

Data Descriptor

Preprint: Data on Peer Reviewed Papers about Recreational Disturbance of Coastal Avifauna

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Abstract: This data descriptor summarizes the process applied to identify, screen, select and gather data from the content of 142 peer-reviewed papers/sources that report on the sources and impacts of recreational disturbance on coastal avifauna. While populations of resident and migratory coastal avifauna are under threat and diminishing rapidly across the planet, and particularly in association with Asian flyways, many governments are leveraging booming global demand for coastal recreation and tourism in order to deliver economic development to regional communities. The summary data shared via this data description was extracted from papers collected in a systematic literature review that was designed to explore the global literature on the recreational disturbance of coastal avifauna in order to elucidate the state of the global knowledge regarding this issue and to identify management strategies that could be applied at tropical Asian destinations to minimize the impacts of recreational disturbance and thus enhance the ecological sustainability of coastal recreation and tourism across the region. The data shared via the Excel worksheet associated with this data descriptor was extracted from peer-reviewed articles published in English between 1 January 2000 and the 31 December 2018 with the full text of the article available online. These articles were found by searching several online indexing several databases including Scopus, Web of Science, ProQuest and Google Scholar.

Dataset: The dataset is published a supplement to this Data Descriptor.

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Keywords: beaches; coastal avifauna; ecotourism; migratory birds; recreation ecology; recreational disturbance; shorebirds; tourism development; wetlands

1. Summary

Against a backdrop of a world-wide decline in the abundance of coastal avifauna, especially amongst populations of migratory species, many governments are leveraging booming global demand for coastal recreation and tourism to deliver economic development communities living in coastal areas [1-7]. The provision of infrastructure and increased human use of coastal areas arising from the development of recreation and tourism can significantly degrade the quality of highly diverse and fragile ecosystems of coastal areas [8-10]. Those coastal ecosystems, especially shorelines and wetlands, are significant habitats for avifauna, providing stop-over sites for migratory bird species and are essential for shorebird breeding, roosting and foraging [11, 12].

In addition to the impacts of habitat loss, coastal avifauna are disturbed by the plethora of recreational activities that humans are enjoying in coastal environs, forcing birds to leave the area temporarily or permanently depending on the severity of the disturbance [8, 13]. *Ecological disturbance* is defined as the disruption of the normal activity or physiology of an animal in response to stimuli [14, 15]. Cayford [16] defined *recreational disturbance* of avifauna to be any relatively discrete event that disrupts ecosystems, communities or populations, where disruption refers to a change in behaviour, physiology, abundance or survival of individuals or groups of birds. Many authors have reported that recreational disturbance is a major threat to coastal avifauna [e.g. 17-20].

Publication of this dataset has the potential to benefit others who are researching, planning, developing and managing coastal areas, especially in relation to the provision of recreational and tourism opportunities and the conservation and protection of coastal avifauna.

2. Data Description

The data were manually extracted from each of the 142 peer-reviewed papers included in the systematic review of Marasinghe et al. [8] and captured in Microsoft Excel that is shared as a worksheet in the supplementary materials associated with this data descriptor. The metadata for that worksheet are provided in Table 1.

The Abstract for each paper included in the systemic literature review was also captured and was used to inform the review article of Marasinghe et al. [8], but has been excluded from this data set for reasons of copyright.

3. Methods

Similar to the methods reported in the MDPI published reviews of Parker, Patroni, Walker and others [21-24] and the Data Descriptor of Simpson and others [25, 26], the data reported in this data descriptor was gathered as part of a systematic quantitative literature review that was based on the approach of Pickering and Byrne [27] and the Preferred Reporting Items for Systematic Reviews (PRISMA) guidelines [28].

The systematic quantitative literature review that we report in Marasinghe et al. [8] explored the following five research questions:

1. Where is the current research into the recreational disturbance of birds that use the coastal habitats being conducted?
2. What are the reported sources of recreational disturbance for birds using coastal habitats?
3. What are the reported impacts of recreational disturbance for birds using coastal habitats?
4. What management strategies are recommended to reduce the recreational disturbance of birds using coastal habitats?
5. What are the implications of this systematic quantitative literature review for the management of recreational disturbance of birds using coastal zones in Tropical Asia?

Table 1. Metadata for dataset shared via the Excel worksheet as provided as supplementary material.

Descriptors	Data Type	Description
Paper ID	Numeric	Assigned by researchers. 1 to 142 to provide a unique identifier for each paper included in the review.
Year	Numeric	Calendar year in which paper was published.
Title	Text	Title of paper
APA In-Text Citation	Text	APA formatted in-text reference for paper/source
Journal/Source	Text	Name of journal that published paper
Location	Text	Place where research was performed or 'Not Specified'
Country	Text	Country where research was performed or 'Global' for review papers and other broad scale studies.
Study Zone	Categorical	Aquatic, Terrestrial or Both
Mega-Region or Continent	Text	Highest level of classification for location of study
Ocean Zone	Text	Ocean(s) adjacent to site of study reported in article
Koppen Climate Zone	Categorical	Classified according to Koppen Criteria
Type of Research	Categorical	Ecological, Human Dimensions, Review Article, Ecological & Human Dimensions.
Research Method	Categorical	Experimental, Observation, Traditional Review, Both Ecological & Observational.
Recreational Disturbance	Text	Short description of reported recreational disturbance(s)
Category of Recreational Disturbance	Text	A higher level classification of sources of recreational disturbance recorded in preceding column of worksheet.
Affected Behavior	Text	Short description of impacted or observed change in behavior.
Type of Impact	Binary	Negative or Positive
Primary Impact	Text	Short summary of direct impacts on coastal avifauna exposed to recreational disturbance.
Secondary Impact	Text	Short summary of indirect impacts on coastal avifauna as individuals or populations exposed to recreational disturbance.
Recommended Management. Actions	Text	Management actions/strategies recommended in paper to reduce the impact(s) of recreational disturbance on coastal avifauna
Implications for Tropical Asia	Text	Learnings for the conservation and/or protection on the tropical Asian region derived from the paper.

Academic publications were identified by manually searching the Google Scholar, ProQuest, Scopus, and Web of Science indexing databases using the combination of search terms shown in Table 2. The other parameters initially specified to identify the papers that would be manually screened for inclusion in the systemic review were that publications should be peer-reviewed material published in the period from 1 January 2000 to 31 December 2018 with the full text available online. The PRISMA flow diagram for the systematic review reported in Marasinghe et al. [8] is shown in Figure 1.

Table 2. Search terms used to identify papers included in the literature review. Potential papers were filtered using the primary AND secondary search term in the preliminary search.

Primary Search Terms	Secondary Search Terms
"coastal avifauna"	"impact of ecotourism"
"coastal birds"	"nature-based tourism"
"shore birds"	"recreational disturbance"
shorebirds	"behavioral responses"
waders	

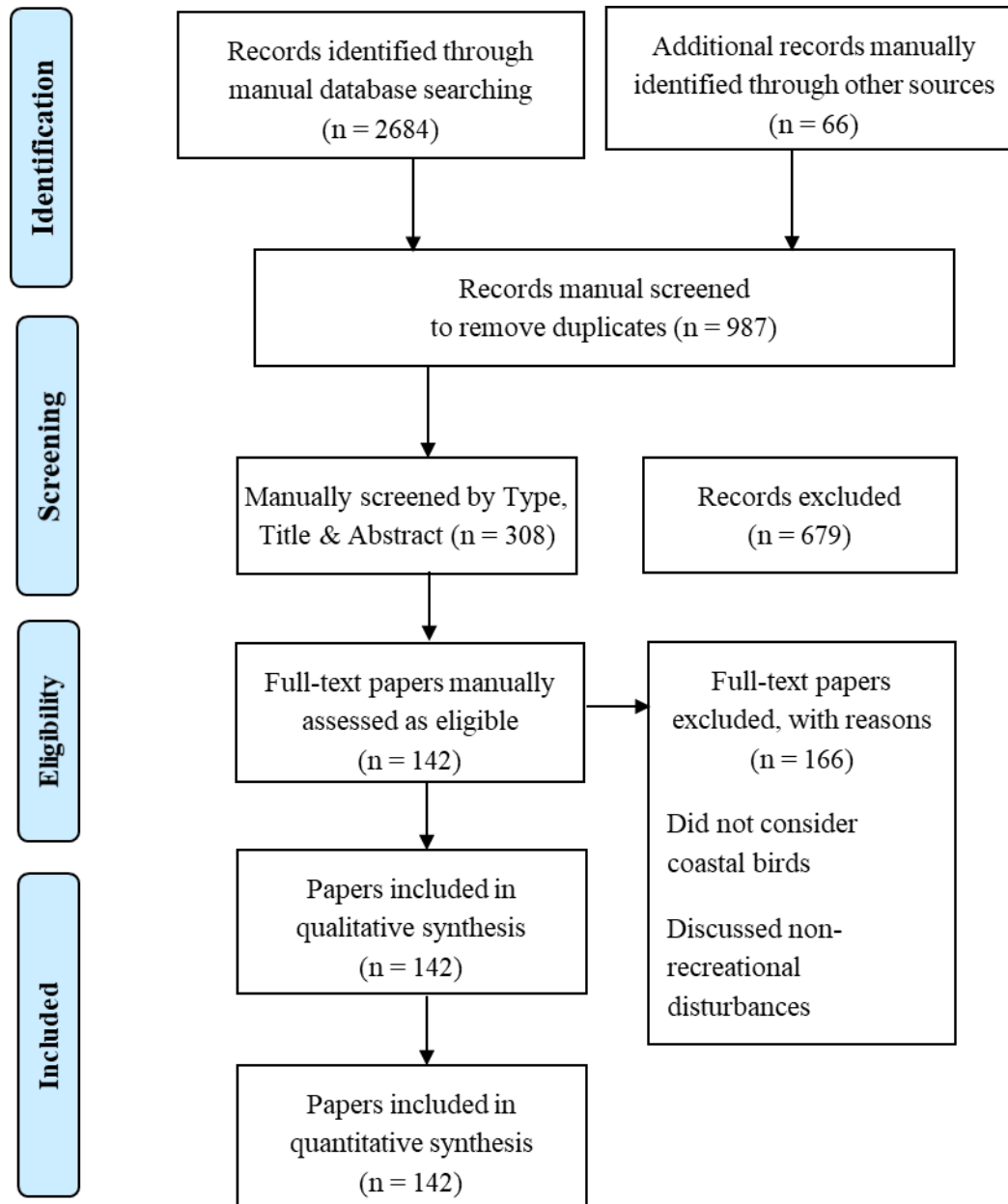


Figure 1: PRISMA flow diagram of the systemic process for paper identification and selection for inclusion in quantitative literature review article.

Supplementary Materials: Dataset shared as *Preprint Dataset for Coastal Avifauna Systematic Review.xls*

Author Contributions: S.M. completed the manual searches and initial data extraction for the systemic review. G.D.S and S.M. contributed equally to completing the systematic review, structuring of the dataset and writing of this data descriptor and as such are co-first authors. D.N. and P.P provided supervision for the project informed by the systemic review and contributed to the final review and editing of this data descriptor. P.P acquired the funding for the research informed by this systemic literature review.

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