AMENDMENTS TO APPENDICES I AND II OF THE CONVENTION

A. PROPOSAL

Inclusion of Pteropus mariannus and P. tokudae in Appendix I, and inclusion of Pteropus insularis, P. macrotis, P. molossinus, P. phaeocephalus, P. pilosus, P. samoensis, P. tonganus in Appendix II.

B. PROPONENT

The United States of America.

1. Taxonomy

11. Class: Mammalia

12. Order: Chiroptera

13. Family: Pteropodidae

14. Species: (Following Honacki et al.,1982))

Pteropus insularis Hombron and Jacquinot, Truk fruit-bat
Pteropus macrotis Peters, 1867, big-eared flying fox
Pteropus mariannus mariannus Desmarest, 1822, Marian fruit bat
Pteropus mariannus loochooensis (Gray, 1870) Ryukyu fruit bat
Pteropus mariannus paganensis Yamashima, 1932, Pagan fruit bat
Pteropus mariannus pelewensis (K. Andersen, 1908) Palau fruit bat
Pteropus mariannus ualanus (Peters, 1883) Kosrae fruit bat
Pteropus mariannus ulithiensis Yamashima, 1932, Ulithi fruit bat
Pteropus mariannus yapensis K. Anderson, 1908, Yap fruit bat
Pteropus molossinus Temminck, 1853, Ponape fruit bat
Pteropus phaeocephalus Thomas, 1882, Mortlock fruit bat
Pteropus pilosus K. Andersen, 1908, large Palau fruit bat
Pteropus samoensis Peale, 1848, Samoan fruit bat
Pteropus tokudae Tate, 1934, little Mariana fruit bat
Pteropus tonganus Quoy and Gaimard, 1830, insular flying fox

15. Common Names:
English: fruit bats, flying foxes
French: roussettes
Spanish:
German: Flederhunde, Flughunde
Mariana Island: "fanihi" (P. mariannus)

Yap Island: "maga'lau" (P. m. yapensis)
Somoa Island: "pe'a vao" (P. samoensis)
Somoa Island: "pe'a fauna" (P. tonganus)

16. Code Numbers: 5301405001024 (ISIS)

2. Biological Data

21. Distribution: The genus Pteropus ranges from Madagascar in the West through the islands in the Indian Ocean, southeastern Asia, Indonesia, the Philippines, Mariana and Caroline Islands, Papua New Guinea, eastern Australia, East to Fiji, Tonga, Samoa and thence to the eastern-most extremity of their range to the Cook Islands (Payne, 1984, 1986; Walker et al., 1968). The Pteropus of concern inhabit the Pacific islands that comprise Micronesia, Polynesia and Melanesia (Figure 1).

Pteropus insularis - Truk Islands, part of the Caroline Islands - now Federated States of Micronesia (FM)[1].

Pteropus mariannus mariannus - Guam (US), and Aguijan, Rota, Tinian and Saipan of the Mariana Islands now known as, Commonwealth of the Northern Mariana Islands (MP).

Pteropus mariannus loochooensis - Okinawa, Ryukyu Islands to Japan.

Pteropus mariannus paganensis - Pagan and Alamagan of the MP.

Pteropus mariannus pelewensis - Palau Islands of the Caroline Islands now the Republic of Belau (=Palau). (US).

Pteropus mariannus ualanus - Kosrae Island of the Caroline Islands (FM).

Pteropus mariannus ulithiensis - Ulithi Atoll of the Caroline Islands (FM).

Pteropus mariannus yapensis - Yap Island of the Caroline Islands (FM).

Pteropus molossinus - Pohnpei Island (=Ponape), and Mortlock Islands of the Caroline Islands (FM).

Pteropus phaeocephalus - Truk Island, and Mortlock Islands of the Caroline Islands (FM).

Pteropus pilosus - Palau Islands of the Caroline Islands, now Republic of Belau (US). This species may be extinct according to Koopman (pers. comm. to Greenhall, 29 Dec. 1986).

Pteropus samoensis - Fiji Island (FJ), Samoa (WS), and American Samoa (AS).

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1. Letters within parentheses are the codes for countries and dependent territories established by the International Organization for Standardization.

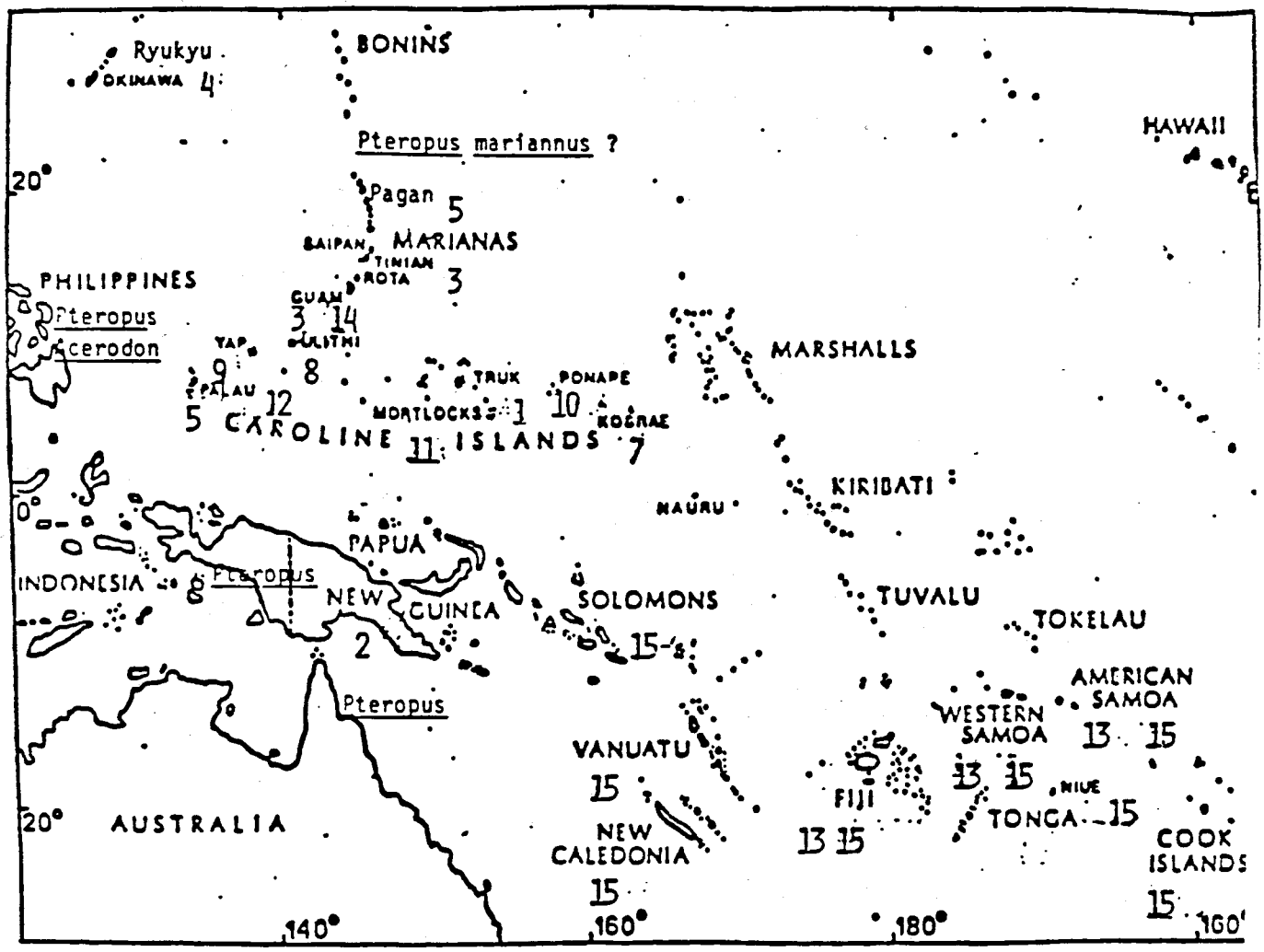

Figure 1 - RANGE OF PACIFIC FRUIT BATS, PTEROPUS & PROPOSED CITES APPENDIX

1. P. insularis (II)
2. P. macrotis (II)
3. P. mariannus mariannus (I)
4. P. mariannus loochooensis (I)
5. P. mariannus paganensis (I)
6. P. mariannus pelewensis (I)
7. P. mariannus ualanus (I)
8. P. mariannus ulthiensis (I)
9. P. mariannus yapensis (I)
10. P. molossinus (II)
11. P. phaeocephalus (II)
* 12. P. pilosus (II)
13. P. samoensis (II)
* 14. P. tokudae (I)
15. P. tonganus (II)

*= possibly extinct

Note - Nomenclature follows Honacki et. al. (1982)

Pteropus tokudae, - Guam (GU). This species may be extinct according to Honacki et al., 1982

Pteropus tonganus - AS, WS, FJ, Papua New Guinea (PG), Karkar Islands, Karkar Island of the Solomon Islands (SB), Vanuatu (VU - formerly New Hebrides), New Caledonia (NC - to France), Tonga (TO), Niue (NU - to New Zealand), Cook Island (CK - self-governing).

Pteropus macrotis epularis - PG.

22. Population: Before the 1970's little is known about the historic populations of Pteropus in Micronesia other than comments such as common or abundant and, therefore, it is difficult to arrive at a base population figure. However, the Pteropus population in the Mariana Islands was much more abundant prior to the 1970's than at present. Estimates for the Mariana Islands are based on imperfect counts - since bats can migrate between islands (Wiles and Payne, 1986).

Population estimates given for the remainder of the fruit bats in Micronesia should be regarded as preliminary and tentative, however, the data is at present the best available (Engbring, 1986).

Pteropus mariannus mariannus

Present estimate is 7,000 for all Mariana Islands and decreasing (Wiles and Payne, 1986; Lemke, 1986).

Guam - 500+ and decreasing
Rota - 1,500 and decreasing
Saipan - 25 and decreasing - (reduced from hundreds of thousands in less than 15 years (Lemke, 1986)
Tinian - 25 and decreasing
Aguijan - 25 and decreasing

Pteropus mariannus loochooensis

Ryukyu - status unknown (Lemke, 1986)

Pteropus mariannus paganensis

Pagan Island - 1,249 to 2,500 and decreasing (Lemke, 1986)

Pteropus mariannus pelewensis

Palau - common - status undetermined (but possibly declining) (Wiles and Payne, 1986)

Pteropus mariannus ualanus

Kosrae Islands - 20,153 - trend undetermined (Engbring, 1986)

Pteropus mariannus ulithiensis

Ulithi Atoll - 1,200 - trend undetermined (Engbring, 1986)

Pteropus mariannus yapensis

Yap Island - 3,152 - trend undetermined (Engbring, 1986)

Pteropus insularis

Truk Island - 5,628 - trend undetermined (Engbring, 1986)

Pteropus molossinus

Pohnpei Island - 53,123 - trend undetermined (Wiles and Payne, 1986)

Pteropus phaeocephalus

Mortlock Islands - no figures (Wiles and Payne, 1986)

Pteropus pilosus

Palau Islands - known only from two specimens since collected and described in 1908 - may be extinct (Koopman, per. comm. to Greenhall, 29 Dec. 1986).

Pteropus tokudae

Guam - last recorded capture in the 1960's - may be extinct (Honacki, et al., 1982)

Pteropus samoensis - solitary species

American Samoa - 1,437
Samoa - 3,690 - trend undetermined
5,137 for Samoa (Engbring, 1986)

Pteropus tonganus - colonial species

Samoa - over 100,000 - abundant (Engbring, 1986)

23. Habitat: In the South Pacific, fruit bats of the genus Pteropus often inhabit forests and swampy areas on small islands. Ecologically, they are important seed dispersers and pollinators for some forest trees and cultivated plants. It is not known what effects the severe reduction or loss of fruit bats will have on native forest regeneration (Wiles and Payne, 1986). It appears that fruit bat populations can be fragile on the smaller islands and atolls. In the Mariana Islands, north of Guam, volcanism has had a significant effect on the vegetation. Thus habitat available to bats before the eruption of Mount Pagan in May 1981 may have been destroyed. Also typhoons can cause extensive damage to vegetation. Trees stripped of foliage, flowers and fruit can cause food shortages for bats (Anon., 1984). Thus, deforestation has occurred on many islands. This not only reduces food sources and roosting sites, but also allows hunters easier access into remote areas (Wiles and Payne, 1986). Except on Pohnpei, habitat destruction at present is not a large problem in the Marianas and Carolines (Wiles and Payne, 1986). Deforestation on Samoa and American Samoa could have a serious affect on the Pteropus population, especially samoensis (Wiles and Payne, 1986; Engbring, draft, 1986; Tuttle, pers. comm, 1986).

3. Trade Data

31. National Utilization: Fruit bats, of the genus Pteropus are traditionally eaten by people throughout most of their range (Wiles and Payne, 1986). In the Mariana Islands, bats are a delicacy for the Chamorro residents. Fruit bats are an important cultural food and served on special occasions such as fiestas, weddings, christenings and holidays. People are willing to pay high prices for the bats depending on special culinary qualities such as unique taste and size. Many non-Chamorro residents on Guam import bats presumably to sell or give to Chamorro friends (Wiles and Payne, 1986). The bats are cooked and eaten whole, including the fur. Since 1930, overhunting has depleted the fruit bats on Guam to the point of extinction.

32. Legal International Trade: (Figures 2 and 3): With the decline of available fruit bats on Guam, residents began importing fruit bats from other islands in the Marianas as well as from Palau and Yap in the Caroline Islands (Payne, 1986; Wiles and Payne, 1986). Local bat populations have plummeted in Rota, Tinian and Saipan and noticeably on Palau and Yap. From 1975 to 1981 the Commonwealth of the Northern Mariana Islands was an important exporter of fruit bats to Guam (P. m. mariannus and P. m. paganensis).

In 1982, Guam stopped importing bats from the MP when P. m. mariannus was listed under the Guam Endangered Species Act, which prohibits the importation of any animal listed as threatened or endangered. The prohibition of P. m. mariannus from other islands is important, however, illegal hunting continues. Bats purchased on the black market bring $25 per animal in Guam and Saipan (Lemke, 1986).

During the 1970's, fruit bat marketers on Guam purchased bats from the Caroline Islands where there is a diversity of Pteropus. There is commercial air service between Guam and the Carolines. During the past decade, Palau had been the major supplier of fruit bats, mainly P. mariannus pelewensis. Exports peaked in 1979 and declined in 1984. Although there are abundant fruit bats on Palau and residents willing to hunt bats for export, a moratorium on firearms in 1982 made it impractical to hunt bats for export. It is suspected that many bats are still illegally killed by firearms and sent to Guam (Wiles and Payne, 1986).

The Yap fruit bat, P. m. yapensis has been traditionally used for food, but the local subsistence harvest had never endangered the bat population. Then, Yap became the second largest exporter of fruit bats to Guam during the 1970's and bat numbers have declined sharply. In 1981 an estimated 1,000 remained (Wiles and Payne, 1986). A moratorium on taking and exporting was declared in 1981. In 1984 and 1986 a survey made by the U.S. Fish and Wildlife Service indicated a population of about 4,000 bats - considerably lower than the number before commercial harvest (Engbring, 1986).

The fruit bat P. m. ulithiensis on Ulithi Atoll has not been harvested extensively although some were exported to Guam (Engbring, 1986). The present estimated population of bats on Ulithi is 1,200 plus an estimated of 4,000 on Yap

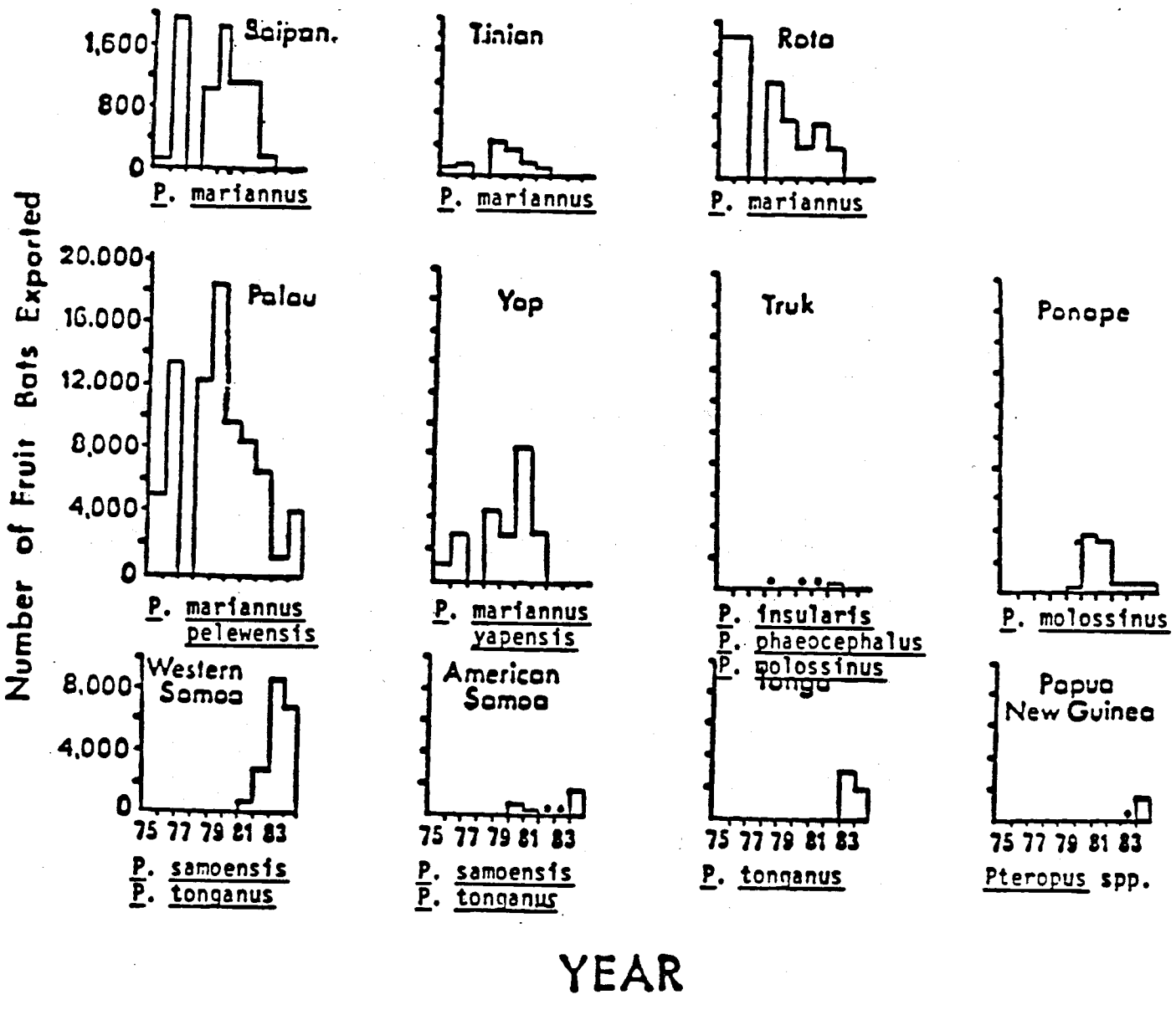

Figure 2. Fruit bats, Pteropus, exported to Guam. Data not available for 1977. Closed circle represents fewer than 200 bats exported during that year. (Modified from Wiles and Payne 1986)

(Engbring, 1986). Engbring (1986) believes that a harvest quota of 20 percent could be taken annually on Yap; perhaps 400 for subsistence and 400 for commercial purposes plus fewer from Ulithi Atoll.

It is assumed that any commercial harvest should be strictly regulated with each shipment of bats accompanied with an export certificate of origin since the fruit bats of Yap and Ulithi are difficult to identify from the bats of Guam.

With the restrictions on the bats of Palau and Yap, bats were subsequently taken from Truk including P. insularis, P. phaeocephalus, and P. molossinus. There fruit bats are not protected by law but are seldom hunted. The number exported from Truk has been small because residents showed little interest in capturing bats on a commercial basis (Wiles and Payne, 1986).

Bats are not protected by law on Pohnpei. From 1979 to 1984 about 8,000 P. molossinus were exported from Pohnpei to Guam. It is possible that some of these bats did not originate in Pohnpei (Wiles and Payne, 1986).

Pteropus m. ualanus occurs on Kosrae where there are no laws protecting bats and some were exported to Guam in 1980 and 1984. However, unknown numbers of bats have been shipped to Pohnpei - then shipped to Guam and recorded as P. molossinus (Wiles and Payne, 1986).

During the 1980's the fruit bat trade expanded geographically from the Marianas and Carolines to Samoa, American Samoa, Tonga and Papua New Guinea, i.e. into the range of P. samoensis and P. tonganus which are not protected. These two species are popular with Guam consumers who claim that they taste better, have fewer ectoparasites than the bats (P. m. pelewensis) from Palau (Wiles and Payne, 1986).

Samoa has two species of fruit bats, P. tonganus and P. samoensis. Export of bats to Guam began in 1981, and during 1983 and 1984, Samoa was Guam's most important supplier of bats. Virtually all bats harvested for commercial purposes in Samoa have been exported to Guam or Saipan. The percentages of P. samoensis. and P. tonganus in each shipment is not known. In 1985, exporters received US$ 6.50 a pound for the bats from Guam dealers. On Guam bats sell for about US$ 14.00 per pound with P. tonganus making up the bulk of the harvest (Engbring, Oct. 1986, draft).

In Samoa, where most of the bats are harvested, the hunting of fruit bats is a viable enterprise. There are several major exporters who buy bats from a number of hunters that work independently. One hunter was paid US$ 1.50-2.00 per bat. No export permit is required for bats shipped from American Samoa. However, a certificate of export is required by the Department of Agriculture, Samoa (Engbring, 1986).

Only P. tonganus is found on the Tonga islands. Shipments of bats have entered Guam from other Pacific Nations such as the Philippines, Vanuatu, Fiji, Solomon Islands and Papua New Guinea. None of the bats have been identified to species except that one

quota for

bat, in 1984, from Papua New Guinea which was identified as P. macrotis epularius (Wiles and Payne, 1986). None of these countries has laws protecting fruit bats, but PG requires that all wildlife exports be accompanied by export permits (Wiles and Payne, 1986).

Import of fruit bats into Guam is controlled by the Department of Agriculture which issues import permits that must be obtained prior to the arrival of a shipment, there is no limit to the number of bats that may be imported. Certificates of origin are required for all fruit bat shipments. However, the rule is only enforced on shipments arriving from islands not under U.S. jurisdiction. Import permits are collected by the Customs officials who examine the shipments and return the permits to the Department of Agriculture for analysis and tabulation. This method of documentation has limitations since bats are usually shipped frozen together in solid blocks, making verification of numbers and identification impossible.

Importers may not know the exact number of bats in their shipments. Customs agents may sometimes record the weigh to shipments rather than the number of bats. Figures provided in reports should be considered as estimates (Wiles and Payne, 1986).

Wiles (1986) states that Saipan is also a direct importer of bats. The MP does not use an import system as does Guam. There is no way to document the number of fruit bats imported into Saipan.

Wiles (1986) lists the estimated number of fruit bats reimported into Guam during FY 1986. The total was estimated at 13,448, and included - WS (7,035), PH (2,471), Palau (2,402), Truk (739), AS (525), Pohnpei (204), Saipan (54-entered Guam illegally); Rota (7-entered Guam illegally), ID (7), unknown (4).

During the past two years, no fruit bats have been imported into Guam from TO and PG (Wiles, 1986).

33. Illegal Trade: At present, the Government of Guam and the U.S. Fish and Wildlife Service prohibit the entry of fruit bats into Guam from islands were bats are protected by law. Poaching and smuggling of bats occurs in unknown numbers. Import figures cannot measure numbers wounded during hunting and never recovered. Due to physical similarities among Pacific islands pteropids it is virtually impossible to distinguish some species and, therefore, bats taken illegally could be easily sold among bats legally imported (Wiles and Payne, 1986).

34. Potential Trade Threats: On the Marianas and some other Pacific islands fruit bats are an important traditional food item. With the introduction of shotguns, more bats could be harvested than by the traditional use of sling shots and nets. More people are buying boats to reach islands North of Saipan that are not patrolled.

The introduction of commercial airlines, with freezer facilities, flying to remote islands makes it possible for harvested bats to be transported in numbers to Guam (Wiles and Payne, 1986; Lemke, 1986).

With the decreasing importance of the Mariana and Caroline Islands as sources of fruit bats, imports from other island states outside Micronesia has increased (Figure 3). The disparity between the economies of Guam and other island nations allows Guam residents to afford relatively expensive imported bats.

Financial incentives for hunters are greater in islands states with low per capita income such as Samoa than for islands with relatively high per capita incomes like American Samoa. Samoa considers the commercial hunting of fruit bats a viable enterprise (Engbring, Oct. 1986).

Within the last five years Guam importers have begun to receive bats from the Philippines. Interest has been expressed on importing bats from Singapore, Taiwan and Indonesia; this suggests an expanding market.

Saipan has become a direct importer of bats. Shipments do not go through customs as on Guam. Thus there are no reliable figures on bat imports into the MP - (Wiles, pers. comm. to Greenhall, 12 Dec. 1986).

341. Live Specimens: There is a limited amount of trade in flying foxes for zoos, but this concerns the larger and more spectacular pteropids from the Asian mainland. Fruit bat colonies have a definite potential as tourist attractions.

342. Parts and Derivatives: None known. Fruit bats are cooked and eaten whole, including the fur and viscera (Payne, 1986; Wiles and Payne, 1986).

4. Protection Status

41. National: In 1973 the small remaining numbers of P. mariannus mariannus and P. tokudae (not seen or collected since 1968) received protection on Guam in 1982. In August 1984, these two species were listed as endangered on Guam by the U.S. Fish and Wildlife Service.

A petition to determine the status of Pteropus samoensis is being considered by the Office of Endangered Species (Nowak, pers. comm. to Greenhall, 9 Feb. 1987).

42. International: None.

43. Additional Protection Needs: Island populations of pteropids are extremely fragile. A high degree of endemicity occurs in insular populations of the flying fox. Because of this, efforts should concentrate on preserving adequate populations to ensure the pteropids fulfill their ecological role as important seed dispersers and pollinators. Habitat protection will remain a vital factor for the survival of Pteropus. Deforestation not only reduces food sources and roosting sites, but also allows hunters easier access into remote areas where bats live.

Management programmes should focus on using Pteropus as a renewable resource to be harvested on a sustained-yield basis. However, there is a shortage of biological information, including alleged fruit damage, upon which to base management decisions.

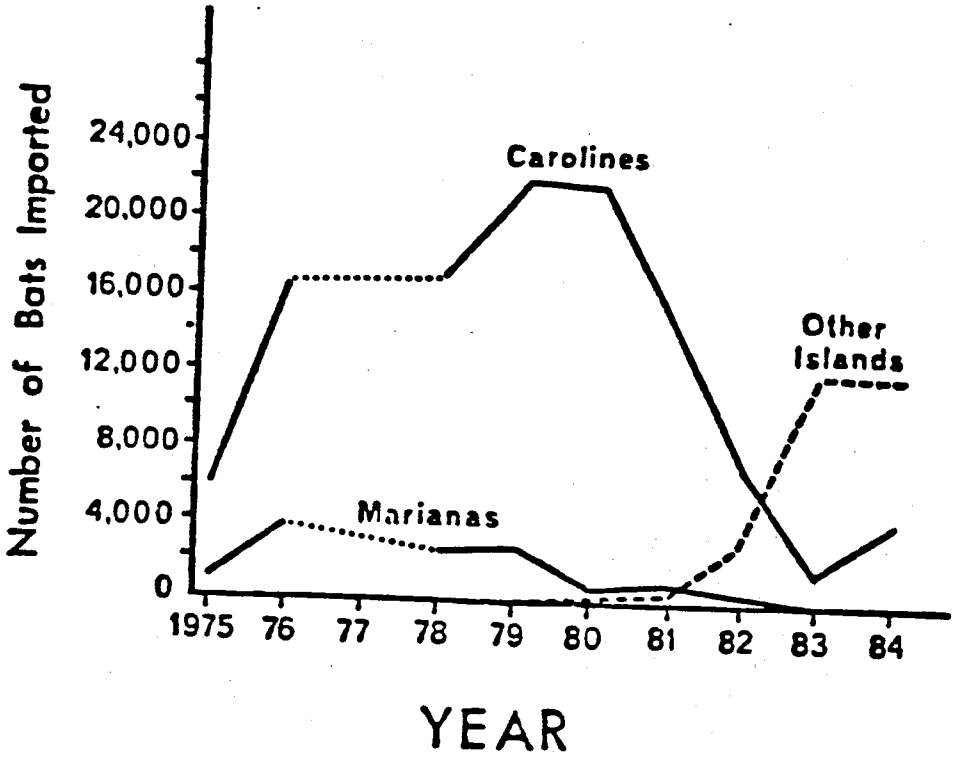

Figure 3. Annual number of fruit bats, Pteropus, imported to Guam from islands in the Marianas, the Carolines and from outside Micronesia. Data not available for 1977. (From Wiles and Payne 1986)

Survey methods for island-wide counts suitable for fruit bat studies should be developed. Present methods used for Pacific fruit bats are those developed for forest bird surveys. However, the data are the best available (Engbring, pers. comm. to Greenhall, 9 Dec. 1986).

Current taxonomy of Pteropus for the region requires clarification. This might influence which populations require protection. In this proposal P. mariannus and subspecies require Appendix I protection.

Education programmes on environmental issues are important to improve local understanding of the role of fruit bats in the ecosystem and the value of fruit bat management.

5. Information on Similar Species

Pacific fruit bats are not easy to identify to species. Although they may vary in size, in other respects, such as colour, they are quite similar in appearance and thus difficult to distinguish one from another. This difficulty in identification is exacerbated when the bats are imported in frozen blocks (Tuttle, pers. comm. to Greenhall, 21 Dec. 1986).

The present proposal is to list all the subspecies of Pteropus mariannus and P. tokudae in Appendix I.

Large numbers of P. samoensis and P. tonganus, not necessarily threatened with extinction, constitute international trade and are proposed for Appendix II based on guidance in Article II, paragraph 2(a). Due to the difficulty in distinguishing between other Pteropus species, P. insularis, P. molossinus, P. phaeocephalus and P. pilosus should be subject to regulation under Appendix II based on guidance in Article II, paragraph 2(b), of CITES in order that trade in specimens of P. samoensis and P. tonganus can be brought under effective control. This proposal would aid customs officials by requiring all fruit bats to have documentation from their country of origin.

6. Comments from Countries of Origin

7. Additional Remarks

As new sources for exports of fruit bats are found such as the Philippines due to an increased demand, as taste preferences change, as harvesting becomes easier, and without legislation protecting bats, inspectors at ports of entry must be aware that other genera, within the Pteropodidae, are also liable to be traded. An example is Acerodon which is externally indistinguishable from Pteropus, differing only in dental features (Nowak and Paradiso, 1983).

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