



United States Geological Survey  
Northern Prairie Wildlife Research Center (USGS-NPWRC)  
8711 37 Street SE  
Jamestown, ND 58401  
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Nebraska Community Foundation, Inc.  
PO Box 83107  
Lincoln, NE 68501-3107  
TIN# 47-0769903

**PLATTE RIVER RECOVERY IMPLEMENTATION PROGRAM**  
**Agreement between Nebraska Community Foundation, Inc., Platte River Recovery Implementation**  
**Program, and United States Geological Survey**

**2013–2016 Whooping Crane Stopover Site Evaluation Research Project**

**1. Parties.** This Agreement is made and entered into by and between the Nebraska Community Foundation, Inc. (“Foundation”) of Lincoln, Nebraska, representing all signatories to the Platte River Recovery Implementation Program (“Program”), the Program, and United States Geological Survey (“USGS”). The following persons are authorized to represent the parties through this Agreement: Diane Wilson of the Foundation, Dr. Jerry Kenny of the Program; and Dr. Aaron Pearse of the USGS.

**2. Purpose of Agreement and USGS Authorities.** The purpose of this Agreement is to allow the Foundation, acting as the fiscal agent for the Governance Committee (GC) of the Program, and the USGS to enter into a firm fixed price Agreement for the project “2013–2016 Whooping Crane Stopover Site Evaluation Research Project.” The authority permitting the USGS to enter into this Agreement is “15 USC 3710a, as amended”.

**TERMS AND CONDITIONS**

**3. Term of Agreement and Required Approvals.** This Agreement is effective when all parties have executed it and all required approvals have been granted. The term of this Agreement is from the date of signing through 31 December, 2016. The services to be performed under this Agreement will commence upon receipt of authorization to proceed. All services shall be completed during this term.

If the USGS has been delayed and as a result will be unable, in the opinion of the Program, to complete performance fully and satisfactorily within this Agreement period, the USGS may be granted an extension of time, upon submission of evidence of the causes of delay satisfactory to the Program.

**4. Payment.**  
**A. Reimbursement of Expenses.** The Program agrees to pay the USGS an amount based on the approved budget depicted in Exhibit B for the services described in Exhibit A, attached to this Agreement and incorporated by reference as part of this Agreement. Total payment under this Agreement shall not exceed two hundred ninety six thousand and nine hundred thirteen dollars (\$296,913.00) unless agreed upon by the Program. Billings shall be rendered quarterly and payments of bills are due within 60 days after the billing date. If not paid by the due date, interest will be charged at the then-current Treasury rate for each 30 day period, or portion thereof, that payment is delayed beyond the due date (see 31 USC 3717).

**B. Project Budget.** The Project budget for tasks outlined in Exhibit A is as follows:

Task	Estimated Cost
Phase I. (2013 Stopover Site Evaluations)	
Subtotal Phase I	\$ 102,097
Phase II. (2014 Stopover Site Evaluations)	
Subtotal Phase	\$ 97,408
Phase III. (2015 Stopover Site Evaluations)	
Subtotal Phase III	\$ 97,408
Phase IV. (2016 Data Analysis and Reporting)	
Subtotal Phase IV	\$ 0
<b>Total Project Budget**</b>	<b>\$ 296,913</b>

*\*\* Total Project Budget excludes Program costs to purchase 2 Toughbook Computers (\$7,000) and data plans for each computer (\$1,200 annually, 2013-2015) for USGS's use during this project. The Program will also provide USGS 2 digital cameras to be used during this project.*

The amounts for each Phase are estimates and are not to be exceeded unless authorized in writing by the Program. The Agreement total amount is controlling. Payment shall be made directly to the USGS. The USGS shall maintain hourly records of time worked by its personnel to support any audits the Program may require. Billing reports shall be submitted quarterly for activities and level of expenditures incurred since the last billing report. A brief project progress report summarizing project activities in the billing period must be submitted with each billing.

**C. Billing Procedures.** The USGS shall send billing reports for services performed for the various tasks outlined in Exhibit A to the Executive Director's Office ("ED Office"; address included below). The Program's Executive Director, upon receiving the billing report, will review and upon approval, submit the bill for payment. The submittal for payment will then be reviewed by the Signatory Parties of the Program who will advise the Foundation of approval. The Foundation will make payment of these funds directly to the USGS within thirty (30) days of notice of approval by the Signatory Parties. Payments of bills are due within sixty (60) days after the billing date of the USGS.

**Billing Point of Contact (Program):**

Dr. Jerry F. Kenny, Executive Director  
Platte River Recovery Implementation Program  
Headwaters Corporation  
4111 4<sup>th</sup> Avenue, Suite 6  
Kearney, Nebraska 68845  
Phone: (308) 237-5728  
Fax: (308) 237-4651  
Email: [kennyj@headwaterscorp.com](mailto:kennyj@headwaterscorp.com)

**D. Money Withheld.** When the Program has reasonable grounds for believing that the USGS will be unable to perform this Agreement fully and satisfactorily within the time fixed for performance, then the Program may withhold payment of such portion of any amount otherwise due and payable to the USGS reasonably deemed appropriate to protect the Program against such loss. These amounts may be withheld until the cause for the withholding is cured to the Program's satisfaction or this Agreement is terminated pursuant to Section 8T. Any amount so withheld will be paid if satisfactory performance is achieved on or before the Effective Date of Termination. This provision is intended solely for the benefit of the Program and no person shall have any right against the Program by reason of the Program's failure or refusal to withhold monies. No interest shall be payable by the Program on any amounts withheld under this provision. This provision is not intended to limit or in any way prejudice any other right of the Program.

**E. Withholding of Payment.** If a work element has not been received by the Program by the dates established in this Agreement, the Program may withhold all payments beginning with the month following that date until such deficiency has been corrected.

**F. Final Completion and Payment.** The final payment shall be made within sixty (60) days of receipt and approval of the final invoice. The USGS will be responsible for data analysis and reporting and will submit to the Program a draft and, if needed, revised version of the Final Report to be approved by the Program during 2016.

## **5. Responsibilities of USGS.**

**A. Scope of Services.** The USGS shall perform the specific services required under this Agreement in a satisfactory and proper manner as outlined in Exhibit A. If there is any conflict between this Agreement and the provisions of the specific requirements of Exhibit A, the specific requirements shall prevail.

**B. Personnel.** All of the services required hereunder will be performed by the USGS or under its supervision, and all personnel engaged in the work shall be fully qualified and shall be authorized, licensed, or permitted under state law to perform such services, if state law requires such authorization, license, or permit.

### **C. Contractors of the USGS.**

**(i) Approval Required for Contractors of the USGS.** Any contractors of the USGS and outside associates or consultants required by the USGS in connection with the services, work performed or rendered under this Agreement will be limited to such individuals or firms as were specifically identified in the proposal and agreed to during negotiations or are specifically authorized by the Program during the performance of this Agreement. The USGS shall submit a list of its proposed contractors, associates or consultants; the scope and extent of each Contract; and the dollar amount of each Contract prior to Contract execution to the Program for approval. During the performance of the Contract, substitutions in or additions to such contractors, associates, or consultants will be subject to the prior approval of the Program. The Program approval of contractors will not relieve the USGS from any responsibilities outlined in this Agreement. The USGS shall be responsible for the actions of contractors of the USGS, associates, and consultants.

(ii) **Billings for Contractors of the USGS.** Billings for contractors of the USGS, associates or consultants services will not include any mark up. The USGS's contractor costs will be billed to the Program at the actual costs as billed to the USGS. USGS's contractor costs will be documented by attaching contractor billings to the USGS's billing submittals.

(iii) **Copies of contracts made by USGS.** The USGS shall provide to the Program copies of each contractor contract immediately following execution with USGS's contractors. All contracts between the USGS and its contractors shall refer to and conform to the terms of this Agreement. However, nothing in this Agreement shall be construed as making the Program a party of any Contract entered between the USGS and its contractors.

**D. Requests from the Program.** The USGS shall be responsible and responsive to the Program and the ED Office in their requests and requirements related to the scope of this Agreement.

**E. Presentation of Data.** The USGS shall collect, compile, and analyze all data in a systematic and meaningful manner so as to contribute directly in meeting the objectives of the Project, and shall present this information clearly and concisely, in a professional manner.

**F. Annual Reports.** USGS shall present the Program Annual Reports covering all work elements of the Project including maps, charts, conclusions and recommendations prior to the publication of any Final Annual Report and no later than the date specified in Exhibit A. Draft Reports will be provided to the Program in Microsoft Word format for distribution and review. The Program will respond with written comments as soon as possible and the USGS will address the comments of the Program in Final Annual Reports. Final Annual Reports will be provided to the Program in Microsoft Word and PDF format.

**H. Reports, Maps, Plans, Models and Documents.** One (1) copy of maps, plans, worksheets, logs, field notes and other reference or source documents prepared for or gathered under this Agreement, and one (1) copy of each unpublished report prepared under this Agreement shall be submitted to the Program for review and acceptance. If the USGS writes or uses a computer program or spreadsheet as a part of this project, the USGS shall submit to the Program for approval all proposed program names and data formats prior to beginning work on that task. All data shall be submitted to Program in written and digital forms with the Final Annual Reports. Digital media shall be labeled by the USGS to provide sufficient detail to access the information on the media. All user manuals shall be submitted by the USGS to Program providing complete documentation of computer programs developed under this Agreement. The user manual shall also specify the source code language and the type of computer equipment necessary to operate the program(s). Any programs or computer software generated as a part of this Agreement shall be the sole property of the Program.

**I. Inspection and Acceptance.** All deliverables furnished by the USGS shall be subject to rigorous review by the Program's ED Office, Advisory Committee(s), and/or Peer Review Panel(s) prior to acceptance.

## **6. Responsibilities of the Program.**

**A. Designated Representative.** The Executive Director of the Program shall act as the Program's administrative representative with respect to the USGS's service to be performed under this Agreement and shall have complete authority to transmit instructions, receive information, and interpret and define the Program's policies and decisions with respect to services covered by this Agreement.

**B. Data to be Furnished to the USGS.** All information, data, reports, and maps as are available to the Program and necessary for the carrying out of the Scope of Services set forth herein shall be furnished to the USGS without charge and the ED Office shall cooperate with the USGS in the carrying out of the project.

**C. Review Reports.** The ED Office shall examine all studies, reports, sketches, and other documents presented by the USGS to the Program and shall render in writing the Program's decisions pertaining thereto within a reasonable time period.

**D. Provide Criteria.** The ED Office shall provide all criteria and full information regarding its requirements for the project.

**7. Special Provisions.**

**A. No Finder's Fees.** No finder's fee, employment agency fee, or other such fee related to the procurement of this Agreement shall be paid by either party.

**B. Authority to Publish.** It is understood that the results of this work shall be available to the USGS for publication and use in connection with related work. Use of this work for publication and related work by the USGS must be conducted with prior authorization and full coordination with the Program's Technical Point of Contact. The Program reserves the right to have data analysis methods, results and conclusions peer reviewed by an Independent Science Advisory panel prior to publication. In the event Program and/or Program Independent Scientific Advisory Panel reviews find the data analysis methods, results or conclusions are not supported by the data; the USGS shall not have the authority to publish until such conditions are addressed to the satisfaction of the Program. If Program and/or Program Independent Scientific Advisory Panel reviews find methods, results and conclusions are supported by the data; the USGS shall have full authority to publish.

**C. Publicity.** Any publicity or media contact associated with the USGS's services and the results of those services provided under this Agreement shall be the sole responsibility of the Program. All media requests associated with this project will be directed to the Director of Outreach and Operations in the ED Office.

**D. Monitor Activities.** The Program shall have the right to monitor all Agreement related activities of the USGS and all its contractors. This shall include, but not be limited to, the right to make site inspections at any time, to bring experts and consultants on site to examine or evaluate completed work or work in progress, and to observe all USGS personnel in every phase of performance of Agreement related work.

**D. Kickbacks.** The USGS certifies and pledges that to the best of its knowledge and belief no gratuities, kickbacks or contingency fees were paid in connection with this Agreement, nor were any fees, commissions, gifts, or other considerations made contingent upon the award of this Agreement. If the USGS breaches or violates this pledge, the Program may, at its discretion, terminate this Agreement without liability to the Program, or deduct from the Agreement price or consideration, or otherwise recover, the full amount of any commission, percentage, brokerage, or contingency fee.

**E. Office Space, Equipment, and Supplies.** The USGS will supply its own office space, equipment, and supplies unless other mutually accepted agreements are made.

## **8. General Provisions.**

**A. Amendments.** Any changes, modifications, revisions or amendments to this Agreement which are mutually agreed upon by the parties to this Agreement shall be incorporated by written instrument, executed and signed by all parties to this Agreement.

**B. Applicable Law/Venue.** The construction, interpretation and enforcement of this Agreement shall be governed by applicable federal and Nebraska law. The Federal Courts of the State of Nebraska shall have jurisdiction over this Agreement and the parties.

**C. Assignment/Agreement Not Used as Collateral.** Neither party shall assign or otherwise transfer any of the rights or delegate any of the duties set forth in this Agreement without the prior written consent of the other party. The USGS shall not use this Agreement, or any portion thereof, for collateral for any financial obligation, without the prior written permission of the Program.

**D. Audit/Access to Records.** The Program and any of its representatives shall have access to any books, documents, papers, and records of the USGS which are pertinent to this Agreement. The USGS shall, immediately upon receiving written instruction from the Program, provide to any independent auditor, accountant, or accounting firm, all books, documents, papers and records of the USGS which are pertinent to this Agreement. The USGS shall cooperate fully with any such independent auditor, accountant, or accounting firm, during the entire course of any audit authorized by the Program.

**E. Availability of Funds.** Each payment obligation of the Program is conditioned upon the availability of funds and continuation of the Platte River Recovery Implementation Program. If funds are not allocated and available for the continuance of the services performed by the USGS, the Agreement may be terminated by the Program at the end of the period for which the funds are available. The Program shall notify the USGS at the earliest possible time of the services which will or may be affected by a shortage of funds. No penalty shall accrue to the Program in the event this provision is exercised, and the Program shall not be obligated or liable for any future payments due or for any damages as a result of termination under this section. This provision shall not be construed to permit the Program to terminate this Agreement to acquire similar services from another party.

**F. Award of Related Contracts.** The Program may undertake or award supplemental or successor contracts for work related to this Agreement. The USGS shall cooperate fully with other contractors and the Program in all such cases.

**G. Certificate of Good Standing.** USGS shall provide Certificate of Good Standing verifying compliance with the unemployment insurance and workers' compensation programs prior to performing work under this Agreement.

**H. Compliance with Law.** The USGS shall keep informed of and comply with all applicable federal, state and local laws and regulations in the performance of this Agreement.

**I. Confidentiality of Information.** All documents, data compilations, reports, computer programs, photographs, manuscripts prepared for publication and any other work provided to or produced by the USGS in the performance of this Agreement shall be kept confidential by the USGS until reviewed by the Program prior to its release. The parties understand that the USGS, as a federal entity, is subject to federal law with respect to the disclosure of information and will comply with disclosure requirements mandated by the Freedom of Information Act and other applicable federal statutes.

## **J. Conflicts of Interest**

(i) USGS shall not engage in providing consultation or representation of clients, agencies or firms which may constitute a conflict of interest which results in a disadvantage to the Program or a disclosure which would adversely affect the interests of the Program. USGS shall notify the Program of any potential or actual conflicts of interest arising during the course of the USGS's performance under this Agreement. This Agreement may be terminated in the event a conflict of interest arises. Termination of the Agreement will be subject to a mutual settlement of accounts. In the event the Agreement is terminated under this provision, the USGS shall take steps to insure that the file, evidence, evaluation and data are provided to the Program or its designee. This does not prohibit or affect the USGS's ability to engage in consultations, evaluations or representation under agreement with other agencies, firms, facilities, or attorneys so long as no conflict exists.

(ii) A conflict of interest warranting termination of the Agreement includes, but is not necessarily limited to, representing a client in an adversarial proceeding against the Platte River Recovery Implementation Program, its signatories, boards, commissions or initiating suits in equity including injunctions, declaratory judgments, writs of prohibition or *quo warranto*.

**K. Entirety of Agreement.** This Agreement, consisting of ten (10) pages Exhibit A, consisting of twelve (12) pages, and Exhibit B, consisting of three (3) pages, represents the entire and integrated Agreement between the parties and supersedes all prior negotiations, representations, and agreements, whether written or oral.

**L. Force Majeure.** Neither party shall be liable for failure to perform under this Agreement if such failure to perform arises out of causes beyond the control and without the fault or negligence of the nonperforming party. Such causes may include, but are not limited to, acts of God or the public enemy, fires, floods, epidemics, quarantine restrictions, freight embargoes, and unusually severe weather. This provision shall become effective only if the party failing to perform immediately notifies the other party of the extent and nature of the problem, limits delay in performance to that required by the event, and takes all reasonable steps to minimize delays. This provision shall not be effective unless the failure to perform is beyond the control and without the fault or negligence of the nonperforming party.

**M. USGS Liability.** The USGS agrees to be responsible for damage to persons or property caused by the negligent or wrongful acts or omissions of USGS employees or its contractors acting within the scope of their employment in accordance with the Federal Tort Claims Act, 28 USC 2671 et seq.

**N. Independent Party.** The USGS shall function as an independent party for the purposes of this Agreement, and shall not be considered an employee of the Program, Foundation or ED Office for any purpose. The USGS shall assume sole responsibility for any debts or liabilities that may be incurred by the USGS in fulfilling the terms of this Agreement, and shall be solely responsible for the payment of all federal, state and local taxes which may accrue because of this Agreement. Nothing in this Agreement shall be interpreted as authorizing the USGS or its agents and/or employees to act as an agent or representative for or on behalf of the Foundation or the Program, or to incur any obligation of any kind on the behalf of the Foundation or the Program. The USGS agrees that no health/hospitalization benefits, workers' compensation and/or similar benefits available to Foundation or Program employees will inure to the benefit of the USGS or the USGS's agents and/or employees as a result of this Agreement.

**O. Notices.** All notices arising out of, or from, the provisions of this Agreement shall be in writing and given to the parties at the address provided under this Agreement, either by regular mail, facsimile, e-mail, or delivery in person.

**P. Ownership of Documents/Work Product/Materials.** All documents, reports, records, field notes, data, samples, specimens, and materials of any kind resulting from performance of this Agreement (other than USGS inventions) are at all times the property of the Program.

**Q. Patent or Copyright Protection.** The USGS recognizes that certain proprietary matters or techniques may be subject to patent, trademark, copyright, license or other similar restrictions, and pledges that no work performed by the USGS or its contractors will knowingly violate any such restriction.

**R. Proof of Insurance.** The USGS is self-insured and its employees are compensated for work-related illnesses or disease by the Federal Employees Compensation Act, codified at 5 USC 8101 et seq.

**S. Taxes.** The USGS shall pay all taxes and other such amounts required by federal, state and local law, including but not limited to federal and social security taxes, workers' compensation, and unemployment insurance.

**T. Termination of Agreement.** This Agreement may be terminated, without cause, by the Program upon fifteen (15) days written notice. This Agreement may be terminated immediately for cause if the USGS fails to perform in accordance with the terms of this Agreement. The USGS shall likewise have the right to unilaterally terminate the agreement for good cause upon fifteen (15) days written notice.

**U. Third Party Beneficiary Rights.** The parties do not intend to create in any other individual or entity the status of third party beneficiary, and this Agreement shall not be construed so as to create such status. The rights, duties and obligations contained in this Agreement shall operate only between the parties to this Agreement, and shall inure solely to the benefit of the parties to this Agreement. The provisions of this Agreement are intended only to assist the parties in determining and performing their obligations under this Agreement.

**V. Time.** The USGS agrees to adhere to Agreement schedules for accomplishing the tasks called for under the Agreement.

**W. Titles Not Controlling.** Titles of paragraphs are for reference only, and shall not be used to construe the language in this Agreement.

**X. Waiver.** The waiver of any breach of any term or condition in this Agreement shall not be deemed a waiver of any prior or subsequent breach.



## **9. Contacts.**

### **Administrative Point of Contact (Foundation):**

Diane M. Wilson  
Chief Financial and Administrative Officer  
Nebraska Community Foundation  
PO Box 83107  
Lincoln, Nebraska 68501-3107  
Phone: (402) 323-7330  
Fax: (402) 323-7349  
Email: [dwilson@nebcommfound.org](mailto:dwilson@nebcommfound.org)

### **Technical Point of Contact (Program):**

Dr. David Baasch, Wildlife Biologist  
Platte River Recovery Implementation Prog.  
Headwaters Corporation  
4111 4<sup>th</sup> Avenue, Suite 6  
Kearney, Nebraska 68845  
Phone: (308) 390-0456  
Fax: (308) 237-4651  
Email: [baaschd@headwaterscorp.com](mailto:baaschd@headwaterscorp.com)

### **Administrative Point of Contact (USGS):**

Bryan L. Wolla – Budget Analyst  
United States Geological Survey (NPWRC)  
8711 37<sup>th</sup> Street SE  
Jamestown, North Dakota 58401  
Phone: (701) 253-5578  
Fax: (701) 253-5553  
Email: [bwolla@usgs.gov](mailto:bwolla@usgs.gov)

### **Admin. Point of Contact (Program):**

Dr. Jerry F. Kenny, Executive Director  
Platte River Recovery Implementation Prog.  
Headwaters Corporation  
4111 4<sup>th</sup> Avenue, Suite 6  
Kearney, Nebraska 68845  
Phone: (308) 237-5728  
Fax: (308) 237-4651  
Email: [kennyj@headwaterscorp.com](mailto:kennyj@headwaterscorp.com)

### **Media Point of Contact (Program):**

Dr. Bridget Barron, Director of Outreach  
Platte River Recovery Implementation Prog.  
Headwaters Corporation  
4111 4<sup>th</sup> Avenue, Suite 6  
Kearney, Nebraska 68845  
Phone: (308) 237-5728  
Fax: (308) 237-4651  
Email: [barronb@headwaterscorp.com](mailto:barronb@headwaterscorp.com)

### **Technical Point of Contact (USGS):**

Dr. Aaron Pearse  
United States Geological Survey (NPWRC)  
8711 37<sup>th</sup> Street SE  
Jamestown, North Dakota 58401  
Phone: (701) 253-5509  
Fax: (701) 253-5553  
Email: [apearse@usgs.gov](mailto:apearse@usgs.gov)

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**10. Signatures.** By signing this Agreement, the parties certify that they have read and understood it, that they agree to be bound by the terms of the Agreement, and that they have the authority to sign it.

**NEBRASKA COMMUNITY FOUNDATION**

\_\_\_\_\_  
Diane M. Wilson  
Chief Financial and Administrative Officer

\_\_\_\_\_  
Date

**UNITED STATES GEOLOGICAL SURVEY (NPWRC)**

\_\_\_\_\_  
Robert Gleason, Center Director

\_\_\_\_\_  
Date

## **EXHIBIT A**

### **Whooping Crane Stopover Site Evaluation Project Scope of Work**

## **A. PROJECT DESCRIPTION**

### **BACKGROUND**

Conservation organizations have spent millions of dollars acquiring and maintaining habitat for whooping cranes in their migration corridor, especially along the Platte River in central Nebraska. Scientists and resource managers have applied the best available science to define habitat requirements for whooping cranes during migration, but this information is limited due to the rarity of whooping cranes, their often-undetected occurrences, and the low resolution of spatial data reported in personal sightings. However, new information gained from the Whooping Crane Tracking Partnership (WCTP) overcomes many of the limitations of direct sightings and offers an unprecedented opportunity to learn about habitats selected by whooping cranes. This detailed information will help the Program and other resource managers better define minimum habitat criteria and refine restoration targets to more effectively manage and protect whooping crane habitat along the Platte River and beyond.

The WCTP is an innovative, collaborative project among the Canadian Wildlife Service, Crane Trust, Platte River Recovery Implementation Program (Program), U.S. Fish and Wildlife Service, and U.S. Geological Survey to follow movements of whooping cranes with GPS satellite tracking technology to advance knowledge of whooping crane breeding, wintering, and migration ecology. To date, partners have followed movements of 45 whooping cranes (nearly 20% of the wild population), recording up to four locations of individuals per day, thus greatly expanding our knowledge of sites used by whooping cranes during migration through Nebraska.

Over the first four years of the tracking project, the WCTP discovered that whooping cranes stopped at sites outside of the Platte River Valley more than previously documented by public observations, as well as used sites that did not conform to predictions. To better describe stopover locations (sites visited  $\geq 1$  night), researchers from the Crane Trust and the Program conducted a pilot study following spring migration in 2012. Objectives of the pilot study were to develop field protocols; determine whether landowners would permit access to private lands to conduct site evaluations; characterize stopover sites; and assess landowner awareness of past whooping crane use.

### **PRELIMINARY RESULTS OF PILOT STUDY**

Most landowners responded positively to researchers accessing lands (12 of 13 contacted permitted property access). In most cases (9 of 13), people were unaware that whooping cranes had stopped on their property. Of the four that were aware, two were sightings on USFWS lands; neither private landowner reported the crane sightings in 2012. Conversations with landowners revealed that marked birds traveled in flocks of 2, 3, 12, and 14 birds, which provides details unavailable with the telemetry data alone. Six landowners observed whooping cranes in previous years, and most landowners had a positive perception of whooping crane use of their lands.

Site evaluations were conducted opportunistically, an average of 53 days after a stopover, with one site visited 2 days after birds departed. Because many measurements did not reflect conditions whooping cranes actually encountered, results must be interpreted with caution. The roosts used by birds were wetland (8 sites), riverine (4 sites), and upland (1 site) habitats. Riverine roosts had channel widths averaging 170 m (range 40-460 m); view widths averaging 154 m (range 38-480 m); nearest disturbances at 438 m (range 175-676 m); and nearest obstructions at 99 m (range 17-340 m). Wetland roosts had an average area of 3.3 ha (range 0.06-22.4 ha), nearest disturbances at 565 m (range 250-900 m) and nearest obstructions at 267 m (range 22-1100 m). The non-wetland roost was on a hilltop with distance to nearest obstruction of 480 m. The site visited at 2 days after birds departed revealed that birds had occupied a

wet depression under a center pivot arm, a somewhat unexpected roost site given the presence of an overhead obstruction.

An overall conclusion of the pilot study and subsequent discussions was that the most important information about sites (from a whooping crane use perspective) is unavailable if sites are not visited soon after the birds depart. Site visits also highlighted the potential importance of wetlands embedded in agricultural fields for whooping cranes and the need for refinement of the scale of habitat classification—i.e., a cornfield may not be just a cornfield, and that habitat classifications need to consider features at smaller scales, such as wetland features, that may provide resources to whooping cranes.

## **OBJECTIVES AND RATIONALE**

Knowing what habitats whooping cranes select, and potential resources available from those habitats, is essential for management of the species. We seek to visit and characterize stopover sites used by whooping cranes within a day's flight from the Platte River (approx. 600 mi) to document surrounding habitat characteristics and land management practices, immediately after birds have departed, to better define minimum habitat criteria required by the species.

There is a small window of time available to conduct this research, as the telemetry project is approximately at the halfway point, and some transmitters will cease functioning relatively soon. We need to act now to maximize what we can learn from the existing transmitters. The Program and other conservation organizations have the potential to positively affect conservation and management of habitat for whooping cranes, and these efforts will be greatly informed by understanding habitat characteristics of stopover sites throughout the Great Plains.

The proposed study area (600 mi buffer surrounding the Platte River) is biologically rooted as the potential area a bird could cover over one day and select Platte River sites among other stopovers. This study area represents an economy of scale, because many project costs are fixed (personnel), and the technicians' efforts can be expanded spatially with relatively small expenditures of additional travel costs compared to shorter distances (i.e., ½ day's flight distance of 300 miles).

We strongly advocate visiting stopover locations immediately after birds have left the site, rather than limiting characterizations to remotely sensed information and ground-based measurements taken weeks or months after use. If sites are not visited immediately, key measurements associated with characterizing the physical, biological, and chemical properties of the site cannot be measured reliably, and therefore cannot be compared directly to measurements on the Platte River that are taken soon after birds occupied the site. The primary costs of the study are personnel and travel. Visiting sites long after cranes leave will reduce these costs only modestly but will significantly degrade quality of data gathered. Furthermore, in many cases, taking additional ground-based measurements will involve a small time commitment and will add substantially to our understanding of site attributes and reliability of information gained from landowners' recollections of recent crane use and land management.

## **PLANNED ACTIVITIES**

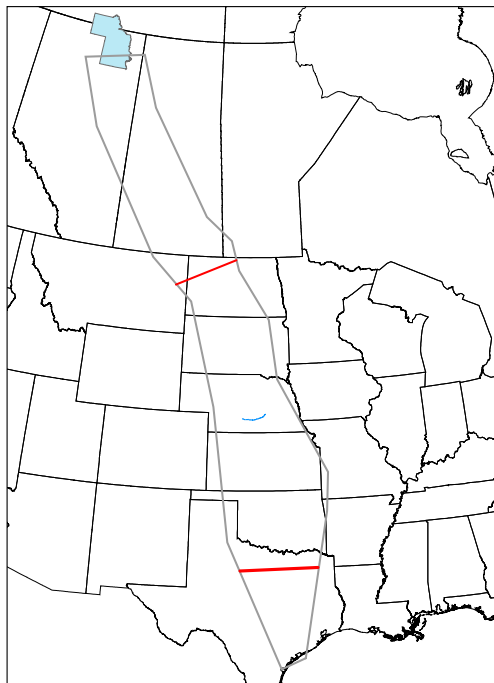
### **Schedule and extent of proposed work**

The study will span spring (Mar-May) and autumn (Sep-Nov) migrations over three years (2013, 2014, 2015) and include analysis and product preparation in 2016. The proposed fieldwork time frame represents years in which a large sample of tagged cranes will be available. Preliminary data suggest

cranes can migrate up to 1000 km (620 mi) per day. We suggest that stopover sites within approximately a day's flight north and south of the Platte River should be investigated because: 1) sites are close enough to the Platte River to be potential stopover sites immediately before or after a bird used the Platte River, 2) sites have the potential to be used instead of the Platte River, and 3) sites within this region may have more in common with the Platte River than sites at greater distances. Using this approximate migration distance, sites generally within the states of North Dakota, South Dakota, Nebraska, Kansas, and Oklahoma will be included as candidate sites to visit and conduct on-site characterizations (see Figure 1).

### Site visits

Any site used by cranes for at least 1 night will be defined as a stopover site. Stopover sites represent all areas used by the crane, as determined by GPS data, and include roost sites (nocturnal use sites), and sites used during the daytime. We will collect different types of data for each of the location types (nocturnal and daytime) and information within the stopover site in general (1-mile buffer surrounding all locations used). In general, data will be gathered to assess the following: 1) physical characteristics; 2) hydrological characteristics; 3) land use and land cover; 4) potential food resources available; 5) thermal cover; 6) natural and anthropomorphic disturbances or threats; and 6) landowner knowledge, awareness, and sentiment (see Table 1).



**Figure 1.** General migration corridor of GPS-marked whooping cranes, 2009-2012 (gray outline). Red lines represent approximately 1,000 km buffer around the central Platte River Valley (blue), which represent the majority of stopover sites that whooping cranes could conceivably use before and after stopping at the Platte River or sites cranes might use instead of stopping at the Platte River. We propose to visit stopover sites within this area to determine characteristics of sites for comparison with those used on Platte River.

We will focus efforts on nocturnal sites because these are likely the most important to birds in regards to their safety and security as cranes are likely most vulnerable after dark. Our data collection will vary depending on the type of nocturnal site chosen by the crane (i.e., riverine, wetland, dryland), although a common set of characteristics will be collected to compare among types and with roost sites used along the Platte River (see Table 1). We also will collect a suite of data at daytime use sites. Cranes may be feeding at these times; therefore, data collection will include identification of potential food items as well as physical characteristics likely related to safety and cover.

**Table 1.** Examples of measurements that will be collected at different types of stopover locations.

<b>Riverine</b>	<b>Non-riverine wetland</b>	<b>Non-wetland</b>	<b>All sites</b>
Channel width	Water area	Habitat type	Disturbances
View width	Max depth	Field size	Obstructions
Wetted width	Wetted width	Vegetation height	Endangerments
Use-site depth	Use-site depth	Nearest water area	Land use
Suitable depth (%)	Wetland length	Other habitats	Land rotation
Bank-line habitat	Bank slope	Dominant vegetation	Awareness past use
Channel depth > 1 m	Surrounding habitat		
Turbidity	Turbidity		
Sediment type	Soil type		
Flow (USGS gage)	Aquatic veg cover		

As some of the site characteristics are time sensitive (for example, water conditions), we propose to send field crews to sites within 7 days after cranes are known to have left the area. We anticipate that field crews will be unable to visit all sites used by cranes within this 7-day sampling window during peak migration. Therefore, we will set up a prioritization scheme, where sites used for greater than a single night will be given priority, as these sites likely provided the birds more resources than those used for just one night. Furthermore, we will prioritize sites based on proximity to the Platte River by maintaining a third field crew (see below). Overall, we plan to gather data at as many sites as feasible, while maintaining sites used for multiple days and those closest to the Platte River as priority.

### **Fieldwork coordination**

To facilitate a time-sensitive data collection strategy, we will staff and deploy 2 field crews. One field crew will be stationed at Northern Prairie Wildlife Research Center in Jamestown, ND, whereas the other will be stationed at the Crane Trust, near Wood River, NE. To reduce costs but maintain a safe work situation, each field crew will consist of a paid biological technician and a biological intern. To ensure that stopover sites in Nebraska are not missed, an additional crew comprised of Crane Trust and Program staff will be formed, as necessary, to visit sites if primary field crews are out of the area. A lead technician will take primary responsibility in contacting landowners and directing field crews. Furthermore, the lead technician will finalize input of data into electronic format, perform preliminary analyses, and write reports as required.

### **SIGNIFICANCE TO PROGRAM**

Information learned from site visits will be directly relevant to several Program questions, including:

*Do whooping cranes use Program habitat complexes and/or habitat meeting Program minimum criteria in proportions greater than their availability?*

*What is the relationship between availability of whooping crane roosting habitat meeting Program minimum criteria and whooping crane use?*

By greatly increasing the sample size of stopover sites used by whooping cranes, this study will assist in

refining minimum habitat criteria, as currently proposed in the Draft Whooping Crane Minimum Habitat Criteria document (8/1/12). Such refinement of the criteria, if warranted, will enable refinement of restoration targets for whooping crane habitat along the Platte River.

*How does whooping crane use of the central Platte River relate to overall population recovery objectives?*

The study also will provide information about the importance of the Platte River relative to other rivers and wetlands within a day's flight for provision of habitat for whooping cranes. The role of the Platte River may be seasonally or annually variable, and by characterizing stopover locations over several migration seasons we will capture some of those dynamics. This kind of knowledge will support overall population recovery objectives by highlighting scenarios (climatic or otherwise) when the Platte River plays an especially important role as a migration stopover.

Furthermore, this proposed project adds value to existing Program-supported research and activities related to whooping cranes. For example, some measures will be comparable to measurements taken during site assessments along the Platte River and will thereby provide a direct comparison of other rivers to Platte River use sites. Data collected from this study will be available for incorporation with the whooping crane sightings database; the detailed, timely site characterizations will add information that is often missing from historical sightings. These site visits also will strengthen the broader telemetry study and permit researchers to take advantage of this unpredicted opportunity to characterize remote sites that would likely have gone undetected. Finally, this research will contribute to educational and outreach activities, as the project's outcomes are amenable to presentation to broad audiences, which helps further the Program's objective of including public in management and research process.

## **ROLES AND RESPONSIBILITIES**

### **U.S. Geological Survey**

- Administration of grant and guidance of overall project
- Provision of cooperative agreement with Crane Trust to support characterization of riverine stopover locations in Nebraska (autumn migration 2012-spring migration 2014)
- Staffing of biological technicians, in coordination with Tern/Plover monitoring crew
- Oversight and leading role in data analysis and interpretation, presentations, and report/manuscript preparation
- Provision of lodging facilities for one field crew
- Coordination with overall Whooping Crane Telemetry Project and assurance of data quality of telemetry-marked birds

### **The Crane Trust**

- Implementation of cooperative agreement with USGS to characterize riverine stopover locations in Nebraska (autumn migration 2012-spring migration 2014)
- Support of project lead (with some costs offset by USGS cooperative agreement) to coordinate field crews, downloading of location data, contacting land owners, entering data, assisting with data analysis, writing reports and manuscripts.



- Support of personnel to lead data analysis, interpretation, presentations, and report/manuscript preparation
- Provision of lodging facilities for one field crew
- Provision of stipend for 2 interns to assist biological technicians
- Partial support of staff time and travel expenses to non-riverine stopover sites within Nebraska
- Coordination of public outreach components of the project to provide periodic updates on research activities and outcomes to broad audiences

### **Program**

- Funding for biological technicians, field crew travel, field equipment and supplies
- Staff time and travel costs related to non-riverine stopover sites within Nebraska, if necessary
- Input into data analysis and interpretation, presentations, and report/manuscript preparation
- Purchase and maintain two field-rated laptop computers and two digital cameras for use by technicians. Computers will require ESRI ArcGIS and MS Office software and mobile data plans.

### **EXPECTED OUTCOMES**

- Creation of a database that characterizes habitats and associated land management at sites used as stopover locations by whooping cranes that is compatible and complementary to existing Program whooping crane database.
- Summarization and interpretation of habitat characteristics within different types of use sites.
- Comparison among riverine and wet meadow use sites in and out of the Program area.
- Documentation of current and historical land management practices to determine activities compatible with crane use.
- Visual documentation of sites (photography).
- Baseline database for future comparison in relation to novel or changing threats.
- Potential identification of sites used repeatedly over the period of record, leading to targeted conservation of specific areas or regions.

### **PRODUCTS**

- Annual progress reports, provided to the EDO on pre-defined schedule
- Presentation of annual progress at yearly Adaptive Management meetings
- Publications in peer-reviewed scientific journals

### **BUDGET (SEE ATTACHED)**

## **BUDGET JUSTIFICATION**

### **Personnel**

- USGS and Crane Trust professional staff. Funded by host organizations; Aaron Pearse, Dave Brandt, and Mary Harner will provide 1 month to project each year.
- Project lead. Partially funded by USGS cooperative agreement to Crane Trust, remaining time provided in-kind from the Crane Trust to coordinate field crews, downloading of location data, contacting land owners, entering data, assisting with data analysis, writing reports and manuscripts.
- Two field crews consisting of two persons employed by USGS (working on tern/plover monitoring crew when not assigned to this project). The other two field crewmembers will be interns supported by the Crane Trust.

### **Field station lodging**

- Field crews will be stationed at Northern Prairie Wildlife Research Center and at the Crane Trust. Each entity will cover costs associated with lodging staff at their facilities.

### **Travel**

- Each crew will need to stay away from their respective home base during each migration to maintain an efficient work schedule. We anticipate each crew requiring lodging for 25 nights during each 3-month migration season. Lodging and a per diem will be paid to field crews when away from their field station. The Crane Trust will support additional travel costs within Nebraska, as necessary, for project lead.
- Field crews will use USGS vehicles. The Crane Trust will provide an additional vehicle for use by project lead in instances where additional field assistance is required.
- Vehicle gas will be for use in USGS field vehicles.
- Professional staff anticipate travel for collaboration meeting, professional meetings, and to provide updates to Program staff at annual Adaptive Management meeting.

### **Equipment & Supplies**

- Field crews require field-rated laptops and the project lead requires a mobile workstation.
- Field crews require range finders, GPS units, and cameras to complete data collection.
- Ownership must be established using maps. USGS and Program maintain some maps, and the grant will be used to purchase unavailable county maps.
- Other field supplies as needed.

### **Telecommunications**

- Project will require data plans for cellular phones to retrieve satellite data from field (2 plans for field crews, 1 plan for project lead when in field).

## **BUDGET DESCRIPTION**

### **PRRIP request**

#### Salaries and wages

2 GS-6 term biological technicians for 12 pay periods each (pay period = 2 weeks)  
2 technicians X 12 pay periods X \$1,820 per pay period = \$43,680

#### Travel

Field lodging and per diem; planning for each crew to spend 25 nights out each migration  
\$77/night for hotel; \$46/day meals and incidental expenses  
(2 persons X 46) + 77 = \$169/day  
\$169 X 50 days X 2 crews = \$16,900

#### Gas

5000 miles/crew/migration season; 20,000 miles total  
\$4/gal fuel cost; fuel mileage 10mi/gal  
20,000 miles / 10 = 2000 gal; 2000 gallons X \$4 = \$8,000

#### Equipment and supplies

##### Plat maps

SD 25 at \$43 = \$1075; KS 30 at \$30 = \$900; OK 30 at \$30 = \$900 (estimate);  
TX 15 at \$30 = \$450 (estimate)

Miscellaneous field supplies

### **USGS contributions**

#### Salaries and wages

USGS Professional Staff (pay period = 2 weeks)  
2 pay periods @ \$3946 per pay period for Pearse  
2 pay periods @ \$3391 per pay period for Brandt  
Project lead – providing support for project lead via Cooperative Agreement

#### Field station lodging

\$3.75/day/person X 180 days X 2 persons = \$1,350

#### Travel

##### Vehicles

USGS will provide vehicles for the project. Rates are \$250/mo + \$0.25/mi  
2 vehicles X 6 months X \$250 = \$3,000  
10,000 miles/year/vehicle (20,000 miles); \$0.25/mi X 20,000 = \$5,000

##### Other travel

Travel to AMP reporting session and other travel associated with professional staff

#### Equipment and supplies

Computer for use by Lead Technician  
GPS units, range finders already owned by USGS will be used

Plat maps for NE and ND will be provided by USGS

Misc supplies

Sampling supplies for water and soil

Telecommunications

Data plan for project lead

**Crane Trust contributions**

Salaries and wages

Crane Trust Professional Staff (pay period = 2 weeks)

2 pay periods @ \$3365 per pay period for Harner

1.5 pay period @ \$3500 per pay period for GIS analyst

Interns

\$550/month X 6 months X 2 persons = \$6,600

Project Lead – providing support for project lead after completion of Cooperative Agreement

Field station lodging

\$300/month X 6 months X 2 persons = \$3,600

Travel

Vehicles

Crane Trust will provide vehicle for project lead. Rates are \$0.54/mi

1,500 mi/yr X \$0.54/mi = \$810

Other travel

Travel to AMP reporting session and other travel associated with professional staff

## **B. PROJECT REQUIREMENTS**

### **1. Quarterly Progress Reports and Billing Statements**

The USGS shall submit a brief quarterly progress report outlining the study status, progress, and results to date, regardless of whether or not a billing statement is submitted, on or before the last working day of the quarter. The progress reports will show the percentage of the job completed by task and the percentage of budget spent. Progress reports will also include a billing projection for the upcoming quarter for the purpose of Program reimbursement request planning.

Each billing statement must include a task-by-task report justifying costs of items contained in the billing statement. Quarterly progress reports may be used as the justification for the billing statement as long as all costs covered in the billing statement are addressed in the progress report.

### **2. Computer Models, Statement of Assumptions, Project Work File**

a. If the USGS writes or uses a computer program or spreadsheet as a part of this project, the USGS shall submit to the Program for approval all proposed program names and data formats prior to beginning work on that task. User manuals shall be submitted by the USGS to the Program providing complete documentation of computer programs developed under this project. The user manuals shall also contain the source code language and the type of computer equipment necessary to operate the program(s). The computer programs and spreadsheets (written and digital forms) are due on the same date as the Final Annual Report that contains the information generated by the programs.

b. To facilitate the Program's accurate evaluation of the USGS's work product, computations, conclusions and recommendations, the USGS shall:

- \* Include in all Reports a section describing the assumptions and methodology used by the USGS in generating the data and conclusions contained therein.

- \* Maintain a project work file containing the materials used in project analysis. This file will be available for review by the Program and should be organized in such a way as to allow replication of the steps and procedures used by the USGS to reach the conclusions described in the study.

### **3. Annual Reports**

USGS shall present the Program Draft Annual Reports covering all work elements of the Project including maps, charts, conclusions and recommendations no later than 31 December of each year. Digital copies of Draft Reports will be provided to the Program in Microsoft Word format for distribution and review. Other formats may be used if approved in advance by the ED Office. These digitals report shall, to the extent feasible, be assembled into one file rather than separate files for text, tables, graphics, etc. The Program will respond with written comments as soon as possible and USGS will address the comments of the Program in the Final Annual Reports. Final Annual Reports will be provided to the Program on CD(s) or DVD(s) in Microsoft Word and PDF format and findings will be presented by USGS at the Program's annual AMP Reporting Sessions. The final documents will also be provided fully assembled into one file, in a complete "internet ready" digital format to facilitate distribution via the Program website. All data shall be submitted to the Program in written and digital forms with the Final Annual Reports. Digital media shall be labeled by the USGS to provide sufficient detail to access the information on the media.

4. Final Report

USGS shall present the Program a draft Final Report covering all work elements of the Project including methods, data analysis, results, maps, charts, and conclusions prior to the publication of the Final Report and no later than 31 July, 2016. Digital copies of the Final Report will be provided to the Program in Microsoft Word format for distribution and review. Other formats may be used if approved in advance by the ED Office. This digital report shall, to the extent feasible, be assembled into one file rather than separate files for text, tables, graphics, etc. The Program will respond with written comments as soon as possible and USGS will address the comments of the Program in the Final Report. The Final Report will be provided to the Program on CD(s) or DVD(s) in Microsoft Word and PDF format prior to 31 December 2016. The final document will also be provided fully assembled into one file, in a complete “internet ready” digital format to facilitate distribution via the Program website. A final copy of all data shall be submitted to the Program in written and digital forms with the Final Report. Final Results and conclusions of the study will be presented by USGS at the Program’s 2017 AMP Reporting Session.

## **EXHIBIT B**

### **Whooping Crane Stopover Site Evaluation Project Budget**

Expense Line Item	PRRIP - Request					USGS - Cost Share				
	2013	2014	2015	2016	Total	2013	2014	2015	2016	Total
<b>Salaries and Wages</b>										
Professional (USGS & CT)					\$ -	\$ 14,674	\$ 14,674	\$ 14,674	\$ 14,674	\$ 58,696
Project Lead (CT)					\$ -	\$ 18,750	\$ 19,500	\$ 20,000		\$ 58,250
Biotech (2, 6 mo)	\$ 43,680	\$ 43,680	\$ 43,680		\$ 131,040					\$ -
Intern (2, 6 mo)					\$ -					\$ -
<b>Total Salaries</b>	\$ 43,680	\$ 43,680	\$ 43,680		\$ 131,040	\$ 33,424	\$ 34,174	\$ 34,674	\$ 14,674	\$ 116,946
<b>Field station lodging</b>					\$ -	\$ 1,350	\$ 1,350	\$ 1,350		\$ 4,050
<b>Travel</b>										
Field Lodging and Per diem	\$ 16,900	\$ 16,900	\$ 16,900		\$ 50,700					\$ -
Vehicles					\$ -	\$ 8,000	\$ 8,000	\$ 8,000		\$ 24,000
Gas	\$ 8,000	\$ 8,000	\$ 8,000		\$ 24,000					\$ -
Other travel					\$ -	\$ 1,500	\$ 1,500	\$ 1,500	\$ 1,500	\$ 6,000
<b>Total Travel</b>	\$ 24,900	\$ 24,900	\$ 24,900		\$ 74,700	\$ 9,500	\$ 9,500	\$ 9,500	\$ 1,500	\$ 30,000
<b>Equipment &amp; Supplies</b>										
Computers					\$ -	\$ 5,400				\$ 5,400
Plat maps	\$ 3,325				\$ 3,325	\$ 1,675				\$ 1,675
Misc supplies	\$ 500	\$ 500	\$ 500		\$ 1,500	\$ 2,000	\$ 2,000			\$ 4,000
<b>Total equip and supplies</b>	\$ 3,825	\$ 500	\$ 500		\$ 4,825	\$ 9,075	\$ 2,000			\$ 11,075
<b>Telecommunications</b>					\$ -	\$ 600	\$ 600	\$ 600		\$ 1,800
<b>Total direct costs</b>	\$ 72,405	\$ 69,080	\$ 69,080	\$ -	\$ 210,565	\$ 53,949	\$ 47,624	\$ 46,124	\$ 16,174	\$ 163,871
<b>Cost center rate 25.9%</b>	\$ 18,753	\$ 17,892	\$ 17,892	\$ -	\$ 54,536	\$ 13,973	\$ 12,335	\$ 11,946	\$ 4,189	\$ 42,443
<b>Subtotal 1</b>	\$ 91,158	\$ 86,972	\$ 86,972	\$ -	\$ 265,101	\$ 67,922	\$ 59,959	\$ 58,070	\$ 20,363	\$ 206,314
<b>Bureau rate 12%</b>	\$ 10,939	\$ 10,437	\$ 10,437	\$ -	\$ 31,812	\$ 8,151	\$ 7,195	\$ 6,968	\$ 2,444	\$ 24,758
<b>CT indirect 20%</b>										
<b>Total requested funds</b>					\$ 296,913					
Program Computers (2)	\$ 7,000	\$ -	\$ -	\$ -	\$ 7,000					\$ -
Data Plans (2)	\$ 1,200	\$ 1,200	\$ 1,200	\$ -	\$ 3,600					\$ -
<b>Total proposed budget</b>	\$ 102,097	\$ 97,408	\$ 97,408	\$ -	\$ 307,513	\$ 76,072	\$ 67,154	\$ 65,039	\$ 22,807	\$ 231,071
<b>Percentage of Project costs</b>					46%					35%



Expense Line Item	CT - Cost Share					Total Project Cost				
	2013	2014	2015	2016	Total	2013	2014	2015	2016	Total
<b>Salaries and Wages</b>										
Professional (USGS & CT)	\$ 11,980	\$ 11,980	\$ 11,980	\$ 11,980		\$ 26,654	\$ 26,654	\$ 26,654	\$ 26,654	\$ 58,696
Project Lead (CT)				\$ 21,090	\$ 21,090	\$ 18,750	\$ 19,500	\$ 20,000	\$ 21,090	\$ 79,340
Biotech (2, 6 mo)					\$ -	\$ 43,680	\$ 43,680	\$ 43,680	\$ -	\$ 131,040
Intern (2, 6 mo)	\$ 6,600	\$ 6,600	\$ 6,600		\$ 19,800	\$ 6,600	\$ 6,600	\$ 6,600	\$ -	\$ 19,800
<b>Total Salaries</b>	\$ 18,580	\$ 18,580	\$ 18,580	\$ 33,070	\$ 88,810	\$ 95,684	\$ 96,434	\$ 96,934	\$ 47,744	\$ 336,796
<b>Field station lodging</b>	\$ 3,600	\$ 3,600	\$ 3,600	\$ -	\$ 10,800	\$ 4,950	\$ 4,950	\$ 4,950	\$ -	\$ 14,850
<b>Travel</b>										
Field Lodging and Per diem					\$ -	\$ 16,900	\$ 16,900	\$ 16,900	\$ -	\$ 50,700
Vehicles	\$ 810	\$ 810	\$ 810	\$ -	\$ 2,430	\$ 8,810	\$ 8,810	\$ 8,810	\$ -	\$ 26,430
Gas					\$ -	\$ 8,000	\$ 8,000	\$ 8,000	\$ -	\$ 24,000
Other travel	\$ 1,500	\$ 1,500	\$ 1,500	\$ 1,500	\$ 6,000	\$ 3,000	\$ 3,000	\$ 3,000	\$ 3,000	\$ 12,000
<b>Total Travel</b>	\$ 2,310	\$ 2,310	\$ 2,310	\$ 1,500	\$ 8,430	\$ 36,710	\$ 36,710	\$ 36,710	\$ 3,000	\$ 113,130
<b>Equipment &amp; Supplies</b>										
Computers					\$ -	\$ 5,400	\$ -	\$ -	\$ -	\$ 5,400
Plat maps					\$ -	\$ 5,000	\$ -	\$ -	\$ -	\$ 5,000
Misc supplies					\$ -	\$ 2,500	\$ 2,500	\$ 500	\$ -	\$ 5,500
<b>Total equip and supplies</b>					\$ -	\$ 12,900	\$ 2,500	\$ 500	\$ -	\$ 15,900
<b>Telecommunications</b>					\$ -	\$ 600	\$ 600	\$ 600	\$ -	\$ 1,800
<b>Total direct costs</b>	\$ 24,490	\$ 24,490	\$ 24,490	\$ 34,570	\$ 108,040	\$ 150,844	\$ 141,194	\$ 139,694	\$ 50,744	\$ 482,476
<b>Cost center rate 25.9%</b>						\$ 32,726	\$ 30,226	\$ 29,838	\$ 4,189	\$ 96,979
<b>Subtotal 1</b>						\$ 159,080	\$ 146,930	\$ 145,042	\$ 20,363	\$ 471,415
<b>Bureau rate 12%</b>						\$ 19,090	\$ 17,632	\$ 17,405	\$ 2,444	\$ 56,570
<b>CT indirect 20%</b>	\$ 4,898	\$ 4,898	\$ 4,898	\$ 6,914	\$ 21,608	\$ 4,898	\$ 4,898	\$ 4,898	\$ 6,914	\$ 21,608
Program Computers					\$ -	\$ 7,000	\$ -	\$ -	\$ -	\$ 7,000
Data Plan					\$ -	\$ 1,200	\$ 1,200	\$ 1,200	\$ -	\$ 3,600
<b>Total proposed budget</b>	\$ 29,388	\$ 29,388	\$ 29,388	\$ 41,484	\$ 129,648	\$ 207,557	\$ 193,950	\$ 191,835	\$ 64,291	\$ 668,233
<b>Percentage of Project costs</b>					19%					