



## 14 Aquatic Mollusks - 12-month Finding *Questions and Answers*

Prepared by the Sacramento Fish and Wildlife Office, September 2012

### **Background on the Species:**

This 12-month finding addresses 14 mollusks of the 29 mollusks that we addressed in our 90-day finding which published on October 5, 2011. We have grouped these mollusks together based on their association with aquatic features such as springs. The terrestrial species, including those with the potential to be impacted if the Shasta Dam is raised, will be addressed at a future time.

The 14 aquatic mollusks are:

Basalt juga snail, Canary duskysnail, Cinnamon juga snail, Columbia duskysnail, Fredenburg pebblesnail (formerly Nerite pebblesnail), Goose Valley pebblesnail, Hat Creek pebblesnail, Klamath Rim pebblesnail (formerly Diminutive pebblesnail), Knobby rams-horn snail, Masked duskysnail, Nugget pebblesnail, Potem Creek pebblesnail, Shasta pebblesnail, Tall pebblesnail.

The 14 aquatic mollusks occur primarily within forested regions of Washington, Oregon, and northeastern California.

### **Q. What is the history of today's action?**

**A.** On March 17, 2008, we received a petition from five conservation organizations asking us to list 32 species and subspecies of snails and slugs (the petitioned mollusks) in Washington, Oregon and northern California. The number of petitioned mollusks was later changed to 29 due to taxonomic revisions as informally-described species were formally described.

On October 5, 2011 we published a 90-day finding that the petition presented substantial information that indicated that the petitioned action may be warranted for 26 of the 29 petitioned species.

This 12-month finding addresses 14 mollusks of the 26 mollusks for which we found the petitioned action to be warranted.

### **Q. Who petitioned the Service to list these species?**

**A.** The petitioned was submitted by the Center for Biological Diversity, Conservation Northwest, the Environmental Protection Information Center, the Klamath-Siskiyou Wildlands Center, and Oregon Wild.



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### **Q. What is the U.S. Fish and Wildlife Service's determination regarding the status of the 14 mollusks?**

**A.** We find that 8 of the 14 aquatic mollusks are not listable entities because they have not been formally described as species or subspecies in a peer-reviewed journal, or in any other source commonly accepted by the scientific community. Formal peer-reviewed description, with its opportunities for further review and comment, is the process by which proposed new species and subspecies become generally recognized or rejected by the taxonomic community. We find that listing the remaining six aquatic mollusks is not warranted.

### **Q: Why did the Service find that 8 of the mollusks were not listable entities?**

**A.** Eight of the petitioned aquatic mollusks have not been formally described as species or subspecies, but were informally identified as potential species in the early 1990s, based primarily on differences in shell morphology. Since then, genetic testing has shown that differences in shell morphology are not reliable in species identification. Additionally, the current informal descriptions lack genetic data, data regarding microscopic anatomical features such as radula (tongue), and photographs or drawings of anatomical features other than the shell. Such data are often highly distinctive, and are of key importance in formal descriptions. This led the Service to conclude that the current basis for classification is not sufficient to treat these mollusks as listable entities.

### **Q. Why did the Service determine that the other six did not warrant listing?**

The remaining six aquatic mollusks have been formally described and are all endemic to northern California. These occur primarily in Shasta and Siskiyou Counties, with a few occurrences in Tehama and Lassen Counties. The number of known occurrences ranges from 5 for the Hat Creek pebblesnail to 44 for the Nugget pebblesnail. Despite potential impacts from impoundments, pollution, logging, stochastic events, and other issues, the Service's review of the best available scientific and commercial information does not indicate downward population trends or that threats are negatively impacting known occurrences of these species.



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### Q. How can I know which mollusks are in my area?

A. The following 14 mollusks were considered in this review, listed in order under the Service office responsible:

- **Sacramento, CA:** Canary duskysnail, Cinnamon juga snail, Goose Valley pebblesnail, Hat Creek pebblesnail, Knobby rams-horn snail, Nugget pebblesnail, Potem Creek pebblesnail, Shasta pebblesnail
- **Klamath Falls, OR:** Klamath Rim pebblesnail (formerly Diminutive pebblesnail), Fredenburg pebblesnail (formerly Nerite pebblesnail), Tall pebblesnail
- **Portland, OR:** Basalt juga snail, Columbia duskysnail
- **Lacey, WA:** Masked duskysnail

See the chart below for more specific information on location.

COMMON NAME <i>SCIENTIFIC NAME</i>	NO. OF KNOWN SITES	LOCATION
Basalt juga snail <i>Juga n. sp. 2</i>	28	Believed to be limited to springs in the central and eastern Columbia River Gorge in OR and WA.
Canary duskysnail <i>Colligyrus convexus</i>	1 to 7	Pit River drainage in, Shasta County, CA.
Cinnamon juga snail <i>Juga n. sp. 3</i>	4 to 8	Found in the Shasta Springs complex (a network of hydrologically connected springs), on the upper Sacramento River, Siskiyou County, CA.
Columbia duskysnail <i>Lyogyrus n. sp. 1</i>	64	The central and eastern Columbia Gorge in Multnomah, Clackamas and Hood River Counties, OR, and Klickitat and Skamania Counties, WA
Fredenburg pebblesnail <i>Fluminicola n. sp. 11</i>	19	Fall and Jenny Creek watersheds, located in the middle Klamath River Drainage, Jackson County, OR.
Goose Valley pebblesnail <i>Fluminicola anserinus</i>	4	Found in three springs and a section of creek in the lower Pit River drainage, Shasta County, CA.
Hat Creek pebblesnail <i>Fluminicola umbilicatus</i>	3	Found near Lost Creek and Hat Creek in the Lassen National Forest, Shasta County, CA.



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Klamath Rim pebblesnail <i>Fluminicola n. sp. 3</i>	6	Found in two large spring complexes (Fall Creek and Jenny Creek watersheds) in the middle Klamath River Drainage, in Jackson County, OR.
Knobby rams-horn snail <i>Vorticifex n. sp. 1</i>	2	Found in a large, pristine spring complex in the Pit River drainage, Shasta County, CA.
Masked duskysnail <i>Lyogyrus n. sp. 2</i>	3 to 4	Curlew Lake, Ferry County and Fish Lake, Chelan County, WA.
Nugget pebblesnail <i>Fluminicola seminalis</i>	15 to 22	Found in the Pit and McCloud River drainages in Shasta County, CA.
Potem Creek pebblesnail <i>Fluminicola potemicus</i>	12	Found in the upper Sacramento River system and Pit River tributaries in Shasta County, CA.
Shasta pebblesnail <i>Flumenicola multifarius</i>	36	Found in the upper Sacramento River watershed in Shasta County, CA.
Tall pebblesnail <i>Fluminicola n. sp. 2</i>	1	Harriman Spring, along the margin of Upper Klamath Lake, Klamath County, OR.

### Q. What happens now?

A. At this point, the Service will take no further action with regard to listing the 14 mollusks. We ask the public to submit to us new information that becomes available concerning population trends or threats to these mollusks.

### More questions? Write or call:

U.S. Fish and Wildlife Service  
Sacramento Fish and Wildlife Office  
Endangered Species Division  
2800 Cottage Way, Room W-2605  
Sacramento, CA 95825  
(916) 414-6600  
[www.fws.gov/sacramento](http://www.fws.gov/sacramento)