

COYOTE (*Canis latrans*) IN THE FLORIDA KEYS

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Coyotes historically occurred across much of western North America, but their range has expanded in the past 50-100 years to include most of eastern North America (Hill et al. 1987, Gompper 2002). Three factors have likely led to this eastern expansion. First, eradication of larger predators such as the gray wolf (*Canis lupus*) and red wolf (*Canis rufus*) reduced competitive pressures on coyotes (Thurber and Peterson 1991, Gompper 2002). Second, dramatic landscape changes, primarily through intensive logging, provided old field and other early successional habitats preferable for coyotes (Gompper 2002). Third, humans imported and released coyotes outside their range (Hill et al. 1987, Wooding and Hardisky 1990). The first two factors probably contributed most to the extensive range extension of coyotes in the past century, with coyote releases being less important (Parker 1995).

Coyotes were rare in the southeastern United States before the 1960s, but they have increased dramatically since then (Wooding and Hardisky 1990, Hill et al. 1987). Coyote populations expanded throughout northern Florida in the 1970s and into south central Florida by about 1990 (Brady and Campbell 1983, Wooding and Hardisky 1990, Maehr et al. 1996). Although coyotes were introduced to isolated sites in south-central Florida in the 1920s (Hill et al. 1978), stable populations apparently were not established, and it is not known whether introduced coyotes influenced the ongoing, natural range expansion that was occurring (Maehr et al. 1996, Main et al. 2000). Coyotes continued their southern expansion through the 1990s and by 2000 were present throughout mainland Florida, but still were not reported in the Florida Keys (Main et al. 2000, Peyton et al. 2011).

On 01 March 2011 at 0447 EST, a coyote was photographed remotely on north Key Largo (25.2963° N, 80.2853° W) by a passive infrared digital camera. The animal was in a wooded area adjacent to a residential development. At about 0600 EST on 29 September 2011, we observed a coyote as it crossed a road between a residential development and a hardwood hammock, 1.6 km northwest of the March location (25.3087°N, 80.2952°W). On 25 April 2012, another remote camera on Key Largo recorded a coyote in hardwood hammock on Crocodile Lake National Wildlife Refuge (25.1936°N, 80.3548°W), 13.4 km south of the first sighting. Most recently, a coyote was photographed remotely on 06 December 2012 at 1204 EST at the same location as the April 2012 sighting (Wildgame Innovations, Grand Prairie, TX, USA; Fig. 1). These sightings, which span 647 days, represent the first documentation of coyotes immigrating to the Florida Keys (Peyton et al. 2011). Young and Jackson (1951:15) stated that at least one coyote was killed previously in Key Largo, but they provided no supporting details. If that record is accurate, we presume the animal was introduced because at that time the only coyotes known in Florida were animals released by hunting groups, and no other coyotes have been recorded in the Keys since then (Schwartz 1952, Lazell 1989).

We assume the recent coyote reached Key Largo on its own by traversing one of the 2 roads that connect the island to the mainland via bridges (Fig. 2). Coyotes are present in



Figure 1. Coyote photographed by remote infrared digital camera on north Key Largo, Florida, 06 December 2012.

Everglades National Park (Peyton et al. 2011), and one would need to travel less than 20 km from agricultural areas south of Florida City to reach upland habitat on Key Largo. The animal likely traveled along Card Sound Road, rather than U.S. 1, because Card Sound Road has less traffic and it is a more direct route from the mainland to where the coyote was first observed on Key Largo (22 km, versus 41 km along U.S. 1). It is also possible, but unlikely, that humans transported the coyote and released it on Key Largo. We assume that all observations reported here are of the same animal, but we cannot be certain. Regardless, the relatively short distance from occupied habitat on the mainland makes it likely that other coyotes have emigrated from the mainland to Key Largo or will in the future.

The presence of a coyote on Key Largo is more than a curiosity. Two federally endangered rodents, the Key Largo woodrat (*Neotoma floridana smalli*) and Key Largo cotton mouse (*Peromyscus gossypinus allapaticola*), are endemic to north Key Largo, and coyotes might adversely impact their populations, particularly the critically small population of the woodrat (McCleery et al. 2006). In south central Florida, Thornton et al. (2004) found that rodents comprised a smaller portion of the diet of coyotes than did rabbits (*Sylvilagus* spp.) or large mammals, such as deer (*Odocoileus virginianus*) and hogs (*Sus scrofa*). However, the absence of large mammals on Key Largo may lead coyotes to prey more often on the endangered rodents. On the other hand, coyotes are also known to limit densities of mesocarnivores, such as feral cats (*Felis catus*), and this might benefit the imperiled rodents and provide an opportunity for their recovery (Gompper 2002). Managers will need more information about the effect of coyotes on endangered species and other wildlife on Key Largo in order to make informed decisions about managing coyotes. For now, the important questions are whether a breeding

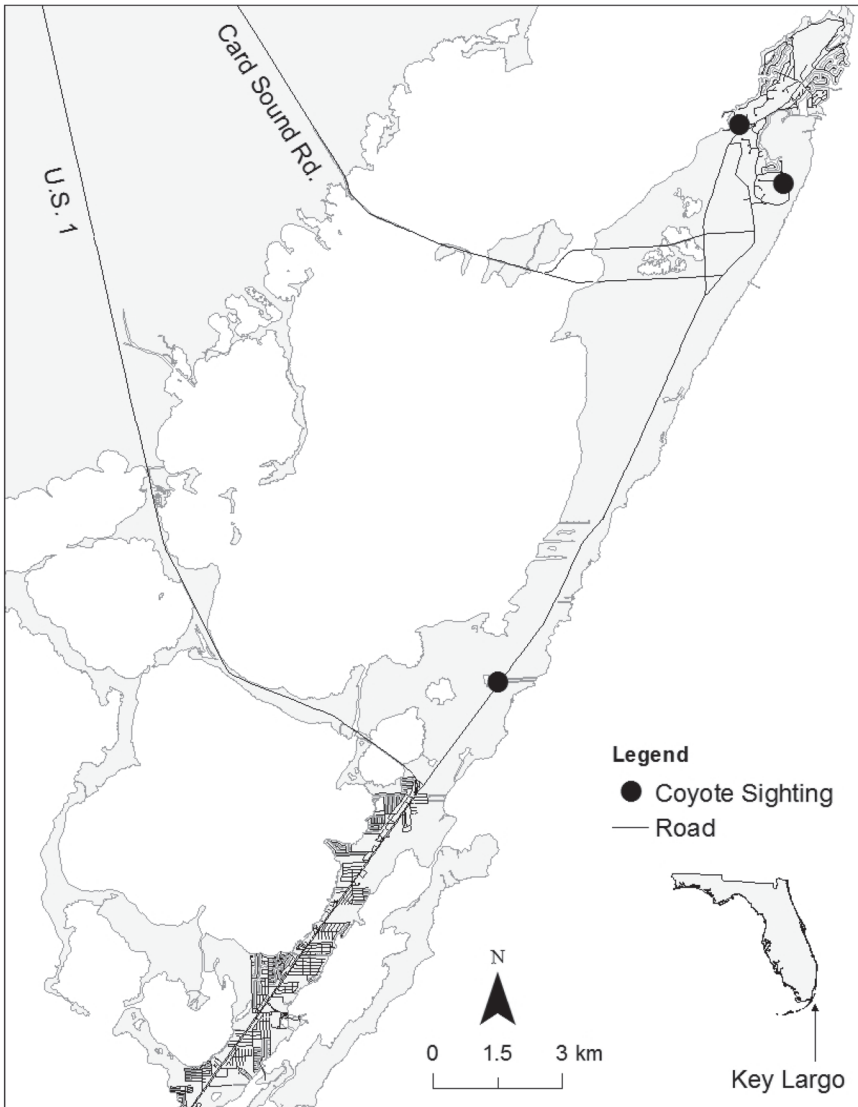


Figure 2. Locations of where a coyote was observed on north Key Largo, Florida, March 2011 – December 2012.

population of coyotes currently is established on Key Largo and whether anything can or should be done to prevent coyotes from expanding their range in the Keys.

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