

Conservation Plan
Franklin's Ground Squirrel (*Spermophilus franklinii*)
Kickapoo Rail Trail (CSX RR); Smith Road in Urbana to Vermilion County Fairgrounds
(east of Oakwood), Champaign and Vermilion counties

1. Description of impact likely to result from the proposed taking

A. Legal description of the project area

The Kickapoo Bike Trail will be located on the existing CSX Railroad bed that runs from Smith Road in Urbana (Champaign County) to the Vermilion County Fairgrounds east of Oakwood (Vermilion County). The rail line passes through the towns of St. Joseph, Ogden, Fithian, Muncie, and Oakwood. It is located on the Urbana, St. Joseph, Homer, Oakwood, and Danville SW USGS 7.5' topographic quadrangles.

B. Biological data

The range of the Franklin's ground squirrel extends from northwestern Indiana, northern and central Illinois, and southern Wisconsin west to northern Kansas, Nebraska, North and South Dakota in the United States and Manitoba, Saskatchewan, and Alberta in Canada (Ostroff and Finck 2003). Within Illinois, the range of Franklin's ground squirrel includes the northern two-thirds of the state, north of Madison and Clark counties (Mohr 1943, Hoffmeister 1989, Lewis and Rongstad 1992).

Franklin's ground squirrels are often associated with mid- and tallgrass prairie (Jones et al. 1983, Hoffmeister 1989, Kurta 1995). However, they also use the juncture of woods and grassland, wetland and bog margins, forest openings, and brushy areas (Sowls 1948, Jones et al. 1983, Erlien and Tester 1984, Johnson and Choromanski-Norris 1992). Thus, their habitat includes dense grasses and forbs, shrubs, and small trees (Choromanski and Sargeant 1982, Jones et al. 1983, Martin 2003). They use sites in which the soil and vegetation have not been recently disturbed (Choromanski-Norris et al. 1989). Heavily grazed or frequently mowed areas with short grass, such as golf courses, typically are not used (Wood 1910, Haberman and Fleharty 1972, Hoffmeister 1989). Within Illinois, Franklin's ground squirrels occur in infrequently mowed roadsides and old fields, railroad rights-of-way, cemetery prairies, brushy fields, fencerows, and ditch banks (Jackson 1961, Mumford and Whitaker 1982, Masulis and Wells 1988, Hoffmeister 1989, Kurta 1995, Martin et al. 2003, Pergams and Nyberg 2003). Yearlong inhabitants of burrows, Franklin's ground squirrels are limited by the availability of suitable burrowing sites (Hoffmeister 1989, Ostroff and Finck 2003). The burrows must be in well-drained soil and deep enough to remain cool in summer and not freeze in winter (Jones et al. 1983, Hoffmeister 1989, Martin 2003, Pergams and Nyberg 2003). Burrows were consistently 17 inches deep in Nebraska (Haberman and Fleharty 1971); nest chambers of burrows in Missouri were 12-20 inches below the surface (Ellis 1982). Burrows are often located in embankments to facilitate drainage (Haberman and Fleharty 1972, Hoffmeister 1989). In addition, burrow entrances are frequently located near brush or rocks to obscure them from view (Masulis and Wells 1988, Martin 2003).

Adult Franklin's ground squirrels hibernate for long periods of time and typically are only active aboveground from mid-April to August (Hoffmeister 1989, Ostroff and Finck 2003). Breeding occurs shortly after the females emerge from hibernation and they give birth to a single litter from late May to mid-June (Sowls 1948, Iverson and Turner 1972, Choromanski-Norris et al. 1986). Litters typically consist of 6 to 9 pups, but can include as many as 13 (Jones et al. 1983). In Illinois juveniles appear aboveground by mid-July (Martin and Heske 2005). Juveniles do not enter hibernation until September or October (Hoffmeister 1989, Ostroff and Finck 2003, Martin and Heske 2005). These diurnal squirrels vocalize with a sharp whistle (Whitaker and Hamilton 1998); however, they are not readily observed in the tall, dense vegetation.

C. Habitat and description of activities that will result in take

Sections of the railroad line with suitable vegetation and drainage occur in the corridor, but are interspersed with sections that are not suitable for use by Franklin's ground squirrel (i.e. areas that are heavily wooded or closely mowed). Suitable areas within the corridor, all located in Champaign County, are: 1) County Road 1900E to County Road 2075E, 2) the US 150 overpass east of St. Joseph to the first driveway east of County Road 2450E, and 3) the eastern edge of Ogden to County Road 2800E (Champaign/Vermilion county line). There are also areas of marginal habitat that possess the vegetation characteristic of Franklin's ground squirrel habitat, but appear too flat to provide good drainage for burrows. These areas, however, would be suitable for foraging and dispersal. Marginal areas within the corridor are: 1) County Road 1800E to County Road 1900E in Champaign County, 2) the first driveway east of County Road 2450E to County Road 2500E in Champaign County, and 3) County Road 2800E (Champaign/Vermilion county line) to the western edge of Fithian in Vermilion County.

Construction activity will occur primarily along the railroad bed (approximately 20-35 feet wide), although there also will be staging areas for the heavy machinery used to prepare the trail. The upper 1-2 feet of soil will be removed from elevated sections of the existing railroad line so that the trail will be of the appropriate width to meet standards. Fill will be added to other sections to elevate the trail above the surrounding right-of-way. In addition, the rail bed will be cored out to a depth of approximately 1 foot to make space for crushed rock.

Franklin's ground squirrels and their burrows may be affected by these activities. A small loss of suitable habitat also will occur.

D. Explanation of the anticipated adverse effects on the listed species

It is anticipated that construction activity may temporarily disturb Franklin's ground squirrels and that individual ground squirrels may potentially be harmed due to the use of heavy equipment and the removal of soil. Active individuals may be injured or killed directly by heavy machinery, if they are unable to escape from its path.

Animals in burrows may be injured or killed if burrows are destroyed during the removal of soil from embankments. Very young ground squirrels or hibernating animals would be at greatest risk because they would not be able to move away from the approaching machinery.

Removal of the top 1-2 feet of embankments and subsequent placement of crushed rock for the trail surface will result in a small loss of suitable habitat for Franklin's ground squirrel.

2. Measures the applicant will take to minimize and mitigate the impact

A. Plans to minimize the areas affected by the proposed actions, the number of individuals of an endangered or threatened species that will be taken, and the amount of habitat affected.

The majority of the permanent impact will be limited to the railroad bed itself, which covers about 20 feet of the 100-foot wide right-of-way. Temporary impacts during construction will be restricted to a 30 – 35' area in those segments of the right of way most suitable for the occurrence of Franklin Ground Squirrel. This will be achieved by placing temporary fencing during construction which will limit the area of impact to the designated width. (See Addendum B, Typical Cross Sections) The remaining area within the right-of-way will continue to be suitable for foraging or dispersal. Only portions of the rail bed currently provide suitable burrowing habitat for Franklin's ground squirrel. Staging areas for heavy machinery will not be situated in suitable Franklin's ground squirrel habitat.

B. Plans for the management of the area affected by the proposed action that will allow continued use of the area by the species.

The majority of the project area is bordered by cropland. With the construction of the bike trail, existing habitat for Franklin's ground squirrel would be largely preserved. Construction activity also may enhance the suitability of other portions of the rail bed for the species. If the trail is not built, the land may eventually be converted into cropland that would not be suitable habitat for Franklin's ground squirrel.

C. Description of all measures to be implemented to minimize or mitigate the effects of the proposed action on the endangered or threatened species.

Construction activity will be scheduled to avoid periods when young are vulnerable in burrows or when most animals are in hibernation.

The trail will be narrowed in sections that provide the most suitable burrowing habitat so that less soil is removed from the embankments. This would limit potential destruction of nest chambers within burrows and maintain suitable elevation for burrowing.

Removal of trees from elevated portions of the rail bed may increase their suitability as burrowing habitat for Franklin's ground squirrels. Slopes of embankments will be seeded with herbaceous vegetation.

Following construction of the trail, slopes of embankments will be managed to limit encroachment of woody vegetation, in zones most suitable for Franklin Ground Squirrel.

D. Plans for monitoring the effects of the measure implemented.

The trail construction project would be implemented on behalf of the Champaign County Forest Preserve District, the Vermilion County Conservation District and the IDNR. These three entities would direct the consulting engineer during construction to ensure that the conservation plan is implemented, including on-site daily inspections. Additionally, district and IDNR staff would interact with the consultant and provide assistance where necessary.

E. Projected cost of each measure that will minimize or mitigate the effects of proposed action on endangered or threatened species.

Each remedy listed in the Conservation Plan, e.g., restricted construction area, fencing, etc., are standard practices when working with environmental issues. Incorporating them into the construction plans will not cause any inordinate cost measure.

F. Adaptive management practices that will be used to deal with changed or unforeseen circumstances that affect the effectiveness of measures instituted to minimize or mitigate the effects of the proposed action on endangered and threatened species.

Should new information be discovered prior to, or during construction that may impact the effectiveness of this plan, the Champaign County Forest Preserve, Vermilion County Conservation District and their consultants and contractors will alter the plan accordingly. In doing so, the aforementioned will consult with IDNR a description of the changed circumstances or new information and propose modifications to the plan. Since this would likely occur during or immediately preceding construction, the Champaign County Forest Preserve, Vermilion County Conservation District and their consultants and contractors will request a timely response from the IDNR in order to keep the project moving and reduce delays while work is being conducted in the vicinity of any FGS habitat.

G. Verification that funding to support mitigation activities will be available for the life of the conservation plan.

Funding in support of mitigation activities will be folded into all grant requests for trail construction. Federal and State grants typically require a match to complete funding for construction, and all jurisdictions support the mitigation requirements to satisfy preserving and protecting Franklin Ground Squirrel.

3. Alternative actions that would not result in the take.

A. Alternative 1: No build

If the bike trail is not constructed, it is likely that the habitat for Franklin's ground squirrel would disappear due to the encroachment of trees or conversion of the area to agricultural fields.

B. Alternative 2: Alternative Trail Alignments, adjacent lands

Investigation of adjacent lands for the purpose of the trail was undertaken, and immediately discounted. Unwillingness of private landowners to sell a strip of ground for trail purposes adjacent the unused railroad right of way preempts any attempt to continue on this course of action.

4. Data and information to assure that the proposed taking will not reduce the likelihood of the survival of the species.

The range of the Franklin's ground squirrel extends from northwestern Indiana, northern and central Illinois, and southern Wisconsin west to northern Kansas, Nebraska, North and South Dakota in the United States and Manitoba, Saskatchewan, and Alberta in Canada (Ostroff and Finck 2003).

Hofmann (2008) documented Franklin's ground squirrels in 33 Illinois counties. According to the Natural Heritage Database (Illinois Department of Natural Resources), there are 4 records of Franklin's ground squirrels in Champaign County and 1 record in Vermilion County. One of the records in Champaign includes a population of Franklin's ground squirrels at Barnhart Prairie Preserve (2 miles south of Urbana) that has been present since at least 2001.

There are 33 Franklin's ground squirrel specimens in the University of Illinois mammal collection that are from Champaign County and 1 specimen from Vermilion County. Of these specimens 3 are from Mayview Cemetery (now called Mt. Olive Cemetery) and another 5 are within 2 miles of Mayview Cemetery; specimens were collected between 1947 and 1951. Mayview Cemetery is located across US 150 from the corridor.

In 1998 a single Franklin's ground squirrel was captured east of Mayview (Hofmann 1998). There has been no subsequent documentation of the species along the CSX rail line in the project area.

5. An implementing agreement, which shall include, but not be limited to:

A. Names of all participants in the execution of the conservation plan, including public bodies, corporations, organizations, and private individuals.

The Conservation Plan shall be undertaken jointly by the Champaign County Forest Preserve District, the Vermilion County Conservation District and the Illinois Department of Natural Resources.

The Champaign County Forest Preserve District shall be responsible for the trail segment in Champaign County starting at Station 00 + 00 and continue east to the county line at Station 714 + 00. The Champaign County Forest Preserve shall also coordinate with the following local jurisdictions in this segment; City of Urbana; City of St. Joseph; Village of Ogden.

The Vermilion County Conservation District shall be responsible for the trail segment in Vermilion County starting at Station 714 + 00 and continuing east to the Kickapoo State Park boundary. The Vermilion County Conservation District shall also coordinate with the following local jurisdictions in this segment; Village of Fithian; Village of Muncie; City of Oakwood.

The Illinois Department of Natural Resources shall be responsible for the trail segment in Vermilion County bounded on each side by the existing state park boundary. The Department shall also coordinate with Vermilion County adjacent the area now occupied by the county fairgrounds.

B. The obligations and responsibilities of each of the identified participants with schedules and deadlines for completion of activities in the conservation plan and a schedule for preparation of progress reports to be provided to the Department.

The Champaign County Forest Preserve District, Vermilion County Conservation District and the Department of Natural Resources shall direct their consultants and contractors to:

- A. Ensure that all tasks are completed as described in the Conservation Plan.
- B. Ensure that all maps are accurate and up to date showing areas of Franklin Ground Squirrel habitat that is most suitable.
- C. Coordinate additional surveys in the event that trail re-routes occur in potential FGS habitat.
- D. Coordinate training for all construction personnel from a qualified biologist with knowledge of Franklin Ground Squirrel and linear construction projects.
- E. Install barrier fencing to restrict the area of construction in those areas most suitable for FGS.

- F. Conduct daily inspections during construction of barrier fencing.
- G. Conduct daily inspections of the area for Franklin Ground Squirrel
- H. Report to IDNR any sightings of FGS.

Long-term Maintenance Work:

Champaign County Forest Preserve District, Vermilion County Conservation District and IDNR coordinated responsibilities include:

- A. Ensure procedures in the Conservation Plan are implemented in maintenance of trail upgrades are performed on the trail right of way.
- B. Continue to monitor and survey the trail right of way on a periodic basis to ensure mitigation measures have succeeded in protecting FGS habitat.

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