



**DATE:** April 6, 2020

**MEMO TO:** Jessica Vealitzek, Chair  
Operations Committee  
  
Terry Wilke, Chair  
Finance Committee

**FROM:** James L. Anderson  
Director of Natural Resources

**RECOMMENDATION:** Recommend approval of a Resolution awarding a Contract for the Blanding's Turtle Reintroduction Services to Northern Illinois University, Institute for the Study of Environment, Sustainability & Energy, DeKalb, Illinois in the Contract Price of \$141,044.00.

**STRATEGIC DIRECTIONS SUPPORTED:** Conservation; Leadership

**FINANCIAL DATA:** This program was approved as part of the adopted FY 2020 Habitat Restoration Grant Fund in the amount of \$141,044.00. The actual cost up to \$141,044.00 will be charged to account 69644000-709000-56058 over the next three years. This project was awarded a \$141,044.00 grant by the Preservation Foundation of the Lake County Forest Preserves.

**BACKGROUND:** The Blanding's Turtle (*Emydoidea blandingii*) is a long-lived semi-aquatic freshwater turtle that uses wetland-upland complexes within the northern United States and southern Canada. It is ranked as endangered in the IUCN Red List and is recognized as being in need of conservation or is listed as threatened or endangered in each United States State and Canadian Province in which it occurs. The species is endangered in Illinois and is scheduled for status review under the United States Endangered Species Act.

The Lake County Forest Preserve District (District) initiated a long-term capture-mark-recapture project for Blanding's Turtles at Spring Bluff Chiwaukee Prairie (SBCP) in 2004. An initial population viability analysis (PVA), completed in 2010, reported (i) a low number of juveniles in the population, (ii) an unsustainably high rate of nest predation, (iii) the need for habitat restoration, and (iv) lower than ideal rates of adult survival. PVA scenarios that included habitat management and predator removal alone were insufficient to achieve population viability, but combining these strategies with "head-starting" was expected to be effective. "Head-starting" is a conservation strategy by which hatchling turtles are raised to a larger body size before they are re-released to the wild, thus increasing their chances of survival, compared to wild non-head-started turtles. Consequently, in 2010 the District initiated a head-starting program to increase juvenile recruitment in tandem with other management strategies aimed at addressing threats to the population.

Recent analyses of the SBCP Blanding's Turtle population reveal that head-starting has been an effective tool for Blanding's Turtle conservation and, specifically, that (i) size distributions of the turtle population now include a wide-range of juvenile animals in addition to adults; (ii) head-started turtles have been recruited into the adult reproductive population; and (iii) head-started turtles exhibit growth and survival similar to that of wild-born turtles. A revised PVA for this population shows low extinction risk even given parameter uncertainty. Based on this data, the population at SBCP is

growing and there are extra head-start turtles that could be released at new locations that have suitable habitat. Expanding the District's head-starting program to establish new populations of Blanding's Turtles in Lake County is a natural next step in designing effective strategies for Blanding's Turtle conservation.

District staff, working with the Illinois Department of Natural Resources (IDNR) Blanding's Turtle Recovery Team, have determined that there should be at least three self-sustaining populations within Lake County. Based on habitat requirements determined in IDNR's Blanding's Turtle Recovery Plan, both Pine Dunes and Rollins Savanna Forest Preserves are viable preserves for the introduction of head-start Blanding's turtles. The District's head-starting program will expand to introduce head-start turtles at Pine Dunes Forest Preserve in year one of the project and, if that is successful, introduce head-start turtles at Rollins Savanna Forest Preserve in year two of the project.

IDNR considers this introduction effort a research project and requires rigorous monitoring and documentation. To assist this process, staff recommends approving a contract with Northern Illinois University through its Institute for the Study of the Environment, Sustainability & Energy (NIU) to provide Blanding's Turtle research services. Under the contract, an NIU PhD candidate would lead the research effort to document Blanding's Turtle start-from-scratch introduction using head-started turtles and the research will include population viability analyses, turtle monitoring, and analysis of adaptive management efforts to maximize the likelihood of establishing a self-sustaining population. NIU would also assist District staff in releasing the head-started turtles into Pine Dunes and Rollins Savanna Forest Preserves.

**REVIEW BY OTHERS:** Chief Operations Officer, Director of Finance, Purchasing Manager, Corporate Counsel



**LAKE COUNTY FOREST PRESERVE DISTRICT  
LAKE COUNTY, ILLINOIS**

**A RESOLUTION AWARDING A CONTRACT FOR  
BLANDING'S TURTLE REINTRODUCTION SERVICES  
TO NORTHERN ILLINOIS UNIVERSITY**

**WHEREAS**, the Lake County Forest Preserve District (the "District") desires to purchase population viability analysis, turtle monitoring, and other research services related to the District's reintroduction of Blanding's Turtles to Pine Dunes and Rollins Savanna Forest Preserves (the "Services"); and

**WHEREAS**, the Director of Natural Resources and the Purchasing Manager have determined that the Services require personal confidence; and

**WHEREAS**, the District has received a proposal from the Services from Northern Illinois University ("NIU"); and

**WHEREAS**, the District's staff, the Purchasing Manager, the Director of Natural Resources, the Operations and Finance Committees have reviewed the proposal and recommend that the Board of Commissioners (i) find that the proposal submitted by NIU be determined to be the proposal that is most advantageous to the District; and (ii) award a contract for the Services to NIU in substantially the form attached hereto (the "Contract") in the amount of \$141,044.00 (the "Contract Price"); and

**WHEREAS**, the Board of Commissioners hereby finds that the proposal for the Services submitted by NIU is the proposal that is most advantageous to the District;

**NOW, THEREFORE, BE IT RESOLVED** by the Board of Commissioners of the Lake County Forest Preserve District, Lake County, Illinois THAT:

**Section 1. Recitals.** The recitals set forth above are incorporated as a part of this Resolution by this reference.

**Section 2. Award of Contract.** The Contract in the amount of the Contract Price, in substantially the form attached hereto, is hereby awarded to Northern Illinois University.

**Section 3. Execution of Contract.** The Executive Director of the District is hereby authorized and directed to execute the Contract for the Services in the amount of the Contract Price.

**Section 4. Payments.** The District Treasurer shall make payments under the Contract only pursuant to and in accordance with the Contract terms.

**Section 5. Effective Date.** This Resolution shall be in full force and effect from and after its passage and approval in the manner provided by law.

PASSED this \_\_\_\_\_ day of \_\_\_\_\_, 2020

AYES:

NAYS:

APPROVED this \_\_\_\_\_ day of \_\_\_\_\_, 2020

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Angelo D. Kyle, President  
Lake County Forest Preserve District

ATTEST:

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Julie Gragnani, Secretary  
Lake County Forest Preserve District

Exhibit No. \_\_\_\_\_



CONTRACT BETWEEN

LAKE COUNTY FOREST PRESERVE DISTRICT  
AND  
NORTHERN ILLINOIS UNIVERSITY  
FOR THE  
BLANDING'S TURTLE REINTRODUCTION  
2020-2023

56058-184-960

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**CONTRACT BETWEEN  
LAKE COUNTY FOREST PRESERVE DISTRICT  
AND  
NORTHERN ILLINOIS UNIVERSITY  
FOR THE  
BLANDING'S TURTLE REINTRODUCTION  
2020-2023**

In consideration of the agreements set forth below, the Lake County Forest Preserve District, a body corporate and politic and unit of local government organized and existing under the Downstate Forest Preserve District Act, 70 ILCS 805/.001 et seq., 1899 West Winchester Road, Libertyville, Illinois 60048, ("Owner") and the Board of Trustees of Northern Illinois University , a body politic and corporate of the State of Illinois, on behalf of Northern Illinois University Sponsored Programs Administration, 203 Lowden Hall, DeKalb, IL 60115, ("Consultant") make this Contract as of [DATE OF CONTRACT] and hereby agree as follows:

**ARTICLE I - THE SERVICES**

**1.1 Performance of the Services**

Consultant shall, at its sole cost and expense, provide, perform, and complete all of the following professional ecological services, all of which is referred to in this Agreement as the "Services":

- A. Professional Services. Provide, perform, and complete, in the manner described and specified in this Contract, all professional services necessary to accomplish the "Project," as defined in Attachment A, in accordance with the Scope of Services attached hereto as Attachment B.
- B. Approvals. Procure and furnish all approvals and authorizations specified in Attachment A.
- C. Insurance. Procure and furnish all required certificates and policies of insurance specified in Attachment A.
- D. Standard of Performance. Provide, perform, and complete all of the foregoing in full compliance with this Contract, in a professional manner, and in accordance with reasonable standards of professionalism applied in related fields (the "Standard of Performance").

**1.2 Commencement and Completion Dates**

Consultant shall commence the Services not later than the "Commencement Date" set forth in Attachment A, and shall diligently and continuously prosecute and carry out the Services at such a rate as will allow the Services to be fully provided, performed and completed in full compliance with this Contract not later than the "Completion Date" or, if the Services are to be performed in separate phases, the "Completion Dates," set forth in Attachment A. The time of commencement, rate of progress, and time of completion are referred to in this Contract as the "Contract Time."

### **1.3 Required Submittals**

A. Submittals Required. Consultant shall submit to Owner all reports, documents, data, and information required to be submitted by Consultant under this Contract ("Required Submittals").

B. Time of Submission and Owner's Review. All Required Submittals shall be provided to Owner no later than the time, if any, specified in Attachment A, or otherwise in this Contract. If no time for submission is specified for any Required Submittal, then that Submittal shall be submitted within a reasonable time in light of its purpose and, in all events, in sufficient time, in Owner's opinion, to permit Owner to review that Submittal same prior to the commencement of any part of the Services to which that Submittal may relate. Owner shall have the right to require such corrections as may be necessary to make any Required Submittal conform to this Contract. No Services related to any Required Submittal shall be performed by Consultant until Owner has completed review of such Required Submittal with no exception noted. Owner's review and approval of any Required Submittal shall not relieve Consultant of the entire responsibility for the performance of the Services in full compliance with, and as required by or pursuant to this Contract, and shall not be regarded as any assumption of risk or liability by Owner. The Consultant shall not be held liable for claims of delay caused by the Owner's failure to timely review and approve any Required Submittal.

C. Responsibility for Delay. Consultant shall be responsible for any delay in the Services resulting from Consultant's, or its Sub-consultant's, delay in providing Required Submittals conforming to this Contract.

### **1.4 Review and Incorporation of Contract Provisions**

Consultant represents and declares that it has carefully reviewed, and fully understands, this Contract, including all of its Attachments, all of which are by this reference incorporated into and made a part of this Contract.

### **1.5 Financial and Technical Ability to Perform**

Consultant represents and declares that it is financially solvent, and has the financial resources necessary, and has sufficient experience and competence, and has the necessary capital, facilities, organization, and staff necessary to provide, perform, and complete the Services in full compliance with, and as required by or pursuant to, this Contract.

### **1.6 Time**

Consultant represents and declares that the Contract Time is sufficient time to permit completion of the Services in full compliance with, and as required by or pursuant to, this Contract for the Contract Price.

### **1.7 Consultant's Personnel and Sub-Consultants**

A. Consultant's Personnel. Consultant shall provide all personnel necessary to complete the Services, including without limitation, the "Key Project Personnel" identified in Attachment C. Consultant shall provide to Owner telephone numbers at which the Key Personnel can be reached on a 24-hour basis. Consultant and Owner may, by mutual agreement, make changes and additions to the designations of Key Project Personnel. Consultant shall have no claim for a Change Order, for compensation in excess of the Contract Price, or for a delay or extension of the Contract Time as a result of any such termination, reassignment, resignation, or substitution of Key Project Personnel.

B. Approval and Use of Sub-Consultants. Consultant shall perform the Services with its own personnel and under the management, supervision, and control of its own organization unless otherwise approved by Owner in writing. All sub-consultants and subcontracts used by Consultant shall be acceptable to, and approved in advance by, Owner. Owner's approval of any sub-consultant or subcontract shall not relieve Consultant of full responsibility and liability for the provision, performance, and completion of the Services in full compliance with, and as required by or pursuant to, this Contract. All Services performed under any subcontract shall be subject to all of the provisions of this Contract in the same manner as if performed by employees of Consultant. Every reference in this Contract to "Consultant" shall be deemed also to refer to all sub-consultants of Consultant. Every subcontract shall include a provision binding the sub-consultant to all provisions of this Contract.

C. Removal of Personnel and Sub-Consultants. If any personnel or sub-consultant fails to perform the part of the Services undertaken by it in compliance with this Contract or in a manner reasonably satisfactory to Owner, Consultant, immediately upon notice from Owner, shall remove and replace such personnel or sub-consultant. Consultant shall have no claim for damages, for compensation in excess of the Contract Price, or for a delay or extension of the Contract Time as a result of any such removal or replacement.

### **1.8 Owner's Responsibilities**

Owner shall, at its sole cost and expense: (i) designate in writing a person with authority to act as Owner's representative and on Owner's behalf with respect to the Services except those matters that may require approval of Owner's Board of Commissioners; (ii) provide to Consultant all criteria and full information as to Owner's requirements for the Project or work to which the Services relate, including Owner's objectives and constraints, schedule, space, capacity and performance requirements, and budgetary limitations relevant to the Project; (iii) provide to Consultant all existing studies, reports, and other available data relevant to the Project; (iv) arrange for access to and make all provisions for Consultant to enter upon public and private property as reasonably required for Consultant to perform the Services; (v) provide surveys describing physical characteristics, legal limitations, and utility locations for the Project and the services of geotechnical engineers or other consultants when such services are reasonably requested by Consultant and are necessary for the performance of the Services, and are not already provided for in this Contract; (vi) provide structural, mechanical, chemical, air and water pollution tests, test for hazardous materials, and other laboratory and environmental tests, inspections, and reports required by law to be provided by Owner in connection with the Project; (vii) review Required Submittals and other reports, documents, data, and information presented by Consultant as appropriate; (viii) except as otherwise provided in Attachment A, provide approvals from all governmental authorities having jurisdiction over the Project when such services are reasonably requested by Consultant; (ix) attend Project related meetings; and (x) give prompt written notice to Consultant whenever Owner observes or otherwise becomes aware of any development that affects the scope or timing of the Services, provided, however, that failure to give such notice shall not relieve Consultant of any of its responsibilities under this Contract.

### **1.9 Owner's Right to Terminate or Suspend Services for Convenience**

A. Termination or Suspension for Convenience. Owner shall have the right, at any time and for its convenience, to terminate or suspend the Services in whole or in part at any time by written notice to Consultant. Every such notice shall state the extent and effective date of such termination or suspension. On such effective date, Consultant shall, as and to the extent directed, stop Services under this Contract, cease all placement of further orders or subcontracts, terminate or suspend Services under existing orders and subcontracts, and cancel any outstanding orders or subcontracts that may be canceled.

B. Payment for Completed Services. In the event of any termination pursuant to Subsection 1.9A above, Owner shall pay Consultant (i) such direct costs, including overhead, as Consultant shall have paid or incurred for all Services done in compliance with, and as required by or pursuant to, this Contract up to the effective date of termination; and (ii) such other costs pertaining to the Services, exclusive of overhead and profit, as Consultant may have reasonably and necessarily incurred as the result of such termination. Any such payment shall be offset by any prior payment or payments and shall be subject to Owner's rights, if any, to withhold and deduct as provided in this Contract.

## **ARTICLE II - CHANGES AND DELAYS**

### **2.1 Changes**

Owner shall have the right, by written order executed by Owner, to make changes to the timing or scope of the Services to be provided pursuant to this Contract (a "Services Change Order"). When a Change Order causes an increase or decrease in the amount of the Services, an equitable adjustment in the Contract Price or Contract Time may be made. No decrease in the amount of the Services caused by any Change Order shall entitle Consultant to make any claim for damages, anticipated profits, or other compensation. Consultant shall not undertake any change in the Services without receipt of an executed Change Order from Owner.

### **2.2 Delays**

For any delay resulting from a cause that Consultant could not reasonably avoid or control, Consultant, upon timely written application, shall be entitled to issuance of a Change Order providing for an extension of the Contract Time for a period of time equal to the delay resulting from such unavoidable cause. No extension of the Contract Time shall be allowed for any other delay in completion of the Services.

### **2.3 No Constructive Change Orders**

No claims for equitable adjustments in the Contract Price or Contract Time shall be made or allowed unless embodied in a Change Order. If Owner fails to issue a Change Order including or fully including an equitable adjustment in the Contract Price or Contract Time to which Consultant claims it is entitled or, if Consultant believes that any requirement, direction, instruction, interpretation, determination or decision of Owner entitles Consultant to an equitable adjustment in the Contract Price or Contract Time that has not been included or fully included in a Change Order, then Consultant shall submit to Owner a written request for the issuance of or revision of a Change Order including the equitable adjustment or the additional equitable adjustment in the Contract Price or Contract Time that Consultant claims has not been included or fully included in a Change Order. Such request shall be submitted before Consultant proceeds with any Work for which Consultant claims an equitable adjustment is due and shall, in all events, be submitted no later than two (2) business days after receipts of such Change Order or receipt of notice of such requirement, direction instruction, interpretation, determination or decision. Notwithstanding the submission of any such request, Consultant shall, unless otherwise directed by Owner within two (2) business days after receipt by Owner of such request, proceed without delay to perform the Work in compliance with the Change Order or as required, directed, instructed, interpreted or decided by Owner, and shall, pending a final resolution of the issue, keep a daily record of such Work. Unless Consultant submits such a request within two (2) business days after receipt of such Change Order or receipt of notice of such requirement, direction, instruction, interpretation, determination or decision, Consultant shall be conclusively deemed (i) to have agreed that such Change Order, requirement, direction, instruction, interpretation, determination or decision does not entitle Consultant to an equitable adjustment in the Contract Price or Contract Time; and (ii) to have waived all claims based on such Change Order, requirement, direction, instruction, interpretation, determination or decision.

### **ARTICLE III - CONSULTANT'S RESPONSIBILITY FOR DEFECTIVE SERVICES**

#### **3.1 Representation of Compliance**

A. Scope of Representation. Consultant shall perform all Services in conformance with this Contract in accordance with the Standard of Performance in Section 1.1 (D) herein (the "Representation of Compliance") but makes no representations or warranties, express or implied, regarding its performance under this Agreement.

B. Opinions of Cost. It is recognized that neither Consultant nor Owner has control over the costs of labor, material, equipment or services furnished by others or over competitive bidding, market or negotiating conditions, or construction contractors' methods of determining their prices. Accordingly, any opinions of probable Project costs or construction costs provided for herein are estimates only, made on the basis of Consultant's experience and qualifications and represent Consultant's best judgment as an experienced and qualified professional, familiar with the industry. Consultant does not guarantee that proposals, bids or actual Project costs or construction costs will not vary from opinions of probable cost prepared by Consultant.

#### **3.2 Corrections**

Consultant shall be responsible for the quality, technical accuracy, completeness and coordination of all Services under this Contract. Consultant shall correct and remedy all of its errors, omissions, and negligent acts related to the Services, promptly and without charge.

#### **3.3 Risk of Loss**

The Services shall be provided, performed, and completed at the risk and cost of Consultant. Consultant shall be responsible for any and all damages to property or persons as a result of Consultant's errors, omissions, or negligent acts and for any losses or costs to repair or remedy any work undertaken by Owner based on the Services as a result of any such errors, omissions, or negligent acts. Notwithstanding any other provision of this Contract, Consultant's obligations under this Section 3.3 shall exist without regard to, and shall not be construed to be waived by, the availability or unavailability of any insurance, either of Owner or Consultant, to indemnify, hold harmless, or reimburse Consultant for such damages, losses, or costs.

### **ARTICLE IV - INSURANCE; INDEMNIFICATION**

#### **4.1 Insurance**

Within thirty (30) days of Consultant's execution of this Contract, Consultant shall provide certificates and policies of insurance evidencing at least the minimum insurance coverage and limits set forth in Attachment A. For good cause shown, Owner may extend the time for submission of the required policies of insurance upon such terms, and with such assurances of complete and prompt performance, as Owner may impose in the exercise of its sole discretion. Such policies shall be in a form reasonably acceptable to Owner and from companies with a general rating of A-, and a financial size category of Class V or better, in Best's Insurance Guide and otherwise reasonably acceptable to Owner. Such insurance shall provide that no change to or cancellation of any insurance, nor any reduction in limits or coverage or other modifications affecting this Agreement, shall become effective until the expiration of thirty (30) days after written notice thereof shall have been given by the insurance company to Owner. Consultant shall, at all times while providing, performing, or completing the Services, including without limitation at all times while providing corrective Services pursuant to Section 3.2 of this Contract, maintain and keep in force, at Consultant's expense, at least the minimum insurance coverage and limits set forth in Attachment A.

## **4.2 Indemnification**

Consultant, without regard to the availability or unavailability of any insurance, either of Owner or Consultant, shall, to the fullest extent permitted by law, including the State Lawsuit Immunity Act, the Court of Claims Act and the State Employee Indemnification Act, indemnify, hold harmless, and defend Owner against any and all lawsuits, claims, demands, damages, liabilities, losses, and expenses, including reasonable attorneys' fees, that may arise or be alleged to have arisen out of or in connection with Consultant's negligent acts, errors, or omissions, except only to the extent caused by the negligence of Owner.

## **ARTICLE V - PAYMENT**

### **5.1 Contract Price**

Owner shall pay to Consultant, in accordance with and subject to the terms and conditions set forth in this Article V and Attachment A, and Consultant shall accept in full satisfaction for providing, performing, and completing the Services, the amount or amounts set forth in Attachment A ("Contract Price"), subject to any additions, deductions, or withholdings provided for in this Contract.

### **5.2 Taxes, Benefits and Royalties**

The Contract Price includes applicable federal, state, and local taxes of every kind and nature applicable to the Services as well as all taxes, contributions, and premiums for unemployment insurance, old age or retirement benefits, pensions, annuities, or other similar benefits and all costs, royalties, and fees arising from the use on or the incorporation into the Services of patented equipment, materials, supplies, tools, appliances, devices, processes, or inventions. Consultant waives and releases any claim against Owner arising from the payment of any such tax, contribution, premium, benefit, cost, royalty, or fee.

### **5.3 Progress Payments**

A. Payment in Installments. The Contract Price shall be paid in installments in the manner set forth in Attachment A ("Progress Payments").

B. Pay Requests. Consultant shall, as a condition precedent to its right to receive each Progress Payment, submit to Owner an invoice accompanied by such receipts, vouchers, and other documents as may be necessary to reasonably establish Consultant's prior payment for all labor, material, and other things covered by the invoice and the absence of any lien or other interest of any party in regard to the Services performed under this Contract. In addition to the foregoing, such invoice shall include (i) employee classifications, rates per hour, and hours worked by each classification, and, if the Services are to be performed in separate phases, for each phase; (ii) total amount billed in the current period and total amount billed to date, and, if the Services are to be performed in separate phases, for each phase; (iii) the estimated percent completion, and, if the Services are to be performed in separate phases, for each phase; and (iv) Consultant's certification that all prior Progress Payments have been properly applied to the Services with respect to which they were paid. Owner may, by written notice to Consultant, designate a specific day of each month on or before which pay requests must be submitted.

#### **5.4 Final Acceptance and Final Payment**

The Services or, if the Services are to be performed in separate phases, each phase of the Services, shall be considered complete on the date of final written acceptance by Owner of the Services or each phase of the Services, as the case may be, which acceptance shall not be unreasonably withheld or delayed. The Services or each phase of the Services, as the case may be, shall be deemed accepted by Owner if not objected to in writing within sixty (60) days after submission by Consultant of the Services or such phase of Services for final acceptance and payment plus, if applicable, such additional time as may be considered reasonable for obtaining approval of governmental authorities having jurisdiction to approve the Services, or phase of Services, as the case may be. Within thirty (30) days after final acceptance, Owner shall pay to Consultant the balance of the Contract Price or, if the Services are to be performed in separate phases, the balance of that portion of the Contract Price with respect to such phase of the Services, after deducting therefrom charges, if any, against Consultant as provided for in this Contract ("Final Payment"). The acceptance by Consultant of Final Payment with respect to the Services or a particular phase of Services, as the case may be, shall operate as a full and complete release of Owner of and from any and all lawsuits, claims, or demands for further payment of any kind for the Services or, if the Services are performed in separate phases, for that phase of the Services.

#### **5.5 Deductions**

A. Owner's Right to Withhold. Notwithstanding any other provision of this Contract and without prejudice to any of Owner's other rights or remedies, Owner shall have the right at any time or times, whether before or after approval of any pay request, to deduct and withhold from any Progress or Final Payment that may be or become due under this Contract, such amount as may reasonably appear necessary to compensate Owner for any actual or prospective loss due to: (i) Services that are defective, damaged, flawed, unsuitable, nonconforming or incomplete; (ii) damage for which Consultant is liable under this contract; (iii) liens or claims of lien, regardless of merit; (iv) claims of Sub-consultants, suppliers or other persons, regardless of merit; (v) delay in the progress or completion of the Services; (vi) inability of Consultant to complete the Services; (vii) failure of Consultant to perform any of its obligations under this Contract; (viii) any other failure of Consultant to perform any of its obligations under this Contract; (ix) the cost to Owner including reasonable attorneys' fees and administrative costs of correcting any of the aforesaid matters or exercising any one or more of Owner's remedies set forth in Section 6.1 of this Contract.

B. Use of Withheld Funds. Owner shall be entitled to retain any and all amounts withheld pursuant to Subsection 5.5A above until Consultant shall have either performed the obligations in question or furnished security for such performance satisfactory to Owner. Owner shall be entitled to apply any money withheld or any other money due Consultant under this Contract to reimburse itself for any and all costs, expenses, losses, damages, liabilities, suits, judgments, awards, reasonable attorneys' fees and administrative expenses incurred, suffered or sustained by Owner and chargeable to Consultant under this Contract.

#### **5.6 Accounting**

Consultant shall keep accounts, books, and other records of all its billable charges and costs incurred in performing the Services in accordance with generally accepted accounting practices, consistently applied, and in such manner as to permit verification of all entries. Consultant shall make all such material available for inspection by Owner, at the office of Consultant during normal business hours during this Contract and for a period of three years after termination of this Contract. Copies of such material shall be furnished, at Owner's expense, upon request.

## **ARTICLE VI - REMEDIES**

### **6.1 Owner's Remedies**

If it should appear at any time prior to Final Payment that Consultant has failed or refused to prosecute, or has delayed in the prosecution of the Services with diligence at a rate that assures completion of the Services in full compliance with the requirements of this contract, or has attempted to assign this Contract or Consultant's rights under this contract, either in whole or in part, or has falsely made any representation or warranty in this Contract, or has otherwise failed, refused or delayed to perform or satisfy any other requirement of this Contract, or has failed to pay its debts as they come due ("Event of Default"), and has failed to cure any such Event of Default within five (5) business days after Consultant's receipt of written notice of such Event of Default, Owner shall have the right, at its election and without prejudice to any other remedies provided by law or equity, to pursue any one or more of the following remedies:

- A. Owner may require Consultant, within such reasonable time as may be fixed by Owner, to complete or correct all or any part of the Services that are defective, damaged, flawed, unsuitable, nonconforming or incomplete to accelerate all or any part of the Services, and to take any or all other action necessary to bring Consultant and the Services into strict compliance with this Contract.
- B. Owner may accept the defective, damaged, flawed, unsuitable, nonconforming, incomplete or dilatory Services as part thereof and make an equitable reduction in the Contract Price.
- C. Owner may terminate this Contract without liability for further payment of amounts due or to become due under this Contract.
- D. Owner may withhold from any Progress Payment or Final Payment, whether or not previously approved, or may recover from Consultant any and all costs including reasonable attorneys' fees and administrative expenses incurred by Owner as the result of any Event of Default or as a result of actions taken by Owner in response to any Event of Default.
- E. Owner may recover any damages suffered by Owner.

### **6.2 Terminations and Suspensions by Owner Deemed for Convenience**

Any termination or suspension by Owner of Consultant's rights under this Contract for an alleged Event of Default that is ultimately held unjustified shall automatically be deemed to be a termination or suspension for the convenience of Owner under Section 1.9 of this Contract.

## **ARTICLE VII - LEGAL RELATIONSHIPS AND REQUIREMENTS**

### **7.1 Binding Effect**

This Contract shall be binding on Owner and Consultant and on their respective heirs, executors, administrators, personal representatives, and permitted successors and assigns. Every reference in this Contract to a party shall also be deemed to be a reference to the authorized officers, employees, agents, and representatives of such party.

## **7.2 Relationship of the Parties**

Consultant shall act as an independent contractor in providing and performing the Services. Nothing in, nor done pursuant to, this Contract shall be construed (i) to create the relationship of principal and agent, partners, or joint ventures between Owner and Consultant or (ii) to create any relationship between Owner and any sub-consultant of Consultant.

## **7.3 No Collusion**

Consultant hereby represents and certifies that Consultant is not barred from contracting with a unit of state or local government as a result of (i) a delinquency in the payment of any tax administered by the Illinois Department of Revenue unless Consultant is contesting, in accordance with the procedures established by the appropriate revenue Act, its liability for the tax or the amount of the tax, as set forth in 65 ILCS 5/11-42.1-1; or (ii) a violation of either Section 33E-3 or Section 33E-4 of Article 33E of the Criminal Code of 1961, 720 ILCS 5/33E-1 et seq. Consultant hereby represents that the only persons, firms, or corporations interested in this Contract as principals are those disclosed to Owner prior to the execution of this Contract, and that this Contract is made without collusion with any other person, firm, or corporation. If at any time it shall be found that Consultant has, in procuring this Contract, colluded with any other person, firm, or corporation, then Consultant shall be liable to Owner for all loss or damage that Owner may suffer thereby, and this Contract shall, at Owner's option, be null and void.

Consultant hereby represents and warrants that neither Consultant nor any person affiliated with Consultant or that has an economic interest in Consultant or that has or will have an interest in the Work or will participate, in any manner whatsoever, in the Work is acting, directly or indirectly, for or on behalf of any person, group, entity or nation named by the United States Treasury Department as a Specially Designated National and Blocked Person, or for or on behalf of any person, group, entity or nation designated in Presidential Executive Order 13224 as a person who commits, threatens to commit, or supports terrorism, and neither Consultant nor any person affiliated with Consultant or that has an economic interest in Consultant or that has or will have an interest in the Work or will participate, in any manner whatsoever, in the Work is, directly or indirectly, engaged in, or facilitating, the Work on behalf of any such person, group, entity or nation.

## **7.4 Assignment**

Consultant shall not (i) assign this Contract in whole or in part, (ii) assign any of Consultant's rights or obligations under this Contract, or (iii) assign any payment due or to become due under this Contract without the prior express written approval of Owner, which approval may be withheld in the sole and unfettered discretion of Owner; provided, however, that Owner's prior written approval shall not be required for assignments of accounts, as defined in the Illinois Commercial Code, if to do so would violate Section 9-318 of the Illinois Commercial Code, 810 ILCS 5/9-318. Owner may assign this Contract, in whole or in part, or any or all of its rights or obligations under this Contract, without the consent of Consultant.

## **7.5 Confidential Information**

All information, supplied by Owner to Consultant for or in connection with this Contract or the Services, that identifies the specific locations of threatened or endangered species shall be held confidential by Consultant and shall not, without the prior express written consent of Owner, be used for any purpose other than performance of the Services.

## 7.6 No Waiver

No examination, inspection, investigation, test, measurement, review, determination, decision, certificate or approval by Owner, nor any order by Owner for the payment of money, nor any payment for or use, occupancy, possession or acceptance of the whole or any part of the Services by Owner, nor any extension of time granted by Owner, nor any delay by Owner in exercising any right under this Contract, nor any other act or omission of Owner shall constitute or be deemed to be an acceptance of any defective, damaged, flawed, unsuitable, nonconforming or incomplete Services, nor operate to waive or otherwise diminish the effect of any warranty or representation made by Consultant or of any requirement or provision of this Contract or of any remedy, power or right of Owner.

## 7.7 No Third Party Beneficiaries

No claim as a third party beneficiary under this Contract by any person, firm, or corporation (other than Owner and Consultant) shall be made or be valid against Owner or Consultant.

## 7.8 Notices

All notices required or permitted to be given under this Contract shall be in writing and shall be deemed received by the addressee thereof when delivered in person on a business day at the address set forth below or on the third business day after being deposited in the United States mail, for delivery at the address set forth below by properly addressed, postage prepaid, certified or registered mail, return receipt requested.

Notices and communications to Owner shall be addressed to, and delivered at, the following address:

NAME: Lake County Forest Preserve District  
ADDRESS: 1899 West Winchester Road  
CITY STATE: Libertyville, Illinois 60048  
Attention: Gary Glowacki, Wildlife Biologist

Notices and communications to Consultant shall be addressed to and delivered at the following address:

NAME: Northern Illinois University  
ADDRESS: Sponsored Programs Administration, 203 Lowden Hall  
CITY STATE: DeKalb, Illinois 60115-2828  
Attention: Kellie M. Dyslin, MSW, CRA / SPA No. 20-247

The foregoing shall not be deemed to preclude the use of other non-oral means of notification or to invalidate any notice properly given by any such other non-oral means.

By notice complying with the requirements of this Section 7.8, Owner and Consultant each shall have the right to change the address or addressee or both for all future notices to it, but no notice of a change of address or addressee shall be effective until actually received.

## **7.9 Governing Laws**

This Contract and the rights of Owner and Consultant under this Contract shall be interpreted according to the internal laws, but not the conflict of laws rules, of the State of Illinois.

## **7.10 Changes in Laws**

Unless otherwise explicitly provided in this Contract, any reference to laws shall include such laws as they may be amended or modified from time to time.

## **7.11 Compliance with Laws and Grants**

Consultant shall perform, or cause its Sub-consultants to perform, the Services in accordance with all required governmental permits, licenses, or other approvals and authorizations, and with applicable statutes, ordinances, rules, and regulations. This requirement includes, but is not limited to, compliance with the Fair Labor Standards Act; any statutes regarding qualification to do business; any statutes prohibiting discrimination because of, or requiring affirmative action based on, race, creed, color, national origin, age, sex, or other prohibited classification, including, without limitation, the Americans with Disabilities Act of 1990, 42 U.S.C. §§ 12101 et seq., and the Illinois Human Rights Act, 775 ILCS 5/1-101 et seq. Consultant shall also comply with applicable conditions of any federal, state, or local grant received by Owner or Consultant with respect to this Contract or the Services.

Consultant shall be liable for any fines or civil penalties that may be imposed or incurred by a governmental agency with jurisdiction over the Services as a result of Consultant's or its sub-consultants' improper performance of, or failure to properly perform, the Services or any part thereof.

Every provision of law required by law to be inserted into this Contract shall be deemed to be inserted herein.

## **7.12 Ownership of Documents**

Consultant and Consultant's sub-consultants shall be deemed the original authors and owners respectively of materials produced pursuant to this Contract and shall retain all common law, statutory and other reserved rights, including copyrights. Consultant hereby grants and conveys to Owner a royalty-free non-exclusive license to use all Required Submittals and other materials produced under this Contract for District purposes and no other purposes. The Owner agrees to defend and hold the Consultant and the Consultant's sub-consultants harmless from any causes of action, claims, losses, damages and expenses of any nature whatsoever, including reasonable attorney's fees, resulting from any unauthorized re-use of the Consultant's and Consultant's sub-consultants' materials

## **7.13 Time**

The Contract Time is of the essence of this Contract. Except where otherwise stated, references in this Contract to days shall be construed to refer to calendar days.

## **7.14 Severability**

The provisions of this Contract shall be interpreted when possible to sustain their legality and enforceability as a whole. In the event any provision of this Contract shall be held invalid, illegal, or unenforceable by a court of competent jurisdiction, in whole or in part, neither the validity of the remaining part of such provision, nor the validity of any other provisions of this Contract shall be in any way affected thereby.

**7.15 Entire Agreement**

This Contract sets forth the entire agreement of Owner and Consultant with respect to the accomplishment of the Services and the payment of the Contract Price therefore, and there are no other understandings or agreements, oral or written, between Owner and Consultant with respect to the Services and the compensation therefore.

**7.16 Amendments**

No modification, addition, deletion, revision, alteration, or other change to this Contract shall be effective unless and until such change is reduced to writing and executed and delivered by Owner and Consultant.

IN WITNESS WHEREOF, Owner and Consultant have caused this Contract to be executed as of the day and year first written above.

(SEAL)

Attest/Witness

LAKE COUNTY FOREST PRESERVE DISTRICT

By: \_\_\_\_\_  
Julie Gragnani  
Title: Secretary

\_\_\_\_\_  
Alex Ty Kovach  
Title: Executive Director

Attest/Witness  
ILLINOIS UNIVERSITY

BOARD OF TRUSTEES OF NORTHERN

By: \_\_\_\_\_  
Sarah E. Senechalle  
Title: Contract Coordinator

By: \_\_\_\_\_  
Kellie M. Dyslin, MSW, CRA  
Title: Director, Pre Award

**ATTACHMENT A - SUPPLEMENTAL SCHEDULE OF CONTRACT TERMS**

1. Project:  
Provide Blanding's Turtle reintroduction services at an undisclosed forest preserve site, which services include:  
  
Provide two (2) qualified field staff (Field Technician) and a PhD candidate to plan, coordinate, monitor and adaptively manage a Blanding's Turtle reintroduction project for an approximately 7-month period beginning May through the end of October of each year, with appropriate transportation. Included in this work are all indirect and overhead costs such as mileage reimbursements, benefits and administrative costs.  
  
The Services include, but are not limited to, all of the Services provided in Consultant's detailed Scope of Work. See Attachment B.
  
2. Approvals and Authorizations:  
Consultant shall obtain the following approvals and authorizations from the following governmental bodies on or before the following dates:  

<u>Approval/Authorization</u>	<u>Date</u>
NONE	
  
3. Commencement Date:  
MAY 1, 2020
  
4. Completion Date:  
MARCH 1, 2023
  
5. Insurance Coverage:
  - A. Worker's Compensation and Employer's Liability with limits not less than:
    - (1) Worker's Compensation: Statutory
    - (2) Employer's Liability: StatutorySuch insurance shall evidence that coverage applies in the State of Illinois.
  
  - B. Comprehensive Motor Vehicle Liability with a combined single limit of liability for bodily injury and property damage of not less than \$1,000,000.00 for vehicles owned, hired and scheduled.
  
  - C. Comprehensive General Liability with coverage written on an "occurrence" basis and with limits no less than:
    - (1) General Aggregate: \$2,000,000.00
    - (2) Bodily Injury: \$2,000,000.00 per person  
\$2,000,000.00 per occurrence
    - (3) Property Damage: \$2,000,000.00 per person  
\$2,000,000.00 aggregateCoverages shall include:
  - ❖ Broad Form Property Damage

- D. Owner as Additional Insured. Owner shall be named as an Additional Insured with respect to the Comprehensive General Liability policy only
- E. Other Parties as Additional Insured. In addition to Owner, the following parties shall be named as Additional Insured on the following policies:

Additional Insured	Policy or Policies
NA	NA

- F. Evidence of Insurance. Consultant shall furnish Owner with a certificate(s) of insurance executed by a duly authorized representative of the insurer, showing compliance with the insurance requirements set forth above. Failure of Owner to demand such certificate, of full compliance with these insurance requirements or failure of Owner to identify a deficiency from evidence that is provided shall not be construed as a waiver of Consultant's obligation to maintain such insurance. Owner shall have the right, but not the obligation, of prohibiting Consultant from entering the premises until such certificates or other evidence that insurance has been placed in complete compliance with these requirements is received and approved by the Owner. Failure to maintain the required insurance may result in termination of this Contract at the Owner's option. Consultant shall provide the certificate of insurance required above as per paragraph 4.1 herein, or within 10 days of Owner's written request for said copies.

6. Contract Price:

- A. Schedule of Prices - Hourly/Not to Exceed:

For providing, performing, and completing all Services, Consultant shall be compensated for all services rendered by principals and employees directly on the Project at the following hourly rates for the following positions:

POSITION	YEAR 1	YEAR 2	YEAR 3
PhD Candidate	NA	\$6,696.00	\$6,897.00
Field Technician	\$14,850.00	\$15,296.00	\$15,754.00
Senior Personnel	\$5,961.00	\$6,140.00	\$6,324.00
Fringe Benefits	\$2,000.00	\$2,060.00	\$2,122.00

Owner shall also reimburse Consultant for the following (and no other) reimbursable costs and expenses in the following amounts, which shall be reimbursed at the actual out of pocket cost to Consultant:

REIMBURSABLES	YEAR 1	YEAR 2	YEAR 3
Travel & Transportation Services	\$6,524.00	\$6,720.00	\$6,922.00
Miscellaneous Supplies	\$7,750.00	\$7,983.00	\$8,222.00
Facilities & Administrative Costs	\$3,709.00	\$4,490.00	\$4,624.00

Notwithstanding the foregoing, the total portion of the Contract Price based on Consultant's hourly rates of principals and employees shall not exceed \$ 84,100.00 and the total portion of the Contract Price based on reimbursable expenses shall not exceed \$ 56,944.00.

A. Schedule of Prices - Lump Sum

For providing, performing and completing all Services, the total Contract Price of:

ONE HUNDRED FORTY ONE THOUSAND FORTY FOUR Dollars and NO Cents  
(in writing)

\$141,044 Dollars and 00 Cents  
(in figures)

Not to exceed amount includes all travel, living and direct project expenses including printing, postage and handling. There shall be no additional costs.

7. Payments:

Regardless of whether the Contract Price is based upon hourly rates or a lump sum, Consultant shall, not later than ten (10) days after execution of the Contract and before submitting its first pay request, submit to Owner a schedule showing the value of each component part or phase of the Services in form and with substantiating data acceptable to Owner ("Breakdown Schedule"). The sum of the items listed in the Breakdown Schedule shall equal the lump sum Contract Price or the not to exceed Contract Price, as the case may be. An unbalanced Breakdown Schedule providing for overpayment of Consultant on component parts or phases of the Services to be performed first will not be accepted. The Breakdown Schedule shall be revised and resubmitted until acceptable to Owner who will not unreasonably withhold its approval. No payment shall be made for Services until Consultant has submitted, and Owner has approved, an acceptable Breakdown Schedule. When a component or phase of the Services, as identified in the Breakdown Schedule, is complete, Owner will pay Consultant the value of such component or phase as provided in the Breakdown Schedule; however, Owner shall not be required to make payments more frequently than once per month. All pay requests from Consultant shall be made using the pay request format supplied by Owner.

Owner may require that the approved Breakdown Schedule be revised based on developments occurring during the provision and performance of the Services. If Consultant fails to submit a revised Breakdown Schedule that is acceptable to Owner, Owner shall have the right either to suspend Progress and Final Payments for Services or to make such payments based on Owner's determination of the value of the Services completed.

## **ATTACHMENT B - CONSULTANT'S SCOPE OF WORK**

### 1. Project Description:

The Blanding's Turtle (*Emydoidea blandingii*) is a long-lived semi-aquatic freshwater turtle that uses wetland-upland complexes within the northern United States and southern Canada (Congdon et al. 2008; 2011, Reid et al. 2016). It is ranked as endangered in the IUCN Red List (Van Dijk and Rhodin 2017) and is recognized as being in need of conservation or is listed as threatened or endangered in each United States State and Canadian Province in which it occurs (Congdon et al. 2008, COSEWIC 2016). The species is endangered in Illinois (Illinois Natural History Survey 2016) and is scheduled for status review under the United States Endangered Species Act (U.S. Fish and Wildlife Service 2015). Threats include habitat loss, elevated rates of mortality due to subsidized predators, and road mortality (Congdon et al. 2008). Extant populations are frequently small, isolated, and dominated by older individuals.

As with many species (Ewen et al. 2012), reintroduction may represent a necessary management tool for Blanding's Turtle recovery. Frequently, reintroduction programs rely on captive breeding or rearing to generate animals for release (Ewen et al. 2012). Head-starting, in which animals are reared in captivity during vulnerable juvenile life stages, is a widely used management strategy in turtles, including Blanding's Turtles (Thompson et al. 2019). Head-starting has been used less frequently to establish new turtle populations (but see Buhlmann et al. 2015). Consequently, our objective is to test the feasibility of head-starting for Blanding's Turtle population establishment. Specifically, we plan to

1. Implement a Blanding's Turtle start-from-scratch reintroduction using head-started animals and informed by population viability analyses.
2. Monitor and adaptively manage the reintroduction to maximize the likelihood of establishing a self-sustaining population.

The Lake County Forest Preserve District (LCFPD) in northeastern Illinois initiated a long-term capture-mark-recapture (CMR) project of Blanding's Turtles at Spring Bluff Chiwaukee Prairie (SBCP) in 2004. An initial population viability analysis, completed in 2010, reported a low number of juveniles in the population and an unsustainably high rate of nest predation as well as the need for habitat restoration and lower than ideal rates of adult survival (Kuhns 2010). PVA scenarios that included habitat management and predator removal were insufficient to achieve population viability but combining these strategies with head-starting was expected to be effective. Consequently, in 2010 the LCFPD initiated a head-starting program to increase juvenile recruitment in tandem with other management strategies aimed at addressing threats to the population.

Recent analyses of the SBCP Blanding's Turtle population reveal that head-starting has been an effective tool for Blanding's Turtle conservation; size distributions now include a wide-range of juvenile animals in addition to adults, head-starts have been recruited into the adult reproductive population, and head-starts exhibit growth and survival similar to that of wild-born (Thompson et al. 2019; Golba 2019). A revised PVA for this population shows low extinction risk even given parameter uncertainty (Appendix in King et al. 2020). Expanding the LCFPD head-starting program to establish a new population of Blanding's Turtles in Lake County is a natural next step in designing effective strategies for Blanding's Turtle conservation more generally.

Here, we describe our proposed reintroduction site, results of a PVA-based comparison of alternative release scenarios, a PVA-based assessment of potential impacts on the source population, release strategy, monitoring framework, and planned adaptive management responses to possible outcomes. We seek to establish a population of ca. 50 adults within 20 years. Fifty adults conforms to population size criteria in the Illinois Blanding's Turtle conservation assessment (King 2013) and exceeds the threshold population size necessary achieve low extinction risk attributable to demographic and environmental stochasticity using demographic parameters observed at SBCP (Fig. 4, Appendix in King et al. 2020). Twenty years is sufficient time for head-starts to achieve maturity and commence reproduction but is shorter than the time required for the offspring of head-starts to achieve maturity, thus simplifying population viability analysis.

***Proposed Reintroduction Site.*** – Pine Dunes Forest Preserve is a recently restored complex of wetland, prairie, and savanna in northern Lake County encompassing ca. 150 ha within a matrix of mostly open lands with low road density (Fig. 1). Other protected lands managed by the Lake County Forest Preserve District account for 32% of the area within a 1 km buffer of Pine Dunes. The Illinois State Toll Highway Authority (ISTHA) has been working with LCFPD on a \$9.3 million project to restore Pine Dunes since 2014. Habitat restoration efforts include ~35 ha of wetland enhancement and restoration to mitigate the impacts on wetlands of construction near the O'Hare airport as part of the Elgin O'Hare Western Access Project. Additional restoration efforts include enhancement of upland and woodland habitat, as well as ~1 km of stream restoration to connect existing wetlands to the Des Plaines River. Contractors completed building and trail construction in the fall of 2015. General seeding and planting activities continued through 2017. Aquatic sampling within Pine Dunes Forest Preserve wetlands demonstrates the occurrence of a variety of fish and crayfish utilized by Blanding's Turtles, including Bluegill, Green Sunfish, Central Mudminnow, Fathead Minnow, Calico Crayfish, Devil Crayfish, Digger Crayfish, Northern Clearwater Crayfish, Red Swamp Crayfish, and White River Crayfish.

Blanding's Turtle occurrence records are widespread throughout Lake County (IDNR Natural Heritage Biotics 5 Database) and include recent (2019) observations within 2 km of Pine Dunes. However, agriculture and other land use practices would have resulted in extirpation of Blanding's Turtles from Pine Dunes prior to its establishment as a Forest Preserve. Anthropogenic barriers (the I-94 corridor) preclude natural recolonization from the nearest known occupied site, Van Patten Woods Forest Preserve.

***Release Scenarios.*** – We compared release scenarios for a start-from-scratch reintroduction that differed in the number of years over which turtles were released using Vortex (Lacy and Pollak 2018). All models used the base PVA model for SBCP with juvenile survival rates modified to equal those observed among head-starts at SBCP (Golba 2019; Table 1). In all scenarios, a total of 70 turtles were released each year (40 turtles released approximately 1 year post-hatching (first year head-starts) and 30 turtles released approximately 2 years post-hatching (second year head-starts) with an equal sex ratio. This release strategy requires 7 years of releases to reach an adult population size of 50 (population size standard deviation = 10.5; Scenario 3 in Table 2, Fig. 2). Declines in adult population size in later years (Fig. 2) are expected to be offset by recruitment of offspring of head-starts into the adult population (not included in our PVA). Because age at reproductive maturity by head-starts is not yet certain, we limited our projections to 20 years. As monitoring data are collected, revised PVA will be carried out using a longer time-frame.

**Potential Impacts on Source Population.** – Using PVA, we compared the projected adult population size at the source population (Spring Bluff-Chiwaukeee Prairie) between a non-harvest scenario and a harvest scenario. The harvest scenario entailed 7 years of harvesting 80 eggs. There is no detectable difference in adult population size among these scenarios, suggesting that harvest for a start-from-scratch population would not have detrimental effects on the source population even in the absence of head-start releases (Figure 3).

**Release Strategy.** – During the first year of this project, we plan to release 40 first-year and 30 second-year old head-started turtles in wetlands throughout the core of the reintroduction site. Head-starts will be released in early summer at points  $\geq 200$  m from Preserve boundaries. Head-started turtles are currently being reared at the LCFPD turtle facility adjacent to Pine Dunes Forest Preserve and represent offspring hatched from eggs obtained from SBCP females. Approximately equal numbers of male and females (determined by incubation temperature) selected to maximize genetic representation (roughly equal numbers from multiple dams) will be released. Prior to release, each turtle will be uniquely marked and measured and a visual health assessment will be completed. Similar release strategies will be followed in subsequent years unless early results suggest the need for a modified approach.

**Monitoring.** – During 2020 and 2021, Blanding's Turtle movements, growth, and survival will be monitored using radio telemetry. We plan to equip roughly 50% of released animals with radio transmitters weighing  $\leq 8\%$  of turtle body mass. First-year head-starts will be monitored from release until mid-September 2020 at which time transmitters will be removed or replaced to allow monitoring to continue over-winter. Because of their larger size (allowing for longer transmitter battery life), second-year head-starts will be monitored for a full year. Turtles will be located 2-3 times per week to assess movements and captured once every two weeks to confirm survival and monitor growth. A sample of 10 first-year head-starts released at SBCP as part of the LCFPD Blanding's Turtle Management Program will be monitored in parallel to allow comparison between reintroduction and natal sites. Upon location, we will collect GPS coordinates and habitat data (water depth, index of vegetation density).

Starting in 2021, monitoring will also include trapping to also obtain data on growth and survival of turtles not equipped with transmitters. We will set 40 Promar hoop net traps for 3 week-long trapping sessions in June, July, and August. In addition to providing information on the fate of released turtles, trapping will provide information on abundance of sympatric turtle species and on prey availability. Parallel efforts at SBCP will facilitate comparisons between source and reintroduction sites.

**Adaptive Management.** – Results obtained from monitoring released turtles will be used to guide modifications to this project. Based on head-start survival rates at SBCP, annual survival of first-year head-starts is expected to fall between 0.57 and 0.69 and that of second-year head-starts is expected to fall between 0.64 and 0.83 (Table 1). Observed survival rates that fall significantly below these intervals, or growth rates falling below those observed at SBCP (Golba 2019), will trigger reassessment of releases during subsequent years. Information on causes of mortality (e.g., predation, vehicle strikes) will be used to assess the need for mesopredator control or fencing at Pine Dunes. Movement patterns of radio-equipped turtles at Pine Dunes and SBCP will be compared to assess whether turtles released at Pine Dunes fail to take up residence in restored wetlands as indicated by unusually long-distance or off-site movements. Turtles moving into high risk habitats (agricultural lands, close proximity to roads) will be returned to their initial release site. Modifications to this project and continuation beyond year 1 will occur in consultation with Illinois Department of Natural Resources staff.

2. Consultant's Responsibility:

- A. Meet with Owner's staff to initiate project, review existing drawings and aerial photography, discuss design intent and attend any other meetings as necessary to gather and/or present information.
- B. Maintain close working relationship with the Owner's Project Manager to provide for timely revisions to methodologies or objectives.
- C. Provide Owner with a monthly invoice detailing hours, vehicle rental and overhead costs.

3. Owner's Responsibility:

Throughout the progress of the Work, as described in this Contract, Owner shall:

- A. Notify Consultant in writing to proceed with the Work described herein and designate in writing a person to act as Owner's representative with respect to the Services to be rendered under this Contract.
- B. Arrange for access to and make provisions for Consultant to enter upon the site as required to perform the Work.
- C. Assist Consultant by placing at its disposal all available information concerning existing site conditions possessed by Owner including reports, records, drawings, maps or other pertinent information which may be useful to Consultant in the preparation of the Work
- D. Pay any and all permit and approval fees that may be required.
- E. Meet with Consultant on a timely basis to advise and review work progress.

4. Additional Services:

Services in addition to those described above are to be compensated at the hourly rates noted, and for related reimbursable expenses in accordance with the following Fee and Reimbursable Schedule for the actual hours worked and costs incurred by Consultant.

**ATTACHMENT C - KEY PERSONNEL**

1. KEY PROJECT PERSONNEL – OWNER

NAME	TITLE	TELEPHONE NUMBER OFFICE	TELEPHONE NUMBER MOBILE
Gary Glowacki	Wildlife Ecologist II	847-968-3264	847-276-1454
Andrew Rutter	Wildlife Ecologist I	847-968-3283	847-276-5368
Pati Vitt	Manager of Ecological Restoration	847-968-3285	847-276-6943

2. KEY PROJECT PERSONNEL – CONSULTANT

NAME	TITLE	TELEPHONE NUMBER OFFICE	TELEPHONE NUMBER MOBILE
Dr. Richard B. King	Distinguished Research Professor	815-753-7833	815-753-0461
Callie Golba	PhD Candidate	630-217-0191	630-217-0191