

Effect of construction of Karekura Bridge near Ranganathittu Bird Sanctuary on the migratory birds and their habitat



Principal Investigators: Dr. Arun, P.R. & Dr. Babu, S.
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Acronyms and Abbreviations

Acronym or Abbreviation	Description
KRS	Krishna Raja Sagara
CNNL	Cauvery Neeravari Nigama Limited
RTBS	Ranganathittu Bird sanctuary
KBCS	Karekura Bridge construction Site
KB	Karekura Bridge
PKI	Puttaina koppalu islands (Ranganathittu)
DI	Devaraja islands



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Executive Summary

The Karnataka High Court order on a Public Interest Litigation Petition (No. WP 4567 of 2021) directed to get an assessment study done on potential impacts of the Karekura bridge on local and migratory birds at the Ranganathittu Bird Sanctuary (a recently declared Ramsar site (Ramsar 2022)) and surrounding areas with particular emphasis on birds' movement between Devaraja islands and Puttaina koppalu islands (Ranganathittu). The bridge site is at Karekura, where the partly constructed bridge across the river Kaveri is already existing about 3 km upstream of the Puttaina koppalu islands of the Ranganathittu Bird Sanctuary (RTBS), comprising of six islets along the Kaveri River. The sanctuary serves as crucial habitat for a variety of bird species, many of which breed there.

The present study examined the local and migratory avian fauna and their movement patterns at Karekura between Devaraja island and Ranganathittu, to evaluate the potential threats to the birds and suggest appropriate management and mitigation. We sampled birds using standard methodology and protocols such as total counts and vantage point counts to study diurnal birds and used the call-playback method for nocturnal surveys. The study found variations in bird richness and abundance in the study area, with a peak in November to February due to arrival of migratory birds. It found a high richness of owls in the northwest zone of the study area.

No instance of bird collisions or carcasses were also recorded under the nearby bridges or under the partly constructed Bridge at Karekura. Low-flying birds were found to be avoiding the bridge structure by shifting their flight height. Indicating absence of any chance of direct mortality of birds from the proposed bridge under normal conditions.

Any major developmental activity can disturb the surrounding avifauna and affect their behavior, movement, foraging and breeding. In the present case, roosting and breeding birds such as River Tern, Great thicknee, and Little Ringed Plover present near the Karekura bridge site would face most disturbance.

The potential impacts of the bridges includes disturbance, bird-collisions, pollution, and habitat fragmentation. The study suggests appropriate management measures to minimize and mitigate these impacts during construction and operating phases of the Karekura bridge. Following major recommendations are made

During construction, activities should be restricted to the six month period from April to September when bird activity is low in the area. Also and construction activities should be avoided in the night hours preferably between 5 pm to 8 am. Mixing of materials and rock blasting should preferably be done away from the river



course, keeping a sound limit of 75 dB. Chemicals, cement, and tar should be handled carefully to avoid spillage and harm to birds. A bird-friendly vertical garden wall is suggested instead of a traditional parapet wall, which will reduce bird hits, absorb sound pollution, and mitigate heat islands. Increasing the visibility of bridge, avoiding overhead power lines, speed-restrictions, information boards and surveillance cameras can also help in reducing the impacts. Pollution associated with the bridge can be managed by ensuring scientific waste collection and disposal, promoting awareness on waste management, planting noise barriers, and fencing the bridge and road. Other recommendations include security monitoring and protecting the breeding sites of birds present between Ranganathittu Bird Sanctuary and Devaraja Islands by designating these areas as an eco-sensitive zone. The Forest Department should be duly involved for monitoring the bridge construction to ensure the implementation of recommendations.

The proposed bridge can poses a threat to the birds by disrupting foraging, movement and potentially impacting their survival. Roosting and breeding birds near the bridge face greater disturbance and impact. Measures to mitigate the bridge's potential threats are recommended and further construction of the Karekura bridge may be taken up only after ensuring recommended mitigation measures are followed.





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