

**Illinois**  
Department of  
**Natural Resources**

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Rod R. Blagojevich, Governor

July 21, 2004

Mr. Rick Messinger, Regional Land Manager  
Illinois DNR - Region 4 Office  
4521 Alton Commerce Parkway  
Alton, Illinois 62002

**RE:** *Incidental Take Authorization - Conservation Plan Review (Kirtland's water snake)*  
*Sangchris Lake Boat Access Rehabilitation Project*  
*Threatened and Endangered Species Issues - Incidental Take Authorization*

Dear Rick:

Pursuant to the Illinois Endangered Species Protection Act (520 ILCS 10/5.5) the Illinois Department of Natural Resources-Office of Land Management (IDNR-OLM) authorization for the incidental take of the State threatened Kirtland's water snake (*Clonophis kirtlandii*) in Christian County, Illinois is hereby granted, subject to the terms and conditions described in the attached Authorization and Implementing Agreement. The Illinois Department of Natural Resources-Office of Resource Conservation (ORC) has determined that this authorized take is incidental to overall construction improvements of the East Harbor Boat Access Area facility [Sangchris Lake Boat Access Rehabilitation Project (IDNR File #4-03-003; CDB #102-435-024)] at Sangchris Lake State Park in Christian County, Illinois.

Please have an authorized IDNR-OLM Official(s) sign the last page of both copies of the Authorization and Implementing Agreement and return **both** copies to my attention. Upon receipt, I will have the agreements signed and return one (1) fully executed copy to you for your official records. This authorization shall be effective once signed by the IDNR-Office of Resource Conservation.

Thank you for your cooperation and assistance during the incidental take preparation and review process. Please do not hesitate to contact our office at (217)782-6384 with any questions or comments you may have regarding this authorization agreement.

Sincerely,

Joseph A. Kath  
Terrestrial Endangered Species Project Manager  
IDNR-Office of Resource Conservation  
email: [jkath@dnrmail.state.il.us](mailto:jkath@dnrmail.state.il.us)

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Enclosures

### Authorization for Incidental Take and Implementing Agreement

Pursuant to the Illinois Endangered Species Protection Act (520 ILCS 10/5.5), the Illinois Department of Natural Resources-Office of Land Management (IDNR-OLM) authorization for the incidental take of the State threatened Kirtland's water snake (*Clonophis kirtlandii*) in Christian County, Illinois is hereby granted, subject to the terms and conditions described in the attached Authorization and Implementing Agreement. The Illinois Department of Natural Resources-Office of Resource Conservation (ORC) has determined that this authorized take is incidental to overall construction improvements of the East Harbor Boat Access Area facility [Sangchris Lake Boat Access Rehabilitation Project (IDNR File #4-03-003; CDB #102-435-024)] at Sangchris Lake State Park in Christian County, Illinois.

#### Procedural History

The Illinois Department of Natural Resources-Office of Land Management (OLM), working in conjunction with IDNR-ORC biologists, prepared a conservation plan as described by the Illinois Endangered Species Protection Act (520 ILCS 10/5.5). That plan and the OLM's request for authorization for incidental take of Kirtland's water snakes were received by the Illinois Department of Natural Resources-ORC on March 18, 2004. Public notice of OLM's request for authorization of incidental take of Kirtland's water snakes was published in the Edwardsville Intelligencer (Official State newspaper) and the Breeze Courier (Christian County/Taylorville, Illinois) on May 1, 8, and 15, 2004, as well as on May 2, 9, and 16, 2004 respectively. Public comments on OLM's conservation plan were accepted by the Department until June 16, 2004. No comments were received by the public during the period of May 1 through June 16, 2004.

#### Compliance with the Endangered Species Protection Act

The Illinois Endangered Species Protection Act includes six (6) criteria which must be met 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 only be incidental to, the carrying out of an otherwise lawful activity:

Located at the northern end of the east arm of Sangchris Lake, the existing East Harbor Boat Access Area serves as the major access point to the 2,162 acre lake. Existing facilities include: a two-lane concrete boat ramp and maneuvering area, six (6) floating boat dock sections, a visitor parking lot accommodating approximately 30 autos and 50-60 auto/trailer units, two (2) single unit vault toilets, multipurpose building, overflow parking lot, and associated utilities (water, electric, sewer, etc).

The stated and apparent purpose of this proposed action is to provide for the overall improvement of the East Harbor Boat Access Area facility at Sangchris Lake State Park (Christian County) and will include: hydrological and siltation review, mechanical silt removal to assure adequate water depth between the new ramp and deeper water, new easily accessible two-lane concrete boat ramp and associated maneuvering area reoriented toward deeper water, new floating boat docks, new double unit vault toilet, new water hydrant, and new fish cleaning

station adjacent to the existing overflow parking lot. Other associated construction items include: site grading and drainage improvements, existing facility demolition and removal, addition of fill material and stone rip-rap, site amenities, site/security lighting, utility trenching, concrete sidewalks, low level stone retaining walls, vehicular and pedestrian sign-age, as well as landscaping (including seeding and mulching of disturbed areas).

These proposed boat dock improvement activities will be changing the current condition of an area where the state threatened Kirtland's snake is known to occur. The boat dock improvement, vault toilet replacement, construction of the fish cleaning station, and the other associated items discussed above have the likelihood of impacting 0.903 acres of suitable habitat. Therefore, the incidental take of Kirtland's snakes may occur through direct construction related mortality, both within the breeding and non-breeding portions of this species' life cycle, as well as limited capture and relocation of individuals outside of the construction zone. Such taking is not the purpose of the activities proposed by IDNR-OLM, but is incidental to the carrying out of a lawful activity. The Illinois Department of Natural Resources-Office of Resource Conservation has determined that this authorized take is incidental to overall construction improvements of the East Harbor Boat Access Area facility [Sangchris Lake Boat Access Rehabilitation Project (IDNR File #4-03-003; CDB #102-435-024)] at Sangchris Lake State Park in Christian County, Illinois.

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

The most important factor affecting this species has been loss of former habitat to agricultural production, as well as natural succession which allows grassy habitats to become more woody when surrounding land use patterns change. Many remnant populations still inhabit small areas in urban or suburban areas which are highly vulnerable to extirpation by development.

Measures have been taken into consideration during the design phase of this project to avoid habitat intrusion and fragmentation, although avoidance of all potential impacts is not humanly possible. The conservation plan prepared by IDNR-OLM and IDNR-ORC, (received on March 18, 2004), stated that this project will not jeopardize, and is likely to enhance, the long term survival and recovery of the Kirtland's water snake in Illinois. Active management of the East Boat Dock Area should result in a more preferred and stable habitat for this species. To avoid intrusion and fragmentation through the creation of additional paved surfaces, the toilet will be moved closer to the parking lot during vault toilet improvement to ADA standards. In addition, all new construction activities will be adjacent to existing paved surfaces.

Each impact site will be enclosed with drift fencing at least one (1) week prior to construction and remain enclosed until the project is completed. For one (1) week prior to construction, nightly searches will be conducted during peak activity time for the Kirtland's snake (to be determined depending upon time of year). If individuals of this species are found, they will be marked, removed from the impact site, and released at a suitable site within the Sangchris Lake complex. If the drift fence is found to be permeable (i.e. underground connections via crawfish holes) through the capture of previously marked individuals, a trench will be dug around the impact site and the drift fence will be buried to a depth of two (2) feet and be monitored for another one (1) week period. If previously marked individuals are still being found within the construction zone after the drift fence has been buried, the Department of Natural Resources (ORC) shall be consulted to determine a course of action. All construction activities and/or

construction support activities will be limited to drift fence enclosed areas or already paved surfaces. If the species is found within the enclosed areas, nightly monitoring will continue until no individuals of this species are found for ten (10) consecutive nights or the Department of Natural Resources (ORC) deems further searches unnecessary.

Although no specific mitigation for impacts to the 0.903 acres is being proposed, the entire East Boat Dock Area will be managed more holistically to actively benefit the Kirtland's water snake and its habitat needs. Management considerations for this species will include mowing schedule alterations as well as habitat modifications. Mowing within the East Boat Dock Area will be limited to between 10:00am and 4:00pm to coincide with the time of least activity for this species. Mowing guidelines will recommend mowing once every other week in March through May and again in September through October (if feasible and weather permitting). The old fields that are currently being impacted by woody intrusion and are being dominated by goldenrod will be restored to a short stature wet-mesic prairie mix with abundant forbs to keep the grass from becoming too thick and will be managed with fire to offset woody intrusion. The woodlands within the East Boat Dock Area are currently dense with an under-story of elm, ash, hackberry, and bush honeysuckle and with an over-story of predominantly cottonwood, sycamore, and oaks. Portions of these woodlands will be thinned to 40-50% canopy cover and some limited mowing of under-story will be allowed to facilitate crawfish usage. The woodlands will then be managed with fire in an attempt to keep the desired structure. All management/mitigation activities will be funded from the Sangchris Lake State Park farm lease program as finances become available. These activities will be phased in over a 10 year period to allow the species to become acclimated to new areas.

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

The Illinois Department of Natural Resources-Office of Land Management (OLM), working in conjunction with IDNR-ORC biologists prepared a conservation plan as described by the Illinois Endangered Species Protection Act (520 ILCS 10/5.5). That plan and the OLM's request for authorization for incidental take of Kirtland's water snakes were received by the Illinois Department of Natural Resources-ORC on March 18, 2004.

Located at the northern end of the east arm of Sangchris Lake, the existing East Harbor Boat Access Area serves as the major access point to the 2,162 acre lake. Existing facilities include: a two-lane concrete boat ramp and maneuvering area, six (6) floating boat dock sections, a visitor parking lot accommodating approximately 30 autos and 50-60 auto/trailer units, two (2) single unit vault toilets, multipurpose building, overflow parking lot, and associated utilities (water, electric, sewer, etc). The existing ramp is in poor condition, is oriented to shallow water, and does not provide adequate access at less than normal pool. Due to siltation, there is inadequate water depth to/from the boat ramp. There is inadequate hydrological and siltation data that will require documentation. The existing boat docks, aggregate sidewalks, vault toilets, and water service are not ADA accessible, are in poor condition, and have outlived their useful service life. In addition, there are no fish cleaning facilities at this site.

This project provides for the overall improvement of the East Harbor Boat Access Area facility and will include: hydrological and siltation study, mechanical silt removal to assure adequate water depth between the new ramp and deeper water, new accessible two-lane concrete boat ramp and maneuvering area reoriented toward deeper water, new accessible floating boat docks, new accessible double unit vault toilet, new accessible water hydrant, and new accessible fish cleaning station adjacent to the existing overflow parking lot.

This project will be submitted for federal reimbursement from the boating fund and will be subject to federal review and approval prior to bidding. Any mitigation items, if required, will be included as part of the overall project cost.

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

The Kirtland's water snake is listed as Threatened in Illinois, where it is known historically from 33 sites in 23 counties (Illinois Natural Heritage Database, 2003). Only 11 counties are known to have extant populations. Threats include: drainage of wetlands, destruction of native prairie, and reduction of earthworm populations by herbicides and pesticides. The species has a Global Status Rank of G2 (NatureServe, 2003). With a range centered in Illinois, Indiana, and Ohio, and peripheral populations in Kentucky, Michigan, Wisconsin, Missouri, and Pennsylvania, this snake is listed as endangered, threatened, or extirpated in every state and has apparently declined in abundance over its entire range. Most records are clustered near the southern end of Lake Michigan in Illinois, northwestern Indiana, southwestern Michigan, and in Lucas County, Ohio. The Kentucky distribution is along the Ohio River valley. Historically, the range included all of northeastern and central Illinois, most of Indiana and Ohio, north-central Kentucky, southern Michigan, western Pennsylvania, and extreme northeastern Missouri. A total of 48 occurrences have been documented in Illinois, Indiana, Kentucky, Ohio, and Michigan between 1980 and 1987. Similarly, the Kirtland's snake was once known from more than 100 counties in eight states, but since 1980 it has only been observed in less than one-quarter of those counties.

There are three (3) records of Kirtland's snakes at Sangchris Lake State Park (Natural Heritage Database, 2003). Two (2) occurrences were in 1985, with another occurrence in 1992. This species has been traditionally hard to locate since it feeds predominantly at night and below ground and hides during the day below ground (in crawfish holes) or under debris. Continued existence at Sangchris Lake is probable even with the lack of consistent sightings.

Using crawfish burrows as an indicator for habitat preference for this species, an examination of crawfish hole densities was conducted at the East Boat Dock Area in November of 2003. Ten (10) 0.02 acre circular plots were located within the three (3) habitat types at the east boat dock. The three habitats were: mowed lawn (4 survey points), old field (4 survey points), and early successional woodland (2 survey points). The results most likely reflect correct habitat prioritization by the crawfish with actual density figures likely being greater during warmer seasons. Density estimates for the three habitat types averaged 112.5 holes/acre for mowed lawn; 62.5 holes/acre for old field; and 0 holes/acre for successional woodlands. Within the East Boat Dock Area there is approximately 1.35 acres of mowed lawn, 5.35 acres of early successional woodland, six (6) acres of old field, and four (4) acres of paved or "developed" surfaces.

DNR will conduct searches for this species at one (1), three (3), and five (5) years after all improvements to the East Harbor Boat Access Area facility are completed. If the species is not found in that time it will be considered extirpated from that particular site and reintroduction will be considered. Site staff will collect all dead snakes found within the East Boat Dock Area for positive identification by the appropriate biologist. If dead individuals are found and mortality appears excessive, DNR will formulate plans to address the apparent cause of mortality. Strategies to be considered include, but are not limited to: changes in mowing strategy, further alteration of habitat or day use areas, posting of informative signs, change of administrative rules to close the site to snake harvest (currently allowed under definition of "aquatic life" with a limit of eight (8) per day), and/or restrict vehicular speed.

This project will not jeopardize and is likely to enhance, the long term survival and recovery of the Kirtland's water snake. The active management of the East Boat Dock Area will result in more preferred and stable habitat for this species.

5. Any measures required under Section 5.5 of the Illinois Endangered Species Protection Act [520 ILCS 10/5.5 - 17 IL. Adm. Code Part 1080.40(b)], will be performed:

Additional measures are listed below under "Authorization." This authorization is, by definition, subject to those terms and conditions and appropriate IDNR signature(s) on this authorization indicates their 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 OLM's request for authorization of incidental take of Kirtland's water snakes was published in the Edwardsville Intelligencer (Official State newspaper) and the Breeze Courier (Christian County/Taylorville, Illinois) on May 1, 8, and 15, 2004, as well as on May 2, 9, and 16, 2004 respectively. Public comments on OLM's conservation plan were accepted by the Department until June 16, 2004. No comments were received by the public during the period of May 1 through June 16, 2004.

#### Authorization

It is the determination of the IDNR-ORC that the measures to be implemented by IDNR-OLM at Sangchris Lake State Park, East Harbor Boat Access Area would adequately minimize and mitigate for the anticipated taking of a small number of Kirtland's snakes due to the proposed boat dock construction improvement activities. Further, it is our opinion that the take authorized herein would not diminish the likelihood of the survival of the Kirtland's snake 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.

Pursuant to Section 5.5 of the Illinois Endangered Species Protection Act [520 ILCS 10/5.5 - 17 IL. Adm. Code Part 1080.40(b)], this authorization is issued subject to the following additional terms and conditions:

1. This authorization is effective upon signature by the appropriate IDNR Offices and shall remain in effect for a period of six (6) years after completion of the East Harbor Boat Access Rehabilitation Project at Sangchris Lake State Park (Christian County, Illinois), unless terminated as pursuant to Section 5.5 of the Illinois Endangered Species Protection Act [520 ILCS 10/5.5 - 17 IL. Adm. Code Part 1080.80].

2. Each impact site shall be enclosed with a drift fence(s) at least one (1) week prior to construction and remain enclosed until the project is completed. For one (1) week prior to construction, nightly searches shall be conducted during peak activity time for this species (to be determined depending upon time of year). If individuals of this species are found they shall be marked, removed from the impact site, and released at a suitable site within the Sangchris Lake complex. If the drift fence is found to be permeable (i.e. underground connections via crawfish holes) through the capture of previously marked individuals, a trench shall be dug around the impact site and the drift fence shall be buried to a depth of two (2) feet and be monitored for another one (1) week period. If previously marked individuals are still being found within the construction zone after the drift fence has been buried, the Department of Natural Resources-ORC shall be consulted to determine a course of action. All construction activities and/or construction support activities shall be limited to these enclosed areas or already paved surfaces. If the species is found within the enclosed areas, nightly monitoring shall continue until no individuals of this species are found for ten (10) consecutive nights or the Department of Natural Resources-ORC deems further searches unnecessary.

3. IDNR Regional, Site, and District Staff shall be responsible for the following activities: **a.)** periodic inspections of the drift fence enclosure to insure integrity and compliance with the IT (incidental take) stipulations; **b.)** oversight of all monitoring, mitigation, and adaptive management efforts identified within the Sangchris Lake Kirtland's water snake Conservation Plan dated 15 March 2004.

4. The construction contractor shall be responsible for erecting and maintaining drift fences prior to and during completion of the project. The construction contractor shall also provide a suitable/qualified individual to conduct nightly surveys (and marking) for the snake during the week prior to the start of construction; and if Kirtland's snakes are found, nightly monitoring/marketing will continue until no individuals of this species are found for ten (10) consecutive nights or the Department of Natural Resources deems further searches unnecessary. Results of each nightly survey shall be reported to the Site Superintendent at Sangchris Lake State Park or his designee the following morning. The District Restoration Ecologist (or District Wildlife Biologist in his absence) shall first approve of the individual responsible for nightly surveying and marking of Kirtland's snakes prior to any construction activities.

5. The following management strategies will be employed at Sangchris Lake State Park in order to benefit the Kirtland's water snake:

**a.)** The entire East Boat Dock Area shall be managed more holistically to actively benefit the Kirtland's snake and its habitat needs. Management considerations for this species shall include mowing schedule alterations as well as habitat modifications. Mowing within the East Boat Dock Area shall be limited to between 10:00am and 4:00pm to coincide with the time of least activity for this species. Mowing in this area shall occur once every other week in March through May and again in September through October (if feasible and weather permitting).

**b.)** Old fields that are currently being impacted by woody intrusion and are dominated by goldenrod shall be restored to a short stature wet-mesic prairie mix with abundant forbs to keep the grass from becoming too thick and should be managed with fire to offset woody intrusion.

**c.)** Woodlands within the East Boat Dock Area are currently dense with an under-story of elm, ash, hackberry, and bush honeysuckle and with an over-story of predominantly cottonwood, sycamore, and oaks. Portions of these woodlands shall be thinned to 40-50% canopy cover and some limited mowing of under-story shall be allowed to facilitate crawfish usage. The woodlands will then be managed with fire in an attempt to keep the desired structure.

6. IDNR personnel shall conduct searches for the Kirtland's water snake at one (1), three (3), and five (5) years after all improvements to the East Harbor Boat Access Area facility are completed. If the species is not found in that time it will be considered extirpated from that particular site and reintroduction will be considered. Site staff shall collect all dead snakes found within the East Boat Dock Area for positive identification by the appropriate biologist. If dead individuals are found and mortality appears excessive, IDNR shall formulate plans to address the apparent cause of mortality. Strategies to be considered include, but are not limited to: changes in mowing strategy, further alteration of habitat or day use areas, posting of informative signs, change of administrative rules to close the site to snake harvest (currently allowed under definition of "aquatic life" with a limit of eight (8) per day), and/or restrict vehicular speed.

The appropriate IDNR biologist(s) shall provide the Terrestrial Endangered Species Program (IDNR-Division of Wildlife) with a report detailing the results of all Kirtland's snake surveys and relocation efforts within 60 days of completing the final survey.

7. All management/mitigation activities shall be funded from the Sangchris Lake State Park farm lease program as finances become available. These activities shall be phased in over a 10 year period to allow the Kirtland's snake to become acclimated to new areas.

8. The effective period of this authorization may be altered by mutual agreement between IDNR-ORC and IDNR-OLM.

9. This authorization may be revoked pursuant to Section 5.5 of the Illinois Endangered Species Protection Act [520 ILCS 10/5.5 - 17 IL. Adm. Code Part 1080.80] if the IDNR-ORC finds that the IDNR-OLM has failed to comply with any of these terms and conditions or has been responsible for the taking(destruction) and/or relocation of Kirtland's snakes beyond that which is incidental to East Harbor Boat Access Area construction improvements at Sangchris Lake State Park in Christian County, Illinois.

10. The IDNR Officials identified below are authorized to execute this agreement. Execution by these Official(s) indicates acceptance of all terms and conditions described in this agreement.

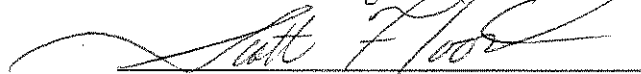
For the IL. Department of Natural Resources  
Office of Resource Conservation (ORC)



Mike Conlin, Acting Director  
Office of Resource Conservation

9.30.04  
Date Signed

For the IL. Department of Natural Resources  
Office of Land Management (OLM)



Signature

SCOTT FLOOD SPSA RLM  
Please print name and official title

9-27-04  
Date Signed