

S33-5 A review of legislation concerning introduced non-native waterbirds

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Abstract Non-native waterbirds have been introduced either intentionally or accidentally into many parts of the world. Some of the introductions have created problems, where nonnative birds either compete or hybridize with indigenous species or cause extensive damage to agricultural crops and fisheries. Environmental legislation is promulgated to protect indigenous animal species of respective countries; yet despite legislation, introductions of nonnative waterbirds still occur. Current international, national and, where possible, provincial environmental legislation was evaluated to determine the effectiveness thereof in preventing introductions and controlling introduced species where they have become established. Information was gathered by interviews and by scrutinizing relevant legislative documents. Sufficient legislation occurs at the international level in the form of conventions, treaties, agreements and policies. Legislation at national and provincial level is, however, inadequate. It is clear that, despite strict and specific guiding principles developed at international level, very few signatories to international agreements incorporate their principles into relevant national and provincial legislation. While legislation is not the only solution to the problem, it does set a standard, it indicates the stand taken by the respective authorities, and it gives support to conservationists concerned with nonnative waterbirds.

Key words Legislation, Exotic, Non-native, Waterbirds, Waterfowl, International agreements

1 Introduction

Environmental legislation is promulgated to protect the biodiversity of respective countries. One of the biggest threats to biodiversity is invasive alien species. Furthermore, these species also impose enormous costs on human enterprises such as fisheries and agriculture, as well as on human health. The most cost effective method for controlling invasive alien species is to prevent their introduction outside their natural range of distribution. Legislation is one of the preventive measures that can be used to avoid such introductions. Nonnative waterbirds have been introduced either intentionally or accidentally into many parts of the world. Some of the introductions have created problems, where nonnative birds either compete or hybridize with indigenous species or cause extensive damage to industries such as agriculture. Despite existing legislation, introductions of nonnative waterbirds still occur. This implies that the legislation is inadequate either due to the lack thereof, or because of unsatisfactory enforcement, or both. To investigate the issues, an evaluation of current international, national and South African provincial environmental legislation was undertaken to determine their effectiveness in preventing introductions and controlling introduced species where they have become established.

2 Methodology

The definition of legislation is restrictive and usually

confined to laws, acts and regulations. Initially, only such provisions were reviewed. There are, however, a substantial number of instruments that play an important role in legislation for nonnative waterbirds. To take account of these instruments, the concept of legislation was broadened here to include policies, codes of conduct, guidelines, conventions and protocols. Extensive use was made of the Internet to acquire a large percentage of the information. Interviews, either in person, by telephone or by email, were also carried out with ornithologists and officials implementing legislation in various countries, as well as all nine provinces within South Africa. The British Trust for Ornithology Research Report No. 229 (Blair et al., 2000) was used to improve and corroborate the assimilated information.

3 Results

The documents reviewed were grouped into the following categories: international, national, provincial or state, and municipal or city legislation. Municipal or city legislation is concerned centrally with people living close together, and those sections relating to animals revolve around aspects of health and noise pollution; it was therefore excluded from evaluation.

3.1 International legislation

Forty-five legislative instruments dealing with invasive alien species were found. These included conventions, protocols, codes of conduct and guidelines. Twenty-nine

of the instruments are applicable to waterbirds, the majority of them rather localized. The Convention on the Conservation of European Wildlife and Natural Resources is, for example, applicable only to European countries, while the Agreement for the Preparation of a Tripartite Environmental Management Program for Lake Victoria is between Kenya, Tanzania and Uganda.

There are, however, three instruments that are pertinent on a global scale. They are the Convention on Biological Diversity (Anon., 1992), the Convention on Wetlands of International Importance Especially as Waterfowl Habitat (Anon., 1971) and the Convention on Migratory Species of Wild Animals (Anon., 1979). The number of countries (parties) that have joined these three conventions are 183, 130 and 83 respectively. Parties to these conventions are expected to include the principles and guidelines adopted at the various conferences of the parties (COP) into relevant national legislation.

All three conventions have very clear principles in terms of alien species. Article 8 (h) of the Convention on Biological Diversity requires parties to prevent the introduction of alien species that threaten ecosystems, habitats or species. At the 1999 COP Convention on Wetlands of International Importance, a resolution (Resolution VII.14) was passed on Invasive species and Wetlands. While the entire resolution concerns invasive species, paragraph 16 (b) refers to the role of the Scientific and Technical Review Panel of the Convention in legislation and other management practices. The Convention on Migratory Species of Wild Animals, moreover, has two articles dealing with invasive species: one protecting those species listed on Appendix I (Article III(4)(c)) and the other protecting those species listed on Appendix II (Article V(5)(e)). For convenience, the precise wording of most respective articles is included here in an addendum.

3.2 National legislation

The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES — 158 parties) requires parties to the convention to issue import and export permits for species listed in the appendices of the Convention. There are, for example, 30 species of Anatidae listed in the Appendices of the Convention. A number of countries, however, apply this principle to all imports irrespective of whether the species concerned is listed in one of the Appendices or not. It was the one piece of legislation that was shared among a substantial number of countries.

Once a species had entered a country, however, legislation varied from no control to fairly rigorous control. To illustrate this aspect, several examples are given below: (1) Belgian legislation protects its feral populations of introduced species; (2) legislation in Botswana, Zimbabwe and Israel has no provision for control once a species is allowed entry; (3) Namibia allows certain species of anatids into its country but they must be kept in enclosed cages; (4) Slovenia, where a potential threat exists, may allow a spe-

cies into its country but prohibits introduction to the wild; and (5) legislation in the Netherlands makes provision for the identification of exotic species and the control thereof.

3.3 Provincial legislation

Legislation at this level is in much the same predicament as national legislation, or even more so where guidance at national level in policy and legislation is lacking. It was not practical here to evaluate provincial legislation on a global scale, and so practice in South Africa will serve as its exemplar.

At the national level, South Africa currently has very little biodiversity legislation. Prior to 1994 there were four provinces and seven self-governing homelands, each with its own legislation. The homelands were subsequently abolished and South Africa has now been divided into nine provinces. Unfortunately, no revision of provincial legislation has taken place since, and modifications of pre-1994 legislation are used in its stead. It was also found that, despite similarities in legislation, different provinces interpreted different sections differently, which resulted in variations in application. A survey of legislation concerning waterbirds revealed: (1) all provinces require permits to keep indigenous waterbirds, which must be obtained via a legal source; (2) none of the provinces allow the release of exotic waterbirds into the wild; (3) seven of the provinces require no permits to keep exotic waterbirds, although one province did make an exception concerning the mallard (*Anas platyrhynchos*), for which strict captivity conditions were laid down; and (4) five provinces have regulations for waterbirds that concern captivity requirements. These regulations apply to both indigenous and exotic waterbirds in two of the provinces, but only to indigenous waterbirds in the other three.

4 Discussion

Although there is scope for improvement, sufficient legislation exists at the international level to protect native biodiversity from introduced nonnative waterbirds. At the national and provincial level, however, legislation varies between countries and provinces to such a degree that it becomes functionally inadequate. Waterbirds are able to move over long distances. A country with inadequate legislation can therefore affect and threaten biodiversity in neighboring countries, irrespective of whether these countries have adequate legislation or not. Zimbabwe, for example, has reported that the ruddy duck (*Oxyura jamaicensis*), an invasive species with capacity to hybridize (Hughes, 1996), has been introduced into the wild, due to either accidental or deliberate release (Blair et al., 2000). This poses a threat to neighboring countries because Zimbabwe has no legislation concerning introduced nonnative species, nor does it have an action plan for the identification and removal of introduced species. There is a possibility, therefore, that the maccoa duck (*Oxyura maccoa*) of Africa could be facing the same situation as the white-headed duck (*O.*

leucocephala) in Europe.

It is apparent from the wide variation in legislation at both national and provincial levels that a number of countries, although signatories to various international instruments covering introduced nonnative species, have not incorporated the principles, guidelines, and directives of those instruments into their respective legislation. Not only should the secretariats of these instruments persuade negligent governments to ratify the instruments, but the governments of countries need to realize their commitment to international obligations through ratification. Furthermore, in order to gain uniformity in legislation between countries concerning nonnative waterbirds, specific guidelines need to be compiled.

Guidelines in this respect are being drafted and, if suitable, can be adopted by conventions. Aspects that must be addressed in such a document include, *inter alia*, the type of legislation required to prevent and control introductions of nonnative species, conditions and requirements for keeping waterbirds in captivity, schedules of species that have the potential to threaten biodiversity should they escape or be released, schedules of species that can safely be released for hunting purposes, and the methodology for controlling and eradicating invasive species.

Information on waterbirds, specifically the threats that they pose when introduced into areas outside their natural range, is not easily accessible. There are a number of databases that contain information on some species, but none are adequate. A data system needs to be established, in conjunction with existing programs, that will supply such needed information as invasive potential, regions and effects of introduction, and the economies of countries into which waterbirds are introduced.

The discrepancies in implementation of legislation among South African provinces is but one example of how legislation can be interpreted differently. Interpretation of legislation from appropriate policy documents will vastly improve such situations, and will not only make for easy implementation but also help affected stakeholders, such as bird keepers and the hunting lobby, to understand it. It is imperative that information concerning legislation is fed through to the affected parties so that they are aware of the legislation and understand the reasons and necessity for it.

Prevention, of which legislation is but one approach, is the most cost effective method of controlling invasive alien species. The number of introductions of invasive nonnative waterbirds to date would have been curtailed to a large extent had adequate legislation been in place and correctly applied. It is hoped that this review will encourage governments, convention secretariats and other international organizations to seriously examine existing legislation and initiate new collaborations and partnerships.

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Addendum

Relevant sections concerning invasive species in the three conventions referred to in the text

1. Convention on Biological Diversity

Article 8, paragraph (h): "Each Contracting Party shall, as far as possible and as appropriate, prevent the introduction of, control or eradicate those alien species which threaten ecosystems, habitats or species".

2. Convention on Wetlands of International Importance Especially as Waterfowl Habitat

Resolution VII.14, paragraph 16(b): "The Conference of Contracting Parties DIRECTS the Scientific and Technical Review Panel to consult with relevant parties to prepare, for the benefit of the Contracting Parties, guidance on legislation or other best practice management approaches that incorporate 'risk assessment', in order to minimize the introduction of new and environmentally dangerous alien species into a jurisdiction, and the movement or trade of such species within a jurisdiction".

3. Convention on Migratory Species of Wild Animals (Bonn Convention)

Article III (4)(c): "Parties that are Range States of a migratory species listed in Appendix I shall endeavour to the extent feasible and appropriate, to prevent, reduce or control factors that are endangering or are likely to further endanger the species, including strictly controlling the introduction of, or controlling or eliminating, already introduced exotic species".

Article V (5)(e): "Where appropriate and feasible, each Agreement should provide for but not be limited to conservation and, where required and feasible, restoration of the habitats of importance in maintaining a favourable conservation status, and protection of such habitats from disturbances, including strict control of the introduction of, or control of already introduced, exotic species detrimental to the migratory".

Agreements referred to in Article V (5)(e) are instituted to conserve and manage migratory species, which have an unfavourable conservation status. These species are listed under Appendix II of the convention.