

Wildlife Toxicology Working Group Newsletter

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From the Chair

Brian Hiller

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Happy New Year from the Icebox of the Midwest! I certainly hope you are all having a warmer winter than we are here in Northern Minnesota! As I look back to the last few months of 2013 I see that there are signs of hope for our working group and our field, but also some challenges that we face.

The annual TWS meeting in Milwaukee was a good example of both the hopeful signs and the challenges. One example of the challenges was that our planned full-day workshop **“Pollutants and Wildlife Management: Ecotoxicology for Biologists and Land Managers”**, scheduled for Saturday October 5th, was cancelled due to low enrollment. The specific cause(s) of the low enrollment are difficult to determine, but my impression is that the federal government shutdown at the time was resulting in low attendance for many of the “extra-curricular” activities and workshops. This is lost revenue for the group and something that may present a challenge in the future. The positive signs from the meeting included the **“Impacts of Lead Ammunition and Fishing Tackle – Current Issues in the Midwest”** symposium and the **Wildlife Diseases and Toxicology** session, both of which were very well attended and generated ongoing discussions in the halls around the convention center.

Recent media and professional journal coverage of wildlife toxicology related issues are another example of hopeful signs and challenges. California has taken the unprecedented step of moving to phase out lead ammunition by 2019 ([CA Lead Ban](#)), which raises the national profile of wildlife toxicology issues. The lead ammunition issue is also the subject of two different articles in the most recent *Wildlife Professional* as well, increasing awareness within the professional ranks (Pages 48 & 52). The Minnesota State Chapter of TWS is currently putting the final touches on the plenary session dealing with lead ammunition and fishing tackle at their annual meeting titled **“Moving Beyond Lead: Education vs. Regulation vs. Reality.”** The recent publication on the more subtle effects of the *Deepwater Horizon* oil spill in the Gulf of Mexico and the media broadcasting/reporting on the paper, are certainly a positive increase in public awareness of wildlife toxicology issues ([Schwacke et al. 2013](#)). The challenge here is to maintain a higher public and professional profile without becoming part of the repetitive background noise of the 24-hour cable news cycle. Recently,

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...From the Chair, continued from page 1

the board decided to begin the effort to raise the profile of the WTWG by becoming a sponsor of the MN TWS plenary session at the \$200 level. This will help defray the costs of bringing in speakers for the session and will also provide our group with a more “public face” on an important wildlife toxicology issue. A full report on the session will follow in the next newsletter.

Another important challenge for the members of this working group, and perhaps the group as a whole, is to increase our membership through recruitment and retention efforts. Efforts such as the sponsorship will provide the opportunity to recruit new members into group, but one of the ways we can retain members is to better communicate with each another. If you see a toxicology-related issue in your local, national, or an international newspaper, send the link or a quick email to me or one of the other board members and we'll get it out to the rest of the group. Stay involved and keep in touch in addition to reading the newsletter every few months.

Finally, I'd like to conclude by thanking Jeff Levensgood, Tom Augspurger (who will be rotating out as Past-Chair), Deb Rudis, and Tim Bargar for their service in various leadership roles to the working group and Tim, Joe Sullivan, and Katrina Leigh for their work on the cancelled workshop for Milwaukee. Without dedicated folks such as these the working group would suffer greatly, thank you all!

Member Publications

Levensgood JM, DJ Soucek, GG Sass, A Dickinson, and JM Epifanio. Elements of concern in fillets of bighead and silver carp from the Illinois River, Illinois. *Chemosphere* (2013) <http://dx.doi.org/10.1016/j.chemosphere.2013.10.058>

Rattner, BA, KE Horak, RS Lazarus, DA Goldade, and JJ Johnston. 2014. Toxicokinetics and coagulopathy threshold of the rodenticide diphacinone in Eastern screech-owls (*Megascops asio*). *Environmental Toxicology and Chemistry*. DOI: 10.1002/etc.2390

In the United States, new regulations on second-generation anticoagulant rodenticides will likely be offset by expanded use of first-generation anticoagulant rodenticides. In the present study, Eastern screech-owls (*Megascops asio*) were fed 10 µg diphacinone/g wet weight food for 7 d, and recovery was monitored over a 21 d post-exposure period. By d 3 of exposure, diphacinone (DPN) was detected in liver (1.63 µg/g wet weight) and kidney (5.83 µg/g), and coagulopathy was apparent. By d 7, prothrombin time (PT) and Russell's viper venom time (RVVT) were prolonged, and some individuals were anemic. Upon termination of exposure, coagulopathy and anemia were resolved within 4 d, and residues decreased to <0.3 µg/g by d 7. Liver and kidney DPN elimination occurred in 2 phases (initial rapid loss followed by slower loss rate), with overall half-lives of 11.7 and 2.1 d, respectively. Prolonged PT and RVVT occurred in 10% of the exposed owls with liver DPN concentrations of 0.122 and 0.282 µg/g, and in 90% of the owls with liver concentrations of 0.638 and 0.361 µg/g. These liver residue levels associated with coagulopathy fall in the range of values reported in raptor mortality incidents involving DPN. These tissue-based toxicity reference values for coagulopathy in adult screech-owls have application for interpreting non-target mortality and assessing the hazard of DPN in rodent control operations. Diphacinone exposure evokes toxicity in raptors within a matter of days, but once exposure is terminated, recovery of hemostasis occurs rapidly.



Member Profile - Louise Venne

Who are you and by whom have you been employed (employer, job title/description, degrees, etc.)?

While I usually get to be the shadow that edits and sends out the newsletter, our Chair Brian insisted that I profile myself in this newsletter, so here goes.

I am the newsletter editor for this group. I volunteered for the position, without knowing much about the group, in an attempt to raise the profile of the WTWG so other students like me who were looking for information about the wildlife toxicology field might have a place to go to find it. I hope that part of that mission has been accomplished and I hope that we can continue on this track.

I originally hail from America's Dairyland, also known as the "frozen tundra" (isn't the tundra, by definition, frozen?), but have found myself stuck in the South for long enough that I can sometimes blend in by dropping the occasional "y'all". As for degrees, I count myself a Pointer (first and foremost; BS at UWSP), a Red Raider (MS at TTU), and a Gator (PhD at UF).

I currently work as an environmental consultant for AMEC, conducting ecological risk assessments, running statistical analyses on concentrations in fish tissue and other media, and trying to keep the engineers on their toes.

What sparked your interest in wildlife and/or wildlife toxicology? Any specific issues or species?

My advisor, mentor, and friend, Dr. Eric Anderson, at UWSP asked me what I was going to do with my future degrees in wildlife and chemistry. After a shrug of indetermination from me, he asked if I had ever considered "wildlife toxicology". Those were two magical words and in a heartbeat I knew that I had found my career path.

Who were/are some of your role models/mentors in wildlife and/or wildlife toxicology? Why?

I've been on the WTWG board with some really great wildlife toxicologists during the nearly 10 years I've been editing the newsletter, many of whom have given me sage advice and/or have served unwittingly as role models.

As I mentioned earlier, my undergrad advisor, Eric Anderson, has been a sounding board, cheerleader, and much appreciated mentor more times than I can count. Many thanks to all of these folks!

What was a project you've worked on that you think had the best outcome/biggest success? (Or, what is a project you're proud of having worked on?)

I have worked on a number of different projects that are still in progress or have outcomes far larger than the little piece I contributed so this is hard to judge. My aspiration for the projects I have worked on is that I have helped make the environment cleaner and increased suitable habitat for the wildlife.

Fish-tissue-based Aquatic Life Water Quality Standard for Selenium

On November 15th, EPA approved the first ever fish-tissue-based aquatic life water quality standard for selenium. The standard applies only to the state of Kentucky and was submitted by the state of Kentucky as a site-specific standard.

On December 13th, a coalition of Environmental Groups filed a lawsuit in Federal District Court seeking to have EPA's approval of the Kentucky selenium water quality standard reversed.

Any WTWG members with an interest in this issue may contact Joseph Skorupa (joseph_skorupa@fws.gov) for copies of EPA's approval package and/or the Environmental Coalition's legal brief.

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## Upcoming Meetings

### “Moving Beyond Lead: Education vs. Regulation vs. Reality”

February 4-6, 2014; Bemidji, MN

The MN TWS Annual Meeting will be held February 4-6, 2014 in Bemidji, MN. The Plenary theme is: “Moving Beyond Lead: Education vs. Regulation vs. Reality”. The Plenary is Wednesday, February 5<sup>th</sup> 8am-1pm. The WTWG is one of the sponsors of the plenary session.

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Raptors of the Northwest Symposium

February 5-7, 2014; Pasco, WA

The **Raptors of the Northwest Symposium** (RNWS) will be part of a Joint Meeting with several other meetings and symposia, including the annual meeting of the TWS Washington Chapter and the 4th International Burrowing Owl Symposium. The specific dates for the Raptor Symposium are February 5-7, 2014; other meetings/symposia will overlap and/or extend past these dates. The venue will be the Red Lion, in Pasco, WA, which is ¼ mile from the Pasco Airport.

The geographic areas to be focused on during the raptor symposium are the NW U.S. states, including Alaska, and the Western Canadian Provinces. Both diurnal and nocturnal raptors will be addressed. The theme is **“Linking Raptor Research to Critical Conservation and Management Needs.”**

We want there to be widespread and diverse geographical and organizational involvement and support from as many agency, academic, NGO, and other land management stakeholder groups as possible; so if you have suggested contacts, we would welcome them.

For more information on the Joint Meeting, or to submit an abstract (for all meetings), please see <http://wildlife.org/washington/sites/wildlife.org.washington/files/images/2014%20Joint%20Meeting%20Call%20for%20Papers.pdf>. Please specify that you are interested in the RNWS.

Jeffrey L. Lincer, Raptor Symposium Organizer
SoCal Chapter Rep. to TWS WS
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Thank you to the following contributors to this newsletter.

- Brian Hiller*
- Jeff Levensgood*
- Barnett Rattner*
- Joe Skorupa*
- Louise Venne*

WTWG Executive Board

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|-----------------------------|-----------------|--|
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WTWG NEWSLETTER NOTES

The WTWG newsletter is a quarterly publication. Email contributions such as citations, member news, research highlights, and conferences by March 31 to Louise at lvenne@gmail.com.

The WTWG is online. Archived newsletters, meeting minutes, and more are included at <http://joomla.wildlife.org/toxicology/index.php>

The WTWG is on Facebook. Visit and/or “Like” us (even if you don’t have a Facebook account). www.facebook.com/WildlifeToxicology

Louise Venne, Editor

WILDLIFE TOXICOLOGY WORKING GROUP, TWS
Annual Business Meeting
Conference Call
Wednesday, November 6, 2013, 11 am Central

Participants:

Jeff Levensgood
Tim Bargar
Carrie Marr
Stephanie Baker
Brian Hiller
Louise Venne
Deb Rudis

Agenda

1. Welcome and Introductions (Jeff)
2. TWS Conference and Workshop (Tim and Brian)
 - a. As of the end of September, only two people had registered and the federal government furlough was looming. Decision was made to cancel the class due to low registration.
 - b. Tim emailed the two registrants and sent them CDs of last year's workshop materials.
 - c. Brian Hiller attended the TWS conference in Milwaukee. Most of the workshops and field trips were cancelled due to lack of pre-registered participants, although overall conference attendance was similar to past years. It was suggested that workshop and field trip attendance was low because furloughed federal employees attended with their own money, and cut back on extra expenses.
 - d. Brian attended the student/professional mixer and the symposium on lead in ammunition and fishing tackle. The symposium was organized by WI DNR's toxicologist, Sean Strom, and it was very well attended.
 - e. We did not grant a student award in 2013, due to lack of applicants. It was suggested that we begin the student award process earlier in 2014, timing it with the due date for conference abstracts. Other working groups are also seeing reduced student interest with respect to student awards. We should also advertise it better. It was suggested that perhaps there is too much competition with SETAC due to the overlapping areas of interest, additional commitment of time necessary to participate in both, and conference timing so close together in the fall.
3. SETAC 2013 (Tim)
 - a. No WTWG sponsored session was organized for the SETAC conference in 2013. Last year, SETAC provided us free booth space and waived the

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- registration cost for one WTWG member to attend. SETAC did not extend this courtesy in 2013.
- b. Brian suggested it would be better to attend the SETAC conference every other year with the WTWG materials. In 2014, the SETAC conference will be in British Columbia.
4. Treasurer's account (Deb)
 - a. The WTWG's business account had \$1,945.50 as of October 31, 2013. Deb will be transferring the account to Stephanie as soon as possible.
 5. Annual report to TWS Council (Jeff)
 - a. Jeff submitted the WTWG annual report in September. The September report will be posted to the WTWG website because it summarizes the working group's activities/accomplishments for the entire year.
 6. Membership update
(note numbers have been updated since the conference call**)**
 - a. The WTWG has 77 members right now. The membership totals have remained consistent over time. When you count the membership total, make sure you subtract out any duplicate member records. Duplicate records appear in the spreadsheet when members renew their memberships.
 - b. Beth contacted new and lapsed members last spring (12 new and 18 lapsed)
 7. Editing a Wildlife Toxicology Reference Book
 - a. Randy Breme, CRC Press, Taylor Francis Group, contacted WTWG again. She first approached the WTWG at the 2013 Conference. Interest in editing a book seems low among the Board Members. Joe Sullivan volunteered to be a co-editor but cannot take the lead for it.
 - b. Nina Schoch and Donna Mensching are working on a book – collection and handling of samples to diagnose toxicosis.
 - c. Don Sparling is working on a textbook with another publishing house.
 8. 2013 Election Results (Jeff and Brian)
 - a. In accord with the Charter of the WTWG, we held our annual election for Executive Board Officers. Elections were held from August 4 to September 3, 2013, and 37 members voted. The results are as follows: Louise Venne Chair-Elect, Katrina Leigh Vice-Chair, and Stephanie Baker Treasurer. We thank all candidates for agreeing to run for office and for taking the time to prepare candidate statements. Jeff Levensgood transferred the responsibilities of Chair to Brian Hiller and then became the Past-Chair. Tom Augspurger, Deb Rudis, and Tim Bargar completed their terms as Board Members. We thank all of them for serving the WTWG.
 9. New Business (Brian)

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- a. Thanks to everyone rotating off the board.
- b. Brian provided us with his plans for 2014:
 - i. increase interest in the WTWG in TWS and SETAC
 - 1. increase profile within student chapters or workgroups
 - 2. Use Twitter and Facebook to raise our profile
 - ii. provide support to TWS HQ for policy development
 - iii. create a database of member expertise
 - iv. update the 'Lead in Ammunition and Fishing Tackle' Position Statement, and

10. The deadline for submitting items for the Winter Newsletter is December 20th
(Louise)

- | 11. Next conference call (Brian), I believe the topic will be student awards?
- a. Brian will send out a Doodle poll
 - b. Main topic will be student awards

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