Elzie, Teri L

From: Tom_OBrien@r1.fws.gov
Sent: Tuesday, November 02, 1999 9:16 AM
To: tlelzie@bhi-erc.com
Subject: Review of Hanford documents

hi Teri, please forward this review of the DDT/DDE study from Larry Blus to the HNRTC Trustee Council Members. The first attempt must have gone into the ozone.
---------- Forwarded by Tom OBrien/RO/R1/FWS/DOI on 11/02/99 09:11 AM ----------

Larry & Donna <blus@proaxis.com> on 10/28/99 09:55:07 PM

To: tom_obrien@fws.gov
cc:

Subject: Review of Hanford documents

Hi Tom,
Finally got around to reviewing the two Hanford documents, and my comments are attached below.

Comments on FWS document by Roy et al.

It is difficult to interpret the data because of the method of presentation. Appendix B should have tabular summaries of the data (when feasible) for each species,with means, ranges and statistical comparisons. Many of the columns in this Appendix should be deleted because of negative data.

There was no attempt to discern effects on birds by using the sample egg technique (collect one egg from a nest and then mark the nest site, analyze the egg contents, determine nest success of the marked nests, and compare residues in eggs from successful vs. unsuccessful nests).

As far as sensitivity of passerines to DDE-induced thinning, there are not really a lot of good studies--primarily because the "megafauna" of the bird world are of greatest interest to the public, and they are so much easier to study--particularly in regard to eggshell thickness measurements. However, there are methods of successfully studying effects of the DDT group on Passerines. It appears that some of the residues encountered, particularly in hotspots, are probably having a negative impact on the birds. From the current studies, we are not even able to conclude whether there are adverse effects. Some of the DDE residues in birds' eggs are indeed high and are similar to those causing problems in other species. Since there are such widespread intersspecific differences in reaction of birds to DDE, one really can't conclude what effects are induced until further study is made.

Regarding residues in prey, some of these could be high enough to cause problems in birds--assuming bioaccumulation of 10X in terrestrial organisms.

Comments
DOE Report

This exercise was hardly worth doing except that it did seem to add some residues in invertebrates. Collecting the entire clutch from each of two meadowlark nests and then pooling the eggs in each nest for analysis is not a good idea when one wants to show effects on an individual organism. This study provided no answers to the questions posed by the FWS report. I didn't like the writeup on the residue analysis of eggs; it sounded like they put each whole egg in a plastic bag, froze the bag, and then analyzed the entire pool of eggs (including shell?).

I recommend additional work using studies that are designed to answer the definitive question in regard to whether DDE is causing problems with birds and whether these problems are widespread or frequent enough to pose a serious threat to avian populations. One year--two is better--of field studies is recommended. These studies would involve the sample egg techique mentioned previously. The data on invertebrates and small mammals will have to be reevaluated to ascertain whether further sampling is necessaary. Earthworms, slugs, and snails are inverts that are great accumulators of DDE and similar compounds; but these organisms probably wouldn't be present in sufficient numbers in the study areas.

Nest boxes for American kestrels and other birds could be erected to insure higher sample sizes. In the past, we have collected one egg from nests of many raptors with few or no adverse effects. So, I certainly wouldn't hesitate to collect an egg from a Swainson's hawk nest or other raptors when feasible.

Tom, I hope these comments are of value to you. Good luck with your hip replacement. My two knee replacements have worked out for the best.

Best regards,
Larry Blus