

York Watershed Roundtable/NOAA-CBNERRS Bees, Beetles, & the Bay questions for speakers:

Pesticides and Fish Health by Vicki Blazer:

- 1) Have you studied the contribution of contaminants in the eggs and effect on male fish?
Answer: The intersex bass produce less sperm. Looking into some gene work.
- 2) The toxins in stormwater events, where are they originating in the watershed?
Answer: There are 13 sites they are testing. They feel that Ag is probably contributing the most towards this issue. Big Pipe Creek (one of the study areas) is a high Ag runoff area. In 2013, sites in the Potomac and Susquehanna were looking at gradient of Ag land use. They were finding Estrogen in runoff from Ag fields. But there is still room for looking at Urban sources, such as stormwater runoff and residential. Need to find out if BMPs that farmers are implementing are reducing the herbicides in the runoff.
 - 3) Fish in Germany vs. Fish in US, are there differences in the studies? Europe, specifically Germany, is banning these herbicides. Is there more education needed in the US?
Answer: Yes, education is key.
- 4) Why is USDA not on list of partners?
Answer: Need to add Ag to list of partners along with other sectors. Want to protect the reputation of Ag and all the BMPs that they do implement. More education needed and work with water quality groups.
- 5) Should there not also be a focus on Turfgrass industry?
Comment: Turfgrass is the fastest growing crop in the Bay watershed. These chemicals (atrazine) are being promoted to encourage the perfect lawn and control broadleaf weeds in grass lawns. We need to target homeowners and the turfgrass industry on this, along with the Ag industry.
- 6) Has work been done to target where these herbicides are being heavily used?
Answer: USGS has been undertaking studies.
- 7) Have you looked at sudden temperature gradients and effect on fish? What is correlation on temperature gradients to estrogen absorption in fish?
Answer: Have not really done that study yet. But there is a congregation of fish near waste water treatment plants due to warmer water. But absorption varies by fish species. Must look at type of fish and fish life cycles.

Plastics by Rob Hale:

- 1) Can Ocean biota (which fix carbon dioxide in oceans) be effected by leachate from chemicals and ultimately add to global warming?
Answer: It's a slow process but, yes, it will give off carbon dioxide and could ultimately effect the ability of the ocean to serve as a sink.
- 2) Have there been studies in natural bees vs honey bees with PBDEs?
Answer: Not to his knowledge

- 3) Are there studies on the level of amount of chemicals being leached vs absorbed? Yes

Endocrine Disruptors by Melissa Perry:

- 1) Are there studies on Thyroid impacts by endocrine disruptors?

Answers: It is shown that farmers are at higher risk for rare cancers. Hormone disruption is far more complicated than you think. It takes 20.5 years to tell story about cancer. There are thyroid studies showing links between bisphenol A (BPA) and developmental issues. How long do we need to wait for more evidence? At what point do we say we have enough information and take critical action.

No Questions for Will Daniel.

Influence of Bay by Joe Wood:

- 1) What do you do with old prescriptions?

Answer: There are scheduled pickups across state depending on locality.

- 2) How does cattle fencing affect biogenic hormones?

Answer: Manure from cattle enters water if cattle are not fenced out. There are lots of hormones that leach out of manures. They are natural hormone excretions mostly, not synthetic.

Pollinators by Keith Tignor:

- 1) Use of Roundup ready crops and increase in bee issues?

Answer: Yes, it is causing issues. Round-up ready crops have caused more land to go into production and resulted in loss of habitat. Also, there are issues stemming from drift from herbicides.

- 2) Neonics or systemic pesticides and issues with bees?

Answer: Actually, there is relatively low exposure and they are not showing up in populations of bees. Neonics persist on soils longer. Decisions, however, need to be based on facts and focus on all pesticides, not just neonics.

- 3) Of the pesticides in use, what effects honeybees the most?

Answer: Carbaryls such as "Seven" cause issues.

But we need to look at much more than the pesticide in bee issues such as colony collapse.

Need to look at other factors such as droughts...don't focus on just one thing...need to look at everything.

Beetles by Art Evans:

- 1) Have there been any studies on the effects of pesticides or other toxics on beetles? No, not that he is aware but it is needed.