

Samoa's Pe'avao: An Endangered Animal

(Adopted from an article titled 'Pteropus samoensis: Samoan flying fox, by Stacie Holmes of the University of Michigan, May 2000)

Samoa's flying fox or pe'avao (*Pteropus samoensis*) which is found only in the Samoa archipelago has been recognised as an endangered species requiring serious protection. This was due to the economic, social, biological and ecological values of this particular species not only within Samoa but also throughout the Pacific region.

Some of the positive impacts of this animal include its responsibility for the pollination and seed dispersal of 300 species of plants in South Asia, tropical Africa, and the Pacific Islands. Most of these plants are not grown in plantations; therefore, they absolutely rely on these bats for regeneration. Most of these products are used locally, but some are exported. Bananas provide a good example of the importance of these bats. Although the cultivated varieties do not require pollination for fruit development, most of the 20 known wild species do. These wild bananas are primarily pollinated by bats and these plants in turn, according to Fujita (1998), "provide important genetic reservoirs for cultivate improvement and for combating disease, such as fungal root rots". Some of the other plants pollinated by flying foxes may also have medicinal properties that have not yet been studied.

Many reasons posed up why the pe'avao is considered to be in a critical condition. As described by many researchers and authors, human activities were singled out as the major cause of the decline of its population, 50-80% in the late 1980s and the early 1990s (Banack, 1998). Since the species relies upon primary forest, it is very vulnerable to habitat destruction due to deforestation and hurricanes. Yet, commercial hunting has been the major contributor to its decline.

In many Pacific Islands bat meat is considered a delicacy. Pe'avao is one of the species that is preferred because of its superior taste and low number of ectoparasites. Rainey (1990) described the situation: "For the Chamorro people of Guam and the adjacent Commonwealth of Northern Marianas (CNMI), flying foxes are a traditional delicacy, served at birthdays and other personal and community social gatherings." The flying fox trade had been growing strong since the 1960s and 1981 – 1984 saw large exports of *P. samoensis* to Guam (Banack, 1998). Since then, this species has been listed as a Category 2 Candidate Endangered Species under the U.S. Endangered Species Act (Banack, 1998) and classified as endangered by the International Union for Conservation of Nature and Natural Resources (Brooke, 2001). Also, American Samoa and Western Samoa have both passed legislation to protect these bats from hunting and exportation.

Hunting of bats also happens more often in places they roost. Owls may prey on them in certain portions of their range. (Banack, 1998).

All flying foxes of the genus *Pteropus* play an important role as pollinators and seed dispersers. Brooke (2001) describes this well: "Particularly on small isolated islands with low biodiversity, flying foxes play an important role in maintaining forests by enabling seed and pollen dispersal. Loss of valuable flying fox populations may have a cascading effect on native forests ecosystems". Without flying fox species such as *P. samoensis* the dominant trees of these native forests would have a hard time regenerating and the

genetic flow between different populations of each individual tree species would be greatly reduced (Banack, 1998).

This species is considered a generalist. It feeds on 32 different plant species of which 91% grow in primary forest. Fruit is the main component of this bat's diet, but leaves and flower parts are also eaten. (Banack, 2001).

For its reproduction stage, the female pe'avao gives birth to one young per year. The species has a long seasonal reproductive period that lasts from March through October, with the peak birthing times falling in May and June. Copulation can occur from August to December, with some occurring while females are still caring for large young. (Banack, 2001). When juveniles become half the size of the adults, they begin to fly. Often times, the mother will still feed the young when they are three-fourths her size. (Banack, 2001).

Regarding its behaviour, it has been observed roosting alone and in male-female pairs with the offspring of the current year. Roosts are dispersed throughout the forest. This species is considered to have a monogamous social organization because repeated use of roost sites by pairs have been observed (Brooke, 2001). Sometimes larger groups, up to nine individuals, have been seen roosting at one place, but there are never the larger aggregations that can occur with some bat species. (Banack, 1998).



How the flying fox got its wings?

This is a story of how the flying fox got its wings. It started a long time ago when the rat fooled the flying fox or pe'a to have a friendship.

One day the rat saw the flying fox eating from the fruits of the gatae. He called to it but the fox flew away and hung from the ifi, another tree whose fruits the flying fox loved. The rat also went away and climbed up on the ifi where the pe'a was and it saw the rat coming up. The rat was so eager to have the wings of the flying fox or pe'a asked the pe'a if he could borrow its wings so that he can fly up the sky to view the earth from above.

And so the pe'a reached for his wings, took them and fastened them to the body of the rat, and the rat said to the pe'a: Please allow me to give you for safekeeping my things which will interfere with my motions. So it gave the pe'a its tail and its four feet and the pe'a took them and put on the feet and also

put the tail on its rear.

The pe'a said once more: Sir, do come back soon so that I will not be delayed. And the rat answered: I will come quickly, just stay and eat till you have had enough. And so the rat flew away while the pe'a ate and ate and looked after the rat that flew further and further away and did not turn back. Then the pe'a wept and these were his words: Aue, aue, aue! The rat fooled me, it left with my wings.



Childrens Corner



Answer True (T) or False (F) to the following statements:

- | | T | F |
|--|--------------------------|--------------------------|
| 1. The pe'avao is endemic to the Samoan Archipelagos. | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. The Samoan Flying Fox is an endangered specie in the Pacific islands. | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. Deforestation help the population of this specie to increase. | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. An endangered species is rare and should be protected. | <input type="checkbox"/> | <input type="checkbox"/> |
| 5. Hunting flying foxes or pe'a is banned in Samoa. | <input type="checkbox"/> | <input type="checkbox"/> |
| 6. The pe'avao gives birth to at least one young in a year. | <input type="checkbox"/> | <input type="checkbox"/> |
| 7. Bat meat is a delicacy in the Pacific islands . | <input type="checkbox"/> | <input type="checkbox"/> |
| 8. Pe'avao is highly responsible for dispersing seeds of native forests trees. | <input type="checkbox"/> | <input type="checkbox"/> |
| 9. Everyone is responsible for the protection of the pe'avao. | <input type="checkbox"/> | <input type="checkbox"/> |
| 10. The Samoan flying fox behaves like a monogamous animal. | <input type="checkbox"/> | <input type="checkbox"/> |

Word Find

Peavao
Pteropus
Monogamous
Delicacy
Seeds

Flying Fox
Samoa
Roost
Deforest
Hunting

Endangered
Pollinate
Disperse
Native
Protection

P	X	O	F	G	N	I	Y	L	F	R	D	A	P	W
S	E	E	D	S	N	R	C	B	V	E	G	T	R	L
I	R	A	A	N	E	I	A	J	C	V	R	T	O	I
L	E	E	V	O	L	N	C	U	C	I	E	O	T	M
G	T	G	A	A	R	P	I	P	C	R	T	N	E	A
N	A	T	S	O	O	R	L	N	S	S	N	N	C	R
I	E	N	D	A	N	G	E	R	E	D	O	G	T	E
T	H	S	U	A	M	P	D	R	P	G	I	I	I	T
N	S	N	T	A	I	O	O	F	N	T	T	S	O	A
U	E	I	D	I	L	F	A	N	A	L	C	I	N	N
H	V	E	S	R	E	P	S	I	D	A	E	A	B	I
E	F	O	Y	D	Y	G	R	E	N	E	T	V	I	L
M	O	N	O	G	A	M	O	U	S	N	O	J	R	L
A	R	N	O	I	S	O	R	E	P	R	R	U	D	O
H	Y	D	R	O	P	O	S	U	P	O	R	E	T	P