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Dear Director,

**SUBMISSION ON THE DRAFT WILDLIFE CONSERVATION PLAN FOR  
MIGRATORY SHOREBIRDS (2014)**

The UNSW Centre for Ecosystem Science (CES) strongly supports government efforts to conserve Australia's declining migratory shorebirds. These efforts recognise our long-term commitment to their conservation, reflected in Commonwealth and state legislation, as well as our bilateral agreements and ongoing international partnerships.

Here, we provide comment on the *Draft Wildlife Conservation Plan for Migratory Shorebirds* (hereafter referred to as "draft plan"). Our submission offers constructive comments on the draft plan and highlights several issues that we believe must be addressed in the final plan. The conservation of the 37 species of migratory shorebirds listed in the draft plan is hindered by three key issues:

1. All migratory shorebirds in Australia complete a yearly migration that can include up to 26 countries, necessitating management actions to be implemented at an international level.
2. Basic ecological knowledge, such as detailed movements and the distribution of irreplaceable habitats, are still relatively unknown for the majority of species listed in the plan.
3. The specific threats driving the declines of Australia's shorebird populations remain largely unknown across the East Asian-Australasian Flyway, limiting management options and resulting in a multitude of disparate and uncoordinated small-scale management actions.

Adequately addressing these issues should be a clear goal of the final plan, and below we provide detailed comments on the draft plan to assist this purpose.

The yearly influx of between 3-8 million shorebirds in Australia is one of the world's last great migrations, and significant new management actions are required by the Australian Government to conserve migratory shorebirds. Please feel free to contact us by telephone or email if you require any further information.

Yours sincerely,

**Nicholas Murray** *Research Fellow*

**Richard Kingsford** *Director*

On behalf of the UNSW Centre for Ecosystem Science

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#### Review of the Draft Wildlife Conservation Plan for Migratory Shorebirds

Australia has an obligation to protect migratory shorebirds under the *Environmental Protection and Biodiversity Conservation Act (1999)*, as well as in several bilateral and other international agreements. For the conservation plan for migratory shorebirds to have an effect on country-wide shorebird populations, a range of factors must be addressed in the final plan, including:

1. Recognition of the international factors influencing shorebird populations, which necessitates significant ongoing collaborative management across the entire East Asian-Australasian Flyway (EAAF);
2. The lack of basic ecological knowledge of the majority of shorebird species in the EAAF, particularly their distribution and habitat use while in Australia and internationally, and;
3. The diverse and widespread nature of severe threatening processes that appear to be driving the declines of shorebirds in Australia.

Below we provide specific comment on whether these issues have been adequately addressed in the draft plan.

#### **1. Vision and objectives**

The four objectives listed in the draft plan seem adequate as an overall purpose of the plan. However, the specific wording of the objectives do not complement the vision of the plan, which is to ensure *ecologically sustainable populations of migratory shorebirds remain distributed across their range and diversity of habitats in Australia, and throughout the East Asian-Australasian Flyway (EAAF)*. To achieve this vision of sustainable populations, in addition to local

management in Australia an international focus of management must be taken by all countries in the flyway. We suggest several changes to the objectives that reflect the need for such international management and cooperation in the conservation of migratory shorebirds in the EAAF. As Australia is within the EAAF, our suggested changes (in italic) sufficiently cover the original objectives stated in the draft plan.

*Recommendations:*

- Objective 2: Wetland habitat ~~in Australia~~ *across the East Asian-Australasian Flyway*, on which migratory shorebirds depend, is protected and conserved.
- Objective 3: Anthropogenic threats to migratory shorebirds ~~in Australia~~ *across the East Asian-Australasian Flyway* are minimised or, where possible, eliminated.
- Objective 4: Knowledge gaps in migratory shorebird ecology ~~in Australia~~ *across the East Asian-Australasian Flyway* are identified and addressed to inform decision makers, land managers and the public.

## 2. Threats

The threats described in this plan (pp 12-16) are largely accurate and reflect the current knowledge in the scientific literature. However, the risk prioritisation process is too broad, contains several errors and does not incorporate world's best practice conservation planning approaches. In addition, the prioritisation is inconsistent with the priority of actions in Section 9 ("immediate action required" by the risk prioritisation versus "high priority" in the action tables).

Lastly, the qualitative nature of this prioritisation should be improved to adequately reflect available data and expert knowledge. For example, the likelihood of several threats are categorised as *likely – expected to occur at least once in every five years*. For threats such as climate variability and change, which are long-term pervasive threats, this categorisation does not make sense. We recommend the following:

- Implement an expert workshop to ensure this prioritisation process is transparent and reliable. A structured protocol with feedback will certainly improve this process (Aspinall 2010; Burgman *et al.* 2011). Indeed, such methods have been widely used to prioritise threat management and conservation action elsewhere in Australia (Carwardine *et al.* 2012). A suitable forum for this would be a Meeting of Parties of the East Asian-Australasian Flyway Partnership (<http://www.eaaflyway.net/>), of which Australia is a founding member. Alternatively, a specially convened meeting of Australian experts would suffice.
- Split the threat prioritisation into smaller categories so that each threat to each species can be properly considered. We suggest first splitting

threats as either international or within Australia (for management tractability) and second, listing threats on a per species basis (or perhaps a per site basis if possible). This would result in a matrix of threats that can be better prioritised in relation to clear objectives and allow a transparent conservation planning process to take place.

### 3. Management Actions

The inclusion of performance criteria in Section 9 to achieve the specific objectives is an important improvement over the previous *Wildlife Conservation Plan for Migratory Shorebirds* (Department of the Environment and Heritage 2006; DEWHA 2005). However, the specific actions listed are likely too broad to be tractable and should be broken down by suitable sub-actions. For example, action 1a could include sub-actions such as “continue to support the East Asian Flyway partnership”, “attend yearly bilateral meetings with South Korea, China and Japan” and “attend all other relevant international meetings, such as the Conference of the Parties to the Convention of Migratory Species of Wild Animals (CMS)”. Such actions are relatively straightforward when assessing performance criteria at the next 5-yearly review. Such a list should be populated with the assistance of relevant experts, using methods outlined in Section 2, above.

In addition, there are several inconsistencies in the action plan. For instance, there seems to be no connection between the threat prioritisation in Section 8 and the priority of actions in Section 9. While the prioritisation demands “immediate action” the table of actions classes actions as “high priority”. This, along with the recommendations below, should be rectified.

#### *Recommendations:*

*Objective 1: Protection of important habitat for migratory shorebirds has occurred throughout the flyway*

- *New action: Complete an assessment of current national and internationally important shorebird sites.* There is a clear need for an assessment of sites, such as that completed by Bamford *et al.* (2008). This type of assessment should be improved to provide (i) assessment of change in ecological character, including rates of habitat loss and extent of degradation at each site, (ii) incidence and impacts of other threatening processes such as hunting, and (iii) an assessment of management effectiveness. To achieve Objective 1 a study like this is clearly required, perhaps collaboratively with other nations, and the results should be made publicly available.
- *Action 1c: Eastern Curlew single species action plan.* Single species action plans are certainly required to improve knowledge of specific threats and develop suitable management actions for each species. However, it is unclear why Eastern Curlew is the only species to be included here. Other candidate species, including Curlew Sandpiper, Bar-tailed Godwit (*Limosa lapponica*), Great Knot (*Calidris tenuirostris*)

and Red Knot (*Calidris canutus*), are under consideration by the CMS and should also be eligible for a single species action plan. Indeed, the Curlew Sandpiper is currently being assessed for listing as Critically Endangered under the EPBC Act 1999, whereas the Eastern Curlew is being assessed as Endangered .

- *New action: map all habitats for migratory shorebirds using remote sensing.* At present, there is no understanding of the fine-scale distribution of shorebird habitats, either internationally or within Australia. Recent methods are able to solve this problem and should be implemented across the flyway (Murray *et al.* 2012). This action complements action 2a.
- *Actions 4c-e:* These actions rely on long-term information about shorebird populations and their habitats. Consider an additional action explicitly stating that ongoing long-term monitoring should be continued and expanded where appropriate. A “state-of-knowledge” report prior to the next review of the migratory shorebird conservation plan (in 5 years) that comprehensively updates the state of shorebird populations would also be useful.
- *Actions 2a-c, 3d-e, 4a-c, 4e:* The UNSW Centre for Ecosystem Science (CES) is comprised of several ecologists and remote sensing experts that are experienced in remote sensing of inland and coastal wetlands (Murray *et al.* 2014; Murray *et al.* 2012; Tulbure and Broich 2013), and population analysis of shorebird populations in relation to threats, climate variability and wetland variability (Nebel *et al.* 2008), and can assist in implementation of these actions. In addition, the CES holds a database of long-term wetland aerial survey data that would enable the identification of key wetland sites across Australia.

## 5. Other Specific Comments

A list of additional comments on the plan is provided below:

1. Page 10. A list of sites, both “internationally important wetland habitat” and “nationally important habitat for migratory shorebirds”, should be appended to the final plan as an appendix. In addition, a shapefile or .kmz file with the locations of these sites (including site boundaries) should be provided on the website.
2. Page 10. Nationally important sites should also be defined by the number of threatened shorebird species that regularly use a site. We note that Eastern Curlew *Numenius madagascariensis* and Curlew Sandpiper *Calidris ferruginea* are both being considered for listing as Endangered and Critically Endangered under the EPBC Act, and identifying and protecting the sites under this plan frequented by these species is important. Having a lower population threshold for these species, reflecting their current low densities and outdated population estimates, is required.

3. Page 11,12. Latham's Snipe *Gallinago hardwickii* receives special attention in this plan. However, there are no citations or information on why the number of 18 individuals was chosen as a cut-off for this species. Other species that don't aggregate in as large numbers as many shorebirds or are difficult to count due to their behaviour, such as Wandering Tattler *Tringa incana* (roost and forage on rocky shores), should also be treated in this manner.
4. Figure 2 (p11). The use of the term "not important habitat" invokes a judgement on habitats that do not meet the listing criteria and should be avoided. It appears this term is actually used to infer important "sites" or "areas" as defined on page 10, and therefore we suggest consistency is needed. As "important habitat" is defined in the EPBC Act, change all references to "not important habitat" to "habitat (or area) does not meet criteria for shorebirds" or something of the sort.
5. Page 11. The definitions adopted by the plan, which follow Clemens *et al.* (2010), do not include staging sites. The criteria for listing species under the IUCN red list include a definition describing important habitat as "the smallest area essential at any stage to the survival of existing populations" (IUCN 2014). Staging sites are indeed vital for ongoing persistence of populations and, with large congregations of shorebirds at certain times of the year, will often be assessed as nationally important shorebird habitat. It is unclear then, why a shorebird area should only include the same group of shorebirds over the main non-breeding period. This definition should be revised to explicitly include staging areas.

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