



Pesticides Subcommittee Meeting Agenda

1:00-5:00 pm Friday, September 27, 2019

Conference Room 1610, Cal/EPA Building
1001 I Street, Sacramento, CA 95814

Allow extra time for parking and to go through security.

Online: <https://join.me/sfei-conf-cw2>

To dial in by phone: 1.415.594.5500

Conference ID: 238-626-034#

See following pages for additional discussion materials for some agenda items.

1. Welcome and Introductions, 1:00

2. Consensus cards, 1:10

Each subcommittee member has been provided with 4 color-coded cards for use in “consensus-seeking.” This process is intended to inform recommendations made by the subcommittee, and is meant to be collaborative, cooperative, inclusive, and participatory.

3. Overview and approval of summary of August 26 meeting, 1:20

Materials: [Aug 26 meeting summary](#)

4. Non-targeted analysis, 1:30

Guest expert: Tom Young

The committee has expressed interest in non-targeted analysis (NTA) as a possible method to identify additional causes of observed toxicity. Tom will walk us through what that could look like. [Desired outcome: informed subcommittee].

Materials:

- Additional information about motivation, feasibility, and cost (see below)
- Example paper using NTA: Moschet et al. 2017 [[Download link](#)]

5. Assessment Question related to Human Health Impacts, 2:00

Desired outcomes:

- Wordsmith ASC's strawman assessment question.
- Recommendation from the subcommittee to add this new assessment question.

To what extent do current use pesticides contribute to human health risk in the Delta?

Do pesticides occur at concentrations that exceed water quality regulatory values and benchmarks ("reference values") for human health?

Recommended reading: Moran, Kelly D, and Bonny Starr. "Is Protecting Aquatic Life from Pesticides Sufficient to Ensure Human Health Protection in Sources of Drinking Water?" Sacramento River Source Water Protection Program, 2018. [[Download link](#)]

6. Changes to current suite of tox test organisms? 2:30

- a. Add *Daphnia magna*? There is more experience is available for *D. magna* than chironomids; smaller water volume necessary for chronic testing; used in the OPP evaluation process. Possible to have
- b. Rainbow trout instead of fathead minnow? (potentially infeasible due to large water volumes required)
- c. drop midge larvae (*Chironomus dilutus*) due to unreliability of water method?
 - i. Anderson, Brian, Bryn Phillips, Marie Stillway, Debra Denton, Michael Lyons, and Mary Hamilton. "Updated Recommendations for Monitoring Current-Use Pesticide Toxicity in Water and Sediment in the Surface Water Ambient Monitoring Program." Sacramento, California: Surface Water Ambient Monitoring Program, July 2018. https://www.waterboards.ca.gov/water_issues/programs/swamp/docs/wor_kplans/tox_recs_tech_memo.pdf.
 - ii. See [Pacific EcoRisk poster](#)

6. Snack and coffee break! 3:00

Snack and coffee will be provided. Thanks for staying through this long meeting.

7. Planning Monitoring for Water Year 2021, 3:15

We are now 2 years into our 4-year study design. It is appropriate to periodically reassess in the name of "Adaptive management."

Desired outcome: Direction to staff to research certain changes to the monitoring design.

8. Add-ons for SEP-funded studies? 3:30

The Steering Committee has requested that staff and the subcommittees create a short-list of project ideas for funding by Supplemental Environmental Projects.

Recommended projects will be further elaborated by staff.

Desired outcome: Subcommittee recommendation on standalone projects or add-ons as candidates for external funding. Possible ideas that we've discussed in the past and may be worth revisiting:

- Cyanotoxins
- Non-targeted analysis
- Expanded suite of metals?

9. Criteria for selecting aquatic toxicity testing lab in 2020, 4:00

****Please leave the meeting for this portion if you may have a conflict of interest****

Review and approve confidential portion of August meeting summary

Discuss tox lab selection criteria [Desired outcome: recommended criteria]

Discuss draft RFP [Desired outcome: comments for revision]

Materials sent via separate email.

10. Wrap-up, 4:50

Review action items and schedule next meeting

Additional Information for Discussion Item #4: Non-targeted analysis

One question the committee has been interested in is whether some of the herbicides that we are concerned about, but which are not analyzed by the USGS lab, could be detected by NTA. In other words, are these compounds in the "libraries" that Tom Young and his lab (UC-Davis) use to ID compounds and would they be likely to detect them if they are present in our water samples?

ASC sent Tom Young a short list of such compounds, which were identified as priorities due to their high-use and toxicity, but are not monitored as part of the USGS methods. He indicated he was interested in the analysis, and although his lab has not explicitly monitored for most of them, their presence in the database (compounds highlighted in green) suggests that they ionize sufficiently and can probably be successfully extracted. Compounds that use the same mode can be fairly easily done with one analysis (\$500/screen or \$800 for compound quantification, including the new compounds in the existing method, although it would only be worth developing the quant method for them if there were at least 10 samples to be run).

Table 1. Example herbicides that may be of interest for NTA and are not analyzed by USGS. A compound in the database is likely to be detected by NTA.

Compound	Mode	Spectra in Database? (Y/N)
2,4-D	ESI-	Y
Clethodim	ESI+/-	Y
Imazamox	ESI+	Y
Isoxaben	ESI+	Y
Linuron	ESI+	Y
Metribuzin	ESI+	Y
Penoxsulam	ESI+	Y
Bromoxynil octanoate	EI	N
Flumioxazin	ESI+	N
Glufosinate-ammonium	ESI-	N
Paraquat dichloride	ESI+	N