

## Eastern Curlew

*Numenius madagascariensis* (Linnaeus, 1766)

Scolopacidae

### Conservation status

Population visiting Australia: Vulnerable A2bc+3c+4bc

### Reasons for listing

Past, recent and ongoing declines of 30–49% in 3 generations (30 years) based on survey data and habitat loss

### Status 2000

Near Threatened A3cd

Reason for change in 2010: decline in population and habitat loss at staging posts

### Status 1990

Least Concern

Reason for change in 2000: declines in population anticipated

### Taxonomy

No infraspecific taxa described

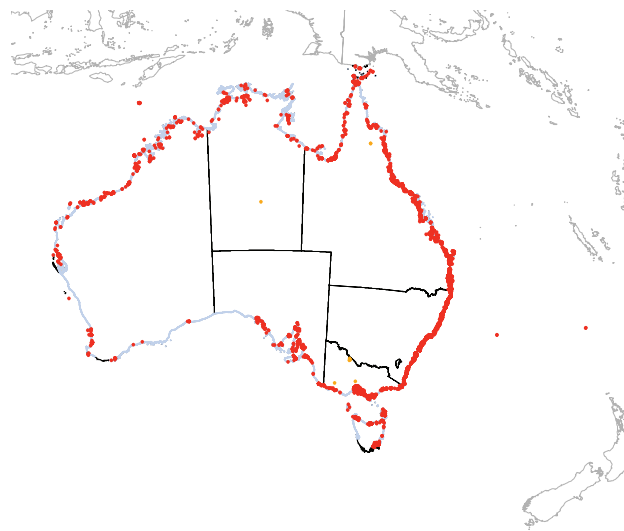
Taxonomic uniqueness: medium (22 genera/family, 8 species/genus, 1 subspecies/species)

### Range

Breeds in Siberia, Kamchatka and Mongolia, wintering in coastal East Asia, mostly in Australia, and stopping on migration beside the Yellow Sea. Non-breeding birds occur around coastal Australia, are more common in the north and have disappeared or become much rarer at many sites along the south coast (AWSG database: Birds Australia *in litt.*).

### Abundance

The global population has been estimated at c.38 000 individuals (Wetlands International 2006) including 28 000 in Australia (Bamford *et al.* 2008), but numbers have subsequently declined including c.1800 which disappeared after reclamation of tidal flats at Saemangeum in the South Korean Yellow Sea in 2006 (Moores 2006). Numbers have declined on Eighty-mile Beach by c.40% between 2000 and 2008, whereas numbers at Roebuck Bay have remained stable (Rogers *et al.* 2009), at Moreton Bay declined by c.5.5% per year between 1998 and 2008 (Fuller *et al.* 2009), in Tasmania by 80% since the 1950s and 2000 (Reid and Park 2003) and by 40% across 49 Australian sites between c.1983 and c.2007 (AWSG database: Birds Australia *in litt.* 2011). Numbers declined less severely elsewhere in the flyway, e.g. no clear trends in Japan between 1978 and 2008 (Amano *et al.* 2010), suggesting a 30–49% decline over 30 years (3 generations) across the flyway. Given that more reclamation is proposed within the Yellow Sea, it is assumed that declines of 30–49% over 30 years will con-



tinue. It may qualify as Endangered if additional data suggests that the whole population has or will decline by >50% in 30 years as suggested by some of the above data.

### Ecology

Breeds in bogs and wetlands. Non-breeding birds migrate to estuaries, mangroves, saltmarshes and intertidal flats, particularly those with extensive seagrass (Zosteraceae), where they feed on marine invertebrates, especially crabs and small molluscs (Higgins and Davies 1996). A generation time of 6.8 years (BirdLife International 2011) is derived from an age at first breeding of 2.3 years, an annual adult survival of 79% and a maximum longevity of 24.0 years, all values extrapolated from congeners.

### Threats

Threatened by wetland degradation in the Yellow Sea where it stages on migration (Bamford *et al.* 2008; van de Kam *et al.* 2010). Threats include environmental pollution, reduced river flows, human disturbance and reclamation for tidal power plants and barrages, industrial use and urban expansion (Barter 2002; Kelin and Qiang 2006; Moores 2006). Additional threats may include disturbance at nesting and feeding sites and hunting throughout its range (Barter *et al.* 1997). Threats in Australia, especially eastern and southern Australia, include ongoing human disturbance, habitat loss and degradation from pollution, changes to the water regime and invasive plants (Rogers *et al.* 2006; Australian Government 2009).

### Conservation objectives

1. Stable Australian non-breeding populations
2. Disturbance at key roosting and feeding sites reduced

### Information required

1. Numbers and trends of Australian non-breeding population
2. Improved knowledge of dependence on key migratory staging sites
3. Improved knowledge of impacts of disturbance

### Current eligibility against IUCN Red List Criteria

| IUCN category                 | Criteria eligibility  |
|-------------------------------|---|
| Population visiting Australia |   |
| A                             | Vulnerable: past, current and anticipated population declines of 30–49% over periods of 3 generations (30 years) estimated and projected from monitoring and from deteriorating habitat quality |
| B                             | Not applicable: EOO >20 000 km <sup>2</sup> ; AOO >2000 km <sup>2</sup>   |
| C                             | Not applicable: population >10 000 mature individuals   |
| D                             | Not applicable: population >1000 mature individuals, >5 locations   |
| E                             | Not applicable: no population viability analysis undertaken   |

### IUCN Red List assessment data

|                                 | Estimate                           | Reliability    |
|---------------------------------|------------------------------------|----------------|
| Population visiting Australia   |                                    |                |
| Extent of occurrence trend      | 30 000 km <sup>2</sup><br>stable   | high<br>high   |
| Area of occupancy trend         | 8500 km <sup>2</sup><br>decreasing | low<br>medium  |
| No. of mature individuals trend | 28 000<br>decreasing               | medium<br>high |
| No. subpopulations              | 1                                  | high           |
| No. locations                   | >10                                | high           |
| Generation time                 | 10.1 years                         | medium         |
| Global population share         | 51–100%                            | high           |

### Management actions required

1. Work with governments along the flyway at all levels, and local communities, to prevent destruction of key migratory staging sites
2. Negotiate with the Chinese and South Korean governments in particular to protect remaining tidal flats in the Yellow Sea
3. Advocate for restoration of alienated wetland sites
4. Maintain and improve protection of roosting and feeding sites in Australia

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### Comments received from

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