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***RANA DRAYTONII* (California Red-Legged Frog). PREDATION.**

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Important causes for the decline of *Rana draytonii* are thought to be habitat loss, exploitation by the restaurant industry (Jennings and Hayes 1985. *Herpetologica* 41:94–103), and competition and predation from introduced fishes and frogs (Moyle 1973. *Copeia* 1973:8–22). By the time the California Red-legged Frog was federally listed in 2002, it had disappeared from much of its original range, leaving little opportunity to study interactions between this native species and the introduced American Bullfrog (*Rana catesbeiana*). Competition between the two species at the larval life stage has been described (Lawler et al. 1999. *Cons. Biol.* 13[3]:613–622), and two recent reports have established that adult American Bullfrogs prey upon the tadpole and juvenile stages of *R. draytonii* (Cook and Jennings 2001. *Herpetol. Rev.* 323:182–183) and on adults (Cook 2002. *Herpetol. Rev.* 33:303). The following account of a recent instance of opportunistic predation by American Bullfrogs illuminates their threat potential to the recovery of California Red-legged Frog populations.

On 3 Sept 2010, I discovered 23 recently metamorphosed *R. draytonii* distributed around the perimeter of an unnamed stock pond in Sonoma Co., California, USA (38.3301°N, 122.5818°W). This small pond (~270 m²) was constructed approximately 20

years ago in heavily grazed rangeland, and this account marks the first sighting of California Red-legged Frogs at this location. The pond and its surroundings are devoid of vegetation; the newly transformed frogs were basking in shallow water or sought cover in refugia created by deep cow tracks at the pond edge. I also observed, collected, and dispatched seven adult American Bullfrogs present at the pond and analyzed their stomach contents. Among the seven American Bullfrogs (five gravid females and two males), each of four females (SVL 136–144 mm) had one newly transformed juvenile (SVL 26–31 mm) California Red-legged Frog in their stomach, and two of them had two each. Each of the seven American Bullfrog stomachs also contained at least one California Newt (*Taricha torosa*) larva (≤ 3) and aquatic insects (notonectids, ≤ 13).

Predator-prey interactions are seldom witnessed in the wild due to their short duration and disturbance by observer presence (Major 1990. *Ibis* 132:608–612), but predation events may be inferred from the stomach contents of predators. The above incident, and those described by Cook and Jennings (2001, *op. cit.*) and Cook (2002, *op. cit.*), suggest that predation by American Bullfrogs on California Red-legged Frogs might be more widespread than previously observed. Both species occupy the same ponds with some regularity (Cook and Jennings 2007. *Herpetologica* 63[4]:430–440). Considerable overlap occurs in the preferred diet of adult American bullfrogs and California Red-legged Frogs (Hayes and Tenant 1985. *Southwest. Nat.* 30[4]:601–605), and continued loss of habitat concentrates resources, bringing these two species together with greater frequency.

In a controlled experiment (Corse and Metter 1980. *J. Herpetol.* 14[3]:231–238) adult American Bullfrogs that were forced a diet of juvenile conspecifics completely digested their meal in 41 h. At the Sonoma Co. stock pond described above, two of the American Bullfrogs had each eaten two juvenile California Red-legged Frogs. If each adult American Bullfrog ate two California Red-legged Frogs, given the observed rate of digestion described above, the seven adult American Bullfrogs present could potentially consume all 23 of the observed juvenile California Red-legged Frogs over a four-day period. Adult California Red-legged Frogs probably prey on juvenile American Bullfrogs, but the coexistence of these two frog species at ponds may belie a dynamic predator-prey relationship that favors the larger American Bullfrogs. The presence of American Bullfrogs in historical California Red-legged Frog habitat could pose a serious threat to the recovery of this threatened species.

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