

MODIFICATION TO STUDY PLAN FOR AVIAN INVESTIGATIONS FOR THE HUDSON RIVER USGS STUDY PLAN AMENDMENT FOR 2005

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
PUBLIC RELEASE VERSION*

MAY 4, 2005

Available from:
U.S. Department of Commerce
National Oceanic and Atmospheric Administration
Hudson River NRDA, Lead Administrative Trustee
Damage Assessment Center, N/ORR31
1305 East-West Highway, Rm 10219
Silver Spring, MD 20910-3281

**Names of certain individuals and affiliations have been removed to maintain confidentiality*



INTRODUCTION

Past and continuing discharges of polychlorinated biphenyls (PCBs) have contaminated the natural resources of the Hudson River. The Hudson River Natural Resource Trustees - New York State, the U.S. Department of Commerce, and the U.S. Department of the Interior - are conducting a natural resource damage assessment (NRDA) to assess and restore those natural resources injured by PCBs (Hudson River Natural Resource Trustees 2002).

Pursuant to the Hudson River NRDA Plan, the Trustees developed a Study Plan for Year 2004 Avian Investigations for the Hudson River (Hudson River Natural Resource Trustees 2004). The Trustee Study Plan described the activities that constitute the Trustees' planned approach for an avian injury determination effort for year 2004, continuing into year 2005 and potentially beyond. The Trustee Study Plan included, as Appendix A, a U.S. Geological Survey (USGS) Study Plan for an avian investigation entitled, "Exposure and effects of PCB contamination on spotted sandpipers, belted kingfishers, and tree swallows on the Hudson River." That USGS Study Plan noted that the work would continue in the year 2005, and that such work would be pursuant to a Study Plan Amendment for Year 2005.

The Study Plan for Year 2004 Avian Investigations for the Hudson River was subject to peer and public review. The Trustees have evaluated the changes to the study described in the USGS Study Plan Amendment and determined that the changes are not sufficiently substantive to necessitate public review of the USGS Study Plan Amendment for Year 2005.

The USGS Study Plan Amendment for Year 2005, prepared by the USGS Principal Investigator and approved by the Hudson River Natural Resource Trustees, follows.

LITERATURE CITED

- Hudson River Natural Resource Trustees. 2002. Hudson River Natural Resource Damage Assessment Plan. September 2002. U.S. Department of Commerce, Silver Spring, MD.
- Hudson River Natural Resource Trustees. 2004. Study Plan for Year 2004 Avian Investigations. Public Release Version. Final. June 15, 2004. U.S. Department of Commerce, Silver Spring, MD.

**Exposure and Effects of PCB Contamination on Spotted Sandpipers,
Belted Kingfishers, and Tree Swallows on the Hudson River
Study Plan Amendment 2005**

USGS Upper Midwest Environmental Science Center

UMESC Study Number TS-04-2282-9RZ38-01

Background: Eggs and nestlings (belted kingfisher only) of belted kingfishers, spotted sandpipers, and tree swallows were collected in 2004 as outlined in study plan TS-04-2282-9RZ38-01. Egg samples were sent to Axys Analytical Services, Sidney, B. C., Canada on November 2, 2004 for chemical analysis. Results of the chemical analyses will not be available in a time to assist in making decisions regarding 2005 activities. The Hudson River Natural Resource Trustees have decided to continue with work on tree swallows in 2005 and delay possible work with belted kingfishers and spotted sandpipers. Depending on the results of the 2004 data, additional work on one or more of the three species may occur in 2006. In order to incorporate these changes into the study plan, the following modifications are proposed:

Add or substitute the following:

- 1) All field activities related to belted kingfisher and spotted sandpiper egg and nestling collections identified in study plan TS-04-2282-9RZ38-01 will not occur in 2005.
- 2) Page 7: Insert the following new paragraph after '.....(PCDDs) and dibenzofurans (PCDFs) (Van den Berg 1998).'

"Models of egg and/or nest success for tree swallows and, where relevant, other species will be evaluated using the Akaike Information Criterion (AIC; Akaike 1973). This model criterion is commonly used to judge the utility of models of observational data (Burnham and Anderson 2002). For tree swallows, we will consider intercept-only, site, and site plus toxicant models. For other species, 'site' will be replaced with river (Hudson vs. others) mile. Models of egg success will be adjusted for correlation within nests. Egg and/or nest success will be modeled after Shaffer (2004)."

And then delete on Page 7, 15 lines from bottom:

"Reproductive data will be compiled using Mayfield's estimate of daily egg survival (Mayfield 1961, 1975) and compared among sites using methods outlined in Hensler and Nichols (1981). Contrasts (Sauer and Williams 1989) will be used to make comparisons among sites within each year separately and for both years combined."

3) Page 22, substitute the following paragraph for the first paragraph:

"Activity updates are to be provided monthly to the Trustees beginning in April 2004. A Study Plan amendment for Year 2006 will be provided to the Trustees within 3 months of receipt of quality assured analytical chemistry data in electronic format from the Trustees QA Coordinator. This Study Plan amendment will include a summary and discussion of those data and other results from the 2004 and 2005 efforts, and any modifications to the study design for 2006. This Study Plan amendment will be subject to further review and approval by the Trustees. Monthly activity updates will be provided to the Trustees until the Study Plan amendment is provided to the Trustees."

4) Literature Cited. Add the following references:

Akaike H. 1973. Information theory and an extension of the maximum likelihood principle. Second International Symposium on Information Theory. In: *2nd International Symposium on Information Theory* (Eds B.N. Petrov & F. Csáki), pp. 267-281. Akademiai Kiadó, Budapest.

Burnham K.P., and D. R. Anderson. 2002. *Model Selection and multimodel inference a practical information-theoretic approach*. Springer-Verlag, New York.

Shaffer, T.L. 2004. A unified approach to analyzing nest success. *Auk* 121(2):526-540.

5) Page 18: Under '**J. Facilities**' Add the following:

" Egg samples will be processed in motel accommodations near Albany, NY."


6) Page 19-20. Replace 2005 budget with the following:

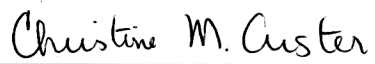
	Funding in \$1000 increments and pay periods (in parentheses) ¹
Personnel salaries	FY 2005
PI's	
Field staff	
Administration	
Travel & Per Diem	
Airline	
Vehicle - gas/main	
Per Diem	
Other	
Storage rental	
Vehicles (1) GSA	
Misc supplies	
Report/Presentation	
UMESC Direct Costs	
USGS overhead (5%)	
Total	

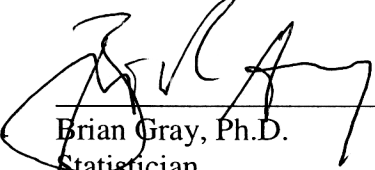
¹ Funds will be transferred from USFWS to USGS.
Chemical analytical costs are not included here and will be funded by USFWS directly to a contract laboratory

Financial information removed as legally privileged

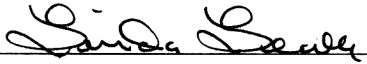
I Concur:

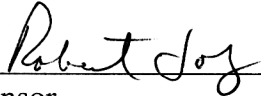
 3-1-05
 Patricia Heglund, Ph.D. Date
 Branch Chief

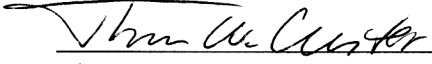
 3-1-05
 Christine Custer, Ph.D. Date
 Chair, Animal Care and
 Use Committee

 3/2/05
 Brian Gray, Ph.D. Date
 Statistician

5/2/05
 Date
 Quality Assurance Coordinator

 3/3/05
 Center Director Date

 5/4/05
 Sponsor Date
 Hudson River Natural
 Resources Trustees

 3/3/05
 Thomas Custer, Ph.D. Date
 Study Director

