

## Symposium 33 Competition and hybridization from introduced waterbirds: a rising political issue

### Introduction

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Although the introduction of animals such as the common pheasant (*Phasianus colchicus*) and rabbit (*Oryctolagus cuniculus*) outside of their range began as early as the 12th century (Lever, 1977), human activities have greatly increased such movements since the 1800s. Whether deliberate or accidental, the translocation of species beyond their native range is a major cause of loss of biodiversity throughout the world (IUCN, 1997) and of economic damage to agriculture, forestry, aquaculture and other industries (Williamson, 1996). In the United States alone economic costs are estimated at \$97 billion (Bright, 1998).

If a single waterbird issue motivated this symposium, it was the extensively researched and topical case study of the ruddy duck (*Oxyura jamaicensis*) and white-headed duck (*O. leucocephala*). In the short time since its introduction in England in the early 1960s, the ruddy duck has become a minor national embarrassment. By January 2000, it had increased to 6 000 birds (Kershaw and Hughes, 2002), by which time some birds had dispersed into the breeding grounds of the globally endangered white-headed duck. There the ruddy duck threatened this already vulnerable species through hybridization, a threat so real that it led to cross-governmental consensus on tackling the problem (Baz Hughes and colleagues, this symposium) and may have contributed to recent improvements in legislation relating to the introduction of nonnative organisms (K.A. Shaw, this symposium).

However high the ruddy duck issue may be on the political agenda, it is not unique. Introduced nonnative waterbirds are considered such an ecological threat to endemics, including Meller's (*Anas melleri*) and African yellow-billed (*A. undulata*) ducks that the recently drafted African Eurasian Waterfowl Agreement specifically considers the issue. Symposium papers presented by Murray Williams and Britta Basse, and Judith Rhymer, describe how

mallards (*A. platyrhynchos*) introduced to New Zealand and released for hunting in Florida could lead to the possible extinction of native species through hybridization, introgression and competitive displacement.

However there may be solutions. Baz Hughes and colleagues demonstrate that it is probably possible to extirpate even such well-established introductions as the ruddy duck, and K.A. Shaw suggests that a solution to the ongoing problem of introduced waterbirds exists in international legal frameworks which provide the means for the banning importation of nonnative species and for their control if they threaten native biodiversity. Yet it is perhaps wise to end on a note of caution. The opening paper of the symposium by Mark Rehfish and colleagues, in a brief overview of the generally negative impact of introduced birds on native fauna globally, note that an unfortunate by-product of increasing first and second world human wealth is the growing tendency for waterbirds to be held in captivity with attendant risks of accidental or deliberate release.

The consensus of opinion from the symposium was that existing legislation should be used to stop the deliberate or accidental introduction of species outside of their natural range, with the possible exception of species threatened by global extinction. Even that should not be done until appropriate research had cleared such introductions of posing a threat to native species of conservation value in the region of introduction. Such an approach has proved successful in conserving stocks of the New Zealand saddleback (*Philesturnus carunculatus*) and Hawaiian goose (*Branta sandvicensis*) (Lever, 1985).

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