



Figure 17: **Cuban Tree Frog** (*Osteopilus septentrionalis*)
Source:www.centralpets.com

INVERTEBRATES

Quantitative and qualitative information on local invertebrates, is very limited. Nevertheless specimens found within the Federation include the red dragon fly (*Aeshnidae*), millipede (*Epibolus pulcripes*), the poisonous centipede (*Scolopendra Dromorpha*) and wolf spiders (*Lycosidae*), donkey spiders (*Theraphosidae*) and scorpions (*Scorpionida*) to name a few.



Figure 18: **Wolf spiders** (*Lycosidae*)



Figure 19: **Centipede**
(*Scolopendra Dromorpha*)



Figure 20: **Red Dragon Fly** (*Aeshnidae*)

<http://www.museums.org.za/bio/images/spiders/lycos1.jpg>



Freshwater, terrestrial and marine crabs identified include the Caribbean crayfish (*Macrobrachium acanthurus*) found at the Tower Hill Estate, Nevis, the Caribbean Mud fiddler crabs (*Uca rapax*), which are common near fresh water lagoons; the Great Land crab (*Cardisoma guanhumi*); ghost crab (*Ocypode quadrata*); Land Hermit Crab (*Icoenabita clypeatus*), also known as the soldier crab; sally lightfoot crab (*Graspsus graspsus*); and the lesser blue crab (*Callinectes similis*) (CCA 1990). Very little country-specific accounts exist for St. Kitts-Nevis however *Appendix 6* offers some insight into the invertebrates (land and marine) present within the Federation.



Figure 21: Caribbean crayfish (*Macrobrachium acanthurus*)
Source: St. Christopher Heritage Society

Other Invertebrates

An abundance of invertebrates can be found within the coastal zone of the Federation. These include ribbon worms (*Phylum nemertinea*), flatworms (*Dendrocoelum lacteum*), true worms (*Tubifex species*) (segmented animals) bristle worms (*Polychaetes*), tubeworms (*Riftia pachyptila*), feather dusters (*Sabellastarte magnifica*) and christmas tree worms (*Spirobranchus spinosus*).

Sea anemones of Actiniidae and Aiptasiidae families can be found amongst rocks and shells around the entire coast.



In the early 1990s there were seventy (70) bee hives in operation on Nevis. Presently the number of bee hives on Nevis has risen dramatically to three hundred (300). Honey is sold to a variety of retail and specialty stores in the Federation. The industry on St. Kitts is not as developed as that on Nevis but nevertheless it exists with approximately 43 hives in operation presently. Aside from supplying to retail and specialty stores, honey producers have been known to offer their product to the local soft drink manufacturing company. Honey bees (*Apis mellifera life*) are not indigenous to the Caribbean; they were introduced by the Europeans during the eighteenth and nineteenth centuries. Many escapes or “swarms” colonized in the wild as they adapted to the Caribbean fauna.

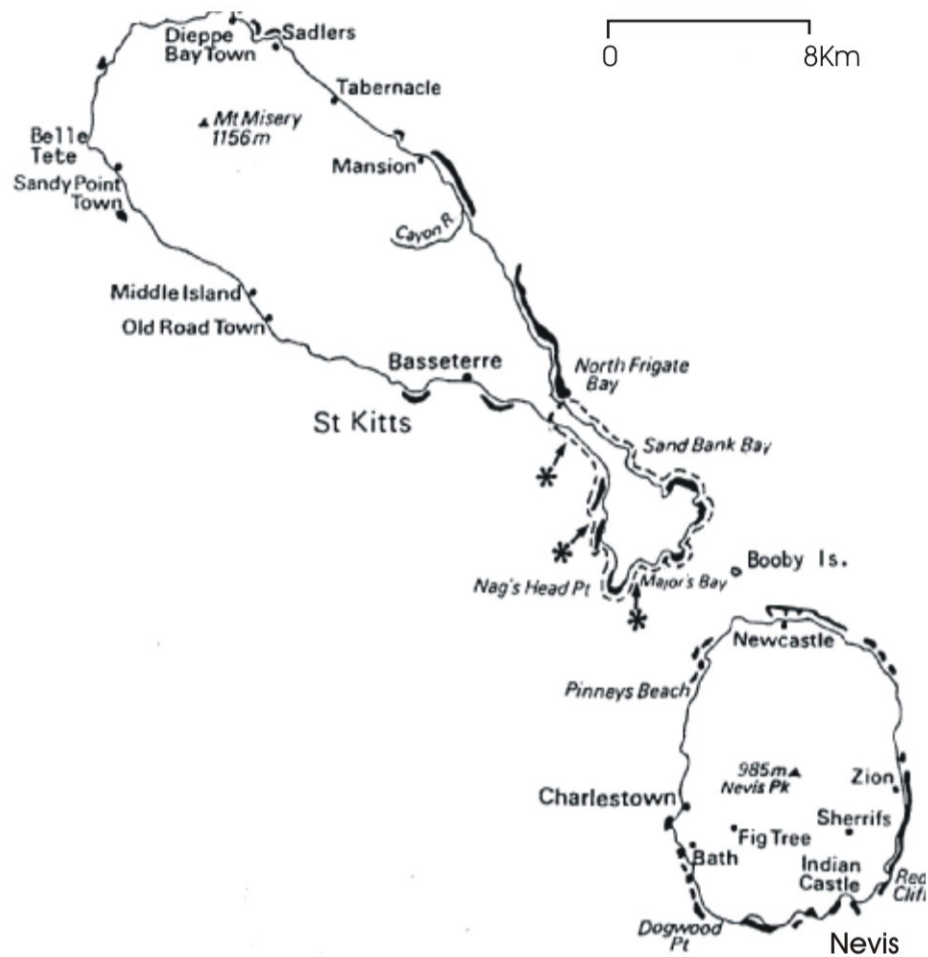


Figure 22: Bee Keeper (Nevis)

Source:Lellouch (2000)



Map 4 : CORAL REEFS AND SPONGES



Source: CCA (1990)

The coral reefs around the island are the most complex habitat of marine biodiversity *see Map 4*. They play a vital role in protecting the coastline against wave action during storms (SCHS 2003). The species virtually spans the entire spectrum of tropical coral diversity from the finger coral (*Porites porites*) to the staghorn and elkhorn corals (*Acropora formosa* and *A. palmata*). Accompanying these hard or stony corals are a variety of sponges and soft corals:-



Sponges

- Encrusting Sponges: *Demospongia sp.*, *Ulosa hispida*
Burrowing Sponge: *Adocia carbonaria*, *Cliona sp.*,
Trumpet Sponges: *Agelus sp.*,
Fluorescent Sponge: *Callyspongia plicifera*,
Barrel Sponge: *Xestospongia muta*,
Stinker Sponge: *Ircinia faciculata*,
Candle sponge: *Verongia fistularis*, *V. longissima*, *V. gigantean*,

Soft Corals

- Encrusting corals: (*Mandraxis decactus*, *Mandraxis mirabili*, *Siderastrea sidereal*),
Star corals: (*Montastra annularis*, *Montastra cavernosa*),
Plate corals: (*Mycetophyllia sp.*),
Lettuce corals: (*Agaricia agaricites*, *Agaricia fragiles*),
Finger corals: (*Porites porites*, *Porites asteroids*),
Pillar corals: (*Dendrogyra cylindricus*),
Flower corals: (*Eusmilia fastigiata*),
Brain corals: (*Diplora sp.*),
Black corals: Cnidarian (*Antipathes sp.*),
Fire corals: Hydrozoan (*Millepora sp.*),
Soft corals: Sea Fans (*Gorgonia sp.*),
Ascadians: Sea Squirts (*Clavelina sp.*),



Figure23: Coral in the waters of St. Kitts and Nevis



Fish Species

Fresh Water

Mountain Mullet (*Agonostomous monticola*) and Mudfish (*Gobiidae*) are found in ephemeral pools or streams after prolonged periods of rain. Fresh water fish are abundant in both the coastal lagoons and mountain streams of St. Kitts and Nevis, however, due to a lack of research and documentation an extensive list cannot be provided here.

Marine

The diversity of fish within the marine environment of St. Kitts and Nevis is similar to almost any tropical marine environment. The list of species may number into the thousands, however only a small percentage of these are of any commercial (food) value to the present fishery sector of St. Kitts and Nevis. The Fisheries Management Unit in its data collection activities over the years has concentrated its efforts on capturing landings of the major species (Table 5). *Appendix 7* lists additional marine species found within the waters of St. Kitts and Nevis.

Table 5 Fish landing for St. Kitts and Nevis by Species (Kg)

	St. Kitts 2003	Nevis 2003
(TRAP/HANDLINE)		
DOCTOR FISH (Acanthuridae)	5,270	27,482
TRIGGER FISH (Balistidae)	13,460	9,457
GRUNT (Pomadasyida)	11,660	13,401
SQUIRREL (Holocentridae)	31,430	18,851
SNAPPER (Lutjanidae)	73,640	30,265
GOAT FISH (Mullidae)	220	10,168
PARROT FISH (Scaridae)	26030	21,465
GROUPE (Serranidae)	30500	24,215
LOBSTER (Panulirus)	5440	36,749
GAR (Belonidae)	119220	15,107
BALLAHOO (Exocoetidae)	41,430	10,996
JACKS (Selar Crumenophthalmus)	34000	5,209
DOLPHIN (Coryphaena Hippurus)	34,850	8,820
TUNA/MACKEREL (Thunnus/Scombridae)	40,710	3,746
CONCH (Strombus Gigas)	96,550	42,703
MIXED	-	24,678

Source: Statistics division, Ministry of Finance Planning & Development (St. Kitts) & Fisheries Unit (Nevis)



Mammals

There are only a few species of mammals existing on the islands, most of which have been introduced. The African Green or Vervet Monkey (*Cercopithecus aethiops*) was introduced by the French as pets some 300 years ago. They escaped and multiplied during the periods of war between the French and the English. On St.Kitts the Vervet Monkey is often spotted on the roads leading to Brimstone Hill; while on Nevis, it is often found in the ghauts adjacent to the Golden Rock Estate.



Figure 24: **Vervet Monkey** (*Cercopithecus aethiops*)
Source: Lellouch (2000)

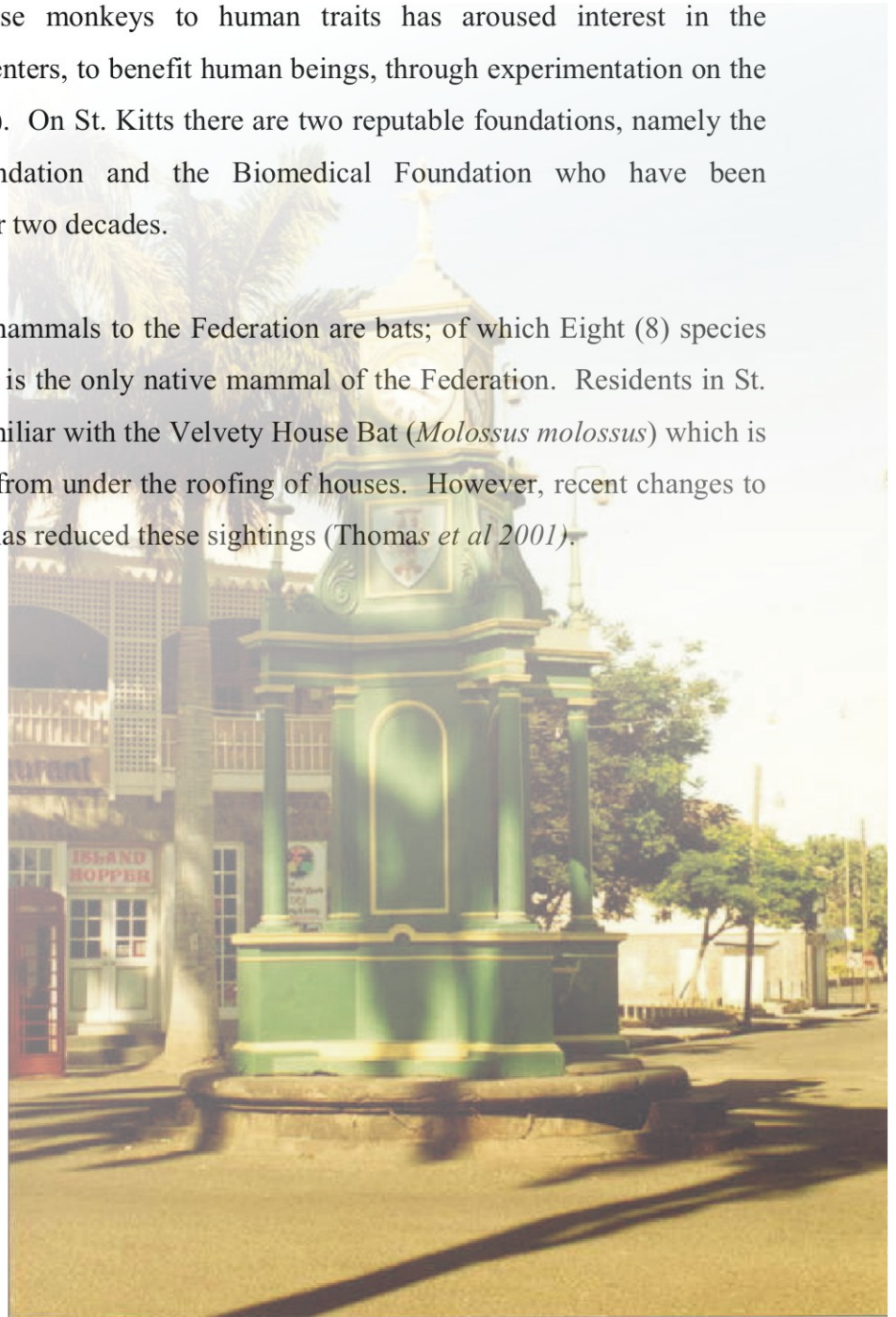
In an attempt to determine the status of the green monkey a team of nine men from the University of McGill conducted a study for one month (Ervin1988 cited in Thomas *et al* 2001). The study concluded that despite a birth rate of one offspring per female per year



and an average trapping of 3-4 thousand animals, the population was discovered to be alarmingly increasing. Deductions indicated an estimated population of 35,000 to 40,000 animals in 1988.

The close affinity of these monkeys to human traits has aroused interest in the establishment of research centers, to benefit human beings, through experimentation on the monkeys (ETAP *et al* 1995). On St. Kitts there are two reputable foundations, namely the Behavioural Science Foundation and the Biomedical Foundation who have been conducting research for over two decades.

One of the most common mammals to the Federation are bats; of which Eight (8) species exist (Table 6). This group is the only native mammal of the Federation. Residents in St. Kitts and Nevis are very familiar with the Velvety House Bat (*Molossus molossus*) which is commonly seen diving out from under the roofing of houses. However, recent changes to the construction of homes, has reduced these sightings (Thomas *et al* 2001).





Bats of St.Kitts and Nevis

Table 6 (Rare; Vulnerable or Endangered; and /or Endemic.)

Common Fruit, or Leaf-nosed, Bat (<i>Artibeus jamaicensis</i>)	Recorded for St.Kitts and Nevis, but uncommon on both islands. Widespread in the Caribbean and Tropical.
Pig faced, Rat, or Brown Flower, Bat (<i>Brachyphylla cavernarum</i>)	Antillean endemic, primarily Lesser Antilles, but also Puerto Rico and the Virgin Islands. Common on both St.Kitts and Nevis. Vulnerable at their few roosting sites.
† Long-tongued fruit Bat (<i>Mononyctillus plethodon</i>)	Lesser Antillean endemic. Listed in CCA/IRF (1991), but not found (or listed as ever having been found) by Morton et al. (1999). See note for species below.
Brazilian Free-tailed Bat (<i>Tadarida Brasiliensis</i>)	Widely distributed in Neo and Tropical America, but low numbers in the country. Morton et al. (1999) did not find the species on St.Kitts, but did on Nevis. The listing in CCA/IRF (1991) of <i>M. plethodon</i> for St.Kitts probably is incorrect and should be for <i>T. brasiliensis</i> .
Fishing Bat (<i>Noctilio leporinus</i>)	Uncommon, Vulnerable. Listed for St.Kitts (CCA/IRF, 1991); not found by Morton et al. (1999), but believed by them to exist on both islands based on descriptions from residents.
Lesser Antillean Tree Bat (<i>Ardops nicholisi</i>)	Endemic to the La found on St.Kitts in the 1999 survey, although its status is unknown; never recorded from Nevis.
† <i>Myotis dominicensis</i>	Not found (or listed as ever having been found) by Morton et al. (1999); but listed for St.Kitts in CCA/IRF (1991).
Velvety House Bat (<i>Molossus molossus</i>)	Recorded for both St.Kitts and Nevis. Common, found under the roofing of houses. Can be seeking early at dusk and dawn hawking for insects over residential areas. Widespread in Tropical America.

Source: (Morton and Courts, 1999 cited in Thomas et al 2000)

† = species suspected to exist in the country, but not documented

The White-tailed Deer (*Odocoileus virginianus*) was introduced from Puerto Rico in 1931 to St.Kitts as a game species, other accounts place the introduction of the deer into the Federation between 1900-1910. Nevertheless these animals were confined to a few ranches and thus their numbers never increased significantly. Subsequently a few were transferred to the southeast peninsula where a small wild herd developed.



<http://www.wellesley.edu/Activities/homepage/web/Species/adeerwhitetail.html>
Figure 25: *White-tailed Deer* (*Odocoileus virginianus*)

Currently, these animals are only found in the Canada Hills and the xerophitic scrub lands of the peninsula(Thomas *et al* 2000). They feed on twigs, leaves, fruits, shrubs, seeds, fungi, moss, grass and crops. Reduced sighting of the deer presumably is due to the indiscriminate hunting by people and attack by dogs. Further overgrazing of cattle, sheep and goats pose additional threats to the survival of this group. The deer is now listed as a protected species and it is illegal to hunt or remove them from the southeast peninsula.

Indian mongoose (*Herpestes edwardsi*)

The Indian Mongoose was introduced to control field rats and snakes that plagued sugar cane plantations. Although it has reduced the snake and rodent population, the mongoose has preyed on birds, reptiles and other animals.



Figure 26: **Indian mongoose** (*Herpestes edwardsi*)
www.wonder-okinawa.jp/004/e/card/004_0001.html

The mongoose does reduce the rodent populations to tolerable levels, but they are regarded as a threat to the survival of native wildlife.

Other introduced mammals include rodents *Rattus rattus*, *Rattus norvegicus*, and *Mus musculus*.

Today, many families are engaged in livestock production, which is practiced mainly at the subsistence level. The major animals are cattle, sheep, goats, pigs, rabbits and poultry.

Cattle (*Bos taurus*, *B. indicus*)

Cattles (*Bos taurus* and *B. indicus*) were first introduced to the Federation as a result of the slave trade from West Africa. At that time, cattles were a symbol of wealth and as such only a few wealthy landowners enjoyed the privilege of being cattle owners. Since then further introduction of cattle into the Federation has resulted in increased cattle ownership by a wide cross-section of the population. (Gracia, Munoz and Neckles 1992 cited in Thomas *et al* 2001) reported that in the past there were four livestock enterprises each on 100 to 500 acres with between 150 - 600 heads of cattle. In addition, at the other end of the scale were small farmers with holdings ranging from zero to five (5) acres. Cattle