

Lake Erie. Occ. Pap. Mus. Zool., Univ. Michigan 346:1-15.
 Conant, R. and W.M. Clay. 1963. A reassessment of the taxonomic status of the Lake Erie water snake. *Herpetologica* 19:179-184.
 King, R.B. 1986. Population ecology of the Lake Erie water snake. *Copeia* 1986:757-772.

Authors

The primary authors of this proposed rule are Jan L. Eldridge and Kate Winsor of the Service's Regional Office in the Federal Building, Fort Snelling, Minnesota, 55111-4056 (see ADDRESSES section).

List of Subjects in 50 CFR Part 17

Endangered and threatened species, Exports, Imports, Reporting and record-keeping requirements, and Transportation.

Proposed Regulation Promulgation

Accordingly, it is hereby proposed to amend part 17, subchapter B of chapter I, title 50 of the Code of Federal Regulations, as set forth below:

PART 17—[AMENDED]

1. The authority citation for part 17 continues to read as follows:

Authority: 16 U.S.C. 1361-1407; 16 U.S.C. 1531-1543; 16 U.S.C. 4201-4245; Pub. L. 99-625, 100 Stat. 3500, unless otherwise noted.

2. It is proposed to amend § 17.11(h) by adding the following, in alphabetical order under Reptiles, to the List of Endangered and Threatened Wildlife:

§ 17.11 Endangered and threatened wildlife.

* * * * *
 (h) * * *

Species		Historic range	Vertebrate population where endangered or threatened	Status	When listed	Critical habitat	Special rules
Common name	Scientific name						
REPTILES							
Lake Erie water snake.	<i>Nerodia sipedon-insularum</i> .	U.S.A. (OH); Canada (ONT).	NA	T		N/A	N/A

Dated: July 27, 1993.
 Richard N. Smith,
 Acting Director, U.S. Fish and Wildlife Service.
 [FR Doc. 93-19454 Filed 8-17-93; 8:45 am]
 BILLING CODE 4310-55-M

50 CFR Part 17
RIN 1018-AB75

Endangered and Threatened Wildlife and Plants; Proposed Threatened Status for the Northern Copperbelly Water Snake, *Nerodia erythrogaster neglecta*

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Proposed rule.

SUMMARY: The Service proposes to determine threatened status for the northern copperbelly water snake (*Nerodia erythrogaster neglecta* Conant) and thereby provide the species protection under the Endangered Species Act of 1973, as amended (Act). Historic records and recent studies indicate that this animal has declined significantly, especially in the northern two-thirds of its range, and now persists in various scattered, isolated pockets where habitat is still suitable. The population is estimated to include only 1,530 adults rangewide with 368 breeding pairs. The northern

copperbelly water snake has been most adversely affected by the loss of continuous tracts of swamp-forest habitat. Critical habitat is not being proposed.

DATES: Comments from all interested parties must be received by October 18, 1993. Public hearing requests must be received by October 4, 1993.

ADDRESSES: Comments and materials concerning this proposal should be sent to the U.S. Fish and Wildlife Service, Bishop Henry Whipple Federal Building, 1 Federal Drive, Fort Snelling, Minnesota 55111-4056. Comments and materials received will be available for public inspection, by appointment, during normal business hours at the above address.

FOR FURTHER INFORMATION CONTACT: Craig Johnson, Chief, Division of Endangered Species (see ADDRESSES section), 612/725-3276, FTS 725-3276.

SUPPLEMENTARY INFORMATION:

Background

The northern copperbelly water snake, (*Nerodia erythrogaster neglecta* Conant, was formally recognized as a distinct subspecies in 1949 (Conant 1949). The Act defines "species" to include "any subspecies of fish or wildlife or plants," and any distinct population segment of any species of vertebrate fish or wildlife * * * * * (§ 4.(15)). Therefore, although

taxonomically recognized as a subspecies, *Nerodia erythrogaster neglecta* will be referred to as a "species" through the remainder of this proposal. This legal, as opposed to biological, use of the term "species" should not be understood to mean that this proposal covers the entire species *Nerodia erythrogaster*. This proposal covers only the subspecies *Nerodia erythrogaster neglecta*.

The key field identification feature of the northern copperbelly water snake is its coloration. The snake has a solid dark (usually black) back with a bright orange-red venter, which is visible from a lateral view. Compared to similar species, the head and eyes of the northern copperbelly water snake are proportionally larger (Clay 1936, 1938; Conant 1938; 1951; Minton 1972). Snakes found in the northern portion of their range are, on average, larger than snakes from the southern portion of their range (Conant 1938, 1949, 1951; Minton 1972; Sellers 1991).

Schmidt (1953) describes the historic range of the northern copperbelly water snake as "south central Michigan and northwestern Ohio, southwestward through Indiana to extreme southeastern Illinois and adjacent Kentucky." The snake's range may have once included portions of Tennessee, Wisconsin, Pennsylvania, and West Virginia. Today, the northern copperbelly water

snake as "south central Michigan and northwestern Ohio, southwestward through Indiana to extreme southeastern Illinois and adjacent Kentucky." The snake's range may have once included portions of Tennessee, Wisconsin, Pennsylvania, and West Virginia. Today, the northern copperbelly water snake occurs in the lower Ohio River Valley and lower Wabash River Valley in extreme southwestern Indiana and adjacent Illinois and Kentucky, and in southern Michigan, northeastern Indiana, and northwestern Ohio. Historic records and recent studies indicate that this animal has declined significantly, especially in Michigan, Ohio, and the northern two-thirds of Indiana, and now persists only in various scattered, isolated pockets where habitat is still suitable. The population is estimated at 1,530 adults rangewide with 368 breeding pairs (Sellers 1991).

The northern copperbelly water snake migrates seasonally throughout its habitat. The habitat consists of lowland swamps or other warm, quiet waters. Wooded corridors are also necessary for migratory access to wooded lakes, streams, or other permanent waters. Upland slopes above floodstage line with underground hibernation sites below the frost line must also be accessible. When habitat is restricted in size or interrupted with impermeable barriers, such as roads or cleared areas, northern copperbelly water snake populations will decline or disappear (see Factor A). In order to sustain a viable population of northern copperbelly water snakes (about 50 individuals with 12 breeding pairs), 500-600 acres of continuous swamp-forest habitat is needed. Sellers (1991) describes the habitat as willow-buttonbush or cypress swamps adjacent to wooded cover for access to permanent wetlands and to wooded upland hibernation sites above floodstage.

The northern copperbelly water snake emerges from its upland hibernation sites in early springs, migrates to wetland areas through wooded corridors, and can often be seen basking near shallow wetland edges in woodlands. When the woodland swamps begin to dry in later spring, the snakes disperse and move through wooded corridors or along waterways to permanent waters, if they are available. If permanent waters are not accessible, the snakes will remain around shallow swamps or move throughout the surrounding woodlands. Summer activities usually center around wooded and permanent water bodies, brushy ditches, and lowland wet woods. Snakes

become difficult to find in mid-summer and early fall as they are active mainly in the terrestrial, brushy part of habitat (Conant 1951) and move to hibernation sites during this period.

Northern copperbelly water snakes hibernate in deep cavities in wooded uplands above the floodstage line and ponding areas. If upland sites are unavailable, the snakes will use bottomlands. However upland hibernation sites are essential to the survival of viable populations of the snake. A mid-winter flood, coupled with freezing temperatures, could be lethal to snakes if floodplain and riverbank areas were the only hibernation sites available. Bottomland hibernation sites have been identified as felled tree root networks (Lodato 1985), dense brushpiles, fieldstone piles, and perhaps beaver and muskrat lodges.

This species is known to form small groups (colonies) in the spring and fall. Colonies of snakes have been observed swimming, feeding, courting, and resting together (Conant 1938; Martin 1982, pers. comm. in Sellers 1991). Courtship and mating occur in April, May, and June. The northern copperbelly water snake has a longer gestation period than other natricine snakes sharing its range. Their average litter size is also smaller, average 18 per litter (Schmidt and Davis 1941). Young snakes are born in the fall near or in the hibernation site and may not become active until the following spring.

The northern copperbelly water snake was recognized as a category 2 candidate in the Service's December 30, 1982 (50 FR 47251), January 6, 1989 (50 FR 544), and November 21, 1991 (50 FR 56225) Notice of Review. Listing priority for this species is 6. Category 2 species warrant concern but conclusive information necessary for listing is lacking. As a result of a status survey prepared by Sellers (1991), the Service concluded that enough information was available to support the need for protection of the species under the Act. On November 12, 1991, the Service reassigned this species to Category 1.

Summary of Factors Affecting the Species

Section 4(a)(1) of the Endangered Species Act (16 U.S.C. 1531 et seq.) and regulations (50 CFR part 424) promulgated to implement the listing provisions of the Act set forth the procedures for adding species to the Federal lists. A species may be determined to be an endangered or threatened species due to one or more of the five factors described in section 4(a)(1). These factors and their application to the northern copperbelly

water snake (*Nerodia erythrogaster neglecta*) are as follows:

A. The Present or Threatened Destruction, Modification, or Curtailment of Its Habitat or Range

Habitat loss and fragmentation is the primary factor threatening the continued existence of the northern copperbelly water snake. The loss and fragmentation of continuous tracts (500-600 acres) of this species' swamp-forest habitat prevents a population's access to the seasonally used parts of its habitat that are required to sustain a viable population over time. The northern copperbelly water snake can adapt to certain limited disturbances such as artificial pond construction or selective timber harvesting. However, severe habitat loss and fragmentation has forced this species to use less suitable habitat and has led to the eventual decline and extirpation of once-viable populations.

Specific threats that have led to the extirpation of northern copperbelly water snake populations include clearcutting woodlots, brush and land clearance, widescale draining of wetlands, habitat constriction by surrounding development, wetland succession, and road construction. For example, in the late 1940's, northern copperbelly water snakes were extirpated from a site in Eaton County, Michigan, by dredging and ditching. A site in Hardin County, Ohio and a site in Williams County, Ohio were cleared and drained in the early 1950's, extirpating the northern copperbelly water snake from these areas. One Michigan site is bisected by a road that is scheduled for upgrading. The site is considered to be a significant location for the northern copperbelly water snake and habitat will be destroyed or degraded by the proposed project. In addition to habitat loss, snakes attempting to cross the upgraded road may be injured or killed by vehicles. Discussions are underway between the State and county to modify the plans to minimize damage to the snakes and habitat.

Another modification to the northern copperbelly water snake's habitat is the widespread use of insecticides and other chemicals that impact the aquatic food chain upon which the snake is dependent for food (Minton 1972).

In addition to the above threats, northern copperbelly water snakes in the lower Ohio River Valley and lower Wabash River Valley face habitat loss and fragmentation caused by surface mining, oil exploration and extraction, river dams that cause flooding of shallow wetlands and wooded e

timber clearcutting, row crop expansion, and stream channelization and dredging. In Indiana, a coal mining company is expanding its surface mining operation and northern copperbelly water snake habitat will be destroyed or degraded by the expansion.

B. Overutilization for Commercial, Recreational, Scientific, or Educational Purposes

During the first 30 years after its discovery, many northern copperbelly water snakes were collected as specimens for museums. Although museums have abandoned this practice, amateur collectors continue to take snakes (Sellers 1991). The species is collected fairly regularly because of its rarity, its large size and its unique coloration, and its value in the pet trade. For example, an international commercial dealer reportedly offered \$260 to an amateur collector for a breeding pair of northern copperbelly water snakes. One youth camp in the northern part of the snake's range encourages the capture of reptiles, including northern copperbelly water snakes, as part of their camp activities. The methods used to capture the snakes often injures them and the participants may attempt to take the snakes home with them. On one occasion, the Ohio Department of Natural Resources was called by the Toledo Zoo to investigate an attempt by several campers from this camp to sell a number of northern copperbelly water snakes (Seller 1991).

C. Disease or Predation

During migration the snakes are vulnerable to predation, especially when their migration routes are interrupted by cleared areas such as roads, mowed areas, and farmlands. The ability to migrate safely throughout its home range is a limiting factor in the life history of the northern copperbelly water snake.

D. The Inadequacy of Existing Regulatory Mechanisms

Existing regulatory mechanisms are not sufficient to reduce losses of the northern copperbelly water snake. Section 404 of the Clean Water Act regulates placement of fill material in the waters of the United States. This should have provided significant oversight on a wide variety of activities that would have prevented the destruction and fragmentation of this species' wetland habitat. Michigan, Ohio, and Indiana confer full legal protection to the northern copperbelly water snake. However, Illinois and Kentucky offer no legal protection to the snake. The Endangered Species Act

offers additional possibilities for protection through section 6 (cooperation between the states and the Service), through section 7 (interagency cooperation), and through section 9 (prohibited acts).

E. Other Natural or Manmade Factors Affecting Its Continued Existence

Weather extremes such as drought, flooding, and mild winters may influence the population of the northern copperbelly water snake as it affects the snake's access to and use of upland hibernation sites with deep cavities, ability to estivate for prolonged periods, and access to and use of wood corridors from swamps to permanently-wet ponds, lakes, and streams.

The Service has carefully assessed the best scientific and commercial information available regarding the past, present, and future threats faced by this species in determining to propose this rule. Based on this evaluation, the preferred action is to list the northern copperbelly water snake, *Nerodia erythrogaster neglecta*, as a threatened species. A threatened species, as defined under section 3(19) of the Act, is a species that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range. Critical habitat is not being proposed at this time for the reasons discussed below.

Critical Habitat

Section 4(a)(3) of the Act, as amended, requires that, to the maximum extent prudent and determinable, the Secretary propose critical habitat at the time the species is proposed to be endangered or threatened. The Service finds that designation of critical habitat is not presently prudent for this species. This determination is based on the premise that such a designation would not be beneficial to the species (50 CFR 424.12). As discussed under Factor B in the Summary of Factors Affecting the Species, the northern copperbelly water snake would become vulnerable to collectors who would be drawn to the known populations by the publication of critical habitat maps and other specific location information. Critical habitat designation would not provide additional protection over that afforded through the normal recovery process and through section 7 consultation.

Available Conservation Measures

Conservation measures provided to species listed as endangered or threatened under the Endangered Species Act include recognition, recovery actions, requirements for Federal protection, and prohibitions

against certain practices. Recognition through listing encourages and results in conservation actions by Federal, state, and private agencies, groups, and individuals. The Endangered Species Act provides for possible land acquisition and cooperation with the states and requires that recovery actions be carried out for all listed species. The protection required of Federal agencies and the prohibitions against taking and harm are discussed, in part, below.

Section 7(a) of the Act, as amended, requires Federal agencies to evaluate their actions with respect to any species that is proposed or listed as endangered or threatened and with respect to its critical habitat, if any is being designated. Regulations implementing this interagency cooperation provision of the Act are codified at 50 CFR part 402. Section 7(a)(4) requires Federal agencies to confer informally with the Service on any action that is likely to jeopardize the continued existence of a proposed species or result in destruction or adverse modification of proposed critical habitat. If a species is listed subsequently, section 7(a)(2) requires Federal agencies to ensure that activities they authorize, fund, or carry out are not likely to jeopardize the continued existence of such a species or to destroy or adversely modify its critical habitat. If a Federal action may affect a listed species or its critical habitat, the responsible Federal agency must enter into formal consultation with the Service.

The Act and implementing regulations found at 50 CFR 17.21 and 17.31 set forth a series of general prohibitions and exceptions that apply to all threatened wildlife. These prohibitions, in part, make it illegal for any person subject to the jurisdiction of the United States to take (includes harass, harm, pursue, hunt, shoot, wound, kill, trap, or collect; or to attempt any of these), import or export, ship in interstate commerce in the course of commercial activity, or sell or offer for sale in interstate or foreign commerce, any listed species. It also is illegal to possess, sell, deliver, carry, transport, or ship any such wildlife that has been taken illegally. Certain exceptions apply to agents of the Service and state conservation agencies.

Permits may be issued to carry out otherwise prohibited activities involving threatened wildlife species under certain circumstances. Regulations governing permits are at 50 CFR 17.22, 17.23, and 17.32. Such permits are available for scientific purposes, to enhance the propagation or survival of the species, and/or for incidental take in connection with

otherwise lawful activities. For threatened species, there are also permits for zoological exhibition, educational purposes, or special purposes consistent with the purposes of the Act.

Public Comments Solicited

The Service intends that any final action resulting from this proposal will be as accurate and as effective as possible. Therefore, comments or suggestions from the public, other concerned governmental agencies, the scientific community, industry, or any other interested party concerning this proposed rule are hereby solicited. Comments particularly are sought concerning:

- (1) Biological, commercial trade, or other relevant data concerning any threat (or lack thereof) to this species;
- (2) The location of any additional populations of this species and the reasons why any habitat should or should not be determined to be critical habitat as provided by section 4 of the Act;
- (3) Additional information concerning the range, distribution, and population size of this species; and
- (4) Current or planned activities in the subject area and their possible impacts on this species.

Final promulgation of the regulation(s) on this species will take into consideration the comments and any additional information received by the Service, and such communications may lead to a final regulation that differs from this proposal. The Endangered Species Act provides for a public hearing on this proposal, if requested. Requests must be received

within 45 days of the date of publication of the proposal. Such requests must be made in writing and addressed to the Regional Director, U.S. Fish and Wildlife Service, Bishop Henry Whipple Federal Building, 1 Federal Drive, Fort Snelling, Minnesota 55111-4056.

National Environmental Policy Act

The Fish and Wildlife Service has determined that an Environmental Assessment, as defined under the authority of the National Environmental Policy Act of 1969, need not be prepared in connection with regulations adopted pursuant to section 4(a) of the Endangered Species Act of 1973, as amended. A notice outlining the Service's reasons for this determination was published in the **Federal Register** on October 25, 1983 (48 FR 49244).

References Cited

Clay, W. M. 1936. The taxonomy and phylogenetic relationships of the water snakes, *Natrix erythrogaster* and *n. sipedon*. Univ. Michigan (unpub):1-250.
 Clay, W. M. 1938. A synopsis of the North American water snakes of the genus *Natrix*. Copeia (4):173-182.
 Conant, R. 1938. The reptiles of Ohio. Amer. Midl. Nat. 20(1):1-200.
 Conant, R. 1949. Two new races of *Natrix erythrogaster*. Copeia (1):1-15.
 Conant, R. 1951. The reptiles of Ohio, 2nd ed. Amer. Midl. Nat. 20(1):1-284.
 Minton, S. A., Jr. 1968. The fate of amphibians and reptiles in a suburban area. J. Herpet. 2(3-4): 113-116.
 Minton, S. A., Jr. 1972. Amphibians and reptiles of Indiana. Indiana Acad. Sci., Mono. No. 3.
 Schmidt, K. P. 1953. A checklist of North American amphibians and reptiles. Am. Soc. of Ichthy. and Herp. Chicago, VIII, 280 pp.

Schmidt, K. P. and D. D. Davis. 1941. Field book of snakes of the United States and Canada. New York: G. P. Putnam's Sons. 365 pp.

Sellers, M. A., Jr. 1991. Final report of the rangewide status survey of the northern copperbelly water snake *Nerodia erythrogaster neglecta*, Conant. Report to the U.S. Fish and Wildlife Service. 33 pp.

Author: The primary author of this proposed rule is Kate Winsor of the Service's Regional Office in the Bishop Henry Whipple Federal Building, Fort Snelling, Minnesota 55111-4056.

List of Subjects in 50 CFR Part 17

Endangered and threatened species, Exports, Imports, Reporting and recordkeeping requirements, and Transportation.

Proposed Regulation Promulgation

Accordingly, it is hereby proposed to amend part 17, subchapter B of chapter I, title 50 of the Code of Federal Regulations, as set forth below:

PART 17—[AMENDED]

1. The authority citation for part 17 continues to read as follows:

Authority: 16 U.S.C. 1361-1407; 16 U.S.C. 1531-1544; 16 U.S.C. 4201-4245; Public Law 99-625, 100 Stat. 3500, unless otherwise noted.

2. It is proposed to amend § 17.11(h) by adding the following, in alphabetical order under *Reptiles*, to the List of Endangered and Threatened Wildlife:

§ 17.11 Endangered and threatened wildlife.

* * * * *
 (h) * * *

Species		Historic range	Vertebrate population where endangered or threatened	Status	When listed	Critical habitat	Special rules
Common name	Scientific name						
REPTILES							
Northern copperbelly water snake.	<i>Nerodia erythrogaster neglecta</i> .	U.S.A. (MI, OH, IL, IN, KY).	Entire	T	NA	NA

Dated: July 26, 1993.
Richard N. Smith,
 Acting Director, U.S. Fish and Wildlife Service.
 [FR Doc. 93-19455 Filed 8-17-93; 8:45 am]
 BILLING CODE 4310-55-M