

**TWO TOTAL MAXIMUM DAILY LOADS (TMDLs) for BACTERIA
at Beaches in Corpus Christi Bay**

Cole and Ropes Parks'

Bacteria Reduction Implementation Plan



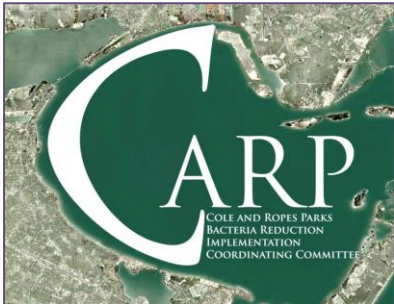
Who

... is CARP?

*The Cole & Ropes Parks
Bacteria Reduction
Coordination Committee*
CARP

*A Community-led
Stakeholder Group
working to Restore
Impaired Waters
at our Beaches*

STAKEHOLDERS



Members and Support Staff

Current *CARP* Coordination Committee Members

Name	Title	Stakeholder Group	Alternate #1	Alternate #2
Luz Lumb	CARP Chair, Surfrider Foundation	Recreation	Adriana Leiva	
Sally Farris	CARP Co-chair	Home Owners	Sandra Heatherley	Gerald Sansing
Philippe Tissot	CC Windsurfing Association	Recreation	Florence Tissot	
Kori Ellien	City of Corpus Christi Water Quality	City of Corpus Christi	Gabriel Ramirez	
Sharon Lewis	City of Corpus Christi Environmental	City of Corpus Christi	Daniel McGinn	
Temple Williamson	City of Corpus Christi Wastewater	City of Corpus Christi	Preeti Shrestha	
Rosario Martinez	CBBEP	Environmental	Leo Trevino	Rae Mooney
James Klein	Clean Economy Coalition	Environmental	Jay Reining	
Meredith Darden	Corpus Christi Convention and Visitors Bureau	Visitors Bureau	T.J. Carpenter	Ashley Higson
Craig Thompson	Naismith Engineering	Business & Industry		
Kelly White	Del Mar College	Academia	J. Chris Tweddle	
Dr. William Burgin	Corpus Christi - Nueces County Health Authority	Public Health	Annette Rodriguez	Donna Rosson

Support Staff

Name	Title	e-mail
Teresa Carrillo	TAMUCC-CCS	Teresa.Carrillo@tamucc.edu
Brien Nicolau	TAMUCC-CCS	Brien.Nicolau@tamucc.edu
Erin Hill	TAMUCC-CCS	Erin.Hill@tamucc.edu
Chris Loft	TCEQ	chris.loft@tceq.texas.gov
Lauren Young	TCEQ	Lauren.young@tceq.texas.gov

*In Memory of Peggy Sumner
CARP Chair 2012-2013*



What

... is the problem?

- **BACTERIA**

- *Enterococcus* bacteria levels exceeded TCEQ water quality standards for recreation at Cole and Ropes Parks.
- Results: **(1)** Cole and Ropes Parks placement on 303(d) list of impaired waters, **(2)** development of a TMDL and **(3)** creation of a bacteria reduction Implementation Plan (I-Plan).



Photo credit: www.swf-wc.usace.army.mil



Photo credit: www.labbulletin.com

Where

... is the problem?



Where

... is the problem?



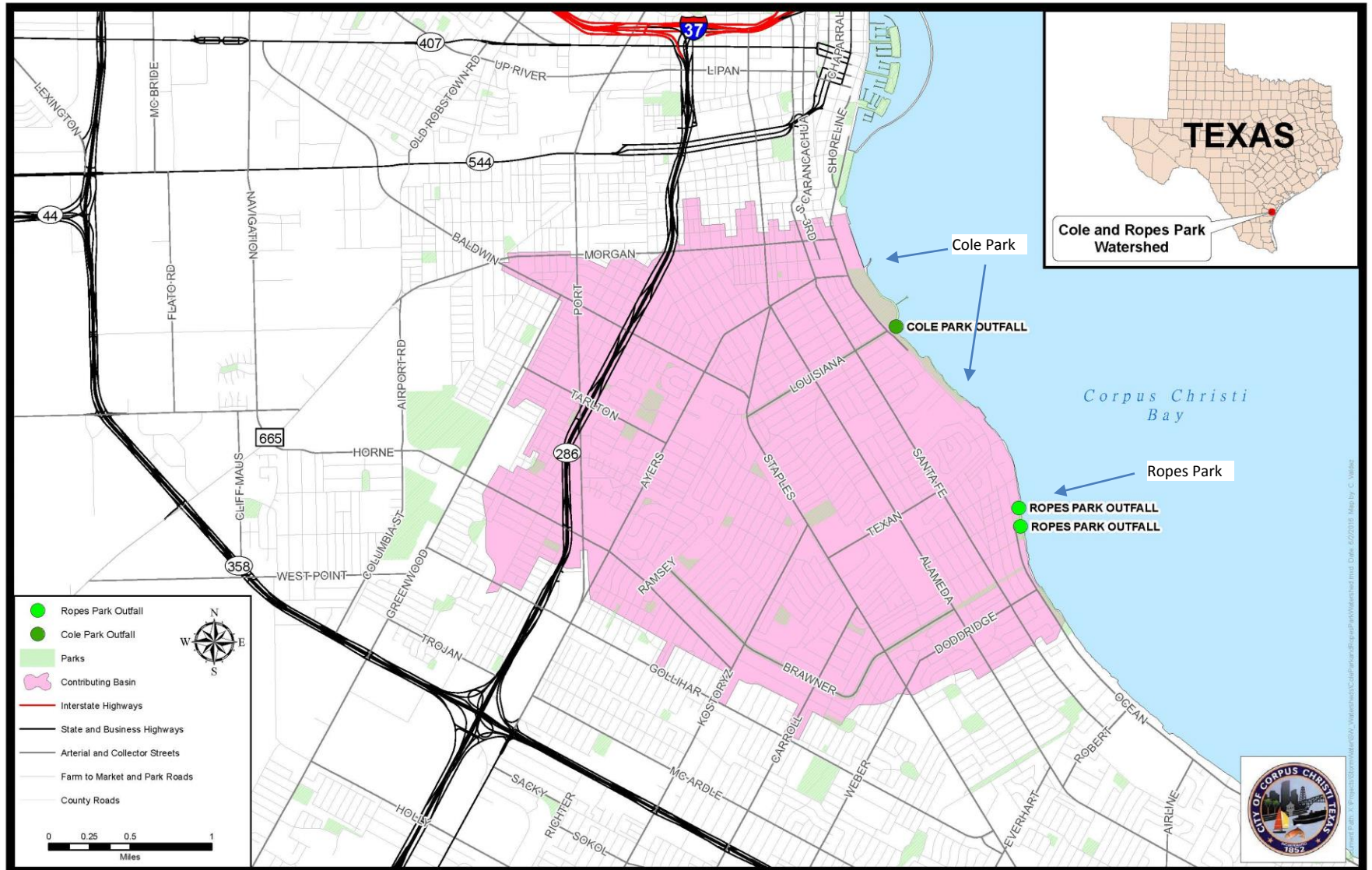
COLE PARK



ROPES PARK

Louisiana Parkway Watershed

Including Cole and Ropes Parks Watersheds



When

...TMDL & I-Plan history

- **2008:** EPA using Beach Watch Program Bacteria Data, listed the entire Corpus Christi Bay on the 303(d) list.
- **2010:** Listed only Cole and Ropes Parks' Beaches as the **ASSESSMENT UNITS**
- **2011:** Historic Data Review & Site Assessment by Center for Coastal Studies, TAMUCC.
- **2011-2012:** Additional bacteria sampling conducted by Center for Coastal Studies, TAMUCC.
- **2012:** CARP Coordination Committee formed, *Implementation Planning* begins.
- **2015:** **Technical Support Document for Two Total Maximum Daily Loads Coles and Ropes Park** submitted to TCEQ.



Why

...is the I-Plan important?
TCEQ requires the I-Plan

- Puts the *TMDL* into action.
- Outlines necessary steps to reduce pollutant loads through *regulatory* and *voluntary* activities
- Brings community stakeholders together to find a mutually agreed upon solution



Approved

**Implementation Plan for
Two Total Maximum Daily
Loads for Bacteria at Cole
and Ropes Parks Beaches in
Corpus Christi Bay**

Segments 2481CB_o3 and 2481CB_o4

How

...was the **I-Plan** developed?

1. *Work Groups Create Content*

- Education and Outreach
- Wastewater and Stormwater Infrastructure
- Monitoring and Research
- Ordinance and Regulations

2. *CARP Writes I-Plan*

- Stakeholders on the *Cole and Ropes Parks' Implementation Plan Coordination Committee*



Approved

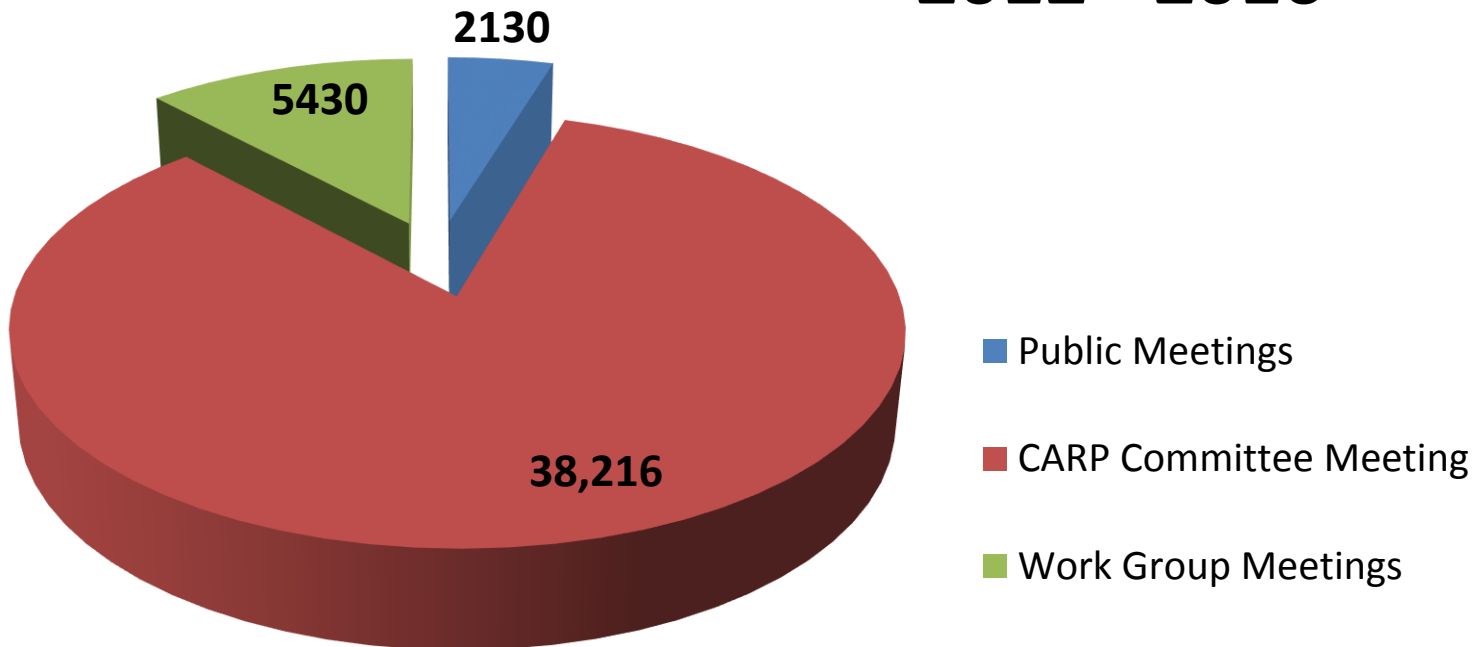
**Implementation Plan for
Two Total Maximum Daily
Loads for Bacteria at Cole
and Ropes Parks Beaches in
Corpus Christi Bay**

Segments 2481CB_03 and 2481CB_04

Water Quality Planning Division, Office of Water
TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

**STAKEHOLDER
TIME
INVESTMENT**

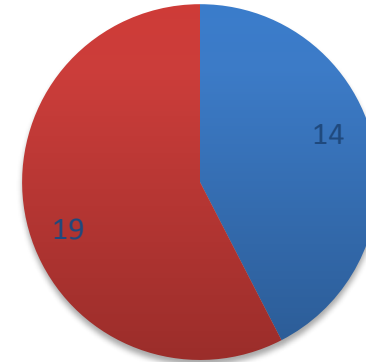
**Total Stakeholder Hours
CARP and Work Groups
2012 - 2016**



Implementation Strategy

- **33 Management Measures (voluntary)**
 - 14 of which the City of Corpus Christi is currently implementing (42%).
 - The remaining 19 to be implemented voluntarily by the City and/or Other entities.
- **6 Control Actions (regulatory)**
 - The City is currently implementing all 6 of these actions (100%).

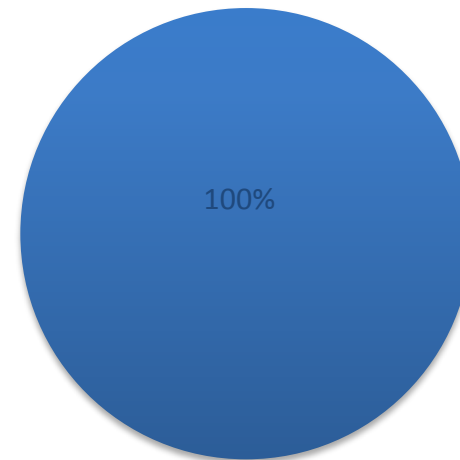
Management Measures



■ Current City Programs- Ongoing

■ Potential Programs- Municipal, Academic, NGO, Public/Private, or others

Control Activities

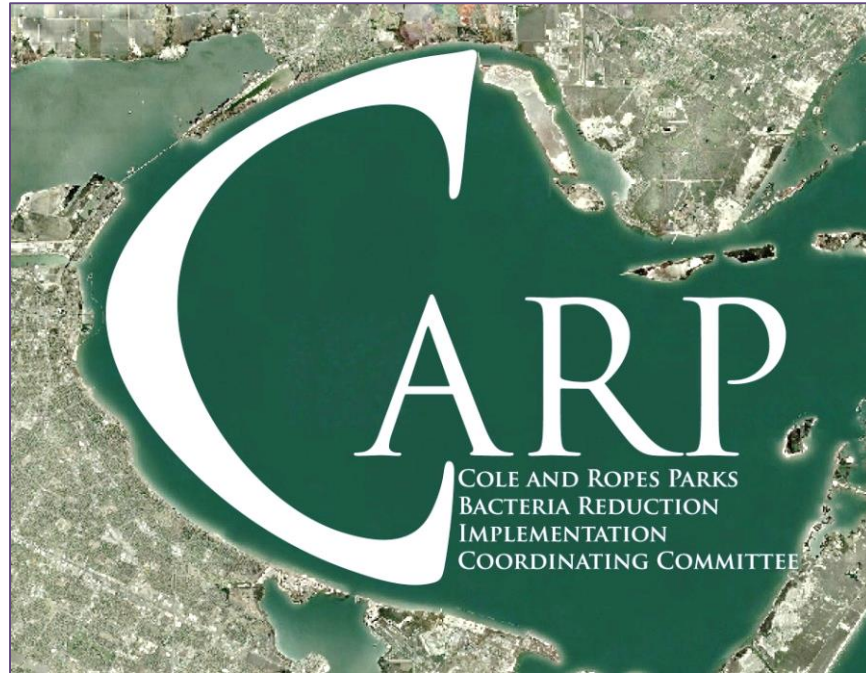


■ Current City Programs- Ongoing

Project Target Dates

- **August 2016 - Draft CARP I-Plan Completed**
- **Fall 2016 - TCEQ Commissioners Review & Approve CARP I-Plan**
- **Spring 2017 - Public Meetings for CARP I-Plan**
- **2017 – Implementation of Management Measures**





For more information, or to become involved,
contact Teresa Carrillo at the Center for Coastal Studies:

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teresa.carrillo@tamucc.edu

