MODIFICATION TO STUDY PLAN FOR MINK INJURY DETERMINATION

INVESTIGATION OF MINK ABUNDANCE AND DENSITY RELATIVE TO POLYCHLORINATED BIPHENYL CONTAMINATION WITHIN THE HUDSON RIVER DRAINAGE

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

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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).

Many species of mammals rely on the Hudson River, including its floodplain, for habitat, food, and as a breeding ground. Mammals that depend on the river for food and habitat include otter, muskrat, raccoon, beaver, and mink. The Hudson River NRDA Plan identified mink health as an area of biological injury investigation.

On August, 2, 2010, the Trustees released a Draft Study Plan entitled, "Investigation of Mink Occupancy Relative to Polychlorinated Biphenyl Contamination within the Hudson River Drainage" (Hudson River Natural Resource Trustees, 2010). Following peer and public review of that plan, the Trustees determined that revisions to that plan were appropriate, resulting in the March 19, 2012 Draft Study Plan (Hudson River Natural Resource Trustees, 2012a) being released for further peer and public review, culminating in a Final Study Plan released on July 13, 2012 (Hudson River Natural Resource Trustees, 2012b).

As outlined in the Final Study Plan, the summer of 2012 served as a pilot study to inform the design of the 2013 sampling season. The modifications below pertain to 2013.

The Trustees have evaluated the changes to the study described in this Study Plan Modification for 2013 and determined that the changes are not sufficiently substantive to necessitate peer and public review of the Study Plan Modification for Year 2013.

MODIFICATIONS

Appendix A - STUDY PLAN INVESTIGATION OF MINK ABUNDANCE RELATIVE TO POLYCHLORINATED BIPHENYL (PCB) CONTAMINATION WITHIN THE HUDSON RIVER DRAINAGE

Page 10: The number of sample sites the scat dogs will survey has been changed from 144 sites in each area to 75 sites in the Hudson drainage and 70 sites in the Mohawk drainage. Any other references in the Final Study Plan to the number of sample sites for scat surveys will be changed from 144 sites in each area to 75 sites in the Hudson drainage and 70 sites in the Mohawk drainage. The number of sample sites for hair snares has been changed from 50 sites per river to 71 sites in the Hudson drainage and 47 sites in the Mohawk drainage.

Page 12: The study areas will no longer be divided into standard 1 km x 1 km grid cells with one potential sample location per grid cell. Instead, samples will be clustered.

Page 12: The hair snare design referenced in Appendix 1 was further refined after the 2012 field season. The changes in dimensions are listed under the modifications to Appendix 7. Sardines and mink gland lure will no longer be used in the hair snares; instead the traps will be baited with drops of a fish oil mink bait.

Page 13: If hairs are seen on a gun brush, the whole gun brush will no longer be removed. Instead, technicians will use tweezers to remove hairs from the gun brush, and hairs will be placed into labeled coin envelopes. The labeled coin envelopes will be sealed and placed with a desiccant in a plastic bag. After removing any hairs from a gun brush the technicians will hold the gun brush and tweezers to a flame (such as from a lighter) for 30 seconds to remove any stray debris, allowing continued use of the equipment.

If there are fewer than 2 hairs total in a single hair snare, the hairs will not be collected. If there are 2 or more hairs in a brush, the hairs will be collected, processed, and sent to the lab in the same envelope. If there are 2 or more hairs from a combination of the brushes and the sides of the trap they will be collected, processed and sent to the lab in different envelopes representing where they were found (brush 1, brush 2, side of trap).

Page 14: When scats are collected in the field they will no longer be placed in waxless bags and dried for 1-4 days. When scats are collected in the field, they will immediately be placed in falcon tubes of ethanol. Scat will be stored in 95% ethanol, not 96% ethanol.

Appendix 5, page 56: The collection of habitat variables during scat collection will be simplified. These changes will also be reflected in the data sheets.

Appendix 7, page 67: Hair snares will be both anchored and camouflaged with natural materials (logs, rocks, etc.), not anchored using tent stakes or water bottles. For the 2013 sampling season the hair snare dimensions will be approximately 80 cm x 45 cm, folded every 15 cm to make a triangular opening. The position of the gun brushes will be 30 cm in from the openings. A fish oil bait will be used in 2013. Hair snares will be visited every 14 days, not every 7 days as originally planned.

Appendix 8, page 70: The hair collection data sheet has been revised. Appendix A contains a copy of the new hair collection data sheet.

Appendix 10, page 72: As above, scats will no longer be placed in waxless bags and dried. Scats will be placed in ethanol in the field.

Appendix 11, page, 77: As above, scats will no longer be placed in waxless bags and dried. Scats will be placed in ethanol in the field.

Appendix 12, page 79: Mink scat data sheets will be changed to include the simplified collection of habitat variables. Appendix A contains a copy of the new scat collection data sheet.

Appendix A

REVISED HAIR COLLECTION DATA SHEET

REVISED SCAT COLLECTION DATA SHEET

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2013 HR Mink Abundance Study - Hair Collection											
Date	**Time**	**Site ID**	**Hair Snare #**	**Brush #**	**Hair** *Yes or No*	**Collector**	**Photo #** *e.g. DCS0351*	**Precipitation** *none, humid, drizzle, rain*	**Temperature** *˚C*	**Cloud Cover** *%*	**Description of hairs** *(e.g., one hair, clumped hair, multiple colors of hair, etc.)*

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2013 HR Mink Abundance Study - Scat Collection

Site Info	Weather	Habitat Observations							
Date:	**Temp (°C):**		**Upstream**				**Downstream**			
Site ID:	**Wind Speed (m/s):**	**Stream Section**	**Ease of access**	**Bank slope index**	**Stream Width**	**Avg Water Depth**	**Ease of access**	**Bank slope index**	**Stream Width**	**Avg Water Depth**
Recorder:	**Precip:** ☐ None ☐ Humid	**0 - 50m**								
Dog Team:	☐ Drizzle ☐ Rain	**50 - 100m**								
Scat Collector:	**Cloud Cover (%):**	**100 - 150m**								
Start time:	**General Observations**	**150 - 200m**								
Waypoint (road):		**200 - 250m**								
WPt Start (road):		**250 - 300m**								
WPt End (up):		**300 - 350m**								
WPt Start (road):		**350 - 400m**								
WPt End (down):			E = Easy M = Medium D = Difficult	F = Flat, 5°-45°, 45°-85°, V = Vertical	0-5ft, 5-10ft, 10-15ft,etc...	0-1ft, 1-2ft,2-3ft, 3-4ft,4-5ft, >5ft	E = Easy M = Medium D = Difficult	F = Flat, 5°-45°, 45°-85°, V = Vertical	0-5ft, 5-10ft, 10-15ft,etc...	0-1ft, 1-2ft,2-3ft, 3-4ft,4-5ft, >5ft
End time:										

Scat Collection

Time	Scat Sample	GPS # (waypoint)	Photo	Degree of Confidence	Description of scat location	Dist. to Water (m)	Scat Size (mm)		Scat Condition		Reward given to dog?	Notes
							Length	Width	Freshness	Color		
hh:mm	e.g. A,B,...,ZZ		e.g. DSCN0309	H = High M = Medium L = Low	leaf litter; needle litter; log; rock; latrine; brush; burried				M= moist/fresh DS = dry ext. moist/Soft int DF = dry ext. moist/Firm int D = dry throughout (crumbly)	Bl = Black GBl = Green/Black G = Green Br = Brown Gy = Grey Other	Yes/No	

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