

MOVEMENT PATTERNS OF THE
CALIFORNIA RED-LEGGED FROGS (*RANA AURORA DRAYTONII*)
IN AN INLAND CALIFORNIA ENVIRONMENT

Thesis by
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ABSTRACT

During the fall, winter and spring of 1999-2000 and 2000-2001 I tracked 29 radio-transmitted individuals of the California red-legged frog (*Rana aurora draytonii*), a federally threatened species, at a series of 8 pools within the intermittent Round Valley Creek in Round Valley Regional Preserve, Contra Costa County, California. I found that there was no significant difference in body weight or length between those frogs that moved and those that didn't. The majority of frogs (57%) stayed at their source pool spending 47% of their time within specific locations within the pool. The remaining 42% moved away from their pool, either terrestrially or aquatically, on at least on occasion. I observed 43 terrestrial forays by 12 frogs and 18 aquatic forays were undertaken by 10 frogs within the aquatic environment. All movements started after the first 0.5 cm of rain in the fall, with more terrestrial movements being made in the fall pre-breeding season (57%) than in the winter breeding season (32%) or spring post-breeding season (11%). Frogs moved greater average distances aquatically (84.6 m) than terrestrially (27.7 m). Greater terrestrial distances were moved in the pre-breeding season (35.2 m) than in the breeding season (15.5 m) or post-breeding season (16.3 m) with the majority of movements occurring for only one of the 3-4 day survey periods. The majority of frogs (57%) were position faithful within a pool. The 12 individuals that moved onto land were found in 16 different locations, of which 7 were on north-facing slopes. The 16 locations were significantly closer on average to the source and nearest pools than the average of 17 randomly located plots. Frog locations had significantly more cover of surface objects and cover under objects than random plots.

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