

## NeNe Geese on Maui

Clayton Botkin

The Hawaiian Islands are an incredible place to see wildlife. Species inhabiting these unique islands, secluded in the Pacific Ocean by a vast barrier of water, are unique and possess some traits not seen elsewhere in the animal kingdom. One of the unique species to this region is the NeNe goose. The NeNe is the state bird of Hawaii and for good reason. This species was the subject of extreme predation by introduced non-native species of Hawaii, namely the mongoose and rats. NeNe are a very quiet and inquisitive goose by nature, as they evolved in a habitat of extreme isolation and were never forced to evolve with a notion of fear of predation. This unusual characteristic of a wild species made them easy prey for mongoose, which take their nests, babies and sometimes mature birds, and rats, which can easily destroy their nests. They were also easy prey for natives and human inhabitants on the islands.

In the late 1950's, the US Fish and Wildlife Service documented a drastic decline in the NeNe population on the 2 islands they inhabited, Maui and the Big Island. Following various population surveys, they estimated the population to be around 30-50 birds. As many birds as possible were caught and penned. They then were sent to the Wildfowl and Wetland Trust (WWT) in England. WWT was deemed one of the best producers of rare waterfowl species at the time and they were entrusted to produce as many NeNe as possible for eventual reintroduction programs into the wild.

In the 1970's, the reintroduction programs began. WWT had been very successful at getting NeNe's to reproduce and had built a flock of many generations that were all successfully breeding. Birds had also been distributed to other breeders and facilities so captive populations were healthy. Birds were sent back to Hawaii to begin a local reintroduction and reproduction program.

In December of 2012, I was able to go to the island of Maui and experience the natural habitat of the NeNe. We were also lucky enough to be able to see a pair of wild NeNe and get very close to them. I have kept NeNe since 2001, with mixed success at getting them to reproduce, though my challenges are likely due to reduced genetic viability as it is likely there are some close relations among my birds. There have been some recent imports into Canada of NeNe and they will likely contribute to the continued long-term success of these birds in Canadian collections.

The pair of NeNe we saw was grazing on planted grass alongside a parking lot. Oddly enough, they were grazing at an altitude of 8,000 feet, on a plateau of a steep mountain slope. For perspective, 8,000 feet is where altitude sickness can set in, and the air has 25% less oxygen than at sea level. This elevation is twice the elevation of Vancouver's Grouse Mountain, which has its peak at 4,000 feet. The mountain they inhabit is one of two mountains on Maui, and its peak is at 10,026 feet. The area in which the pair resided was densely covered with vegetation up to about 4 feet high. Had the birds not been in the open area of the parking lot, it is very unlikely we would have ever seen them as their colour matches their surroundings almost perfectly.

The birds were identical in appearance to the captive birds I have seen and kept, which I think is an excellent sign that we are doing a good job in our captive mating in keeping the wild characteristics and size. There were a couple of minor differences, mainly in colour, with the wild birds being slightly more dark in all their colours compared to my own birds, but that is likely a difference of diet. In terms of size, they were identical. An interesting observation of the wild pair was that in our 30 minutes of observation, they never made a sound. Anyone who keeps NeNe in captivity knows they are rarely silent. Maybe it is because they were busy foraging, but I also wonder if perhaps they are quieter to not alert potential predators to their whereabouts.

I did some investigation and learned that the NeNe on Maui and the Big Island is at a stable population of about 800 individuals. It has not been growing, but is stable and in some areas, it is suspect of shrinking. They are still under extreme predation from Mongoose and rats in these areas. The birds have recently been introduced to the island of Kauai and early observations suggest they are doing very well there, with populations growing at a very successful rate. There is reportedly no mongoose on the island and the rat population is more under control.

The story of the NeNe is a real success story for those producing the birds in captivity. It should also be considered by those opposed to the preservation of endangered species by keeping a gene pool in captivity. The practices we develop for reproducing our captive birds, whether they are chickens, ducks, geese, songbirds, or any other species, are largely applicable in instances like the NeNe. We can use captive practices to encourage species to reproduce, and then use our knowledge of line breeding and mating of pairs to maintain, as closely as possible, the wild species, which can then be reintroduced. Without the captive management at WWT, the NeNe would be long extinct. All producers of birds in captivity should be familiar with this case and contribute to it by sharing their knowledge of how to successfully reproduce all species, as we never know what the next case of extinction may be and we may all need to

play a part in its conservation. The best way to do this is by sharing those tips and tricks that work to keep your breeding successful with others and spreading potential breeders around.



**A pair of wild NeNe grazing in Haleakala National Park at 8,000 feet. The gander was banded, the goose was not.**



**A warning sign along the highway to the park.**



**The same pair grazing, with habitat in the background.**



**The NeNe's natural habitat and vegetation at 8,000 ft. Note the lack of water. There were only a few small creeks in the area along the drive down the mountain.**

