

ROUGHSKIN NEWT

Taricha granulosa Skilton, 1849
(Salamandridae)

Global rank G5 (1996-10-11)

State rank S2? (1992-02-25, reviewed 2004-11-03)

State rank reasons

Although considered common in Southeast Alaska, very little information is available for this species. Status unknown. Degree of threat appears minimal, although species is highly associated with old-growth forests which are subject to logging activities. A higher rank may be warranted, requires study.

Taxonomy

Two subspecies currently recognized. The Northern roughskin newt, *T. g. granulosa* is found throughout species range. The Crater Lake Newt, *T. g. mazamae* is found in Crater Lake, Oregon area.

A high frequency of breeding adults on Gravina Island near Ketchikan, Alaska display morphological characters similar to the Crater Lake subspecies, *T. g. mazamae*. Genetic studies suggest that newts from Wrangell Island differ little from those in Washington State (Macdonald 2003).

General description

Coloration is plain brown to black above, with sharply contrasting bright yellow to reddish orange below. Eyes are pale yellow and crossed by a distinct, dark bar. Skin surface is rough and grainy except in breeding males, which develop a smooth and even slimy skin, swollen vent, flattened tail and dark pads on feet. Males have relatively longer tails and limbs than females. Lacks costal grooves (MacDonald 2003).

Length (cm) 22

Reproduction comments

Breeds primarily from late December to July, October to November at higher elevations. Eggs hatch in 20-26 days (Nussbaum et al. 1983) or 5-10 weeks (Behler and King 1979). Aquatic larvae metamorphose in late summer or overwinter and metamorphose the following June or July.

In Alaska, breeding probably commences in April and continues into June. Hatching takes 5-10 weeks. Larvae may require two years to complete metamorphosis (MacDonald 2003).



Ecology

After breeding season, adults, as well as subadults and larvae, may form large aggregations. Skin secretion repels many predators.

Migration

Migrates to breeding sites during or after seasonal rains. Often seen moving to breeding sites in large numbers. Males migrate earlier than females.

Food

Larvae probably eat zooplankton and small aquatic invertebrates. Adults feed mostly on small terrestrial or aquatic invertebrates.

Global habitat

Forests, woodlands, grasslands, open valleys, and rangeland. Found on land (in open or under rocks, logs, etc.) or in ponds, lakes, reservoirs, and slow-moving streams. The most aquatic western newt. Breeds in ponds, lakes, reservoirs and slow-moving streams. Lays eggs singly on aquatic plants or submerged twigs (Behler and King 1979).

State habitat

Species uses forested cover adjacent to aquatic habitat for breeding and overwintering. Found in and about small permanent bodies of water with abundant vegetation (Hodge 1976). On Wrangell Island, species found using backwater lakes and muskegs (Waters 1992).

Global range

Pacific coast from southeastern Alaska to Santa Cruz County, California (Stebbins 1985, Petranka 1998). Records from the Rocky Mountains, including populations in Latah County, Idaho, could represent introductions, though Monello and Wright (1997) recorded three small populations in

Latah County in 1997. Sea level to about 9200 ft (Stebbins 1985).

State range

Found throughout Southeast Alaska as far north as Juneau, and on the Alexander Archipelago on Admiralty Island, Shelter Island, and on many islands south of Fredrick Sound. They have also been reported on Bamdoroshni Island, and more recently on Rockwell Island in Sitka Sound (MacDonald 2003, Anderson 2004). Newts on mainland near Juneau and Bamdoroshni and Rockwell islands may be the result of transplants from Shelter Sound around 1980 and Ketchikan in the 1960s respectively (MacDonald 2003). Unvalidated and highly questionable reports from farther north along Gulf Coast and perhaps as far west as Cook Inlet.

Global abundance

Total adult population size is unknown but surely exceeds 100,000.

State abundance

The most common tailed amphibian in Alaska (MacDonald 2003). Rough-skinned newts were abundant in several mountain lakes on Wrangell Island (Waters 1992). Carstensen et al. (2003) found rough-skinned newts to be fairly common throughout Southeast Alaska.

Global trend

Likely stable in extent of occurrence and probably stable to slightly declining in population size, area of occupancy, and number/condition of occurrences.

State trend

Unknown.

State protection

In Alaska, amphibians are managed by Alaska Department of Fish and Game under statute 16.05.030, which legally includes amphibians in the definition of "fish". This statute makes it illegal for anyone to "hold, transport or release" any native amphibians without a valid permit. Occurs in some designated wilderness areas of the Tongass National Forest such as Stikine-Leconte Wilderness.

Global threats

May be detrimentally impacted by deforestation of areas surrounding breeding sites, though the degree of impact is difficult to quantify. Exposure to UV-B may alter certain behaviors which could

have ecological and evolutionary consequences (Blaustein et al. 2000).

State threats

Species is closely associated with coastal forests (Hodge 1976). May be detrimentally impacted by deforestation of areas surrounding breeding sites, though the degree of impact is difficult to quantify. Exposure to UV-B may alter certain behaviors which could have ecological and evolutionary consequences (Blaustein et al. 2000). Highly toxic skin secretions aid in species defense.

State research needs

Establish programs to monitor population trends; identify threats or limiting factors. Research is needed on the effects of roads and logging on population persistence.

State inventory needs

Additional inventory to precisely determine the species' range and population estimates for each area of occurrence are needed.

State conservation and management needs

Studies elsewhere suggest newt populations reach their highest densities in mature old-growth forests. Logging practices should minimize impact in sensitive areas where newts are known to occur.

LITERATURE CITED

Anderson, B.C. 2004. An opportunistic amphibian inventory in Alaska's national parks 2001-2003. Anchorage, AK: National Park Service, Inventory and Monitoring Program.

Behler, J.L., and F.W. King. 1979. The Audubon Society field guide to North American reptiles and amphibians. Alfred A. Knopf, New York, NY. 719 pp.

Blaustein, A.R., D.P. Chivers, L.B. Kats and J.M. Kiesecker. 2000. Effects of ultraviolet radiation on locomotion and orientation in roughskin newts (*Taricha granulosa*). *Ethology* 106: 227-234.

Carstensen, R., M. Willson and R. Armstrong. 2003. Habitat use of amphibians in northern southeast Alaska. Unpublished report to Alaska Department of Fish and Game. Juneau, AK:

- Hodge, R.P. 1976. Amphibians and reptiles in Alaska, the Yukon, and Northwest Territories. Alaska Northwest Publishing Company, Anchorage, AK. 89 pp.
- MacDonald, S.O. 2003. The amphibians and reptiles of Alaska. A Field Handbook. Unpublished report to U.S. Fish and Wildlife Service, Juneau, AK.
- Monello, R.J., and R.G. Wright. 1997. Geographic distribution: *Taricha granulosa*. Herpetological Review 28:155.
- Nussbaum, R.A., E.D. Brodie, Jr., and R.M. Storm. 1983. Amphibians and reptiles of the Pacific Northwest. Univ. Press of Idaho. 332 pp.
- Petranka, J. 1998. Salamanders of the United States and Canada. Washington and London: Smithsonian Institution Press.
- Stebbins, R.C. 1985. A Field Guide to Western Reptiles and Amphibians. Second Edition. Houghton Mifflin Company, Boston, Massachusetts. xiv + 336 pp.
- Waters, D.L. 1992. Habitat associations, phenology, and biogeography of amphibians in the Stikine River basin and southeast Alaska. Unpubl. rep. of the 1991 pilot project. U.S. Dept. Interior, Fish and Wildlife Service, California Cooperative Fishery Research Unit, Humboldt State University, Arcata, CA. 61 pp.

Acknowledgements



State Conservation Status, Element Ecology & Life History Author(s):

Gotthardt, T.A.

State Conservation Status, Element Ecology & Life History Edition Date: 23Mar2005

Reviewer(s): Stephen MacDonald, University of New Mexico; Blain Anderson, National Park Service, Anchorage, AK.

Life history and Global level information were obtained from the on-line database, NatureServe Explorer (www.natureserve.org/explorer). In many cases, life history and Global information were updated for this species account by Alaska Natural Heritage Program zoologist, Tracey Gotthardt. All Global level modifications will be sent to NatureServe to update the on-line version.

NatureServe Conservation Status Factors

Edition Date: 28Mar2002

NatureServe Conservation Status Factors

Author: Hammerson, G.

Global Element Ecology & Life History Edition Date: 15Apr1986

Global Element Ecology & Life History

Author(s): Hammerson, G.
