Alien Invasion: Mongoose In Puerto Rico



**What:** Indian Mongoose

**Where:** 72 mongooses were introduced into Puerto Rico from Jamaica and the British West Indies.



**When:** the mongoose were introduced into Puerto Rico in 1877.

**Why:** they were introduced to protect sugar cane fields from rat and snake damage. This is because at the time the methods of rat control which were employed on sugar cane plantations were inadequate to cope with the severe problem that existed.

**Consequences:**

Economic**:** in the early 20th century the greatest contributor to Puerto Rico's economy was agriculture and its main crop was sugar cane. The introduction of the mongoose was a big problem for the country’s economy as exports were damaged, therefore their source of income was affected. About 10% of its land was used for sugar cane plantations, so the mongoose caused a lot of damage for the farmers. Annually, it costs the island $50 million in damages. Within the last few years, the mongoose have also affected tourism in the area, it supplied an approximate $1.8 billion to the country.

##### Environmental: while the mongooses did kill some rats, they preferred killing birds, reptiles and other small mammals. The Indian mongoose is to blame for the presence of many birds, turtles, lizards and rabbits on the endangered species list worldwide. The mongoose is responsible for the extinction of at least 12 reptile and amphibian species in Puerto Rico, including the decline of native fauna such as the Yellow-shouldered Blackbird and possibly the Elfin-woods Warbler. Furthermore, mongooses have also damaged banana and papaya crops. Social: the mongooses are carriers of infectious diseases, including leptospirosis and rabies. From 1911 to 1933, 21 cases of rabies were diagnosed in dogs and farm animals, while none were found in mongooses. From 1933 to 1950, the island was considered one of the few rabies-free areas in the world. The mongoose has also been shown to have a high occurrence of leptospirosis, which was seen to be dangerous for humans. This prompted the Public Health Service to find a method for controlling the mongoose.

##### Solutions:

##### The government tried to eradicate the mongooses off the island. The latter eradication campaign was initiated by the US National Park Service in 1962. After 10 years of trapping and poisoning, mongooses remained, and eradication efforts were eventually stopped.

##### On Isla Piñeros, fish baits with thallium sulfate may have killed all adult mongooses, which ceased to appear in traps seven days after poisoning began. However, four months later some young mongooses were trapped, indicating that either they had been present in dens, had been too small to spring the traps, and/or bait density had been insufficient to put these young mongooses at risk.

##### Currently, the US Forest Service and USDA APHIS Wildlife Services cooperate with the El Yunque National Forest to protect the critically endangered Puerto Rican parrot. The US Forest Service annually spends about $10,000 a year with two personnel who trap periodically, so the cost for mongoose control alone is difficult to estimate. A scheduled control of rabies virus vectors was planned for 2010, and targets included the mongoose.

##### Conclusions: when animals are introduced to a foreign environment they not only have a harmful effect on the ecological system but on the people and its economy as well. I think the best time for eradicating alien species is when the invasion is in its early. At present many islands inhabited by mongoose are too large for eradication. Intensive localised control could benefit species that are at risk until eradication methods are developed. As more mongoose eradications are attempted, it is important that lessons are learned from each attempt (whether successful or unsuccessful) and the skills learned should be shared to ensure success of future efforts.