

TSCA/iPCB/Green Chemistry Workgroup Meeting Summary September 1, 2021

TSCA Members in Attendance

Scott Braithwaite (ACA)	Robert Mott (Mott Consulting, LLC)
David Darling (ACA)	Amelia Nestler (NGC)
Jeff Donovan (City of Spokane)	Cheryl Niemi (Ecology)
Ben Floyd (White Bluffs Consulting)	Cadie Olson (City of Spokane)
Lauren Heine (NW Green Chemistry)	Amanda Parrish (the Lands Council)
Gary Jones (Printing United Alliance)	Karl Rains (Ecology)
Doug Krapas (IEP)	Riaz Zaman (American Coatings Assoc.)

Guests:

David Dilks

LimnoTech & Technical Advisor for the SRRTTF

iPCB/TSCA Agenda Items Discussed: Note that the prior annual historical discussions for this workgroup can be found in the May, 2021 meeting minutes

General: David Dilks of LimnoTech presented the findings of the *Sources and Pathways of PCB-11* project to the work group (**presentation attached**):

Summary Slide:

- *PCB-11 concentrations are essentially indistinguishable from blanks in upper portion of study area (i.e., Upriver Dam and upstream)*
- *PCB-11 concentrations in lower portion of study area are at levels greater than can be explained by known loading sources*
- *The magnitude of the unexplained load appears large relative to known sources*
 - *Largest individual known load is 5.7 mg/day*
 - *Unexplained load ranges from 4 to 40 (or 72) mg/day*
- The group discussed possible unknown sources:
 - Dry Wells (**see attached City of Spokane Drywells_090121.png**), Note: there's likely quite a few private drywells that aren't on the map. Also, other errors may exist where something was mislabeled – so use with caution
 - Septic Systems
 - Breakdown of higher level congeners
 - Aerial Deposition
 - Bound in place
 - Old electrical equipment or fill
 - Fires (2014)
- Suggestions:
 - Look at other lower level congeners for comparison due to similarities (solubility)
 - **Action: D. Krapas to include on iPCB/TSCA workgroup agenda for next steps**

1. WA HHWQC Lawsuits: Action: D. Krapas and others (i.e.: Ecology) to provide any updates on the following lawsuits

- a. No updates since the prior meeting minutes

Previous Meeting Notes:

- b. The Department of Justice advised counsel in early June that EPA intends to engage in rulemaking to reinstitute federal human health water quality criteria for WA
- c. Based on that information the parties filed joint motions in the two pending federal cases to stay the federal litigation pending additional EPA rulemaking with a deadline for a draft EPA rule in nine months and final EPA rule nine months thereafter
- d. The pending litigation will be dismissed once EPA adopts a final rule and could be reactivated if EPA fails to meet the agreed deadlines
- e. The estimated schedule for rulemaking:
 - April, 2022 for Draft Rule
 - June, 2022 for Public Comment
 - January 2023 for Final Rule
- f. D. Krapas also provided an update on the Sierra Club/CELP vs. EPA lawsuit. On July 2, 2021 the Sierra Club/CELP filed a motion for summary judgment in the federal lawsuit to compel a PCB TMDL for the Spokane River.
- g. K. Rains emphasized that all of the above legal activities and EPA's rulemaking process simply continues the level of uncertainty regarding PCBs for WA State, and that Ecology is committed to reissuing the WA Spokane River NPDES permits in early to mid-2022.

2. Update on PCB EPA Method 1668 study of TiO₂ Pigments: Action: J. West & M. Ober to continue providing updates on the TDSC project

- a. J. West from the American Chemistry Council will be presenting the results of the study at the September 22, 2021 SRRTTF Advisory Committee Meeting ([2021-0922_TiO2_SRRTTF_Presentation.pdf](#) attached)

Previous Meeting Notes:

- b. Jay west of the American Chemistry Council provided the following email message to Laura Floyd (Whitebluff Consulting) on May 24th, 2021 in regards to a presentation of the TiO₂ study results to the SRRTTF: *We have a TDSC conference call tomorrow to continue working out matters related to the antitrust and competition policies by which we must abide. I'm not going to place a bet on June. The TF meeting in August is a safer guess.*
- c. J. West provided the following update via email on May 3rd, 2021: *I want to follow up on my message from last week. The data are complete and have gone through all of the quality assurance checks. The reporting phase has encountered legal issues associated with the confidentiality and antitrust practices we're required to observe. If I remember correctly, we had predicted a report in May. As much as we would like*

to wrap this project, I'm not confident that we'll be able to do that. Depending on the progress we make in the next few weeks, we'll be able to provide a clearer prediction.

3. Education/Outreach: Action: The Lands Council is to provide updates on the iPCB National Outreach Campaign project:

- a. The Lands Council will be completing the final draft of the iPCB National Outreach Campaign website by October 1, 2021 for presentation to the iPCB/TSCA workgroup at the October 6th meeting.
- b. The Lands Council will accept final comments from the workgroup members until October 15th with plans to present the final draft to the SRRTTF Advisory Committee at the October meeting.

Previous Meeting Notes:

- c. D. Krapas, V. Barthels, A. Parrish and C. Updegrave met on Jul 12th to discuss the future process for development, review and approval of the scope of work for the iPCB National Outreach Campaign and decided to keep this work under the guidance of the iPCB/TSCA workgroup.
- d. A. Parrish stated that no new materials were available for review and that the final draft of the website would be available for review in September or October.
- e. A. Parrish summarized that not a lot of progress has been made since the presentation to this workgroup in June, due to commercial liability insurance concerns for subcontractors (J. Breems)
- f. The contract with ACE will also require amendment due to SRRTTF approval of the full contract at the June meeting and the balance of work that will be required to complete the contract due to the delays with subcontracting.
- g. D. Krapas was tasked at the June meeting to follow-up on the following comment made by G. Jones in regards to the iPCB National Campaign draft website review: request that page 7 indicate “that iPCBs only represents 0.19% of the contribution of total loading of PCBs to the Spokane River. {based on the 2016 Comprehensive Plan}. D. Krapas followed with with Dave Dilks of LimnoTech and received the following response:
 - *The Table on Page 22 doesn't represent contribution of PCBs to the Spokane River, it represents mass in each source category. A given source category (e.g. deep sediments) may possess large quantities of mass that never get delivered to the river.*
 - *The numbers in on page 22 for Inadvertently Produced PCBs were derived from the Ecology and DOH (2015) PCB Chemical Action Plan, as described on page 20 of the Comp Plan.*
 - *Estimated loading rates delivered to the Spokane River are provided in Table 5 on Page 25 and don't include a category for Inadvertently Produced PCBs.*

This information was forwarded to the workgroup in an email dated July 7th (the date of this meeting), so G. Jones asked for additional time to review.

- h. The workgroup reviewed the comments received and compiled by The Lands Council (attached) regarding the National Outreach Campaign iPCB Draft Website

- i. There was robust discussion regarding bioaccumulation and toxicity of iPCBs.
- j. C. Manahan pointed out that PCB-11 does indeed bioaccumulate and that each congener will have variable bioaccumulation rates.
- k. C. Niemi provided the following link and reference material regarding PCB bioaccumulation and toxicity in a follow-up email on June 2nd:

https://www.atsdr.cdc.gov/csem/polychlorinated-biphenyls/biologic_fate.html

Environmental Alteration of PCB Mixtures

Environmental PCBs occur as mixtures whose compositions differ from the commercial mixtures. This is because after release into the environment, PCB mixture composition changes over time through chemical transformation and preferential bioaccumulation [Cogliano 1998].

Chemical transformation can occur through biodegradation of PCB mixtures in the environment. PCBs with higher chlorine content are extremely resistant to oxidation and hydrolysis.

Preferential bioaccumulation occurs in living organisms. Bioaccumulation through the food chain tends to concentrate congeners of higher chlorine content. In humans, bioaccumulated PCBs also appear to be more persistent in the body [Hovinga et al. 1992]. This is significant because bioaccumulated PCBs appear to be more toxic than original Aroclors in animals [Aulerich et al. 1986; Cogliano 1998].

- l. C. Niemi suggested that a statement be included that the scope of this E & O campaign is centric to work in the Spokane River watershed.
- m. K. Rains suggested that a statement regarding iPCBs be included that iPCBs in general are complex, numerous and don't all act the same way, and that each congener will have differing and variable bioaccumulation rates.
- n. G. Jones comments included a request that page 7 indicate "that iPCBs only represents 0.19% of the contribution of total loading of PCBs to the Spokane River. {based on the 2016 Comprehensive Plan}. Action: D. Krapas to confirm the accuracy of this statement with David Dilks of LimnoTech
- o. There was additional robust discussion regarding E. Pond's comment questioning the inclusion of road paints contributing to municipal storm water. Other members of the workgroup believed that this was an important issue for inclusion in the iPCB campaign effort due to the WA Procurement Policy and the DOT specification for preferential treatment of yellow road paints prohibiting paints containing Diarylide yellow pigments.
- p. E. Pond's comment also included a reference that the PCBs in roadway runoff is largely from cars and atmospheric deposition. Other workgroup members requested evidence to support this statement. E. Pond followed-up with the following references in an email to D. Krapas on June 4th :

<https://link.springer.com/article/10.1007/s00244-019-00640-x>

<https://apps.ecology.wa.gov/publications/documents/1903003.pdf>

<https://www.spokanecounty.org/DocumentCenter/View/3407/Study---PCBs-in-Municipal-Products-PDF?bidId=>

[Background on PCBs and their impacts - Polychlorinated Biphenyl \(PCB\) Wastes - LibGuides at University of Illinois at Urbana-Champaign](#)

Lower Duwamish Waterway Air Deposition Scoping Study, Data Gaps Report, Leidos and NewFields, December 2013 (attached)

Air Deposition Leidos Database, Excel Spreadsheet (attached)

- q. E. Ponds email to D. Krapas on June 4th also included the following salient points:
- *Basically I just want to make sure we don't present wet paint data as conclusive evidence about the level of PCBs being contributed from cured roadway paint.*
 - *The other point I was trying to make is that the website list seems very incomplete for such a complex challenge, listing only roadway paint gives the appearance it is a significant source – which is what I doubt. I have begun reaching out to contacts in the various other PCB efforts I am involved in on the west side. Attached are some data sources the Duwamish Pollutant Loading Assessment is using to model PCB loading from atmospheric deposition. As I mentioned previously, it sounds like this pathway may be a main source (and may well include PCBs from cured paint per the chemical process Cheryl N was describing?). Atmospheric deposition is obviously a very hard pathway to address since it's literally "all up the air", but it is an important part of the challenge for surface runoff (stormwater) issues that I think should be accounted for.*

Lower Duwamish Waterway Air Deposition Scoping Study, Data Gaps Report, Leidos and NewFields, December 2013 (attached)

Air Deposition Leidos Database, Excel Spreadsheet (attached)

- r. D. Darling questioned the designation of primary and secondary sources of iPCBs since there is no basis for such designations. Other members agreed that there is some work that needs to be done here to provide better clarity regarding potential pathways.
4. **2021 Proposed Projects: Action: D. Krapas to provide updates**
- a. D. Krapas submitted RFP's (request for proposal) for the projects approved by the SRRTTF: *Develop Industry List of Pigments: Chlorinated vs. Non-Chlorinated* and *Lower Procurement Limits Campaign, Phase 1: 3rd Part Research*.
 - b. RFP's were provided to the following individuals and organizations on August 24th:
 - Gonzaga University, Kyle Shimabuku
 - Rutgers University, Lisa Rodenburg
 - Northwest Green Chemistry, Anna Montgomery
 - Chemforward
 - Made Safe, Amy Ziff
 - Amelia Nestler, formerly of NWGC
 - c. Lisa Rodenburg of Rutgers will be collaborating with Made Safe on the Develop Industry List of Pigments project.
 - d. Lauren Heine and Amelia Nestler will be collaborating with ChemForward on the Develop Industry List of Pigments project.

- e. Proposals are due by September 28, 2021.

Previous Meeting Notes:

- f. D. Krapas is to develop and submit RFP's (request for proposal) for the projects approved by the SRRTTF: *Develop Industry List of Pigments: Chlorinated vs. Non-Chlorinated* and *Lower Procurement Limits Campaign, Phase 1: 3rd Part Research*.
 - g. iPCB/TSCA workgroup members should provide contact information for any parties that might be interested in bidding on these scopes of work.
 - h. The scopes of two iPCB/TSCA workgroup projects (*Develop Industry List of Pigments: Chlorinated vs. Non-Chlorinated* and *Lower Procurement Limits Campaign, Phase 1: 3rd Part Research*) were approved by the SRRTTF at the May meeting.
 - i. The next step is to submit the projects for RFP (request for proposal).
 - j. The potential bidders list thus far includes the following:
 - Gonzaga University
 - Rutgers University
 - Northwest Green Chemistry
 - Chemforward (Pigment Project only)
 - k. L. D. Wilson has an \$8k placeholder in the TTWG budget for the Phase 1, Sources & Pathways of PCB-11 project (iPCB/TTWG Project #4). Approval will need to go through the process for approval and execution of projects.
- 5. Safer Products WA: Action Ecology, C. Niemi and C. Manahan to continue updates**
- a. Ecology conducted a webinar on iPCBs in printing inks on August 31, 2021: https://www.ezview.wa.gov/Portals/_1962/Documents/saferproducts/August_31_2021_Webinar_Presentation.pdf
 - b. Representatives from the industry groups expressed their concerns with restrictions on both coatings and inks. Also concerns with how HP's purchasing policies are being portrayed, especially considering that HP ink cartridges use dyes and not pigments.
 - c. Considering that the work of Safer Products WA is very synergistic with that of the SRRTTF, we should consider having a representative from Safer Products WA present the PCB related materials to the SRRTTF. **Action: D. Krapas to coordinate with Ecology on a possible future presentation.**

Previous Meeting Notes:

- a. C. Niemi stated that Ecology will be providing a webinar on iPCBs in printing inks on August 31, 2021 and encouraged anyone interested to register: https://www.ezview.wa.gov/site/alias_1962/37555/safer_products_for_washington.aspx
- b. Ecology is moving at a fast pace in developing regulatory determinations, so all stakeholders are encouraged to participate and provide feedback.
- c. C. Niemi stated that the Q & A from the webinar addressing iPCBs in paints on June 1st have been uploaded to Ecology's EZ View website: https://www.ezview.wa.gov/site/alias_1962/37555/safer_products_for_washington.aspx
- x. Ecology conducted a webinar addressing iPCBs in paints on June 1st from 09:30 to 11:30 PST that included a technical evaluation on the Safer, Feasible, Available Analysis, and also solicited ideas and discussion.
- d. Based on Ecology's findings, they have enough evidence to demonstrate that some paints have lower levels of PCBs than others. Next steps will be to evaluate if

restrictions should be proposed. Any resulting draft regulations will be published in November, 2021 with any final regulations due for submittal to the legislature by June, 2022.

6. TTWG and Funding Groups: Action L. Dally Wilson & K. Rains to provide updates

- a. No updates

Previous Meeting Notes:

- b. L. D. Wilson reported that the TTWG workgroup has developed a more detailed scope for forthcoming projects.
- c. D. Krapas inquired about the status of LimnoTech's scope of work to evaluate sources and impacts of PCB-11. J. Donovan and L. D. Wilson confirmed that this project is included in LimnoTech's scope of work with a schedule for completion of September 30, 2021.
- d. K. Rains reported that the funding work group is focused on the hot spot work in Mission Reach.
- e. L. Daly Wilson summarized that the TTWG completed scoping of additional projects (appx. \$700k) and that they were approved at the June SRRTTF meeting
- f. K. Rains met with A. Parrish on the spreadsheet of listed grant opportunities. Over the next month the Lands Council will locate and review Mike Peterson's files for any opportunities that he may have been pursuing.
- g. The funding group still needs to finalize the grant finding boilerplate

7. EPA research opportunities: Action EPA updates by M. Mullin & L. Edmondson

- a. No EPA representatives were present to provide updates on EPA projects, but D. Krapas received the following email from M. Mullin on 08/04/21:

In June I sent you the attached email announcing the opening of the EPA Small Business Innovation Research opportunity, and inclusion of the topic PCB-free coloration technologies. The opportunity closed yesterday, and we received multiple proposals. There is no guarantee that any applicant under this topic will win funding, but I did want to make you and the task force aware of the progress. If you recall, last year [NanoSonic inc](#) was awarded \$100,000 for their phase 1 proposal to develop PCB-free pigments for use in textiles.

- b. The workgroup discussed the presence of iPCBs in clothing dyes, as many were under the impression that dyes do not include pigments and therefore we free of iPCBs. Dr. Mott explained that mass coloration of textiles uses dyes that do not contain pigments, however there are other sources of special colorants used in clothing that can contain pigments such as textile printing pigments, indigo blue jean pigments, and color pigments applied after dyeing.
- c. **iPCB Key words for Scholarly Articles:**
M. Mullin needs to review prior to submitting to this workgroup for consideration

Previous Meeting Notes:

M. Mullin stated during our February, 2020 call that EPA is resource limited and

is focused on higher priority projects such as site clean-ups and iPCB product testing (see below Children's Product Testing), so this particular project has been assigned a lower priority and is currently on the back burner.

d. **Children's Product Testing:**

M. Mullin stated that this is currently not an agency priority, but provided the following new iPCB webpage:

EPA iPCB webpage: <https://www.epa.gov/pcbs/inadvertent-pcbs>

Previous Meeting Notes:

M. Mullin stated during our February, 2020 call that this remains a work in progress, as EPA attempts to understand the variability of the results and other environmental influences (air emissions, dust adsorption, etc.).

e. **NTP risk study of various Congeners and Aroclors:**

➤ At the July meeting, the SRRTTF approved the development of a letter to EPA requesting a status update on the NTP toxicity evaluation of PCB congeners 11, 95, 126, 153 and Aroclors 1016 and 1254 due to a commitment to the SRRTTF made by EPA (ref. Letter from EPA Region 10 Director Chris Hladick to the SRRTTF c/o Adriane Borgias, dated September 24, 2018).

Action D. Krapas and B. Floyd to develop a draft for SRRTTF consideration

➤ Many members of the workgroup have attempted to reach out to NTP for a status update with no success.

➤ M. Mullin provided the following links to other iPCB work by EPA:

Link to the PCB IRIS Assessment:

https://iris.epa.gov/ChemicalLanding/&substance_nمبر=294

EPA iPCB webpage: <https://www.epa.gov/pcbs/inadvertent-pcbs>

f. M. Mullin mentioned that EPA currently has a proposal out to study water, sediment and fish for iPCBs and is seeking locations (that includes recycle paper mills) and tribal partners. The Spokane River watershed should consider applying since it meets many of the criteria.

Other Prior EPA Meeting Minutes:

b. D. Krapas received the following email from M. Mullin on 08/04/21:

In June I sent you the attached email announcing the opening of the EPA Small Business Innovation Research opportunity, and inclusion of the topic PCB-free coloration technologies. The opportunity closed yesterday, and we received multiple proposals. There is no guarantee that any applicant under this topic will win funding, but I did want to make you and the task force aware of the progress. If you recall, last year [NanoSonic inc](#) was awarded \$100,000 for their phase 1 proposal to develop PCB-free pigments for use in textiles.

- g. The workgroup discussed the presence of iPCBs in clothing dyes, as many were under the impression that dyes do not include pigments and therefore we free of iPCBs. Dr. Mott explained that mass coloration of textiles uses dyes that do not contain pigments, however there are other sources of special colorants used in clothing that can contain pigments such as textile printing pigments, indigo blue jean pigments, and color pigments applied after dying.
- h. D. Krapas received an email message update from Michelle Mullin on June 1st regarding 2021-2022 Small Business Innovation Research (SBIR) Phase I Solicitation that includes research funding for small businesses developing PCB-free coloration. D. Krapas forwarded this information to the iPCB/TSCA Workgroup members via email on July 1st.