U.S. Fish & Wildlife Service

Revised
Inventory and Monitoring Plan

Whittlesey Creek National Wildlife Refuge

Brook Trout Pair. (Photo credit: Anna Varian, USFWS)

July 2018

IMP Revision Signature Page

IMP Revisions
Whittlesey Creek National Wildlife Refuge

Action	*Signature /Printed Name*	*Date*
Four (4) surveys were added to the selected survey list: Topographic Stream Surveys* Topographic Stream Survey Management Action Records: Spreadsheet Black Duck Nest Survey Common Tern Survey Rationales for the newly selected surveys are presented in Box 1. Two (2) surveys were removed from the original selected survey list: Shorebird Survey Migratory Waterfowl Survey These two surveys were removed for their diminished management utility and to make time for the newly added surveys. Both surveys were on the bottom of the original priority list, had not been completed since 2011, and neither survey has significant management implications. It was decided that the most efficient use of limited time for monitoring would be to collect targeted data on those species that have the highest potential to impact refuge management. Therefore, surveys that collected intermittent black duck and common tern foraging and utilization data were given a higher priority.		
Submitted By:	Bridget Olson, Refuge Manager/Project Leader	BRIDGET OLSON Digitally signed by BRIDGET OLSON Date: 2018.08.16 15:19:18 -05'00'
Reviewed By:	Andy Allstadt, Acting Regional I&M Coordinator	ANDREW ALLSTADT Digitally signed by ANDREW ALLSTADT Date: 2018.09.05 16:27:44 -05'00'
Approved By:	Cathy Nigg, Refuge Supervisor	CATHERINE NIGG Digitally signed by CATHERINE NIGG Date: 2018.09.06 08:32:24 -05'00'

Contents

Revision Description

In November 2017, a survey originally categorized as “Future” was reclassified as “Current” (Topographic Stream Surveys). This triggered a revision to the IMP according to I&M policy (701 FW 2). Three additional surveys were added to the list of selected surveys during the revision process (Management Action Records: Spreadsheet, Black Duck Nest Survey, Common Tern Survey), and two surveys were removed (Migratory Waterfowl Survey and Shorebird Survey). These two surveys were removed for their diminished management utility and to make time for the newly added surveys. Both surveys were on the bottom of the original priority list, had not been completed since 2011, and neither survey has significant management implications. It was decided that the most efficient use of limited time for monitoring would be to collect targeted data on those species that have the highest potential to impact refuge management. Therefore, surveys that collected intermittent black duck and common tern foraging and utilization data were given a higher priority.

The survey time estimates, costs, selection, and priority ranking of all surveys were revisited based on the best available information. The biologist’s available time for implementing surveys was also revisited and was estimated to be 6.5 weeks per year. The surveys selected in this revision total to an estimated 6.3 weeks per year. Joshua Booker, Zone Biologist, completed the revision in coordination with refuge biologist, Mike Mlynarek. All changes were updated in PRIMR.

Box 1. List of Selected Surveys and Rationale for Selection (Revised)

*Indicates newly added surveys.

Survey Name	Rationale
Fish Index	This annual index station electro-fishing survey is used to assess the objective of establishing 25 spawning pairs of brook trout exhibiting a migratory life history by 2030. The survey also provides diversity and abundance data for salmonids, with additional metrics collected for brook trout.
Comprehensive Fish Survey	This watershed-wide electro-fishing survey is conducted sporadically and is used to assess the objective of establishing 25 spawning pairs of brook trout exhibiting a migratory life history by 2030. It also provides diversity and abundance data for salmonids, with additional metrics collected for brook trout.
Brook Trout PIT Tag Stations	PIT tag station data document brook trout migration. It is used to assess the objective of establishing 25 spawning pairs of brook trout exhibiting a migratory life history by 2030.
Restore Fish	This annual index station electro-fishing survey assesses population dynamics pre- and post-installation of large wood for in-stream habitat restoration and enhancement. It also provides diversity and abundance data for salmonids, with additional metrics collected for brook trout.
Macroinvertebrate Monitoring	This index station survey documents aquatic macroinvertebrate population diversity and abundance pre- and post-installation of large wood for in-stream habitat restoration and enhancement.
Stream Habitat Monitoring	This index station survey provides qualitative and quantitative ratings for evaluating fish habitat. The survey is designed to monitor long-term effects of in-channel and terrestrial habitat restoration and enhancement.
Stream Gage Station Monitoring	Long-term hydrograph and rainfall data are used in the sediment transport model that helps guide restoration project engineering and design. Data are used to assess the objective of 20% reduction in flood peaks for 2-year and 10-year flood recurrence intervals by 2036.
Whittlesey Creek Sediment Transport Study	A predictive model screens habitat restoration and enhancement scenarios to determine impacts on sediment balance and is used for project engineering and design. The current sediment transport model will need to be revised as conditions in the watershed change and as new predictive tools and techniques become available.
Topographic Stream Surveys*	This survey is designed to monitor long-term effects of in-channel habitat restoration and enhancement on channel morphology. Cross sectional and longitudinal profiles add to the larger body of data collected to document desired restoration effects such as riffle-pool development, reduced channel width and increased depth. The combined information may lead to modification of restoration and enhancement techniques.
Management Action Records: Spreadsheet*	Required to document management activities.
Photo Stream	This photo point survey provides chronological visual documentation of changes to fish habitat, channel morphology, erosion and sedimentation, typically in stream reaches with in-channel woody debris additions or bank and bluff stabilization.

Survey Name	Rationale
American Black Duck Nest Survey*	American Black Duck is a Midwest Region Resource Conservation Priority Species and State of WI Species of Special Concern. It is listed as a Species of Concern in the Refuge HMP and as a Priority Resource of Concern in the CCP. The refuge and adjacent areas host over-wintering American Black Ducks. Nesting occurs in the adjacent Fish Creek slough. Nest surveys have not been conducted on the refuge. Presence of nesting pairs or suitable habitat may influence habitat restoration, enhancement and public use decisions.
Point Count Breeding Bird Survey	This survey provides a long-term breeding bird record to document population changes as habitat restoration and enhancement progress. The data may also document effects related to climate change.
Common Tern Survey*	Common Tern populations within the Great Lakes basin are a Midwest Region Resource Conservation Priority Species. Common Tern is a surrogate species for lacustrine habitats in the Upper Midwest Great Lakes Geography and is a State of WI Endangered Species. It is listed as a Species of Concern in the Refuge HMP. Artificial nesting islands near the refuge provide one of two nesting locations on Lake Superior in Wisconsin. Common Terns forage heavily in the near-shore areas at the mouth of Whittlesey Creek. Survey data may influence, for instance, refuge public use policies or visitor services offerings.

Table 1. Surveys selected to conduct at Whittlesey Creek National Wildlife Refuge 2015—2030 (Revised).

*Indicates newly added surveys.

Survey Priority [1]	Survey ID Number [2] (FF03RWIT00-)	Survey Name/(Type) [3]	Survey Status [4]	Mgmt. Objective Id [5]	Survey Area [6]	Staff Time (FTE)[7]	Avg. Ann Cost (OPR) [8]	Survey Timing [9]	Survey Length [10]	Survey Coord. [11]	Protocol	
											Citation [12]	Status [13]
1	012	Fish Index (CM)	Current	HMP / Pg. 39	Regional	FWS: 0.02	$100	Sept./ Recurring - - every year	2001-Indefinite	Henry Quinlan, USFW Biologist	(none)	Initial Survey Instructions
2	013	Comprehensive Fish Survey (CM)	Current	HMP / Pg. 39	Regional	FWS: 0.02	$100	Sept./ Recurring - - every three years	1977-Indefinite	Henry Quinlan, USFW Biologist	(none)	Initial Survey Instructions
3	014	Brook Trout PIT Tag Stations (CM)	Current	HMP / Pg. 39	Regional	FWS: 0.01	$50	Continuous/ Recurring - - every year	2000-Indefinite	Henry Quinlan, USFW Biologist	(none)	Initial Survey Instructions
4	006	Restore Fish (CM)	Current	HMP / Pg. 39	Regional	FWS: 0.08	$250	May, July/ Recurring - - every year	2011-Indefinite	Refuge Biologist	(none)	Initial Survey Instructions
5	016	Macroinvertebrate Monitoring (M)	Current	HMP / Page 39	Regional	FWS: 0.04	$100	Summer/ Recurring - - every three years	2013-Indefinite	Refuge Biologist	(none)	Initial Survey Instructions
6	004	Stream Habitat Monitoring (M)	Current	HMP / Page 39	Regional	FWS: 0.12	$500	Summer/ Recurring - - every year	2005-Indefinite	Refuge Biologist	(none)	Initial Survey Instructions
7	003	Stream Gage Station Monitoring (CM)	Current	HMP / Page 39	Regional	FWS: 0.01	$2,000	Continuous/ Recurring - - every year	1999-Indefinite	Refuge Biologist	(none)	Initial Survey Instructions
8	002	Whittlesey Creek Sediment Transport Study (CM)	Current	HMP / Pg. 39, 45	Regional	FWS: 0.08	$250	Year Round/ Recurring - - every decade	2007-Indefinite	Refuge Biologist	(none)	Initial Survey Instructions

Survey Priority [1]	Survey ID Number [2] (FF03RWIT00-)	Survey Name/(Type) [3]	Survey Status [4]	Mgmt. Objective Id [5]	Survey Area [6]	Staff Time (FTE) [7]	Avg. Ann Cost (OPR) [8]	Survey Timing [9]	Survey Length [10]	Survey Coord. [11]	Protocol	
											Citation [12]	Status [13]
9	024	Topographic Stream Surveys*	Current	HMP / Pg. 39	Regional	FWS: 0.04	$250	Spring, Summer, Fall/ Every five years	2017-Indefinite	Refuge Biologist	(none)	Initial Survey Instructions
10	056	Management Action Records: Spreadsheet	Expected	n/a	Entire station	FWS: 0.03	$0	Year-round/ Recurring -- every year	2018-Indefinite	Refuge Biologist	(none)	Initial Survey Instructions
11	015	Photo Stream (BM)	Current	HMP / Pg. 39	Regional	FWS: 0.01	$100	Spring, Summer, Fall/ Sporadic or Ad Hoc	2000-Indefinite	Refuge Biologist	(none)	Initial Survey Instructions
12	020	Black Duck Nest Survey*	Expected	HMP / Pg. 46	Entire station	FWS: 0.01	$100	Spring/ Every five years	2018-Indefinite	Refuge Biologist	(none)	Initial Survey Instructions
13	010	Point Count Breeding Bird Survey (CB)	Current	HMP / Pg. 39	Regional	FWS: 0.02	$250	Spring/ Recurring -- every three years	1999-Indefinite	Refuge Biologist	(none)	Initial Survey Instructions
14	018	Common Tern Survey*	Expected	HMP / Pg. 39, 46	Entire station	FWS: 0.01	$100	Summer/ Recurring -- every three years	2018-Indefinite	Refuge Biologist	(none)	Initial Survey Instructions

[1] The rank for each survey listed in order of priority (e.g., numeric, tiered, alpha-numeric, or combination of these).
[2] A unique identification number consisting of refuge code-computer assigned sequential number. Refuge code comes from the FBMS cost center identifier.
[3] Short titles for the survey name, preferably the same name used in refuge work plans. Also include the PRIMR code for survey type in parentheses. These are: Inventory (I), Cooperative Baseline Monitoring (CB), Monitoring to Inform Management (M), Cooperative Monitoring to Inform Management (CM), Research (R), and Cooperative Research (CR).
[4] Selected surveys planned for the lifespan of this IMP (i.e., Current, Expected).
[5] The management plan and objectives that justify the selected survey.
[6] Refuge management unit names, entire refuge, or names of other landscape units included in survey.
[7] Estimates of Service (FWS) and non-Service (Other) staff time needed to complete the survey (1 work year = 2080 hours = 1 FTE).
[8] Estimates of average annual operations cost for conducting the survey during the years it is conducted (e.g., equipment, contracts, travel) but not including staff time.
[9] Timing and frequency of survey field activities.
[10] The years during which the survey is conducted.
[11] The name and position of the survey coordinator (the Refuge Biologist or other designated Service employee) for each survey.
[12] Title, author, and version of the survey protocol (if there is no protocol to cite, enter None).
[13] Scale of intended use (Site-specific, Regional, or National) and stage of approval (Initial Survey Instructions, Complete Draft, In Review, or Approved) of the survey protocol.

Narratives for Newly Selected Surveys

Survey: *Topographic Stream Surveys (FF03RWIT00-024)*
Refuge: *Whittlesey Creek National Wildlife Refuge*
Priority: 9

Which station management objective does the survey support? Is the objective derived from the CCP, interim objectives, HMP, or other?

HMP: Objectives for Entire Whittlesey Creek; CCP Objective 2-1: In-Stream

Why is it important to conduct the survey? Describe how survey results will be used to make better informed refuge management decisions. If survey results are used to trigger a management response, identify the management response and threshold value for comparison to survey results.

This survey is designed to monitor long-term effects of in-channel habitat restoration and enhancement on channel morphology. Cross sectional and longitudinal profiles add to the larger body of data collected to document desired restoration effects such as riffle-pool development, reduced channel width and increased depth. The combined information may lead to modification of restoration and enhancement techniques.

What is the population or attribute of interest, what will be measured, and when?

Water; Hydrology; Recurring -- every five years; Spring, Summer, Fall

Is this a cooperative survey? If so, what partners are involved in the survey?

Coop Monitoring to Inform Management; U.S. Fish and Wildlife Service, Water Resources Division

Survey: *Management actions records: spreadsheet (FF03RWIT00-056)*
Refuge: *Whittlesey Creek National Wildlife Refuge*
Priority: 10

Which station management objective does the survey support? Is the objective derived from the CCP, interim objectives, HMP, or other?

This survey does not address any specific station objectives.

Why is it important to conduct the survey? Describe how survey results will be used to make better informed refuge management decisions. If survey results are used to trigger a management response, identify the management response and threshold value for comparison to survey results.

The purpose of this survey is to document all management actions implemented on the refuge. This survey, in comparison with the other monitoring efforts, will allow the station to evaluate and document the efficacy of its management and restoration actions. Until a standardized approach is delivered to field stations, Whittlesey Creek will use a spreadsheet to record the date and general area of management activities.

What is the population or attribute of interest, what will be measured, and when?

Human Use; Point Source Human Effects; Recurring -- every year; Year-round

Is this a cooperative survey? If so, what partners are involved in the survey?
NO

Survey: *Black Duck Nest Survey (FF03RWIT00-020)*
Refuge: *Whittlesey Creek National Wildlife Refuge*
Priority: 12

Which station management objective does the survey support? Is the objective derived from the CCP, interim objectives, HMP, or other?

HMP: Objectives for Entire Whittlesey Creek; CCP Objective 1-2: Migratory Birds

Why is it important to conduct the survey? Describe how survey results will be used to make better informed refuge management decisions. If survey results are used to trigger a management response, identify the management response and threshold value for comparison to survey results.

American Black Duck is a Midwest Region Resource Conservation Priority Species. It is listed as a Species of Concern in the Refuge HMP and as a Priority Resource of Concern in the CCP. The refuge and adjacent areas host over-wintering American Black Ducks. Presence of nesting pairs may influence, for instance, habitat restoration, enhancement, and public use decisions.

What is the population or attribute of interest, what will be measured, and when?

Biological Integrity; Other Biota; Aves (Birds); Anseriformes (Waterfowl, Screamers, Swans, Geese, Ducks); Recurring -- every five years; Spring

Is this a cooperative survey? If so, what partners are involved in the survey?

Coop Baseline Monitoring; Academia; U.S. Fish and Wildlife Service, Migratory Birds
Northland College, Ashland, WI

Survey: *Common Tern Survey (FF03RWIT00-018)*
Refuge: *Whittlesey Creek National Wildlife Refuge*
Priority: 14

Which station management objective does the survey support? Is the objective derived from the CCP, interim objectives, HMP, or other?

HMP: Objective for Coastal Wetland; Objectives for Entire Whittlesey Creek; CCP Objective 1-2: Migratory Birds

Why is it important to conduct the survey? Describe how survey results will be used to make better informed refuge management decisions. If survey results are used to trigger a management response, identify the management response and threshold value for comparison to survey results.

Common Tern populations within the Great Lakes basin are a Midwest Region Resource Conservation Priority Species. Common Tern is a surrogate species for lacustrine habitats in the Upper Midwest Great Lakes Geography. It is listed as a Species of Concern in the Refuge HMP. Artificial nesting islands near the refuge provide one of two nesting locations on Lake Superior in Wisconsin. Common Terns forage heavily in the near-shore areas at the mouth of Whittlesey Creek. Survey data may influence, for instance, refuge public use policies or visitor services offerings.

What is the population or attribute of interest, what will be measured, and when?

Biological Integrity; Other Biota; Aves (Birds); Charadriiformes (Alcids, Shore Birds, Auks, Oystercatchers, Plovers, Gulls); Recurring -- every three years; Summer

Is this a cooperative survey? If so, what partners are involved in the survey?

Coop Baseline Monitoring; Academia; U.S. Fish and Wildlife Service, Migratory Birds
Northland College, Ashland, WI

Appendix C. Cost-benefit Analysis (Revised)

The following table includes results from direct selections and linear programming approaches (all optimized sets). The optimized portfolios used the total of all frequency adjusted scores as an objective function. Main constraints included costs (weeks) and surveys selected prior to solving the linear function (summation of frequency adjusted scores across all surveys). Portfolios represent sets of selected surveys as IMP variants.

Table C-1. Parameters framing IMP portfolios presented in Table C-2.

Portfolio	Parameters
A	The best scoring surveys were directly selected in descending order until the refuge's available staff time was depleted.
B	Optimized by Solver (max benefit), constrained by setting available staff time at 6.5 weeks
C	Optimized by Solver (max benefit), constrained by setting available staff time at 3.25 weeks
D	Optimized by Solver (max benefit), constrained by setting available staff time at 14 weeks
E	Optimized by Solver (max benefit), constrained by selecting all surveys not included in Portfolio B
F	Optimized by Solver (max benefit), constrained by keeping Point Count and Photo Stream surveys
G	Optimized by Solver (max benefit), constrained by keeping Point Count survey
H	Optimized by Solver (max benefit), constrained by keeping Photo Stream survey
I	Optimized by Solver (max benefit), constrained by keeping all bird surveys
J	Optimized by Solver (max benefit), constrained by keeping all fish surveys
O	Direct selection of surveys from original IMP
R	Direct selection of surveys for revised IMP

Table C-2 Efficiencies in terms of frequency adjusted benefit for 12 potential IMP portfolios (1= selected, 0= not selected). Portfolios were created by direct selections or by solving for optimal sets (maximum benefit within constraints) as described in Table C-1. Benefit scores are derived from the ranking results presented in Table B-1. *Indicates newly added surveys.

Survey Name	A	B	C	D	E	F	G	H	I	J	O	R
Stream Cond	1	1	1	1	1	1	1	1	1	1	0	0
Restor Fish	1	1	0	1	0	1	1	1	0	1	1	1
Fish Index	1	1	0	1	0	1	1	1	0	1	1	1
Fish Comp	1	1	1	1	1	1	1	1	1	1	1	1
Stream gage	1	1	1	1	1	1	1	1	1	1	1	1
Culverts	1	1	1	1	1	1	1	1	1	1	0	0
PIT	1	1	0	1	1	1	1	1	1	1	1	1
Invasive	1	0	0	1	1	0	0	0	1	0	0	0
Common tern*	1	1	1	1	1	1	1	1	1	1	0	1
Stream Habit	0	1	0	1	0	0	1	0	0	1	1	1
Bat	0	1	0	1	1	1	1	1	1	1	0	0
Stream Topo*	0	1	0	1	1	1	1	1	1	1	0	1
Map Lowland	0	1	1	1	1	1	1	1	1	1	0	0
Macroinvert	0	1	0	1	0	1	1	1	1	1	1	1
Point Count	0	1	0	1	0	1	1	1	1	1	1	1
Turtle	0	1	1	1	1	1	1	1	1	1	0	0
Photo Stream	0	0	0	1	1	1	0	1	0	0	1	1
Blduck Nest*	0	1	1	1	1	1	1	1	1	1	0	1
Sed Transport	1	1	1	1	1	1	1	1	1	1	1	1
Mig waterfowl	1	1	1	1	1	1	1	1	1	1	1	0
Shorebird	1	1	1	1	1	1	1	1	1	1	1	0
Management action records*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*
Total Benefit	18.7	33.4	31.5	33.5	32.7	33.4	33.4	33.4	33.2	33.4	7.4	7.2
Annual Weeks	6.33	6.49	3.24	9.09	6.54	6.29	6.49	6.29	6.54	6.49	5.87	6.32
# of Surveys	13	20	12	22	17	20	20	20	18	20	13	14

*This survey is required and must be selected. It was not scored or ranked, but was included in portfolios for time estimate

Appendix E. Estimated Annual Work Schedule for Selected Surveys, January-December (Revised)

*Indicates newly added surveys

Survey Name	Survey Priority	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Comments
Fish Index	1									FW				Other tasks completed by FWS Ashland FWCO
Comprehensive Fish Survey	2									FW				Other tasks completed by FWS Ashland FWCO
Brook Trout PIT Tag Stations	3				FW	FW	FW			FW	FW	FW		Refuge assistance typically after high flows, antennae maintenance - Other tasks completed by FWS Ashland FWCO
Restore Fish	4					P, T, FW		P, T, FW						Other tasks completed by Prof. Derek Ogle, Northland College
Macroinvertebrate Monitoring	5							P, T, FW, DE, A, R	A, R					I.D. assistance by Prof. Andy Goyke, Northland College
Stream Habitat Monitoring	6						P, T, FW, DE, A, R	P, T, FW, DE, A, R	P, T, FW, DE, A, R					
Stream Gage Station Monitoring	7	FW	FW	FW	FW	FW	FW	FW	FW	FW	FW	FW	FW	Refuge checks and services as needed to clear channel debris, clean precip gage. Other tasks complete by USGS Water Resources and Northland College students
Whittlesey Creek Sediment Transport Study	8	FW	FW	FW	FW	FW	FW	FW	FW	FW	FW	FW	FW	Other tasks completed by USGS Water Resources and U.S. Army Corps of Engineers
Topographic Stream Surveys*	9					FW	FW	FW	FW	FW	FW			Other tasks completed by FWS Water Resources

Survey Name	Survey Priority	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Comments
Management Action Records: Spreadsheet	10	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE, A, R	DE, A, R	
Photo Stream	11				FW	FW					FW	FW		Leaf-off after high flows preferred
Black Duck Nest Survey*	12			P,T	P,T, FW	FW								Most tasks completed by Northland College students and faculty
Point Count Breeding Bird Survey	13				P, T	P, T, FW	FW	FW					DE	Most tasks completed by Northland College students and faculty
Common Tern Survey*	14				P, T	P,T, FW	FW	FW	FW					Most tasks completed by Northland College students and faculty

Tasks: P=Planning, T=Training, FW=Field Work, DE=Data Entry, A=Analysis, R=Reporting

Appendix H. Environmental Action Statement (EAS)

Within the spirit and intent of the Council on Environmental Quality's regulations for implementing the National Environmental Policy Act (NEPA) (40 CFR 1500-1508), and other statutes, orders, and policies that protect fish and wildlife resources, I have established the following administrative record and determined that the following proposed action does not require additional NEPA documentation.

Proposed Action, Alternatives, and NEPA Documentation

The proposed action is to implement an Inventory and Monitoring Plan (IMP) for the Whittlesey Creek National Wildlife Refuge. This IMP is a refinement of the 2015 Comprehensive Conservation Plan (CCP) and associated Environmental Assessment (EA) for the Refuge. This IMP provides more-specific guidance for surveys of Refuge's fish, wildlife, plant, habitat, and abiotic resources to fulfill the Refuge's purposes and help achieve Refuge's goals and objectives.

The EA for Whittlesey Creek National Wildlife Refuge CCP included goals and objectives for the refuge and assessed the impacts associated with a range of reasonable alternatives to achieve those goals and objectives. The rationale for selection of one specific alternative for implementation is explained in the Finding of No Significant Impact (FONSI) accompanying the final CCP. The goals, objectives, and survey strategies included in this IMP fall within the bounds of those described and assessed in the CCP and EA or EIS.

Pursuant to 40 CFR 1502.9, no additional NEPA documentation is required to implement this IMP beyond the EA and FONSI prepared concurrently with the CCP. No substantial changes to the proposed action alternative that was identified, analyzed, and selected for implementation within the CCP, EA, and FONSI are proposed through this IMP. Similarly, no significant new information or circumstances exist relevant to environmental concerns and bearing on the proposed action or its impacts.

In accordance with 43 CRF 46.205 and 40 CFR 1508.4, some surveys within this IMP are covered by the following Departmental categorical exclusion because they would not have significant environmental effects.

"Research, inventory, and information collection activities directly related to the conservation of fish and wildlife resources which involve negligible animal mortality or habitat destruction, no introduction of contaminants, or no introduction of organisms not indigenous to the affected ecosystem." 516 DM 8.5B(1)

BRIDGET OLSON Digitally signed by BRIDGET OLSON Date: 2018.09.06 09:10:31 -05'00'

Project Leader/Refuge Manager

9/6/2018

Date

Reference: *U.S. Fish and Wildlife Service. 2015. Comprehensive Conservation Plan and Environmental Assessment for Whittlesey Creek National Wildlife Refuge. USFWS Midwest Region. Bloomington, MN.*