

## STATE WILDLIFE GRANT

State of Illinois

Grant Segment/Proposal

PROJECT NUMBER:T- -D-1

PROJECT TITLE: Habitat Conservation Initiative for the Illinois Chorus Frog  
(*Pseudacris streckeri illinoensis*): Phase I

PROJECT DURATION: September 1, 2009 – August 31, 2012



Photo credit: Michael Jeffords

**Need**

Illinois Chorus Frogs (*Pseudacris illinoensis*) occur in west-central and southwestern Illinois, southeastern Missouri, and northeastern Arkansas. They are listed as a Species of Special Concern in all three states and threatened in one (IL). The Illinois Chorus Frog is a habitat specialist, requiring fine, sandy soils for aestivation and ephemeral (seasonally flooded) wetlands or fishless ponds for reproduction. Suitable conditions are limited geologically to those areas represented by the species' range and distributed patchily within it.

Habitat loss is a serious threat to this species throughout its range (Trauth et al. 2006, Missouri Department of Conservation 2000, Herkert 1992). Detrimental changes can occur at both large and small spatial scales. For example, Trauth et al. (2006) documented a recent range contraction of 61% in Arkansas when drought exacerbated widespread destruction of wetlands by precision land leveling for agricultural production.

Illinois' Wildlife Action Plan (Illinois Department of Natural Resources 2005; p. 143) lists the Illinois Chorus Frog as a Critical Species for the Illinois River and Mississippi River Sand Areas Natural Division. Habitat goals for this region (p. 75) include restoring and managing >6 areas (of 300–500 acres each) of ephemeral wetlands and accompanying upland habitats. Recent studies supported by a State Wildlife Grant (e.g., No. T-42-R; Strategies for recovery of amphibians and reptiles inhabiting sand areas in Mason and Tazewell counties) and experience with habitat projects to benefit this species [e.g., State Wildlife Grant T-28-M (Public Lands Native Wildlife Habitat Restoration Project - Job 12); USFWS Landowner Incentive Program] suggest that successful conservation strategies for the Illinois Chorus Frog must include enhancement and protection of small parcels as well as larger, more continuous ones.

Past efforts have allowed us to identify critical habitats and effective tools for conserving them. Most (84%) sites that are considered important for conservation of Illinois Chorus Frogs occur on private lands (Taubert et al. 1982). Therefore, we will use a 2-pronged approach that includes improvement of critical habitats on public lands but focuses on long-term protection of these habitats on private lands.

#### Private lands initiative

We will achieve a significant conservation benefit by focusing efforts in ecologically important, well-defined and manageable areas. Efforts to restore and protect critical habitats on private lands will occur in Mason County. We chose this area because modeling showed a high density of potential habitat (Fig. 1). Surveys supported model predictions, with 98 populations identified in Mason County during 2008-2009. Nearly all of these populations occurred in roadside ditches (Fig. 2) and farmed or prior converted wetlands (Fig. 3), none of which were secure (e.g., protected by conservation programs or other agreements). We will enhance and/or protect critical habitat at two public sites and  $\geq 20$  sites on private lands in Mason County (i.e., an amount equivalent to ~20% of known locations in Mason County at this time). We will also work with transportation authorities to curb mowing in rights-of-way with otherwise suitable habitat.

#### Improvements to public lands

DNR acquired Clear Creek Wetland State Natural Area in Cass County from the Illinois Department of Transportation as partial mitigation for impacts to Beardstown Marsh during realignment of Route 67. This 62-acre site offers potential habitat for Illinois Chorus Frogs, as evidenced by single record of occurrence and more robust populations at nearby properties. Both wetland and upland habitats at Clear Creek Wetland SNA are currently degraded by exotic and woody vegetation. We envision a complex of high-

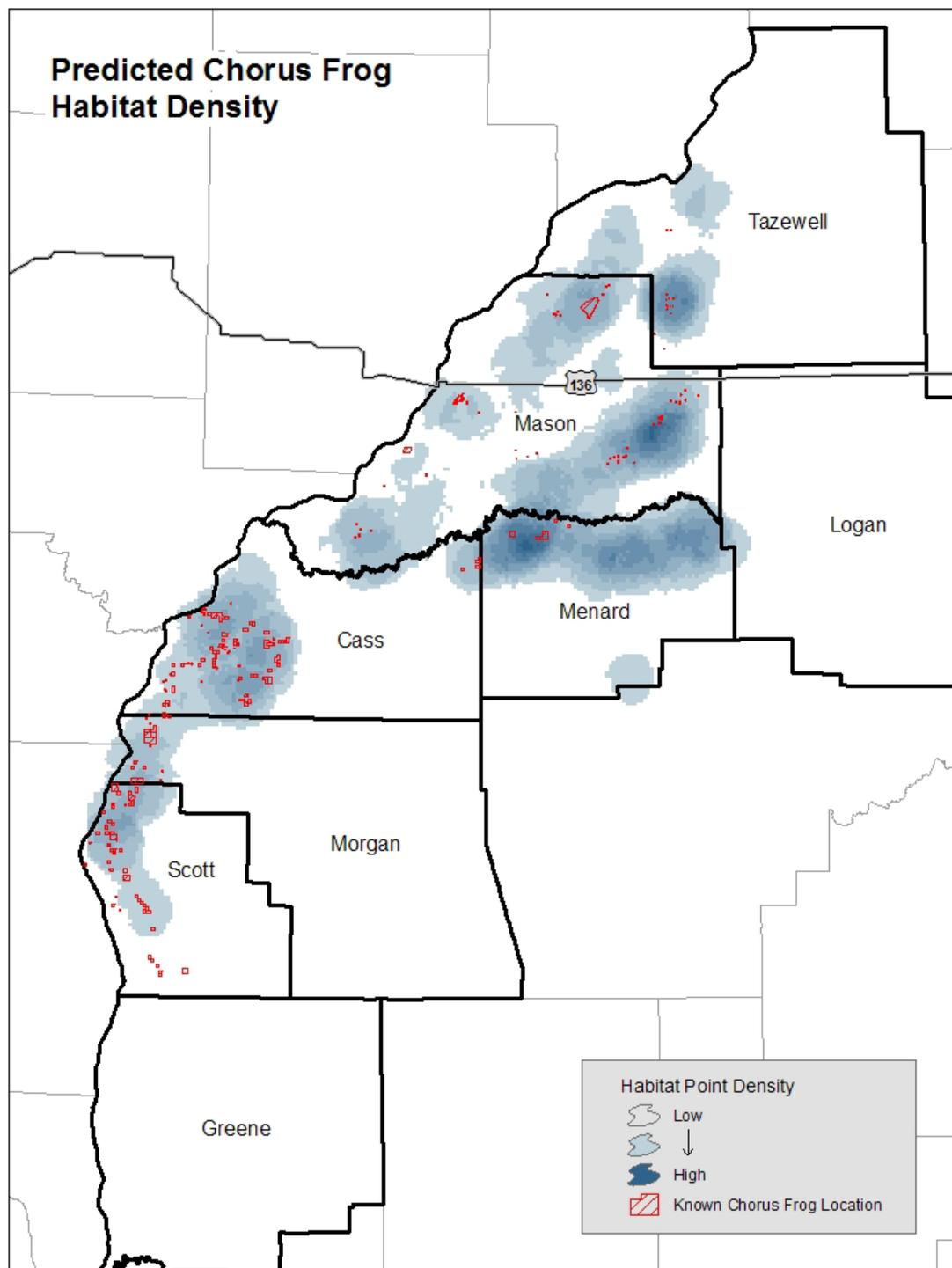


Figure 1. Distribution of suitable habitat conditions (fine, sandy soils with ponds or hydric inclusions) and records of Illinois Chorus Frogs.



Figure 2. Typical breeding habitat for Illinois Chorus Frogs along a road right-of-way in Mason County. Un-mowed road ditches with suitable hydroperiods provide habitat for about a third of populations known to occur in the area. Mowing reduces or eliminates habitat values. We will work with road commissioners to curb mowing at otherwise suitable sites.



Figure 3. Farmed/prior converted wetland where large numbers of Illinois Chorus Frogs were documented in 2009. This species' needs are generally compatible with agricultural production, but habitat can be improved markedly by allowing natural vegetation to establish in wetlands for breeding and development of tadpoles. Adding upland buffers of native vegetation provides secure areas for aestivation by reducing risks from cultivation and application of pesticides and nutrients.

quality, protected habitats on Clear Creek Wetland SNA and two contiguous properties to the north (Illinois River Sands Land and Water Reserve; Charles “Chinee” Colvin Sand Prairie LWR). Improvements at Clear Creek Wetland SNA will benefit both the Illinois Chorus Frog and state endangered Illinois Mud Turtle (*Kinosternum flavescens*).

Sand Ridge State Forest and its satellites comprise the largest public land holdings in the Illinois River portion of the Illinois River and Mississippi River Sand Areas Natural Division. Historically, these areas provided habitat for Illinois Chorus Frogs, and continue to do so based on recent surveys [e.g., Sparks Pond State Natural Area and Rollo Prairie State Natural Area, both of which are identified as Conservation Opportunity Areas by the Wildlife Action Plan (p. 144)]. Collectively, these sites are important because they are protected by public ownership, support extant populations, and provide corridors to other habitat patches. Improvements will also benefit the Illinois Mud Turtle and other species listed as Endangered, Threatened, or In Greatest Need of Conservation.

### **Objectives**

1. Control woody and exotic vegetation on ~50 acres at Clear Creek Wetland SNA
2. Establish native grasses and forbs on ~10 acres at Clear Creek Wetland SNA
3. Rehabilitate a small (~75x125 ft), fishless pond near the headquarters at Sand Ridge State Forest
4. Create a small (~50x100 ft), shallow pond in Field 19 at Sand Ridge State Forest
5. Repair/replace a well pump at the Rollo Tract of Sand Ridge State Forest to restore water management capabilities at a shallow pond and ephemeral wetland
6. Enhance and/or protect  $\geq 20$  farmed or prior converted wetlands (150 acres including upland buffers) on private lands in Mason County
7. Monitor the presence of Illinois Chorus Frogs at improved/protected sites in Mason County and at reference (unimproved) sites in Mason and Menard counties
8. Prepare and submit two annual and one final reports of progress

### **Expected Results or Benefits**

#### *Direct Benefits*

- This project will help to ensure the future of Illinois Chorus Frogs through long-term (10-15 yrs) protection of a significant proportion of critical habitats on private lands in Mason County (an amount equivalent to ~20% of known locations at this time). We view this as a significant accomplishment compared to current conditions (i.e., no locations with extant populations are currently protected by conservation programs).
- Improvements at Clear Creek Wetland SNA and Sand Ridge State Forest will provide complexes of suitable habitat (i.e., groups of wetlands with buffers of native vegetation) on sites protected by public ownership. These aggregations of suitable habitat are important to the Illinois Chorus Frog because of its limited mobility.

### *Secondary Benefits*

- Habitats improved and/or protected for Illinois Chorus Frogs will benefit other Endangered and Threatened Species (i.e., Illinois Mud Turtle, Western Hognose Snake, Regal Fritillary, Ottoe Skipper)
- Habitats improved and/or protected for Illinois Chorus Frogs will benefit other Species in Greatest Need of Conservation, as identified by Illinois' Wildlife Action Plan (i.e., Prairie Mole Cricket, Grasshopper Sparrow, Northern Bobwhite, Dickcissel, American Badger).
- During the course of this project, we will identify opportunities to protect key habitats by using easements or acquisition from willing sellers to meet objectives of Illinois' Wildlife Action Plan [i.e., restore and manage at least 6 areas (of 300–500 acres each) of ephemeral wetlands and accompanying upland habitats in the Illinois River and Mississippi River Sand Areas Natural Division (p. 75)].
- Payments to agricultural producers in Mason County will stimulate the local economy. Interactions with the Farm Service Agency, Natural Resources Conservation Service, and various roadway authorities will strengthen partnerships to benefit both people and wildlife.

### **Personnel**

Project Leader:        Bob Bluett  
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                                  Illinois Department of Natural Resources  
                                  One Natural Resources Way  
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                                  bob.bluett@illinois.gov  
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Staff:                     As noted under individual jobs

### **Approach**

**Job 1.** Habitat restoration at Clear Creek Wetland State Natural Area

Personnel: Bob Bluett, Tim Kelley (ORC-Natural Heritage), Mike Chandler (ORC-Wildlife)

#### Need:

An ephemeral wetland located on the northwest corner of this property (Fig. 4) is degraded by woody vegetation (mostly soft maples). Dense shade has eliminated

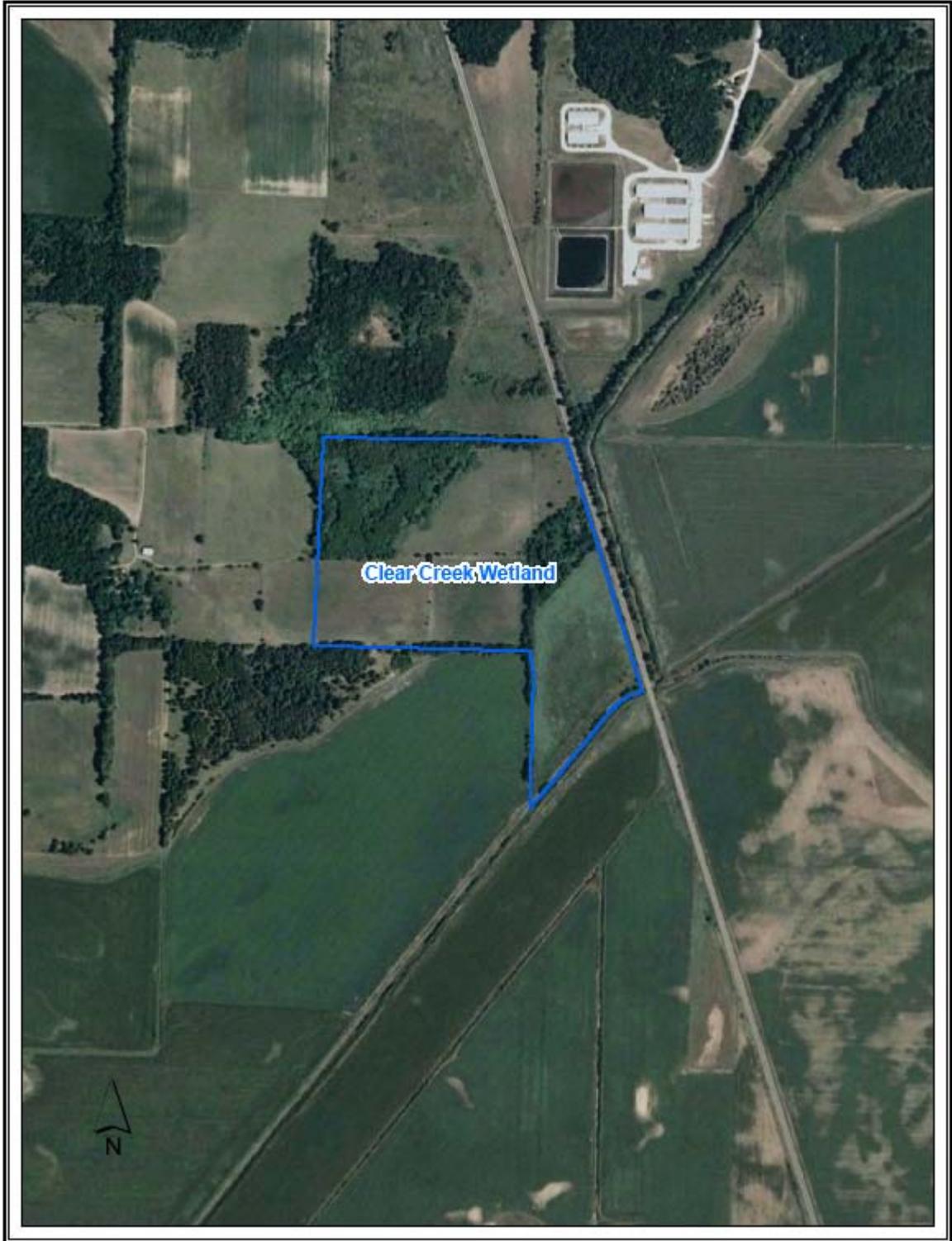


Figure 4. Woody and exotic vegetation will be controlled at Clear Creek Wetland State Natural Area in Cass County.

emergent vegetation from the wetland, thereby reducing its value to Illinois Chorus Frogs for breeding and successful development of tadpoles. Although the area floods periodically, standing water does not remain for a sufficient period of time (e.g., for development of tadpoles). Trees in and near the wetland are suspected as the cause of a shortened hydro-period (i.e., by using water for transpiration).

Sand prairie at this site is degraded by woody and exotic vegetation (e.g., locust and elm trees in upland habitats; reed canary grass in hydric inclusions). These invasive plants reduce suitability for aestivation of Illinois Chorus Frogs. Removing invasive vegetation from this site will also help to reduce its spread to neighboring Illinois River Sands Land and Water Reserve, where control of woody and exotic vegetation has already occurred.

Objectives:

1. Control woody and exotic invasive plants on ~50 acres at Clear Creek Wetland SNA
2. Establish native grasses and forbs on ~10 acres at Clear Creek Wetland SNA

Methods:

Woody vegetation in and near the wetland will be controlled. Methods will depend on time of year, species, age class of individual plants, environmental considerations, and costs. All control methods will be consistent with the Illinois Nature Preserve Commission's Vegetation Management Guidelines. DNR's Comprehensive Environmental Review Process will ensure compliance with relevant state and federal environmental statutes (e.g., Endangered Species Act; National Environmental Policy Act; National Historic Preservation Act; Presidential Executive Orders 11988 and 11990).

Hand-operated cutters or chainsaws will be used for cutting and girdling. Herbicides will be applied to woody vegetation using cut stem, injection, basal bark and foliar methods, or a combination thereof. All herbicides will be applied in accordance with label instructions. All persons applying chemicals will be certified and licensed pursuant to the Illinois Pesticide Act.

Reed canary grass will be treated with herbicides until it is controlled adequately (>80% kill), then seeded to native grasses and forbs when germination and survival is most likely. Herbicides will be applied in accordance with state and federal laws by a licensed applicator. Site preparation, seed mixtures, and seeding rates will be in accordance with the Upland Wildlife Habitat Management (645) Standard of the Natural Resources Conservation Service electronic Field Office Technical Guide (eFOTG) for Illinois.

Budget:

<b>Line Item</b>	<b>Federal Share</b>	<b>State Share</b>	<b>Project Total</b>
Contractual		20,000.00	20,000.00
Commodities			
Personnel			
<b>Total</b>		20,000.00	20,000.00

**Job 2.** Habitat enhancement at Sand Ridge State Forest and its satellites

Personnel: Bob Bluett, Tim Kelley, Buck Cunningham (ORC-Wildlife), Billy Lowe (Office of Land Management-Site Superintendent)

Need: Sand Ridge State Forest (Fig. 5) and its satellites comprise the largest public land holdings in the Illinois River portion of the Illinois River and Mississippi River Sand Areas Natural Division. Historically, these areas provided habitat for Illinois Chorus Frogs, and continue to do so based on recent surveys [e.g., Sparks Pond State Natural Area and Rollo Prairie State Natural Area, both of which are identified as Conservation Opportunity Areas by the Wildlife Action Plan (p. 144)]. Collectively, these sites are important because they are protected by public ownership, support extant populations, and provide corridors to other habitat patches. Improvements will benefit the state endangered Illinois Mud Turtle and other species listed as Endangered, Threatened, or In Greatest Need of Conservation.

Objectives:

1. Rehabilitate a small (~75x125 ft), fishless pond near the headquarters at Sand Ridge State Forest
2. Create a small (~50x100 ft) pond in Field 19 at Sand Ridge State Forest
3. Repair/replace a well pump at Rollo Prairie State Natural Area (Fig. 6) to restore water management capabilities at a shallow pond and ephemeral wetland

Methods:

Approximately 20 years ago, a shallow pond was created near the site headquarters at Sand Ridge State Forest to benefit Illinois Chorus Frogs and other wildlife. The liner has exceeded its life expectancy and started to leak. This pond will be rehabilitated by re-shaping the depression, installing a new liner, and adding a shallow well to allow for management of water levels. A similar approach will be used to create a shallow pond in Field 19 of Sand Ridge State Forest, located west of the headquarters and north of Sand Ridge Road. DNR's Comprehensive Environmental Review Process will ensure compliance with relevant state and federal environmental statutes (e.g., Endangered Species Act; National Environmental Policy Act; National Historic Preservation Act; Presidential Executive Orders 11988 and 11990).

Last winter (2008), a shallow pond was created at Rollo Prairie State Natural Area, a satellite of Sand Ridge State Forest. This spring (2009), we attempted to fill the pond and an adjoining ephemeral wetland from a well that existed on the site. The well pump was inoperable, probably because of a lightning strike. The well pump will be repaired or replaced, allowing management of water levels at two ponds and a wetland. This is an important undertaking because we have documented mortalities of both Illinois Chorus Frogs and Illinois Mud Turtles on a road that bisects an existing wetland on the south side of the property; we hope that the new pond and wetland will provide an attractive, more secure alternative.

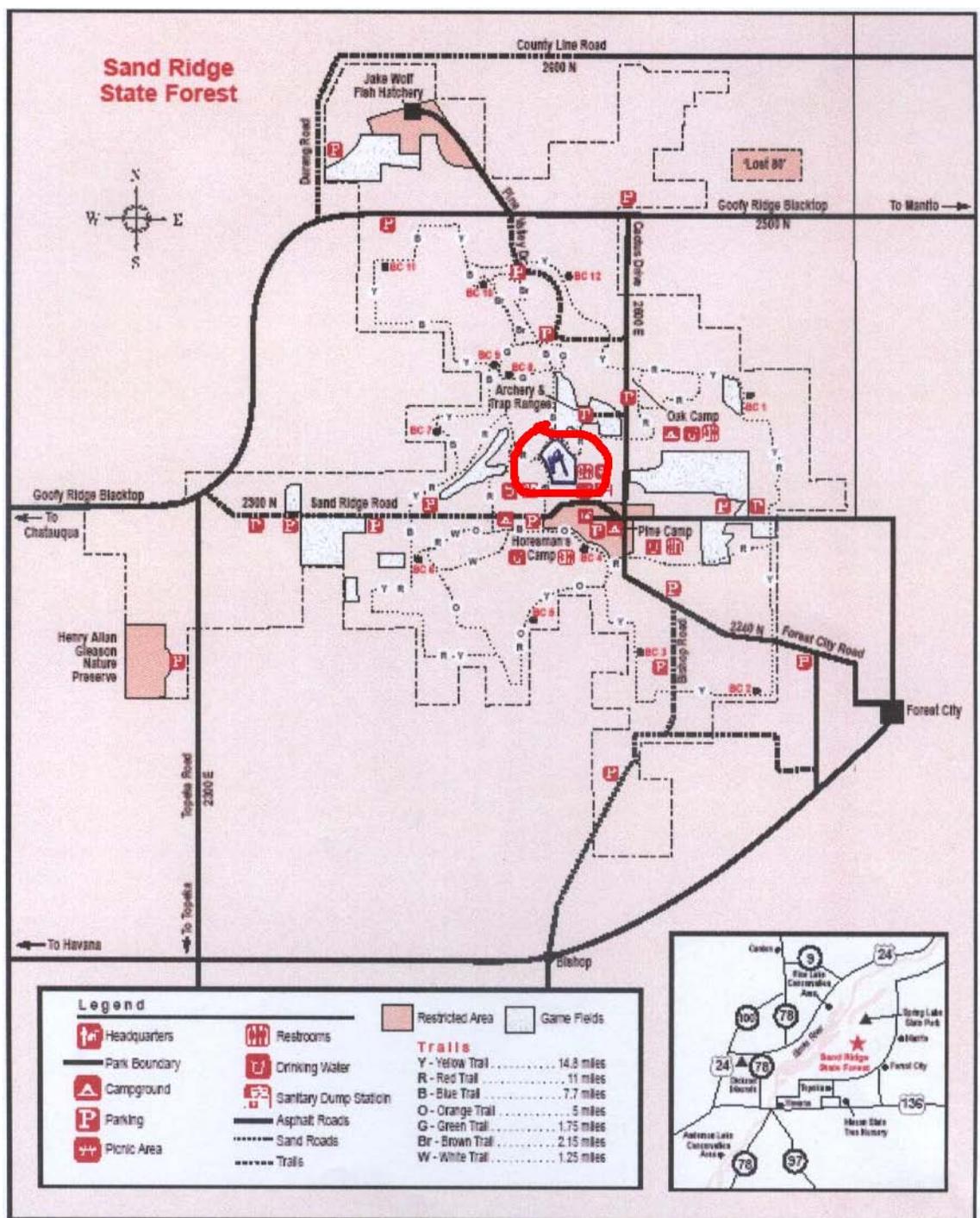


Figure 5. Projects at Sand Ridge State Forest include rehabilitation of a shallow pond near the headquarters and creation of a shallow pond in Field 19, located west of the headquarters and north of Sand Ridge Road.

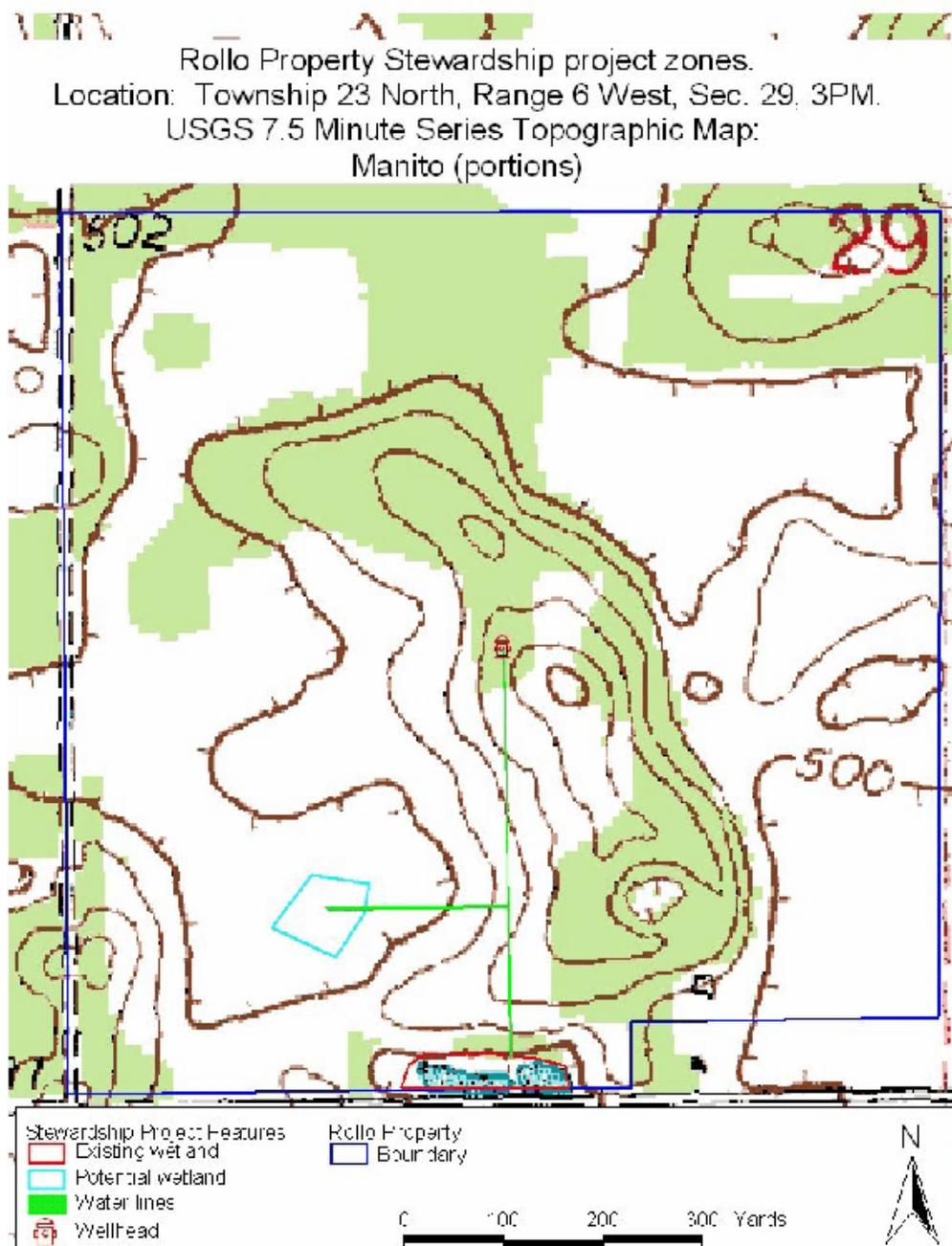


Figure 6. An inoperable well pump will be repaired or replaced at Rollo Prairie State Natural Area to manage water levels at two ponds and an ephemeral wetland (note: area delineated as “potential wetland” now contains a shallow pond and adjoining ephemeral wetland).

Budget:

<b>Line Item</b>	<b>Federal Share</b>	<b>State Share</b>	<b>Project Total</b>
Contractual	1000	11000	12000
Commodities		8000	8000
Personnel			
<b>Total</b>	1000	19000	20000

**Job 3.** Habitat protection and enhancement on private lands in Mason County

Personnel: Bob Bluett, Buck Cunningham, Tim Kelley

Need:

Illinois' Wildlife Action Plan sets a goal of de-listing the Illinois Chorus Frog by 2025 (p. 325). This goal can be met by enhancing, restoring and protecting critical habitats, most of which occur on private lands currently used for agricultural production. Existing programs that compensate producers for retiring cropland and converting it to natural communities are available. However, they are underutilized and/or affect too few acres to achieve a goal of de-listing the Illinois Chorus Frog. Reasons include:

- Seasonally flooded areas required for conservation of Illinois Chorus Frogs are not highly erodible and have a high infiltration rate (flooding of shallow depressions is generally caused by groundwater). Therefore, they do not compete well during bidding processes in the General Sign Up for the Conservation Reserve Program.
- Soil productivity affects compensation under the Conservation Reserve Program. Payments for areas with low soil productivity, such as those preferred by the Illinois Chorus Frog (e.g., Bloomfield, Plainfield, Orio and Udolfo series) do not compete well with soil rental rates.
- Illinois' Landowner Incentive Program (LIP 2007 Tier 2) offers expertise and adequate incentives for restoration. The program does not offer annual payments or incentives for retiring cropland. This limits its attractiveness to producers with critical habitats on their properties (farmed and prior converted wetlands). The program's goal of restoring and protecting 25 acres of critical habitats for the Illinois Chorus Frog will help to achieve short-term goals of stemming habitat loss but will not be enough to achieve a long-term goal of de-listing this species. This program expires in 2010.
- Illinois' State Acres for Wildlife Enhancement Program (CP-38) offers incentives for practices that benefit the Illinois Chorus Frog. However, areas eligible for SAFE in Mason County (~2 townships) encompass a small proportion of critical habitats.

Objectives:

1. Enhance and/or protect  $\geq 20$  farmed or prior converted wetlands (150 acres including upland buffers) on private lands in Mason County.

Methods:

Habitat modeling and surveys for extant populations confirm that the project area is an ecologically important haven for the Illinois Chorus Frog. Restrictions on land eligibility and approved practices (see below) ensure direct benefits to this species by offering an incentive to retire farmed and prior converted wetlands from agricultural production. Upon execution of contracts with the Farm Service Agency for approved practices on new tracts, producers will receive a one-time Sign-up Incentive Payment.

Land Eligibility Requirements

- Must be cropland located within the geographic boundary of Mason County or located in an adjacent county but administered by the Mason County office because of its proximity to the county boundary
- Must meet cropping history requirements (4 out of 6 years during 2002-2007)
- Must include a farmed or prior converted wetland as determined by FSA records
- Farmed and prior converted wetlands enrolled in CP-38 are not eligible for Sign-up Incentive Payments offered by this program (i.e., a producer cannot receive Sign-up Incentive Payments from both programs for the same tract of property)

Contract Length

- 10-15 years

Minimum Acreage

- None

Maximum Acreage

- None (except that the ratio of buffer:wetland shall not exceed practice standards)

Sign-up Incentive Payment

- \$70 per acre per year with a 10-year maximum (\$700/acre)

Program duration

- Three years or until available monies are expended

Approved Practices

- CP9 (Shallow Water Areas for Wildlife)
- CP23A (Wetland Restoration, Non-floodplain)

Practice Standards

Practice standards of the Natural Resources Conservation Service will be used for this program. NRCS standards require compliance with state and federal environmental laws. FSA conducts status reviews to ensure compliance during the life of the contract. NRCS Standards for Illinois are available from the electronic Field Office Technical Guide (<http://efotg.nrcs.usda.gov/toc.aspx?CatID=4139>):

- Shallow Water Development and Management (Code 646)
- Wildlife Wetland Habitat Management (Code 644)

A project coordinator will be hired to:

- Promote the program by contacting landowners whose properties provide critical habitats (as determined by surveys that document the presence of Illinois Chorus Frogs or the availability of soil and hydrological conditions similar to those inhabited by Illinois Chorus Frogs elsewhere in the county). Methods will include personal contacts with landowners and one or more landowner workshops arranged by the project coordinator.
- Serve as a technical liaison to FSA, NRCS, and SWCD
- Conduct surveys for the presence of Illinois Chorus Frogs (see Job 4)
- Meet with state, county, and township authorities to provide information about the importance of road rights-of-way as breeding habitat and explore opportunities for suspending mowing operations in key locations where breeding has been documented by surveys. The coordinator will post signs at such locations if agreed to by governing authorities.
- Identify properties that could be protected by easements or acquisition from willing sellers to achieve goals specified by the Wildlife Action Plan (p. 75; restore and manage >6 areas (of 300–500 acres each) of ephemeral wetlands and accompanying upland habitats).

DNR will execute an inter-governmental agreement with the Mason County Soil and Water Conservation. SWCD will be paid an up-front administrative fee of \$11,700 to:

- Write checks for Sign-up Incentive Payments (which will be reimbursed to SWCD using funds from this grant)
- Submit invoices to DNR with documentation of costs for Sign-up Incentive Payments and administration
- Send appropriate 1099 forms to landowners
- Secure landowner's permission to provide a copy of the executed contract between the landowner and FSA to DNR for express purposes of tracking project costs and accomplishments
- Send a copy of the executed contract between the landowner and FSA to the project leader.

This approach will be convenient for producers, who can conduct “one stop” business in their county office and reduce overhead costs incurred by DNR.

#### Budget

<b>Line Item</b>	<b>Federal Share</b>	<b>State Share</b>	<b>Project Total</b>
Contractual	97000	50000	147000
Commodities	2000		2000
Personnel			
<b>Total</b>	<b>99000</b>	<b>50000</b>	<b>149000</b>

#### Budget justification for contractual expenditures

- Hire project coordinator (\$30,000)
- Administrative fee – Mason County SWCD ( $\$117,000 \times 10\% = \$11,700$ )
- Sign-up Incentive Payments ( $\$70/\text{acre} \times 10 \text{ years} = \$700/\text{acre}$ ;  $\$105,000/\$700 = 150$  acres)
- Workshop(s) = \$300

**Job 4.** Monitor the presence of Illinois Chorus Frogs at improved/protected sites in Mason County and reference (unimproved) sites in Mason and Menard counties

Personnel: Bob Bluett, Andrew Hulin (ORC-Watershed Protection)

Need:

Evaluation is an important part of any project. Metrics such as numbers of acres or sites improved or protected are useful for tracking achievements (i.e., accountability). Use of improvements by the target species is often a better reflection of conservation benefits. We will conduct annual surveys for the presence of Illinois Chorus Frogs to document direct benefits of improvements and allow for adaptive management (refinement of approaches and methods as data accumulate during implementation).

Objectives:

1. Beginning in 2010, annually monitor the presence of Illinois Chorus Frogs at  $\geq 15$  reference (unimproved) sites in Mason and Menard counties
2. Beginning in 2011, annually monitor the presence of Illinois Chorus Frogs at  $\geq 5$  improved/protected sites in Mason County

Methods:

Suitable conditions for reproduction and recruitment of Illinois Chorus Frogs can be quite variable across years. For example, many of the sites where Chorus Frogs were documented in 2008 and 2009 (both of which had above-average rainfall and high water tables) were dry during 2007. Therefore, evaluation of conservation benefits will require comparisons of improved to reference (unimproved) sites.

Illinois Chorus Frogs emerge during February or March to breed. Males attract mates with a distinctive call for about a month afterward. Listening for calls is an effective way to determine if a site is occupied, particularly if the site is re-visited several times (3-4) to account for variability in breeding activity.

We will use methods described in greater detail by Taubert et al. (1982) to determine if breeding males exist at a site. Reference sites will be chosen randomly and sampled annually. Sites where conservation measures have been implemented will be sampled annually using the same methods as reference sites. We anticipate sampling a stable number of reference sites during successive segments of the project ( $\geq 15$  per year) and increasing numbers of “conservation sites” as projects are completed.

Budget:

<b>Line Item</b>	<b>Federal Share</b>	<b>State Share</b>	<b>Project Total</b>
Contractual		9000	9000
Commodities			
Personnel		1000	1000
<b>Total</b>		<b>10000</b>	<b>10000</b>

### **Job 5. Reporting**

Personnel: Bob Bluett

Need:

Annual and final reports are required by cooperative agreements among funding agencies. Reports document progress on accomplishment of objectives, which provides accountability. Reports allow conservationists to evaluate programs and identify approaches that might those that are successful so that

Objectives

1. Prepare and submit two annual and one final reports of progress

Methods:

Data will be compiled to document progress toward objectives. Reports will be prepared and distributed to partners (USFWS, DNR, FSA, NRCS, road authorities).

Budget

<b>Line Item</b>	<b>Federal Share</b>	<b>State Share</b>	<b>Project Total</b>
Contractual			
Commodities			
Personnel		1000	1000
<b>Total</b>		<b>1000</b>	<b>1000</b>

### **Compliance**

All control methods will be consistent with the Illinois Nature Preserve Commission's Vegetation Management Guidelines.

All persons applying chemicals will be certified and licensed pursuant to the Illinois Pesticide Act.

Practice standards of the Natural Resources Conservation Service will be used for this program. NRCS standards require compliance with state and federal environmental laws. FSA conducts status reviews to ensure compliance during the life of the contract. NRCS Standards for Illinois are available from the electronic Field Office Technical Guide (<http://efotg.nrcs.usda.gov/toc.aspx?CatID=4139>):

- Upland Wildlife Habitat Management (Code 645)
- Shallow Water Development and Management (Code 646)
- Wildlife Wetland Habitat Management (Code 644)

Illinois DNR's Comprehensive Environmental Review Process will be used for this project to ensure compliance with relevant state and federal environmental statutes (e.g., Endangered Species Act; National Environmental Policy Act; National Historic Preservation Act; Presidential Executive Orders 11988 and 11990).

All planned activities will be compliant with Endangered Species Act. All determinations and documentation will be in accordance with the current established U.S. Fish and Wildlife Service protocol for Section 7.

### **Literature Cited**

Herkert, J. R. (editor). 1992. Endangered and threatened species of Illinois: status and distribution. Volume 2 – animals. Illinois Endangered Species Protection Board, Springfield, Illinois, USA. 142pp.

Illinois Department of Natural Resources. 2005. Illinois comprehensive wildlife conservation plan-strategy. Illinois Department of Natural Resources, Springfield, Illinois, USA. 353pp.

Missouri Department of Conservation. 2000. Best management practices: Illinois chorus frog (*Pseudacris streckeri illinoensis*). Missouri Department of Conservation, Jefferson City, Missouri, USA. 2pp.

Taubert, B.D., P.W. Shetley, D.P. Phillip and T. Harrison. 1982. Breeding biology and distribution of the Illinois chorus frog, *Pseudacris streckeri illinoensis*, in Illinois. Illinois Department of Conservation, Springfield, Illinois, USA.

Trauth, J. B., S. E. Trauth and R. L. Johnson. 2006. Best management practices and drought combine to silence the Illinois chorus frog in Arkansas. Wildlife Society Bulletin 34:514–518.

## Budget Summary

Line Item	Federal Share	State Share	Project Total
Contractual	98000	90000	188000
Commodities	2000	8000	10000
Personnel		2000	2000
Total	100000	100000	200000

## Budget Justification

### Commodities:

\$8,000 is requested for pond liners to be installed at Sand Ridge SF (Job 2); \$2,000 for signs, posts, nuts, and bolts to mark sections of rights-of-way that will remain un-mowed (Job 3)

### Contractual:

\$20,000 is requested for application of herbicides and establishment of native grasses and forbs at Clear Creek Wetland SNA (Job 1); \$1,000 for repair or replacement of well pump at Rollo Prairie SNA (Job 2); \$11,000 for earthwork at Sand Ridge SF (Job 2); \$105,000 for Sign-up Incentive Payments (Job 3); \$30,000 for project coordinator in Mason County (Job 3); \$11,700 for administration of payments and record-keeping by Natural Resources Conservation Service (Job 3); \$300 for workshop to promote private lands habitat initiative in Mason County; \$9,000 for hiring a qualified contractor to monitor presence of Illinois Chorus Frogs at improved and reference sites (Job 4)

### Personnel:

\$1,000 for preparation of reports (Job 5); \$1,000 for identifying and mapping reference sites for monitoring (Job 4)

## Work Plan

	9/1/09 - 8/31/10	9/1/10 - 8/31/11	9/1/11 - 8/31/12
Job 1. Habitat restoration at Clear Creek Wetland State Natural Area	X	X	
Job 2. Habitat enhancement at Sand Ridge State Forest and its satellites	X	X	
Job 3. Habitat protection and enhancement in Mason County	X	X	X
Job 4. Monitor the presence of Illinois Chorus Frogs at improved/protected sites in Mason County and	X	X	X

reference sites in Mason and Menard counties for evaluation of benefits			
Job 5. Reporting	X	X	X