

1/26/05

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460OFFICE OF
PESTICIDES AND TOXIC
SUBSTANCESMEMORANDUM

SUBJECT: Special Local Needs Registration [Section 24(c)] for Fipronil (Topchoice®) Use to Control Fire Ants in Arizona (PC Code 129121; DP Barcode D311943)

FROM: James A. Hetrick, Ph. D., Soil Chemist *James A. Hetrick* 1/26/05
Edward Odenkirchen, Ph. D., Senior Biologist *Ed Odenkirchen* 1/26/05
William Evans, Biologist *William Evans*
Sid Abel, Branch Chief *Sid Abel* 1/26/2005
Environmental Risk Branch 1
Environmental Fate and Effects Division (7507C)

TO: Marion Johnson, Acting Branch Chief
Insecticides Branch
Reregistration Division (7505C)

This memorandum provides an ecological risk assessment to support the Section 24(c) for use of fipronil (Topchoice®) to control fire ants. Based on the proposed Section 24(c) label, the maximum fipronil application rate cannot exceed 0.01244 lbs ai/A. Higher fipronil application rates of up to 0.02488 lbs ai/A for sod farm use have been removed from the label. The risk assessment for granule fipronil applications at 0.0125 lbs ai/A indicates risk presumptions are exceeded for acute risk to endangered freshwater aquatic invertebrates (RQ=0.453) and estuarine invertebrates (RQ=1.393) (D26067, D273236, D2732241, D273375, D274014). There is no risk concern for impacts to estuarine invertebrates because there are no coastal boundaries or estuarine areas in Arizona. A critical risk issue, however, are acute effects to aquatic invertebrates.

An analysis of endangered aquatic invertebrates, birds, fish, amphibians, and insects was conducted for the State of Arizona (Table 1). This analysis was conducted using LOCATES for all use sites in Arizona.



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Table 1: List of Endangered Invertebrates, Birds, Fish, Amphibians, and Insects in the State of Arizona.

COMMON NAME	SCIENTIFIC NAME
AMBERSNAIL, KANAB	<i>Oxyloma haydeni kanabensis</i>
BOBWHITE, MASKED	<i>Colinus virginianus ridgwayi</i>
CHUB, BONYTAIL	<i>Gila elegans</i>
CHUB, HUMPBACK	<i>Gila cypha</i>
CHUB, VIRGIN RIVER	<i>Gila seminuda (=robusta)</i>
CHUB, YAQUI	<i>Gila purpurea</i>
FALCON, NORTHERN	<i>Falco femoralis septentrionalis</i>
APLOMADO	
FLYCATCHER, SOUTHWESTERN	<i>Empidonax traillii extimus</i>
WILLOW	
PELICAN, BROWN	<i>Pelecanus occidentalis</i>
PUPFISH, DESERT	<i>Cyprinodon macularius</i>
PYGMY-OWL, CACTUS	<i>Glaucidium brasilianum cactorum</i>
FERRUGINOUS	
RAIL, YUMA CLAPPER	<i>Rallus longirostris yumanensis</i>
SALAMANDER, SONORA TIGER	<i>Ambystoma tigrinum stebbinsi</i>
SQUAWFISH, COLORADO	<i>Ptychocheilus lucius</i>
SUCKER, RAZORBACK	<i>Xyrauchen texanus</i>
TOPMINNOW, GILA (YAQUI)	<i>Poeciliopsis occidentalis</i>
TROUT, GILA	<i>Oncorhynchus gilae</i>

Of the species listed, the bobwhite quail, falcon, pygmy -owl (bolded) would not be expected to be directly affected from fipronil application. In addition, indirect effects from fipronil effects on aquatic invertebrate prey base would not be expected for these species. With the exception of the Kanab ambersnail, indirect effects are possible from fipronil effects on aquatic invertebrate prey base. The Kanab ambersnail is the only species which may be directly affected from fipronil use. The Kanab ambersnail was discovered in the Grand Canyon National Park (Federal Register 50 CFR Part 12 RIN 1018-AB67, Vol. 57, No. 75, April 17, 1992). It is located in a wetland spring (100 x 30 meter area) fed by springs cascading down the cliffs of the canyon wall within the gorge of the Grand Canyon.

County, Utah; and one in Grand Canyon National Park in Coconino County, Arizona. A status survey conducted in 1990 discovered that one Utah population was nearly extirpated, while the other Utah population was subjected to major habitat alteration and destruction. The Arizona population was discovered in 1991. An emergency rule determining the Kanab ambersnail to be endangered was published on August 8, 1991, and expired on April 3, 1992.

EFFECTIVE DATE: April 17, 1992.

ADDRESSES: The complete file for this rule is available for inspection by appointment, during normal business hours, at the Fish and Wildlife Enhancement Office, U.S. Fish and Wildlife Service, 2060 Administration Building, 1745 West 1700 South, Salt Lake City, Utah 84104.

FOR FURTHER INFORMATION CONTACT: John L. England at the above address, telephone (801) 524-4430 or FTS 588-4430.

SUPPLEMENTARY INFORMATION:

Background

The Kanab ambersnail is a terrestrial snail in the family Succineidae. It has a mottled grayish-amber to yellowish-amber colored shell. The shell is dextral (right-handed spiral), thin-walled, with an elevated spire and a broad, patulous (expanded) aperture. Fully mature individuals are about 14 to 19 mm ($\frac{1}{2}$ to $\frac{3}{4}$ inch) long, 7 to 9 mm ($\frac{1}{4}$ to $\frac{1}{2}$ inch) in diameter, with $3\frac{1}{4}$ to $3\frac{3}{4}$ whorls in a drawn out spire. Its eyes are borne at the ends of long peduncles (stalks), while the tentacles are reduced to small protuberances at the base of the eye stalks (Pilsbry 1948, Clarke 1991).

Specimens of the Kanab ambersnail were first collected in 1909 by James Ferriss from: "The Greens", 6 miles above Kanab, on Kanab Wash, on a wet ledge among moss and cypripediums" (Ferriss 1910, Pilsbry 1948). These specimens were originally placed in the species *Succinea hawkinsi* (Ferriss 1910, Chamberlin and Jones 1929). Henry Pilsbry (1948) transferred these specimens to the genus *Oxyloma* and erected the subspecies *kanabensis* in the species *haydeni* for them. Clarke (1991) notes that Pilsbry's decision to accord the Kanab ambersnail subspecific status was preliminary, and that, as Pilsbry himself noted, its taxonomic status should be reevaluated. Clarke (1991) and Wu (Colorado Museum of Natural History, Boulder, pers. comm., 1992) suggest that the Kanab ambersnail may deserve full species status. For the purpose of this

DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

RIN 1018-AB67

Endangered and Threatened Wildlife and Plants; Final Rule To List the Kanab Ambersnail as Endangered

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Final rule.

SUMMARY: The U.S. Fish and Wildlife Service (Service) determines the Kanab ambersnail (*Oxyloma haydeni* ssp. *kanabensis*) to be an endangered species pursuant to the Endangered Species Act of 1973, as amended (Act). Critical habitat is not being designated at this time. Three populations of this snail are known to exist: Two on wetlands in private ownership in Kane

listing action, the Service will recognize this taxon at the subspecies level. If the Kanab ambersonia is later recognized at species level, this will not affect its designation as endangered.

The Kanab ambersonia lives in marshes watered by springs and seeps at the base of sandstone or limestone cliffs. It is absolutely associated with a perennially wet soil surface or shallow standing water. The snails also are frequently seen just within the mouths of vole burrows. None are found in drier areas, such as under logs or in other microhabitats commonly frequented by other land snails (Clarke 1991, and E. Spamer, Philadelphia Academy of Natural Science, pers. comm., 1982).

The presence of cattail (*Typha domingensis*), or at least the perennially wet ground which cattail indicates, is believed to be a critical component of the species habitat. The Kanab ambersonia is most densely aggregated under fallen cattail stalks at the edges of thick cattail stands. Vegetative cover is a necessity for the snails (Clarke 1991). Wetland grasses and sedges, if not overgrazed, also will provide suitable habitat for the species (B. Lunceford, private individual, pers. comm., 1991). The American robin (*Turdus migratorius*) has been observed to feed on the Kanab ambersonia and may be the snail's principal natural predator (Clarke 1991).

The Kanab ambersonia is known from three populations. The two Utah populations are about 2 km (1.3 miles) apart on privately owned lands in the Kanab Creek drainage. Other likely sites in this area were searched on foot by Blaine Lunceford, a knowledgeable local biologist from Kanab, Utah, and during the Service's sponsored status survey effort (Clarke 1991), but no other Kanab ambersonia colonies were discovered in Utah. In 1991, a third population was discovered in Grand Canyon National Park, Arizona, approximately 91 km (57 miles) from the Utah populations.

The larger Utah Kanab ambersonia population is located in Three Lakes Canyon, a tributary drainage of Kanab Creek, about 10 km (6 miles) northwest of the town of Kanab, Utah. The Kanab ambersonia occurs throughout the marshes and wet meadows which surround the "Three Lakes" ponds, an area about 1.3 km (0.8 miles) long and up to 90 m (100 yards) wide. This population was estimated to have as many as 100,000 individuals in June 1990. Soon thereafter, a significant portion of this habitat was destroyed by earth-moving equipment (Clarke 1991, U.S. Fish and Wildlife Service 1991). In February 1991, the landowners were alerted by a Service representative to

the presence of this imperiled snail on their property. At that time, the owners indicated a willingness to conserve the Kanab ambersonia.

During early December 1991, a flightless flock of ten domestic gray lag geese and a domestic mallard duck were released on Three Lakes, within one of the habitat areas of the Kanab ambersonia, further jeopardizing the species population. Most of these birds were captured by employees of the Service and the Utah Division of Wildlife Resources, and released into suitable waterfowl habitat not harboring populations of the Kanab ambersonia. It is not known, at this time, if any harm was inflicted on the Kanab ambersonia population.

The smaller, nearly extirpated, Utah population occurs in a marsh, watered by a seep, at the foot of a cliff in Kanab Creek Canyon. The Kanab ambersonia was once common at this site. Though once larger, this habitat was discovered to have been reduced to a long narrow marsh measuring about 46 m (150 feet) long and 15 cm (6 inches) wide in 1990. The marsh was partially dewatered by a ditch and drainpipe installed by the landowner to provide water for domestic livestock that graze in a field between the marsh and Kanab Creek. An intensive search of this habitat in 1990 revealed only three live snails (Clarke 1991). No live Kanab ambersonia individuals were observed at this site in 1991 (J. England and U.S. Fish and Wildlife Service, pers. comm., 1991).

The Arizona population was discovered by Karl Spamer as a consequence of a National Park Service sponsored inventory of the invertebrate fauna in Grand Canyon National Park (Spamer and Bogan 1992a, 1992b). This population occurs in wetland habitat fed by springs cascading down the cliffs of Grand Canyon. The wetland where this population resides is approximately 100 m (109 yards) long and 10 to 30 m (11 to 33 yards) wide found parallel to the Colorado River. Previous to 1991, gastropod surveys of the Grand Canyon had failed to identify any populations of the Kanab ambersonia (Pilsbry and Reits 1911, Daniels 1911, Cockerell 1927, Henderson 1914, and Spamer and Bogan 1992a, 1992b), and in fact, the genus *Oxytoma* was unknown to the State of Arizona except in the fossil fauna (Bogert and Miller 1973, Spamer and Bogan 1992a, 1992b).

Federal action on this species began on May 22, 1984, when the Service published a notice of review of invertebrate wildlife for listing as endangered or threatened species, which included the Kanab ambersonia as

a category 2 species (49 FR 21664).

The Service has information indicating the appropriateness of a proposal to list the species as endangered or threatened, but for which more substantial data are needed on biological vulnerability and threats. On January 6, 1989, the Service published an updated notice of review of animals for listing as endangered or threatened which maintained the Kanab ambersonia as a category 2 species (54 FR 554).

In 1990, the Service commissioned a status survey of candidate Utah snails, including the Kanab ambersonia. The final report was completed in April 1991 and concluded that the Kanab ambersonia was in imminent danger of extinction and that immediate action should be taken to save it (Clarke 1991). The Service considered the information developed in the 1991 report sufficient to elevate the Kanab ambersonia from a category 2 to a category 1 species. The recent precipitous decline of the snail, combined with the species' extreme vulnerability to further habitat modification or other catastrophic occurrences, prompted the Service to emergency list the Kanab ambersonia as endangered on August 8, 1991 (56 FR 37668). This emergency protection expired on April 3, 1992. The Service published a proposed rule to extend permanent designation of this species as endangered on November 15, 1991 (56 FR 58020). That proposed rule continued the Service's final petition finding for this species.

Summary of Comments and Recommendations

In the November 15, 1991, proposed rule and associated notifications, all interested parties were requested to submit factual reports or information that might contribute to the development of a final rule. Appropriate State Agencies, County Governments, Federal Agencies, scientific organizations, and other interested parties were contacted and requested to comment. Newspaper notices concerning this proposed action were published in the Salt Lake Tribune, the Deseret News, and the Southern Utah News during the period December 3 to December 6, 1991.

During the comment period between November 15, 1991, and January 14, 1992, two written comments were received. One supported the listing proposal, and provided additional information concerning threats to the species. One acknowledged the proposal, but neither supported nor opposed listing.

exceptions that apply to all endangered 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 a 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 is 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 endangered wildlife species under certain circumstances. Regulations governing permits are at 50 CFR 17.22 and 17.23. 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. Requests for copies of the regulations on animals and inquiries regarding them may be addressed to the Office of Management Authority, U.S. Fish and Wildlife Service, room 432, 4401 North Fairfax Drive, Arlington, Virginia 22203 (telephone 703/358-2093; FTS 921-2093).

National Environmental Policy Act

The Service determines 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 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).

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- Spamer, E.E., and A.E. Bogan. 1992a. Mollusks of the Colorado River Corridor, Grand Canyon, Arizona. 40 pp. in: Blinn, D.W., L.E. Stevens, and J.P. Shannon. 1992. The effects of Glen Canyon Dam on the aquatic food base in the Colorado River Corridor in Grand Canyon, Arizona. National Park Service Report, Grand Canyon National Park, Arizona. In press.

Spamer, E.E., and A.E. Bogan. 1992b. New Records of Molluska for Grand Canyon National Park and Arizona. Southwestern Naturalist, 10 pp. in press.

U.S. Fish and Wildlife Service. 1991. Supplemental status report for the Kanab ambersnail (*Oxyloma haydeni kanabensis*). U.S. Fish and Wildlife Service, Salt Lake City, Utah. 3 pp.

Author

The primary author of this proposed rule is John L. England, U.S. Fish and Wildlife Service (see ADDRESSES above, telephone 801/524-4430 or FTS 588-4430).

List of Subjects in 50 CFR Part 17

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

Regulation Promulgation

PART 17—[AMENDED]

Accordingly, part 17, subchapter B of chapter I, title 50 of the Code of Federal Regulations, is amended as set forth below:

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; Pub. L. 99-625, 100 Stat. 3500, unless otherwise noted.

2. Amend § 17.11(h) by adding the following, in alphabetical order under "SNAILS," to the List of Endangered and Threatened Wildlife:

§ 17.11 Endangered and threatened wildlife.

(h) * * *

Species		Range	Vertebrate population where endangered or threatened	Status	When listed	Critical habitat	Special rules
Common name	Scientific name						
SNAILS							
Ambersnail, Kanab	<i>Oxyloma haydeni</i>	USA (AZ, UT)	NA	E	431,459	NA	NA

Dated: March 23, 1992.

Richard N. Smith,

Director, Fish and Wildlife Service.

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DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

50 CFR Part 663

[Docket No. 920400-2100]

Pacific Coast Groundfish Fishery

AGENCY: National Marine Fisheries Service (NMFS), NOAA, Commerce.