

# International Assistance Request

ref: 2494

## Eradication of introduced birds to preserve Aldabra's Outstanding Universal Value

### Summary

**State Party:** Seychelles  
**Properties:** Aldabra Atoll  
**Type of Assistance:** Natural / Emergency  
**World Bank:** UMIC  
**SIDs:** Yes  
**Reference:** 2494

### Process Steps

- ✓ Submitted on Sep 18, 2012
- ✓ Approval by Chairperson on Oct 4, 2012

### 1. State Party

Seychelles

### 2. Title of project

Eradication of introduced birds to preserve Aldabra's Outstanding Universal Value

### 3. Type of assistance

	Emergency assistance	Preparatory assistance	Conservation and management
Culture			
Nature	✓		
Mixed			

### 4. Project location

#### a) Will the project be implemented at a World Heritage property?

- Yes  
 No

- Aldabra Atoll

#### b) Will the project include a field component?

- Yes  
 No

#### Where and how?

The nature of this project means it will be run entirely in the field. A field station will be built at the centre of the invasive bird incursion and the eradication efforts will be based from this station.

#### c) If the project is being implemented at a World Heritage property, indicate whether it will also benefit other World Heritage properties, and if so, which ones and how?

This project will certainly benefit other natural World Heritage properties and potential properties (as well as other oceanic islands which are not WH properties) facing problems with invasive species, particularly introduced birds. The results will be made available as

quickly as possible to facilitate this since there is a lack of information on avian eradications in general.

## 5. Timeframe for the implementation of the project

Start date: November 15, 2012

End date: June 15, 2013

Duration: 7 month(s)

## 6. The project is:

- Local
- National
- Subregional
- Regional
- International

## 7. Justification of the project

### a) Explain why this project is needed.

N/A

### b) List all supporting documents submitted, if applicable.

## 8. For emergency assistance only

### a) Describe the actual or potential threat/danger affecting the property

Aldabra is renowned internationally as one of the last undisturbed areas worldwide, recognized with both the highest national protection of Special Reserve, and universal international recognition through its designation as a UNESCO World Heritage Site, Ramsar Wetland Site and Important Bird Area (BirdLife International). One of Aldabra's lesser known but most impressive accolades contributing to its importance is that it is the largest island in the world with an entirely native bird fauna and no introduced bird species. That Aldabra has a virtually entirely intact original avifauna which is remarkable since almost all large oceanic islands of comparable and much smaller size, have experienced bird introductions and subsequent impacts on the native ecosystems.

Assumption Island, the closest island to Aldabra (27km at the closest point), was heavily mined for guano during the 20th century. Staff working on the mining activities introduced several bird species from Mauritius to the island in the mid-1970s. Of these, the red-whiskered bulbul *Pycnonotus jocosus* and Madagascar fody *Foudia madagascariensis*, introduced to Assumption in 1977 (Prŷs-Jones et al. 1981), have established populations and exploded in numbers since then.

Scientists and conservation practitioners warned for over 40 years that the introduced species would reach Aldabra and threaten its birds if no action was taken (Benson & Penny 1971, Prŷs-Jones et al. 1981, Roberts 1988). Eradication was long recommended but in practice difficult and expensive to implement. To protect Aldabra, the Seychelles Islands Foundation (SIF) launched an EU-funded project in November 2011 to eradicate the introduced birds from Assumption before they spread to Aldabra.

In March 2012, the SIF team on Aldabra searching the remote and rarely visited Takamaka area on southern Grand Terre, observed both Madagascar fodies and red-whiskered bulbuls in the area. This was the first time introduced birds had been seen on Aldabra. Subsequent trips confirmed the presence of a well-established Madagascar fody population of at least 100 birds and a smaller number of redwhiskered bulbuls. The Madagascar fodies are breeding on Aldabra and the population size and territoriality indicate that they are likely to have been on Aldabra for at least 1 year, and possibly longer. Recent observations have indicated that the introduced fodies are not only spreading but excluding endemic Aldabra fodies *Fouda eminetissima aldabrensis* from territorial areas, substantiating one of the main fears concerning introduced birds on Aldabra. So far, however, we have confirmed that the distribution of the introduced birds is restricted to the Takamaka area.

The consequences for Aldabra, if nothing is done, are more serious than the irretrievable

loss of its unique introduced-bird-free status. In addition to out-competing native Aldabra birds, for which there is already evidence, the introduced birds could; (1) transmit new diseases to Aldabra; (2) hybridise with the native birds; and/or (3) disrupt ecosystem processes on Aldabra and have negative impacts on multiple other species. Disease transmission is a serious threat since the Assumption birds have been found to carry a parasite which is not yet known from Aldabra. Hybridisation of introduced Madagascar fodies with other endemic fodies of the region has occurred in Mauritius and inner Seychelles and in both cases presented an additional threat to the conservation of the endemic fody. It is highly likely that the same will happen with the Aldabra fody. Ecosystem disruption and negative effects on other species are almost certain given the scientific evidence for their impacts elsewhere; e.g. predation of invertebrates, vertebrates or native birds' eggs (red-whiskered bulbul), and spreading of invasive plant species (both species), but it is too early to predict their nature or extent on Aldabra.

Both introduced species on Aldabra have started spreading but are still limited in their distribution and possible to eradicate if tackled immediately. Local experts have already been intensively trained under the EU-funded project on Assumption and could be available immediately. Efforts have already been made to start tackling the introduced birds with some success, but due to the intensive and resource-heavy efforts on Assumption we are lacking urgently needed funds for specialist staff and, particularly, a field base from which to conduct the work and maintain a permanent presence in the affected area.

SIF has substantial experience and success with management of invasive species. The organisation has recently successfully eradicated introduced goats from Aldabra using primarily internal expertise. SIF has also already removed most introduced birds of the same species from Assumption (approx. 4000 birds to date in 9 months). We are therefore confident that Aldabra's current emergency situation can be successfully resolved if resources can be secured. The source of the introduced birds on Assumption will also be removed with the ongoing and parallel eradication efforts there, eliminating the possibility of reinvasion.

The situation of introduced birds on Aldabra is being considered an invasive species emergency by SIF and it is imperative to eradicate both species as soon as possible. The next breeding season for both introduced species, expected to start in October/November 2012, will certainly increase the population sizes and substantially lower the chances (and increase the cost) of successful eradication.

The tremendous loss of Aldabra's remarkable status as free of introduced birds cannot be overstated. Part of the reason Aldabra is so treasured and revered is because the fauna has been spared the effects of invasive alien birds so far. We are fortunate to have detected the introduced birds relatively early in the invasion but it is crucial that action is taken quickly to maintain Aldabra's outstanding universal values and its status as a global environmental icon.

#### **b) Indicate how it might affect the property's Outstanding Universal Value**

Aldabra's Outstanding Universal Value (OUV) attributes per criterion are outlined separately below followed by the impact to each of the three criteria that introduction of these invasive species will have:

(vii) Aldabra's lagoon is a superlative example of a natural phenomenon. The entire atoll supports a variety of habitats with a rich and largely unscathed biota. Criterion (vii) focuses on Aldabra being a unique and outstanding natural site, known worldwide for being unscathed, implying unscathed by humans or human actions, including the impacts of introduced species. One of Aldabra's most remarkable attributes is that it was the largest tropical island in the world with no introduced bird species. One hears and sees non-native bird species on almost every island in the world, Aldabra's avifauna alone among islands of comparable size was entirely native, until this year. If the introduced birds are not removed, Aldabra's famed and treasured avifauna can no longer be considered largely unscathed.

(ix) Aldabra is an outstanding example of an oceanic island ecosystem in which natural evolutionary processes are active. Due to minimal human interference, the ecological

processes can be seen in their full complexity.

Criterion (ix) emphasises natural evolutionary processes and minimal human interference, neither of which can be applied to Aldabra's native avifauna with the introduction of the first invasive birds to the atoll. Evolutionary processes are quickly disrupted with the arrival of invasive species and the subsequent risks of competition, disease transmission and hybridisation, which will likely lead to declines in native species. Minimal human interference implies, among other disruptions, few problems with invasive species. As the introduced birds spread, and exclude, infect or hybridise with the native species (the former of which there is already evidence for on Aldabra), 'human' interference also spreads through the actions of these species.

(x) Aldabra provides an outstanding natural laboratory for scientific research and discovery.

Criterion (x) again emphasises Aldabra's status as a natural laboratory. This has been particularly the case for Aldabra's avifauna, which has been well studied, and is distinguished by its absence of introduced species. If the invasives are not removed, the 'natural laboratory' status will be jeopardised since Aldabra's avifauna and indeed entire terrestrial ecosystem will be impacted in multiple ways, many of which are not possible to predict. The atoll will no longer provide a unique natural laboratory but will be subject to the same introduced species impacts as almost all other tropical islands.

In the second periodic report submitted to and approved by UNESCO in 2010, the same year as the OUV statement for Aldabra was accepted, invasive alien species were listed as a current and potential negative threat to Aldabra. Conclusions and recommendations related to the Statement of OUV listed invasive species as a constant threat and emphasised the need to manage these. With the introduction of these two species of bird, the main threat has been realised and must be addressed while it is still feasible.

### **c) Explain how the proposed project will address the threat/danger**

The proposed project will directly address and completely remove the threat of the invasive birds to Aldabra's Outstanding Universal Values if it is implemented fully and quickly. Under the project, we aim to eradicate the introduced bird populations by the end of the next breeding season, predicted to be May/June 2013. In parallel we will continue to eradicate birds from Assumption, resolving the problem at its source and eliminating the possibility of recurrence.

Most urgent is the construction of a field station in the affected Takamaka area, which is remote and difficult to access. Takamaka can currently only be visited for a few days at a time during high tide because it is not possible to carry and store all necessary supplies and water for longer. A water harvesting system has been successfully set up, which has facilitated the work so far, but to enable a permanent presence in the area a field station to sleep four staff is urgently needed. We also require dedicated specialist staff for the duration of the project and funds for transport to and around the atoll.

Invasive species are a national problem and national benefits from this project will therefore come from training and experience of local staff in invasive bird management and eradication, particularly with the target species. Regionally and internationally, any countries with biodiversity threatened by invasive birds will benefit from the results. Examples include Mauritius, Reunion, the Comores, islands in the Pacific, Florida Keys, and other islands in the Seychelles. A regional workshop is already planned under SIF's EU-funded project to share results of invasive species management programmes which will include the results of the proposed project. Dissemination of information and lessons learned via online networks such as GLISPA and IUCN Invasive Species Specialist Group will ensure the message reaches the international community and promote UNESCO's involvement and efforts. Furthermore, the proposed project aligns with Motion 21 passed at the World Conservation Congress, at its session in Jeju, Republic of Korea in 2012, which calls on all countries to identify invasive alien species present in their territories and promote eradication campaigns of priority IAS, taking into account their potential or actual impact on biodiversity as well as giving priority to key areas such as islands and protected areas.

## 9. Objectives of the project

The specific objectives of the project are to:

- 1) Remove the threat of invasive birds to Aldabra's Outstanding Universal Values by eradicating their populations from the atoll.
- 2) Establish a surveillance and monitoring system for invasive birds on Aldabra.

## 10. Expected results

Clearly state the **results** expected from the project and define the **indicators** and **means of verification** which can be used to assess the achievements of these results

Expected results	Indicators	Means of verification
Improved understanding of avian IAS distribution and abundance on Aldabra	Survey results indicate population size and distribution	Report on survey submitted and circulated for comment by experts
Construction of a permanent field station at Takamaka	Transport of materials to Aldabra and Takamaka Staff staying at field station	Manager reports & emails Site visits Photographs Eradication progress reports
Recruitment and deployment of a specialised eradication team	Successful recruitment of team Team members have necessary skills to do the work	CVs & application details Interview sheets Correspondence records Signed contracts Progress reports
Eradication of introduced avian species from Aldabra	Follow-up monitoring indicates no remaining introduced birds on Aldabra No sightings of introduced birds in this or other areas of Aldabra for 2 years following eradication	Follow-up monitoring reports Independent expert reports Final eradication report All photographs checked by experts
Improved responsiveness for invasive bird species emergencies	Protocol for dealing with invasive bird incursions on Aldabra Regular monitoring undertaken for invasive birds	Protocol verified by experts and circulated Monitoring included in monthly reports
Dissemination of information and results of project to share lessons learned and guidance with other areas	Circulation of information to wide audience via several means of communication	Emails to relevant networks Scientific publications Circulation of reports Presentations by project staff Newspaper/newsletter articles

N/A

## 11. Work plan

Activities	Time Frame (in month)											
	Year 1											
Months	1	2	3	4	5	6	7	8	9	10	11	12
Sourcing, purchasing & transporting materials	✓	✓										
Recruitment of staff	✓											
Construction of Takamaka field station		✓										
Permanent presence of eradication team at Takamaka Use of mist-netting, shooting & trapping as required for eradicating all birds		✓	✓	✓	✓	✓	✓	✓				
Regular monitoring trips to Takamaka Surveys for introduced birds in other areas of the atoll Reporting and									✓	✓	✓	✓

information dissemination														
<b>Year 2</b>														
<b>Months</b>	<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>	<b>17</b>	<b>18</b>	<b>19</b>	<b>20</b>	<b>21</b>	<b>22</b>	<b>23</b>	<b>24</b>		
Sourcing, purchasing & transporting materials														
Recruitment of staff														
Construction of Takamaka field station														
Permanent presence of eradication team at Takamaka Use of mist-netting, shooting & trapping as required for eradicating all birds														
Regular monitoring trips to Takamaka Surveys for introduced birds in other areas of the atoll Reporting and information dissemination	✓	✓	✓	✓	✓	✓	✓							

## 12. Evaluation and reporting

The final report will be prepared by SIF's Projects Programme Coordinator and be submitted within 3 months of the project completion. We expect this to be by the end of 2013. A special mention will also be made when submitting periodic reports.

## 13. Profiles of specialists, trainers, technicians and/or skilled labour, if the project foresees the participation of such people

The people listed below have all (with the exception of the avian control specialist) expressed interest in joining the team should the eradication project go ahead. Some of the staff below will also be rotated to Assumption to continue the eradication efforts there so not all staff would be permanent members of the Aldabra eradication team.

XXXX (Dutch) - To lead and coordinate field team. Salary would come from SIF  
PhD in Avian Ecology

Highly experienced mist-netter, bird handler

Led avian eradication team on Assumption for 2 months

1.5 yrs as Aldabra Scientific Coordinator

Led initial surveys of and confirmed introduced birds on Aldabra

XXXX (Seychellois) - Potential long-term recruit for leading mist-netting teams.

Trained under Assumption eradication project

Team Leader of Assumption eradication project for second 6 months

Total of 1 year spent on Assumption bird eradication project

Highly experienced mist-netter & trapper

XXXX (Seychellois) - Potential long-term recruit for field team

Trained under Assumption eradication project

Total of 1 year spent on Assumption bird eradication project, currently Invasive Species

Technical Officer on Assumption

Managed database for Assumption eradication

Highly experienced mist-netter & trapper

XXXX (Seychellois) - Potential long-term recruit for field team

Trained under Assumption eradication project

Total of 4 months spent on Assumption bird eradication project

Currently acting Invasive Species Technical Officer on Assumption

Experienced mist-netter & trapper

XXXX (Botswanan) - Expressed interest in volunteering on eradication projects, likely recruit if project secured

Experienced hunter of game and birds

3 months working on an Argentinian bird hunting lodge

Broad experience of shooting small birds in flight  
Participation in mynah bird eradication from North Island, Seychelles

XXXX (Dutch) - Potential part-time recruit for project  
Currently GEF Project Support Officer on Aldabra  
Experience with invasive species  
Experience with mist-netting & trapping

Avian Control Specialist (unknown, to be recruited) - Full time for 2-4 months, need to recruit under project  
Need a specialist with advanced firearms skills  
Broad experience of shooting birds in flight

Aldabra rangers (XXXX, XXXX, XXXX – all Seychellois) - To assist and guide team temporarily and as required  
Experience with Aldabra terrain, Takamaka area, identification of species and mist-netting  
All have contributed to Assumption eradication and been trained in basic methods

XXXX (English) - Overall coordinator of project (office-based) and contact point (salary from SIF)  
PhD in avian ecology  
Currently manager of 4-year SIF EU-funded project on invasive species and SIF Projects Programme Coordinator  
5+ yrs experience with invasive species management & eradications  
5 yrs experience coordinating Aldabra projects  
Coordination of Assumption introduced bird eradication project

**14. Key target audiences, including profiles of trainees / participants, if the project foresees the participation of such people**

This point is not fully applicable to the project: Aldabra has no permanent population so potential participation is very limited. Staff other than those listed above may be recruited for training and project continuation but this will be limited since a core team of experienced staff will be essential for successful eradication. The target audience following the project will be the community of invasive species managers and practitioners and particularly island organisations facing similar invasive species problems.

**15. Budget breakdown**

Items	Items Description	Amount x Unit USD	Total USD	Amount Requested to the World Heritage Fund USD	States party Funds USD	Other USD
<b>Organisation</b>						
Other		2,000x1 Unit	2,000	0	2,000	0
Total			2,000	0	2,000	0
<b>Personnel / Consultancy service (fees)</b>						
International Expert		1,500x12 Week	18,000	18,000	0	0
National Expert	(3 x full-time staff 6 months each)	250x78 Week	19,500	13,000	0	6,500
Other	Local construction staff (2 x 2 months)	150x16 Week	2,400	2,400	0	0
Total			39,900	33,400	0	6,500
<b>Travel</b>						
International travel cost	Flight for consultant	1,300x1 Unit	1,300	1,300	0	0
International	Flight for	2,000x1	2,000	0	0	2,000

Items	Items Description	Amount x Unit USD	Total USD	Amount Requested to the World Heritage Fund USD	States party Funds USD	Other USD
travel cost	volunteers	Unit				
Domestic travel cost	Local flight to Assumption	19,600x4 Unit	78,400	<b>19,600</b>	0	58,800
Other	Contribution to fuel for boat transport to field site	2,000x1 Unit	2,000	<b>1,000</b>	1,000	0
Total			83,700	<b>21,900</b>	1,000	60,800
<b>Daily Subsistence allowance</b>						
		0x1 Unit	0	<b>0</b>	0	0
Total			0	<b>0</b>	0	0
<b>Equipment</b>						
Equipment	Construction materials for field station (to sleep 4– 6)	20,000x1 Unit	20,000	<b>15,000</b>	5,000	0
Shipment of materials	(estimate of overseas shipment)	41,500x1 Unit	41,500	<b>1,500</b>	40,000	0
Field gear	Includes storage equipment for food, technical items & supplies, camping equipment, technical equipment [e.g. GPS, binoculars, spotting torch], bird-catching equipment [mist- nets, poles, traps], boots	6,000x1 Unit	6,000	<b>2,000</b>	1,000	3,000
Total			67,500	<b>18,500</b>	46,000	3,000
<b>Evaluations</b>						
		0x1 Unit	0	<b>0</b>	0	0
Total			0	<b>0</b>	0	0
<b>Miscellaneous</b>						
Visas	3 staff	100x3 Unit	300	<b>0</b>	0	300
Total			300	<b>0</b>	0	300
<b>Total</b>						
Total			193,400	<b>73,800</b>	49,000	70,600

**b) Specify whether or not resources from the State Party or other sources are already available or when they are likely to become available.**

Resources from the State Party are not available for this project and are unlikely to become available but resources are available from SIF as the National Agency responsible for the WH sites (see below).



## **16. In kind contributions from the state party and other agencies**

### **a) National agency(ies)**

SIF acts as the National Agency for this project and will provide in-kind administrative, equipment and logistical costs, also under the EU-funded project, as detailed in the budget.

### **b) Other bi/multi lateral organizations, donors, etc**

Resources from ongoing SIF work, including the EU-funded project on invasive species, will help to co-finance the proposed project. For example, equipment, transport and administration costs are substantially lower due to support from the EU project. Equipment from the EU funded project on invasive species will be available and shared with the Aldabra project.

## **17. Agency(ies) responsible for the implementation of the project**

Seychelles Islands Foundation  
La Ciotat Building  
Mont Fleuri  
P.O. Box 853  
Victoria  
Mahe  
Seychelles

Tel.: XXXX  
Fax: XXXX  
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## **18. Signature on behalf of state party**

**Full name:** XXXX

**Title:** Secretary General, Seychelles National Commission for UNESCO

## **19. Annexes**

### **Documents**

- Signed IAR-17 September 2012