

Item 4, Attachment 1: Pulse Outline

Pulse Outline for 2013

Pulse of the Bay

Theme: Contaminants of Emerging Concern

Title Page: page 1

Overview: pages 2-4

Table of Contents: page 5

Management Update Title: pages 6-7

Article: CEC Management - pages 8-25xx? Authors: Fono, Mumley, Feger, Raphael, North, Moran, Sedlak - Water Board Strategies (R2 policy, State Strategy), Green Chemistry, etc.

- Management Update Sidebars
 - Blue Ribbon Panel - ½ page
 - Sources and Pathways of CECs - illustration (2 pages)
 - [Cradle to Cradle - Klosterhaus](#)
 - [REACH - David](#)
 - The 303(d) List: Page 26
 - Regulatory Status of Pollutants of Concern: Page 27

Formatted: Bullets and Numbering

Status and Trends Update Title: pages 28-29

Latest Monitoring Results: pages 30-xx

- **Nutrients: 2-4 pages**
 - Need to identify appropriate material - check with Dave
 - Bill Dennison data?: Chesapeake, Australia - Mike C 3/29/12
<http://www.sciencedirect.com/science/article/pii/S0025326X08005304>
 - Microcystin in the Bay - Kudela SPATT data
- **Mercury: 4 pages** MeHg in water, MeHg in sediment, Hg in sediment, coastal fish, rail feathers?
- **PCBs: 2 pages** Sum of PCBs in sediment, PCBs in small fish
- **PAHs: 4 pages** Sum of PAHs in sediment, PAHs in bivalves after Cosco-Busan, Incardona RMP work, Pacific herring?
- **PBDEs: 2 pages** BDE 47 in water, BDE 47 in sediment, BDE 209 in sediment

• **Selenium: 1 page** Selenium in water

Water Quality Trends at a Glance: pages xx-xx

- **Toxics and Bacteria: 1 page**
- **Chlorophyll and Dissolved Oxygen: 1 page**
- **Nutrients and Sediments: 1 page**
- **Flows and Loads: 1 page**
- **Human Presence: 1 page**

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- Climate and Habitat: 1 page
- Populations: 1 page
- Graph Details: 1 page

Feature Articles Title: pages 47-48

Article: CEC Monitoring in the RMP - pages 49-52 Authors: Davis, Sedlak, et al. - ECWG (including sidebar on science advisors), CEC Strategy, CEC synthesis, CEC studies - repeat of tier diagram

Article: Guide to CECs in San Francisco Bay - pages 53-xx

- Introduction: pages 53-54 - Davis
 - PFOS: 4 pages - Sedlak
 - ~~Nonylphenol~~Alkylphenols: 2-4 pages - Werme
 - PBDEs: 4 pages - Sutton
 - Alternative Flame Retardants: 4 pages - ~~Sutton~~Werme
 - Pharmaceuticals and Personal Care Products: 4 pages - Werme
 - Triclosan: 4 pages - Davis
 - Pyrethroids: 4 pages - Moran
 - ~~Fipronil: 4 pages - Moran~~
 - Other Current Use Pesticides: 4 pages - Moran
 - Nanoparticles: 1 page ~~Werme~~Williams
 - Chlorinated Paraffins: 1 page - Sedlak
 - Brominated Dioxins: 1 page - Yee
 - On the Lookout for New CECs: 1 page - Sedlak
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- Science Update Sidebars (these writeups can come after March 28)
 - NMW California CEC Study: 2 pages - Davis
 - Pro Bono Bivalve Study: 1 page - Davis
 - Broadscan Screening: 2 pages - Sutton
 - Bioanalytical Tools: 1 page - Sedlak

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Latest Monitoring Results: Other Ideas

- Mercury
 - Schwarzbach - mercury in rail feathers
 - SWAMP Coast Survey
 - Weiss - methylmercury in fog - <http://news.sciencemag.org/sciencenow/2012/03/beware-the-fog.html?ref=hp>
- Loadings - summarize latest estimates (spreadsheet model for tribes, etc.) - compare to previous estimates and TMDL allocations
- Sediment
 - Sand grain movement, Grain size - Barnard et al 2012 map and figures (grain size in Pulse folder)

Trends at a Glance - Possible Additions

- Dredging graphs: check LTMS 2012 program review background info; Sandra scoggin 3/26
- Pacific decadal oscillation?
- El Nino?
- Clapper rails
- Clam predators
- Clams
- Shellenbarger and Schoellhamer 2011? Salinity and temperature
- Pacific herring
- English sole
- Salmon
- Populations of Traditional v. Exotic species
- Water export rates from the Delta
- Net depositional/ erosional by smallest size feasible
- Acreage of marshland/ wetlands - correlation with nutrients?
- Clapper rails and predators
- HABs
- Trash impacts and loadings
- People population
- Musk, perfumes, deodorant effects on aquatic life
- Impacts of Water Diversion Project
- Population
- Wetland acres total
- Land cover/ land use
- Impervious acres
- \$ spent vs. % improvement
- More information broken out by bay segment, eg. NH3, phytoplankton biomass and speciation

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- Why start all y-axes at 0?
- N. and S. Bay multi-station rainfall + flow (daily) index
- Benthos prey/ benthos abundances over time eg. RMP sediment triad data
- We need to monitor the far field response of the South Bay to salt pond restoration. We can expect greater tidal prism and erosion of channels to accommodate circulation. What will that mean to DO, chlorophyll, etc?
- Results of wetland management, development, and MeHg production

Miscellany

- Porpoises <http://science.kqed.org/quest/audio/porpoises-return-to-san-francisco-bay/>
- Hypsographs of the Bay - Mike Connor suggestion Meg 5/8/12

SCHEDULE

STEP	DUE DATE	Time Allotted (weeks)
First Draft of Articles to Jay	Mar 28	
Jay comments to authors	Apr 4	1
Revised Draft Out for Review to TRC, SC, etc.	Apr 18	2
Review Comments Due	May 9	3
Text and Graphics to Linda for Layout	May 23	2
Prepare Laid-out Version for Internal Review (+ select individuals)	Jun 20	5
Internal Review Comments Due	Jun 27	1
Final Review of Laid-Out Version by TRC and SC	Jul 5	1
TRC and SC comments due	Jul 12	1
Sent to Printer	Aug 9	4
Printing - Pulses in Hand	Aug 30	3
Annual Meeting	Oct xx?	