

**RESPONSIVENESS SUMMARY FOR  
STUDY PLAN FOR AVIAN INJURY STUDY  
YEAR 3 (2008)**

**HUDSON RIVER NATURAL RESOURCE  
DAMAGE ASSESSMENT**

**HUDSON RIVER NATURAL RESOURCE TRUSTEES**

STATE OF NEW YORK

U.S. DEPARTMENT OF COMMERCE

U.S. DEPARTMENT OF THE INTERIOR

**FINAL**

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This *Responsiveness Summary for the Study Plan for an Avian Injury Study, Year3 (2008)* was prepared by the Hudson River Natural Resource Trustees (Trustees) — New York State (NYS), the U.S. Department of Commerce, and the U.S. Department of the Interior. The Trustees are working cooperatively to conduct a Natural Resource Damage Assessment (NRDA) for the Hudson River (Hudson River Natural Resource Trustees 2002). This Responsiveness Summary provides Trustee agency responses to public comments on and questions about the Trustees’ *Study Plan for Avian Injury Study, Year3 (2008), Draft for Public Review and Comment*, dated March 17, 2008, released by the Trustees for public review and comment.

## **1.0 INTRODUCTION**

Pursuant to the Hudson River Natural Resource Damage Assessment (NRDA) Plan (Hudson River Natural Resource Trustees 2002), the Trustees developed a *Study Plan for Avian Injury Study, Year 3 (2008), Draft for Public Review and Comment* (Draft Avian Injury Study Plan) (Hudson River Natural Resource Trustees 2008a), and engaged in public review of that Draft Avian Egg Injection Study Plan.

On March 18, 2008, the Draft Avian Injury Study Plan was released by the Trustees to the public. In that Draft Avian Injury Study Plan, the Trustees asked the public and the party(ies) responsible for the contamination to review the Draft Avian Injury Study Plan and provide feedback on the proposed approach. The Draft Avian Injury Study Plan noted that the Trustees sought public input to help them in planning and conducting an assessment that is scientifically valid and cost effective, and that incorporates a broad array of perspectives.

Availability of the Draft Avian Injury Study Plan was announced by the Trustees on the U.S. Fish and Wildlife Service (FWS) New York Field Office web site and on the Hudson River NRDA web site maintained by the FWS. A public review period of one month (comments were due by April 19, 2008) was provided.

All comments received on the Draft Avian Injury Study Plan were considered by the Trustees. By letter to the commentor the Trustees acknowledged receipt of comments and provided an initial response to the commentor, noting that a more detailed Responsiveness Summary (this document) would be provided by the Trustees in the near future. The Trustees appreciate the input represented by comments from the public, and the effort by commentors to provide this level of review.

The Trustees evaluated public comments and, where warranted, incorporated these comments in the Draft Avian Injury Study Plan to produce the *Study Plan for Avian Injury Study, Year3 (2008), Final*, dated June 13, 2008 (Final Avian Injury Study Plan) (Hudson River Natural Resource Trustees 2008b).

## **2.0 PUBLIC COMMENTS RECEIVED**

One letter from the public was received in response to the Draft Avian Injury Study Plan: a letter from the General Electric Company (GE), the Potentially Responsible Party, dated April 18, 2008.

The text of the GE comment letter is provided below, along with the Trustee response (in italicized text) to comments.

Accordingly, this Responsiveness Summary documents comments that were received, that those comments were considered by the Trustees, and how the Trustees addressed those comments.

**LETTER FROM GENERAL ELECTRIC, DATED APRIL 18, 2008**

## General Comments:

On March 19, 2008, the Hudson River Natural Resource Trustees (New York State, U.S. Department of Commerce, and U.S. Department of Interior) released the draft Study Plan for Avian Injury Study, Year 3 (2008) (“2008 Avian Injury Study Plan”) for public feedback on the proposed approach to conducting egg injection and field studies as part of the Hudson River Natural Resource Damage Assessment (NRDA). The comments of the General Electric Company (GE) on the 2008 Avian Injury Study Plan Amendment are enclosed with this letter.

Consistent with GE’s comments on the trustees’ 2006 Study Plan for Avian Egg Injection Study and the 2007 Amendment, by providing comments on the 2008 Avian Injury Study Plan, GE does not necessarily agree that the results of the study will have any relevance to the determination of injury to the natural resources of the Hudson River Valley.

The 2008 Avian Injury Study Plan provides a general overview of the trustees’ design for the continuation of a portion of the avian egg injection work initiated in 2006 and field studies. However, similar to the trustees’ 2002 NRDA Plan, the 2004 Avian Investigations for the Hudson River Study Plan (March 11, 2004), and the 2007 Avian Injury Study Plan Amendment (February 28, 2007), the 2008 Avian Injury Study Plan does not provide the level of detail on the work to be conducted necessary to provide meaningful feedback on the Study Plan in its current form. Of specific concern, there is no detail concerning results or knowledge gained from Year 1 (2006) and Year 2 (2007) of the avian egg injection study. The lack of detail on the results of the 2006 and 2007 egg injection studies as they relate to the proposed 2008 work prevents an understanding of whether the proposed 2008 work will satisfy the purported goals of the study. This lack of detail is inconsistent with the trustees’ commitment in the NRDA Plan (page 39) to ensure that study plans will include detailed information, consistent with Department of Interior (DOI) regulations concerning the general content and level of detail of an NRDA Plan or modifications to that plan (43 CFR 11.31) and with the trustees’ assurance in the Responsiveness Summary for the NRDA Plan (July 2003, page 2) that study plans that supplement the NRDA Plan will provide the level of specificity needed to satisfy the DOI requirements.

*Regarding a lack of detail in the Draft Avian Injury Study Plan on results of the 2006 and 2007 work related to the work proposed for 2008, for injury determination studies, the Trustees committed, in the Hudson River NRDA Plan, to peer review the results of studies conducted pursuant to injury determination study plans, such as the 2006 and 2007 avian injury study plans. As peer review of the results of the 2006 and 2007 avian injury studies has not yet been completed by the Trustees, the Trustees are not in a position to release those data or discuss them in the Draft or Final Avian Injury Study Plan for 2008.*

*The Final Avian Injury Study Plan includes additional details and clarification beyond those provided in the Draft Avian Injury Study Plan. For example, the experimental design is described more fully, and the relationship of the work in 2008 to study plans for work from 2006 and 2007 has been clarified. Work Plans with Standard Operating Procedures (SOPs) have been incorporated into the Final Avian Injury Study Plan.*

We ask that the basic information requested in these and the attached comments be provided so that GE and the public may have an opportunity to provide meaningful feedback on the 2008 Avian Injury Study Plan.

*The Trustees believe that the Draft Avian Injury Study Plan provided sufficient detail and information for meaningful public comment. The revisions and additional details that are part of the Final Avian Injury Study Plan are not so significantly different from the Draft Avian Injury Study Plan that providing additional opportunity for feedback from the public is warranted.*

We also ask that the data and results of the trustees' Year 1 (2006) and Year 2 (2007) avian injury work be provided prior to initiation of the 2008 work so that a thorough evaluation of the relevance of the proposed 2008 study approach to the Hudson River NRDA may be completed.

*As noted above, for injury determination studies, the Trustees committed, in the Hudson River NRDA Plan to peer review the results of studies conducted pursuant to injury determination study plans, such as the avian injury study plans for the 2006 and 2007 work. As peer review of the results of the 2006 and 2007 avian injury studies has not yet been completed by the Trustees, the Trustees are not in a position to release those data.*

*The data and results of the bluebird egg injection pilot study and the avian egg injection work conducted in 2006 and 2007 will be provided to the public, including GE, after the analyses are complete and, in accordance with the Hudson River NRDA, the results have been peer reviewed. Peer review is an important procedure used by the scientific community to ensure the quality of information and to ensure that the final work product reflects sound technical information and analyses. For the Trustees to release study results that have not been peer reviewed, and thus are preliminary, would be contrary to the Information Quality Act with which the Federal Trustees must comply.*

Please advise us of whether the trustees will provide the information requested in this letter and the attached comments. In the interim, please do not hesitate to contact me or Adam Ayers if you are interested in discussing the comments in greater detail.

#### Specific Comments:

A) In Year 3 (2008) of the Avian Injury Study, egg injection studies with tree swallows, eastern bluebirds, and American kestrels are proposed. The 2008 Avian Injury Study Plan indicates that in 2007, the trustees performed egg injection studies with tree swallows and conducted a pilot study on a small number of bluebird eggs to refine methods for that species. There is no discussion of the bluebird egg injection pilot study in the 2008 Avian Injury Study Plan. When will the data and results of the bluebird egg injection pilot study and the avian egg injection work conducted in 2006 and 2007 be provided for review? We request that those data be provided prior to initiation of the 2008 work. Although the 2008 Avian Injury Study Plan states that analysis of data from the 2006 and 2007 studies is ongoing, this should not preclude the trustees from providing those data.

*As noted above, the data and results of the bluebird egg injection pilot study, and of the avian egg injection work conducted in 2006 and 2007 will be provided to the public after the analyses are complete and, in accordance with the Hudson River NRDA, the results have been peer reviewed. For the Trustees to release study results that have not been peer reviewed, and thus are preliminary, would be contrary to the Information Quality Act with which the Federal Trustees must comply.*

B) The trustees stated in the 2007 Avian Egg Injection Study Plan (June 1, 2007, page 2) that the bluebird egg injection pilot study would follow the 2007 work plan for tree swallow egg injection (Appendix A of the June 1 2007 Avian Egg Injection Study Plan) and bluebirds are addressed in Appendix A of that work plan. Did the bluebird egg injection pilot study work follow the June 1, 2007 egg injection work plan; did the tree swallow egg injection work follow that work plan? If the bluebird and tree swallow work deviated from the tree swallow egg injection work plan, what were the deviations, when and where will they be reported? What work plan will the 2008 work follow? In addition, was any pilot work conducted for kestrels? If so, did that work follow the January 31, 2007 revised Study Plan for Avian Egg Injection Study?

*The bluebird egg injection pilot study followed the June 1, 2007 Avian Egg Injection Study Plan, as did the tree swallow work conducted in 2007. However, there were several deviations to the work plan for the tree swallows. Those deviations concerned the fixative for tree swallow bursas, the preparation of tree swallow liver samples for histological analysis, and the number of tree swallow eggs to be analyzed for contaminants. These deviations will be reported when the final study results are reported.*

*The 2008 work will follow the Final Study Injury Study Plan (Hudson River Natural Resource Trustees 2008b), which is based heavily upon the study plans for the 2006 and 2007 work (Hudson River Natural Resource Trustees 2007a and 2007b), as revised to reflect those earlier deviations where appropriate.*

*Pilot work on kestrels was conducted in 2006 and followed the January 31, 2007 revised study plan (Hudson River Natural Resource Trustees 2007a).*

C) The 2008 Avian Injury Study Plan states that tree swallow, American kestrel and eastern bluebird eggs will be injected with a PCB mixture that mimics the spectrum of congeners found in avian eggs in the Upper Hudson River. Is this the same as the 58 congener mixture proposed for 2007? If not, what is the composition of the PCB mixture?

*The 58-congener PCB mixture described in the revised study plan for 2006 work (see Appendix B of Hudson River Natural Resource Trustees 2007a) will be used in 2008 in egg injections of eastern bluebirds, Eastern screech owls and American kestrels. That 58-congener PCB contains PCB congeners in proportions equivalent to those of the congener composition of spotted sandpiper eggs from the Hudson River, and thus is sometimes referred to as the "sandpiper" PCB mixture.*

*A tree swallow-specific PCB mixture was developed in 2007 for use in the injection of tree swallow eggs in 2007 (see Appendix B of Hudson River Natural Resource Trustees 2007b). In 2008, PCB 77 will be injected into tree swallow eggs.*

D) In the June 1, 2007 Avian Egg Injection Study Plan, a description of the treatment groups to be used for tree swallow egg injection studies and the anticipated number of eggs to be tested per treatment group were provided. There is no discussion of sample sizes for egg injection studies in 2008 for any of the three species proposed. Details on the treatment groups and estimated sample sizes for the 2008 work should be provided.

*Details of the proposed work, including samples sizes and treatment groups, are in the Work Plans that are appendices to the Final Avian Injury Study Plan.*

E) In 2007, the trustees stated they would conduct an *in situ* tree swallow egg injection study at the Cobleskill Reservoir in New York in addition to the primary study to be conducted at Patuxent. MD. The purpose of this was to have another potentially clean site from which eggs could be used to increase sample sizes. It appears from the 2008 Avian Injury Study Plan that no studies are planned at Cobleskill Reservoir in 2008. Why is this location no longer included?

*The Final Avian Injury Study Plan for 2008 clarifies that tree swallow egg injection work will be conducted at Cobleskill, New York, in addition to Patuxent Wildlife Research Center.*

F) In Section 1.0, Background, of the 2008 Avian Injury Study Plan, it is indicated that peer review of the of the injury endpoints will be limited in scope to new and/or otherwise relevant information regarding those endpoints that was not reviewed earlier. What new or relevant information is available? Please provide this information so that it can be considered in determining the validity and scope of the proposed 2008 work relative to the Hudson NRDA.



*The Draft Avian Injury Study Plan noted that the following endpoints would be assessed in birds analyzed in this study: embryo mortality, deformities, body and organ weights (heart, liver and bursa), bursa histology, heart histology, gene expression, oxidative Stress (liver), CYP450 enzyme induction (liver), thyroid gland T4 content, and genetic sex. The Draft Avian Injury Study Plan noted that these endpoints that were proposed for assessment in Year 3 had been studied in Years 1 and 2 and the work plan regarding such had been peer reviewed at that time. In the interest of efficiency and to not unnecessarily increase the cost of the NRDA, the Trustees determined that Year 3 peer review of these same injury endpoints would be limited in scope to new and/or otherwise relevant information regarding them that was not reviewed earlier. The Trustees subsequently identified no new or otherwise relevant information regarding those endpoints that was not reviewed earlier, and thus no additional formal peer review of the Draft Avian Injury Study Plan was conducted.*

G) The trustees propose to collect tree swallow and eastern bluebird eggs from Patuxent and the Upper Hudson River to “determine if there are differences in the eggs between the two sites that can be attributed to PCB contamination.” (Section 4.2). However, in Section 4.3, the 2008 Avian Injury Study Plan notes that eggs may also be analyzed for chemical analytes that may include congener-specific PCBs, PCDDs, PCDFs, PBDEs, organochlorine pesticides, and metals, as determined appropriate by the trustees. From this, it is unclear whether any analysis of PCB concentration of the eggs is planned. If not, how will the trustees make the determination of differences being due to PCBs, should such differences be found? Additionally, what will determine whether avian eggs are analyzed for congener-specific PCBs, PCDDs, PCDFs, PBDEs, organochlorine pesticides, and metals; what rationale is used by the trustees to determine whether additional analytes are appropriate?

*The 2008 work potentially involves chemical analysis of swallow and bluebird eggs from ‘clean’ (Patuxent Wildlife Research Center and Cobleskill) and contaminated (Upper Hudson River) sites. Similar samples were collected in 2007 and are awaiting chemical analysis. The results of the 2007 analysis will be one factor used by the Trustees in determining whether to analyze samples from those same locations in 2008. The Trustees will determine the need for analysis of egg samples collected in 2008 for PCBs, particularly congener-specific PCBs, including the non-ortho congeners, and for other analytes, including polychlorinated dibenzo-p-dioxins (PCDDs), polychlorinated dibenzofurans (PCDFs), polybrominated diphenyl ethers (PBDEs), organochlorine pesticides, and metals, considering earlier analytical chemistry results, some of which are pending, and the results of the 2008 egg injection experiments.*

### 3.0 REFERENCES

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