Regulatory Workgroup
(Formerly Tri-TAC)

There is **NO** General Regulatory Meeting on March 13, 2014. The Water Committee and Land Committee will be holding separate conference calls.

Land Call – 8:30 a.m. – 10:30 a.m.
Water Call – 10:30 a.m. – 12:30 p.m.

RSVP to Molly Ranes mranes@casaweb.org with which call you would like to participate in. The call information will be provided in response to the RSVP.

Next Meeting:
Teleconference
April 10, 2014
Land Call – 8:30 a.m. – 10:30 a.m.
Water Call – 10:30 a.m. – 12:30 p.m.

Regulatory Workgroup
Conference Call

THURSDAY, March 13, 2014

GENERAL MEETING

There is **NO** General Tri-TAC Meeting in April. The Water Committee and Land Committee will be holding separate conference calls only. The 2014 Meeting Schedule is attached.

8:30 A.M. – 12:30 P.M. – COMMITTEE MEETINGS

Land Call – 8:30 a.m. – 10:30 a.m.
Water Call – 10:30 a.m. – 12:30 p.m.

1. Land Committee Agenda (p. 4 -5)
2. Water Committee Agenda (p. 11)
3. Committee Issue Summaries (p. 12 & 16)

2014 CASA Regulatory Workgroup Schedule & Locations

(EFFECTIVE January 7, 2014)

TRI-TAC MEETING DATE	LOCATION	COMMENTS
January 9, 2014	**Conference Call** 8:30 – 10:30 Land Call 10:30- 12:30 Water Call	CASA Winter Conference January 15-17 Indian Wells, CA
February 13, 2014	Boy Scout Council 1001 Davis Street San Leandro, CA 94577	Afternoon Meeting – Pesticides Work Group 1-3pm CASA D.C. Conference February 25-27
March 13, 2014	**Conference Call** 8:30 – 10:30 Land Call 10:30- 12:30 Water Call	
April 10, 2014	**Conference Call** 8:30 – 10:30 Land Call 10:30- 12:30 Water Call	CWEA Conference April 29-May 7 CASA Public Policy Forum April 28-29, Sacramento, CA
May 8, 2014	Orange County Sanitation District 108 44 Ellis Avenue Fountain Valley, CA 92708	Schedule: Shuttle bus offered from John Wayne Airport at about 8:40 a.m.
June 12, 2014	Carollo Engineers 2880 Gateway Oaks Drive, Suite 300 Sacramento, CA 95833	
July 10, 2014	**Conference Call** 8:30 – 10:30 Land Call 10:30- 12:30 Water Call	
August 2014	No Meeting	CASA Conference Aug. 20-22 Monterey, CA
September 11, 2014	Boy Scout Council 1001 Davis Street San Leandro, CA	Annual Retreat at EBMUD Pardee Center Valley Springs, CA
October 9, 2014	Orange County Sanitation District 108 44 Ellis Avenue Fountain Valley, CA 92708	Schedule: Shuttle bus offered from John Wayne Airport at about 8:40 a.m.
November 13, 2014	**Conference Call** 8:30 – 10:30 Land Call 10:30- 12:30 Water Call	
December 11, 2014	Sacramento Carollo Engineers 2880 Gateway Oaks Drive, Suite 300 Sacramento, CA 95833	Annual Luncheon

- If you would like to add an agenda item or schedule a presentation for an upcoming meeting, please contact one of the committee co-chairs at least 14 days before the designated meeting date
- If you would like an "after Tri-TAC" meeting noted in the agenda package, please contact Jackie Kepke at least ten days before the designated meeting date.
- Tri-TAC is exploring video conference capabilities and may offer video locations along with Conference Calls as the year progresses.
- Air Committee is meeting on an Ad-Hoc Basis.

Tri-TAC BIOSOLIDS LAND COMMITTEE

AGENDA

Conference Call

March 13, 2014

Item No.	Topics	Lead Person	Est. Time (minutes)	Attachments
1.	**Regulatory/Legislative/Legal Updates**			
	▪ Ordinances Update - Imperial - San Luis Obispo - Solano ▪ Kern County (Measure E)/AB 371	G. Kester/L. Baroldi G. Kester/D. Gilbert	10	
2.	**State and Regional Updates**			
	▪ CalRecycle FOG/Food Waste Digestion ▪ CalRecycle 75% Diversion Plan ▪ CalRecycle New GHG Grant & Loan Programs - http://www.calrecycle.ca.gov/Climate/GrantsLoans/ ▪ CDFA Regulations on Rendering	G. Kester G. Kester/V. De Lange T. Meregillano G. Kester	15	
3.	**EPA and Nationwide Updates**			
	▪ D.C. Conference Items - Status of potential changes to part 503 - Status of risk assessment for the 9 constituents identified in 2003 biennial review (and for those in the TNSSS) - EPA role in state action in South Carolina's strict prohibition of PCBs in biosolids - Electronic Reporting Rule update (response to comments) - - Efforts to refine Combined Heat and Power report on anaerobic digestion and methane utilization - Update in EPA's renewable energy initiatives - CA's 75% diversion vs EPA's and national efforts to promote landfills as bioreactors - Changes to the UIC Codes to incorporate the City of LA deep well injection program - Update on SSI rules relative to gasification and biosolids used as renewable energy source from anaerobic digestion and sewage sludge processed into a non-waste biofuel - Update on revisions to the Integrated Risk Information System (IRIS) and the cancer slope factor for inorganic arsenic - Update on pyrethroid survey.	G. Kester	20	

Tri-TAC BIOSOLIDS LAND COMMITTEE

AGENDA

Conference Call

March 13, 2014

Item No.	Topics	Lead Person	Est. Time (minutes)	Attachments
4.	**Regional Facilities Updates**			
	▪ Bay Area Agencies ▪ So. Cal. & C.V. ▪ IERCF ▪ Westlake Farms ▪ TIRE	Z. Kay/B. Jones T. Meregillano/E. Have M. Copeland M. Copeland D. Gilbert	15	
5.	**Industry Association Updates**			
	▪ WEF ▪ CASA ▪ CWEA ▪ SCAP ▪ BACWA ▪ CVCWA	G. Kester/V. De Lange G. Kester J. Hay M. Bao Z. Kay TBD	10	
6.	**Emerging Contaminants**			
	▪ Pyrethroid Working Group ▪ Trace Organics Activities	G. Kester G. Kester	10	
7.	**Energy Workgroup Crossover Updates**			
	▪ AB 32 Proposed First Update to the Climate Change Scoping Plan	G. Kester	5	
8.	**Biosolids Research**			
	▪ WEF Biogas Study ▪ NBMA Library – March List of Biosolids Related Research	G. Kester T. Meregillano	5	Attachment
9.	**Conferences/Webinars** ▪ WEF Residuals and Biosolids 2014: May 18 – 21, 2014 Austin Convention Center, Austin, TX. ▪ BIOCYCLE REFOR14 WEST: April 7-10 (four days) at Town & Country Resort in San Diego. ▪ BACWA P2 and Biosolids Team Up: April 2, 2014 at Elihu Harris State Building 1515 Clay Street Oakland (2nd floor Rm 12) from 1030a.m. to 12:00p.m.	All	5	
10.	**Information Sharing**	All	10	

NEW ITEMS IN THE NBMA RESOURCE LIBRARY

Lab versus life March 2014

TITLE: Determining the ecological impacts of organic contaminants in biosolids using a high-throughput colorimetric denitrification assay: a case study with antimicrobial agents

Author: Holzem, R.M., H.M. Stapleton, and C.K. Gunsch
Source: Environ. Sci. Technol. 2014 48:1646-1655
Abstract: Land application accounts for ~50% of waste- water solid disposal in the United States. Still, little is known regarding the ecological impacts of nonregulated contaminants found in biosolids. Because of the myriad of contaminants, there is a need for a rapid, high-throughput method to evaluate their ecotoxicity. Herein, we developed a novel assay that measures denitrification inhibition in a model denitrifier, Paracoccus denitrificans Pd1222. Two common (triclosan and triclocarban) and four emerging (2,4,5 trichlorophenol, 2- benzyl-4-chlorophenol, 2-chloro-4-phenylphenol, and bis (5- chloro-2-hydroxyphenyl)methane) antimicrobial agents found in biosolids were analyzed. Overall, the assay was reproducible and measured impacts on denitrification over 3 orders of magnitude exposure. The lowest observable adverse effect concentrations (LOAECs) were 1.04 μM for triclosan, 3.17 μM for triclocarban, 0.372 μM for bis-(5-chloro-2-hydroxyphenyl)methane, 4.89 μM for 2-chloro-4-phenyl phenol, 45.7 μM for 2- benzyl-4-chorophenol, and 50.6 μM for 2,4,5-trichlorophenol. Compared with gene expression and cell viability based methods, the denitrification assay was more sensitive and resulted in lower LOAECs. The increased sensitivity, low cost, and high- throughput adaptability make this method an attractive alternative for meeting the initial testing regulatory framework for the Federal Insecticide, Fungicide, and Rodenticide Act, and recommended for the Toxic Substances Control Act, in determining the ecotoxicity of biosolids-derived emerging contaminants.
Document#: BIN.EF.MI.5.6

TITLE: Toxicity and bioaccumulation of biosolids-borne triclocarban (TCC) in terrestrial organisms

Author: Snyder, E.H. ,G.A. O'Connor, and D.C. McAvoy
Source: Chemosphere. 2011 82:460-467
Abstract: Triclocarban (TCC) toxicity and bioaccumulation data are primarily limited to direct human and animal dermal exposures, animal ingestion exposures to neat and feed-spiked TCC, and/or aquatic organism exposures. Three non-human, terrestrial organism groups anticipated to be the most highly exposed to land-applied, biosolids-borne TCC are soil microbes, earthworms, and plants. The three ecological receptors are expected to be at particular risk due to unique modes of exposure (e.g. constant, direct contact with soil; uptake of amended soil and pore water), inherently greater sensitivity to environmental contaminants (e.g. increased body burdens, permeable membranes), and susceptibility to minute changes in the soil environment. The toxicities of biosolids-borne TCC to Eisenia fetida earthworms and soil microbial communities were characterized using adaptations of the USEPA Office of Prevention, Pesticides, and Toxic Substances (OPPTS) Guidelines 850.6200 (Earthworm Subchronic Toxicity Test) and 850.5100 (Soil Microbial Community Toxicity Test), respectively. The resultant calculated TCC LC 50 value for E. fetida was 40 mg TCC kg amended fine sand 1. Biosolids-borne TCC in an amended fine sand had no significant effect on soil microbial community respiration, ammonification, or nitrification. Bioaccumulation of biosolids-borne TCC by E. fetida and Paspulum notatum was measured to characterize potential biosolids- borne TCC movement through the food chain. Dry-weight TCC bioaccumulation factor (BAF) values in E. fetida and P. notatum ranged from 5.2 – 18 and 0.00041 – 0.007
Document#: BIN.EF.MI.5.7

TITLE: Toxicity and bioaccumulation of biosolids-borne triclosan in terrestrial organisms

Author: Pannu, M.W., G.A.O'Connor and G.S. Toor
Source: Environ. Tox. Chem. 2012 31:646-653
Abstract Triclosan (TCS) is a common constituent of personal care products and is frequently present in biosolids. Application of biosolids to land transfers significant amounts of TCS to soils. Because TCS is an antimicrobial and is toxic to some aquatic organisms, concern has arisen that TCS may adversely affect soil organisms. The objective of the present study was to investigate the toxicity and bioaccumulation potential of biosolids-borne TCS in terrestrial micro- and macro-organisms (earthworms). Studies were conducted in two biosolids-amended soils (sand, silty clay loam), following U.S. Environmental Protection Agency (U.S. EPA) guidelines. At the concentrations tested herein, microbial toxicity tests suggested no adverse effects of TCS on microbial respiration, ammonification, and nitrification. The no observed effect concentration for TCS for microbial processes was 10mg/kg soil. Earthworm subchronic toxicity tests showed that biosolids-borne TCS was not toxic to earthworms at the concentrations tested herein. The estimated TCS earthworm lethal concentration (LC50) was greater than 1 mg/kg soil. Greater TCS accumulation was observed in earthworms incubated in a silty

clay loam soil (bioaccumulation factor [BAF] = 12 ± 3.1) than in a sand (BAF = 6.5 ± 0.84). Field-collected earthworms had a significantly smaller BAF value (4.3 ± 0.7) than our laboratory values (6.5–12.0). The BAF values varied significantly with exposure conditions (e.g., soil characteristics, laboratory vs field conditions); however, a value of 10 represents a reasonable first approximation for risk assessment purposes.

Document#: BIN.EF.MI.5.8

TITLE: Distinct responses in ammonia-oxidizing Archaea and Bacteria after addition of biosolids to an agricultural soil

Author: Kelly, J.J., K. Policht, T. Grancharova and L.S. Hundal

Source: Appl. Environ. Microbiol. 2011 77: 6551. DOI:10.1128/AEM.02608-10

Abstract: The recently discovered ammonia-oxidizing archaea (AOA) have been suggested as contributors to the first step of nitrification in terrestrial ecosystems, a role that was previously assigned exclusively to ammonia- oxidizing bacteria (AOB). The current study assessed the effects of agricultural management, specifically amendment of soil with biosolids or synthetic fertilizer, on nitrification rates and copy numbers of archaeal and bacterial ammonia monooxygenase (amoA) genes. Anaerobically digested biosolids or synthetic fertilizer was applied annually for three consecutive years to field plots used for corn production. Biosolids were applied at two loading rates, a typical agronomic rate (27 Mg hectare^{1} year^{1}) and double the agronomic rate (54 Mg hectare^{1} year^{1}), while synthetic fertilizer was applied at an agronomic rate typical for the region (291 kg N hectare^{1} year^{1}). Both biosolids amendments and synthetic fertilizer increased soil N and corn yield, but only the biosolids amendments resulted in significant increases in nitrification rates and increases in the copy numbers of archaeal and bacterial amoA genes. In addition, only archaeal amoA gene copy numbers increased in response to biosolids applied at the typical agronomic rate and showed a significant correlation with nitrification rates. Finally, copy numbers of archaeal amoA genes were significantly higher than copy numbers of bacterial amoA genes for all treatments. These results implicate AOA as being primarily responsible for the increased nitrification observed in an agricultural soil amended with biosolids. These results also support the hypothesis that physiological differences between AOA and AOB may enable them to occupy distinct ecological niches.

Document#: BIN.EF.MI.5.9

TITLE: Long-Term crop and soil response to biosolids applications in Dryland Wheat

Author: Cogger, C.G., A.I. Bary, A.C. Kennedy, and A.M. Fortuna

Source: J. Environ. Qual. 2013 42:1872-1880

Abstract: Biosolids have the potential to improve degraded soils in grain– fallow rotations. Our objectives were to determine if repeated biosolids applications in wheat (Triticum aestivum L.)–fallow could supply adequate but not excessive N for grain production and increase soil C without creating a high risk of P loss. A replicated on-farm experiment was established in 1994 in central Washington, comparing anaerobically digested biosolids with anhydrous NH_3 and a zero-N control. Biosolids were applied at 5, 7, and 9 Mg ha^{-1} every fourth year through 2010 and incorporated 10 cm deep, while anhydrous NH_3 plots received 56 kg ha^{-1} N every second year. Grain yield and protein were determined. Soil chemical, biological, and bulk density analyses were made in 2012. Medium and high biosolids rates significantly increased grain yield (3.63 vs. 3.13 Mg ha^{-1}) and protein (103 vs. 85 g kg^{-1}) compared with anhydrous NH_3 averaged across all crops. The medium biosolids rate had significantly lower bulk density (1.05 vs. 1.22 g kg^{-1}) and greater total C (0–10- cm depth) (16.9 vs. 9.4 g kg^{-1}), mineralizable N (156 vs. 52 mg kg^{-1}), and extractable P (114 vs. 16 mg kg^{-1}) than anhydrous NH_3. The P index site vulnerability increased from low for anhydrous NH3 to medium for the biosolids treatments. Soil NO3–N was nearly always <10 mg N kg^{-1} soil (0–30-cm depth). Medium and high biosolids rates significantly increased bacteria/fungi ratios, Gram-negative bacteria, and anaerobic bacteria markers compared with anhydrous NH3. Biosolids can be an agronomically and environmentally sound management practice in wheat–fallow systems.

Document#: BIN.EF.MI.5.10

Dr. Sally Brown – Comments on the Articles

A recent publication in a high profile journal described a novel technique to measure toxicity of chemicals to soil microorganisms (article #1). In principle, this is a great and innovative idea. But in both the telling and in the verification the great idea lost much of its luster. Scientists from Duke University developed a microbial assay to test whether or not different chemicals impact microbial functions. The assay is focused on *Paracoccus denitrificans*- an organism that transforms soil nitrate to nitrogen gas in a process that is referred to as denitrification. The assay measures actually denitrification of added NH_3 along with gene expression and cell viability.

First- let me rant a little bit about the telling. The abstract starts off with '…still little is known regarding the ecological impacts of non-regulated contaminants found in biosolids'. The authors go onto say that biosolids are unregulated re organic contaminants and that the contaminants that are ' likely to accumulate in biosolids' likely have certain characteristics that likely make them 'particularly persistent and bioaccumulative' and that they 'pose a potential risk to the human food chain'. This language may get you published but is increasingly difficult to take- particularly as it ignores the wealth of research and literature on the topic that suggests just the opposite. I have several decades of NBMA libraries to back me up here.

So let's go from ranting to a discussion of the actual paper and the other papers in the library that raise serious questions about the applicability of the approach. The authors focused on anti-microbial compounds in their assessment of this new method. They included triclocarban (TCC) and triclosan (TCS) along with other types of antimicrobials. They added compounds at a range of 3 log units to experimental vessels that also contained glucose, bacterial cells and NO2-. I was not clear reading the article what the final concentrations of the compounds in the vessels were- my first recalculation of their discussion came up with 0.03, 0.3 and 3 ppm TCS which is well above what you would see in solution in a biosolids amended soil- but let's say that the calculations are realistic. The authors saw reduced denitrification at the two highest levels of TCC and TCS addition and so concluded that these were environmentally relevant toxicity indicators that showed that biosolids borne- TCC and TCS were hazardous. However, the other indicators that they used, gene expression and cell viability told a different story. Gene expression saw stimulation in comparison to the control for all genes measured at the lowest level of compound addition, with decreases at the highest level for some of the genes measured. Cell viability told a similar story with increases at the lowest level of compound addition in comparison to the control. To me- this says that this is not a perfect assay. To the authors, it says that these two indicators are not ' as sensitive' as the denitrification portion of the assay.

Concerns about the assay are not the main point- the kicker here is that the method does not take into account the importance of the matrix in the determination of the toxicological effect. What that means is that the biosolids that carries the TCC or

TCS can have an enormous impact on the availabilities and toxicities of these compounds. If you are familiar with biosolids, you remember this whole concept from the discrepancy in toxicity with metals added to soils as salts and metals added to soils in a biosolids matrix. The remainder of the library is devoted to the impact of the matrix on the toxicity of TCC and TCS to soil microbes as well as the impact of biosolids application to the soil microbial community.

The 2nd article in the library is about the toxicity of 'biosolids- borne TCC' to terrestrial organisms including worms and soil microorganisms. In this article, two biosolids were added to soils, containing 24 and 7 ppm TCC. The authors used standard EPA methods to look at CO2 respiration, and the complete N cycle including transformation of organic N to NH4, and NH4 to NO3 for biosolids added to a sandy soil. To set up their study they first did a lab test to see what type of concentrations would be appropriate to include and found some repression of denitrication when biosolids that had TCC concentrations of 34 ppm were added to the soil at 22 metric tons per ha. For the final test they spiked biosolids up to 73 ppm TCC and also included a treatment with 717 ppm biosolids to represent a 30 year loading case. The biosolids were added to the sandy soil at 22 metric tons per ha. They saw a spike in CO2 emissions for all rates of TCC addition, likely related to increased microbial activity from the biosolids addition. They also saw no impact on NH4 or NO3 concentrations as a result of the TCC. The authors noted that the bacteria responsible for these transformations are likely not as sensitive to TCC. They also noted that concentrations of NO3 decreased by the end of the study for all treatments and suggested that this might be the result of localized denitrification reactions. It is important to note here that TCC degrades very slowly in soils with a half life measured in many years rather than days or months.

The 3rd article in the library conducted the exact same study but focused on TCS instead of TCC. Here the authors observed a no effect soil TCS concentration of 10 ppm. That would mean a biosolids concentration of 2000 ppm for a single application at agronomic rates. Previous studies have shown a relatively rapid degradation rate for biosolids borne TCS, with a half life measured in weeks rather than months. Both the 2nd and the 3rd article are from George O'Connor's lab at the University of Florida.

It is interesting to note that the authors of the first study did reference these two articles at the very end of their study- saying that 'it might be advisable to expand this method to more complex media that better simulate biosolids and soil'.

They did not reference the last two articles in the library. These articles used sophisticated microbial techniques to identify changes in the soil microbial community following biosolids application. The 4th article looked as soil bacterial and archaea populations following three years of biosolids or synthetic fertilizer application to corn. Both bacteria and archaea transform ammonia to nitrate in a process that is called nitrification. The authors found that rates of nitrification increased in the biosolids amended soils. These soils also had higher amounts of the

genes from both the archaea and bacteria that are responsible for this process. The last article in the study looked at the soil microbial community following over 15 years of biosolids applications to dryland wheat. Biosolids are applied every 4 years, with a wheat crop grown every two years in a wheat fallow rotation. The soils for the microbial analysis were sampled 2 years after the last biosolids application and so represent the long term effects of biosolids on these soils. The authors saw increased total microbial biomass in the biosolids amended soil in comparison to the fertilizer control. This biomass consisted of higher numbers of both gram positive and negative bacteria as well as anaerobic bacteria in comparison to the control treatments. Both of these studies suggest that biosolids addition is beneficial to soil microorganisms rather than detrimental.

Interesting to note that the authors of the first study did not reference either of these .

Tri-TAC Water Committee Agenda – March 13, 2014

- **Introductions**
- **Additions to the Agenda**

ITEM #	Topic	LEAD	Time (min)	Relevant material
Discussion Items:				
1.	CECs	Phil Friess	10	
2.	Biological Objectives	Phil Markle	20	
3.	State Water Board Drought Workshop	Terrie Mitchell	10	http://www.swrcb.ca.gov/waterrights/water_issues/programs/drought/workshops.shtml
4.	USEPA Electronic Reporting Rule Update	Adam Link	5	
5.	Nutrient Policy	Adam Link	5	
Updates:				
1.	Central Valley Pesticide TMDLs	Mitch Mysliwiec	10	
2.	Proposed Drinking Water Systems General NPDES Permit / LA Regional Board Update	Mitch Mysliwiec / Tom Hall	10	http://www.waterboards.ca.gov/water_issues/programs/npdes/docs/012414mtg_highligts.pdf
Items that are out there:				
GAO Report on Need for Mandatory Nonpoint Source Controls				http://www.gao.gov/assets/660/659496.pdf
Final California Water Action Plan				http://resources.ca.gov/california_water_action_plan/docs/Final_California_Water_Action_Plan.pdf

CASA Regulatory Workgroup Land Committee Key Issue Summary

(Updated as of March 13, 2014)

Item No.	Description	Issues for POTWs	Meeting Notes/Updates	Lead(s)	Next Steps	Due Date
Goal: Support Long-term Viability of Land Application Option						
1	**Local County Ordinances** ▪ Imperial	▪ Potential loss of existing and future land application practices. ▪ Increased biosolids management costs (e.g., longer hauling distances, more expensive alternative practices).	▪ Imperial: Advocacy efforts to challenge ordinance ban on biosolids is placed on hold until a final decision on Kern County Measure-E case is made.	G. Kester D. Gilbert L. Baroldi	▪ Imperial: No updates continue to track.	
	▪ San Luis Obispo: Ordinance placing restrictions on Class B biosolids land application.		▪ San Luis Obispo: On 3/12/13, the Board of Supervisors (BOS) unanimously approved the extension of the existing interim biosolids ordinance until March 2017 as requested by County staff and supported by wastewater agencies and CASA. By extending the interim ordinance until 2017, the County is provided time to review the science and the issues, and consult with others, while drafting a new ordinance. The BOS committed to providing funding as they go through their budget process to allow the Department of Health the ability to perform due diligence as they work on a new ordinance.		▪ San Luis Obispo: No updates continue to track.	
	▪ Kern (Measure E): A voter-approved ordinance that would prevent land application of biosolids in unincorporated parts of the county. A legal challenge was brought in state court in Jan 2011 after dismissal of a federal appeal by the 9th Circuit, in Nov 2010. A Preliminary Injunction (PI) was granted by Tulare County Judge Hicks in Jun 2011. ▪ AB 371 – Kern County Sewage Sludge Bill: This bill would require the state board from January 1, 2015 to December 31, 2016 to require additional testing 2 times per year on the effects of sewage sludge or other biological solids. The bill would require the state board to identify pathogens, endotoxins, and other hazards based on the potential for groundwater contamination and potential to adversely affect human health originating in sewage sludge. The state board is required to submit a report after each test to prescribed committees of the Legislature and the Kern County Board of Supervisors. This bill would make legislative findings and declarations as to the necessity of a special statute for Kern County.		▪ On January 27, 2014, Assemblyman Rudy Salas (Bakersfield) removed AB 371 from the inactive file, where it had been in abeyance since May 2013. The bill was revised, requiring additional testing for biosolids from outside of Kern County that is land applied in unincorporated areas of Kern County. The bill passed the Assembly's Env. Safety and Toxic Materials and Appropriations Committees and on January 30th, the bill passed the Assembly Floor (47-4 vote). CASA, SCAP and members agencies submitted opposition positions. ▪ City of L.A. is concerned of cost associated with additional testing and sampling (25 loads per day). ▪ Anticipate bill to be heard in the Senate committee in June 2014.		▪ Continue to track - Preparing for opposition strategy as bill makes its way to Senate.	
Goal: Sustain and Develop Biosolids Management Options with Focus on Sustainability						
2	**FOG/Food Waste Digestion Program Regulation** ▪ CalRecycle vs. State/Regional Board oversight	▪ Ensure that existing and future programs are regulated under NPDES permit framework by Water Boards rather than under SW regulations by CalRecycle. ▪ Review and comment on draft/proposed regulations that may impact existing and planned programs.	▪ Tom Howard, SWRCB Executive Officer, sent a letter to POTWs >1MGD, addressing multi-jurisdictional issues on co-digestion of organic material. The letter outlines steps to notify RWQCB of planned or existing co-digestion projects. ▪ CalRecycle formal rule making process on co-digestion exemption regulation is anticipated to start April 2014. CalRecycle will conduct a financial/economic impact analysis prior to formal rule making process. ▪ CASA is working with CWEA in developing an SOP training module. ▪ POTWs are advised to notify LEA for planned FOG projects. Contact	G. Kester	▪ G. Kester to work with CWEA on SOP training module.	

CASA Regulatory Workgroup Land Committee Key Issue Summary

(Updated as of March 13, 2014)

Item No.	Description	Issues for POTWs	Meeting Notes/Updates	Lead(s)	Next Steps	Due Date
			Greg K. if there is any resistance from LEA. ▪ Despite SWRCB's letter, there were concerns raised that LEAs are still performing quarterly inspections and issuing permit fees to POTW that currently operate co-digestion facilities. Greg sent letter to Caroll Mortensen, Director of CalRecycle, regarding this issue and recommended that LEA cease inspections and fees. Waiting for response from CalRecycle.			
3	**CalRecycle 75% Recycling, Composting or Source Reduction of Solid Waste by 2020 (AB341)**	▪ May prohibit agencies from claiming recycling credits for utilizing biosolids as an alternative daily cover (ADC) for landfills.	▪ In discussions with Mark De Bie, CalRecycle is not proposing a "ban" on biosolids at landfills nor on its use as ADC. However, they do not expect to allow its use as ADC to count toward the 75% recycling goal (it will still count for AB 939 diversion credit). ▪ As noted, ARB is proposing phasing out of organics at landfills in their scoping plan but biosolids are not included in that ban at this time. ▪ Basically we will need to pay attention to legislation resulting from the recycling plan, to regulations proposed by CARB, and to regulations proposed by CalRecycle to implement the recycling goal. But it does appear to be a favorable outcome for us at this point.	G. Kester	▪ Continue to track.	
4	**Rendering Facility Regulations** ▪ California Department of Food & Agriculture (CDFA)	▪ Ensure that existing and planned FOG acceptance programs are not subject to rendering facility permitting requirements by CDFA.	▪ CASA and Tri-TAC working with CDFA on Slaughter House Waste exemption. Possible concerns with prions.	G. Kester	▪ G. Kester to follow up with CDFA regarding slaughter house exemption.	
5	**Biosolids Solid Waste Definition**	▪ CISWI rules could have applied to POTWs utilizing methane in an internal combustion (IC) engine.	▪ EPA released a clarification letter that it did not intend to define methane transported in a pipe for combustion in an IC engine as a solid waste.	G. Kester	▪ Ensure clarification letter is widely distributed.	
6	**Arsenic Cancer Slope Factor** ▪ In Feb 2010, EPA proposed a 17-fold increase in the cancer slope factor for inorganic arsenic based on questionable interpretations of available data.	▪ If adopted, the new cancer slope factor would likely impact recycled water, effluent and biosolids limits.	▪ National Academy of Science is reviewing the process in which EPA used to develop the arsenic slope factors (IRIS) and the research that supported the slope factor. ▪ NAS incorporating comments from EPA.	G. Kester	▪ Continue to track, monitor, and comment as efforts proceed.	
7	**EPA's Proposed Electronic NPDES Reporting Requirement** ▪ Proposed regulations will require permittees and regulators electronically report information and data related to the NPDES permit program in lieu of written reports.	▪ If adopted and among other requirements, NPDES regulated biosolids generators and handlers will be required to electronically submit data elements specific to biosolids annual program reports.	▪ Public comments period has been extended to December 12, 2013 due to Federal Gov. shutdown. ▪ General comments: 1) agree with the general goal to go paperless, 2) concerns with duplication of data entry (State/Fed), 3) concerns that the State's CIWQS system is not CROMERR certified, 4) ambiguity of SSO reporting, and 5) question on whether it is possible to request for biogas production information in platform. ▪ Tri-TAC/CASA joint letter.	G. Kester/T. Meregillano	▪ G.Kester to look into Dept. Energy and EPA the best way to capture reliable biogas data.	
Goal: Share Information						
8	**Regional Facilities** ▪ Bay Area Agencies: Updates from Bay Area municipalities and Bay Area Biosolids to Energy Coalitions. ▪ Southern CA & Central Valley: Biosolids projects and facilities in Southern and Central Valley regions. ▪ Inland Empire Regional Composting Facility (IERCF): Indoor composting facility located in	▪ Maintain awareness of collaborative efforts to develop regional biosolids management facilities. ▪ Understand challenges and lessons learned from new facilities in startup or operation.	▪ Bay Area Agencies: - Bay Area Biosolids to Energy Coalitions (BAB2E): A coalition of 19 agencies is developing a regional biosolids management facility. o BAB2E: RFP Evaluation Committee scheduled to make recommendation on proposals (MaxWest and SCFI) to BAB2E governing body on Feb 18th. - City of Redwood demonstration biological sludge dewatering and pyrolysis project. Biosolids are centrifuged and further processed by utilizing biological sludge dewatering which brings the solids to	B. Jones T. Meregillano M. Bao/M.Copeland D. Gilbert B. Gillette	▪ Continue to provide regional biosolids management updates.	

CASA Regulatory Workgroup Land Committee Key Issue Summary

(Updated as of March 13, 2014)

Item No.	Description	Issues for POTWs	Meeting Notes/Updates	Lead(s)	Next Steps	Due Date
	Rancho Cucamonga, owned by LACSD/IEUA. ▪ Westlake Farms: Covered ASP composting facility located in Kings County, CA developed by LACSD. ▪ Terminal Island: The City of Los Angeles and its partners operate the Terminal Island Renewable Energy (TIRE) biosolids injection project, which is designed to reduce greenhouse gas emissions and create renewable energy.		approximately 75%. Solids are then placed into a pyrolysis reactor for energy recovery. - City of Santa Rosa dealing with drought issues affecting biosolids land application and crop production. - City of Palo Alto deemed Harvest Power (Anaerobic Digestion/Thermal Drying) and We Generation (Anaerobic digestion/Thermal hydrolysis) qualified to the city's RFP to construct and operate an "energy/composting facility" at their Regional Water Quality Plant to replace old incinerator. ▪ Southern CA & Central Valley: - OCSD: o Research group looking into Aquacritox. A technology that utilizes super critical-oxygenation process to destroy solids and to recover energy. - Encina Wastewater Authority (EWA): o EWA continues to make progress marketing their PureGreen product. Agency is pushing for more social media presence and concentrating on local customers within a 25 mile radius. o EWA will be looking at lessons learned during the past five years of implementation of their biosolids management plan. o EWA developing plans to construct demonstration garden. o EWA continue to conduct a pyrolysis trial on PureGreen pellets with Anaergia (Pyrolysis) producing gas for energy recovery and concentrate that is fed back into digesters to enhance methane production. - IERCF: Facility continues to operate within its permitted capacity. - Westlake Farms: Facility is currently in construction – anticipate completion by Spring or Summer 2014. - Terminal Island: o TIRE currently is injecting approximately 150 tons per day. EPA approved City of L.A's experimental permit on Dec 23rd. The City has started drilling an additional well.			
9	**Regional Associations Report**	▪ Foster partnerships between regional associations by sharing info regarding new issues of concern, lessons learned, project updates, training and educational programs, and public outreach efforts.	▪ SCAP: March 11, 2014 at City of L.A. Hyperion Educational Center ▪ BACWA: Joint meetings held w/Tri-TAC meeting TBD. ▪ CVCWA: Joint meetings held w/Tri-TAC meeting TBD ▪ CWEA: Annual Conference (Santa Clara) April 2014	M. Bao G. Kester J. Hay		
10	**Conferences/Webinars**	▪ Stay abreast of upcoming conferences, local seminars, and webinars.	▪ 2014 Soil in the City Conference in Chicago – Enhancing Urban Soils Living Landscapes and Healthy Communities. June 29-July 2, 2014.	All		
Goal: Address Emerging Issues of Concern						
11	**Pyrethroids**	▪ Potential impacts (positive/negative) to	▪ PWG to submit final pyrethroid report to DPR.	G. Kester		

CASA Regulatory Workgroup Land Committee Key Issue Summary

(Updated as of March 13, 2014)

Item No.	Description	Issues for POTWs	Meeting Notes/Updates	Lead(s)	Next Steps	Due Date
	▪ Pyrethroid Working Group (PWG)	existing programs, public perceptions. ▪ May provide opportunities for direct participation in research/studies to address local concerns/issues.	▪ PWG working on scientific journal/article (summary) for distribution. ▪ Tri-TAC Steering working on next steps – Pyrethroid Strategic Plan, covering communication and regulatory advocacy.			
12	**Trace Organics Activities** ▪ Recognized need to fill data gaps to provide U.S. EPA data to conduct credible risk assessment on trace organics that may be present at low concentrations in biosolids.	▪ Potential impacts (positive/negative) to existing programs, public perceptions. ▪ May provide opportunities for direct participation in research/studies to address local concerns/issues.	▪ The Phase 2 report is completed and set for release by early summer. Phase 2 examined unpublished data (largely from manufacturers) to help fill data gaps for 62 constituents identified by U.S. EPA as high priority. Data was found for 29 of them. ▪ Phase 3 has started.	G. Kester	▪ Phase 3 will be scoped with an RFP developed by this fall. Will need to solicit funding from across the country, because this phase will involve actual research.	
Goal: Maintain Awareness of Key Research Initiatives						
13	**Biosolids Research** ▪ WEF Biogas Study: Create a robust, consensus data set regarding the current and potential production of biogas from anaerobic digestion at WWTPs in the U.S.	▪ Potential impacts (positive/negative) to existing programs, public perceptions. ▪ May provide opportunities for direct participation in research/studies to address local concerns/issues.	▪ WEF Biogas Study published. ▪ SoCal Gas to look at biogas from wastewater treatment plants.	G. Kester		

CASA Regulatory Workgroup Water Committee Key Issue Summary

(as of
March 2014)

DRAFT

Item No.	Description	Issues for POTWs		Links	Lead(s)	Next Steps	Due Date
1	**Whole Effluent Toxicity** • State is developing a new Toxicity Polity that will dictate how toxicity is reported and enforced. The draft "Policy" is now being reformatted for distribution as a "Plan" with an expected update to become available in the summer of 2013 with eventual adoption in late 2013 or later.	• Draft State Toxicity Policy issued in 2011 would establish/ require: o numeric limits for chronic toxicity o use of Test of Significant Toxicity (TST) as statistical method to determine toxicity (concerns it will lead to more false positive results); o use of marine organisms in >1,000 mg/L salinity waters which affects current use of flow-though testing for acute-toxicity o single and multiple test numeric violations that will also trigger accelerated monitoring o RWQCB discretion on inclusion of acute toxicity in permits and whether to allow for dilution	•	State Board Page	Bobbi Larson, Phil Markle	• • We are currently waiting for the next release of the draft "Plan" to see if and how our previously voiced concerns have been addressed. • We will then conduct an evaluation of the required elements and determine the likelihood of a non-toxic effluent being in violation and the costs associated with such exceedances as well as the likelihood of non-toxic receiving waters being erroneously identified as impaired using the requirements of the Plan..	
2	**Recycled Water Policy** • State Water Board is modifying the monitoring requirements for CECs in the policy to implement the Expert Panel's recommendations.	•	•		Bobbi Larson	• Work on draft comment letter (possibly joint letter with other associations)	
3	**Nutrient Policy** • This effort is part of a statewide initiative, supported by the U.S. EPA Region IX and the SWRCB, to establish numeric water quality standards, expressed as NNEs, for State Waters	• Any POTW that discharges to inland surface water will be affected under the policy. • Adoption of a statewide approach to nutrient control will affect NPDES permitting, 303(d) listings, and TMDL development. • Possible outcomes associated with the policy include stringent numeric endpoints for total nitrogen and phosphorus.	•		Tom Grouvhog	• Develop a suggested monitoring template that will support CASA's recommendations for the nutrient policy.	
4	**CECs** • Pharmaceuticals and other trace constituents of emerging concern (CECs) are ubiquitous in wastewater at low concentrations and have unknown effects on aquatic organism	• The State Board, along with Southern California Coastal Water Research Project (SCCWRP), has been working with the Ecosystems Advisory Panel to determine next regulatory steps. • The panel will recommend monitoring wastewater for CECs, and possibly bioanalytical assays to test for toxic effects		Draft Report	Chris Stacklin	• Wait for final report and await Determine our preference for how this study should be conducted and funded.	
5	**Statewide Mercury Programs** • The Mercury Programs will incorporate methylmercury objectives and control plans for mercury impaired waterbodies • Mercury Control Program for Reservoirs will address all mercury impaired reservoirs included on the 2010 303(d) list	• Any wastewater that discharges to a mercury-impaired waterbody will eventually be included under the policy • The State Board is considering ways to harmonize efforts with existing TMDLs • If control program for NPDES permitted sources is developed implementation	•	State Board Mercury Page	Tom Grovhoug, Shannon Bishop	• Continue to provide input at public meetings and submit comments	

CASA Regulatory Workgroup Water Committee Key Issue Summary

(as of
March 2014)
(cont'd)

DRAFT

Item No.	Description	Issues for POTWs		Links	Lead(s)	Next Steps	Due Date
	• Future elements of the policy could include control programs for future impaired reservoirs, rivers/creeks/streams/enclosed bays/coastal bays/estuaries/lagoons impaired by mercury, NPDES permitted sources, and nonpoint sources	measures such as mercury-specific pollution prevention, installation of amalgam separators for dental offices, and improving wastewater treatment may be required.					
6	**Methylmercury Objectives** • State Board is developing a methylmercury fish tissue objective and implementation plan • The scientific underpinnings for the criteria development are still under consideration, but there will likely be two objectives in terms of fish tissue, one to protect human health and one to protect the California Least Tern	• The State Board staff are working on the implantation plan for the objectives.	•	State Board Mercury Page	Tom Grovhoug, Shannon Bishop	• Begin to work on internal strategy and then begin working with State Water Board and to iron out issues	
7	**Biological Objectives** • The State Board is developing a Biological Objective Policy that will incorporate bioassessment results into Basin Plans, impairment listing decisions and eventual enforcement actions to protect aquatic life beneficial uses.	• If biological impairment is found to be caused by a pollutant, it could impact how NPDES permits are written and permit limits.	•	State Board Biological Objectives Page	Phil Markle	• There is a current Tri-TAC technical workgroup that has been involved in providing technical comments on various documents as they have been released. Tri-TAC is now in the process of forming a Policy workgroup to address policy issues of BO. Ann Heil should be included in the Tri-TAC working group since she is representing the POTW perspective on the working group.	
8	**SSS WDR** • The Monitoring and Reporting Program for the SSS WDR is being revised by the State Board	•	•	Draft SSS WDR	Bobbi Larson, Monica Oakley	• Continue to monitor the SSS WDR program for possible future changes and review data presented in the annual compliance reports. •	
9	**Delta Issues** • Standing topic to discuss issues in the Delta that can have statewide impact. • State Board is updating Bay Delta Plan	• Ammonia discharged from POTWs has been suggested to be disrupting the food-web, and ultimately contributing to the decline of pelagic fish populations in the Bay-Delta estuary • This rational was used by the Central Valley RWQCB to support requiring Sacramento Regional County Sanitation District to upgrade to nitrification, at an estimated cost of $800 million • Various studies to resolve uncertainties related to the impacts of ammonia are underway •	•		Terrie Mitchell	• Continue to track issues as they emerge and act on those with state-wide significance	
	•	•	•			•	
11	**EPA Ammonia Criteria** • EPA released the final version of the new	• The 2013 freshwater ammonia criteria is lower than the 2009 draft criteria and	•		Tom Grouvhog/ Phil Markle	• Track and provide comments when necessary	

CASA Regulatory Workgroup Water Committee Key Issue Summary

(as of
March 2014)
(cont'd)

DRAFT

Item No.	Description	Issues for POTWs		Links	Lead(s)	Next Steps	Due Date
	freshwater ammonia criteria in August 2013.	depending on how the criteria is applied, it could be difficult for POTWs to meet to limits.					

12	**EPA Water Quality Criteria**
	• EPA is proposing changes to the water quality criteria regulations regarding administrator determinations, attainable uses, triennial reviews, compliance schedules, antidegradation, and variances.
		• Key elements likely to be included in the regulation:
		  • Antidegradation- States must adopt binding anti degradation requirements and minimum implementation methods
		  • Attainable uses- when use is not attainable, State must specify next highest attainable use
		  • Triennial review- current criteria should be examined
		  • Variance- requirements will be specified
			•		Shannon Bishop	• Track and provide comments when necessary
						• Work with NACWA on comments	

13	**EPA Integrated Permitting** • EPA effort to integrate municipal stormwater and wastewater plans in relation to the CWA. The integrated planning process will potentially identify efficiencies in implementing overlapping and competing requirements that arise from separate wastewater and stormwater projects, including capital investments and operation and maintenance requirements.	• The integrated permitting approach could be beneficial for POTWs because it is intended to help municipalities meet their CWA obligations by optimizing their infrastructure improvement investments through the appropriate sequencing of work. • Is there a way to harmonize with Porter Cologne in California? • EPA integrated permitting document came out as a draft. This is driven by urban mayors. There wasn't a lot of substance, although one issue raised was removing 5-yr permit cycle			Ben Horenstein/ Jackie Kepke	• Continue tracking this effort along with NACWA • Review draft framework document when released	
14	**Electronic Reporting** • Agencies are now required to electronically report compliance data to their regional boards via CIWQS • State Board is working on eSMR 2.5 that will allow for electronic submittal of EPA required self-monitoring data	• Errors are often propagated when the data are made public, and they are also often presented out of context (e.g. presenting exceedences as violations) • Errors are difficult to correct • Finalization of eSMR 2.5 will require a different data file type to be submitted electronically	•		Shannon Bishop	• Submit comment letter to EPA regarding the proposed electronic reporting rule. • Work with the State Board to ensure that California's electronic reporting databases are CROMMER certified.	
15	**EPA Dental Amalgam** • October 26, 2011 - EPA released its 2010 Effluent Guidelines Program Plan announcing its intent to adopt guidelines on the use of dental amalgam by dentists	• Agencies are concerned that dentists' offices will be regulated as part of POTWs' pretreatment program • EPA will likely create a new category so that dentists will not be categorized as SIUs • They may also grandfather in existing regional dental amalgam programs	•		Tim Potter	• Comment on draft guidelines when they are released	
16	**Pesticides** • Cross-media issue • Some pesticides are toxic to sensitive organisms at extremely low	• In the future, POTWs could be regulated for pyrethroids, which they can't control and are toxic to sensitive organisms at very low levels. Engagement at this stage could steer regulators to adopt strategies favoring	•		Pesticide Work Group: Greg Kester, Linda Dorn, Preeti Ghuman, Phil Markle, Dave Snyder, Melody LaBella, Karin North,	•	

CASA Regulatory Workgroup Water Committee Key Issue Summary

(as of
March 2014)
(cont'd)

DRAFT

Item No.	Description	Issues for POTWs		Links	Lead(s)	Next Steps	Due Date
	concentrations. • Nanoparticles and some biocides have potential to interfere with biological treatment processes • Some pesticides like triclosan, fipronil, and nanosilver are considered CECs	source control • POTWs are participating in a long-term joint program with stormwater and the water boards to work cooperatively with pesticide regulators to use their pesticide regulatory authorities prevent pesticide-related POTW compliance and operational problems.					
17	**DTSC Safer Consumer Products Regulation** • The Department of Toxic Substances control is developing new regulations that will allow chemicals to be controlled without recourse to the legislature.	• This could be an important tool for POTWs to prevent the discharge of toxic substances to their influent.	•	Draft DTSC Regulations	Karin North, Melody LaBella, Kelly Moran	• Comment on Green Chemistry regulations due on October 11th. BACWA will write letter and Tri-TAC may sign on the letter if warranted.	
18	**State Water Board Resource Alignment** • This project was initiated by the State Water Board. The Board directed staff to assess and align State Water Board priorities, resources, and performance targets.	• This effort is an opportunity for POTWs to State Water Board's priorities, recommend ways to improve efficiencies in regulatory requirements, and hopefully improve cost-effectiveness of regulatory compliance.	•		Adam Link	• Working group will brainstorm implementation ideas for the State Board.	
19	**Statewide Cadmium and Hardness Policy** • The State Water Board staff is evaluating the cadmium criteria. As part of this policy, hardness selection criteria may be defined. • CEQA scoping began in fall 2008 but was stalled. State Water Board staff are continuing work on the project.	• The new policy will likely result in more stringent cadmium criteria.	•		Mitchell Mysliwiec	• Work with State Water Board staff to get update on the project to determine next steps.	