The effect of coterie relocation on release-site retention and behavior of Utah prairie dogs.

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Abstract:
Utah prairie dogs (Cynomys parvidens) have been extirpated in 90% of their historical range. Because most populations in Utah occur on private land, this threatened species is continually in conflict with landowners. The Utah Division of Wildlife Resources has been relocating Utah prairie dogs from private to public land since the 1970s, but relocations have been largely unsuccessful because of high mortality. Utah prairie dogs are highly social animals, but they are usually relocated without regard to their family group, or coterie. We predicted that relocating Utah prairie dogs with other coterie members would improve their survival rate and result in post-release behavior similar to non-relocated animals. We chose to investigate release-site retention as a measure of relocation success because we were unable to separate emigration from mortality. We relocated Utah prairie dogs from the Cedar Ridge Golf Course in Cedar City, Utah to 2 prepared sites near Bryce Canyon National Park, Utah in 2010 and 2011. We relocated prairie dogs as groups of coterie members or in a control group of individuals trapped with no regard to relatedness. Two months after relocation, we set traps to recapture animals to estimate release-site retention. We quantified activity budgets prior to and following relocation on study animals as well as from a previously established relocated prairie dog population on public land. The best predictor of release-site retention and recapture rate was the animal's weight at initial capture. Larger animals had high retention but low recapture rates. We found no differences in site retention or behavior between prairie dogs relocated with coteries and controls. Relocated individuals behaved more like prairie dogs on public lands than animals in the urban source population, but behaviors were still different from prairie dogs on public lands. We recommend relocating large, adult Utah prairie dogs rather than juveniles or relocating juveniles later in the trapping season to increase relocation success rate. We also suggest that future research should focus on developing additional release methods to reduce dispersal and increase site retention.