

Statement of Interest
Number ?
Project to be initiated in 2015

**Project Title: Bird Usage Summary and Analysis of Bottomland Forest Management Areas in
Pool 13 and 18 of the Upper Mississippi River**

Responses to this Request for Statements of Interest will be used to identify potential investigators for a project to be funded by the U.S Army Corps of Engineers (USACE) Rock Island District, Mississippi River Project (Project) in Pleasant Valley, IA and the Engineer Research & Development Center (ERDC) in Vicksburg, MS. Approximately \$20K is expected to be available to support this project for Year 1; Year 2 – \$30K; and Year 3 – \$30K for a total of \$80K.

Background:

The Mississippi River Project encompasses over 210,000 acres land and water forming valuable habitat for both resident and migratory wildlife along this portion of the Mississippi Valley flyway. The flyway is heavily utilized by migrating waterfowl, eagles, hawks, neo-tropical migrant songbirds, shorebirds, gulls, and other passerines. The Mississippi River Project is recognized for its high value to bird conservation through designation as a “Globally Important Bird Area” by the American Bird Conservancy in 2001. Over 150 bird species have been documented on Project through surveys dating back to 1983. The surveys found at least 9 state or federal special status species on project using the federal, Iowa, and Illinois lists which includes the bald eagle, red-shouldered hawk, brown creeper, sandhill crane, pied-billed grebe, black tern, osprey, black-crowned night heron, and yellow-crowned night heron. Over 80 species of neo-tropical migrants have also been documented.

Much of the 55,000 acres of exposed Project land is leased to the Fish and Wildlife Service and state department of natural resources for refuge and wildlife management areas including, in part, the Upper Mississippi Wildlife and Fish Refuge, Port Louisa National Wildlife Refuge, and Great River National Wildlife Refuge. The Corps retained timber rights on these leased lands and manages the timber through a forestry program dating to 1941. The timber is managed with wildlife habitat as the primary goal.

Prior Bird Counts:

As part of the wildlife considerations, avian point counts were initiated at several forest management sites for pre and post monitoring including the Pleasant Creek area in Pool 13 and

Huron Island in Pool 18 of the river in 1985 and 1982 respectively. Point counts have been completed four times annually to date at both sites to document changes in the bird usage of the areas. The sites were designated for active forest management and the point counts were intended. An interim report was completed by the Project in 1987.

The Pleasant Creek study area covers roughly 2700 acres of land and water along four river miles just downstream of Bellevue, Iowa. The area is comprised of floodplain and backwaters along the Iowa side of the Mississippi River with relatively few islands included in the complex. Similar to Huron Island, the habitat is mainly typical floodplain forest dominated by silver maple and lies mostly below the two-year floodplain. The Corps lands area leased to the Fish and Wildlife Service as refuge within the Pleasant Creek Closed Area. Bird monitoring began in 1985 at five sites. At three of those sites small clearcuts were initiated in 1986 that ranged from 1.5 to 15 acres. One site was later harvested in 1988 and the final site remains un-harvested to date to serve as a control.

The Huron Island study area covers roughly 2600 acres of land and water along five river miles north of Burlington, Iowa. The Huron Island complex is comprised of several islands in Iowa, Huron being the largest, though there is some land connected to the Iowa shore in the study area. The habitat is mainly typical floodplain forest dominated by silver maple (*Acer saccharinum*) and is bisected by permanent and ephemeral sloughs in a ridge and swale type geomorphology. Nearly the entire lands lie under the two-year floodplain and are regularly inundated. The land is federal fee title acquired for the 9-foot Channel Project but is managed by the Iowa Department of Natural Resources through cooperative agreements. The Corps retained forestry rights in those agreements and initiated 11 small clearcut harvests in 1983 ranging from 0.3 acres to 13.6 acres. Thirteen point count sites were established with one at each harvest site and two additional un-harvested sites in the area for study control.

Point counts documented all birds heard, seen at the site, or flying over the site by paid natural resource contractors at four time periods each year including mid-May, mid-June, early August, and early September. Point counts started no earlier than 7:00 due to travel logistics and were completed prior to 11:00 am. When excessive wind or rain precluded data collection, timely follow-up visits were completed. Point counts initially were 10 minutes in length but switched to 5 minutes around 1989.

These point counts have continued to present day with a total of only three observers thus creating a valuable long-term dataset ripe for summary and analysis valuable to the Project, cooperating university, natural resource managers, and general public.

Should funds be available, there are additional datasets available for analysis completed in a similar fashion on nearby areas by the Fish and Wildlife Service. Point counts were completed at the nearby 1,760 acre Big Timber and 1,400 acre Keithsburg Divisions of Port Louisa National Wildlife Refuge. The land at both of these divisions is federal fee-title acquired by the Corps for the 9-foot navigation project, and is managed by the Fish and Wildlife Service through a cooperative agreement with the Corps. These two divisions are comprised primarily of bottomland forest and backwater wetlands adjacent to the Mississippi River. With the objective of monitoring landbird use in these habitats, point count surveys were initiated in 1993 at 10 sites each at the Big Timber and Keithsburg Divisions. Since that time period, surveys have been conducted in approximately 11 of the last 19 years, during spring migration, breeding season, and autumn migration. Data collection has been incomplete in some years due to flooding and limited funding. The point count methodology is similar to the counts completed at Huron Island and Pleasant Creek. All the Service data has been compiled digitally and submitted to the Patuxent Wildlife Research Center - Avian Point Counts Database.

If applicable, a final dataset for the Horseshoe Bend Division of the Port Louisa National Wildlife Refuge is available for inclusion into the summary and analysis report or future reports. This area lies on the lower Iowa River between the mouth of the river with the Mississippi and Wapello, Iowa. This area is comprised of more open floodplain grasslands, sandbar willow, and associated habitat. The data is similar to the other data noted in the previous paragraph.

Brief Description of Anticipated Work:

This research project will provide a report summarizing relevant bird usage information and investigating any correlations between harvest sizes, vegetation, and/or flooding as funding and/or data limitations allow. The data collected will be used to enhance habitat for all bird species but special consideration given to sensitive species. We are also requesting comparison of this data to other regional and long-term data sets to highlight how the floodplain may differ from the more accessible monitoring routes nearby. The summary report shall be in a format publishable through relevant journals and other public websites for educational and scientific use. The data collected will be posted by the Government to the Patuxent Wildlife Research Center - Avian Point Counts Database or similar appropriate site and available to all interested parties. We will also provide a copy of the report back to the State of Iowa which will help inform future decisions related to habitat restoration and preservation activities and aid in implementation of the Iowa Wildlife Action Plan (IWAP). The report will be posted on Corps and Audubon websites thus making this data available to interested members of the public.

Resource managers using this data will include: state and federal wildlife and fisheries managers, foresters, local County Conservation personnel and active NGO's in eastern Iowa. This information will aid resource managers in their management decisions regarding restoration, protection, wildlife management and the public use of sensitive areas. The cooperating university will be able to publish the report in relevant journals and/or meetings thus allowing their work and participation on the analysis of this significant long term dataset to be shared and recognized.

The report will include information on: species lists, abundance, occurrence, trend information on "species of greatest conservation need". The cooperating university will investigate the feasibility of linking bird usage to environmental factors including flooding, local forest management actions, and/or land cover. Pending funding feasibility and levels, the report may also describe bird usage associations with those factors.

Objectives and deliverables as funds allow:

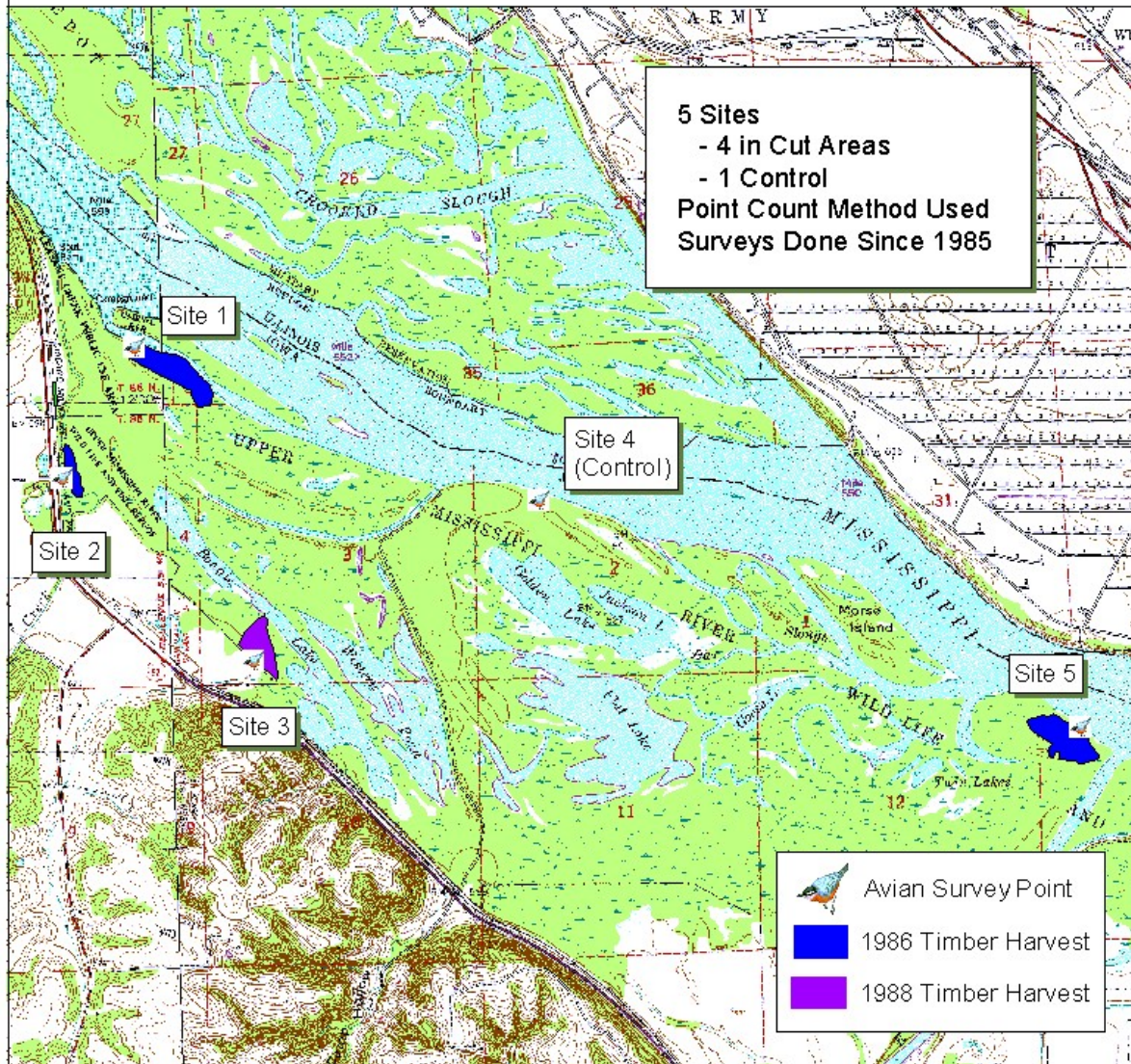
- 1) Provide a digital database template for entry of bird data by the Government or Audubon.
- 2) Provide overall species list as well as species summary by area.
- 3) Provide relative abundance and frequency of occurrence information by species.
- 4) Analyze and summarize trend information on species of interest (using list from Species of Greatest Conservation Need in Iowa and appropriate Partners in Flight priority bird species).
- 5) Investigate feasibility to analyze potential correlations between bird response (habitat guilds, species of concern, communities, Neo-tropical migrants, and/or specialists) to the following factors: 1993 flood, timber harvest parameters, and floodplain vegetation metrics (e.g., elevation/water inundation, vegetation diversity, stand age, forest type, understory density, and/or overstory density, etc). Feasibility and potential analysis could include local apparent occupation, colonization, or extirpation of species associated with these factors in investigation and analysis possibly using MacKenzie's Proportion of Area Occupied models with presence/absence data, multi-variant analysis, analysis similar to Wakeley et al. (2007), and/or other appropriate methodology. Complete analysis on one or more these factors and bird selection pending feasibility, funding, and agreement on protocol.

- 6) Pending funding, complete additional summary and analysis of Fish and Wildlife provided data from nearby areas.
- 7) Pending funding, compare trends of selected species or bird assemblages in our data in relation to trends on nearby non-floodplain routes of the Breeding Bird Survey or other large datasets like Illinois Natural History Survey to examine the differences. The intent is to examine the importance of floodplain forest habitat to nearby floodplain and upland habitat.
- 8) Summarize lessons learned from the data setup to inform other future monitoring efforts.

Site Map of Pleasant Creek Area immediately downstream of Bellevue, Iowa:

Pleasant Creek Avian Surveys

Pool 13



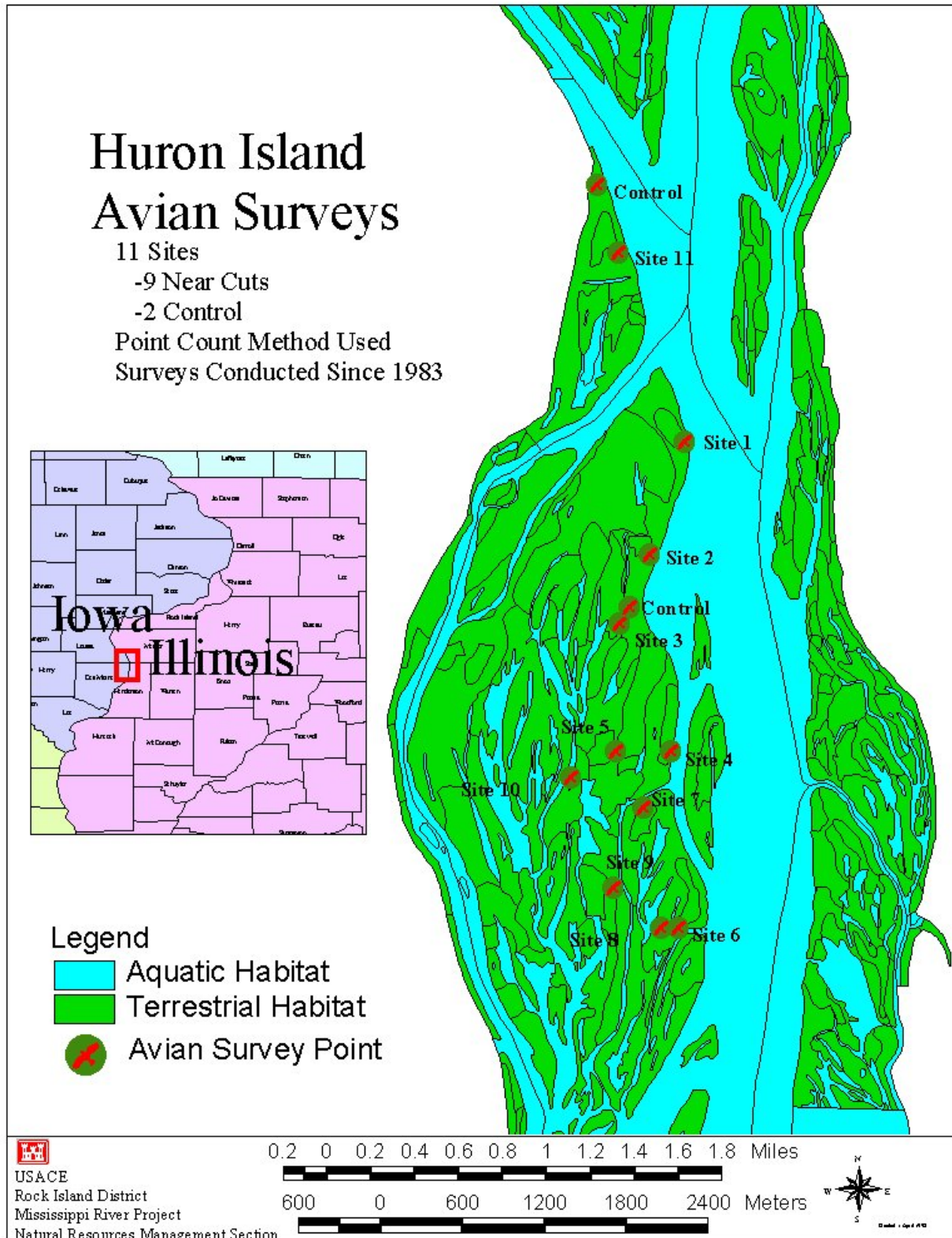
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USACE
Rock Island District 1000
Mississippi River Project
Natural Resources Management Section



Site Map of the Huron Island Area downstream of Keithsburg, Illinois:



Vendor Requirements:

Successful applicants should have expert knowledge with related work experience in completing and analyzing avian point count data in context with ecological, physiological, and statistical analysis. Candidates will be required to submit monthly status reports and a final report within 1 year's time for Year 1.

Government Participation:

- 1) Provide all raw point count data starting in 1982 from the Huron Island area and from 1985 from Pleasant Creek as well as a digital database of the collected information. Any available compiled/digitized point count data updated by Audubon Missouri.
- 2) Provide information regarding timber harvest protocols, timing, geographic extent, any available follow-up monitoring data, and aerial photos.
- 3) Provide detailed forest inventory data from over 50 systematically spaced plots within the harvest sites within the last two years as well as up to 220 additional plots on residual timber on the rest of the island complex.
- 4) Provide listing of IWAP Species of Greatest Conservation Need.
- 5) Assistance in site and bird species selection and for site visits as appropriate to insure adequate sampling for desired study results..
- 6) Review of data and resulting statistical correlations for report preparation

Materials Requested for Statement of Interest/Qualifications:

Please provide the following via e-mail to:

Stacy.D.Thurman@usace.army.mil (maximum length 2 pages, single spaced 12 pt. font)

- 1) Name, Organization and Contact Information
- 2) Brief Statement of Qualifications including:
 - a. Biographical Sketch
 - b. Relevant past projects and clients with brief description of project
 - c. Staff, faculty and students available including area of expertise
 - d. Brief description of capabilities to successfully complete this project

Note: a proposed budget is NOT requested at this time.

Review of Statements Received:

Based on a review of the Statements of Interest received, an investigator or investigators will be invited to prepare a full study proposal. Statements will be evaluated based on investigators specific experience and capabilities in areas related to the study requirements. Additionally, the evaluation method and selection criteria for research and development awards must be: 1) The technical merits of the proposed research and development; and 2) Potential relationship of the proposed research and development to the Department of Defense missions.

Please send responses or direct questions to:

Stacy D. Thurman

U.S. Army Engineer Research and Development Center (ERDC)

ERDC Contracting Office (ECO)

3909 Halls Ferry Rd.

Vicksburg, MS 39180

Stacy.D.Thurman@usace.army.mil

Timeline for Review of Statements of Interest: Review of Statements of Interest will begin after the SOI has been posted on the CESU website for 10 working days.

Bibliography

Wakeley, J.S., M.P. Guilfoyle, T.J. Antrobus, R.A. Fischer, W.C. Barrow, and P.B. Hamel. 2007. Ordination of breeding birds in relation to environmental gradients in three southeastern United States floodplain forests. *Wetlands Ecology Management* 15:417-439.