

# HHC Workgroup July Meeting

Wednesday, July 15, 2020 6:19 AM

**Meeting Date:** 7/30/2020 10:00 AM

**Location:** Zoom meeting

**Link to Outlook Item:** [click here](#)

**Invitation Message**

Hey Human Health Criteria Workgroup,

Please review the attached workgroup plan, and if you have any questions or comments please reply to the email I sent today. This meeting will be the first official meeting of our HHC Workgroup following the June EPAC meeting where EPAC members' participation in the group was established.

Please accept the meeting invitation if you are able to attend, and EPAC members feel free to forward this meeting invite to one other person who you would like to represent either with you or in your stead at the meeting.

Thanks again for agreeing to participate on this workgroup!

This meeting will take place via Zoom. Here are the Zoom meeting details:

**HHC Workgroup Zoom Meeting**

Time: Jul 30, 2020 10:00 AM

Join Zoom Meeting

<https://us02web.zoom.us/j/88102251421>

Meeting ID: 881 0225 1421

Dial by your location

(646) 558 8656

Laura K. Cooper

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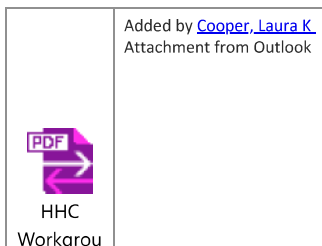
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**Content**



**Participants**

-  [Cooper, Laura K](#) (Meeting Organizer)
-  [Rebecca McPhail](#) (Accepted in Outlook)
-  [Angie Rosser \(arosser@wvrivers.org\)](mailto:arosser@wvrivers.org)
-  [Ted Hapney?](#)
-  [Charles "Larry" Harris - Personal E-mail](#)
-  [Mandirola, Scott G](#)
-  [Smith, Chris B](#)
-  [Brittain, Ross A](#) (Accepted in Outlook)
-  [Bird, Kerry L](#) (Accepted in Outlook)
-  [Maguire, Edward F](#) (Accepted in Outlook)
-  [Wandling, Jason E](#) (Accepted in Outlook)
-  [Emery, Katheryn D](#) (Accepted in Outlook)
-  [Jennie Henthorn](#) (Accepted in Outlook)

**Notes**

**Instruction for Zoom video settings**

**Introductions**

**Review**

EPAC Meeting last month - Workgroup put together as part of proposed language that DEP proposed in March in our rule to study HHC and what to deem necessary to recommend necessary changes next spring.

Quickly review how we propose criteria

Discuss work group plan Word Document - How group will work - we can decide how we pursue and what we study

Review portion - nationally recommended HHC - EPA criteria how they did what they did - what the equation looks like

Review proposals from Manufacturers Association and Rivers Coalition

Discuss plans for next meeting

Slide Presentation

2018 -DEP proposed updates for Human Health Criteria proposed for all the criteria in the Standards that we have now - initially 2015 EPA recommended Criteria - use Fish consumption rate -when submitted recalculated criterial to use the WVFQR- 2018 proposal -

2019 Legislature removed the HHC revisions - mandated to accept additional public input - so we did that  
September received proposals from Manufacturer's Assoc and WV Rivers - held a meeting  
Early this year we proposed revisions for 24 - EPA recommended criteria as-is  
Response to those comments as well as final proposed rule will go to SOS next month  
Last month - met EPAC - established this workgroup - 7 of them 4 of us monthly until May 2021

Feedback - may have different opinions - establish ground rules - conversation decorum

Consensus? Vote - actually making decisions?

Ultimate goal - Will research and review the remaining HHC and make a recommendation to Secretary

Prefer Consensus

Consensus will be the easiest to defend with recognition that there are differing viewpoint - may not reach consensus - strive for with some form of backup

Trying to understand and try to come to consensus.

Cannot reach consensus - we won't just give up

Consensus is coming to a place we can all live with - a sensible compromise

Talk about what we agree on - focus on what we agree on - make it closer to consensus in end

**Ground Rules**

Polite

Respectful of each other and each other's level

Open

Speak Up

**Goal or benefit you hope to obtain from this group**

- Rebecca - looking for reasonable and protective regulation for the regulated community and common understanding for the best way to make changes based on the best science - or WV specific variables
- Ross - Environment Toxicologist
  - Help Identify critical data gaps - advocate ways to get that data
- Chris - Reasonable and protective regulation ultimate goal
  - Criterial good and defensible
- Jenny
  - Gain understanding - listen and learn from the scientific perspective and human perspective
- Angie - when will next training review - could be useful for annual reviews - WV slow to adopt EPA criteria - act more comprehensively - think we are in behind - not in favor of workgroup - open up better communication with EPA - learn and understand more
- Scott - come to consensus - when it has to be taken to legislature - not fighting both sides. At a minimum - listen, try to understand science and viewpoints of all involved. Understand of views and why they take those views. Listen to the effects of different approaches and different parties.
- Larry - Come up with WQ Standards to protect WVians, and to learn
- Jason Wandling - To Learn
- Kathy - better understanding - very sound and scientifically
- Ed - observe and learn the process

- Ted - see how the science is developed as far as protecting the standards and community and people and to live safely and provide jobs
- Jason Bostic – no response (*didn't seem he could hear us*)

## Slide Presentation

### Fish consumption rate and bio accumulation factor.

Generally, this part of the equation, on the top of this equation -this is part of the numerator, the part that gets divided into from the bottom and that's where the toxicity value is and again that's either reference dose and relative source contribution, if it's a non-carcinogen or there's a cancer slope factor multiplied by ten to the minus six, to account for one in a million. So, the relative source contribution is something we are going to talk about more in the future in this group. But it estimates that a portion of your exposure to any particular chemical will come from outside of your water source and also outside of water. So, my exposure to this I could be exposed to this from the air or I might get exposed to this chemical from food and because of that only a portion of my exposure to this chemical in my life would come from water, But they're generally set are set at point two which means and this is for non-carcinogens it means that EPA multiplies the toxicity value by point two so it says here's how toxic a chemical is and then we take a fifth of that just to be protective because we assume that eighty percent of your exposure to this would come from somewhere other than water. And those range anywhere from twenty to eighty percent but most of them are set at twenty percent.

- Ross mentioned that again looking at this from the toxicology standpoint, this equation is loosely based on risk based processes and it's pretty loose and one of the things I noticed with the methodology here's an observation that I think we need to keep in mind it's not a very conservative estimate because while they're adding in the relative source contribution which I think is good, at the same time this equation only accounts for the ingestion of water either directly through water consumption or indirectly through the food that is cooked with the water and that's where the term the direct intake DI value comes from, it does not account for dermal contact with that water while you're showering or the inhalation of volatiles that volatilize into the air while you are bathing, nor does it account for exposures while you were swimming, either, so there are multiple exposures that are missing from this which makes us a less than conservative estimate I think it's important to understand as we as we move forward.

The **fish consumption rate** is a sum of the total values that they have for the trophic levels of fish and it all adds up to the fish consumption rate, it takes in all of the information that they have for each trophic level and puts it in. EPA has that as a twenty-two grams per day for the national average. And that has risen from seventeen point something that it was before. When we proposed this in 2018 we changed this to use the West Virginia fish consumption rate but in what we've proposed this year we're going straight with the EPA criteria so we have used that for these criteria that we have proposed this year.

**Bio Accumulation factor** is the final part of this equation that is a big part of it this is something that the manufacturers association proposal to us last fall that they brought up -there were a lot of issues with it. Generally the bioaccumulation factor is supposed to represent the fish's exposure through the food chain as well as the water that's around it and the food that it eats and soil that's in the water its suppose to take into account all of that to come up with the bioaccumulation factor is close to what they had in previous recommended criteria that was based on bio concentration. Which was underestimating their exposure.

- But generally I like this picture in here of the oil and water mixing together and I have a caption there that says what bioaccumulation- how I can be greater than bioconcentration because sometimes the chemicals are very persistent or hydrophobic.

### K. O. W. Method.

As we go through the flow chart that EPA used to determine how they would calculate each criterion often they end up with using the K.O.W. Method or the at least assess the K.O.W. Method to determine. K. O. W. predicts Bioaccumulation factor based on the way that the chemical fractionates in water. If in this beaker we dropped whatever chemicals concern we're talking about in the idea is it's however much of that chemical you would find in the oil, or how much of it you would find in the water after you mix that up. And this is really interesting because it tells us about a chemical hydrophobicity or it's fear of water or in other words how much it stays in fat tissue which is important because that tells you how much it's going to stay in the fish. If it has high K. O. W. that means that it's ( correct me if I'm saying this backwards Ross or anyone) but if it has a high K.O.W. would mean that it tends to stay in the fat portion which means going to a bioaccumulate more in fish tissue, but if it has a low K.O.W. it means it's going to stay mostly in the water portion of the fish which moves in and out, the water gets ingested it goes right back out the other end but the fat stays. The fish hold onto fat tissue, when we eventually consume the fish we would be consuming whatever stays in its fat portion. That is why K.O.W. important to look at with these criteria with bio accumulation factors.

- Basically, we're talking about the EPA's methodology from two thousand that they used to develop these criteria. And their idea was to develop a long term average bioaccumulation potential and organisms and the third bullet here I mention that they use figure three point three dash one out and we'll look at that in a minute but again here a couple of links to documents that are really would be really beneficial to review they're pretty lengthy and detailed.
- Links provided that went to the two thousand methodology and a link to the technical support document for the two thousand methodology which you should definitely check out if you haven't before. Because a lot of information about well all the information on how they how they did this, the methodology that they would use.
- Review of the methodology, straight from the technical support document this is how they illustrate a way that they make decisions on how to calculate bioaccumulation factor for each of these chemicals

- Laura mentioned States that have adopted or are reviewing EPA standards
- Angie asked about Ohio – was Scott able to reach anyone -
- Scott nor Chris have not received confirmation or heard from them – will continue to reach out.
- Many states have decided not to adopt criteria and have no plan – some have adopted some of the criteria
- Discussed Manufacturers Association and Rivers Coalition proposals
  - Rivers Coalition proposed that WV DEP adopt criteria that became more stringent from EPA's recommended criteria and not adopt the ones that becomes less stringent
    - Angie commented, the piece that they are taking a position on only the updates that would be more stringent than current criteria, as we recognize in the public hearings in the comment to mean that's a policy position, it's a position that I don't know that we're going be able to be flexible on because I have a pretty clear directive from our members and allied organizations that I represent that they do not want to see relaxing or a weakening of the criteria so that's where we are. This proposal is to look at all ninety four of EPA's recommended updates not just not just a subset of ones that West Virginia already has criteria for because we were able to find examples of facilities that were discharging some of those chemicals compounds that we don't have criteria for, there is reason to establish those standards as part of this this process now
  - Manufacturers Association approach was to try to consider all the criteria holistically we didn't cherry pick there was no effort to choose certain chemicals over the others and we did focus on the ones that were already within the West Virginia water quality standards so there was that limitation in response with what Angie was saying we did focus only on the ones where there are current West Virginia water quality standards. When we did a review we basically came to the point of accepting all of the EPA factors within the cap criteria calculations for now except for two and that was the Fish Consumption rate we used the West Virginia Fish Consumption Rate from their scientific study a couple of several years back and it with Bio accumulation factors while EPA stated that they use the two thousand and two methodology for developing Bio accumulation we found multiple areas where they had not done that and for that reason we went back to the two thousand and two national recommended human health criteria and used the bio accumulation factors that were used for those criteria calculations rather than the ones from the twenty fifteen bio accumulation factors so those were the only two differences that we had in our criteria calculations from the EPA recommendation and we provided a spreadsheet that sets forth that work we also recommended a number of areas where we thought the agency could move forward and consider ways to improve the criteria calculations we're not satisfied overall with the use of the two thousand and two national recommended human health criteria B. A. F. because we think there's an significant scientific work done in this area since then and we would advocate trying to develop that science and use that to come up with more up to date calculations
- West Virginia DEP want approvable criteria and scientific defensible
- The deeper discussions are going to be around bio accumulation factors and relative source contribution.
- Any discussions with EPA to see if they are updating any of their information ?
- EPA did not endeavor to find more studies in 2015, they used what they had
- Find more recent studies
- If no objections – invite EPA to talk with us as a group
- Ross:
  - offer a little bit of perspective of this from the remediation side this whole issue because BCF first BAF comes into play when we're doing an ecological risk assessments quite a bit or direct fish consumption and so one of the issues is that I think that there's been a recognition over the last ten years that BAF is definitely better than BCF the problem was that historically there was much better data on BCF, much better research and so what has happened is the policy is actually come before the research, policy changes has said we really want BAF but the problem is that the research hasn't caught up with it so I think that that's a big part of the issue why you see so much of the older data in there so, I think that in it over the course of the next ten years we should hopefully see more updated BAF information coming out a lot of those who depend on whether or not you yet what kind of money EPA has available for research stuff because that's where the that's also what plays industry used to be more money available for that kind of research back in the seventies eighties and nineties and Congress is dried up a lot of that money that kind of research so there's not as many studies.
  - Focus in each these meetings about what we can agree on
  - Laura didn't have a slide on body fat body weight or drinking water intake is that because we don't have any study I don't we don't have a West Virginia specific study on either of those things anyway so can we agree on a few things that we that we won't we don't need to look at.
  - How is body weight calculated ?
  - It is based on the, as I recall greater than age twenty one body weight can be done and actually Angie brings up to me a very important point here which is that you know the body weight changes throughout time it should

Word D

be based on you know kind of an age adjusted it weighted average in my opinion because the children are the most susceptible and that's one of the another one of the weaknesses of the methodology that particular equation just not take into account the mutagenic. Qualities in that many of these constituencies of. So that for example in one year. Zero it from age zero to three number jewelry space calculations for the mutagenic compounds we multiply the toxicity by a factor of ten during that time period an age adjusted back to the cause of that and it stops looking and start stepping down from there to a factor of three over the course of the next ten years before it's just a factor of one once they reach the age sixteen they're considered adults at age sixteen so that's one of the things that that is again a weakness of the simplified model at this point but.

- Also at the same time the ambient water quality criteria is calculated to protect against the whole seventy years one in a million chance of getting infected so there's a lot of a lot take it into it already to make that criterion small enough so that even if you're exposed to your entire lifetime you should have a one in a million chance.
- Ross completely agrees with Laura that's where it should be that over the course of the seventy years that age zero to three would be like an equivariant of thirty years for a mutagenic compounds not all compounds are mutagenic but those that are you factor that into it that's the way we do it and all the remediation citing saying any Superfund work or anything like that but again you know that you guys are tied into the EPA's equations so for me when I look at that age and body weight I think we can kind of go along with those as they are the flexibility in terms of the weaknesses of the model can come in with the relative source contributions I think that's where we can and I think 0.2 is way too low for most of the compounds just say the only twenty percent of it comes because you haven't accounted for all these other aspects mutagenic capabilities the dermal contact the swimming contact things like that you have accounted for all of those and but I think if we can come up with a way to be able to help account for those and I have ways in which I can do that I calculate de minimis standards for risk remediation and so I can actually account for dermal verses inhalation verses ingestion etcetera and I can see like the relative contributions of certain chemicals.
- What do we want to move onto next – very general – go through a criteria documents – 90% exactly the same – why EPA did what they did – want to go through spreadsheet – EPA and what we have – Manufacturers and Rivers – what we need to address first – what we agree on.
- Scott suggested a path to identify 5 or 6 of them that are close to consensus – may give us a starting point – supply list to everyone – look at entire list – if any close to consensus – then we look at the details that we may agree upon
- Laura to prepare list
- Discuss Relative Source Contribution and Bio Accumulation Factors in our meetings
- Jenny to bring information to the next meeting
- August meeting – we could aim for last Thursday of the month? Any thoughts?
- Ted suggested we decide it now.
- Laura proposed August 27 @ 1 p.m. Conflict's?
- Thursday is bad for Ted – asked to send out hard copies
- Decided on August 26 @ 10 a.m.