

Cassowaries

Keystone species have a very direct and influential impact on their environment. One such species is a great bird called a Cassowary. Cassowaries currently live in Australia, Papua New Guinea, and areas of Indonesia. They are colorful, large flightless birds comparable in structure to that of the ostrich and the emu. Their habitat is a naturally dense tropical rainforest, but due to deforestation they have been able to spread to woodlands, swamps, and beaches. Their ideal home range is a rainforest filled with many fruiting trees, as these birds are frugivores and can eat from approximately 200 diverse fruiting trees. They swallow the trees' fallen fruit whole and disperse the seeds throughout the forest through excretion. This simple act is the reason Cassowaries are a keystone species. Often the seeds in the tree fruit are very large and can only be distributed longer distances with the help of the cassowaries. The seeds are unharmed and fertilized by the Cassowaries' droppings and are able to grow. Through this process Cassowaries maintain tree diversity throughout the forest and help stabilize the entire ecosystem. However, Cassowaries are also an endangered species due to deforestation for the expansion of residential areas and agriculture.

The Southern Cassowary was listed as an endangered species under the Environment Protection and Biodiversity Conservation Act of 1999. They reside in the northern region of Australia, specifically Cape York, Mission Beach, and the Wet Tropics. In 1988 it was estimated that 2,500-4,000 adult Southern Cassowaries remained, however in 2001 less than 1,500 remained, and the number continues to decline today where the total population is estimated to be 1,000. The main reason behind this decline is urban development within their environment. The Cassowary requires a large home range, however this is fragmented and invaded by urban development such as roads, cars, and residential areas. Before 1997, an estimate of 80% of habitat in the Wet Tropics coastal lowlands had been cleared, and 70% of forest in Mission Beach cleared before 1992 (Australian Government). As a result of urban development in Australia, many Southern Cassowaries die from vehicles, human confrontation,

and unrestrained dogs. Though originally a very shy creature, the modern Cassowary does not have much area to hide and therefore is forced to take dangerous risks travelling directly through developed areas. They often come into confrontations with dogs and humans and will attack if they feel they are being threatened. This leads many people to believe the birds are dangerous and results in unreported deaths of Cassowaries due most likely to shootings. The proximity to humans due to receding habitat is no doubt driving the Cassowary to extinction not only in Australia but in New Guinea, and Indonesia as well.

In the effort to prevent the Southern Cassowary as well as the Cassowary populations in other regions of the world from becoming extinct, government and interested parties should inform the public of the importance of the Cassowary as a keystone species, along with information of their habitat, behavior, and the threats on their survival. For example, in Australia, road signs have been installed to warn drivers that Cassowaries frequently cross the roads, and this will hopefully result in fewer Cassowary deaths due to vehicles. One effort that will prove to be difficult to accomplish is to stop urbanization in Cassowary territory. The size of their home range has already been restricted to a barely tolerable living area, and any more development will bring about their extinction in the wild. Sacrificing the lives of Cassowaries for urban expansion will also lead to the extinction of many rare and native fruiting trees and therefore many organisms that depend on these trees. Conservation efforts must be effective if the diverse rainforest is to continue to exist and support its inhabitants. Many ecosystems are intricately interwoven and harm to one will result in harm to the other.

One positive outlook is that people are becoming more informed of the importance of the iconic bird because of how close it is to becoming extinct, and efforts to prevent its extinction are taken very seriously among the public and the government affiliated with Cassowary areas.