Message

From: Richards, Jon M. [Richards.Jon@epa.gov]
Sent: 9/20/2021 7:55:20 PM
To: Alexander, Shanna [Alexander.Shanna@epa.gov]
CC: Amoroso, Cathy [Amoroso.Cathy@epa.gov]
Subject: RE: Updated Fish Meal Approach Language

Will do
Now I'll attempt calendars !

From: Alexander, Shanna <Alexander.Shanna@epa.gov>
Sent: Monday, September 20, 2021 3:55 PM
To: Richards, Jon M. <Richards.Jon@epa.gov>
Cc: Amoroso, Cathy <Amoroso.Cathy@epa.gov>
Subject: Updated Fish Meal Approach Language

Here you go Jon. I suggest sending along the attached spreadsheet as well. It's been updated to reflect the fish meal method described below. Note that the fish meal is 14.73 not 15.08. Using the updated approach, the fish catch rate went down from 43% to 42%. I would also send the TWRA report. Will send separately.

EPA's suggested evidence-based fish meal approach incorporates a fish catch rate based on the average of the fish catch rates calculated for two points of exposure (POEs) along Bear Creek (i.e., BCK 3.3 and BCK 0.7). Since a creel survey has not been conducted for Bear Creek, EPA has proposed the use of available information from the August 2021 fish sampling event, fish community survey and the last 5 years of BMAP biomonitoring fish counts for BCK 3.3 (which had inadequate fish species collected to derive a reliable fish catch rate). The method factors information from the 2018 TWRA roving creel survey conducted by TDEC for Melton Hill (a nearby location on the Oak Ridge Reservation). This information was used to inform the fish catch rate and the number of fishing trips per year. The fish catch rates are based on a 6-hour per fishing trip rate and the number of fishing events are time-weighted over a 9-month fishing period as reported in TDEC's roving creel survey for Melton Hill. This resulted in a total of 30 fishing trips per year. The fish catch rates were combined with information regarding the number of fishing events and the average weight of the fish at each POE to calculate a representative number of fish meals.

Although three POEs (BCK 3.3, BCK 0.7 and EFK 1.0) were initially selected for the fish community survey and August 2021 fish sampling event, EPA elected to exclude the fish catch rate derived for the furthest downstream POE (EFK 1.0) since it is not a part of Bear Creek, but East Fork Poplar Creek. The average fish catch rate for BCK 0.7 (58%) and BCK 3.3 (26.9%) is 42%. Due to the limited fish count reported for BCK 3.3 during the August 2021 fish sampling event (i.e., 1 fish collected), TDEC's fish catch rate method overestimated the catch rate at BCK 3.3 (i.e., 700%). Therefore, EPA expanded the fish count by incorporating the last 5 years of BMAP data collected for BCK 3.3. Note that by increasing the average weight/biomass available at BCK 3.3, this allows for better and more reliable estimation of the fish catch rate.

Finally, to derive a representative fish meal estimate for the entire Bear Creek based on the estimates calculated for the two reasonable maximum POEs (BCK 0.7 and BCK 3.3), EPA took the average of the calculated fish meals for the two POEs (see attached spreadsheet). This yielded 14.73 fish meals per year.

Shanna

From: Richards, Jon M. <Richards.Jon@epa.gov>
Sent: Monday, September 20, 2021 1:41 PM
To: Alexander, Shanna <Alexander.Shanna@epa.gov>
Subject: RE: update lang

Great!

From: Alexander, Shanna <Alexander.Shanna@epa.gov>
Sent: Monday, September 20, 2021 1:41 PM
To: Richards, Jon M. <Richards.Jon@epa.gov>
Subject: RE: update lang

Done! Going to grab a quick bite and then send you the reworked language for the fish meals methodology.

Shanna

From: Richards, Jon M. <Richards.Jon@epa.gov>
Sent: Monday, September 20, 2021 1:37 PM
To: Alexander, Shanna <Alexander.Shanna@epa.gov>
Subject: update lang

I'm off my main part of my SRS CAB meeting if you need to call before you send updated language or your new table?

And maybe Cathy would be ok with just showing the 200 pCi/L MCL for Cs137 in a footnote in the table? I just wanted all #s to be visible for Blevins
But if not, I'll back off ☺

Jon Richards
Regional Radiation Expert & RPM
US EPA R4, SEMD
Richards.jon@epa.gov
404-431-1340