

## CONSERVATION PLAN

The Illinois Environmental Protection Agency (Illinois EPA) submits this Conservation Plan regarding Lewis Landfill pursuant to Section 5.5 of the Illinois Endangered Species Protection Act [520 ILCS 10/5.5] to the Illinois Department of Natural Resources (Department) December 12, 2002.

Lewis Landfill consists of approximately 40-acres located in Cass County three miles south of Beardstown. The site began operation in 1974 as a landfill used for disposal of municipal refuse and ceased operation in 1994. The site falls within the Illinois River Section of the Illinois and Mississippi Rivers Sand Areas Natural Division and encompasses dry sand prairie. Despite the 20-year period of landfill operations, sand prairie habitat and associated wildlife persist on site. The site was never properly closed and in 1999 Illinois EPA included Lewis Landfill on the list of 33 most problematic landfills due to the threat to the unique sand prairie habitat and endangered and threatened species. The Illinois EPA is addressing this list of 33 landfills with monies allocated by Governor Ryan's Illinois Fund for Infrastructure, Roads, Schools and Transit (FIRST) project. Throughout this past year, the Illinois EPA Bureau of Land has consulted with the Department in particular the Division of Resource Review & Coordination – Contaminants Assessment Unit, Division of Natural Heritage and the Illinois Nature Preserves Commission. These Divisions and the Commission have been copied on all major Illinois EPA reports and designs, attended State-contractor meetings and site visits, and assisted Illinois EPA in a presentation for the Beardstown City Council making the local public aware of the proposed work. References to the Department throughout this Conservation Plan refer to these three counterparts. Lewis Landfill was registered as the Charles "Chinee" Colvin Sand Prairie Land and Water Reserve on August 6, 2002. Illinois EPA asks the Department that when this plan is approved that authority for incidental take be granted to the Illinois EPA through completion of the Agency's maintenance period which extends into 2005.

**1) Description of the impact that the proposed taking is likely to have on one or more species on the Illinois list:**

The Department conducted a survey of the site as part of the Illinois Department of Transportation US Route 67 expansion project in the area in 1997. This effort resulted in the identification of the State-endangered or threatened species listed below:

**Illinois Mud Turtle (*Kinosternon flavescens*) – State-endangered**

This mud turtle is known to occupy sand areas that are interspersed with semi-permanent ponds. This turtle is medium-sized and dark brown to black in color. In Spring and Fall individuals are primarily aquatic but in the Summer and Winter they may spend their time on or buried in land. These turtles move to semi-permanent ponds a few weeks in spring and early summer. Turtles burrow approximately 6 inches deep into the substrate during the day. Most movement is thought to be nocturnal. These turtles lay 3-7 eggs in burrows between mid-June and July. The Illinois mud turtle has undergone a progressive decrease in numbers within the past 20-30 years. Factors known to limit mud turtle populations are loss of area of burrowing habitat and temporary aquatic habitat. Three Illinois mud turtles were seined from a small pond at the Lewis Landfill during 1996. One was a juvenile. During May 1998 two Illinois mud turtles were captured on-site. It is believed that the turtles probably survive the winter in a sand blowout directly south of Lewis Landfill.

The impact of this project to the Illinois mud turtle is the potential alteration of the current habitat. Alteration through the addition of sand to less than 2 acres will involve burying current vegetation and possibly individuals of the species. During active construction individuals of the species may be crushed by machinery. The crushing of an individual of the species is the worse case scenario. Illinois EPA believes these risk to individuals are

minimal. The ponds where the turtles are known to occur will be left untouched and construction crews will survey areas for individuals before beginning work.

#### **Illinois Chorus Frog (*Pseudacris streckeri illinoensis*) – State-threatened**

The Illinois chorus frog is small, 1.5 inches long, and tan to gray with dark brown or black lines on its back. The species has a toad-like body with robust forearms. This frog spends most of its life underground in sandy burrows, coming to the surface to breed for a few weeks from February through April. Burrows can be up to 4.5 inches below ground and as much as 18 inches in length. Frogs are stimulated to migrate between their burrowing areas and the breeding ponds when heavy rains occur and temperatures exceed 48 ° F. They are seen above ground only during the spring breeding season. This frog is found on the floodplain on the east side of the Illinois River from Beardstown southeast to the bluffs along the Cass/Morgan County line and south to Meredosia. Over the last 10 years about 48 Illinois Chorus frog breeding areas have been identified in this area. During 1998, about 500 males were heard calling from four sites within Lewis landfill. Although this frog appears to be abundant in this area, few suitable sandy habitat areas remain in the State. These sites fluctuate year-to-year depending on the amounts of spring rains.

The impact of this project to this frog is the potential alteration of the current habitat. Alteration through the addition of sand to less than 2 acres will involve burying current vegetation and possibly individuals of the species. During active construction individuals of the species may be crushed by machinery. The crushing of an individual of the species is the worse case scenario. Illinois EPA believes these risk are minimal. The ponds where the frogs are known to occur will be left untouched and construction crews will be asked to survey an area for individuals before starting work.

#### **Regal Fritillary (*Speyeria idalia*) State-threatened**

The regal fritillary is a large bright red-orange butterfly. This species preferred habitat in Illinois includes sandy regions. Females lay single eggs in August on various host plants, usually violets. The caterpillars hatch and overwinter on vegetation. The regal fritillary has one brood from mid-June to mid-August. An estimated 50 plus fritillaries were observed within the southwestern corner of Lewis landfill during June 1998. A mating pair were observed, indicating that the species breed at the site. Flight of the adults is from mid June to mid-August. Adult butterflies probably live a few weeks, however not after the first hard freeze.

The impact of this project to this fritillary is the potential alteration of the current habitat. Alteration through the addition of sand to certain areas will involve burying current host vegetation and possibly individuals of the species, larvae or eggs. During active construction individual fritillaries, larvae or eggs may be crushed by machinery. The crushing of an individual of the species is the worse case scenario. Illinois EPA believes the crushing by machinery or burying by sand of larvae or eggs attached to vegetation is the highest risk. This loss is unavoidable in completing the work. The numbers of eggs and larvae attached to each plant and the number of host plants in the area of construction are unknown.

#### **Western Hognose Snake (*Heterodon nasicus*) State-threatened**

Most Illinois records of this species are from sand areas in the northwestern and west central parts of the state. In Illinois, sand prairies provide typical habitat. The size of the hognose can range from 12 to 48 inches long, with a girth of 2 to 4 inches. The colors of the western hognose are brown, tan, and yellow with olive-colored oval markings down the center of the back. The unique physical characteristic of hognose snakes is their

nose, which is turned up like a pig's snout. The young of western hognose snakes are born in June through July.

Illinois EPA would like to clarify that the Western Hognose Snake has not been found on Lewis Landfill. However, it is included in this plan due to it being a listed species and likely to inhabit these sandy areas. The impact of this project to this snake is the potential alteration of the current habitat. Alteration through the addition of sand to less than 2 acres will involve burying current vegetation and possibly individuals of the species. During active construction individuals of the species may be crushed by machinery. The crushing of an individual of the species is the worse case scenario. These risk are minimal due to the unknowns of the species existence on site. Construction crews will be notified to also survey areas for this snake before work begins. Illinois EPA believes that the completion of construction will only improve and preserve sand habitat for this species to benefit from if and when they do inhabit the site.

#### **Hall's Bulrush (*Scirpus hallii*) – State threatened**

Hall's bulrush is a grasslike, tufted annual plant that ranges from 4 to 16 inches high. The species occurs in wetlands and borders shallow ponds. Seeds germinate in open sand left by fluctuating water levels and remain dormant during dry years. In Illinois, Hall's Bulrush is found primarily in association with sand ponds. During drought years it often does not germinate at all. Hall's bulrush has been found in 27 populations in Illinois, 12 of which are in Cass County.

The impact of this project to the Hall's Bulrush is the potential alteration of the current habitat. Alteration through the addition of sand to less than 2 acres will involve burying this vegetation. During active construction individual plants may be crushed by machinery or buried by sand. Illinois EPA believes these risk are likely to occur due to the inability of avoiding the vegetation during active construction.

#### **Umbrella Sedge, Gray's Sedge (*Cyperus grayioides*) – State threatened**

Umbrella sedge is a perennial sedge restricted to blowout disturbances in dry sand prairies of the Illinois River and Mississippi River Sand Areas Natural Divisions. In particular the range of natural communities is open sandy spaces. Umbrella sedge flowers from late June through mid-August. Flowering can be delayed by dry conditions and start soon after rains as late as mid-August. Fruit are produced from mid-July to mid-August. Seeds germinate in spring on open sand under high moisture, high light and low competition conditions. It is a seed banking species that can survive at least 15 years and possibly much more in the seed stage before flowering.

The impact of this project to the Umbrella Sedge is the potential alteration of the current habitat. Alteration through the addition of sand to less than 2 acres will involve burying this vegetation. During active construction individual plants may be crushed by machinery or buried by sand. Illinois EPA believes these risk are likely to occur due to the inability of avoiding the vegetation during active construction.

The conversion of prairie to agricultural use has greatly reduced the habitat of all the above-mentioned species. A decline can also be caused as a sand prairie succeeds to perennial herbs and young trees. Less than one mile to the north of the landfill is an Illinois Natural Heritage Landmark known as Excel Sand Prairie which contains quality sand prairie community that includes State-listed species. New-Dominion Farms of Illinois, Inc. owns property to the south which, possesses sand prairie blowout areas and dunes which were recently registered as a Land and Water Reserve. Together these areas with Lewis Landfill potentially provide opportunity for conservation of these unique natural resources.

**2) Steps Illinois EPA will take to minimize and mitigate the impact and the funding that will be available to implement those steps, including but not limited to bonds, insurance, or escrow:**

According to the Department, a primary ecological threat would be from the installation of a new "traditional " landfill clay cap; because a traditional clay cap would severely impact the present State-threatened and endangered turtles, frogs and plants and likely destroy the sand prairie habitat. Due to the habitat requirements of the State-threatened and endangered species and minimal risk to human health, Illinois EPA decided to pursue a sand cover as opposed to the traditional clay and topsoil covers utilized at other Illinois EPA landfill projects.

**TASKS TO MITIGATE:**

- Establish site security through fencing, gates and signage. The fencing will consist of woven wire fence along Stock Lane to the north and 200 feet along the east and west boundaries. The remainder of the fence will consist of 4 foot high, 2 strand barbless, high tensile, wire that is wildlife friendly and recommended by the Department. The purpose of the two fence variations is to place a more secure fence in those areas easily accessible and visible by trespassers.
- Inventory, remove and properly dispose of exposed refuse throughout the site. This removal will be by hand. Removal of this debris will improve the safety of the site for both wildlife and humans, along with improving the appearance of the Land and Water Reserve.
- Conduct a legal survey and establish permanent aboveground boundary markers in four corners. This task includes developing a topographic map of the existing conditions, which has been provided to the Department. This task is important to defining the accurate property boundaries.
- Properly remove an abandoned privy. The removal of this privy will improve the appearance of the site and increase safety.
- Properly seal an abandoned dug well which is also a safety issue for both humans and wildlife.
- Repair and sample three on-site groundwater monitoring wells. Sample results will be available for the Departments review. The purpose of this monitoring is to provide data of the current groundwater conditions.
- Remove invasive woody species with a combination of mechanical and herbicide means. The purpose of this task is to enhance the sand prairie by eliminating the encroaching woody plants onto the prairie. Large trees designated by the Department will not be removed from around the fishless ponds to provide cover for wildlife.
- Seeding of disturbed areas will consist of a Department approved native sand grass and forb prairie seed mix. This mix contains Bird's Foot Violet a host plant for the Regal Fritillary, which should provide and or replace future habitat for Regal Fritillary larvae and eggs, which may be buried or destroyed during construction.
- Regrade Stock Lane Ditch along the northern boundary of the site. This ditch has been used for years as a trash dumping area. In order to deter future dumping, Illinois EPA plans to fill in this ditch with sand material and place rock along the

road to reduce future rutting caused by vehicles. This will also allow for the new fence to be placed 16 feet from the centerline of the road rather than bordering the road where damage is more likely to occur. Illinois EPA has not observed wetland plant species in the Stock Lane ditch. The host plant of the fritillary has not been observed in this ditch, so risk to burying larvae or eggs does not exist.

- Illinois EPA will conduct maintenance into 2005, which includes such things as fence repair, erosion control, reseeding, etc. The Lewis Landfill was officially registered as the Charles "Chinee" Colvin Sand Prairie Land and Water Reserve on August 6, 2002. As part of this registering the Department will continue to monitor the site in the future with the use of the 2002 Management Plan. Illinois EPA would like to reiterate that this registration was approved with members of the Illinois Nature Preserves Commission agreeing that Illinois EPA's corrective actions will improve the present habitat.

#### TASKS TO MINIMIZE IMPACT:

- At the Department's recommendation Illinois EPA has chosen to use a non-traditional landfill cap consisting of native sand. The sand cap will provide a physical barrier between both human and biota contact with waste. Over the past year Illinois EPA has met with the Department and incorporated the Department's recommendation of bringing areas in need to a total of 6 inches. The Department has mapped particular "sensitive areas" known to be used by the turtles and frogs. Illinois EPA has agreed to make these areas off limits to any activity. No ponds will be filled with sand.
- In the past the Department recommended that no construction should be done from February through September due to the breeding season and possible migration of turtles and frogs. Illinois EPA agreed to work within this restricted time frame. However, it is Illinois EPA's understanding that through the submittal of this Conservation Plan this time restriction will not be necessary due to the permit approval by the Department allowing an incidental take during any time period.
- Illinois EPA will stress during oversight of all construction to limit all vehicular use to pre-determined paths. Illinois EPA will also stress to State hired contractors that all on-site work will be cautious and precise due to the delicate habitat. To ensure this protection Illinois EPA hired Patrick Engineering to perform strict over-sight of the construction project. Contractors will be asked to survey an area before work begins to avoid harm to any individual turtles or frogs. If either of these are found, contractors will relocate each to an area away from construction.
- The sand used for cover will be obtained from a nearby location and tested for contamination, nutrients and grain size. This will ensure no material incompatible or harmful to the habitat is brought on-site. This sand will most likely be obtained from a commercial source not known to provide habitat for the above-mentioned species in order to eliminate the potential loss of further sand habitat off-site.
- To minimize vehicular traffic Illinois EPA proposes placement of a permanent gravel access road along the north and east boundaries of the site. This road will minimize impact from the larger machinery during construction. It is believed the use of the road and larger machinery will cause less impact than smaller vehicles (ATVs, bobcats) that would require more frequent trips due to their limited haul capacity. Damage by these smaller vehicles has been evident from the use of ATV's by trespassers, which have left numerous large ruts and bare sand. This

road will also assist Illinois EPA and the Department with permanent access in the site. The road will also serve as a firebreak for the east boundary.

- Illinois EPA will continue to work with Department counterparts to ensure the sand prairie habitat will be harmed as little as possible and preserve the State – endangered and threatened species present at the site.

In regards to funding for the project, Governor Ryan and Illinois lawmakers included \$50 million in the 1999 Illinois FIRST program for addressing problems posed by 33 of Illinois's worst landfills. Illinois FIRST provides \$10 million per year over five years. Without funding from Governor Ryan's Illinois FIRST program, the problems at these landfills would worsen and become more costly for Illinois taxpayers. Lewis Landfill was included in this list and construction scheduled to be completed 2002. Illinois EPA would like to stress to the Department that this allocated money is currently available and designated for this project. However, Illinois EPA cannot guarantee these monies are secure one year from now if further construction timing delays occur. The Illinois EPA requested \$72 million in 1999 to address these problem landfills. Due to a shortfall, money could be used at others in need. Illinois EPA wishes to promptly move forward with construction while this funding is allocated for the Lewis project.

Illinois EPA has the authority to perform the above tasks through both the Environmental Protection Act, 415 ILCS 5/1 et seq., Illinois Pollution Control Board regulations and a 2002 Consent Order signed by the current property owner, Mrs. Sue Ann Terry. As part of compliance with this Consent Order, Mrs. Terry agrees to the performance of any and all corrective activities at the facility by the Illinois EPA or its designees. Illinois EPA also received a signed "Consent For Access To Property" dated August 7, 2002, which voluntarily grants access by Mrs. Terry to employees, contractors, agents or designees of the Illinois EPA for the purpose of performing corrective and corrective related actions at Lewis Landfill. This access remains in effect until all corrective actions at Lewis Landfill are complete. Please refer to the Consent Order and Consent for Access to Property document for consent for Illinois EPA authority to take listed plant species.

**3) What alternative actions to taking Illinois EPA considered and the reasons why those alternatives will not be used:**

Illinois EPA has considered leaving the site as is and using the allocated Illinois FIRST money towards other abandoned landfills. This alternative was not chosen because the site is a former improperly closed abandoned landfill in need of corrective work to address threats posed by the Site.

**4) Data and information to assure that the proposed taking will not reduce the likelihood of the survival or recovery of the endangered or threatened species in the wild within the State of Illinois, or the habitat essential to the species existence in Illinois:**

From the time Illinois EPA was made aware of the existence of these endangered and threatened species and the importance of the sand prairie habitat to their survival, Illinois EPA has worked with the various divisions of the Department throughout the process to ensure Illinois EPA minimizes harm to both. Illinois EPA's corrective actions will promote preservation and improvement of the current habitat through waste removal, site security, tree removal, and seeding of sand prairie plant species. If a "taking" of a threatened or endangered species were to occur during the brief construction season, Illinois EPA believes the long-term benefits from the outcome of construction can only improve conditions and promote health for remaining and future sensitive individuals.

**5) An implementing agreement that specifically names and describes the obligations and responsibilities of, all the parties that will be involved in the taking as authorized by the permit:**

Please refer to the following:

Illinois Department of Natural Resources Management Plan for Lewis Landfill, Cass County, Illinois. 2002

Conceptual Design Summary prepared for Illinois EPA by Patrick Engineering, Inc. October 2002.

Construction Specifications (Amended Version) prepared for Illinois EPA by Patrick Engineering, Inc. October 2002.

Consent Order No. 96-CH-5 filed October 28, 2002. People of the State of Illinois v. Buck Lewis D/B/A Lewis Disposal and Landfill Service and Sue Ann Terry.

Consent For Access To Property. Signed by Sue Ann Terry August 8, 2002.

Please see attached maps for site location and site details.

MAPQUEST™  
Ringer Ln  
Lauderbach Dr  
67  
Valley Ditch

0 600m  
800ft

Nevada Rd  
Airport Rd

Old Dominion  
'Bald Eagle' Facility

Stock Ln

Lewis Landfill

VA and PA Railroad

Clear Creek

Upper Meredosia Rd

Boulevard Rd

Buck School Rd

Buck School Rd

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**PATRICK**  
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