

Wildlife Toxicology Working Group Newsletter

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From the Chair

Louise Venne

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Spring is upon us, although for many of us in the southern half of the US, it's feeling more like summer.

Last newsletter I asked for you to take a quick survey so I could get a pulse of the membership composition of our work group.

While only a handful of people responded, the answers are enlightening. If you haven't taken the survey and would like to, please visit: <https://www.surveymonkey.com/r/XGFN88J> I would be happy to get a few more answers and share the results in the summer newsletter.

This year's annual TWS conference is in Winnipeg from October 17-21. TWS has set up a special site for the conference and it looks like one of the nicest conference sites I've seen in a long time: <http://www.twsconference.org>. Please let me know if you submitted an abstract to present. It would be great to see some wildlife toxicology presentations at the meeting! As you may recall, the WTWG Board decided not to sponsor a workshop or a symposium because travel across the border to Canada for many potential speakers would be a challenge. However, we are considering a co-sponsored symposium with the Military Lands WG, one of the newest WGs of TWS. If you have ideas for a specific theme or know of someone doing interesting work who would be a great speaker, please let me know. We will compile a list and contact anyone on that list.

This summer we will be conducting elections for the WTWG Executive Board. Our Chair-Elect, Kristin, will be seeking nominees. Please consider serving your WG by agreeing to run for a position. The time commitment is fairly limited and the opportunity to make a difference quite high. Open positions this election include Chair-Elect, Vice Chair, and Treasurer.

The lead position statement is nearing completion and will be submitted to TWS Council this summer for consideration and approval. Thanks to everyone who provided comments and/or has worked on the lead position statement. One of the interesting items in updating this position statement was the review of the fishing and hunting regulations from each of the US states and Canadian provinces to see if any regulations have changed since the last time the list was compiled. Surprisingly, a few states do not mention lead regulations in their fishing or hunting regulations. In contrast, a number of states have very specific regulations for certain types of lands. Future changes will be interesting.

Whole Wildlife Toxicology Catalog Updated

The Whole Wildlife Toxicology Catalog has been updated. The Whole Wildlife Toxicology Catalog attempts to compile sites containing information that will be of value to scientists, regulators and natural resource managers. <http://www.pwrc.usgs.gov/wwtc/>

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### Member Publications

Handel, CM and C Van Hemert. 2015. Environmental Contaminants and Chromosomal Damage Associated with Beak Deformities in a Resident North American Passerine. *Environmental Toxicology and Chemistry* 34(2): 314-327.

*Abstract:* A large cluster of beak abnormalities among black-capped chickadees (*Poecile atricapillus*) in Alaska raised concern about underlying environmental factors in this region. Metals and trace elements, organochlorine pesticides, polychlorinated biphenyls (PCBs), and polychlorinated dibenzo-dioxins and polychlorinated dibenzofurans (PCDD-Fs) were analyzed in adults, nestlings, and eggs of the affected population; local bird seed was also tested for organochlorine pesticides. The results offered no support for the hypothesis that selenium or any other inorganic element was responsible for beak deformities among chickadees, but some evidence that organochlorine compounds may be contributing factors. Adults with beak deformities had an elevated level of chromosomal damage, which was correlated with lipid level and concentrations of several organochlorine compounds. Multivariate analyses of pesticides and PCBs did not distinguish abnormal from normal adults, but subsequent univariate analysis demonstrated higher concentrations of heptachlor epoxide and PCB-123 in abnormal adults. Concentrations of all organochlorine compounds were low, and none is known to cause beak or keratin abnormalities. Patterns of PCB congener concentrations differed between nestlings with normal and abnormal parents. Eggs from clutches with low hatchability had higher concentrations of hexachlorobenzene and PCDD-Fs than those with high hatching success, and hexachlorobenzene was found in seeds. Additional testing for PCDD-Fs, polycyclic aromatic hydrocarbons, and other emerging contaminants, including brominated compounds, is needed to rule out environmental contaminants as a cause of beak deformities in chickadees in Alaska.

Bigorgne, E, TW Custer, PM Dummer, RA Erickson, N Karouna-Renier, S Schultz, CM Custer, WE Thogmartin, and CW Matson. 2015. DNA Damage and EROD induction in Tree Swallows Nesting on the Upper Mississippi River, Minnesota, USA. *Ecotoxicology*.

*Description:* The health of tree swallows, *Tachycineta bicolor*, on the Upper Mississippi River (UMR) was assessed in 2010 and 2011 using biomarkers at six sites downriver of Minneapolis/St. Paul, MN metropolitan area, a tributary into the UMR, and a nearby lake. Chromosomal damage was significantly elevated at two sites on the UMR (Pigs Eye and Pool 2) relative to the Green Mountain Lake reference site, while the induction of EROD activity was only observed at Pigs Eye. Results suggest that the health of tree swallows has been altered at the DNA level at Pigs Eye and Pool 2 sites, and at the physiological level at Pigs Eye site only.

## Job Posting - Avian Biologist

Wildlife International, a Division of EAG, in Easton, Maryland is currently seeking a biologist for our avian toxicology lab. The applicant will work with other biologists and technicians in performing toxicological studies in a GLP environment. Laboratory duties include working with mallard, quail and other avian species in collecting and processing biological data during the tests. Other duties include data processing and report writing. College degree in an appropriate field is required. Excellent medical/dental/vision benefits and 401(k) plan with matching. To apply for employment, send your resume by email to [careers@eag.com](mailto:careers@eag.com). <http://www.eag.com/chemeco/careers.html>

## Sessions Set for SETAC in Salt Lake City, November 2015!

The abstract submission window is open for the Society of Environmental Toxicology and Chemistry (SETAC) North America [36th Annual Meeting](#), November 1-5, 2015 in Salt Lake City, UT. Between now and May 27th, you can submit an abstract on-line to be considered for about 120 sessions including these that may be of interest to wildlife professionals:

*Birds as Indicators of Ecosystem Health: Investigations of Molecular to Population Level Effects of Contaminant Exposure* (sponsored by the SETAC Wildlife Toxicology Advisory Group)

*Direct and Indirect Effects of Current-Use Pesticides on Wildlife*

*Ecological Soil Screening Levels: Evaluating their Applicability from an Ecologically Realistic Perspective*

*Ecotoxicology of Petroleum in Birds*

*Molecular, Individual and Population Effects of Contaminants in Herpetofauna and Incorporation into Risk Assessment*

*Pesticide Dose and Exposure: Effects on the Environment, Target and Non-Target Organisms*

*Soil Contaminants: Fate, Bioavailability, Ecotoxicology and Risk Assessment*

*Spatial and Temporal Trends of Classical and Emerging Pollutants in the Environment and Biota*

*Wildlife Ecotoxicology: Molecular to Community Effects* (sponsored by the SETAC Wildlife Toxicology Advisory Group)

*“One Health”: Opportunities for SETAC Leadership in Integrating Environmental, Human and Animal Health* (sponsored by the SETAC Wildlife Toxicology Advisory Group)

Check out the SETAC Salt Lake City website at the link ([36th Annual Meeting](#)) for more details. At the abstract submission page, you can read a summary of the scope of each of these sessions as well as many others.

If you have questions, contact Tom Augspurger, [tom\\_augspurger@fws.gov](mailto:tom_augspurger@fws.gov), 919-856-4520 x21



*Thank you to the following contributors to this newsletter.*

*Tom Augspurger*

*Richie Erickson*

*Larry Frey*

*Colleen Handel*

**WTWG Executive Board**

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**WTWG NEWSLETTER NOTES**

The WTWG newsletter is a quarterly publication. Email contributions by June 30 to Louise at [lsvenne@gmail.com](mailto:lsvenne@gmail.com).

WTWG archived newsletters, meeting minutes, and more are online at <http://wildlife.org/toxicology/index.php>

The WTWG is on Facebook. Visit us (even without a Facebook account). [www.facebook.com/WildlifeToxicology](http://www.facebook.com/WildlifeToxicology)

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Louise Venne, *Editor*