City of Newport Beach
Water Quality/Coastal Tidelands Committee Minutes

Date: February 13 2014
Time: 3:00 p.m.
Location: Newport Coast Conference Room, 2nd Floor, Bay E

1. **Welcome/Self Introductions**
   Committee Members present:
   Chairwoman/Council Member Nancy Gardner
   Dennis Baker
   Carl Cassidy
   Louis Denger
   Fred Galluccio
   Mike Henn/Council Member
   George Robertson

   Guests present:
   Jim Mosher, resident
   Monica Mazur, resident
   Jeff Coffman, Clean Green Technology
   Karen McLaughlin, SCCWRP (Southern California Coastal Waters Research Program)

   Staff present:
   John Kappeler, Water Quality Manager
   Shane Burckle, Water Conservation Coordinator
   Shari Rooks, Public Works Specialist
   Bob Stein, Assistant City Engineer
   Dave Kiff, City Manager

   The agenda for the Water Quality/Coastal Tidelands Committee was posted at 7:50 am on February 6, 2014, in the binder located in the entrance of the Council Chambers at 100 Civic Center Drive.

2. **Approval of Previous Meeting's Minutes**
   The January 9, 2014 meeting minutes were approved with a minor typo correction on page 2, Item 4a under New Business changing MSF to MS4.

3. **Old Business**
   a. **Bay and Ocean Bacteriological Test Results**
   Monica Mazur reviewed recent water quality test results within Newport Bay and along the ocean shoreline.
   - **John Kappeler** noted that a storage facility at 16th and Newport Boulevard blew a lateral and approximately 50,000 gallons of potable water were released into the storm drain system. The hits on January 27th were more than likely attributable to that incident.

   b. **Committee Goals and Priority Update**
   John Kappeler gave a progress update on the Committee's 2013 goals.
   - Costs for street sweeping are approximately $16 per mile.
   - There are sections in the Municipal Code that would require residents to sweep private streets if the Committee chose to make that recommendation to Council.

- **Dennis Baker** asked if the fees collected for parking violations went into the General Fund.
- **Louis Denger** asked how many miles of private streets there were in the City and was told that approximately 30% of the 400 miles of streets in the City were private.
- **Mike Henn** suggested starting with workshops with the 100 plus Homeowner Associations (HOAs)
- **Dennis Baker** asked how the HOAs would be monitored if the City opted to require them to sweep their streets and clean their catch basins. **John Kappeler** replied that the City would ask them how many miles were being swept annually and to provide a catch basin cleaning schedule so we could include that data in our annual Water Quality Report.
- **Mike Henn** thought it would be beneficial if the HOAs could "piggy-back" onto our contractor and suggested hosting several workshops, inviting the HOAs to attend so we could explain the benefits of street sweeping, catch basin cleaning and how the City could help them.
- **Dennis Baker** asked if there is a maintenance plan for existing and new trash booms and the answer was yes, the booms were funded with Orange County Transportation Authority (OCTA) grant money and there was a 10-year maintenance plan included. The boom at the Newport Aquatic Center (NAC) was replaced 2 years ago at a cost of approximately $20K and is currently in need of repair.

ACTION: **John Kappeler** will send Committee members a copy of a recent article on Buck Gully that appeared in Storm Water Magazine.

ACTION: **John Kappeler** will look into the repair of the trash boom at the NAC.

ACTION: Add topic of Natural Source Exclusion for further discussion to the March agenda.

4. New Business

a. **Karen McLaughlin**, from the **Southern California Coastal Waters Research Program (SCCWRP)** gave the Committee an update and presentation on **Ocean Acidification** (See attached PowerPoint).
   - Ocean Acidification was described as follows: Ocean pH decreases when CO_2 dissolves in seawater and reacts with water to form bicarbonate ion and hydrogen ion. Most of the hydrogen ions join with carbonate ions to form bicarbonate ions. These changes in carbonate chemistry of the ocean affects shell forming organisms.
   - The only way to change the course of ocean acidification is to eliminate excess atmospheric CO_2 although local actions could potentially delay the problem in some regions and potentially allow time for ecosystems to adapt. Some species can and have adapted and others have and will suffer.
   - Several Federal actions from 2007 - 2010 has given the Environmental Protection Agency authority to regulate greenhouse gasses under the Clean Air Act and Clean Water Act.
   - Kelp beds are thought to be an acidification refugio because it is believed they absorb large amounts of CO_2 out of the water and as a bio mass. This helps to

stabilize the pH and the calcium carbonate in those regions and helps the shell forming organisms living there.

- At current CO_2 levels, 60% of the coral reefs are in waters with suboptimal saturations and the percentage could increase to 90% over the next 50 years.
- Although efforts are being undertaken at local levels to address the issue, ocean acidification will continue until global CO_2 emissions are eliminated.

b. **John Kappeler** gave the Committee an update and presentation on the **Orange County Transportation Authority's (OCTA's) Environmental Allocation Cleanup Grant Program**. (See attached PowerPoint).

- This year's Grant Call at the end of March will be releasing $2.8M in grant funds available for Tier 1 Projects, $200K per grant application and $500K per agency with 20-25% matching funds. OCTA has expanded their allowable projects to include turf removal and irrigation retrofits mainly for street medians.
- In the past the City has used grant funds to install CDS units, trash skimmers, catch basin screens and filters.
- There are currently over 800,000 square feet of medians in the City that would likely qualify for grant funds for retrofit projects. If that were something the Committee supported and thought the Council would also support.
- John also noted that last year the City applied for $2.3M in OCTA Tier 2 grant funds for a selenium wetlands bioreactor in Big Canyon and we should know within weeks.

ACTION: Committee to take photos of possible medians for the purpose of preparing a list of top locations for the grant application.

5. **Public Comments on Non-Agenda Items**

- **Jim Mosher** noted a typo that needed to be corrected to the January 9, 2014 meeting minutes.
- **Bob Stein** advised the Committee that Vector Control is unable to treat the surface of the Big Canyon freshwater lake for mosquito larvae due to the overgrowth of bull rush and reeds since maintenance stopped in the mid 90's. They approached the State Fish and Wildlife Department for help. Fish and Wildlife said they have no money and it wasn't their problem. In the last few weeks it seems as if many of the resource agencies are coordinating and agreeing that Vector Control has the right to move in and take the steps they need to do. Vector Control solicited bids and they all came extremely high. **Pat Thomas**, Deputy Public Works Director/City Engineer and Bob Stein are meeting with the contractor on February14th to work out a "Plan B" that would possibly create a pathway for Vector Control to access the lake. Bob also stated that the Regional Board recently notified State Fish and Wildlife that they are to be named as a party responsible for fixing the selenium in Big Canyon.
- **Dennis Baker** noted that the City's Code Enforcement Division is not a drop down option on the **MyNB App.**
- **Jim Mosher** noted that there are no public restrooms at the Wedge and he felt this should be a concern of the Committee. He questioned City signs posted on harbor facing beaches on the Peninsula that state "no food was allowed." He also suggested the public should be made aware of the penalties the City would incur if our TMDLs (Total Maximum Daily Loads) are not met.

6. **Topics for Future Agendas**
   (a) Bacteriological Dry-Weather Runoff Gutter Study (Phase III)
   (b) Prop 84 ASBS Grant Program
   (c) Big Canyon Project
   (d) Rhine Channel Project Wrap Up
   (e) Senate Bill – SB 1447
   (f) Marine Protected Areas (MPAs)
   (g) Eelgrass Program
   (h) Trash Project for Storm Drains
   (i) Harbor Commission Copper Report
   (j) Orange County Coastal Regional Sediment Management Plan
   (k) Fracking Free City
   (l) Adopting a Natural Source Exclusion

Set Next Meeting Date
The next meeting date was set for March 13, 2013, at 3 PM in the **Newport Coast Conference Room, Bay E, 2nd Floor.**

7. **Adjournment**
   The meeting was adjourned at 4:30 pm.

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Chairwoman / Nancy Gardner

OCSD Bacteriological Ocean Monitoring Program
Total Coliform (TC), Fecal Coliform (FC),
Enterococcus (ENT) Colony Forming Units/100 ml Sample

DATE		10/9	10/15	10/16	10/22	10/23	10/29	10/30	11/5	11/6	11/12	11/13	11/19	11/20	11/25	11/26	12/3	12/4	12/10	12/11	12/17	12/18	12/26	12/27	12/30	12/31	1/7	1/8	1/14	1/15	1/21	1/22	1/28	1/29	2/4	2/5	2/10
Location/Tide																																			RAIN	RAIN	
Bolsa Chica	TC		<17		<17		17		<17		17		17		<17		17		<17		<17		17		270		<17		<17		<17		33		130		17
Beach	FC		<17		<17		17		<17		17		<17		<17		<17		<17		<17		<17		170		<17		<17		<17		67		<17		<17
39N	ENT		2		<2		2		2		<2		<2		<2		2		2		<2		<2		6		<2		<2		4		8		<2		14
Bolsa Chica	TC		<17		<17		220		<17		17		17		<17		17		<17		17		17		<17		<17		<17		<17		33		17		50
Reserve	FC		<17		<17		130		17		<17		<17		<17		<17		<17		<17		<17		17		<17		<17		<17		17		<17		33
33N	ENT		2		4		72		4		4		6		2		8		4		<2		2		2		<2		4		4		34		2		8
Bluffs	TC		<17		<17		<17		<17		120		<17		33		17		<17		<17		<17		<17		<17		<17		<17		250		50		<17
27N	FC		<17		<17		<17		<17		83		<17		17		<17		<17		<17		<17		<17		<17		<17		17		200		33		<17
	ENT		4		2		<2		<2		38		2		<2		4		20		<2		12		28		4		2		8		160		6		100
17th Street	TC		17		<17		<17		<17		<17		17		33		33		<17		<17		<17		120		<17		<17		<17		83		<17		17
21N	FC		<17		<17		<17		<17		17		17		67		67		<17		17		<17		50		<17		<17		<17		100		33		33
	ENT		8		<2		2		8		32		<2		<2		8		6		52		36		52		6		24		10		58		4		176
Jacks Snack	TC		17		17		17		67		33		<17		17		50		<17		17		<17		17		17		<17		<17		50		17		17
Bar	FC		<17		<17		17		<17		<17		<17		<17		67		<17		<17		<17		50		50		<17		<17		17		33		17
15N	ENT		12		8		<2		6		2		<2		<2		50		6		4		<2		12		26		12		4		32		4		124
Beach Blvd.	TC		50		<17		17		<17		67		33		<17		100		<17		17		<17		50		<17		<17		17		83		<17		<17
12N	FC		<17		<17		<17		<17		50		<17		<17		17		<17		<17		<17		17		17		<17		<17		33		17		17
	ENT		8		6		<2		22		14		<2		<2		40		2		2		<2		18		<2		2		2		56		6		94
SCE Plant	TC	<17	<17	150	17	17	<17	33	17	<17	67	67	17	17	17	<17	33	17	<17	180	120	17	<17	17	17	<17	17	<17	<17	<17	<17	<17	100	17	<17	<17	67
9N	FC	17	17	17	33	<17	<17	<17	<17	<17	<17	120	33	<17	<17	<17	33	17	<17	50	33	33	<17	17	33	<17	<17	<17	<17	<17	<17	<17	120	<17	<17	<17	83
	ENT	4	20	18	30	<2	2	10	4	4	8	22	2	<2	<2	2	8	12	20	44	22	4	<2	2	14	12	<2	8	8	4	6	6	42	22	4	4	54
Magnolia	TC	33	67	33	100	17	170	130	<17	<17	180	330	130	33	<17	17	120	200	<17	<17	120	170	<17	<17	17	<17	67	<17	<17	<17	<17	17	33	67	<17	<17	17
Street	FC	<17	33	17	67	50	17	67	<17	17	200	200	50	<17	<17	<17	120	120	<17	<17	100	170	<17	<17	17	<17	50	<17	<17	<17	17	17	50	17	17	17	83
6N	ENT	2	30	26	4	2	10	24	12	4	26	28	40	4	<2	6	94	54	<2	4	52	34	<2	2	10	30	10	<2	6	4	2	2	32	18	6	22	26
Brookhurst	TC	17	<17	50	<17	<17	17	440	17	<17	33	280	<17	67	17	17	67	100	<17	<17	<17	17	17	33	67	620	33	33	<17	170	<17	<17	17	320	1000	300	130
3N	FC	17	<17	<17	<17	17	33	170	<17	17	50	130	<17	50	50	33	17	17	<17	17	<17	<17	<17	50	50	420	50	33	<17	150	17	17	33	330	1100	250	100
	ENT	20	4	14	2	4	12	174	6	4	18	96	2	16	2	2	18	36	<2	4	6	6	2	14	8	102	4	16	46	64	4	22	28	132	44	40	114
Santa Ana	TC	180	<17	33	<17	<17	17	17	<17	<17	50	17	<17	<17	17	100	17	67	100	17	<17	17	<17	<17	180	33	<17	17	<17	<17	<17	380	120	120	350	150	100
River Mouth	FC	170	<17	<17	<17	<17	<17	17	17	<17	50	50	<17	33	<17	150	<17	17	33	<17	17	<17	50	<17	50	17	<17	17	<17	<17	67	320	150	50	<17	33	67
0	ENT	48	2	<2	<2	2	2	20	6	<2	8	6	<2	6	<2	6	16	28	6	16	2	<2	4	2	26	24	<2	22	14	14	2	16	124	36	18	16	52
Orange	TC	67		17		<17		33		17		50		<17		<17		50		<17		<17		<17		17		67		17		67		120		1100	
Street	FC	83		<17		<17		50		17		17		33		<17		33		17		<17		17		17		50		17		<17		50		67	
3S	ENT	8		<2		<2		4		4		22		2		<2		32		<2		<2		4		8		22		6		12		90		26	
52nd/53rd	TC	<17		<17		<17		120		<17		<17		17		17		33		17		17		17		33		<17		33		17		50		200	
Street	FC	<17		17		<17		100		<17		<17		<17		17		17		17		<17		<17		33		<17		<17		<17		33		33	
6S	ENT	4		2		6		16		2		4		<2		4		24		2		4		10		4		<2		22		8		12		24	
38th Street	TC	<17		17		<17		17		<17		17		33		17		17		<17		17		<17		<17		<17		<17		<17		33		17	
9S	FC	17		17		<17		17		<17		17		<17		<17		17		<17		<17		<17		<17		<17		17		<17		33		83	
	ENT	2		8		<2		2		4		12		6		<2		2		<2		2		2		6		8		2		6		256		16	
15th/16th	TC	<17		<17		<17		67		<17		67		67		<17		180		<17		<17		<17		<17		<17		<17		<17		440		<17	
Street	FC	<17		<17		<17		100		<17		50		17		<17		200		<17		<17		<17		<17		<17		33		<17		500		<17	
15S	ENT	<2		8		<2		20		4		46		2		2		18		2		4		4		2		2		<2		<2		118		2	
Balboa Pier	TC	<17		<17		<17		150		<17		17		<17		150		17		<17		33		50		<17		17		<17		<17		180		17	
21S	FC	<17		<17		17		67		<17		17		<17		83		33		17		33		<17		<17		50		<17		<17		220		<17	
	ENT	2		<2		2		18		2		<2		46		<2		12		<2		6		<2		2		2		2		<2		108		8	
The Wedge	TC	<17		<17		<17		<17		<17		<17		<17		<17		<17		<17		33		<17		<17		<17		<17		<17		<17		<17	
27S	FC	<17		<17		<17		<17		<17		<17		<17		<17		100		<17		17		<17		<17		<17		<17		<17		<17		17	
	ENT	<2		<2		<2		12		<2		2		4		<2		14		<2		24		<2		<2		2		2		2		<2		2	
Corona Del	TC	<17		17		<17		50		17		<17		<17		<17		17		<17		<17		33		<17		2300		17		<17		100		33	
Mar Beach	FC	<17		50		<17		33		<17		<17		<17		<17		<17		<17		17		<17		17		17		17		17		33		<17	
29S	ENT	<2		16		<2		4		2		10		<2		<2		6		<2		4		2		<2		2		<2		<2		26		4	
Crystal Cove	TC	67		<17		<17		17		<17		17		<17		<17		17		<17		1200		<17		<17		<17		<17		<17		17		<17	
39S	FC	<17		<17		<17		<17		17		<17		<17		<17		33		<17		<17		<17		<17		<17		<17		<17		17		<17	
	ENT	<2		2		6		<2		<2		<2		<2		<2		24		<2		2		2		<2		2		<2		<2		6		<2	

Health Care Agency / Environmental Health Newport Bay Bacteriological Monitoring Program
Total Coliform (TC), Fecal Coliform, Enterococcus (ENT) Colony Forming Units / 100 ml Sample

STATION	Location Description		10/15/13	10/21/13	10/30/13	11/4/13	11/12/13	11/18/13	11/25/13	12/2/13	12/9/13	12/16/13	12/23/13	12/30/13	1/6/14	1/13/14	1/21/14	1/27/14	2/3/14	2/10/14
NEWPORT BAY (Lower Bay)									RAIN	RAIN	RAIN								RAIN	
BNB09	43rd Street Beach	TC	>230	70	50	10	20	<10	140	20	200	20	40	50	20	370	20	10	140	20
		FC	10	10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	10	<10
		ENT	10	<2	6	10	4	10	<2	10	20	4	4	2	6	2	<2	6	26	10
BNB10	38th Street Beach	TC	80	10	>1850	50	10	20	60	60	140	20	<10	>390	<10	50	10	110	>8600	10
		FC	30	<10	250	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	330	<10
		ENT	36	2	76	20	2	20	2	48	20	10	2	246	2	8	2	4	180	2
BNB11	33rd Street Channel	TC	60	<10	70	20	>5600	<10	60	>130	>370	70	330	130	<10	2000	<10	170	>840	>1420
		FC	<10	<10	<10	<10	<10	<10	10	10	<10	10	<10	50	<10	<10	<10	<10	70	50
		ENT	2	2	10	<2	600	<2	<2	68	24	44	2	46	4	10	2	4	10	56
BNB32	Lido Yacht Club Beach	TC	>80	>10	20	<10	10	10	70	80	>1500	<10	<10	40	<10	<10	<10	30	<10	240
		FC	<10	<10	<10	<10	<10	<10	<10	10	10	<10	<10	<10	<10	<10	<10	<10	<10	<10
		ENT	2	100	4	2	<2	<2	<2	<2	6	4	<2	<2	<2	4	2	<2	<2	<2
BNB07	Via Genoa Beach	TC	160	<10	20	20	>380	<10	60	60	>630	10	30	220	20	<10	<10	10	300	10
		FC	<10	<10	<10	30	10	<10	<10	10	10	<10	<10	50	<10	<10	<10	<10	<10	<10
		ENT	<2	2	4	4	8	2	<2	34	86	<2	4	>56	10	<2	2	20	20	<2
BNB35	Newport Blvd. Bridge	TC	>430	60	>650	320	>940	20	6000	>330	>940	>720	10	>8000	2800	>560	>1530	>40000	>1000	>6800
		FC	50	<10	<10	10	<10	<10	10	30	<10	50	<10	160	<10	20	50	9200	130	180
		ENT	48	2	>32	2	92	<2	8	78	38	140	10	2000	2	228	4	8400	24	250
BNB12	Rhine Channel	TC	60	10	20	560	10	<10	120	<10	>1480	10	400	40	70	<10	10	>530	<10	180
		FC	<10	<10	<10	<10	<10	<10	<10	<10	10	<10	<10	<10	<10	<10	<10	<10	<10	<10
		ENT	<2	<2	<2	4	8	<2	<2	<2	<2	<2	<2	<2	<2	<2	4	26	<2	<2
BNB14	19th Street Beach	TC	70	40	<10	100	>130	<10	120	30	>1910	<10	10	<10	<10	<10	<10	<10	<10	<10
		FC	<10	<10	<10	30	<10	<10	<10	<10	120	<10	<10	<10	<10	<10	<10	<10	<10	<10
		ENT	<2	<2	<2	52	20	<2	10	10	86	<2	<2	2	<2	<2	<2	<2	<10	<2
BNB15	15th Street Beach	TC	95	<10	80	30	60	<10	150	95	>140	20	10	>100	30	120	<10	>940	40	>40
		FC	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	10	>80	<10	<10	<10	<10	<10	>10
		ENT	<2	<2	<2	<2	<2	<2	2	4	10	8	<2	50	<2	<2	<2	4	10	2
[illegible]	10th Street Beach	TC	120	<10	30	40	>380	<10	190	60	>8000	80	10	10	10	95	10	30	80	<10
		FC	<10	<10	30	<10	<10	<10	<10	<10	50	20	<10	<10	<10	10	<10	10	<10	<10
		ENT	2	<2	<2	2	70	<2	<2	2	24	2	2	<2	<2	<2	<2	46	2	2
BNB18	Alvarado/ Bay Isle Beach	TC	<10	10	20	50	<10	<10	80	50	>1210	10	30	2200	40	10	20	<10	10	40
		FC	10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	2400	20	<10	<10	<10	<10	<10
		ENT	4	4	<2	4	4	2	<2	4	<2	2	2	2000	4	6	2	2	4	22
BNB22	N Street Beach	TC	<10	20	10	<10	<10	10	30	30	>220	10	10	>150	10	20	<10	<10	10	30
		FC	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
		ENT	2	<2	<2	<2	<2	2	<2	<2	<2	6	<2	130	<2	<2	<2	<2	2	<2
BNB31	Garnet Avenue Beach	TC	>390	<200	>40	70	10	>20	120	170	>1480	10	20	60	<10	10	20	30	>440	40
		FC	20	<10	10	<10	<10	<10	<10	40	10	<10	<10	<10	<10	<10	<10	<10	200	<10
		ENT	66	8	4	20	2	<2	4	100	10	50	<2	279	8	2	2	24	10	2
BNB03	Ruby Avenue Beach	TC	190	20	100	80	30	50	50	4800	>480	<10	100	330	<10	10	20	130	>310	<10
		FC	10	<10	<10	20	<10	<10	<10	740	30	10	20	50	<10	<10	<10	40	<10	<10
		ENT	<2	<2	<2	62	2	10	2	>52	2	<2	<2	6	2	2	10	80	20	26
BNB20	Sapphire Avenue Beach	TC	20	20	360	10	>300	10	180	40	380	10	50	40	130	10	30	130	10	<10
		FC	<10	<10	80	<10	30	<10	20	<10	20	20	<10	<10	80	10	<10	30	<10	<10
		ENT	10	48	4	24	32	<2	4	10	10	6	2	10	2	2	<2	50	<2	2
BNB34	Grand Canal	TC	60	40	>360	20	40	60	210	40	>80	50	100	80	360	10	20	50	120	290
		FC	<10	<10	20	<10	10	<10	100	<10	60	10	70	<10	<10	<10	<10	<10	<10	160
		ENT	6	4	<2	2	8	2	<2	10	180	4	<2	36	20	4	<2	6	2	24
BNB21	Abalone Avenue Beach	TC	120	<10	>490	20	270	>140	110	10	>770	20	20	60	<10	10	40	20	170	10
		FC	40	<10	10	<10	80	10	10	20	<10	10	<10	<10	<10	<10	20	30	20	<10
		ENT	2	<2	4	10	4	4	20	34	4	4	2	6	2	<2	4	20	4	2
BNB01	Park Avenue Beach	TC	110	80	>320	20	30	<10	60	70	4800	10	20	50	<10	50	10	40	110	30
		FC	<10	<10	10	<10	10	10	10	<10	210	<10	<10	<10	<10	<10	<10	10	<10	<10
		ENT	4	10	2	2	22	6	<2	2	10	<2	<2	<2	2	<2	2	<2	8	2
BNB02	Onyx Avenue Beach	TC	160	10	220	300	10	60	80	180	>610	20	80	150	30	30	30	110	>240	<10
		FC	<10	<10	<10	10	<10	10	<10	10	10	<10	<10	10	<10	<10	<10	10	10	<10
		ENT	4	<2	8	100	10	60	2	50	40	2	2	150	4	2	2	52	10	520
BNB29	Promontory Point Channel	TC	10	<10	10	50	<10	<10	10	40	<10	<10	<10	<10	10	<10	5800	<10	<10	60
		FC	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
		ENT	2	<2	<2	2	2	<2	4	<2	<2	<2	<2	<2	<2	<2	4	<2	<2	2
BNB33	Bayside Drive Beach	TC	>360	95	110	>40	>95	95	40	20	40	40	20	160	40	50	40	60	30	110
		FC	<10	<10	<10	<10	<10	<10	<10	10	<10	20	<10	150	<10	<10	<10	<10	<10	40
		ENT	66	4	60	68	8	6	6	10	8	10	6	10	2	10	2	36	4	10
BNB23	Rocky Point Beach	TC	70	>20	<10	<10	30	10	60	>10	70	20	20	80	10	<10	10	10	280	70
		FC	20	<10	<10	<10	<10	<10	10	<10	<10	<10	<10	10	<10	<10	<10	<10	20	<10
		ENT	8	20	8	2	2	<2	<2	<2	22	<2	2	8	<2	4	<2	2	44	4

Health Care Agency / Environmental Health Newport Bay Bacteriological Monitoring Program
Total Coliform (TC), Fecal Coliform (FC), Enterococcus (ENT) Colony Forming Units / 100 ml Sample

ATION	Location Description		9/30/13	10/7/13	10/15/13	10/21/13	10/30/13	11/4/13	11/12/13	11/25/13	12/2/13	12/9/13	12/16/13	12/23/13	12/30/13	1/6/14	1/13/14	1/21/14	1/27/14	2/3/14	2/10/14
EWPORT BAY (Upper Bay)										RAIN	RAIN	RAIN								RAIN	
BNB24	Newport Dunes - Middle	TC	160	<10	>440	40	>260	110	100	670	>340	40000	10	>170	30	20	95	30	>680	>330	100
		FC	20	<10	60	<10	10	<10	<10	20	<10	960	10	20	<10	<10	40	30	30	240	<10
		ENT	4	<2	10	2	<2	<2	6	28	4	244	2	56	<2	10	8	4	24	60	8
BNB24	Newport Dunes - West	TC	>1470	>130	>530	30	>770	110	30	900	>320	>32200	30	3800	20	80	130	60	180	>390	20
		FC	260	<10	<10	<10	<10	20	10	50	10	1170	10	2800	10	<10	40	10	60	70	10
		ENT	96	10	<2	2	6	2	4	38	2	327	10	36	8	8	20	4	28	246	58
BNB24	Newport Dunes - East	TC	60	20	>370	30	>370	70	>150	1150	250	>38000	2400	40	<10	80	40	<10	50	130	110
		FC	10	<10	10	20	100	<10	30	760	80	950	1480	<10	10	10	20	<10	10	<10	<10
		ENT	10	2	32	4	84	10	120	20	22	140	26	20	20	20	20	20	6	98	10
BNB24	Newport Dunes - North	TC	>30	20	>470	50	>370	10	20	450	>320	40000	40	>140	50	70	50	30	60	30	60
		FC	20	<10	<10	<10	20	<10	<10	40	20	1100	10	10	50	10	50	<10	10	10	20
		ENT	8	<2	8	6	2	2	2	4	6	295	8	32	4	10	10	6	22	<2	8
BNB25	Vaughn's Launch	TC	NS	10	>360	<200	>10	>30	>10	NS	300	>12000	30	NS	<10	NS	10	NS	NS	NS	40
		FC	NS	<10	10	10	<10	<10	<10	NS	40	460	20	NS	30	NS	30	NS	NS	NS	10
		ENT	NS	6	<2	<2	10	20	28	NS	80	>96	10	NS	10	NS	60	NS	NS	NS	38
BNB26	Ski Zone	TC	NS	NS	>7400	NS	NS	>100	NS	NS	>170	NS	>130	NS	NS	NS	NS	NS	NS	NS	NS
		FC	NS	NS	590	NS	NS	10	NS	NS	<10	NS	30	NS	NS	NS	NS	NS	NS	NS	NS
		ENT	NS	NS	600	NS	NS	42	NS	NS	44	NS	150	NS	NS	NS	NS	NS	NS	NS	NS
BNB28	North Star Beach	TC	<10	>10	>470	<10	30	60	20	1070	>250	>40000	10	>80	110	20	30	<10	70	20	400
		FC	<10	<10	30	<10	<10	20	<10	80	40	4800	<10	<10	20	<10	10	10	20	<10	260
		ENT	2	4	10	6	10	8	8	8	8	1000	4	10	2	4	6	8	30	6	66
BNB30	De Anza	TC	10	<10	60	10	10	>1280	<10	510	80	>22800	<10	60	20	10	10	10	30	80	<10
		FC	<10	30	<10	<10	<10	260	<10	10	20	380	<10	<10	<10	10	<10	<10	<10	<10	<10
		ENT	<2	<2	6	<2	<2	271	2	4	<2	180	<2	4	<2	4	2	4	8	20	<2
BNB05	Bayshore Beach	TC	10	20	110	20	20	80	20	50	70	>18000	20	60	<10	<10	30	<10	10	100	20
		FC	<10	<10	<10	<10	10	<10	<10	10	<10	210	10	10	<10	<10	<10	<10	<10	<10	<10
		ENT	<2	<2	4	<2	4	10	<2	<2	4	110	<2	2	<2	<2	<2	4	2	10	<2
EWPORT BAY TRIBUTARIES																					
CNBCD	San Diego Creek - Campus Dr.	TC	>120	>100	>47000	>5300	>90000	>3200	>390	>7000	>4300	48000	>3000	>4900	>3400	>2200	>310	>340	>540	>300	>3800
		FC	20	20	>580	>95	910	50	50	410	240	6400	180	170	700	300	<10	<10	10	10	80
		ENT	26	32	64	54	380	22	42	190	44	7400	74	216	54	68	20	8	6	38	26
CNBSA	Santa Ana Delhi Channel	TC	>4800	>3900	>58000	>4300	>4800	>3000	>4800	>4600	>7400	70000	>4500	>7800	>3800	>930	30000	>4900	>3000	>200000	7700
		FC	160	10	>14000	140	160	200	440	160	170	1180	60	210	280	80	7800	260	500	11000	120
		ENT	1000	180	1000	120	281	800	255	170	311	1000	180	251	228	76	226	190	170	27800	279
CNBBC	Big Canyon Creek	TC	NS	>950	>960	>660	>2800	640	>490	>620	>720	>740	>420	>530	>290	>300	>640	>390	>470	>940	>480
		FC	NS	50	140	10	100	30	30	70	190	>700	<10	220	80	20	20	20	60	250	50
		ENT	NS	26	120	70	1000	110	110	150	86	40	70	220	78	62	130	84	110	271	66
CNBND	Backbay Drive Pipe	TC	>13000	>5400	>470	>5600	>22600	>1220	>1520	4400	>1230	>660	>960	>370	>510	>570	>1600	>1970	>3200	>740	>900
		FC	1170	730	60	>660	>490	370	80	140	110	40	20	10	30	10	10	<10	40	180	30
		ENT	8000	1000	100	600	1000	277	190	253	>200	283	80	110	96	76	150	110	1000	400	140
EWPORT SLOUGH			10/1/13	10/8/13	10/16/13	10/22/13	10/29/13														
BNS01	Lancaster Street &	TC	80	20	>120	40	120	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	61st Street	FC	10	<10	10	<10	<10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		ENT	22	4	8	<2	52	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
BNSO2	Lancaster Street &	TC	30	50	50	50	>320	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	Canal Street	FC	<10	20	30	<10	20	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		ENT	20	72	52	10	86	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

Orange County
Comparative Street Sweeping Analysis

Jurisdiction	Service Provider			Water Usage		Street Sweeping Annual Expense	Curb Mile Rate	Sweeping Frequency		Billing Frequency	Curb Miles		Funding Source	Contact		Comments
	City?	Contractor?	Contractor Name	Yes	No			Residential	Arterial		General	Arterial		Name	Phone #	
ounty of Orange		X	Sunset Property Services		X	$ 328,912.16	$ 34.62	Bi-Weekly	Bi-Weekly	N/A	396	62.14	RDF	John Dean	(714) 955-0241	john.dean@ocpw.ocgov.com
ity of Aliso Viejo		X	R.F. Dickson		X	$ 73,000.00	$ 16.94	Bi-Weekly	Weekly	Monthly	180		GF	Shaun Pelletier	(949) 425-2533	spelletier@cityofalisoviejo.com
ity of Anaheim	X				X	$ 1,700,000.00	N/A	Weekly	Bi-Weekly	Monthly	1266		SF	Randy Buckley	(714) 765-6823	rbuckley@anaheim.net
ity of Brea	X				X	$ 152,901.00	$ 10.01	Weekly		Bi-Monthly	184		GF	Jerry Mestas	(714) 990-7629	jeeeryme@cityofbrea.net
ity of Buena Park		X	Clean Streets		X	$ 519,000.00	$ 26.00	Weekly	Weeekly	Monthly	N/A		RF	Rick Anderson	(310) 740-1601	dbrodowski@buenapark.com
ity of Costa Mesa	X				X	$ 566,507.00	$ 12.00	Weekly		Monthly	425		GF	Bruce Lindemann	(714) 327-7470	bruce.lindemann@costamesaca.gov
ity of Cypress	X				X	$ 143,200.00	$ 28.08	Weekly	Weekly	Monthly	425		GF	Art Erbes	(714) 300-9978	aerbes@ci.cypress.ca.us
ity of Dana Point		X	Clean Streets		X	$ 249,630.00	$ 25.78	Weekly	Weekly	N/A	171		GF	Jennifer Anderson	(949) 248-3571	janderson@danapoint.org
ity of Fountain Valley		X	Rainbow Disposal		X	$ 295,620.00	$ 22.99	Bi-Weekly	Weekly	Monthly	280	120	GF	Gil Lopez	(714) 593-4612	gil.lopez@fountainvalley.org
ity of Fullerton	X			X		$ 850,350.00	$ 23.49	Weekly	Weekly	Bi-Monthly	276		SF	Tim Campbell	(714) 738-5337	timc@ci.fullerton.ca.us
ity of Garden Grove		X	Clean Streets		X	$ 600,000.00	$ 33.80	Bi-Weekly	Monthly	N/A	305		GF	Mark Ladney	(714) 741-5382	markla@garden-grove.org
ity of Huntington Beach		X	Nationwide		X	$ 790,000.00	$ 26.28	Bi-Weekly	Bi-Weekly	Monthly	577		GF	Brent Mirth	(714) 375-5046	bmirth@surfcity-hb.org
ity of Irvine		X	Clean Streets		X	$ 324,000.00	$ 24.00	Bi-Weekly		N/A	1865		GF	Ralph Vargas	(949) 724-7616	rvargas@ci.irvine.ca.us
ity of La Habra		X	Nationwide		X	$ 276,255.00	$ 17.65	Weekly	Weekly	N/A	301		RF	Jeff Henderson	(562) 905-9792	jeffh@lahabracity.com
ity of La Palma		X	Nationwide		X	N/A	N/A	Weekly	Weekly	HAULER	37		RF	Chet C.	(714) 690-3337	chetc@cityoflapalma.org
ity of Laguna Beach	X				X	$ 166,266.00	$ 23.25	Weekly	Daily	N/A	300		GF	Ken Fisher	(949) 497-0334	kfischer@laugnabeachcity.net
ity of Laguna Hills		X	Sunset Property Services		X	$ 120,000.00	$ 17.99	Bi-Weekly	Weekly	Monthly	204		GF	Vince Cardona	(949) 707-2650	vcardona@ci.laguna-hills.ca.us
ity of Laguna Niguel		X	R.F. Dickson		X	$ 189,000.00	$ 19.01	Bi-Weekly	Bi-Weekly	Monthly	340		GF	Dave Rogers	(949) 362-4377	drogers@cityoflagunaniguel.org
ity of Laguna Woods		X	County of Orange		X	$ 27,000.00	N/A	N/A	Weeekly	Monthly	N/A	14	MM, GT	Doug Reilly	(949) 639-0561	dreilly@lagunawoodscity.org
ity of Lake Forest		X	Athens Services		X	$ 219,000.00	$ 15.77	Weekly	Weekly	Monthly	257	144	GF	Angel Fuetes	(949) 461-3490	lestevez@lakeforestca.gov
ity of Los Alamitos		X	R.F. Dickson		X	N/A	N/A			Bi-Monthly	63		RF	Tony Brandyberry	(562) 431-3538 x 105	tbrandyberry@cityoflosalamitos.org
ity of Mission Viejo			Athens Services		X		$ 15.52	Bi-Weekly	Weekly	Monthly	354		GF	Bruce Trexler	(949) 470-3064	btrexler@cityofmissionviejo.org
ity of Newport Beach		X	Athens Services		X	$ 432,558.00	$ 16.00	Weekly	Weekly	Monthly	520	140	GF	Tom Miller	(949) 718-3481	tmiller@newportbeachca.gov
ity of Orange	X			X		$ 850,000.00	N/A	Weekly	Weekly	Bi-Monthly	630		WB	Michael Wolfe	(714) 532-6487	mwolfe@cityoforange.org
ity of Placentia		X	Athens Services		X	$ 166,530.00	$ 22.75	Bi-Monthly	Bi-Monthly	Monthly	200	125	GF, SF	Michael McConaha	(714) 993-8120	mmcconha@placentia.org
ity of Rancho Santa Margarita		X	Sunset Property Services		X	$ 376,805.00	$ 16.48	Bi-Weekly	Weekly	Monthly	229	211	GF	Carole Langford	(949) 635-1800 x 6501	clangford@cityofrsm.org
ity of San Clemente		X	Canon Pacific		X	$ 579,700.00	$ 18.59	Bi-Monthly	Wweekly	Monthly	413		CO	Jim Waters	(949) 361-8317	jimw@san-clemente.org
ity of San Juan Capistrano		X	Canon Pacific		X	$ 142,596.00	$ 17.30	Bi-Monthly	Weekly	Bi-Monthly	1648		GF	Jill Thomas	(949) 443-6362	jthomas@sanjuancapistrano.org
ity of Santa Ana		X	Athens Services		X	$ 810,000.00	$ 15.00	Weekly	Weekly	Monthly	1024	214	SF	Pedro Guillen	(714) 647-3303	pguillen@sant-ana.org
ity of Seal Beach		X	R.F. Dickson		X	$ 49,629.00	$ 14.75			Bi-Monthly	519			Ernest Area	(562) 431-2527 x1318	earea@sealbeachca.gov
ity of Stanton		X	Nationwide		X	$ 157,272.00	N/A			Monthly	55		GT	Quang Le	(714) 890-4204	qle@ci.stanton.ca.us
ity of Tustin	X				X	$ 313,056.00	$ 15.19	Weekly	Weekly	N/A	106		GF	Jason Churchill	(714) 573-3355	jchurchill@tustinca.org
ity of Villa Park		X	Athens Services		X	N/A	$ 9.61	B-Weekly	Bi-Weekly	HAULER	70		HAULER	Bryan Smoot	(714) 998-1500	rsmoot@villapark.org
ity of Westminster	X				X	$ 350,000.00	$ 24.75	Bi-Monthly	Bi-Weekly/Weekly	Monthly	154	68	GT, GF, MM	Pete Quinn	(714) 548-3691	pquinn@westminster.ca.gov
ity of Yorba Linda		X	R.F. Dickson		X	$ 210,000.00	$ 15.82	B-Weekly	Weekly	Monthly	239		GF	Armando Jaime	(714) 961-7170	ajaime@yorba-linda.org
1/23/2013 14:01											13,617					

CODE:

GF- General Fund
MM - Measure M
RDF- Road Fund
GT - Gas Tax
SF - Sanitation Fund
HAULER-Solid Waste Collector
WB - Water Bill

Ocean Acidification:
Causes and Implications of Changing Ocean Chemistry

Karen McLaughlin
Southern California Coastal Water Research Project
February 13, 2014

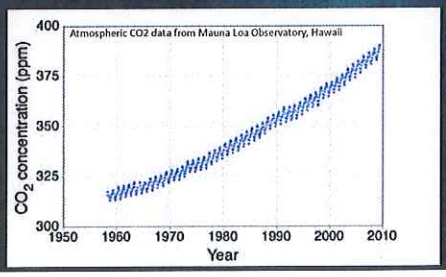
Today's Talk (In Two Acts…)

- What is ocean acidification and why should we care?
- What efforts are underway to address the issue?

What is Ocean Acidification and Why Should We Care About it?

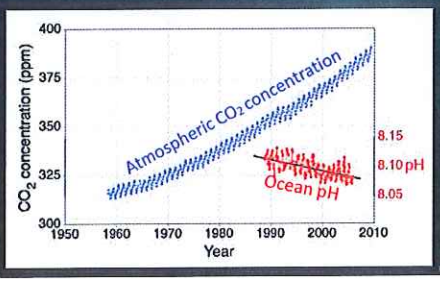
The CO_2 Story You've Already Heard…

Atmospheric CO_2 concentrations are rising

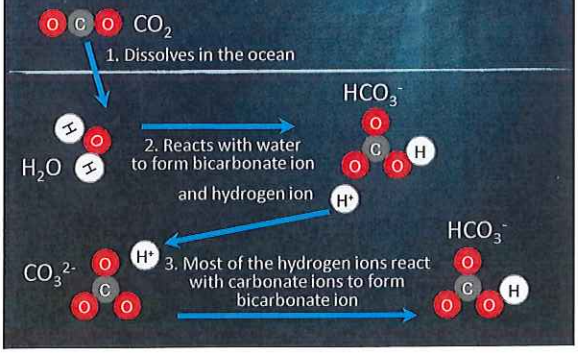


Ocean Acidification: The Other CO_2 Story

Ocean pH decreases when CO_2 dissolves in seawater

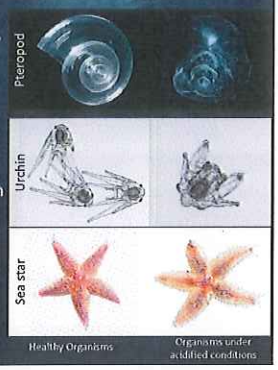


Effect of Adding CO_2 to Seawater



Problem for Shell-Formation

- pH is the measure people know....
- But changes in carbonate chemistry are the real concern
  - Affects shell-forming organisms
- Scientists use aragonite saturation state to quantify this:
  - $\Omega > 1$: Shells form
  - $\Omega < 1$: Difficult to form shells



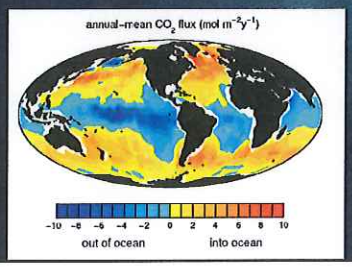
photos: David Liittschwager/National Geographic Society

Ocean Acidification is Occurring Rapidly

- Approximately 25% of the CO_2 generated by human activities since the mid-1700s has been absorbed by the oceans
- Ocean acidity has increased 30% since the start of the industrial age.
  - Ocean acidity is projected to increase 100-150% percent by 2100.
- Current rate of acidification is nearly 10x faster than any period over the past 50 million years.
  - Organisms may not be able to adapt to rapidly changing conditions

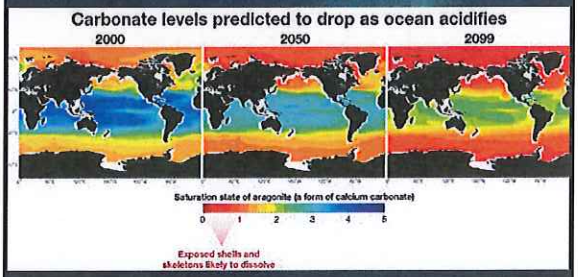
This is Mostly A Deep Ocean Problem

- CO_2 dissolves most readily in cold waters (high latitudes)
- Cold water sinks, moving CO_2 to depth



Takahashi et al (2002)

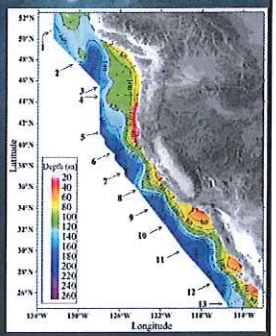
The Problem is Going to Get Worse



Feely et al. (2009)

The West Coast Is Particularly Vulnerable

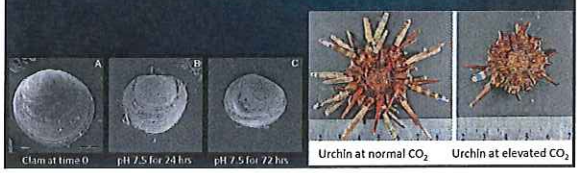
- Our winds stimulate upwelling
  - Brings deep ocean CO_2 waters to the surface
- We have a narrow continental shelf
  - Upwelling occurs close to shore
- Corrosive water already being seen in shallow water close to shore



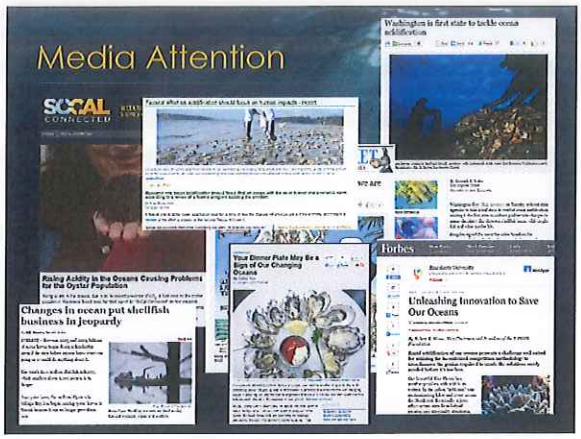
Feely et al. (2008)

Shellfish Industry is Threatened

- Decrease in aragonite saturation affects shell formation
  - Larval forms are most vulnerable
- Four hatcheries provide >90% of farmed seed and three have suffered acidification-related failures
  - Ability to produce oyster seed is presently throttling the industry



Media Attention



Potential Effects Are Ecosystem Wide

- Changes ocean food webs
- Changes how organisms take in nutrients and metals
- Higher Cost of Living
  - High CO_2 causes physical stress in fish and invertebrates
  - Affects behavior and response
- Loss of habitat
- Some evidence of increased toxin production in HAB species

Clownfish predatory avoidance is diminished under elevated CO_2

Coral Reefs

- Coral reefs are sensitive to both warming and acidification
  - High water temperatures cause coral "bleaching"
  - Acidification makes it harder to build their skeletons
  - Warming and acidification are a one-two punch
- At current CO_2 levels, 60% of coral reefs are in waters with suboptimal aragonite saturation state
  - Could increase to >90% in the next 50 years

Coral dissolves in high CO_2 water near a volcanic carbon seep

Photo: Lesser Fallance

What's Being Done About Ocean Acidification?

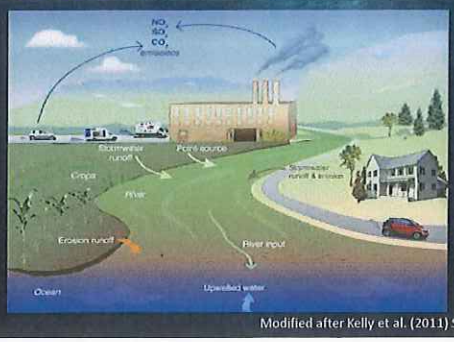
How Can We Change the Course of Ocean Acidification?

- The ONLY way to change the course ocean acidification is to eliminate excess atmospheric CO_2
  - Global regulation of atmospheric carbon emissions
  - Geologic sequestration of atmospheric CO_2
- Federal, Regional, State, and Local actions to understand the problem and manage response
- Local actions could potentially delay the problem in some regions
  - Potentially allowing time for ecosystems to adapt

Federal Actions

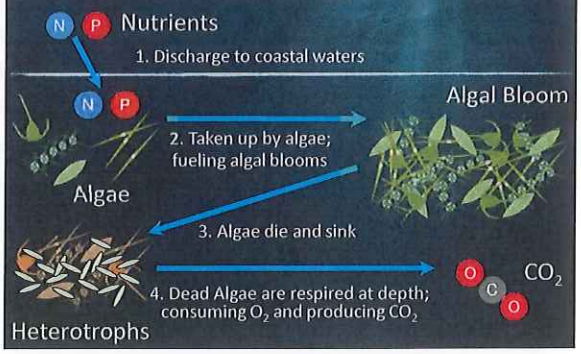
- May 2007: Supreme Court Ruled the EPA can regulate green house gasses as pollutants under the Clean Air Act (CAA)
- January 2011: EPA began regulating greenhouse gases under the CAA from mobile and stationary sources of air pollution.
- May 2009: EPA was sued for failing to address ocean acidification under the Clean Water Act (CWA)
- Nov 2010: EPA issued a memorandum on how states should address OA under the CWA
  - States should list waters not meeting pH water quality standards on their 2012 303(d) lists
  - BUT... Hard to consider listings because we don't have the data to define reference condition

What Can Be Managed At the Local Level?



Modified after Kelly et al. (2011) *Science*

Primary Focus on Managing Nutrients



Understanding the Issue…

- California Current Acidification Network (2010)
  - Develop a coordinated OA measurement system for the West Coast
- Washington State's Blue Ribbon Panel (2012)
  - Issued a series of recommendations for local measures to protect marine resources
- Ocean Acidification and Hypoxia Modeling Group (2013)
  - Develop models to understand drivers of OA and forecast ocean changes
- The West Coast Ocean Acidification and Hypoxia Science Panel (2013)
  - Framing the issue for West Coast decision-makers

California Ocean Plan

- Ocean Plan sets water quality criteria for ocean waters:
  - "pH shall not be changed at any time more than 0.2 units from that which occurs naturally"
  - "Nutrient materials shall not cause objectionable aquatic growths or degrade indigenous biota"
- The State of California is currently reviewing this criteria to make better assessments of changing ocean acidity
- Scientists are working with coastal dischargers and management to determine if runoff and wastewater is contributing to acidification

Summary

- Ocean Acidification is a well documented effect of increasing atmospheric CO_2 concentrations
- Ocean acidification is occurring at a rate that is unprecedented in Earth's history
- Ocean acidification is likely to change the structure and function of ocean ecosystems
- Ocean acidification is one more stress on marine environments that may endanger economies of coastal communities
- Efforts are being undertaken at local scales to address the issue; but acidification will continue until global CO_2 emissions are limited

Questions?

Resources:

NOAA Pacific Marine Environmental Laboratory
http://www.pmel.noaa.gov/co2/story/Ocean+Acidification

National Geographic Society
http://ocean.nationalgeographic.com/ocean/critical-issues-ocean-acidification/

National Resources Defense Council- Acid Test Movie:
http://www.nrdc.org/oceans/acidification/

Karen McLaughlin
karenm@sccwrp.org

Water Quality / Coastal Tidelands Committee
February 13th, 2014

Orange County Transportation Authority (OCTA)
Environmental Allocation Cleanup Program

Presented by: John Kappeler
Public Works

Program Fact Sheet

Tier 1 Equipment purchases and upgrades to existing catch basins and related BMPs such as screens, filters, inserts and other street scale low-flow diversion projects

Tier 2 Constructed wetlands, detention/infiltration basins and bioswales, which mitigate pollutants including litter and debris, but also heavy metals, organic chemicals, sediment and nutrients

Fast Facts

- OCTA Measure M – half cent sales tax for transportation approved by voters in 2006
- $300M to improve overall water quality in OC from transportation generated pollution
- Grant Program – countywide competitive basis

Tier 1 Program

- $20M available over a seven year period
- $200k per grant application (5 applications annually)
- $500k per agency
- 20-25% matching funds

Eligible Projects

Catch Basin Screens & Filters

CDS units

Marina Trash Skimmers

Tier 1 Projects - Completed

2 CDS Units Newport Blvd Watershed

Tier 1 Projects - Completed

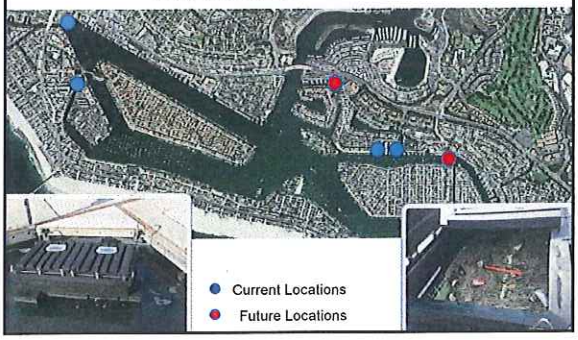
Clogged storedrain - first flush

Manual debris removal

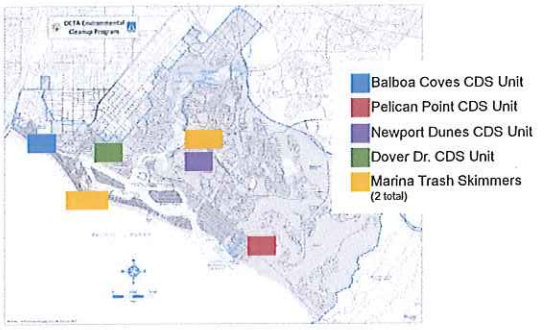
After trash removal

Tier 1 Projects – Completed

Marina Trash Skimmers



Tier 1 Projects - Current

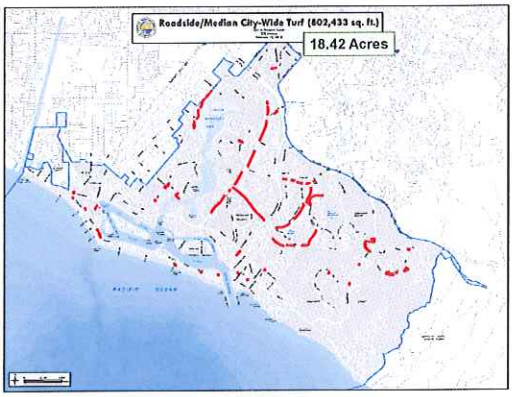


Tier 1 Projects - Future

- $2.8M available this year
- $200k per grant application (5 applications annually)
- $500k per agency
- 20-25% matching funds

Tier 1 Projects - Future

- Irrigation retrofits – street medians
- Additional marina trash skimmers



The "Numbers"

- Median turf replacement - $5-6 sq ft
- 30 gallons of water per sq ft of turf per year
- 802,433 sq. ft. * 30 = 24,000,000 gal. per year

- 24 million gallons = 36 Olympic Pools

Median Designs

Superior Ave Medians

Superior Ave Medians

Potential Projects – Jamboree

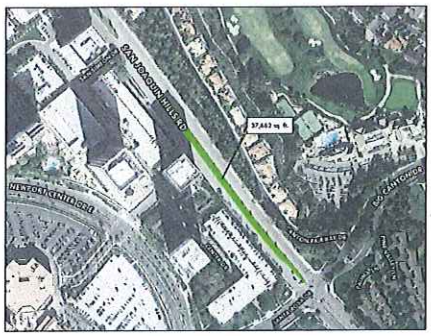
125,000 sq ft of turf **2.87 Acres**

Potential Projects – Irvine Ave

44,000 sq ft of turf **1 Acre**

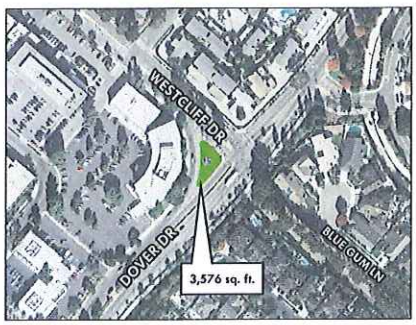
Potential Projects – San Joaquin

118,000 sq ft of turf **2.70 Acres**



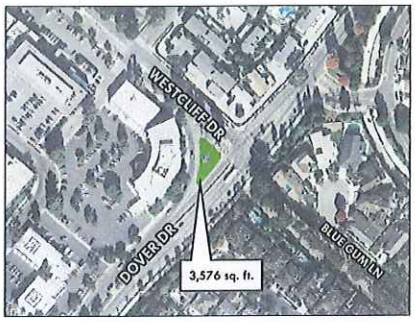
Potential Projects – Dover Ave

3,500 sq ft of turf



Potential Projects – Dover Ave

3,576 sq ft of turf



Questions?