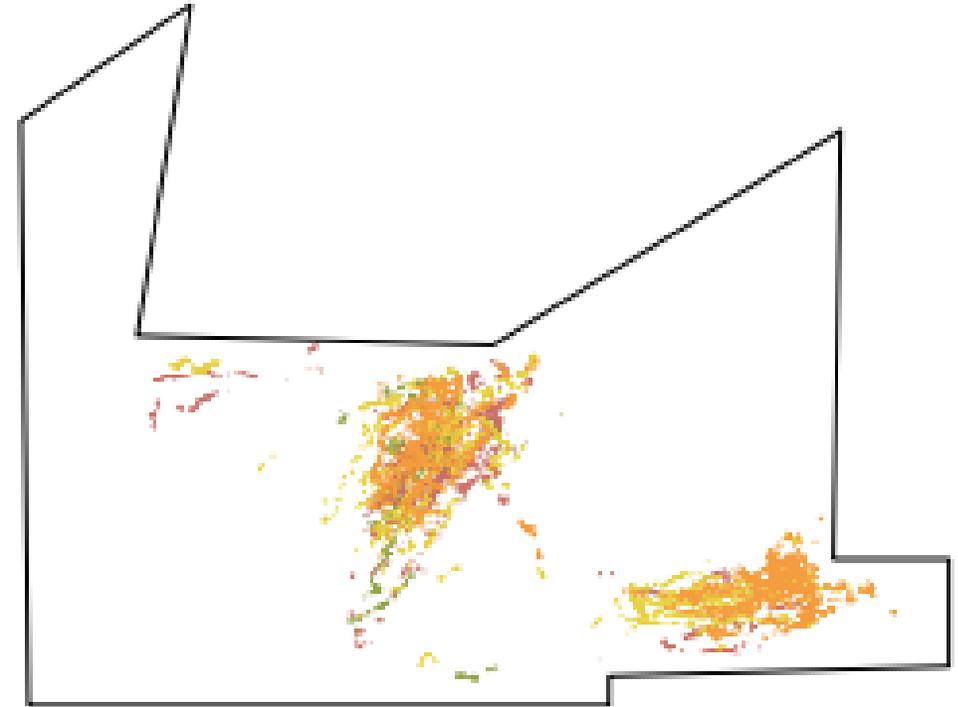
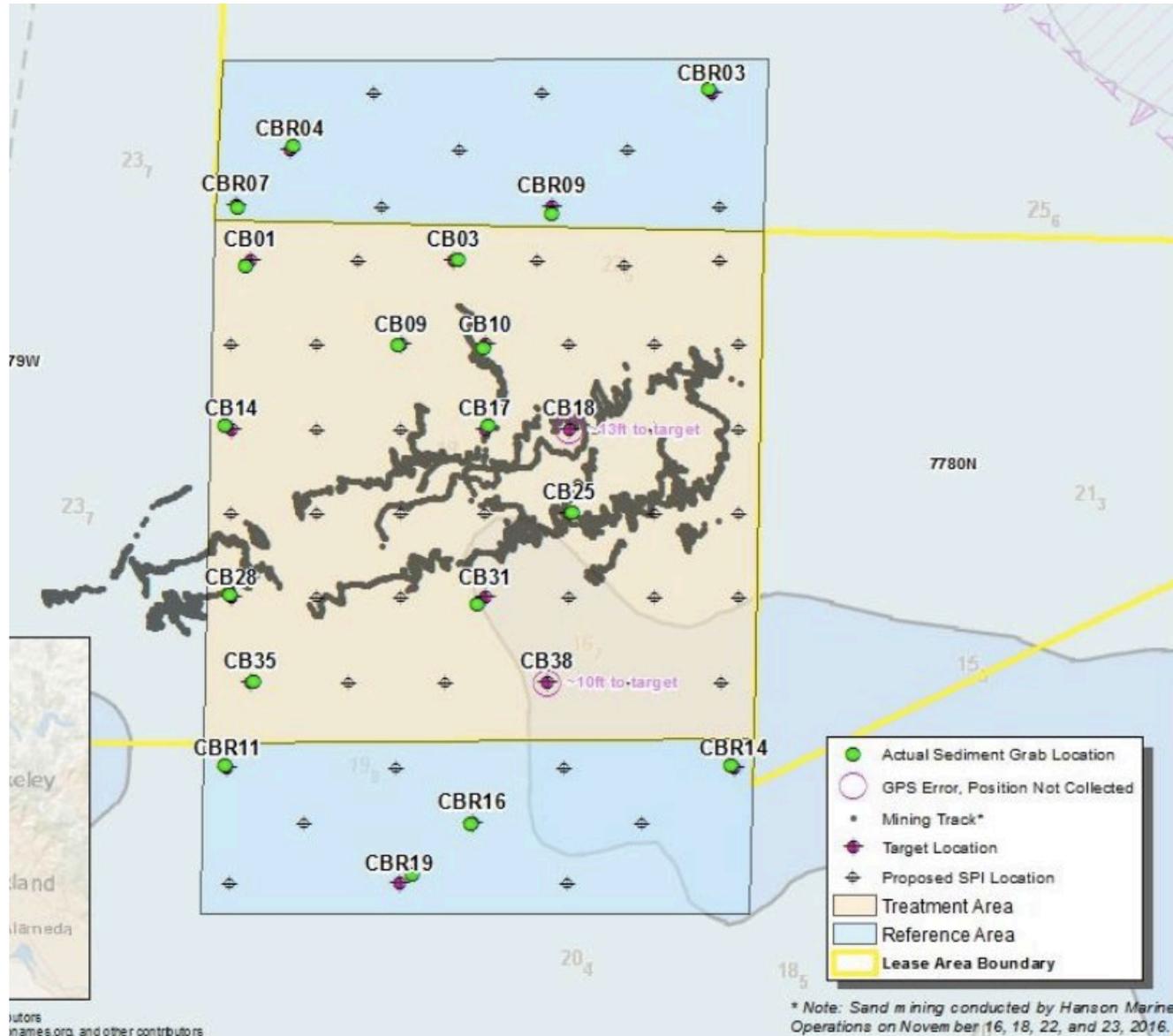
Thank You



Pocket Slides

- For use with Commissioner Questions if needed.

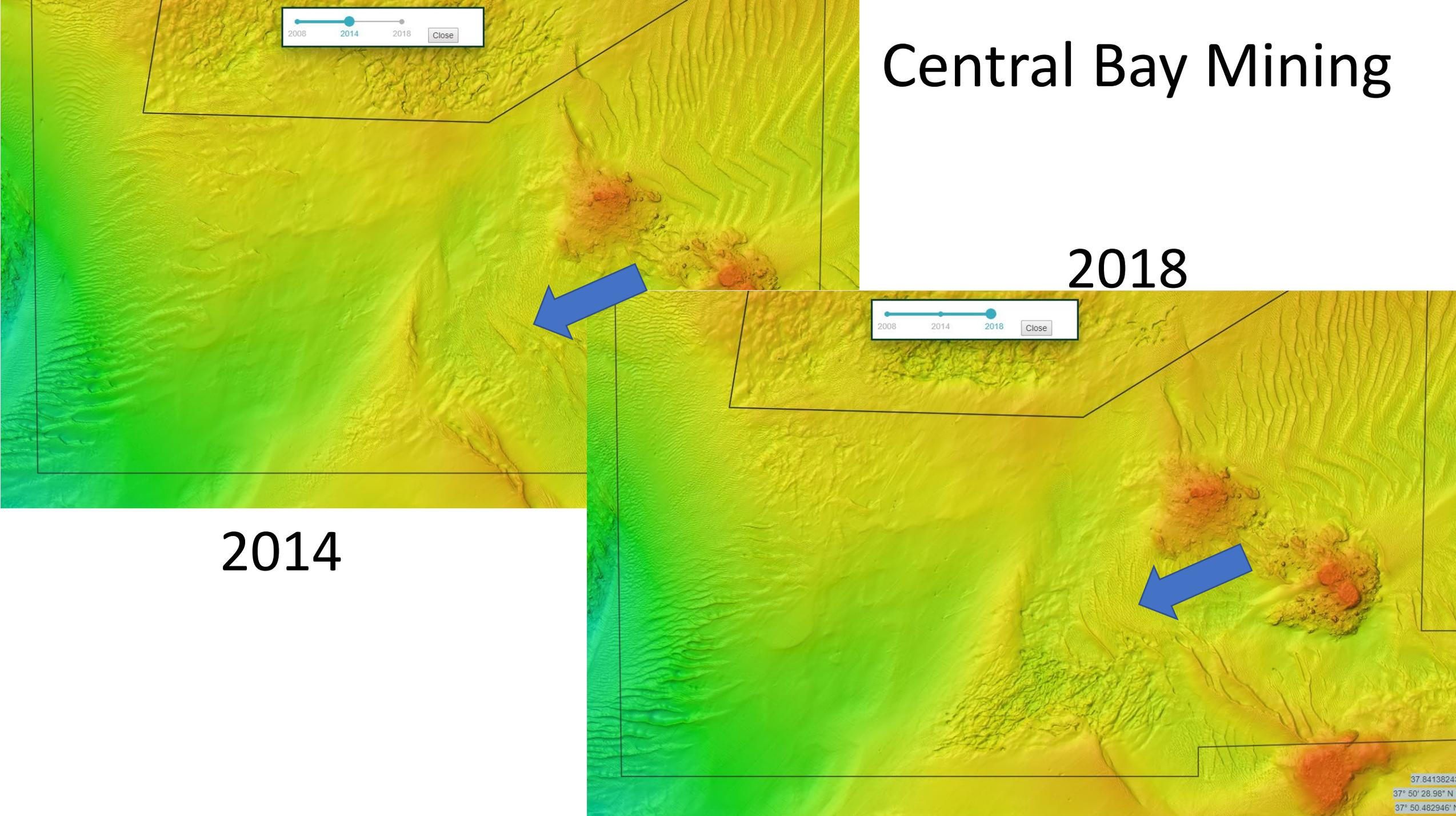
Benthic Sampling & Mining Activity



Central Bay Mining

2018

2014

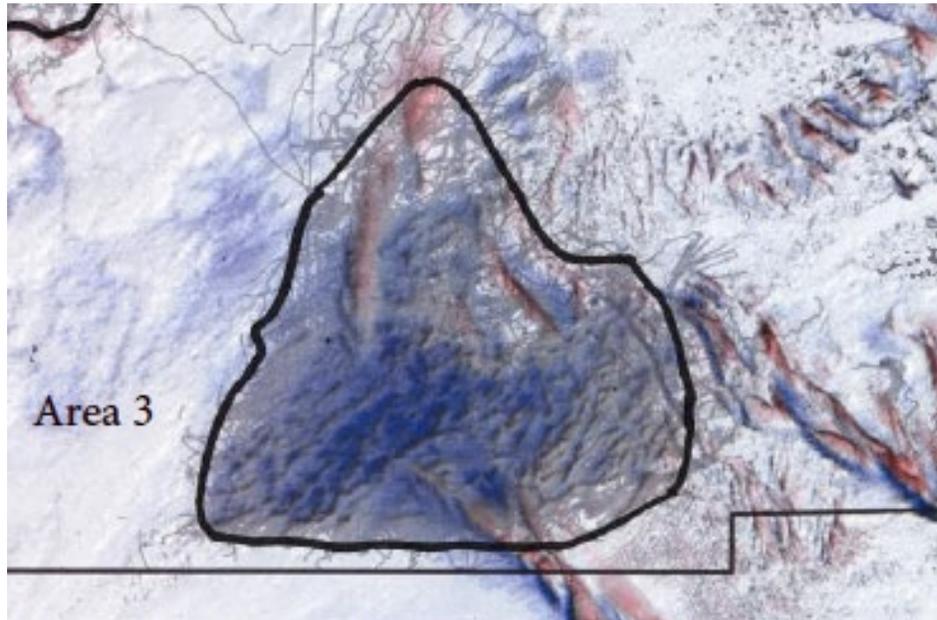


37.8413824
37° 50' 28.98" N
37° 50.482946' N



“Ring” Analysis

	7779W - Area 2	
	Date Range 1	Date Range 2
	2008-2014	2014-2018
Mined Volume-CYDS	0	-145,644
Survey Volume (Inner Ring)- CYDS	30,854	-100,945
Survey Volume (Outer Ring)- CYDS	9,455	-5,422



	7779W - Area 3	
	Date Range 1	Date Range 2
	2008-2014	2014-2018
Mined Volume-CYDS	-394,911	-818,724
Survey Volume (Inner Ring)- CYDS	-318,479	-581,494
Survey Volume (Outer Ring)- CYDS	-32,923	-11,808

Figure 2: Study Area 2 and 3