Habitat selection by elephants in a multiple-use corridor in the southern Western Ghats

Large mammals such as Asian elephant (*Elephas maximus*) may show complex patterns of habitat selection, varying over space, time, and scale. These habitat requirements affect their ability to use corridors through fragmented, human-dominated areas. Further, their tolerance for modified habitat may also affect the potential for conflict with humans. Thus, understanding elephant habitat selection and use outside protected areas is critical to achieving connectivity while minimizing conflict. We surveyed elephant populations over four years around the Shencottah Gap: a mosaic of forests, estates and settlements separating two reserves in the southern Western Ghats. We conducted extensive sign surveys, followed by intensive camera trap surveys to quantify the factors that determine elephant preference or avoidance. Elephant distribution was strongly influenced by correlates of human disturbance, with physical factors such as terrain and water also having an effect. However, their selection for each of these factors varied with spatial scale and season. Further, elephants used even highly disturbed areas during periods of low human activity. Thus, connectivity for low-density elephant populations across human-dominated areas could potentially be achieved through a) spatio-temporal separation between human and elephant use, b) enhancement of preferred habitat features within corridors, and non-preferred features in adjacent areas.