

DAILY ACTIVITY PATTERNS OF WESTERN TOADS ON THE TARGHEE NATIONAL FOREST, IDAHO^{TWS}

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Populations of many amphibian species appear to be declining in locations all over the world, including the Pacific Northwest. For example, many populations of the western toad (*Bufo boreas*) have undergone decline or local extinction throughout much of their range. Answers to questions about amphibian decline and plans to conserve species such as *Bufo boreas* require knowledge of the natural history and normal behavior of healthy animals, preferably in their natural environments. With the use of radio transmitters (1.8 g, externally mounted, we conducted a focal-animal study on the daily activity pattern and movements of individual free ranging *Bufo boreas*. This study was conducted during July and August of 1994 and 1995 on the Targhee National Forest, Idaho. We observed four adult male toads each year. Observation periods were three hours and occurred throughout the 24 hour day. Dependent

variables included activity index (number of active minutes per total minutes), distance moved (cm per total minutes), and number of feeding strikes (strikes per total minutes). Independent variables included hour of day, air temperature, and relative humidity. Considerable individual variance existed between toads. Surface activity rate peaked between 2100 and 2400 hours. Surface activity occurred over a broad range of temperatures (-2° C to 27° C) and occurred over a broad range of relative humidity (60%-100%). Distance moved increased during the night as toads moved from a daily retreat site to water or warm substrate. Most movements took place between 5°C and 16°C with low distance movement above 16°C. Movements increased as relative humidity increased above 75 percent. Feeding strike rate peaked during mid-day and occurred over a broad range of temperatures and relative humidities.