Focus: Detecting Mobile Boreal Toads

Research | Technology Transfer | Science Application

Key Findings:

- Boreal Toads used streams for downhill transportation in summer.
- Combined terrestrial and aquatic movements were up to 12 km in less than one month. This mobility has implications for the reestablishment of populations and for their responses to fragmented habitat.
- Late summer netting of streams was effective at detecting previously unknown populations of Boreal Toads, and can be developed into a new monitoring tool.

Challenge

Boreal Toad populations are declining and are difficult to observe. Factors such as understanding their ecology and developing monitoring tools are critical.

Context

Boreal Toads have undergone substantial declines throughout most of their range since the 1970s. Monitoring these declines has relied on observations from breeding areas in spring. It was thought that this was a reliable method of detection, that Boreal Toads moved only a short distance from these sites, and that they were almost exclusively terrestrial after the breeding season.

Actions

We netted streams in Montana, southern Wyoming, and northern Colorado for Boreal Toads, and used radio telemetry to monitor toad locations in Montana.

Results

Boreal Toads were repeatedly captured in stream channels, and downhill movements averaged 1 km in 10 days. Radio tagged toads also made frequent temporary forays into uplands. Netting confirmed the presence of populations in Colorado and Wyoming, and detected additional populations in western Montana.

Air, Water, & Aquatic Environments Science Program

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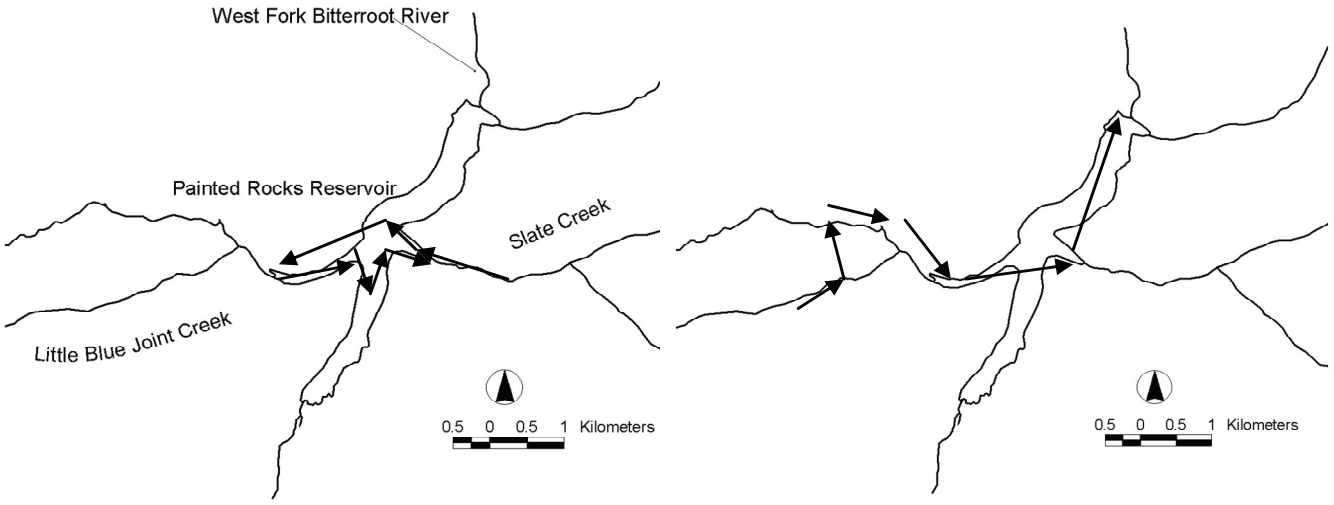

Movements of two toads in July-August 2003 in western Montana.

Publications & Presentations

Adams, S. B., D. A. Schmetterling, and M. K. Young. 2005. Instream movement by boreal toads (*Bufo boreas boreas*). Herpetological Review 36: 27-33.

Young, M. K., G. T. Allison, and K. Foster. 2007. Observations of boreal toads (*Bufo boreas boreas*) and *Batrachochytrium dendrobatidis* in south-central Wyoming and north-central Colorado. Herpetological Review 38: 146-150.

Schmetterling, D.A., and M.K. Young. 2008. Summer movements of boreal toads (Bufo boreas boreas) in two western Montana basins. Journal of Herpetology 42:111-123.

Young, M.K., David A. Schmetterling. 2009. Age-Related Seasonal Variation in Captures of Stream-Borne Boreal Toads *(Bufo boreas boreas, Bufonidae)* in Western Montana. Copeia 1: 117-124.

Allison, G.T., K. Foster, and M.K. Young. 2006. Detecting presence of boreal toads (*Bufo boreas boreas*) in Wyoming and Colorado: can stream channel trapping substitute for breeding site surveys? Presented at the biannual meeting of the Boreal Toad Recovery Team, Steamboat Springs, CO, 23 February.

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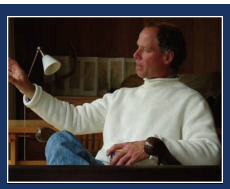

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