

GENERAL INFORMATION

SMR Nutrient Management Initiative TAC Meeting

January 19, 2017

8:30- 10:30 am



CONTEXT FOR TODAY'S MEETING

- Prop 84 Phase II grant monies support monitoring and modeling work to establish nutrient targets in the Lower SMR River
- State Water Board is supporting science that can provide an alternative approach to existing N and P objectives
 - Policy development has taken a slightly different direction from when I last updated you
- We need to recommend to stakeholder workgroup the technical approach to modeling and numeric target development
-

MEETING GOALS

- Discussion of overarching flow chart of decision-making
- Discussion of modeling options and how they are linked to numeric targets
- Next steps and wrap up

RECAP OF KEY SLIDES FROM PREVIOUS MEETING
RE: UPDATE FROM STATE NNE SCIENCE

CANDIDATE EUTROPHICATION RESPONSE INDICATORS, BY PATHWAY

Routinely Monitored

- *Altered Aquatic Diversity, Food Webs*
 - CSCI, ASCI
- *Organic Matter accumulation*
 - ✓ benthic algal chlorophyll a ,
 - ✓ benthic ash-free dry mass (AFDM)
 - ✓ algal & macrophyte percent cover

Not Routinely Sampled

- *Altered Water Quality*
 - ✓ dissolved oxygen/pH
 - algal toxins
 - turbidity
 - trihalomethanes
- ✓ DENOTES CAUSAL FOR
BIOSTIMULATORY CONDITIONS=
CANDIDATE INTERMEDIATE
RESPONSE INDICATORS

BENTHIC INVERTEBRATE AND ALGAL ATTRIBUTES CAN PROVIDE “EUTROPHICATION” METRICS FOR RAPID CAUSAL ASSESSMENT

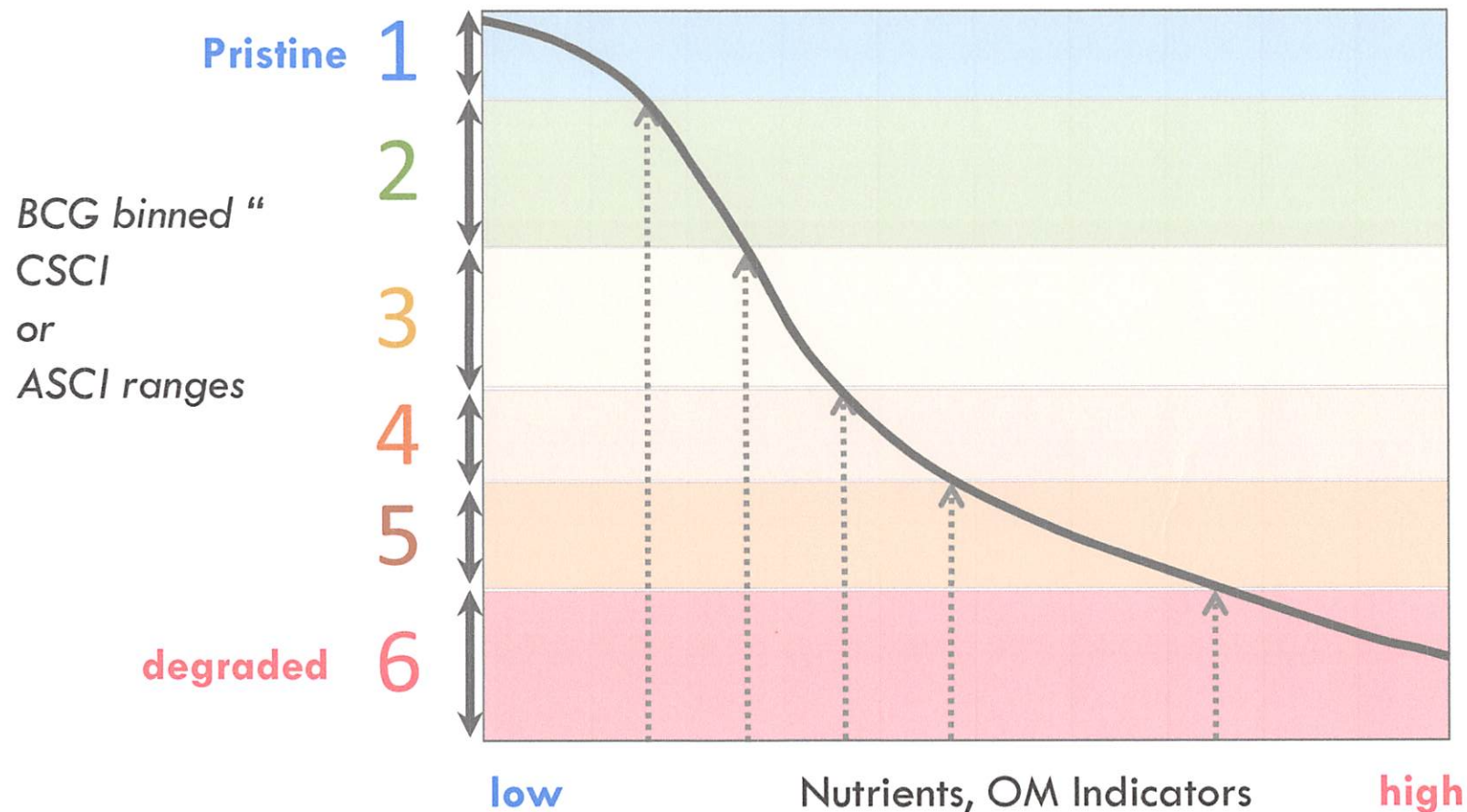
“Functional Traits” Indicative Pathways of Impairment, for Example..

- Organic matter enrichment
- DO and pH tolerance
- Toxicity or tolerance for nutrient species (Nitrate, phosphate)

Long-term goals is to build this into a “dashboard” of output from bioassessment results (rapid causal assessment)

But for eutrophication synthesis, this will be a curated list

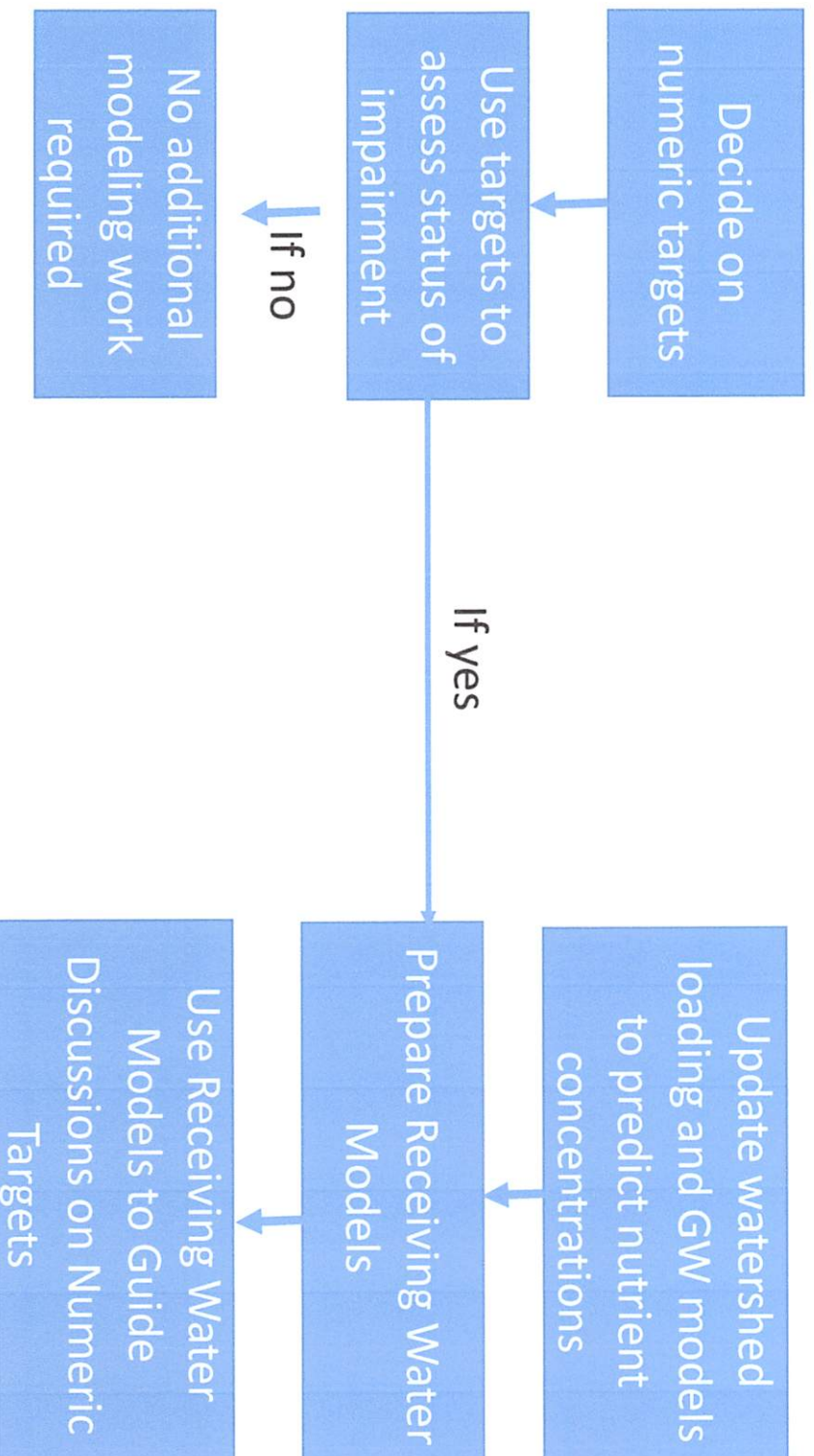
USE STATISTICAL MODELS TO MAP BCG BINNED INDICES TO NUTRIENTS AND INTERMEDIATE RESPONSE INDICATORS



MAJOR OPTIONS FOR ESTABLISHMENT OF NUMERIC TARGETS IN MAIN STEM RIVER

- Existing San Diego RB Basin Plan Bostimulatory Objectives
- Default ranges of benthic chla, AFDM, TN and TP associated with BCG-binned ranges of CSCI and ASCI
- Benthic chla, AFDM, TN and TP associated with meeting dissolved oxygen objectives

PRELIMINARY DECISION FRAMEWORK



MODEL OPTIONS (FROM TAC DISCUSSION 2 YEARS AGO)

Two types of Models Needed Conceptual model

- Watershed (and groundwater) loading
- Receiving water model

WATERSHED AND GROUNDWATER LOADING

- Update HSPF with new monitoring data and CP MODFLOW Simulations
- Demonstrate calibration by predicting concentrations at Lower River sites

RECEIVING WATER MODELING OPTIONS

- No receiving water modeling (just use watershed loading model to establish TN and TP concentrations that relate to appropriate BCG bin)
- Modified HSFP model to do a simple prediction of algal biomass, DO and pH
- Steady state QUAL2K W
- WASP (only in perennial sites)

OTHER ISSUES

- Consider revising science supporting DO objectives?

NEXT STEPS

- Update decision flow chart to show key decision points on impairment and modeling in July –August 2017; review with TAC at February 2017 meeting
- Cost out options for Lower and Upper River based on today's discussion; TAC needs to see at-a-glance comparison of receiving water models and costs for lower and upper river (broken into County of SD and Riverside costs)
- Discuss pros and cons of each option at upcoming full day TAC meeting and decide on consensus TAC recommendation

QUESTIONS? COMMENTS?

marthas@sc cw rp.org

**SMR Watershed Nutrient Management Initiative
Technical Advisory Committee Meeting
February 8, 2017, 10 am –2:30 pm Pacific Time
SCCWRP Offices, 3535 Harbor Blvd, Suite 110 Costa Mesa CA 92626
(Teleconferencing Info Below)**

Meeting Goal(s):

- 1) Agree on flow chart to show key decision points on ambient condition assessment (re: impairment) and modeling to support decisions on nutrient targets for Lower River.
- 2) Discuss status and findings of updated Camp Pendleton MODFLOW groundwater calibration
- 3) Evaluate and recommend a suite of watershed loading model and/or suite of receiving water models to support development of nutrient targets in Lower and SMR main stem

Agenda:

- 10 -10:30 am Introductions, goals & agenda, recap of previous meetings, updates (SCCWRP, all)
- 10:30-noon Status and findings of updated MODFLOW groundwater model calibration (Stetson)
- noon-12:30 pm Lunch Break (Catered sandwiches -Togos \$10)
- 12:30-1:45 pm Discussion of watershed loading model update and options for receiving water models to support development of nutrient targets in Lower and Upper River main stem
- Planned updates to watershed loading model (Tetra Tech)
 - Options for receiving water models and costs associated with each (Tetra Tech)
 - Discussion and TAC consensus on recommendation (SCCWRP)
- 1:45- 2:15 pm Consensus on flow chart to show key decisions points on ambient condition assessment and modeling to support decisions on nutrient targets for the Lower River
- 2:15-2:30 pm Wrap up and next steps

Teleconferencing Info

9:45 am | Pacific Standard Time (San Francisco, GMT-08:00) | 6 hrs

Meeting number (access code): 629 258 554

Meeting password: River

[Add to Calendar](#)

When it's time, [join the meeting](#).

Join by phone

1-650-479-3208 Call-in toll number (US/Canada)

Subject **Agenda and teleconferencing information for February 8th in-person TAC meeting at SCCWRP**

From Martha Sutula <marthas@sccwrp.org>

To David Ceppos <dceppos@ccp.csus.edu>, casey@sdfarmbureau.org <casey@sdfarmbureau.org>, Warren Back <backw@ranchowater.com>, mbennett@cityofwildomar.org <mbennett@cityofwildomar.org>, Jack Beebe <jackb@fpud.com>, Clint Boschen <clint.boschen@tetrattech.com>, sebruckner@rcflood.org <sebruckner@rcflood.org>, Brian Baharie <environmentaldirector@cahuilla.net>, Jon Butcher <Jon.Butcher@tetrattech.com>, Roxy Jesselyn <roxyjesselyn@gmail.com>, Kyle Cook <kyle.r.cook@usmc.mil>, rose.corona@emarcd.org <rose.corona@emarcd.org>, rosecorona@bighorsefeed.com <rosecorona@bighorsefeed.com>, Ashli Desai Cooper <ashlid@lwa.com>, Wesley Danskin <wdanskin@usgs.gov>, wdanskin@gmail.com <wdanskin@gmail.com>, Gallup Kyle <KWGallup@rcflood.org>, Richard Gardener <capopalm@hotmail.com>, Cynthia Gorham <cgorham@waterboards.ca.gov>, Richard Halsey <rwh@californiachaparral.org>, David Harvey <dharvey@rcac.org>, HelenRain Waquiui <hwaquiui@pechanga-nsn.gov>, Eddie Hernandez <ehernandez@pechanga-nsn.gov>, bigdaddyblue13@aol.com <bigdaddyblue13@aol.com>, Steve Horn <shorn@rceo.org>, sjacobson@caltrout.org <sjacobson@caltrout.org>, Nicolette Jonkhoff <njonkhoff@ramona-nsn.gov>, Jayne Joy <joyj@emwd.org>, Jeremy Jungreis <jjungreis@rutan.com>, Chuck Katz <chuck.katz@navy.mil>, Khalique Khan <khalique.khan@usmc.mil>, Eric Klein <eric.klein@sdcounty.ca.gov>, landon@usgs.gov <landon@usgs.gov>, Eric Larson <eric@sdfarmbureau.org>, Leslie Laudon <LLaudon@waterboards.ca.gov>, Aldo Licitra <aldo.licitra@cityoftemecula.org>, Cindy Lin <lin.cindy@epa.gov>, ymacalalad@cityofmenifee.us <ymacalalad@cityofmenifee.us>, Vicki Lory <vickiglong@aol.com>, Fakhri Manghi <fmanghi@wmwd.com>, Jeff Marchand <jeff@fpud.com>, Stuart McKibbins <SMCKIBBI@rcflood.org>, dmilner@rainbowmwd.com <dmilner@rainbowmwd.com>, Judith Mitchell <judy@missionrcd.org>, ottolinir@ranchowater.com <ottolinir@ranchowater.com>, J. Ozouf <jozouf@murrieta.org>, Pam Nelson <pamela05n@yahoo.com>, Steve Pastor <pastor@riversidecfb.com>, plajzere@ranchowater.com <plajzere@ranchowater.com>, Peggy Evans <peggy@temeculawines.org>, hpotter@mbakerintl.com <hpotter@mbakerintl.com>, Beth Principe <beth@missionrcd.org>, bpulver@waterboards.ca.gov <bpulver@waterboards.ca.gov>, Matt Rahn <mrahn@sciences.sdsu.edu>, Michael Rouse <michael.rouse@usmc.mil>, Brian Baharie <environmentaldirector@cahuilla.net>, Sarabia Hiram <hiram.sarabia@Waterboards.ca.gov>, Greg Seaman <gregory.g.seaman1@usmc.mil>, Ashmita Sengupta <ashmitas@sccwrp.org>, John Simpson <john.o.simpson@usmc.mil>, Don Smith <dsmith@vid-



h2o.org>, Karla Standridg <karla@missionrcd.org>, Kelsey Stricker <kstricker@pechanga-nsn.gov>, Brittany Struck <brittany.struck@noaa.gov>, GS Land <gsland@cox.net>, Jason Uhley <juhley@rcflood.org>, Scott Thomas <scottt@stetsonengineers.com>, Jo Ann Weber <JoAnn.Weber@sdcounty.ca.gov>, webstera@ranchowater.com <webstera@ranchowater.com>, Michael Welch <mwelch1@san.rr.com>, Allison Witheridge <alison.witheridge@tetrattech.com>, Dennis Williams <dwilliams@geoscience-water.com>, Roya Yazdanifard <roya_yazdanifard@dot.ca.gov>, Dan York <dyork@cityofwildomar.org>, Jim Fitzpatrick <Jim.Fitzpatrick@hdrinc.com>, mwillard@murrieta.k12.ca.us <mwillard@murrieta.k12.ca.us>, Mayra.Estrada@Waterboards.ca.gov <Mayra.Estrada@Waterboards.ca.gov>

Cc David Ceppos <dceppos@ccp.csus.edu>

Date 2017-02-07 12:30

- SMR NMI TAC Meeting Agenda 02082017.doc (64 KB)

Hi folks,

As a reminder, tomorrow Wednesday February 8th is the date of our in-person Technical Advisory Committee (TAC) meeting for the Santa Margarita River Watershed Nutrient Management Initiative, to be held at SCCWRP offices in Costa Mesa from 10 am – 2:30 pm. The goals of this meeting are to:

- 1) Agree on flow chart to show key decision points on ambient condition assessment (re: impairment) and modeling to support decisions on nutrient targets for Lower River(main stem).
- 2) Discuss status and findings of updated Camp Pendleton MODFLOW groundwater calibration for the Lower River.
- 3) Evaluate and recommend a suite of watershed loading model and/or suite of receiving water models to support development of nutrient targets in Lower and SMR main stem.

Attached is the agenda for this meeting.

Below is the teleconferencing information, which can also be found on the agenda. We are planning on catering sandwiches from Togos (\$10).

Please let me know if you have any questions.

Regards,
Martha

SMR NMI TAC

Wednesday, February 8, 2017

9:45 am | Pacific Standard Time (San Francisco, GMT-08:00) | 6 hrs

Meeting number (access code): 629 258 554

Meeting password: River

[Add to Calendar](#)

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Join by phone

1-650-479-3208 Call-in toll number (US/Canada)

Martha Sutula, Ph.D.

Biogeochemistry Department, Southern California Coastal Water Research Project

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From: Martha Sutula

Sent: Thursday, January 19, 2017 3:51 PM

To: 'Ceppos, David M' <dceppos@ccp.csus.edu>; casey@sdfarmbureau.org; Warren Back <backw@ranchowater.com>; mbennett@cityofwildomar.org; Jack Beebe <jackb@fpud.com>; Clint Boschen <clint.boschen@tetrattech.com>; sebruckner@rcflood.org; Brian Baharie <environmentaldirector@cahuilla.net>; Jon Butcher <Jon.Butcher@tetrattech.com>; Roxy Jesselyn <roxyjesselyn@gmail.com>; Kyle Cook <kyle.r.cook@usmc.mil>; rose.corona@emarcd.org; rosecorona@bighorsefeed.com; Ashli Desai Cooper <ashlid@lwa.com>; Wesley Danskin <wdanskin@usgs.gov>; wdanskin@gmail.com; Gallup Kyle <KWGallup@rcflood.org>; Richard Gardener <capopalm@hotmail.com>; Cynthia Gorham <cgorham@waterboards.ca.gov>; Richard Halsey <rwh@californiachaparral.org>; David Harvey <dharvey@rcac.org>; HelenRain Waquiu <hwaquiu@pechanga-nsn.gov>; Eddie Hernandez <ehernandez@pechanga-nsn.gov>; bigdaddyblue13@aol.com; Steve Horn <shorn@rceo.org>; sjacobson@caltrout.org; Nicolette Jonkhoff <njonkhoff@ramona-nsn.gov>; Jayne Joy <joyj@emwd.org>; Jeremy Jungreis <jjungreis@rutan.com>; Chuck Katz <chuck.katz@navy.mil>; Khalique Khan <khalique.khan@usmc.mil>; Eric Klein <eric.klein@sdcounty.ca.gov>; landon@usgs.gov; Eric Larson <eric@sdfarmbureau.org>; Leslie Laudon <LLaudon@waterboards.ca.gov>; Aldo Licitra <aldo.licitra@cityoftemecula.org>; Cindy Lin <lin.cindy@epa.gov>; ymacalalad@cityofmenifee.us; Vicki Lory <vickiglong@aol.com>; Fakhri Manghi <fmanghi@wmwd.com>; Jeff Marchand <jeff@fpud.com>; Stuart McKibbins <SMCKIBBI@rcflood.org>; dmilner@rainbowmwd.com; Judith Mitchell <judy@missionrcd.org>; ottolinir@ranchowater.com; J. Ozouf <jozouf@murrieta.org>; Pam Nelson <pamela05n@yahoo.com>; Steve Pastor <pastor@riversidecfb.com>; plajzere@ranchowater.com; Peggy Evans <peggy@temeculawines.org>;

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Cc: David Ceppos <dceppos@ccp.csus.edu>

Subject: Action items from today's TAC meeting and hold the date for February 8th in-person TAC meeting at SCCWRP

Hi folks,

First, thanks to those who filled out the doodle poll for our next SMR NMI in-person TAC meeting. At this point I would like you to hold February 8th as the date for this meeting.

Second, thanks to those that participated in today's SMR NMI TAC meeting. I thought the discussions, consensus, and action items were productive. Attached is the powerpoint file from the meeting.

With respect to the agenda, the group:

- 1) Reviewed possible indicators and options for evaluating impairment in the Lower River and concluded that we should work to educate ourselves this spring on the details and nuances of each of the options.
- 2) Reviewed the flow chart of decision-making and agreed that the general concept was good; Martha will flesh out with additional TAC ideas and show timelines for important interim decisions points (e.g. July/August 2017, initial data review and assessment of "impairment" and vibe check on status of HSPF model to predict TN and TP + eutrophication outcomes in the Lower River
- 3) Discussed how the HSPF and MODFLOW models would be synced and the timeframe for this (February – June 2017). The group was looking forward to additional details on the HSPF model update that the County of SD is funding for their WQIP work and additional updates that are being scoped to link in MODFLOW output. We will have this discussion at the February TAC meeting.
- 4) The group discussed options for receiving water models. We agreed that a parsimonius approach would be best (not assuming that the most complicated and computationally intense was the best option). We will have a better idea of needs for receiving water models in the July/August 2017 timeframe.

Next steps for the TAC:

- SCCWRP will update decision flow chart to show key decision points on impairment and modeling in July –August 2017; review with TAC at February 2017 meeting
- Tetra Tech will cost out options for Lower and Upper River based on today's discussion; TAC needs to see at-a-glance comparison of receiving water models and costs for lower and upper river (broken into County of SD and Riverside costs)

- Discuss pros and cons of each option at upcoming full day TAC meeting and decide on consensus TAC recommendation
- Stetson will make a presentation of status of groundwater monitoring and revised calibration.
- CP and the County will send SCCWRP any freshwater bio assessment data (with calculated CSCI scores) for the Lower or Upper River mainstem

Let me know if I missed any important points.

Regards,
Martha

Martha Sutula, Ph.D.

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From: Ceppos, David M [<mailto:dceppos@ccp.csus.edu>]

Sent: Wednesday, January 18, 2017 3:03 PM

To: Martha Sutula <marthas@sccwrp.org>; casey@sdfarmbureau.org; Warren Back <backw@ranchowater.com>; mbennett@cityofwildomar.org; Jack Beebe <jackb@fpud.com>; Clint Boschen <clint.boschen@tetrattech.com>; sebruckner@rcflood.org; Brian Baharie <environmentaldirector@cahuilla.net>; Jon Butcher <Jon.Butcher@tetrattech.com>; Roxy Jesselyn <roxyjesselyn@gmail.com>; Kyle Cook <kyle.r.cook@usmc.mil>; rose.corona@emarcd.org; rosecorona@bighorsefeed.com; Ashli Desai Cooper <ashlid@lwa.com>; Wesley Danskin <wdanskin@usgs.gov>; wdanskin@gmail.com; Gallup Kyle <KWGallup@rcflood.org>; Richard Gardener <capopalm@hotmail.com>; Cynthia Gorham <cgorham@waterboards.ca.gov>; Richard Halsey <rwh@californiachaparral.org>; David Harvey <dharvey@rcac.org>; HelenRain Waquiui <hwaquiui@pechanga-nsn.gov>; Eddie Hernandez <ehernandez@pechanga-nsn.gov>; bigdaddyblue13@aol.com; Steve Horn <shorn@rceo.org>; sjacobson@caltrout.org; Nicolette Jonkhoff <njonkhoff@ramona-nsn.gov>; Jayne Joy <joyj@emwd.org>; Jeremy Jungreis <jjungreis@rutan.com>; Chuck Katz <chuck.katz@navy.mil>; Khalique Khan <khalique.khan@usmc.mil>; Eric Klein <eric.klein@sdcounty.ca.gov>; landon@usgs.gov; Eric Larson <eric@sdfarmbureau.org>; Leslie Laudon <LLaudon@waterboards.ca.gov>; Aldo Licitra <aldo.licitra@cityoftemecula.org>; Cindy Lin <lin.cindy@epa.gov>; ymacalalad@cityofmenifee.us; Vicki Lory <vickiglong@aol.com>; Fakhri Manghi <fmanghi@wmwd.com>; Jeff Marchand <jeff@fpud.com>; Stuart McKibbins <SMCKIBBI@rcflood.org>; dmilner@rainbowmwd.com; Judith Mitchell <judy@missionrcd.org>; ottolir@ranchowater.com; J. Ozouf <jozouf@murrieta.org>; Pam Nelson <pamela05n@yahoo.com>; Steve Pastor <pastor@riversidecfb.com>; plajzere@ranchowater.com; Peggy Evans <peggy@temeculawines.org>; hpotter@mbakerintl.com; Beth Principe <beth@missionrcd.org>; bpulver@waterboards.ca.gov; Matt Rahn <mrahn@sciences.sdsu.edu>; Michael Rouse <michael.rouse@usmc.mil>; Brian Baharie <environmentaldirector@cahuilla.net>; Sarabia Hiram <hiram.sarabia@Waterboards.ca.gov>; Greg Seaman <gregory.g.seaman1@usmc.mil>; Ashmita Sengupta <ashmitas@sccwrp.org>; John Simpson <john.o.simpson@usmc.mil>; Don Smith <dsmith@vid-h2o.org>; Karla Standridg <karla@missionrcd.org>; Kelsey Stricker <kstricker@pechanga-nsn.gov>; Brittany Struck <brittany.struck@noaa.gov>; GS Land <gsland@cox.net>; Jason Uhley <juhley@rcflood.org>; Scott Thomas <scottt@stetsonengineers.com>; Jo Ann Weber <JoAnn.Weber@sdcounty.ca.gov>; webstera@ranchowater.com; Michael Welch <mwelch1@san.rr.com>; Allison Witheridge <alison.witheridge@tetrattech.com>; Dennis Williams

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Cc: David Ceppos <dceppos@ccp.csus.edu>

Subject: Re: SMR NMI TAC webinar conference info and agenda -TOMORROW 1/19/2017 8:30-10:30

Good Afternoon.

An additional followup to Martha's emails to ensure clarity and a few additions / deletions on the SMR Stakeholder Distribution List.

There is NOT a full SMR Group meeting tomorrow. This was decided at the last meeting and it was similarly decided to be replaced by the effort Martha is leading (as per her email below). All SMR participants are obviously welcome to participate in the Webinar but this will not be a full Stakeholder Group meeting.

Also, please note that as of this message, we have a few participant changes. Please use this list (above) so the correct folks are receiving / not receiving emails).

- Charles Binder, SMR Watermaster has retired and asked that he be taken off the distribution list. This has been done.
- Similarly, Mayra Molina, formerly of SCCWRP has moved on from her fellowship with SCCWRP and will no longer participate in SMR efforts.
- Conversely, Mayra Estrada is the new student intern for San Diego Water Board and has been added to this distribution. Please include her in any responses or initial message about SMR efforts.

We will follow up in the coming week about a new full SMR Group meeting date.

Thanks all.

Dave Ceppos
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"The family began as--and remains--a survival unit, with parents agreeing to care for the kids, the kids agreeing to carry on the genes and all of them doing what they can to make sure no one gets eaten by wolves." - Jeffery Kluger

From: Martha Sutula <marthas@sccwrp.org>

Sent: Wednesday, January 18, 2017 2:50 PM

To: Ceppos, David M; casey@sdfarmbureau.org; Warren Back; mbennett@cityofwildomar.org; Jack Beebe; Clint Boschen; sebruckner@rcflood.org; Brian Baharie; Jon Butcher; Roxy Jesselyn; Charles Binder; Kyle Cook;

rose.corona@emarcd.org; rosecorona@bighorsefeed.com; Ashli Desai Cooper; Wesley Danskin; wdanskin@gmail.com; Gallup Kyle; Richard Gardener; Cynthia Gorham; Richard Halsey; David Harvey; HelenRain Waqui; Eddie Hernandez; bigdaddyblue13@aol.com; Steve Horn; sjacobson@caltrout.org; Nicolette Jonkhoff; Jayne Joy; Jeremy Jungreis; Chuck Katz; Khalique Khan; Eric Klein; landon@usgs.gov; Eric Larson; Leslie Laudon; Aldo Licitra; Cindy Lin; ymacalalad@cityofmenifee.us; Vicki Lory; Fakhri Manghi; Jeff Marchand; Stuart McKibbins; dmilner@rainbowmwd.com; Judith Mitchell; ottolinir@ranchowater.com; J. Ozouf; Pam Nelson; Steve Pastor; plajzere@ranchowater.com; Peggy Evans; hpotter@mbakerintl.com; Beth Principe; bpulver@waterboards.ca.gov; Matt Rahn; Michael Rouse; Brian Baharie; Sarabia Hiram; Greg Seaman; Ashmita Sengupta; John Simpson; Don Smith; Karla Standrid; Kelsey Stricker; Brittany Struck; GS Land; Jason Uhley; Scott Thomas; Jo Ann Weber; webstera@ranchowater.com; Michael Welch; Allison Witheridge; Dennis Williams; Roya Yazdanifard; Dan York; Jim Fitzpatrick; mwillard@murrieta.k12.ca.us
Cc: Ceppos, David M

Subject: RE: SMR NMI TAC webinar conference info and agenda -TOMORROW 1/19/2017 8:30-10:30

Apologies for the repeat posting, but some of you may have not received this email because of the size of the file attachments.

Please email me if you need the attachments.

Regards,
Martha

Martha Sutula, Ph.D.
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Hi folks,

We will hold a SMR NMI TAC webinar tomorrow from 8:30 – 10: 30 am Pacific time to discuss developing a range of different options for SMR lower river modeling and numeric target development.

If you recall several years back, we discussed a number of options for modeling approaches, depending on the hydro period of the location that we are sampling (perennial versus intermittent) and how intensive we intend to be.

What's changed since is that we now have a significant change in the technical approach supporting the State Water Board biostimulatory policy, steering away from using organic matter abundance as the key indicator towards (though not exclusively) using taxonomic composition and functional traits to identify the rough TN and TP concentrations that support a particular biological condition gradient tier. Attached is the powerpoint presentation from the December 2016 stakeholder meeting that summarizes this shift.

The goal of tomorrow's webinar is to discuss options for modeling and how those models can be translated into numeric targets. This will be a relatively informal webinar, with the emphasis on generating options that can be vetted and costed before an early February in-person TAC meeting to recommend a specific option to the stakeholder workgroup.

- 1) Introductions, goal of webinar and recap of key slides from December 2016 stakeholder meeting re: State Water Board biointegrity and biostimulatory policy development
- 2) Discussion of overarching flow chart of decision-making
- 3) Discussion of modeling options and how they are linked to numeric targets
- 4) Next steps and wrap up.

Please review the slides from the December 2016 stakeholder meeting and the preliminary results of the Lower River monitoring study to prepare for this call.

The WebEx call in information is below.

Regards,
Martha

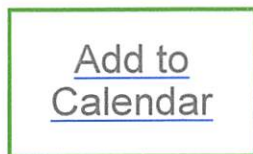
SMR NMI TAC webinar

Thursday, January 19, 2017

8:30 am | Pacific Standard Time (San Francisco, GMT-08:00) | 3 hrs.

Meeting
number
(access
code):
626
045
062

Meeting
password:
Santa
Margarita



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time,
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1-650-479-3208 Call-in toll number (US/Canada)

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From: Martha Sutula

Sent: Tuesday, January 10, 2017 11:42 AM

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Cc: David Ceppos <dceppos@ccp.csus.edu>

Subject: HOLD THE DATE/TIME AND RSVP for TAC webinar January 19th 8:30- 10:30 PST.

Hi SMR NMI TAC,

I would like to schedule a 2-hour SMR TAC webinar on January 19th from 8:30 – 10:30 am pacific time to discuss options for formulate the technical approach for modeling of the Lower River to support discussions on numeric targets, as called for in the grant deliverables.

If you intend to participate in this discussion, please RSVP to let me know whether you are available at this time.

I will confirm the call with an agenda by Friday January 13th (scary!).

Regards,
Martha

Martha Sutula, Ph.D.

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Cc: David Ceppos <dceppos@ccp.csus.edu>

Subject: RE: DRAFT Action Items - December 15 Santa Margarita River Nutrient Initiative Group Meeting--
FOLLOWING UP ON TAC DISCUSSION

Good morning folks,

I hope you had a great break and I wish you all a happy New Year.

I am writing this email to follow up with some thoughts regarding the action item, noted in Dave Ceppos' action items, to hold a discussion about prioritization of remaining grant funding, targeted towards river monitoring (upper river), modeling and numeric target development (lower River).

To recap the issue, the TAC needs to formulate the technical approach for modeling of the Lower River to support discussions on numeric targets, as called for in the grant deliverables. I think that this is a great topic of discussion and the TAC will identify a range of options and discuss the pros/cons at the upcoming TAC meeting (date still to be determined). One issue that came up however was the thought that if we chose not to complete the second year of sampling in the Upper River, we would have more resources to complete the modeling work and wrap up the discussion of selection of numeric targets for the Lower River.

After the meeting, I had time to review Year 1 data from the Upper River and, although the data are of high quality, I don't think it's advisable to forgo a second year of sampling. The reason for this is two-fold:

- 1) One of the intended uses of these data is to assess whether that particular reach or section of the River is still "impaired," whether we use existing Basin Plan objectives or alternative targets. Your ability to argue that it is NOT impaired would likely need more than one year of data to effectively make that argument.
- 2) Year 1 data in the Upper River captured a number of very interesting trends that it would be important to understand whether this representative of "normal" conditions, or just an outlier of a very dry year. Having a second year of data will be very important to make this assessment.

Given this, here is how I would like to proceed:

- 1) Hold a January 19th TAC webinar in which we discuss options for moving forward; we will select a subset from this discussion.
- 2) Following the call, selected TAC members will cost out options, in order to have this information available at a February TAC meeting (date TDB)
- 3) At the February TAC meeting, we will make a review the options in greater details and associated costs and provide a summary to the steering committee/stakeholder workgroup.

Please let me know if you think this sounds reasonable, or if you have any thoughts or questions.

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Cc: David Ceppos <dceppos@ccp.csus.edu>

Subject: DRAFT Action Items - December 15 Santa Margarita River Nutrient Initiative Group Meeting

Good Morning All,

I hope everyone had a happy and healthy holiday season. Now...back to work.

Attached please find the DRAFT Action Items from the December meeting.

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"The family began as--and remains--a survival unit, with parents agreeing to care for the kids, the kids agreeing to carry on the genes and all of them doing what they can to make sure no one gets eaten by wolves." - Jeffery Kluger



County of San Diego

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February 10, 2017

Hiram Sarabia, M.S.
Environmental Scientist
CA Regional Water Quality Control Board,
San Diego Region
2375 Northside Drive, Suite 100
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Mr. Sarabia:

UPDATED PROPOSAL FOR LOAD ALLOCATIONS AND REDUCTIONS APPROACH AND STAFF REPORT LANGUAGE FOR SANTA MARGARITA RIVER NUTRIENT ALTERNATE TMDL RESOLUTION

In consultation with the County of Riverside Flood Control and Conservation District, Camp Pendleton, San Diego Farm Bureau, and CALTRANS, the County of San Diego (County) provides recommended allocations for the subject nutrient resolution for your review and consideration.

Due to the relatively natural state of the Santa Margarita River watershed, loadings to the Estuary consist of a variety of sources conveyed through both groundwater and surface water. The goal of the alternate Total Maximum Daily Load (TMDL) is to develop management strategies to reduce loadings of nitrogen and phosphorus from controllable sources, which are defined for the purposes of this TMDL as sources covered by waste discharge requirements or National Pollutant Discharge Elimination System (NPDES) permits. Other sources in the watershed are not subject to load reduction goals as they are either naturally occurring (e.g. open space) or necessary to protect other beneficial uses (e.g. Comprehensive Water Rights Management Agreement (CWRMA) flows). Existing provisions in waste discharge requirements and NPDES permits (applicable Orders) have been determined to be sufficient for implementation of management measures for the controllable sources. This section provides a discussion of the load reduction goals to be achieved through these existing requirements.

Proposed load reduction goals for discharges to the Estuary were calculated using the Estuary and watershed loading models for total nitrogen (TN) and total phosphorus (TP). The Estuary model was used to define the percent load reduction and total allowable loads from all sources into the Estuary that are predicted to result in meeting the San Diego Regional Water Quality

Control Board (San Diego Water Board) proposed numeric targets in the Estuary¹. The model application report describes the process for determining the predicted percent load reductions and total allowable loads from all sources to the Estuary. The model analysis demonstrated that load reductions were only required for dry weather discharges, but that dry weather discharges must be reduced year round, not just during the period to which the targets apply.

Table 1 shows the calculated percent load reductions and total allowable dry weather loads to the Estuary from all sources. Per the San Diego Water Board proposal, the load reduction associated with the secondary algal biomass target will be used to determine allocations.

Table 1. Percent Load Reductions and Corresponding Total Allowable Loads from All Sources to the Estuary Calculated from the Estuary Model

Constituent	Proposed Target	Percent Reduction	Total Allowable Dry Weather TN Loads to Estuary from all sources (lbs/yr)	Total Allowable Dry Weather TP Loads to Estuary from all sources (lbs/yr)
Dissolved Oxygen	5.0 mg/L	73%	13,800	2,400
Primary Algal biomass ¹	57 g d-wt/m ²	84%	8,300	1,400
Secondary Algal biomass	70 g d-wt/m ²	76%	12,400	2,100

1. The load reductions for the primary algae target are based on an algal biomass of 60 g d-wt/m² because 57 is not shown in the model application report.

The watershed loading model was used to determine the baseline loading to the Estuary from upland sources during the critical year modeled in the Estuary (WY 2008). Methods for determining the baseline loads are discussed in the January 6, 2017 Technical Memorandum entitled *SMR Estuary MS4 Nutrient Loads for WY 2008*. The Technical Memorandum includes both at source and delivered load estimates. The at source loads are used in this proposal as the baseline loads for the purposes of calculating allocations to correspond to the location of where loads will be reduced and measured by the responsible parties. Using the at source loads as the baseline is a conservative approach as some of the at source loads will not reach the Estuary. The results from the Technical Memorandum were used to develop allocations using the steps summarized below:

1. Combine loads from the land use categories in the tech memo into discharger groupings as shown in Table 2.
2. Sum the loads within the MS4 from the urban land uses for each County and Camp Pendleton to generate baseline loads for the MS4 permittees.
3. Sum the loads within the MS4 and non-MS4 from the agricultural land use categories for each County and Federal Lands to generate baseline loads for agricultural discharges.
4. Sum the loads within the MS4 and non-MS4 from CALTRANS land use categories in all areas to generate baseline loads for CALTRANS.
5. Sum the loads within the MS4 and non-MS4 from dairy farm land use categories in all areas to generate the baseline loads for dairy farms.
6. Reduce the baseline loads by the percent reduction goal equal to the secondary algal biomass target (76%) to calculate the proposed allocations.

The results of the analysis are summarized in the following tables.

¹ Numeric targets are taken from the June 17, 2016 SDRWQCB Numeric Targets Proposal, included as an attachment. Percent reductions associated with these targets have been updated since the proposal was developed. The new percent reductions are shown in Table 1.

Table 2. Land Use Groupings

Grouping	Land Use Category
Urban Land Uses	Low density residential
	High density residential
	Commercial, institutional
	Industrial
	Road, freeway
	Parks and recreation
	Open and recreation
	Horse ranches
Agricultural Land Uses	Irrigated agriculture
	Non-irrigated agriculture
	Orchard, vineyard, and nursery
CALTRANS	CALTRANS
Dairy	Dairy, livestock

Table 3 summarizes the baseline at source loads to the Estuary for the controllable sources calculated using the methodology presented above.

Table 3. At Source Baseline Loads for Controllable Sources

Source	At Source Baseline TN loads (lb/yr)	At Source Baseline TP loads (lb/yr)
San Diego County MS4	2042	207
Riverside County MS4	9933	990
Camp Pendleton MS4	160	35
CALTRANS	253	25
Agricultural Dischargers-SD County	13,052	1361
Agricultural Dischargers-Riverside	31,782	3214
Agricultural Dischargers- Federal Lands	77	8
Dairy Farms	48	5
Total	57,347	5800

Allocations were developed by applying the percent load reductions for the secondary algal biomass target (76%) shown in **Table 1** to the at source baseline loads for controllable sources: MS4s covered by NPDES permits, agricultural dischargers covered by waste discharge requirements, and dairy/livestock. The proposed allocations are shown in **Table 4**.

Table 4. Wasteload and Load Allocations

Source	TN (lb/yr)	TP (lb/yr)
Wasteload Allocations		
San Diego County MS4	490	50
Riverside County MS4	2384	238
Camp Pendleton MS4	38	8
CALTRANS	61	6
Load Allocations		
Agricultural Dischargers-SD County	3132	316
Agricultural Dischargers-Riverside	7628	771
Agricultural Dischargers-Federal Lands	18	2
Dairy Farms	12	1

Although not specifically shown in **Table 4**, it is anticipated that load reductions in groundwater discharges will occur because of actions implemented by these dischargers in accordance with their existing permit requirements.

If the algal biomass numeric target of 57 g d-wt/m² is NOT met in a given year, a secondary target will be considered. This target will consist of both the results of the benthic data and the Secondary Biomass Target of 70 g d-wt/ m². The load reduction data will be collected to determine the relationship between loading and estuary response, not for compliance purposes. A load reduction goal of 72.3% is set for the primary and secondary numeric targets.

The benthic community data must meet the requirements of the Water Quality Control Plan for Enclosed Bays and Estuaries – Part 1 Sediment Quality, a score of "1" no impacts; AND the secondary algal biomass target must be 70 g d-wt/m² or lower to be in compliance with the TMDL. Permittees can demonstrate they are meeting their permit requirements and they are meeting their load reductions.

The numeric targets for biomass and benthic community SQOs will be the interim and final numeric targets and milestones; load reductions will be set as interim and final *goals* and milestones.

Permits and Orders

Compliance will be dependent upon each permittee meeting the requirements of their permit. If permittees meet their permit requirements they will be in compliance, regardless of whether the Alternative TMDL numeric targets or total watershed load reduction written in the Alternative TMDL Resolution have been met. Compliance will be dependent upon the management and implementation actions that are taken to meet the numeric targets and watershed load reductions defined in each permit or Water Quality Improvement Plan.

When the permittee does not attain the numeric targets and goals then adaptive management is used to assess whether other actions can be taken to improve conditions in the watershed or the alternative TMDL schedule can be considered for extension. If data collected indicates that the Estuary's beneficial uses are met at values other than the numeric targets developed, the Group and the San Diego Water Board can consider changing the numeric targets.

The permittees must remember that this alternative TMDL will be implemented through permits and orders that may already exist and may already have discharge prohibitions, effluent limitations, and receiving water limitations. For example, as has been discussed in previous Group meetings, the San Diego Regional MS4 Permit has a prohibition on dry weather discharges. This prohibition will eliminate dry weather loading of nutrients from the MS4s to streams and the Estuary.

On June 22, 2016 a workshop will be held during the San Diego Water Board Board Meeting to receive and discuss information on the Agricultural Order. You may go to our website to review the Order and information on the Order.

The San Diego Water Board prefers the more conservative interpretation of the dissolved oxygen WQO, Scenario 2) as it is protective of when dissolved oxygen concentrations are low for shorter periods of time (more frequent and more acute occurrences), as well as when dissolved oxygen concentrations are low for extended periods of days (chronic occurrences).

In this manner, the use of this dissolved oxygen WQO interpretation as a target is indirect. It is used to determine the algal biomass target. As such, the target is designed to protect aquatic life through limiting algal biomass, which decreases dissolved oxygen in the water through its respiration and decomposition.

A primary and secondary numeric target for algal biomass is proposed. If monitoring data confirm that the estuary is meeting the primary target of algal biomass of 57 g d-wt/m², this result indicates that the beneficial uses are protected. If monitoring data confirm that the estuary is meeting an algal biomass between 57 and 70 g d-wt/m², the Sediment Quality Objective (SQO) tool for benthic community structure will be used to assess whether beneficial uses are protected. Both primary and secondary numeric targets set watershed load reduction goals of 72.3 percent (See Table 2).

Table 2. Primary and Secondary Targets for Santa Margarita River Estuary Numeric Targets and Goals.

Targets & Scenarios	Algal Biomass Target	Watershed Load Reduction (%) Goal	Benthic Comm. Impacts SQO Target
Primary Target	57g d-wt/m ² Scenario 2)	72.3% Scenario 3)	n/a
Secondary Target	70g d-wt/m ² Scenario 3)	72.3% Scenario 3)	"1" no impacts

*See Table 1 for explanation of Scenarios 2) and 3).

The Primary Numeric Target

The primary target uses the 10th percentile daily minima > 5 mg/l of dissolved oxygen for the algal biomass numeric target equal to 57 g d-wt/m². When the numeric target of 57 g d-wt/m² is met, the TMDL requirements are met. The numeric target for the TMDL is 57 g d-wt/m². The load reduction of 72.3% is a goal, and will not be used for compliance; the load reduction data will be collected to determine the relationship between loading and estuary response. Estuary response is measured using algal biomass and cover, benthic community metrics, and dissolved oxygen data. Compliance with the TMDL will be determined in each permit.

Secondary Numeric Targets

The secondary numeric algal biomass target uses the 10th percentile of the 7-day average of daily minima > 5 mg/l of dissolved oxygen calculation to determine the load reduction with an algal biomass target equal to 70.g d-wt/m². This is the dissolved oxygen requirement that is in the most current 303(d) Listing Policy. The load reduction goal set for the secondary target is 72.3%.

However, to further give the permittees room to meet the TMDL target over time, benthic community data can be collected at the same location as the algal biomass and dissolved oxygen data.

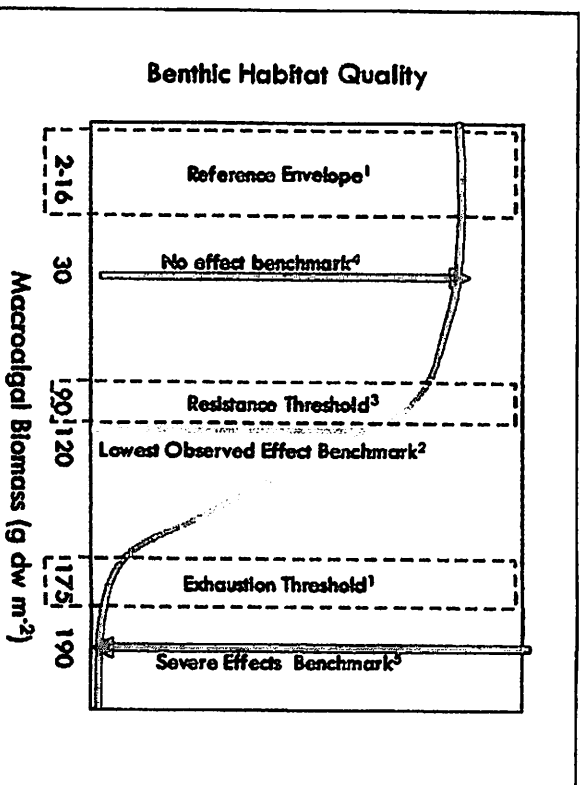


Figure 1. Conceptual synthesis of information on thresholds of macroalgal biomass effects on benthic habitat quality. 1= Green 2010, 2= Cardoso et al. 2004, 3= Green et al. 2013, 4= Bona (2006) and 5 = Sutula et al 2014.

Both macroalgal biomass and dissolved oxygen have demonstrated linkages to beneficial uses and have a predictive relationship with nutrient loading to the Estuary. Both are considered for nutrient impairments and restoration according to the developing nutrient numeric approaches (Sutula 2016b, Tetra Tech, 2006). Therefore, the dissolved oxygen WQO is used as another relationship to determine the macroalgal biomass numeric target. To set a numeric target for algal biomass within the 30 to 90 g d-wt/m² range, the dissolved oxygen WQO is used according to the Water Quality Control Plan for the San Diego Region (Basin Plan) and the Water Quality Control Policy for Developing California's Clean Water Act 303(d) List (2015) (303(d) Listing Policy).

Three possible interpretations of the dissolved oxygen WQO were calculated (see Table 1). Scenario 2 is used to derive the primary algal biomass numeric target and scenario 3 is used to derive the algal biomass portion of the secondary target. Watershed load reductions were modeled using 2008 water year conditions.

Table 1. Load Reduction and Algal Biomass Results Using Three Different Dissolved Oxygen SDO Scenarios.

Scenarios	Scenarios Using Dissolved Oxygen WQO	Watershed Load Reduction (%)	Algal Biomass
1)	10 th percentile that > 5 mg/L	73.2%	70 g d-wt/m ²
2)	10 th percentile of daily minima that > 5 mg/L:	86.4%	57 g d-wt/m ²
3)	10 th percentile of 7-day avg. of daily minima that > 5 mg/L	72.3%	70 g d-wt/m ²

ATTACHMENT

Proposal for Numeric Targets for the Santa Margarita River Estuary Alternative TMDL San Diego Water Board June 17, 2016

The San Diego Water Board has considered the discussion at the April 2016 Santa Margarita River Watershed Nutrient Management Initiative Stakeholder Group (Group) meeting and carefully weighed the options available. In the best interest of protecting and restoring the beneficial uses of the Santa Margarita River Estuary (Estuary), and using an adaptive approach to manage the Estuary by using the monitoring data that is collected for this alternative TMDL, the San Diego Water Board provides the following alternative proposal for numeric targets for the Estuary.

A primary and secondary numeric target for algal biomass is proposed. If monitoring data confirm that the estuary is meeting the primary target of algal biomass of 57 g d-wt/m², this result indicates that the beneficial uses are protected. If monitoring data confirm that the estuary is meeting an algal biomass between 57 and 70 g d-wt/m², the Sediment Quality Objective (SQO) tool for benthic community structure also will be used to assess whether beneficial uses are protected.

The approach is based on existing relevant science, using four peer reviewed studies to produce a conceptual synthesis of thresholds of macroalgal biomass effects on benthic habitat quality (Figure 1). The points of interest in the Figure 1 curve are the “no effect benchmark” of 30 g d-wt/m² and the “resistance threshold” of 90 g d-wt/m² (in the Draft Framework for Assessment of Eutrophication, Sutula and Fong, 2013). A range of conditions, beyond a reference condition, but within a condition where the aquatic community is not under stress is ideal for this estuary. The Estuary is not located within an undisturbed watershed and does not have the capability of becoming a reference waterbody, therefore a value within the reference range is not proposed. The Group is debating at what point the benthic community will start to exhibit stress near the resistance threshold and at what point it will not be able to easily recover from losses due to eutrophic conditions. Additional data has not been collected to determine the relationship between macroalgal biomass and benthic habitat quality between the two values in question. Therefore, another method is needed to determine a numeric target that is protective of water quality and beneficial uses for the Estuary that is within the 30 to 90 g d-wt/m² range. The dissolved oxygen WQO is used to establish that method.

Compliance with requirements in applicable Orders is expected to attain and maintain the allowable loadings from controllable sources. Non-storm water dry weather discharges are generally prohibited by the existing MS4 Permit requirements (Order No. R9-2015-0100) and the agricultural orders (Orders No. R9-2016-0004 and R9-2016-0005). However, as discussed in the introductory paragraph, several non-controllable sources exist in the watershed that may cause the Estuary to exceed the proposed targets. Should a demonstration be made that all controllable sources have been addressed and are meeting allocations and the Estuary continues to exceed targets, modifications to the targets may be considered to reflect the impact of natural sources. Additional load reductions from the controllable sources will not be required to meet the Estuary targets.

The applicable Orders will allow the option to use any one of the following methods of demonstrating compliance with the allocations:

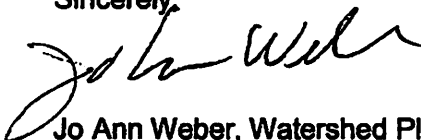
1. Demonstration that the Estuary targets have been attained; or
2. Demonstration that the discharger is attaining the load reduction goal of 76%; or
3. Demonstration that the discharger is attaining the allocations shown in **Table 4**; or
4. Demonstration that the discharger has effectively prohibited dry weather discharges; or
5. Demonstration that exceedances of the targets are due to non-controllable sources; or
6. Demonstration that management actions to attain allocations are being implemented through mechanisms defined in each applicable Order. Mechanisms for implementing management actions include, but are not limited to, Phase I MS4 Water Quality Improvement Plans, Agricultural Discharger Water Quality Restoration Program Plans, Phase II MS4 permit program elements, and CALTRANS compliance units, cooperative implementation grants and cooperative implementation agreements.

The allocations shown in **Table 4** will be achieved within 15 years of the effective date of the Resolution. Although allocations will be achieved within 15 years, the Estuary targets may not be achieved within this time frame. Reductions in groundwater concentrations resulting from implemented management actions and the subsequent transport of the lower concentration groundwater to the Estuary will take longer.

We thank the San Diego Water Board for the opportunity to provide input for your consideration on the proposed Nutrient Alternate TMDL Resolution currently being drafted by you. Please do not hesitate to contact me should you have any questions or comments. We appreciate the San Diego Water Board's embracement of the stakeholder process in moving forward with this resolution. We look forward to further stakeholder input opportunities on this draft resolution.

If you have any questions or require additional information, please feel free to contact me at (858) 495-5317 or e-mail at JoAnn.Weber@sdcounty.ca.gov.

Sincerely,



Jo Ann Weber, Watershed Planning Manager
Watershed Protection Program

Attachment: Proposal for Numeric Targets for the Santa Margarita River Estuary Alternative TMDL

Stricker <kstricker@pechanga-nsn.gov>, Brittany Struck
<brittany.struck@noaa.gov>, GS Land <gsland@cox.net>,
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<mwillard@murrieta.k12.ca.us>,
Mayra.Estrada@Waterboards.ca.gov
<Mayra.Estrada@Waterboards.ca.gov>

Cc <carl.savage@dot.ca.gov>

Date 2017-02-16 13:07

Dear Stakeholders and Interested Parties, I have updated the meeting schedule as follows:

March 14th – 9:30 am to 4 pm (no change, will be held in San Diego- I will send meeting scheduler with directions)

April 18th - 9:30 am to 4 pm (this is instead of April 28th) – I will look for a conf room in southern Riverside County

I wanted to make you aware of the changed date in April for our meeting. Thank you for your continued participation in this important work. Best, Jo Ann

Jo Ann Weber
Watershed Planning Program Manager
Joann.Weber@sdcounty.ca.gov
Tel: 858-495-5317

From: Weber, Jo Ann

Sent: Friday, February 10, 2017 9:44 AM

To: 'Ceppos, David M'; Martha Sutula; casey@sdfarmbureau.org; Warren Back; mbennett@cityofwildomar.org; Jack Beebe; Clint Boschen; sebruckner@rcflood.org; Brian Baharie; Jon Butcher; Roxy Jesselyn; Kyle Cook; rose.corona@emarcd.org; rosecorona@bighorsefeed.com; Ashli Desai Cooper; Wesley Danskin; wdanskin@gmail.com; Gallup Kyle; Richard Gardener; Cynthia Gorham; Richard Halsey; David Harvey; HelenRain Waquiu; Eddie Hernandez; bigdaddyblue13@aol.com; Steve Horn; sjacobson@caltrout.org; Nicolette Jonkhoff; Jayne Joy; Jeremy Jungreis; Chuck Katz; Khalique Khan; Klein, Eric; landon@usgs.gov; Eric Larson; Leslie Laudon; Aldo Licitra; Cindy Lin; ymacalalad@cityofmenifee.us; Vicki Lory; Fakhri Manghi; Jeff Marchand; Stuart McKibbins; dmilner@rainbowmwd.com; Judith Mitchell; ottolinir@ranchowater.com; J. Ozouf; Pam Nelson; Steve Pastor; plajzere@ranchowater.com; Peggy Evans; hpotter@mbakerintl.com; Beth Principe; bpulver@waterboards.ca.gov; Matt Rahn; Michael Rouse; Brian Baharie; Sarabia Hiram; Greg Seaman; Ashmita Sengupta; John Simpson; Don Smith; Karla Standridg; Kelsey Stricker; Brittany Struck; GS Land; Jason Uhley; Scott Thomas; webstera@ranchowater.com; Michael Welch; Allison Witheridge; Dennis Williams; Roya Yazdanifard; Dan York; Jim Fitzpatrick; mwillard@murrieta.k12.ca.us; Mayra.Estrada@Waterboards.ca.gov

Cc: Savage, Carl@DOT

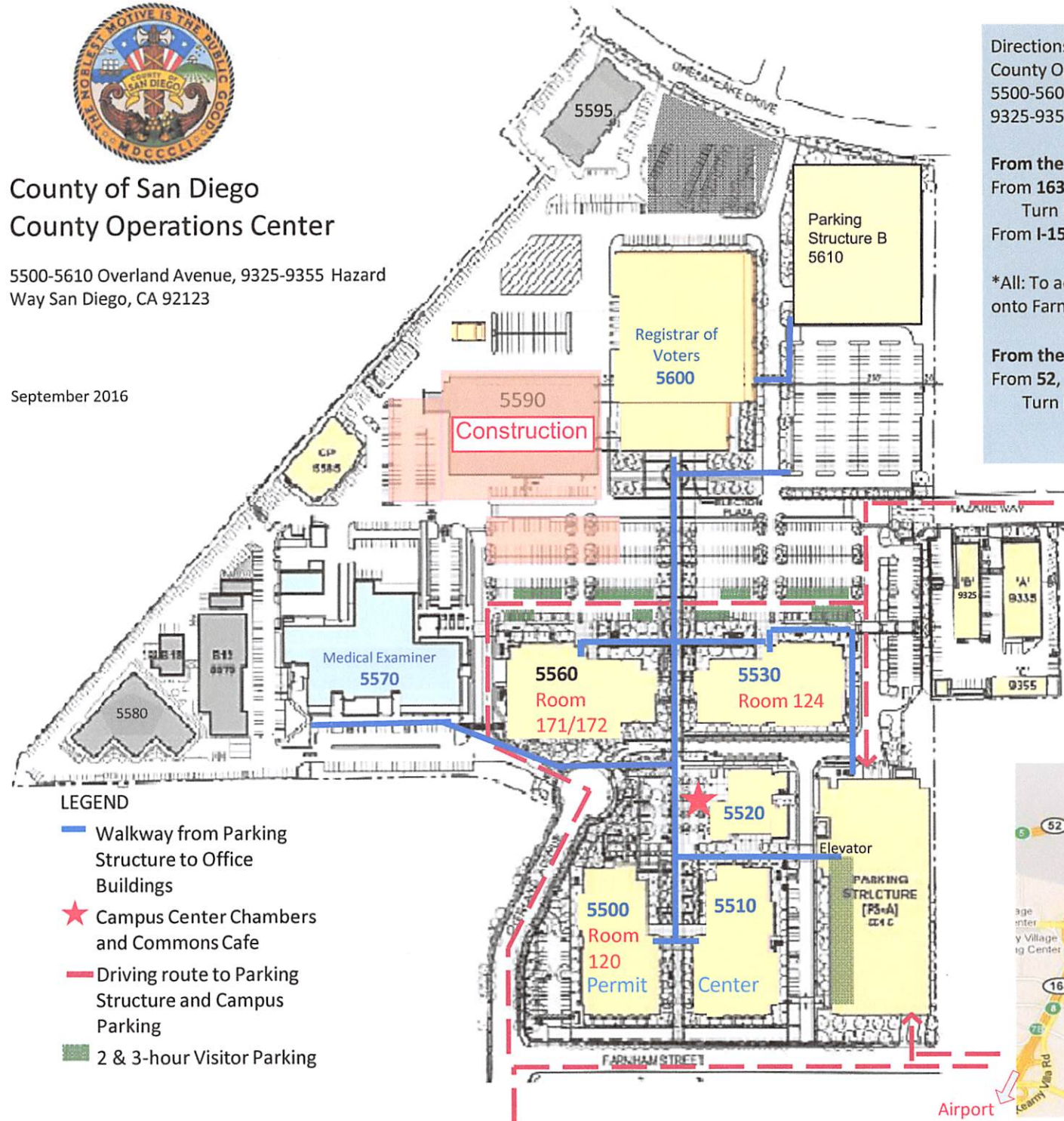
Subject: Santa Margarita Nutrient Initiative Stakeholder Meetings Schedule



County of San Diego County Operations Center

5500-5610 Overland Avenue, 9325-9355 Hazard Way
Way San Diego, CA 92123

September 2016



LEGEND

- Walkway from Parking Structure to Office Buildings
- ★ Campus Center Chambers and Commons Cafe
- Driving route to Parking Structure and Campus Parking
- 2 & 3-hour Visitor Parking

Directions to the
County Operations Center
5500-5600 Overland Avenue
9325-9355 Hazard Way San Diego, 92123

From the North or South (Airport)

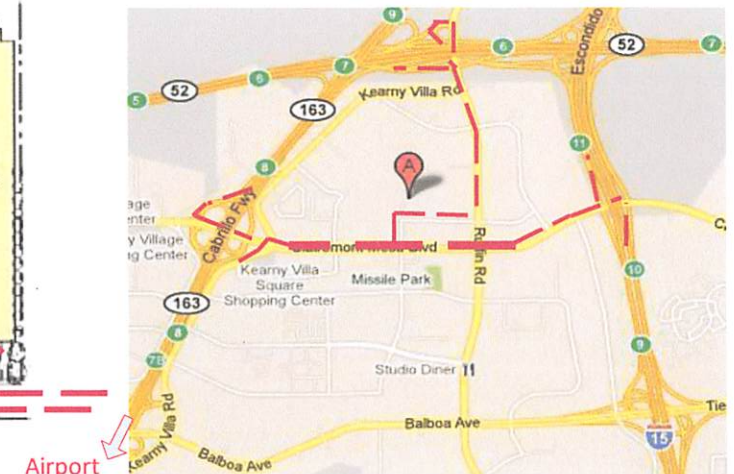
From 163, exit onto Clairemont Mesa Blvd. Eastbound
Turn Left (North) onto Overland Avenue
From I-15, exit onto Clairemont Mesa Blvd. Westbound

*All: To access Parking Structure from Overland turn right onto Farnham Street. Parking Structure is on the left.

From the East or West

From 52, exit onto Ruffin Road Southbound
Turn Right (West) onto Farnham Street

All visitors parking more than the permitted time posted must park in an unmarked space.



Rose Corona

Subject: Santa Margarita River Watershed Nutrient Initiative Stakeholder Meeting
Location: 5510 Overland Drive, San Diego CA, 92123 - 4th floor lobby conference room

Start: Tue 3/14/2017 9:30 AM
End: Tue 3/14/2017 4:00 PM
Show Time As: Tentative

Recurrence: (none)

Meeting Status: Not yet responded

Organizer: Weber, Jo Ann

Dave Ceppos will send out agenda prior to March 14th.

Regarding lunch: Please RSVP by 7:00 am on Tuesday March 14th, if you would like us to order you lunch for our Tuesday, March 14th meeting.

Lunch will be \$10 and will include:

Subway lunch boxes: 6" sub, cookie & chips Sandwich options: club, turkey, tuna, combo, vegetarian, or roast beef

We will provide bottled water and snacks.

Provide your lunch order to Jo Ann Weber by 37 am on Tuesday, March 14th. Please send Jo Ann an e-mail at :

Joann.Weber@sdcounty.ca.gov<mailto:Joann.Weber@sdcounty.ca.gov>

If you have any questions please call me or Dave Ceppos. I look forward to a productive meeting!

Jo Ann Weber
Watershed Planning Program Manager
5510 Overland Ave., Ste. 410
San Diego, CA 92123-1239
Joann.weber@sdcounty.ca.gov<mailto:Joann.weber@sdcounty.ca.gov>
Tel: 858-495-5317

Dear stakeholders and interested parties! Thank you for your responses to the Doodle poll and the dates for the next Santa Margarita Nutrient Initiative Stakeholder Meetings are:

March 14th – 9:30 am to 4 pm

April 27th - 9:30 am to 4 pm

I have not been able to secure a meeting room in southern Riverside County. I will secure rooms here at the County of San Diego in the Kearny Mesa area of the City of San Diego (address below). I will send out meeting appointment later today or early next week. However, if others want to host the meeting (need speaker phone and WIFI), then please do let me know and I am glad to modify the invites!

Jo Ann Weber
Watershed Planning Program Manager
Joann.Weber@sdcounty.ca.gov
Tel: 858-495-5317

From: Ceppos, David M [<mailto:dceppos@ccp.csus.edu>]

Sent: Wednesday, January 18, 2017 3:03 PM

To: Martha Sutula; casey@sdfarmbureau.org; Warren Back; mbennett@cityofwildomar.org; Jack Beebe; Clint Boschen; sebruckner@rcflood.org; Brian Baharie; Jon Butcher; Roxy Jesselyn; Kyle Cook; rose.corona@emarcd.org; rosecorona@bighorsefeed.com; Ashli Desai Cooper; Wesley Danskin; wdanskin@gmail.com; Gallup Kyle; Richard Gardener; Cynthia Gorham; Richard Halsey; David Harvey; HelenRain Waquiu; Eddie Hernandez; bigdaddyblue13@aol.com; Steve Horn; sjacobson@caltrout.org; Nicolette Jonkhoff; Jayne Joy; Jeremy Jungreis; Chuck Katz; Khaliq Khan; Klein, Eric; landon@usgs.gov; Eric Larson; Leslie Laudon; Aldo Licitra; Cindy Lin; ymacalalad@cityofmenifee.us; Vicki Lory; Fakhri Manghi; Jeff Marchand; Stuart McKibbins; dmilner@rainbowmwd.com; Judith Mitchell; ottolinir@ranchowater.com; J. Ozouf; Pam Nelson; Steve Pastor; plajzere@ranchowater.com; Peggy Evans; hpotter@mbakerintl.com; Beth Principe; bpulver@waterboards.ca.gov; Matt Rahn; Michael Rouse; Brian Baharie; Sarabia Hiram; Greg Seaman; Ashmita Sengupta; John Simpson; Don Smith; Karla Standridg; Kelsey Stricker; Brittany Struck; GS Land; Jason Uhley; Scott Thomas; Weber, Jo Ann; webstera@ranchowater.com; Michael Welch; Allison Witheridge; Dennis Williams; Roya Yazdanifard; Dan York; Jim Fitzpatrick; mwillard@murrieta.k12.ca.us; Mayra.Estrada@Waterboards.ca.gov

Cc: Ceppos, David M

Subject: Re: SMR NMI TAC webinar conference info and agenda -TOMORROW 1/19/2017 8:30-10:30

Good Afternoon.

An additional followup to Martha's emails to ensure clarity and a few additions / deletions on the SMR Stakeholder Distribution List.

There is NOT a full SMR Group meeting tomorrow. This was decided at the last meeting and it was similarly decided to be replaced by the effort Martha is leading (as per her email below). All SMR participants are obviously welcome to participate in the Webinar but this will not be a full Stakeholder Group meeting.

Also, please note that as of this message, we have a few participant changes. Please use this list (above) so the correct folks are receiving / not receiving emails).

- Charles Binder, SMR Watermaster has retired and asked that he be taken off the distribution list. This has been done.
- Similarly, Mayra Molina, formerly of SCCWRP has moved on from her fellowship with SCCWRP and will not longer participate in SMR efforts.
- Conversely, Mayra Estrada is the new student intern for San Diego Water Board and has been added to this distribution. Please include her in any responses or initial message about SMR efforts.

We will follow up in the coming week about a new full SMR Group meeting date.

Thanks all.

Dave Ceppos
Associate Director
Center for Collaborative Policy
California State University Sacramento
815 S Street
Sacramento, CA 95811
email: dceppos@ccp.csus.edu
Direct Phone: 916-341-3336
Office Phone: 916-445-2079
Fax: 916-445-2087
website: <http://www.csus.edu/ccp/>

"The family began as--and remains--a survival unit, with parents agreeing to care for the kids, the kids agreeing to carry on the genes and all of them doing what they can to make sure no one gets eaten by wolves." - Jeffery Kluger

From: Martha Sutula <marthas@sccwrp.org>

Sent: Wednesday, January 18, 2017 2:50 PM

To: Ceppos, David M; casey@sdfarmbureau.org; Warren Back; mbennett@cityofwildomar.org; Jack Beebe; Clint Boschen; sebruckner@rcflood.org; Brian Baharie; Jon Butcher; Roxy Jesselyn; Charles Binder; Kyle Cook; rose.corona@emarcd.org; rosecorona@bighorsefeed.com; Ashli Desai Cooper; Wesley Danskin; wdanskin@gmail.com; Gallup Kyle; Richard Gardener; Cynthia Gorham; Richard Halsey; David Harvey; HelenRain Waquiui; Eddie Hernandez; bigdaddyblue13@aol.com; Steve Horn; sjacobson@caltrout.org; Nicolette Jonkhoff; Jayne Joy; Jeremy Jungreis; Chuck Katz; Khalique Khan; Eric Klein; landon@usgs.gov; Eric Larson; Leslie Laudon; Aldo Licitra; Cindy Lin; ymacalalad@cityofmenifee.us; Vicki Lory; Fakhri Manghi; Jeff Marchand; Stuart McKibbins; dmilner@rainbowmwd.com; Judith Mitchell; ottolinir@ranchowater.com; J. Ozouf; Pam Nelson; Steve Pastor; plajzere@ranchowater.com; Peggy Evans; hpotter@mbakerintl.com; Beth Principe; bpulver@waterboards.ca.gov; Matt Rahn; Michael Rouse; Brian Baharie; Sarabia Hiram; Greg Seaman; Ashmita Sengupta; John Simpson; Don Smith; Karla Standridg; Kelsey Stricker; Brittany Struck; GS Land; Jason Uhley; Scott Thomas; Jo Ann Weber; webstera@ranchowater.com; Michael Welch; Allison Witheridge; Dennis Williams; Roya Yazdanifard; Dan York; Jim Fitzpatrick; mwillard@murrieta.k12.ca.us

Cc: Ceppos, David M

Subject: RE: SMR NMI TAC webinar conference info and agenda -TOMORROW 1/19/2017 8:30-10:30

Apologies for the repeat posting, but some of you may have not received this email because of the size of the file attachments.

Please email me if you need the attachments.

Regards,
Martha

Martha Sutula, Ph.D.
Biogeochemistry Department, Southern California Coastal Water Research Project
3535 Harbor Blvd., Suite 110, Costa Mesa CA 92626
714-755-3222 (w), 949-933-2138 (c)
marthas@sccwrp.org
www.sccwrp.org

Hi folks,

We will hold a SMR NMI TAC webinar tomorrow from 8:30 – 10: 30 am Pacific time to discuss developing a range of different options for SMR lower river modeling and numeric target development.

If you recall several years back, we discussed a number of options for modeling approaches, depending on the hydroperiod of the location that we are sampling (perennial versus intermittent) and how intensive we intend to be.

What's changed since is that we now have a significant change in the technical approach supporting the State Water Board biostimulatory policy, steering away from using organic matter abundance as the key indicator towards (though not exclusively) using taxonomic composition and functional traits to identify the rough TN and TP concentrations that support a particular biological condition gradient tier. Attached is the powerpoint presentation from the December 2016 stakeholder meeting that summarizes this shift.

The goal of tomorrow's webinar is to discuss options for modeling and how those models can be translated into numeric targets. This will be a relatively informal webinar, with the emphasis on generating options that can be vetted and costed before an early February in-person TAC meeting to recommend a specific option to the stakeholder workgroup.

- 1) Introductions, goal of webinar and recap of key slides from December 2016 stakeholder meeting re: State Water Board biointegrity and biostimulatory policy development
- 2) Discussion of overarching flow chart of decision-making
- 3) Discussion of modeling options and how they are linked to numeric targets
- 4) Next steps and wrap up.

Please review the slides from the December 2016 stakeholder meeting and the preliminary results of the Lower River monitoring study to prepare for this call.

The Webex call in information is below.

Regards,
Martha

SMR NMI TAC webinar

Thursday, January 19, 2017

8:30 am | Pacific Standard Time (San Francisco, GMT-08:00) | 3 hrs

'rose.corona@emarcd.org' <rose.corona@emarcd.org>; 'rosecorona@bighorsefeed.com' <rosecorona@bighorsefeed.com>; Ashli Desai Cooper <ashlid@lwa.com>; Wesley Danskin <wdanskin@usgs.gov>; 'wdanskin@gmail.com' <wdanskin@gmail.com>; Gallup Kyle <KWGallup@rcflood.org>; Richard Gardener <capopalm@hotmail.com>; Cynthia Gorham <cgorham@waterboards.ca.gov>; Richard Halsey <rwh@californiachaparral.org>; David Harvey <dharvey@rcac.org>; HelenRain Waqui <hwaqui@pechanga-nsn.gov>; Eddie Hernandez <ehernandez@pechanga-nsn.gov>; 'bigdaddyblue13@aol.com' <bigdaddyblue13@aol.com>; Steve Horn <shorn@rceo.org>; 'sjacobson@caltrout.org' <sjacobson@caltrout.org>; Nicolette Jonkhoff <njonkhoff@ramona-nsn.gov>; Jayne Joy <joyj@emwd.org>; Jeremy Jungreis <jjungreis@rutan.com>; Chuck Katz <chuck.katz@navy.mil>; Khaliq Khan <khaliq.khan@usmc.mil>; Eric Klein <eric.klein@sdcounty.ca.gov>; 'london@usgs.gov' <london@usgs.gov>; Eric Larson <eric@sdfarmbureau.org>; Leslie Laudon <LLaudon@waterboards.ca.gov>; Aldo Licitra <aldo.licitra@cityoftemecula.org>; Cindy Lin <lin.cindy@epa.gov>; 'ymacalalad@cityofmenifee.us' <ymacalalad@cityofmenifee.us>; Vicki Lory <vickiglong@aol.com>; Fakhri Manghi <fmanghi@wmwd.com>; Jeff Marchand <jeff@fpud.com>; Stuart McKibbins <SMCKIBBI@rcflood.org>; 'dmilner@rainbowmwd.com' <dmilner@rainbowmwd.com>; Judith Mitchell <judy@missionrcd.org>; 'ottolinir@ranchowater.com' <ottolinir@ranchowater.com>; J. Ozouf <jozouf@murrieta.org>; Pam Nelson <pamela05n@yahoo.com>; Steve Pastor <pastor@riversidecfb.com>; 'plajzere@ranchowater.com' <plajzere@ranchowater.com>; Peggy Evans <peggy@temeculawines.org>; 'hpotter@mbakerintl.com' <hpotter@mbakerintl.com>; Beth Principe <beth@missionrcd.org>; 'bpulver@waterboards.ca.gov' <bpulver@waterboards.ca.gov>; Matt Rahn <mrahn@sciences.sdsu.edu>; Michael Rouse <michael.rouse@usmc.mil>; Brian Baharie <environmentaldirector@cahuilla.net>; Sarabia Hiram <hiram.sarabia@Waterboards.ca.gov>; Greg Seaman <gregory.g.seaman1@usmc.mil>; Ashmita Sengupta <ashmitas@scwarp.org>; John Simpson <john.o.simpson@usmc.mil>; Don Smith <dsmith@vid-h2o.org>; Karla Standridg <karla@missionrcd.org>; Kelsey Stricker <kstricker@pechanga-nsn.gov>; Brittany Struck <brittany.struck@noaa.gov>; GS Land <gslan@cox.net>; Jason Uhley <juhley@rcflood.org>; Scott Thomas <scottt@stetsonengineers.com>; Jo Ann Weber <JoAnn.Weber@sdcounty.ca.gov>; 'webstera@ranchowater.com' <webstera@ranchowater.com>; Michael Welch <mwelch1@san.rr.com>; Allison Witheridge <alison.witheridge@tetrattech.com>; Dennis Williams <dwilliams@geoscience-water.com>; Roya Yazdanifard <roya_yazdanifard@dot.ca.gov>; Dan York <dyork@cityofwildomar.org>; Jim Fitzpatrick <Jim.Fitzpatrick@hdrinc.com>; 'mwillard@murrieta.k12.ca.us' <mwillard@murrieta.k12.ca.us>

Cc: David Ceppos <dceppos@ccp.csus.edu>

Subject: HOLD THE DATE/TIME AND RSVP for TAC webinar January 19th 8:30- 10:30 PST.

Hi SMR NMI TAC,

I would like to schedule a 2-hour SMR TAC webinar on January 19th from 8:30 – 10:30 am pacific time to discuss options for formulate the technical approach for modeling of the Lower River to support discussions on numeric targets, as called for in the grant deliverables.

If you intend to participate in this discussion, please RSVP to let me know whether you are available at this time.

I will confirm the call with an agenda by Friday January 13th (scary!).

Regards,
Martha

Martha Sutula, Ph.D.

Biogeochemistry Department, Southern California Coastal Water Research Project
3535 Harbor Blvd., Suite 110, Costa Mesa CA 92626
714-755-3222 (w), 949-933-2138 (c)

marthas@sccwrp.org

www.sccwrp.org

From: Martha Sutula

Sent: Tuesday, January 10, 2017 11:02 AM

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Cc: David Ceppos <dceppos@ccp.csus.edu>

Subject: RE: DRAFT Action Items - December 15 Santa Margarita River Nutrient Initiative Group Meeting-- FOLLOWING UP ON TAC DISCUSSION

Good morning folks,

I hope you had a great break and I wish you all a happy New Year.

I am writing this email to follow up with some thoughts regarding the action item, noted in Dave Ceppos' action items, to hold a discussion about prioritization of remaining grant funding, targeted towards river monitoring (upper river), modeling and numeric target development (lower River).

To recap the issue, the TAC needs to formulate the technical approach for modeling of the Lower River to support discussions on numeric targets, as called for in the grant deliverables. I think that this is a great topic of discussion and the TAC will identify a range of options and discuss the pros/cons at the upcoming TAC meeting (date still to be determined). One issue that came up however was the thought that if we chose not to complete the second year of sampling in the Upper River, we would have more resources to complete the modeling work and wrap up the discussion of selection of numeric targets for the Lower River.

After the meeting, I had time to review Year 1 data from the Upper River and, although the data are of high quality, I don't think it's advisable to forgo a second year of sampling. The reason for this is two-fold:

- 1) One of the intended uses of these data is to assess whether that particular reach or section of the River is still "impaired," whether we use existing Basin Plan objectives or alternative targets. Your ability to argue that it is NOT impaired would likely need more than one year of data to effectively make that argument.
- 2) Year 1 data in the Upper River captured a number of very interesting trends that it would be important to understand whether this representative of "normal" conditions, or just an outlier of a very dry year. Having a second year of data will be very important to make this assessment.

Given this, here is how I would like to proceed:

- 1) Hold a January 19th TAC webinar in which we discuss options for moving forward; we will select a subset from this discussion.
- 2) Following the call, selected TAC members will cost out options, in order to have this information available at a February TAC meeting (date TDB)
- 3) At the February TAC meeting, we will make a review the options in greater details and associated costs and provide a summary to the steering committee/stakeholder workgroup.

Please let me know if you think this sounds reasonable, or if you have any thoughts or questions.

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Cc: David Ceppos <dceppos@ccp.csus.edu>
Subject: DRAFT Action Items - December 15 Santa Margarita River Nutrient Initiative Group Meeting

Good Morning All,

I hope everyone had a happy and healthy holiday season. Now... back to work.

Attached please find the DRAFT Action Items from the December meeting.

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"The family began as--and remains--a survival unit, with parents agreeing to care for the kids, the kids agreeing to carry on the genes and all of them doing what they can to make sure no one gets eaten by wolves." - Jeffery Kluger