



Global Re-introduction Perspectives: 2011

More case studies from around the globe
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IUCN/SSC Re-introduction Specialist Group (RSG)





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Re-introduction and supplementation of terrapins on Silhouette Island, Seychelles

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Introduction

The two Seychelles endemic subspecies of Pelomedusidae terrapin, the black mud turtle (*Pelusios subniger parietalis*) and the yellow-bellied mud turtle (*Pelusios castanoides intergralis*), are categorized on the Red List as Critically Endangered (Gerlach, 2008a & 2008b). This is due to extensive habitat destruction in the past and continuing at present (Gerlach 2008c). In 1998 Nature Protection Trust of Seychelles established the Seychelles Terrapin Conservation Project to determine the conservation needs of these species, to breed them in captivity and to re-introduce them into secure sites.

Successful breeding was achieved for the black mud turtle and re-introduction to Silhouette Island was undertaken in 2002 - 2010 (Gerlach, 2002 & 2005). Only limited success was achieved for the yellow-bellied mud turtle and this was to be the focus of increased research from 2011, however the forced closure of NPTS projects in 2011 prevented this and the captive breeding stock had to be released on Silhouette. This effectively supplemented a relict population.

Goals

- Goal 1: To establish a breeding population of black mud turtle on Silhouette Island.
- Goal 2: To determine the optimal release site by monitoring progress of

animals released in different parts of a marsh system.

- Goal 3: To augment a relict population of yellow-bellied mud turtle on Silhouette Island.

Success Indicators

- Indicator 1: Survival of released animals.
- Indicator 2: Evidence of reproduction of released animals.



Seychelles black mud turtle

- **Indicator 3:** Collection of data allowing comparison of release areas.

Project Summary

Feasibility: The two terrapin species are restricted to lowland wetland habitats, the black mud turtle preferring marshes and the yellow-bellied preferring slow flowing rivers. These habitats are under great pressure due to development leading to drainage of wetlands and pollution. The wetlands on Silhouette Island are relatively well preserved and suitable for the establishment of terrapin populations. The island is managed by a government development company, the Islands Development Company (IDC). Since 1997 Nature Protection Trust of Seychelles was mandated to manage conservation on the island under an agreement with IDC and the Seychelles government.



Restored terrapin habitat

Two potential re-introduction sites were available: Grande Barbe on the west of the island and La Passe on the east. Grande Barbe is the largest natural freshwater marsh remaining in the islands and has marsh and river areas. La Passe has a wetland that runs through the island's main settlement. This includes small marshy areas, a small lake and small streams. This site is occupied by a relict population of yellow-bellied mud turtles, numbering just three adults.

Implementation: Captive breeding was undertaken at the NPTS headquarters in La Passe. This used rescued captive black mud turtles and wild-caught (from Mahe and Praslin islands) yellow-bellied mud turtles. Captive breeding was highly successful for the black mud turtle but only three yellow-bellied mud turtles hatched successfully. In March 2002, five adult black mud turtles (two male and three female) were released at Grande Barbe in an experimental re-introduction. These were fitted with radio-tags with a 6 month battery life and released in the main marsh stream in the center of the marsh system. Eighteen juveniles were released in 2003 in an area of shallow flowing water. In 2009 the decision was taken to cease work on the black mud turtle and to concentrate on the yellow-bellied mud turtle. Accordingly the remaining 6 adult black mud turtles (2 males, 4 females) and one juvenile were released in December 2009 in an area of shallow marsh. The captive yellow-bellied mud turtle population was also restructured and reduced through release of 6 adults in the La Passe marsh.

Reptiles

The project was unexpectedly forced to close in December 2010 when NPTS was evicted from Silhouette Island. As a result it was necessary to make an unplanned release of the remaining 10 terrapins at La Passe.

Post-release monitoring: The 2002 black mud turtle release was monitored for 6 months through radio-tracking. This found wide variation in behavior of the released animals, with some individuals remaining highly sedentary and others ranging widely over the marsh system. Both males and females showed the extremes of behavior. After 6 months when the battery life expired all 5 animals were still present. A trapping survey was carried out in 2003, this located only two animals (still near the release site). Two adult terrapins have been observed since this date (most recently in 2008). The release site for the yellow-bellied mud turtles is within the grounds of the Labriz Hotel which has allowed a greater degree of observational monitoring. At least 5 individuals have been observed.

Major difficulties faced

- The black mud turtle is particularly difficult to observe, being crepuscular and living in marshy habitat. It is very rarely trapped due to the difficulty of trapping in shallow water and their habit of spending extended periods of time buried on land. Radio-tracking was successful but limited funding meant that only tags with a short battery life could be used. This tracking was not cost effective.
- A lack of support from relevant agencies for the project which halted conservation on Silhouette.

Major lessons learned

- Release of black mud turtles requires more intensive monitoring, either using large scale investment in radio tracking or very intensive observation and searching, requiring a large labor force.
- In the long term no meaningful conservation of wetland species can be undertaken without a major change in attitudes to wetlands by relevant agencies.

Success of project

Highly Successful	Successful	Partially Successful	Failure
		√	

Reason(s) for success/failure:

- Reasonable minimum levels of adult survival (>40%) after 8 years.
- Difficulty of monitoring to determine levels of success for the black mud turtle.
- Lack of support from relevant agencies prevents these being considered fully successful.

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