



**Agreement on the Conservation of Albatrosses and Petrels**  
*Interim Secretariat provided by the Australian Government*

**First Meeting of Advisory Committee**  
*Hobart, Australia, 20 – 22 July 2005*

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*Agenda Item No .17*  
*ACAP/AC1/Inf.20*  
**BirdLife International**

**Possibilities for the development of ACAP indicators**



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*Possibilities for the development of ACAP indicators*



***Action Requested***

This discussion paper was prepared to inform the workings of the Advisory Committee when developing Agreement indicators.

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It is essential that ACAP develop indicators to measure the success of the Parties in meeting the objectives of the Agreement by implementing the Action Plan. As defined in Article IX 6 (f), the Advisory Committee shall... develop a system of indicators to measure the collective success of Parties to the Agreement in addressing the objective set out in Article II (1) i.e. to achieve and maintain a favourable conservation status [as defined in Article 1(n)] for albatrosses and petrels.

Perhaps the most immediately available indicator in this context is the Red List index (RLI), which has been developed by BirdLife International along with IUCN and other partners in the Red List Consortium (Butchart *et al.* 2004, 2005, see <http://indicators.birdlife.org>). The RLI illustrates net changes to the overall threat status of species (their relative projected extinction risk) based on the number of species in each Red List category and the number moving between categories owing to genuine improvements and deterioration in status (for further details of the methodology see Butchart *et al.* 2004, 2005). RLI s can be disaggregated to show trends for different subsets of species, and an RLI for the 25 species covered by ACAP has already been published (Fig. 1, Butchart *et al.* 2004).

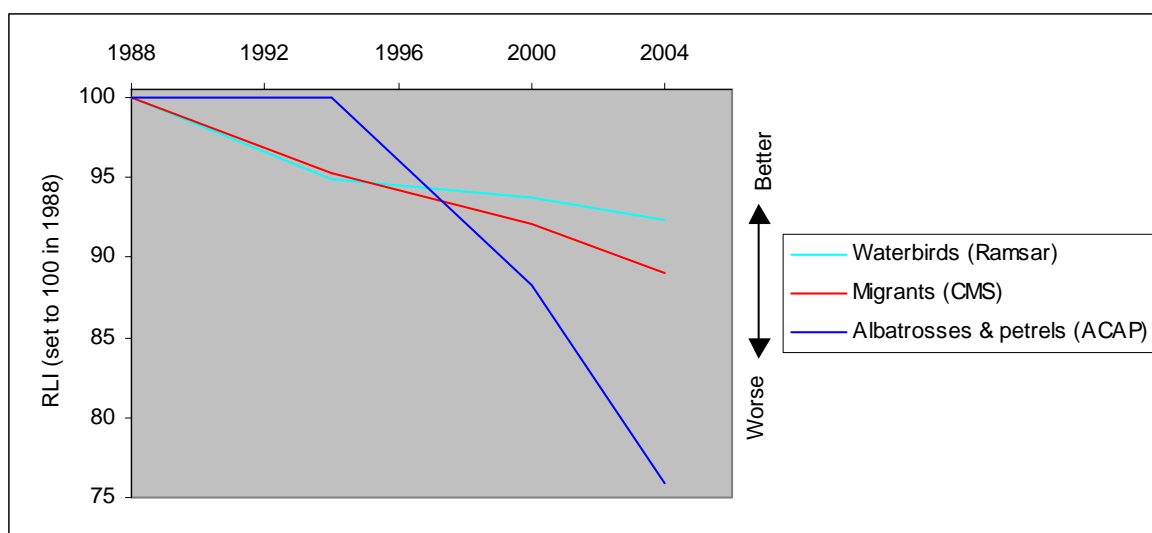
In the context of the species covered by ACAP, the principal disadvantage of the RLI is that it shows relative coarse temporal resolution. Species may take some time to change in population size or trend or range size sufficiently to cross the thresholds to qualify for a higher or lower Red List category, and hence to influence trends in the index. Furthermore, for pragmatic reasons the RLI can be updated only every 4–5 years.

As many of the species covered under ACAP have at least some population monitoring and several sites have a significant time series of data, (e.g. Bird Island, South Georgia; Crozets) a complementary approach would be to develop a population trend-based indicator along the lines of the Pan-European Common Bird Indicator (Gregory *et al.* 2005). Whereby software (e.g. TRIM) designed for combining time series that contain gaps (e.g. interpolation, extrapolation and imputation) can be used to analyse data from multiple species with irregular census periods. These counts can then be converted into indices, applying the relevant weighting for national population size where necessary. The indices for each species could then be combined into multi-species indicators with each species having equal weight. Rather than using arithmetic means, geometric means would be used because an index change from 100 to 200 is equivalent but opposite to a decrease from 100 to 50. Such an indicator would show much finer temporal resolution and potentially could be updated annually.

These two sorts of indicators are indicators of state. It is recommended that the Parties also consider implementing indicators of pressures (threatening processes) and responses (conservation actions). For example bycatch levels, measures of alien invasive species at breeding colonies, adoption of mitigation measures, eradication of introduced species, measures taken to reduce IUU effort etc. Without such indicators, Parties to the Agreement

runs the risk of decoupling the impact of threatening processes and actions taken to ameliorate their impact and taking credit for improvements in conservation status that may be unrelated to the work of the Parties. Conversely, Parties may not get credit for advances made simply because of the time lag associated in their being a measurable impact.

Figure 1 RLIs for three species groups targeted by particular international conservation treaties: the Ramsar Convention on Wetlands, the CMS and ACAP.



The development of indicators to measure success in achieving favourable conservation status for ACAP species is complicated by the definition of favourable conservation status,

- (i) population dynamics indicate that the migratory species is maintaining itself on a long-term basis
- (ii) (ii) the range of the migratory species is neither currently being reduced, nor is it likely to be reduced, on a long-term basis
- (iii) there is, and will be in the foreseeable future, sufficient habitat to maintain the population of the migratory species on a long-term basis; and
- (iv) the distribution and abundance of the migratory species approach historic coverage and levels to the extent that potentially suitable ecosystems exist and to the extent consistent with wise wildlife management.

components of which assume a long term data series in terms of population dynamics (for all island populations) and range, and the majority of the components are innately difficult to record for highly migratory marine species.

ACAP/AC1/Doc.17 suggests that a set of indicators should be developed based on a subset of the components of favourable conservation status, with particular emphasis on population

size and trend. While such data is obviously a key element of assessing the status of populations, such data does have its limitations, even as an interim (short-term) measure. Trend data has reduced utility in smaller populations, and as ideally, ACAP indicators should be developed at the island population level (ACAP/AC1/Doc.17) it is important that the Parties consider developing indicators that will monitor the adoption of measures that can reasonably be assumed to have beneficial outcomes for populations. The use of the words 'collective success' suggests, as stated in ACAP/AC1/Doc.17, that a system of indicators should not be designed to specifically measure the success of Parties in implementing the Agreement. However, to successfully monitor progress in meeting the various components of 'favourable conservation status' it is advisable to consider, in the short-term at least, both pressure and response indicators that will by default be a measure of steps taken by Parties to implement the Agreement. In addition, the reference to 'wise wildlife management' in Article I (n) (iv) implies that it is appropriate to assess steps taken to improve species conservation status, not just improved status *per se*.

## References

Butchart, S.H.M., Stattersfield, A.J., Bennun, L.A., Shutes, S.M., Akcakaya, H. Resit, Baillie, J.E., Stuart, S.N., Hilton-Taylor, C. and G.M.Mace. 2004. Measuring global trends in the status of biodiversity: red list indices for birds. *PLOS Biology* 2:1-11.

Gregory, R.D, van Strien, A., Voriek, P., Gmelig Meyling, A. W., Noble, D.G., Foppen, R.P.B. and Gibbons, D.W. (2004). Developing indicators for European birds. *Philosophical transactions of the Royal Society* 360: 269-288.

## **Annex I Background on the Red List Index**

The RLI is highly representative geographically as it is based on nearly all bird species world wide. However, compared to composite based population trend indices the RLI has relatively poor temporal resolution because the criteria that govern changes in category are conservative and populations may take some time to cross thresholds and the index can feasibly only be assessed on 4-5 year cycle.

To understand ecological processes and to explore connections between an indicator and threatening processes, indicators must be capable of disaggregation (Gregory *et al.* 2005). It has been suggested that a disaggregated RLI for ACAP species will provide a useful measure by which to judge the effectiveness of the implementation of the ACAP Action Plan (Butchart *et al.* 2004). Such an indicator would also afford ACAP Parties the opportunity to assess their effectiveness in relation to other international agreements.