Long-toed salamander

Ambystoma macrodactylum

Class: Amphibia
Order: Caudata

Review Status: Peer-reviewed **Version Date:** 23 April 2018

Conservation Status

NatureServe:	*Agency:*		
G Rank: G5	ADF&G: Species of Greatest Conservation Need	IUCN: Least Concern	Audubon AK:
S Rank: S3	USFWS:	BLM:	

Final Rank

Conservation category: **IV. Orange**

unknown status and high biological vulnerability and action need

Category	Range	Score
Status	-20 to 20	0
Biological	-50 to 50	-2
Action	-40 to 40	40

Higher numerical scores denote greater concern

Status - variables measure the trend in a taxon's population status or distribution. Higher status scores denote taxa with known declining trends. Status scores range from -20 (increasing) to 20 (decreasing). **Score**

Population Trend in Alaska (-10 to 10) 0

Unknown.

Distribution Trend in Alaska (-10 to 10) 0

Unknown.

Status Total: 0

Biological - variables measure aspects of a taxon's distribution, abundance and life history. Higher biological scores suggest greater vulnerability to extirpation. Biological scores range from -50 (least vulnerable) to 50 (most vulnerable). **Score**

Population Size in Alaska (-10 to 10) 6

Unknown, but suspected small. Although locally common in some areas e.g. certain sites near the delta of the Stikine River (Carstensen et al. 2003; Ream et al. 2019), this species' range appears to be restricted to southern Alaska.

Range Size in Alaska (-10 to 10) -2

Restricted to Southeast Alaska. On the mainland, has been reported as far north as the Taku River near Juneau; likely occurs south to British Columbia. It has been reported on several islands including Revillagigedo Island, Farm Island, Sokolof Island, and Little Dry Island (Norman 2004; Ream et al. 2019); the population on Revillagigedo may have been introduced (Ream et al. 2019). Estimated range size is 34,193 sq. km, based on range map from ACCS (2017a).

Population Concentration in Alaska (-10 to 10) -2

Does not concentrate, but number of sites may be <250 given the scarcity of occurrence records in the state. We tentatively rank this question as 0.5 * B + 0. 5 * C until more information is available.

Reproductive Potential in Alaska

Age of First Reproduction (-5 to 5) -3

At higher elevations or at northern latitudes, typically attains sexual maturity at 2-3 years (Anderson 1976; Russell et al. 1996).

Number of Young (-5 to 5) -3

Lays eggs singly or in clusters ranging from 6 to 60 eggs/cluster, but more typically averaging between 9 to 17 eggs/clusters (reviewed in Anderson 1967; Howard and Wallace 1985; Underhill 2015). Additional data are needed on Alaskan populations.

Ecological Specialization in Alaska

Dietary (-5 to 5) 1

Little information available. Feeds on small, aquatic and terrestrial invertebrates including isopods, copepods, beetles, and gastropods; diet varies depending on life stage (Anderson 1968). Because invertebrates are ephemeral and potentially unpredictable food sources, we rank this question as B- Moderately adaptable.

Habitat (-5 to 5) 1

Requires freshwater to complete its life cycle. Eggs are deposited on bark or vegetation e.g. grass stalks, either on the shore or in shallow ponds and lakes (Anderson 1967; Hoffman et al. 2003; MacDonald 2010). Adults are terrestrial; during the summer, they forage near breeding ponds in moist habitats with woody debris, rocks, and other features that provide shade and cover (MacDonald 2010). They remain underground in the winter. Outside Alaska, habitat types include moist meadows, riparian shrub thickets, shaded forests, and sparsely vegetated alpine sites from sea level to >2,100 meters (Anderson 1967; Howard and Wallace 1985; Hoffman et al. 2003).

Biological Total: -2

Action - variables measure current state of knowledge or extent of conservation efforts directed toward a given taxon. Higher action scores denote greater information needs due of lack of knowledge or conservation action. Action scores range from -40 (lower needs) to 40 (greater needs). **Score**

Management Plans and Regulations in Alaska (-10 to 10) 10

Not managed or protected in the state of Alaska. A permit is required to collect specimens for scientific or educational purposes (ADF&G 2004).

Knowledge of Distribution and Habitat in Alaska (-10 to 10) 10

Little is known about this species' distribution and habitat associations. This species has only been reported from a handful of sites (see Range Size), despite several amphibian surveys conducted in Southeast Alaska (e.g. Waters 1992; Anderson 2004; Pyare 2007; Gotthardt et al. 2015; Ream 2016). Repeated visits to some of these sites suggest local extinction-colonization dynamics or imperfect detection by observers (Ream et al. 2019).

Knowledge of Population Trends in Alaska (-10 to 10) 10

Not currently monitored.

Knowledge of Factors Limiting Populations in Alaska (-10 to 10) 10

Very little is known about the ecology of this species in Alaska. Potential threats include pathogens, climate-related habitat loss e.g. wetland drying, and introduced species (MacDonald 2010). Several

studies outside of Alaska have shown that predation by introduced trout can severely depress populations (e.g. Funk and Dunlap 1999; Welsh et al. 2006; Larson et al. 2017).

Action Total: 40

Supplemental Information - variables do not receive numerical scores. Instead, they are used to sort taxa to answer specific biological or management questions.

Harvest:	None or Prohibited
Seasonal Occurrence:	Year-round
Taxonomic Significance:	Monotypic species
% Global Range in Alaska:	<10%
% Global Population in Alaska:	<25%
Peripheral:	Yes

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