SECTION 1: EXECUTIVE SUMMARY AND GENERAL RECOMMENDATIONS

Summary

The green turtle (*Chelonia mydas*) nesting population at Ascension Island is the second largest in the Atlantic; one of the most important biodiversity assets of the UK. In addition, the hawksbill turtle (*Eretmochelys imbricata*) and the leatherback turtle (*Dermochelys coriacea*) have been recorded in the waters around Ascension Island. It is likely that there is a small resident population of hawksbill turtles whilst the leatherback is a rare/occasional visitor. All three species are protected under international law and classified by the IUCN (World Conservation Union) as endangered or critically endangered. Surveys have revealed the global importance of the Ascension Island green turtle population (Godley *et al.* 2001; Mortimer & Carr 1987). In particular, 45-55% of nesting occurs on three beaches. These are in order of importance; Long Beach, (beach number 12) Southwest Bay (beach number 1), and Northeast Bay (beach number 27). In addition, large aggregations of turtles are found in the waters off these three beaches, especially during the mating season (November-March). In this management plan we systematically detail the current and potential threats faced by the marine turtles of Ascension Island and suggest solutions to each problem. In this executive summary we consider the actions of utmost importance.

Recommendations:

1) Species and Habitat Protection at Ascension Island is continued and increased to include the provision of three legally protected areas (Long Beach, Southwest Bay, Northeast Bay)

The high degree of protection experienced by marine turtles at Ascension in recent years including direct protection under local legislation should be continued. Despite a past history of extremely high levels of direct exploitation of marine turtles and their products at Ascension, since the 1950's they have received almost blanket protection and this should be continued, with certain improvements (see below). Although in recent years general consideration has been given to concerns of marine turtle conservation, there is no formal protective status of any of the major nesting beaches and mating grounds. Ascension Island is currently in a period of economic change that may open it up to increased development pressures. **It is strongly recommended that formal protective status be given to key habitats used by mating and nesting marine turtles**. As a minimum, Long Beach, Southwest Bay, Northeast Bay and their associated offshore waters to the 30m isobath should be given absolute protection. Additional beaches of moderate importance may be added at a later date, based on continued evaluation of the impact of future development on these habitats. Key concerns with regard to development are sand extraction (**Section 5.1.1**) and anthropogenic light (**Section 5.1.2**) and the use of waters of less than 30m depth (**Section 5.5.1).**

2) Management and elimination of threats to the Ascension Island green turtles should remain high on the environmental agenda of Ascension Island Government, the UK Government and international conservation organisations.

All future development plans on Ascension should be subject to environmental impact assessment, with particular consideration of the potential effects on sea turtles.

The most important threats that constantly need to be monitored and addressed include the following three groups:

I) Those on Ascension Island that are currently inadequately dealt with:

Threat of petrochemical spill (**Section 5.1.3**)
Females stranding as a result of man-made objects (**Section 5.2.1)**
Litter on beaches (**Section 5.2.3**)

II) Those on Ascension Island that are currently being managed with a need for minor improvements:

Mining of beach sand (**Section 5.1.1.**)
Light pollution (**Section 5.1.2**)
Human disturbance (**Section 5.2.2**)
Invasive plant species (**Section 5.3.1**)
Predation by cats and dogs (**Section 5.4.2**)

III) Those outside the waters of Ascension Island

Capture during migration on the high seas (**Sections 5.5**)
Capture during migration in coastal waters and residence in foraging grounds in Brazil (**Sections 5.6**)

3) Annual monitoring of all major nesting beaches should be continued indefinitely. Prior to this current project, initiated in 1998, the previous complete survey of the nesting population took place in 1977/78. During the next 20 years only a brief survey was conducted in 1992. It appears that during this intervening period the population has remained stable, if not actually increasing. Without regular monitoring, however, the population might have slipped into decline as has occurred at many marine turtle breeding sites around the world. Green turtles typically exhibit a high degree of inter-annual variation in the nesting numbers and thus there is a particular need for annual monitoring of this species.

1) **Abundance of nesting turtles.** It is important to note that monitoring efforts should be designed so that temporal shifts in seasonality or changes in the relative importance of nesting beaches are assessed.
1) **Reproductive success:** It is also important to calculate what proportion of nesting attempts result in egg laying and whether a sufficient proportion of nests hatch with high success rates**.**
1) **Incubation temperatures:** The phenomenon of Temperature-Dependent Sex Determination (TSD) means that at warmer temperatures more females are produced. It is estimated that the overall sex ratio of hatchling production at Ascension is 75% female. Thus, relatively minor changes in temperature as a result of global warming could yield male deficient sex ratios in the future. This mandates continued monitoring of the sand temperature on the major nesting beaches.