



Illinois Department of Natural Resources

One Natural Resources Way Springfield, Illinois 62702-1271
www.dnr.illinois.gov

Pat Quinn, Governor
Marc Miller, Director

Authorization for Incidental Take and Implementing Agreement

Pursuant to the Illinois Endangered Species Protection Act (Act) (520 ILCS 10/5.5) and the regulations adopted to implement the Act (17 Ill. Adm. Code 1080), authorization is hereby granted to Peabody Arclar Mining, LLC (hereinafter referred to as Peabody) for the incidental take of the marsh rice rat (*Oryzomys palustris*). The Illinois Department of Natural Resources (hereinafter referred to as the Department) has determined that this taking is incidental to activities associated with surface coal mining at the Rocky Branch Mine, Pit 1 area (see attached map) in Saline County, Illinois.

Procedural History

The Department's consultation staff requested that Peabody conduct a survey for the marsh rice rat in their project area. Peabody retained HDR Engineering to conduct a live-trapping survey, which identified the presence of the marsh rice rat. HDR Engineering prepared a conservation plan per the Act. The conservation plan was submitted by Peabody on September 29, 2013, to the Department as a request for authorization for the incidental take of the marsh rice rat. After addressing the Department's identification of discrepancies by letter on October 25, 2013, the final conservation plan and proposed public notice were received on November 18, 2013. The public notice period, as well as the public comment received from one individual, will be detailed under #6 of the Compliance section below.

Compliance with the Illinois Endangered Species Protection Act

The Act includes six criteria which must be satisfied for the authorization of incidental take of an endangered or threatened species. These criteria and the Department's determination for each criteria are listed below.

1. The taking will not be the purpose of, but will be only incidental to, the carrying out of an otherwise lawful activity:

The stated and apparent purpose of this proposed action is conventional truck shovel surface mining to remove all consolidated and unconsolidated material to expose and remove the coal seams on 800 total acres of the Rocky Branch Mine, Pit 1 area south of Route 13 between Harrisburg and Equality in Saline County as described in the conservation plan as the proposed permit area. The take that could result from this project is not the purpose of Peabody's activities, but is incidental to the carrying out of an otherwise lawful activity.

2. The parties to the conservation plan will, to the maximum extent practicable, minimize and mitigate the impact caused by the taking:

The conservation plan prepared by HDR Engineering on behalf of Peabody describes measures that will be taken to minimize the potential adverse effects of the project on the marsh rice rat. Peabody will incrementally advance the mining operation while contemporaneously performing the reclamation allowing the marsh rice rats utilizing the site to move upstream or downstream in the opposite direction of the mining advancement. Backfilling and grading will occur within 180 days following coal removal and shall not be more than four spoil ridges behind the pit being worked. Revegetation will occur during the first normal period favorable for planting conditions unless extended by the State of Illinois (IDNR Office of Mines and Minerals).

Sediment control measures contributing to minimization of impact include disturbance of the smallest practicable area at any one time, stabilizing backfill material, retaining sediment within disturbed areas, diverting runoff away from disturbed areas, and diverting runoff into designed diversion ditches and sediment ponds. Erosion control measures contributing to minimization of impact include straw dikes, riprap, check dams, mulches, vegetative sediment filters, and retention ponds.

The applicant proposes that mitigation will, at a minimum, replace the function of the pre-mining streams and wetlands; and that the restored wetlands and streams will provide habitat for the marsh rice rat. As streams are mined through, collection diversion ditches will be built to direct the water around the disturbance on a temporary basis facilitating the mining process. Upstream and downstream connectivity will be maintained. Streams located in a natural environment will be mitigated with a natural design channel. Channelized streams will be replaced with a similar channel configuration to facilitate continued farming practices.

HMG Engineers (formerly HDR Engineering) have determined that impacts to suitable marsh rice habitat in the Pit 1 permit area consist of approximately 16,796 linear feet of streams and agricultural ditches (with an effective width of 2 feet), 1.50 acres of wetland and 3.71 acres of shallow open water for a total of 5.98 equivalent acres.

All constructed stream and wetland mitigation will be protected in perpetuity through a Declaration of Restrictive Covenants, which will be recorded with the property deed on all mitigation sites within 60 days of mitigation construction completion. Additional measures, based on the life history needs of the marsh rice rat, may be required under Authorities below.

3. The parties to the conservation plan will ensure that adequate funding for the conservation plan will be provided.

Peabody is required under the Illinois Surface Mined Land Conservation and Reclamation Act to provide financial assurances that shall continue until all reclamation,

restoration, and abatement work for the permit has been completed, and the permit terminated by the release of the Department's financial security instrument. That release process involves comprehensive review by the Department and include public review opportunities.

4. Based on the best available scientific data, the Department has determined that the taking will not reduce the likelihood of survival or recovery of the endangered species or threatened species in the wild within the State of Illinois, the biotic community of which the species is a part, or the habitat essential to the species' existence in Illinois.

The marsh rice rat is listed as a threatened species in Illinois because of its limited range in the State and the continuing loss of its preferred wetland habitats. The marsh rice rat is a semi-aquatic, nocturnal species with an approximate lifespan of one year. The species is capable of breeding at seven weeks of age, gestation is approximately 25 days, and litters range from one to seven individuals.

HDR Engineering conducted a live-trapping survey in all areas of suitable stream and wetland habitat and identified the presence of three marsh rice rats along a mostly dry, channelized agricultural ditch with interspersed pools up to 20 feet long and eight inches deep. While it is likely that the marsh rice rats that may be present at the time of mining will disperse away from earth-moving activity, it is possible that some individuals, particularly young in the nest, could be incidentally taken during mining.

The Department's Natural Heritage Database documents 40 element occurrence records of varying numbers of individuals of marsh rice rats across 13 southern Illinois counties (Massac, Pulaski, Saline, Johnson, Williamson, Franklin, Alexander, White, Hamilton, Union, Perry, Jackson, and Pope). Two element occurrence records for Saline County range from one to 60 in numbers of individuals captured. According to the data, marsh rice rats are inhabiting roadside and drainage ditches, old fields, open water wetlands, cattail marshes, stream channels, and open water with adjacent shrubs or woodlands. Standing water and dense cover are often noted, as well as an occasional association with non-native, invasive vegetation. The Department's data and the scientific literature support the use of reclaimed mine lands as suitable habitat. Statewide, the Department has issued two previous Incidental Take Authorizations for marsh rice rats, one in Alexander County and one in Union County. The Department is in receipt of post-construction surveys and marsh rice rats have recolonized both of the project areas.

Based on the life history needs of the species, the number of known element occurrence records in the State, an assessment of the potential impact to individuals that make up the element occurrence in this project footprint, and the conservation measures outlined herein, the Department has determined that the taking will not reduce the likelihood of survival or recovery of the State-threatened marsh rice rat.

5. Any measures required under Section 5.5(b)(6) of the Act will be performed.

Additional measures are listed below under "Authorization." This authorization is, by definition, subject to those terms and conditions and official Peabody signatures on this authorization indicate its commitment to performing those measures.

6. The public has received notice of the application and has had the opportunity to comment before the Department made any decision regarding the application.

Public notice of Peabody's request for authorization of incidental take was published in the Breeze Courier (official state newspaper) on November 19, 2013, and in the Harrisburg Daily Register (Saline County) on November 19, November 26, and December 3, 2013. Public comments were received by the Department until January 2, 2014. Public comment was received from Stephen D. Karns on December 19 and 23, 2013. The comments were provided to Peabody on December 30, 2013. Peabody's analysis of Mr. Karns' comments were received by the Department on January 13, 2014.

Authorization

It is the determination of the Department that the measures that will be implemented by Peabody will adequately minimize and mitigate the anticipated taking of marsh rice rats due to surface coal mining activities at Rocky Branch Mine in Saline County, Illinois. Further, it is the Department's opinion that the take authorized herein will not diminish the likelihood of the survival of the marsh rice rat in the wild within the State of Illinois, the biotic community of which the species is a part, or the habitat essential to the species' existence in Illinois.

All terms and conditions included in the aforementioned conservation plan submitted by Peabody to the Department are incorporated into this agreement by reference and are made a part thereof.

Pursuant to Section 5.5 of the Illinois Endangered Species Protection Act [520 ILCS 10/5.5] and the Administrative Rule for the Incidental Taking of Endangered and Threatened Species [Ill. Adm. Code 1080.40(b)], this authorization is issued subject to the following additional terms and conditions, which may include additions or modifications to minimization and mitigation measures proposed by the applicant under #2 above:

1. This authorization is effective upon the signature of the Department and shall remain in effect for a period of 20 years from the date of the Department signature, unless terminated by written agreement of both parties.

This authorization may be revoked pursuant to the Act and Ill. Adm. Code 1080.80(b) if the Department finds that Peabody has failed to comply with any of these terms and conditions or has been responsible for the taking of marsh rice rats beyond that which is incidental due to surface coal mining activities at Rocky Branch Mine in Saline County, Illinois.

2. The effective period of this authorization may be altered by mutual written agreement between Peabody and the Department. In this event, the Department shall notify the Illinois Endangered Species Protection Board of such alteration.

Any substantive changes, including but not limited to a change in the project footprint or a change in the State-listed species which could potentially be impacted, will require that a new conservation plan be submitted to the Department to initiate the review and public notice process as required by the Act.

3. Incidental Take Authorizations are non-transferrable.
4. Mitigation settlement dollars to the Department earmarked for the benefit of the State-listed species are non-refundable, including in events of revocation or termination. It has been determined by the Department that applicable mitigation credit based on land value in Saline County is available to Peabody at a rate of \$2,000 per acre for any acreage amount, up to the total acreage of the required mitigation, in lieu of the stated requirement that shallow emergent wetland shall be created with semi-permanent hydrology and at least 95 meters of grassland buffer from edge of wetland (see condition 8.).
5. Peabody shall notify the Department upon commencement of the project.
6. Peabody shall conduct, or cause to be conducted, a thorough survey of suitable marsh rice rat habitat within one week prior to each mining advancement to locate any individuals or nests that may contain juveniles. If the threatened species is located, a qualified ecological consultant shall exhaustively live-trap the individuals and relocate them to suitable habitat outside of the work area identified prior to trapping.

At such time that this authorization is in effect, Peabody shall provide the Department with their intended methodology and timing for the surveying and relocation of marsh rice rats. Peabody shall identify suitable marsh rice rat habitat as release locations in the vicinity and provide the Department with supporting documentation including maps. The Department shall pre-approve proposed sites suitable for marsh rice rat relocation. All relocations of marsh rice rats shall be reported to the Department within 48 hours of any action. Supporting documentation, including maps, shall be submitted to:

Jenny Skufca, Endangered Species Project Manager
Illinois Department of Natural Resources
One Natural Resources Way
Springfield, IL 62702
(217)557-8243
jenny.skufca@illinois.gov

The Department's Endangered Species Program shall provide all reports required under this agreement to the Illinois Endangered Species Protection Board and to the Department's Natural Heritage Database.

7. All personnel working in the vicinity of marsh rice rat habitat shall receive educational materials including identification information, protected status of the species, and protocol in place for when the species is encountered, living or dead. A copy of the educational flyer shall be provided to the Department. The Department shall be informed of any sighting and provided approximate location information within 48 hours of such sighting.
8. Based on Peabody's estimate of impacted potential marsh rice rat habitat, 32.89 acres of shallow emergent wetland with semi-permanent hydrology and at least 95 meters of grassland buffer from edge of wetland shall be created or the approved in lieu credit provided per Condition 4 and described below. For State-listed species, the Department utilizes a 5.5:1 ratio for determining mitigation of suitable habitat impacted (5.98 acres of wetlands, streams, and open-water features impacted x 5.5 = 32.89 acres). Wetlands and upland grassland buffers shall be planted in native Illinois vegetation. A species list of native vegetation to be planted shall be provided to the Department. Mapping of the locations of identified habitat or proposed habitat with buffer demarcation shall be provided to the Department. Non-native, invasive species control shall occur within habitat areas for the duration of the authorization.

The Department recognizes that the mitigation Peabody proposes for impacts to the US Army Corps of Engineers (USACOE) jurisdictional waters of equal or better suitable habitat value as that currently found on-site is appropriate and will be accepted by the Department at a 1:1 ratio as calculated below:

- 16,796 linear feet of natural design streams with an effective bottom of two feet = 0.77 equivalent acres
- 1.09 acres of shallow emergent wetlands
- 5.98 acres of riparian wetlands
- Total USACOE mitigation = 7.84 acres


The total mitigation, as required by this condition, is calculated as (5.98 acres of suitable habitat) (5.5 mitigation ratio) = 32.89 acres – 7.84 acres of suitable USACOE jurisdictional waters habitat = 25.05 total mitigation acres of either: 1) on-site or off-site shallow emergent wetland shall be created with semi-permanent hydrology and at least 95 meters of grassland buffer from edge of wetland, 2) an in lieu payment of \$2,000 per acre, or 3) any combination of 1) or 2).

9. Upon completion of the reclamation, Peabody shall conduct, or cause to be conducted, a re-survey for marsh rice rats within all suitable habitat to determine what effect the project has had on the local population. A report shall be submitted to the Department within 90 days of completion of the survey. Surveys shall be conducted

in year two and year five following reclamation and monitoring reports shall be submitted within 90 days of completion of surveys.

10. Upon completion of any mitigation comprised of shallow emergent wetland with semi-permanent hydrology and at least 95 meters of grassland buffer from edge of wetland, Peabody shall conduct, or cause to be conducted, a survey of vegetation during the growing season in such mitigation wetland areas. Surveys documenting the success of the vegetation establishment shall be performed in year two and year five following reclamation and monitoring reports shall be submitted to the Department within 90 days of completion of surveys.
11. The Peabody officials identified below are authorized to execute this agreement. Execution by Peabody indicates acceptance of all terms and conditions described in this document.
12. The execution of this agreement does not waive or excuse, in any way, the responsibilities of Peabody to comply with other Federal, State, or local regulations, including but not limited to obtaining requisite permits.

For the Illinois Department of Natural Resources



Dr. James Herkert, Director
Office of Resource Conservation

4-17-14

Date Signed

For Peabody Arclar Mining, LLC

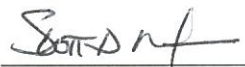


Bryce G. West
Director Environmental Services

Bryce G. West

Please print name and official title
Director Environmental Services
3/31/14

Date Signed



Scott D. McGarvie
Senior Manager Environmental Services

SCOTT D. MCGARVIE

SR. MGR. ENVIRONMENTAL SERVICES
Please print name and official title

03/31/2014

Date Signed

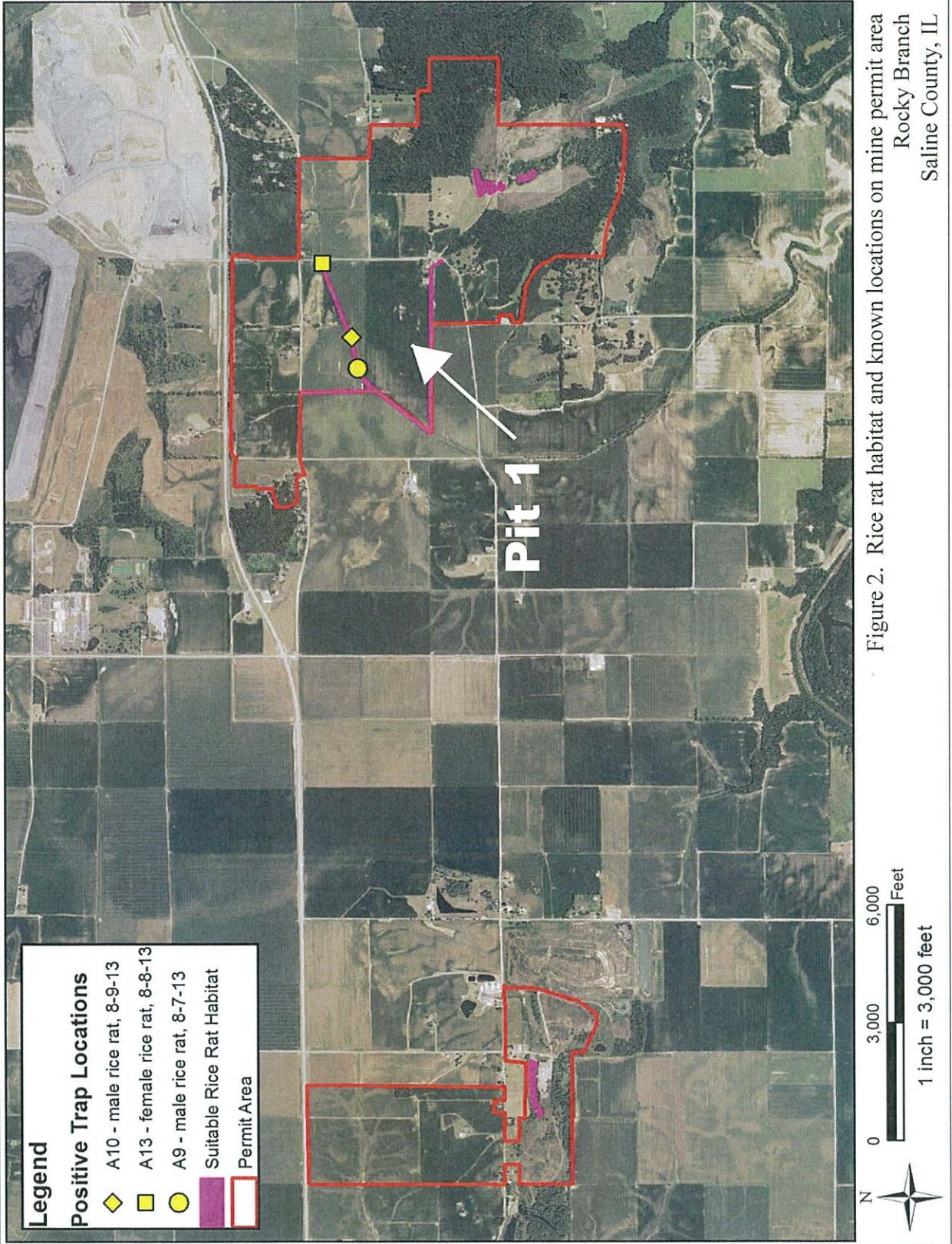


Figure 2. Rice rat habitat and known locations on mine permit area
 Rocky Branch
 Saline County, IL