

Zino's Petrel *Pterodroma madeira*

Background

The Zino's petrel Action Plan was adopted in 1996 (Zino et al., 1996) by the Ornis Committee and endorsed by the Bern Convention. The implementation of the action plan was reviewed in 2001 (Gallo-Orsi, 2001) and 2004 (Nagy & Crockford, 2004).

This review evaluates the implementation of the species Action Plan from 2004 to 2010, in Madeira, Portugal, therefore covering the entire species' range.

General overview

Progress in the overall implementation of the action plan is very high with only a little further work needed (Average IS= 3.5).

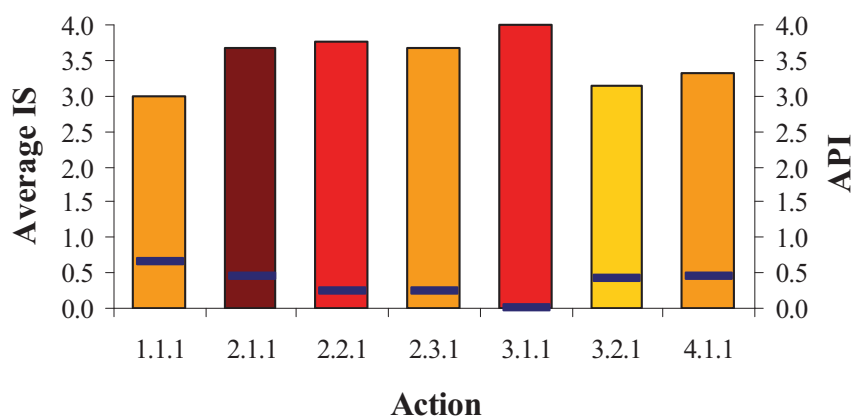


Figure xxi Average implementation score (IS) and Action Priority Index (API) for each action listed in the Zino's petrel species action plan. Colours represent Priority Score.

Status review

The breeding population of Zino's petrel is increasing (by 10% since 2000) and was last estimated at 65-80 pairs, based on annual censuses (counts at colony) carried out since 2000.

Table 51 Breeding population estimates by country

Country	Population at the time of the 1996 SAP (pairs)	Year	Population at the 2004 review (pairs)	Year	Current population (pairs)	Year	Breeding trend	Reference
Portugal (Madeira)	20-30	1994	60-75	2003	65-80	2000-2009	10% Increasing	²¹⁸

Objective(s)

To increase the breeding population to at least 40 pairs by the year 2000, by eliminating the factors which are adversely affecting the species.

²¹⁸ Serviço Do Parque Natural Da Madeira 2006; 2009

Evaluation

The target has been met as there were >40 pairs in 2000, and this number has now increased to 65-80 pairs (2009). However, this increase is not solely down to an actual increase in the population, but also due to the discovery of a new breeding colony (of 20-30 pairs in 2003). The second part of the objective has largely been met as the factors adversely affecting species have been significantly reduced (overgrazing eliminated; human predation eliminated; rats/cat numbers significantly reduced). **The species is still highly threatened, as latest fires confirm.**

Conservation and Legal Status

The Global IUCN Red List Category of Zino's petrel is Endangered under criteria D1 because it has an extremely small population breeding on six cliff ledges in the central mountain massif of Madeira.

The species is listed as Critically Endangered (SPEC 1) under criteria D1 in the European IUCN Red List (BirdLife International, 2004), and is listed in Annex I of the EU Council Directive on the Conservation of Wild Birds (79/409/EEC, 'Birds Directive') and in Appendix II of the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention).

The species has been protected since 1991²¹⁹. Zino's Petrel is classed as Endangered in the Portuguese Red Data Book (Cabral et al. 1990).

Overview of past and current threats

Through the LIFE project, the threats facing Zino's petrel have been identified and reduced.

The impact of predation has been significantly reduced (to a medium level threat) by control programmes implemented through the LIFE project and continuing actions.

Habitat degradation has been reduced to a medium level threat due to removal of cattle through the LIFE project and continuing actions.

Human predation no longer occurs, and several actions have been carried out to reduce the impact of disturbance, consequently it is now considered a low level threat.

A newly identified threat in 2010 is the presence of a new NATO radar. It is suspected that the lights, radiation, disturbance, fencing, etc, may affect the birds, but the extent is as yet unknown.

Assessment of the implementation

National and regional species action plans

The species action plan has been included in the mountainous massive management plan which has been reviewed and legally approved.

Species conservation

The large majority of conservation measures carried out since 2001 have been conducted as part of the 2001-2006 LIFE Nature Project²²⁰. The actions from this project remain ongoing.

²¹⁹ In Portugal, Fea's petrel is a protected species under Decreto-Lei 75/91, which adapts the EU Wild Birds Directive to Portuguese law.

²²⁰ LIFE project code: LIFE00 NAT/P/007097

Predation

There has been significant progress in the control of rats and feral cats, with rat levels reduced to a minimum and breeding areas kept free of rats, due to trapping campaigns in the breeding areas (ongoing since 1980s). A monitoring scheme has been implemented to monitor rat and cat populations and to evaluate the success of trapping campaigns.

Human disturbance

Wardening of breeding colonies is ongoing and access to breeding areas after dark is only authorised by permit from Madeira Natural Park. However, during the day breeding areas are freely accessible.

Site conservation

The entire breeding population of the species occurs in a Natura 2000 site which is also an IBA, SPA, SAC and is protected under national law (Madeira Natural Park). However, there is little information on the distribution of the species at sea and further information is needed to grant protected area status to the appropriate marine areas.

The Madeira Island Central Mountainous Massif Management Plan has been legally approved which covers most of the Natural Park area, including the species' breeding sites.

Habitat conservation

Goats have been completely removed from around breeding areas and significant progress has been achieved in providing artificial burrows for the species (this is an ongoing action).

Monitoring and Research

There is a national species project/working group and a national survey/ monitoring programme for the species. Breeding numbers are monitored annually and night-time point counts are conducted annually to determine new breeding areas for the species (a new colony was discovered in 2003).

There has been full implementation of all research and monitoring actions from the SAP, with the exception of identifying the feeding and non-breeding range of the species. Some work has been started on researching the feeding and non-breeding range of the species, including marine censuses and placement of data-loggers, however further work is needed and should be a priority action. Habitat selection for breeding colonies has been characterised and the diet of predators has been studied (feral cat diet studied – no *Pterodroma* remains found in faeces). A project to investigate rat ecology and population dynamics is ongoing.

Public awareness and stakeholder involvement

Several educational materials have been produced during and after the LIFE project, with the species used in some campaigns, but not as the symbol of Madeira (this is considered only relevant for birdwatchers as it is a symbol recognised by the public).

An information centre about the Natural Park and the species has been established and is continuously improved. A new centre regarding specifically this species under construction and will be completed around September/October 2010.

Community financial support

One LIFE project²²¹ has been implemented during the period 2004-2010 which benefits Zino's petrel. The project focused on the conservation of Zino's petrel through restoration of its habitat, running from 2001-2006 with a total budget of 1,696,748 Euro, of which the total European Union contribution was 1,187,724 Euro. Although this project has since finished, the majority of the conservation actions are ongoing.

Conclusions

Progress in the overall implementation of the action plan is very high with only a little further work needed (Average IS= 3.5). A scores table of the implementation of each action (including a break-down of all actions into measurable targets) is provided in Appendix 1.

There are still major gaps and further implementation of the following actions is needed:

- Maintaining the monitoring schemes and actions.
- Studying foraging areas, behaviour and threats at sea
- Determining non-breeding dispersal areas
- Granting legal protection for the Marine habitats.
- Ensuring the breeding areas are kept free of rats and controlling predation by feral cats
- Ongoing wardening of breeding colonies and controlling access to the breeding area.
- Continuing search for new breeding colonies

Contributors

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²²¹ LIFE project code: LIFE00 NAT/P/007097

Appendix 1

Table 52 Implementation of the action plan in Madeira. PS = Priority Score; PT= Portugal (Madeira); API = Action Priority Index; National IS = National Implementation Score.

Action	Measure	PS	PT	API
1.1.1	Ensure an adequate legal and financial framework for the conservation of Zino's petrel	2	3	0.7
	a. Species recovery plan incorporated in national legislation.	1	3	0.3
	b. Species recovery plan incorporated in regional legislation.	1	3	0.3
	c. Management plan for the Natural Park of Madeira established.	3	3	1
	d. Funds from LIFE regulation used for the conservation of the species and of the endemic flora.	3	4	0
	e. The Marine Habitat Conservation Strategy developed by BirdLife used as basis for additional actions.	2	2	1.3
2.1.1	Improve conditions for the breeding birds by controlling mammalian predators	4	3.7	0.4
	a. Eradication of rats completed.	4	3	1.3
	b. Breeding areas kept free of rats.	3	4	0
	c. Predation by feral cats controlled.	4	4	0
2.2.1	Control human access and disturbance of the breeding area	3	3.8	0.3
	a. Wardening of breeding colonies ongoing.	3	4	0
	b. Land where ZP breed acquired.	3	4	0
	c. Habitat management carried out.	3	4	0
	d. Access controlled in the breeding area.	3	3	1
2.3.1	To encourage expansion of the breeding area to other suitable ledges, and promote natural regeneration of vegetation through exclusion of grazing stock from the breeding area	2	3.7	0.2
	a. Review of conservation action for other Pterodroma species completed.	1	4	0
	b. Artificial burrows for breeding provided in suitable areas and acceptance monitored.	1	3	0.3
	c. Goat number reduced by fencing the breeding area.	3	4	0
3.1.1	Undertake monitoring and research programmes to determine population status and distribution of ZP	3	4	0
	a. New breeding colonies identified.	3	4	0
	b. Breeding numbers monitored annually.	3	4	0
3.2.1	Promote scientific investigations that enhance and facilitate recovery effort	1.5	3.1	0.4
	a. Research on population dynamics and survival rates continued.	2	4	0
	b. Habitat selection for breeding colonies characterised.	1	4	0
	c. The diet of predators living around the breeding area studied.	1	4	0
	d. ZP feeding range identified.	2	1	2
	e. ZP non-breeding range identified.	2	2	1.3
	f. Taxonomic status determined.	1	4	0
	g. Ecology and population dynamic of rats investigated.	1	3	0.3
4.1.1	Increase awareness of the need to protect Zino's Petrel and of the natural value of the Natural Park of Madeira	2	3.3	0.4
	a. Educational material on the species produced.	2	4	0
	b. ZP used as the symbol of the island of Madeira.	2	2	1.3
	c. Information centre about the Natural Park and the species established.	2	4	0
	National & Average IS		3.6	3.5

References

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Serviço Do Parque Natural Da Madeira 2006; 2009