

Matagorda Bay and Nearby Coastal Waters Dissolved Oxygen and pH Total Maximum Daily Load (TMDL) Project

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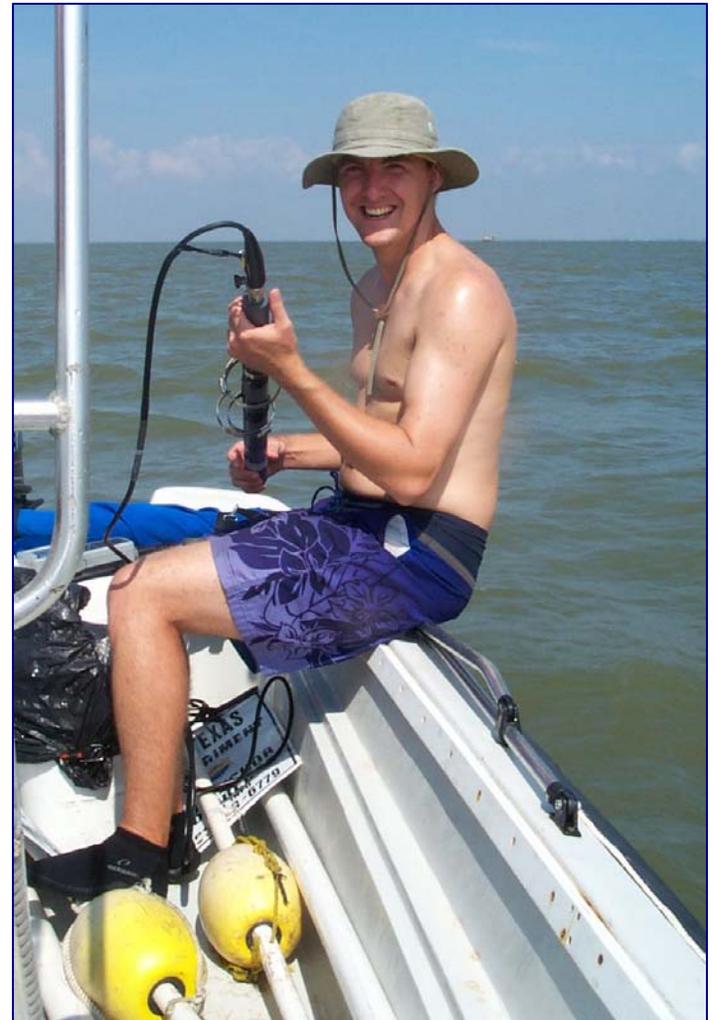


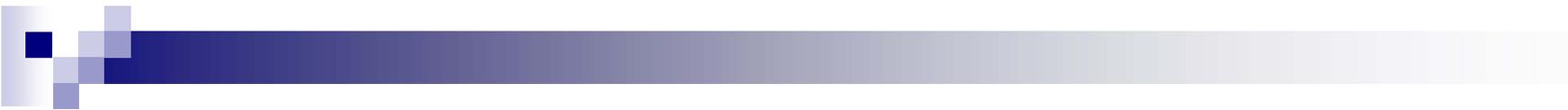
Introductions

- Ms. Sally Applebaum, UTMSI
 - Dissolved Oxygen and pH
- Ms. Sandra Alvarado, TCEQ
 - TMDL Project Manager

Purpose of Meeting

- Review monitoring results.
- Provide assessment.
- Receive public input.





Dissolved Oxygen (DO) Criteria

- Based on 24-hr continuously recorded dissolved oxygen data
- Criteria
 - 24-hr Average DO must be ≥ 5 mg/L.
 - 24-hr Minimum DO must be ≥ 4 mg/L.
- The assessment unit fully supports the Aquatic Life Use designation if 10% or fewer of the total number of 24-hr average or minimum DO measurements are less than the prescribed criteria.

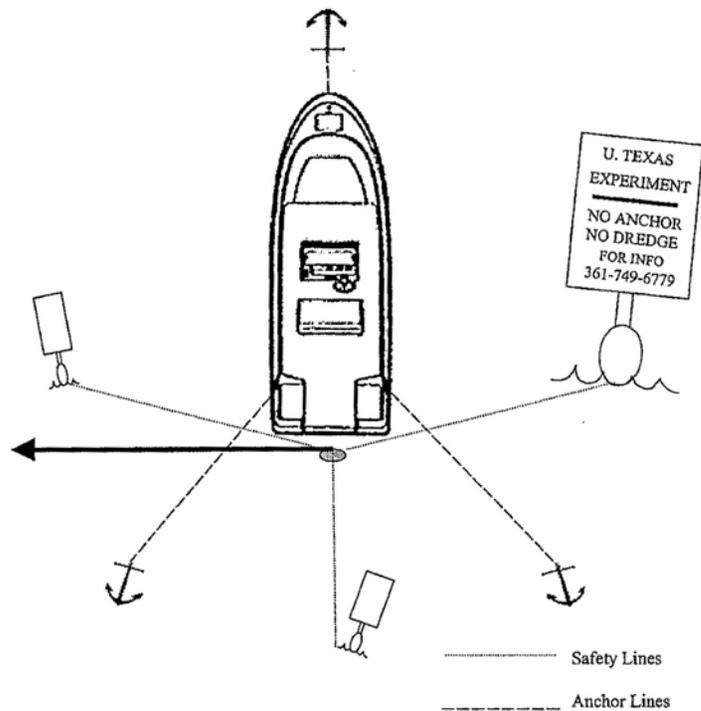


pH Criteria

- Based on 24-hr continuously recorded data
- The pH criteria is segment specific.
- The segments in this study area has a criteria of:
 - 24-hr average pH must be ≥ 6.5 and ≤ 9.0
- The assessment unit fully supports the Aquatic Life Use designation if 10% or fewer of the total number of 24-hr measurements are within the prescribed criteria.

Methods

- Sondes are to be deployed at a depth between 1 ft & $\frac{1}{2}$ the mixed surface layer.





Dissolved Oxygen (DO) Assessment Requirements

- Sampling events should be a month apart.
- Measurements should be at least 15 min. apart.
- 2 sondes are to be deployed in the same general area at least 20% of the time.
- All Quality Assurance requirements must be met (i.e. pre-/post-calibration, etc.).

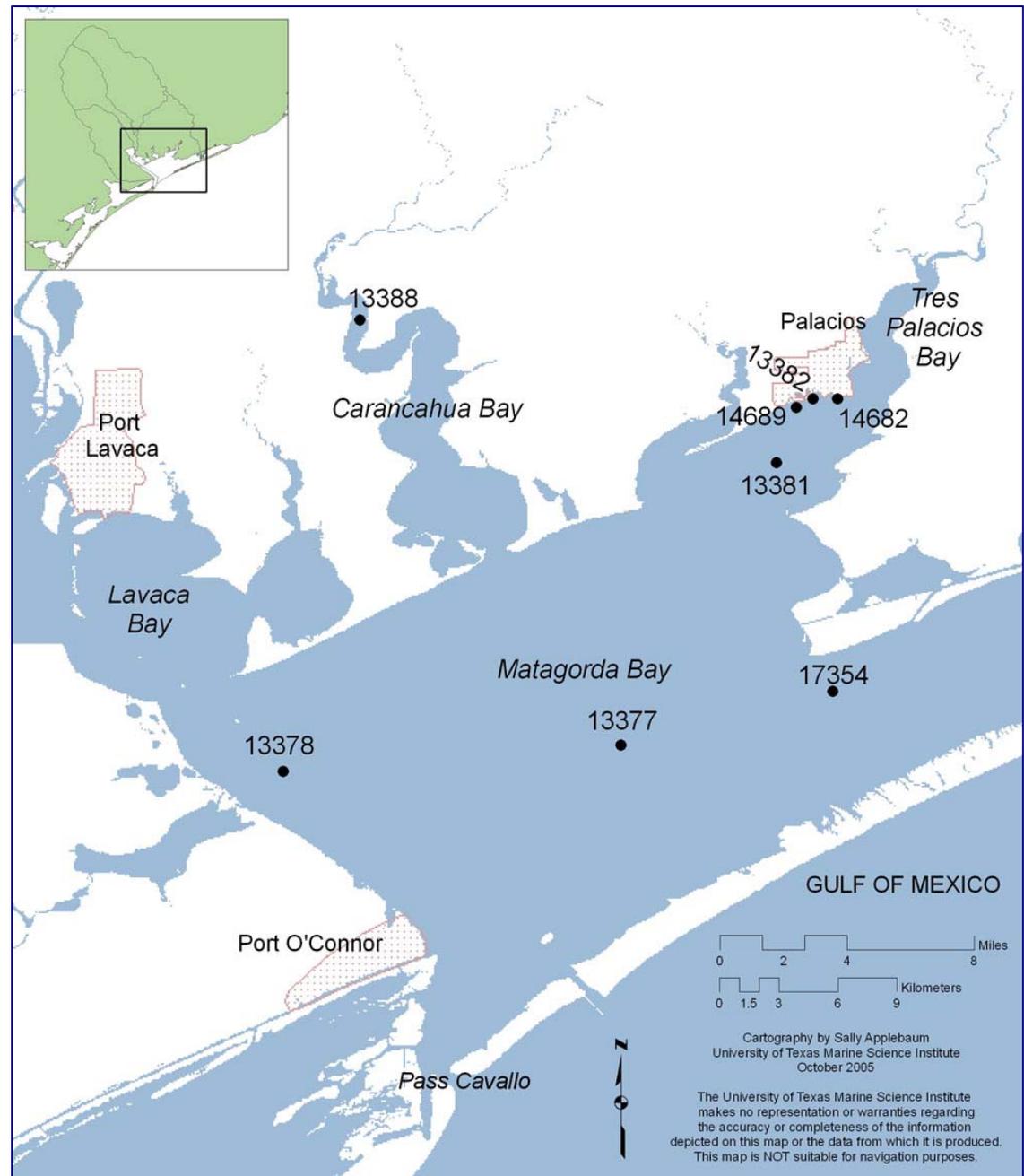


24-hr Dissolved Oxygen (DO) Data Available for Assessment

- Sampling Plan
 - 7 stations sampled from 2004 through 2005
 - 13287, 13377, 13378, 17354, 13381, 13382, 13388
 - Two additional stations were sampled in 2005 (14682, 14689)
 - At least 10 sampling events per station
- All measurements must be taken within the index period (March 15 – October 15).
- At least one, and between 1/2 and 2/3 of each year's samples must be taken during the critical period (July 1 – Sept. 30)
- No more than 2/3 the total number of samples should come from the same year.

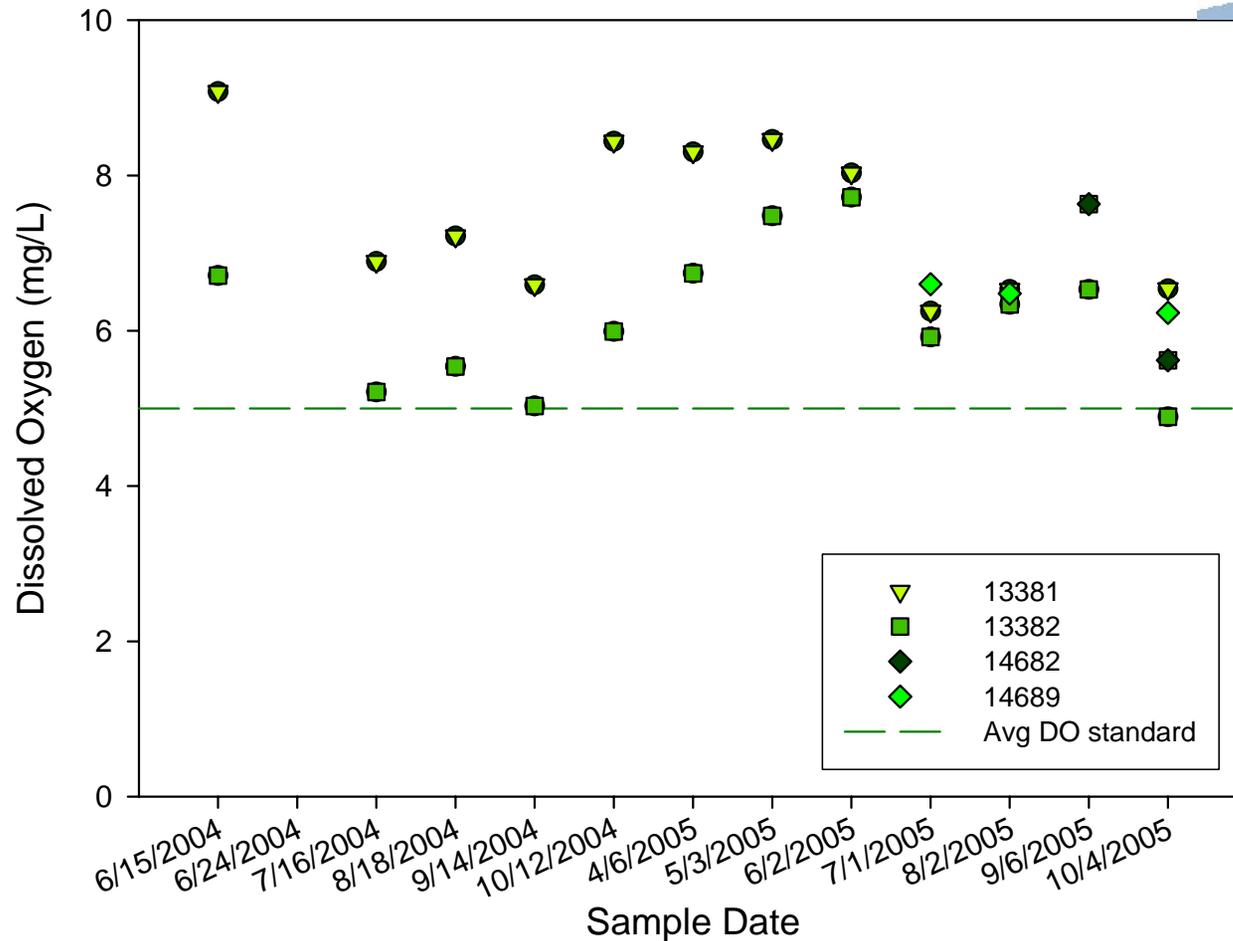
Station Locations

Segment	Stations
2452	13382, 13381, 14682, 14689
2451	17354, 13377, 13378
2456	13388



Average 24-hour DO Concentrations

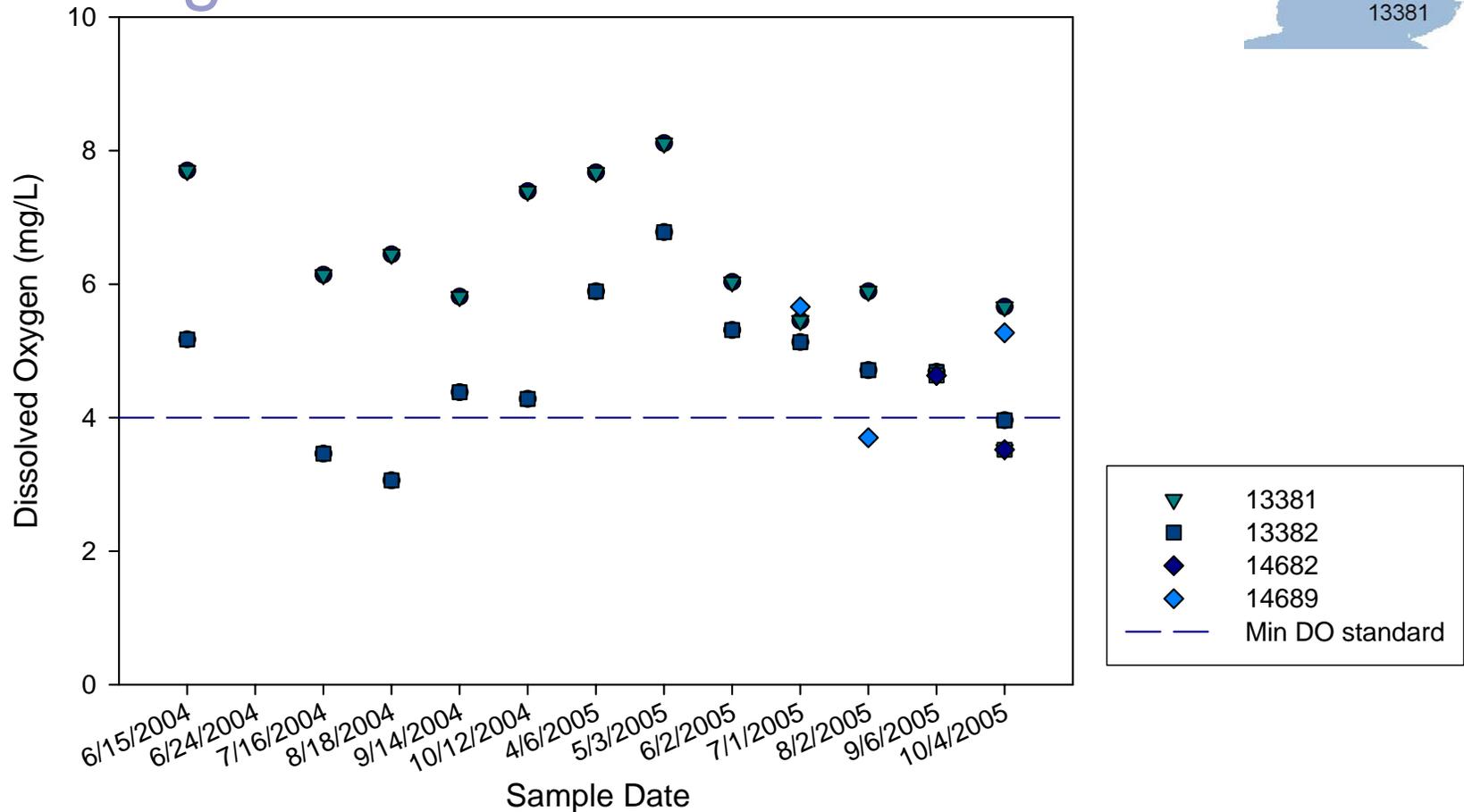
Segment 2452 – Tres Palacios



Palacios area: 1 of 17 measurements were below the criteria 6%

Minimum 24-hour DO Concentrations

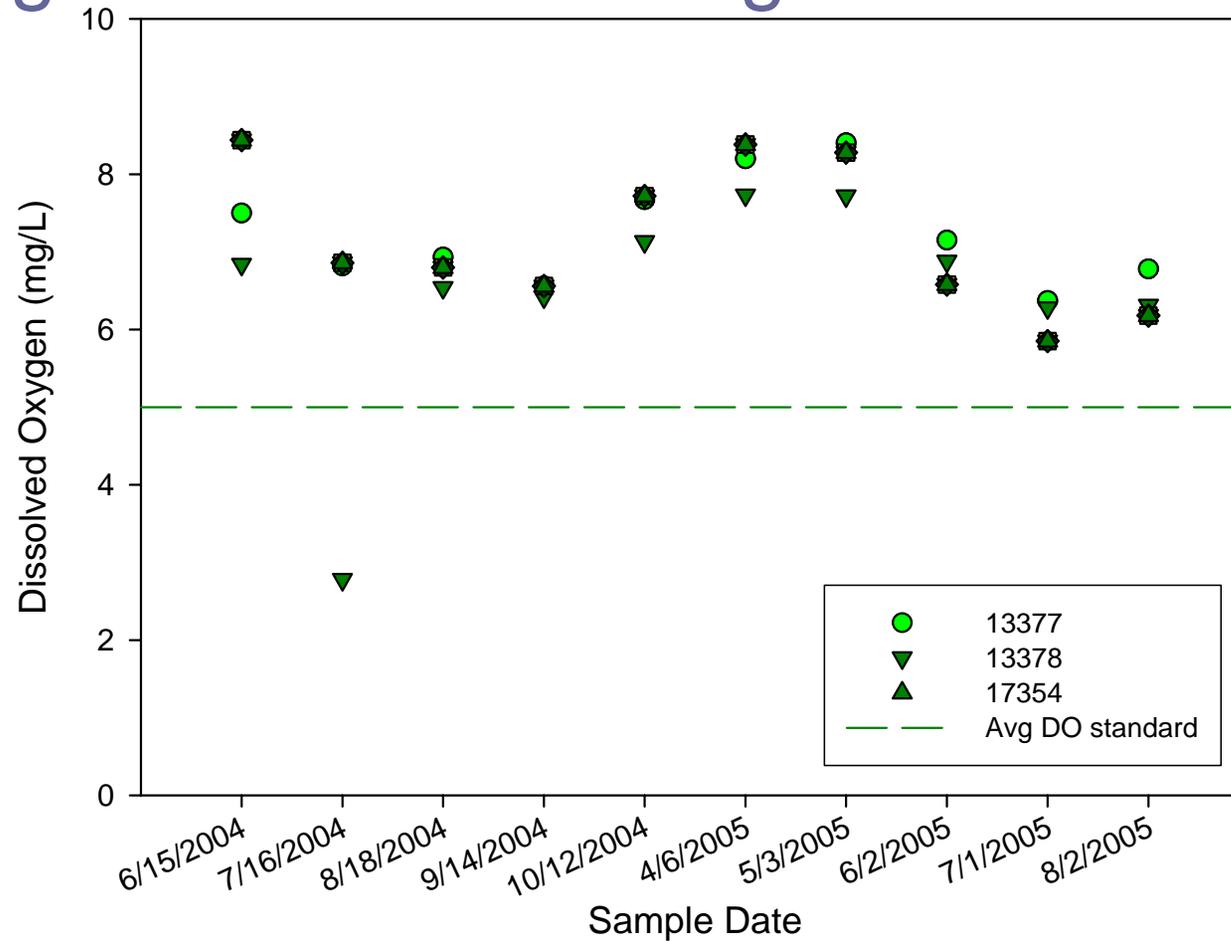
Segment 2452 – Tres Palacios



Palacios area: 5 of 17 measurements were below the criteria 29%
3 of the 5 exceedences are from station 13382 (harbor)

Average 24-hour DO Concentrations

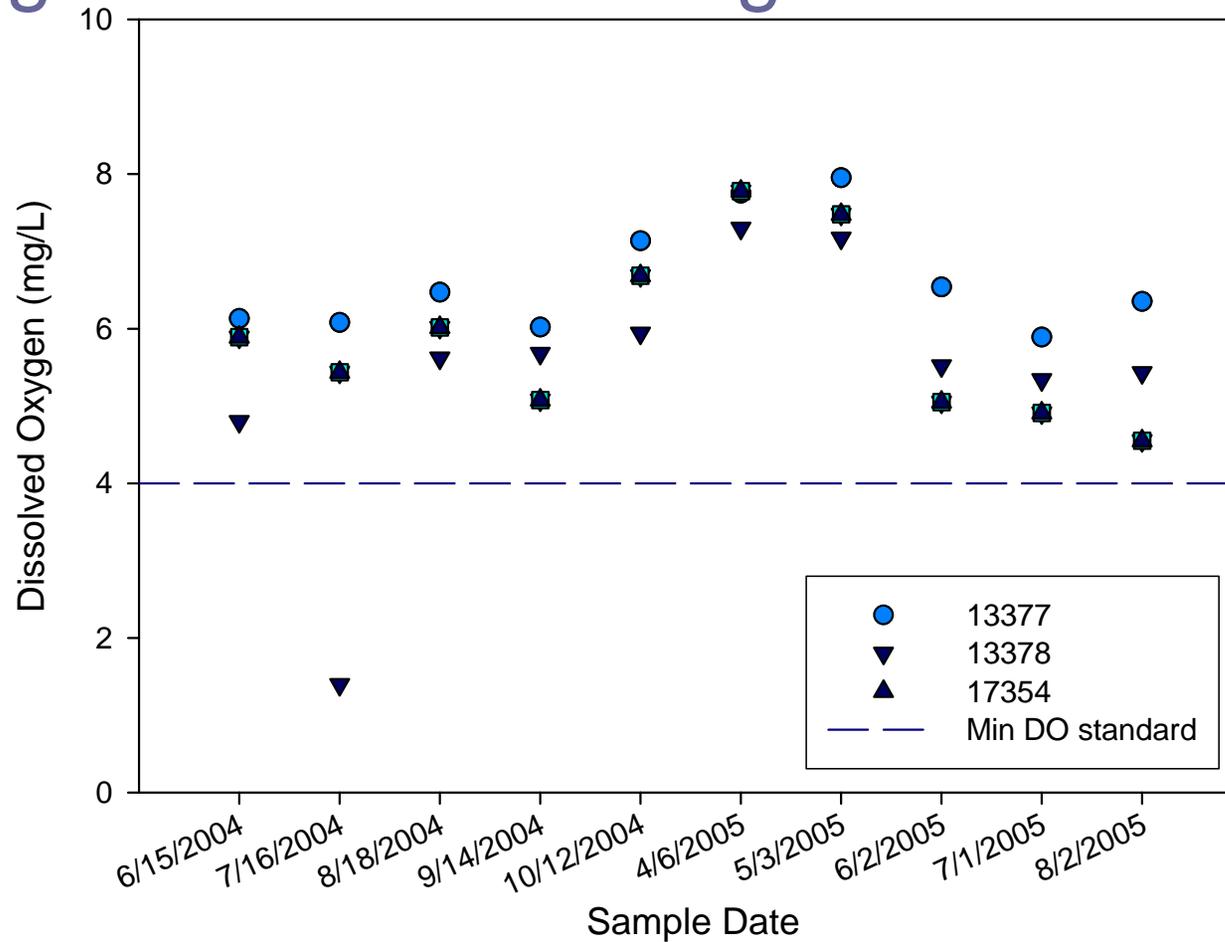
Segment 2451 – Matagorda



Station 13378: 1 of 10 measurements were below the criteria 10%

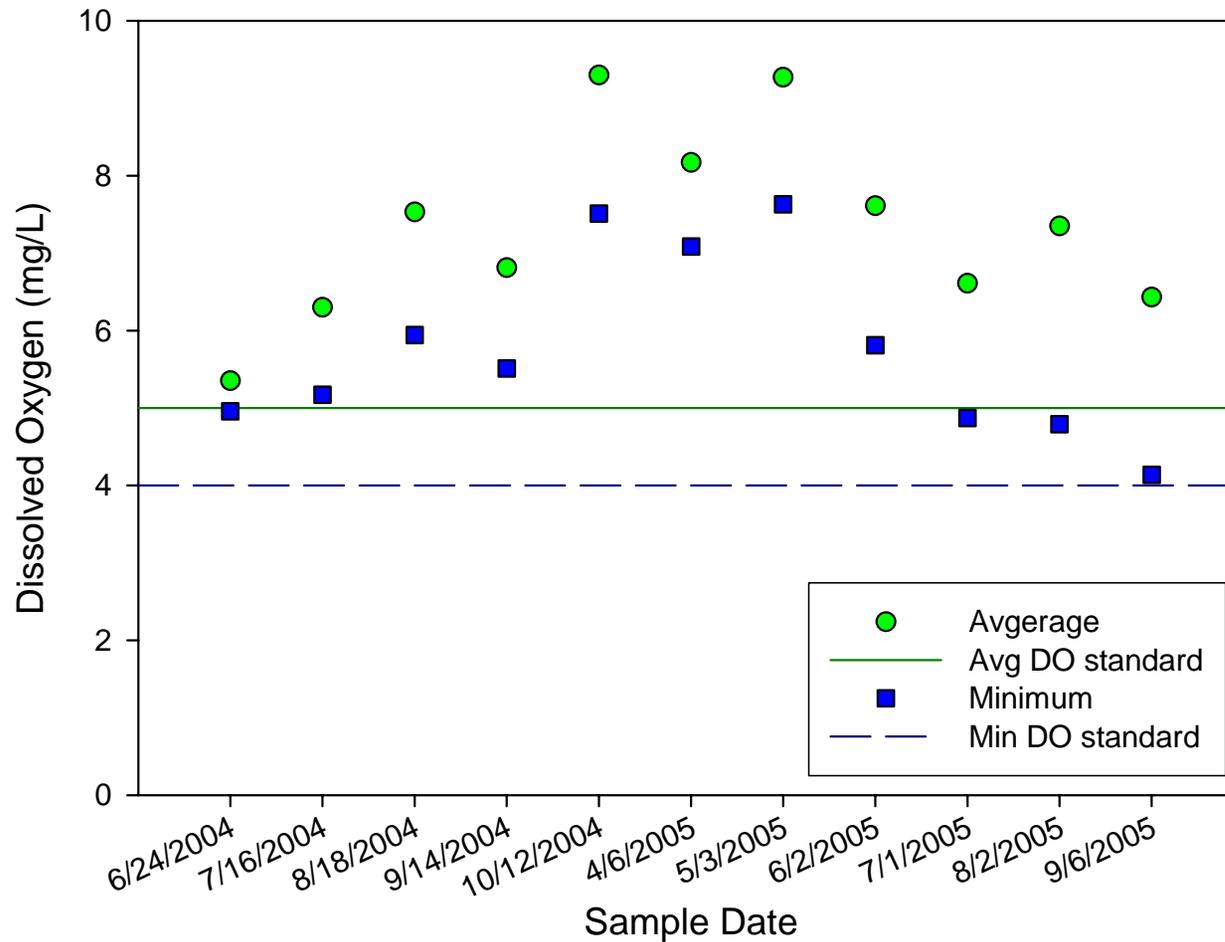
Minimum 24-hour DO Concentrations

Segment 2451 – Matagorda

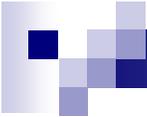


Station 13378: 1 of 10 measurements were below the criteria 10%

Average 24-hour DO Concentrations Segment 2456 – Carancahua



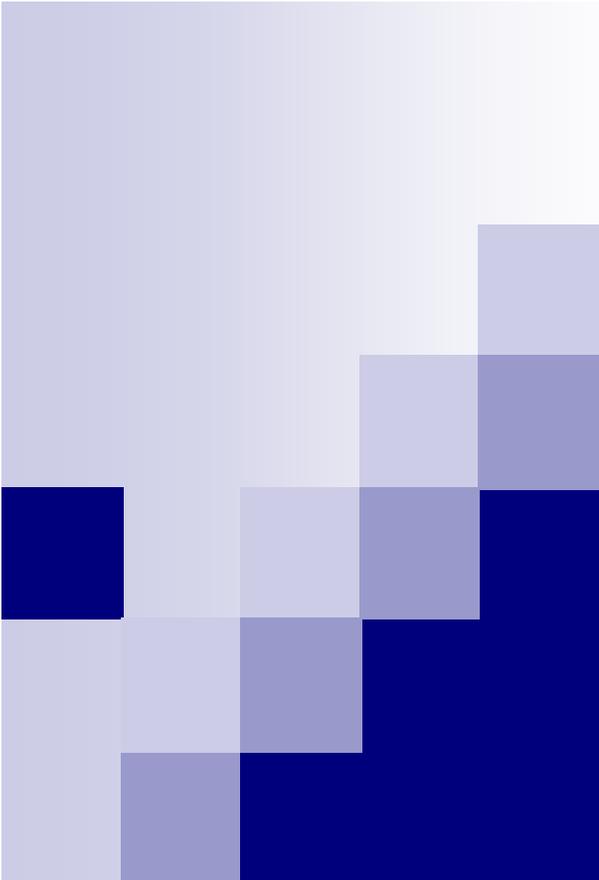
0 of 10 measurements were below the average and minimum criteria: 0%



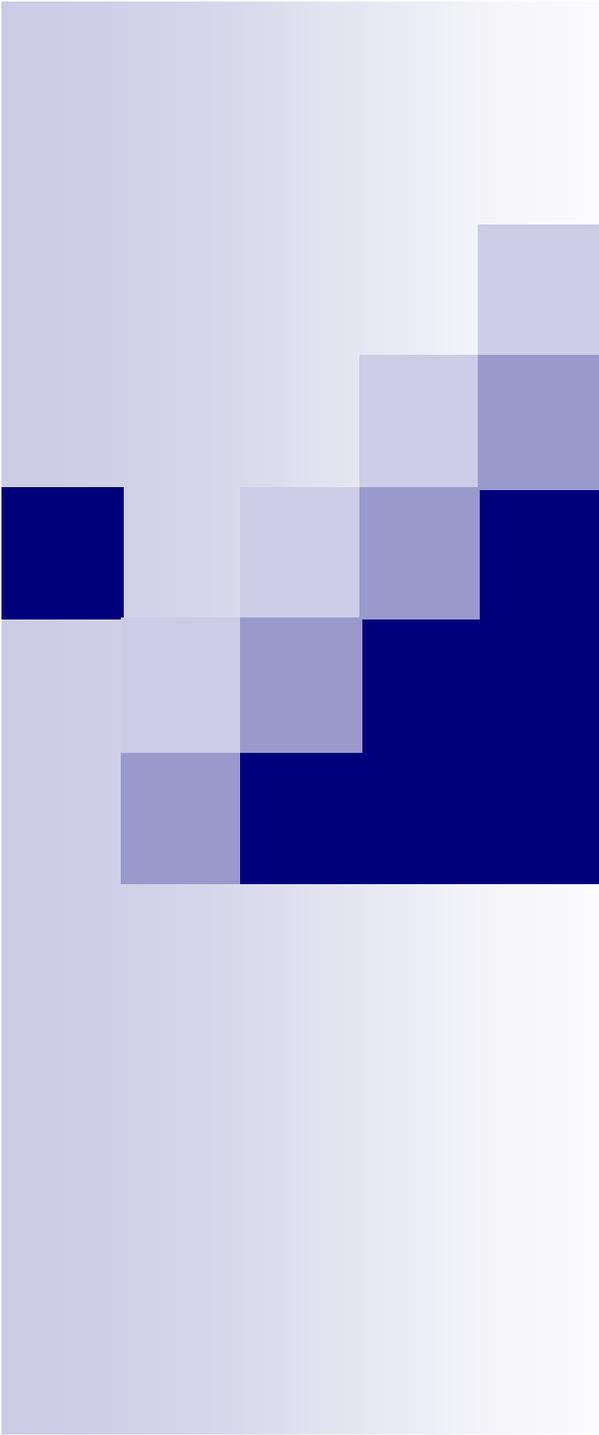
Assessment Conclusions

- At segment 2452, Palacios area: five 24-hour DO minimum values, of a total of 17 measurements (29%), are below the minimum standard (of 4 mg/L).
- 3 of the 5 exceedences are from station 13382 (harbor)
- All ph values were within the prescribed criteria.
- Presently, this area is “fully supporting” the Exceptional Aquatic Life Use designation.

Segment	Stations	% below avg DO std	% below min DO std
Tres Palacios	13382, 14682, 14689	6%	29%
Matagorda	13378	10%	10%
Carancahua	13388	0%	0%



Observer Comments and Questions



Adjourn