

Item: ENV025-21 Georges River Biodiversity Study (Total Earth Care) and Osprey Nesting Habitat

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Directorate: Environment and Planning

Matter Type: Committee Reports

RECOMMENDATION:

- (a) That Council notes the findings and recommendations of the technical study prepared by Total Earth Care Pty Ltd, the *Georges River Biodiversity Study 2020-21*, that will inform the preparation of the Georges River Biodiversity Strategy, amendments to the Georges River Local Environmental Plan, the Georges River Development Control Plan and other relevant environmental strategies.
- (b) That the information regarding Eastern Osprey be noted.

EXECUTIVE SUMMARY

1. The purpose of this report is twofold. Firstly, for Council to note the findings of the Georges River Biodiversity Study 2020-21 (the Study) as a technical study for Council. Secondly, to advise Council of the discussions held and the research into the status of Eastern Osprey (*Pandion cristatus*) within the Georges River Local Government Area (LGA) and to provide recommendations to potentially enhance Osprey habitat within the LGA.
2. The purpose of the Biodiversity Study is to provide a holistic and LGA-wide assessment of the current biodiversity values, conditions, locations and opportunities. The Study will inform the preparation of the Georges River Biodiversity Strategy, amendments to the Georges River Local Environmental Plan, Development Control Plan and other relevant environmental strategies.
3. The Study has been funded by a combination of grant funding from the Australian Government for a Study of Biodiversity and Threatened Habitats in the federal Cook Electorate and the NSW Government as part of the Accelerated LEP Program.
4. In response to the findings of the Study, an additional component is currently being carried out in collaboration with Ethos Urban to develop draft planning controls that can be included in the Georges River Local Environmental Plan (LEP) and Georges River Development Control Plan (DCP). This component will be completed later this year and will be the subject of a separate Council report.

BACKGROUND

5. Council's "Georges River 2050 Vision" aspires for "*A leafy, green place where biodiversity thrives*" and an idealistic vision of 2050 where "*Enhanced natural assets are focused on the river and catchments, reduced reliance on natural resources and minimised environmental impact*".
6. Theme 5: 'Environment and Open Space' of Council's Local Strategic Planning Statement (LSPS 2040) describes that the LGA's biodiversity corridors are well connected and our bushland and biodiversity are diverse and healthy.

7. In line with Theme 5, one key action of the LSPS 2040 is developing a biodiversity strategy informed by an up-to-date biodiversity study.
8. To begin this process, Council obtained a grant from the Australian Government under the Communities Environment Program (CEP) for a Study of Biodiversity and Threatened Habitats in the federal electorate of Cook. This funding was limited in its geographic area and as such a broader Biodiversity Study was required to encompass the entire LGA to enable consistency and to address concerns of the community during the public exhibition of the draft Georges River LEP 2020 and its proposed Foreshore Scenic Protection Area.
9. The remaining portion of funding for this Study has been secured from the NSW Government's Accelerated LEP Program.

Overview

10. The purpose of the Study is to identify the key biodiversity values within the LGA by assessing the diversity of flora (plant) and fauna (animal) present, analysing historical changes and identifying key opportunities to protect and conserve biodiversity.
11. The Biodiversity Study is reported in two volumes:
 - Volume 1 comprises an overview of the biodiversity values in the LGA. It provides the project background, aims, strategic and legislative context, methods, synthesis of results and further recommendations (refer **Attachment 1**).
 - Volume 2 provides detailed results of the surveyed sites including comprehensive inventories, conservation significance and site-specific recommendations (refer **Attachment 2**).
12. The desktop assessment reviewed numerous existing data sources and literature to develop a comprehensive understanding of existing and historical biodiversity values in the LGA.
13. Additionally, various community and stakeholder consultation activities provided further information and data which supported the outcomes of the desktop assessment and field surveys.
14. In determining a consistent and reputable methodology upon which to assess biodiversity, Total Earth Care used the NSW Biodiversity Assessment Method (BAM) (DPIE 2020a) as it is the current standard for comprehensive biodiversity assessment in NSW.
15. The BAM is used as part of the Biodiversity Offsets Scheme (BOS). The BOS is a legislated framework that is required when addressing impacts on terrestrial biodiversity from development and clearing. It also ensures that land used to offset impacts is secured in the long term. The BAM provides a consistent method to assess impacts on biodiversity values from a proposed development (including major projects), clearing or biodiversity certification as well as improvements in biodiversity values from management actions undertaken at a stewardship site.

Community Engagement

16. Community and stakeholder engagement were undertaken throughout the project. It is through this active engagement that Total Earth Care was able to obtain identifications of various species, vegetation communities and environmental risks of local importance.
17. The general public and 18 key stakeholders and community groups were engaged through various activities and platforms including:
 - Your Say project page
 - Social media posts

- Advertisement in The Leader newspaper
 - Questionnaire on sightings of native plants and animals in the LGA
 - Interactive biodiversity map where observations can be added
 - Webinar held on Thursday 26 November 2020 providing an overview of the project and open discussion with key community and stakeholder groups
 - Regular updates on the progress of field surveys supported by photographs and short commentaries.
18. The following key community and stakeholder groups were invited to share their knowledge regarding biodiversity values, notable species, and hotspot areas:
- Youth Advisory Committee
 - Aboriginal Advisory Committee
 - Oatley Flora and Fauna
 - Climate Citizens Lobby
 - Lugarno Progress Association
 - St George District Residents Association
 - South Hurstville Residents Association
 - Beverly Hills Owners Association
 - Kogarah Residents Association
 - Penshurst Action Group
 - Bushcare groups
 - Georges River Environmental Alliance
 - Cooks River Alliance
 - Georges Riverkeeper
 - Streamwatch and Landcare
 - DPIE's Environment, Energy and Science division
 - National Parks and Wildlife Service
 - Powerful Owl Project.
19. The community and stakeholder consultation provided anecdotal records during the study of three threatened fauna species, listed as follows:
- Glossy Black Cockatoo (*Calyptorhynchus lathami*);
 - Black Bittern (*Ixobrychus flavicollis*); and
 - Bar-tailed Godwit (*Limosa lapponica*).
20. In addition, Total Earth Care hosted a volunteer fieldwork day on 3 February 2021 where members from the Oatley Flora and Fauna Conservation Society (OFF) were invited to assist with the survey efforts at Oatley Park. Activities included surveys of vegetation, habitat and nocturnal spotlighting and call playback.
21. Due to the technical nature of the Biodiversity Study and its findings, public exhibition is not required. The Study is a technical document that will be used to inform policies, planning controls and operational procedures.

Key Findings of the Biodiversity Study

22. The key findings of the Biodiversity Study have been summarised as follows, according to fauna and flora species.

Fauna

23. Total Earth Care used standardised ecological survey methodology to survey 27 parks and reserves covering 336 hectares and 29km of street biodiversity corridors.
24. Eight threatened fauna species were recorded, including two species previously unrecorded in the LGA. Species are listed as follows with underlines denoting species previously unrecorded:
- i. Grey-headed flying fox (*Pteropus poliocephalus*);
 - ii. Powerful Owl (*Ninox strenua*);
 - iii. White-Bellied Sea Eagle (*Haliaeetus leucogaster*);
 - iv. Eastern Coastal Free-tailed Bat (*Micronomus norfolkensis*)*;
 - v. Little Bent-winged Bat (*Miniopterus australis*)*;
 - vi. Large Bent-winged Bat (*Miniopterus orianae oceanensis*)*;
 - vii. Southern Myotis (*Myotis macropus*)*; and the
 - viii. Greater Broad-nosed Bat (*Scoteanax rueppellii*)*.

* Recorded by ultrasonic echolocation detection (Anabat device)

25. The abundance and diversity of honeyeaters (Family: *Meliphagidae*), other than the Noisy Miners (*Manorina melanocephala*), was low.
26. The abundance and diversity of small scrub-dependant birds (i.e. wrens, thornbills, and robins) were low. This may be influenced by the limited shrub-layer in the dominate vegetation communities (i.e. Coastal Enriched Sandstone Dry Forest) and/ or the pressure from Noisy Miners (*Manorina melanocephala*).
27. The abundance and diversity of shorebird species (i.e. snipes, curlews) was lower than expected.
28. Few predatory bird species (i.e. raptors and owls) were recorded, as such it is likely there are few roosting in the LGA. However, they may utilise the area as foraging habitat.
29. Indications of the presence of gliders (likely the Sugar Glider (*Petaurus brevicep*) were recorded at several sites. There are previously only two records (in 2014 and 2018) of the species in the LGA.

Flora

30. The survey recorded one threatened flora species and one threatened flora population, being the Magenta Lilly Pilly (*Syzygium paniculatum*) and Gosford Wattle (*Acacia prominens*), respectively and a number of Threatened Ecological Communities, being: Coastal Saltmarsh, Freshwater Wetlands; Littoral Rainforest; Swamp Oak Floodplain Forest; Swamp Sclerophyll Forest on Coastal Floodplains; and Sydney Turpentine Ironbark Forest.
31. The Study found that the Coastal Enriched Sandstone Dry Forest is the most prevalent native vegetation community in the LGA. Flora details are further outlined as follows:
- Most of the vegetation remaining in the LGA is on sandstone geology around the foreshore areas. There is little shale influenced vegetation remaining as areas with this geology are mostly developed urban areas on the plateaus of headlands and the

northern section of the LGA. As such, the few patches of shale influenced communities remaining are of conservation significance (i.e. Coastal Shale-Sandstone Forest at Oatley Point Reserve and Sydney Turpentine Ironbark Forest at Myles Dunphy Reserve, Quarry Reserve and Black Forest Reserve).

- All patches of Estuarine Swamp Oak Forest were highly impacted by weeds with dominance of *Tradescantia fluminensis* (Wandering Jew) and/or *Asparagus* spp. (*Asparagus* fern) in the understory. The larger patches of vegetation are typically in better condition. This is likely due to having higher resilience and less pressures (i.e. weed invasion, predation by exotic fauna, edge effects).
 - The extent of most mangrove communities has expanded in the past 50 years. This is likely due to sedimentation from development and climate change impacts.
 - Numerous individuals of the endangered population *Acacia prominens* (Gosford Wattle) were recorded. Due to the locations of many of these plants, it is likely many have been planted.
 - The retention of vegetation, particularly mature trees (i.e. with large canopies and hollows), in street corridors and on private property is important in supporting connectivity between larger patches.
32. Overall, there is generally greater biodiversity in the south western suburbs of the LGA and less in the northern more urbanised suburbs. This is predominantly due to historical urbanisation and fewer bushland areas in the north.

Biodiversity Study Opportunities and Recommendations

33. There are a number of threats to biodiversity, with the two primary threats being weeds and pests. The Study indicates that several invasive weeds (i.e. *Alternanthera philoxeroides* (Alligator Weed)) were recorded and foxes (*Vulpes vulpes*) were observed at many sites and are likely to be present in most vegetated areas across the study area. All cats (*Felis catus*) that were observed were not wearing bells and it is to be noted that cats whilst only observed at 10 of the 207 sites surveys are likely to utilise most of the sites.
34. Various recommendations for protecting, maintaining, and enhancing biodiversity within the LGA have been outlined within the Biodiversity Study. Recommendations have been classified as being of high, moderate, or low.

Next Steps

35. Informed by the findings of the Biodiversity Study, recommendations for a set of planning controls to protect the LGA's biodiversity are currently being developed by Ethos Urban in collaboration with Total Earth Care and Council staff.
36. The collaboration between Total Earth Care and Ethos Urban will enable a holistic approach in developing a set of planning controls to ensure new developments respond appropriately to the presence of biodiversity. This component will be completed later this year and will be the subject of a separate Council report.

Eastern Osprey

37. At its meeting on 22 February 2021, Council resolved:

That the General Manager provide a report to Council that addresses:

- (i) *the outcomes of an investigation into the current availability of nesting habitat for Ospreys within the Georges River Council local government area;*

- (ii) *the actions and activities undertaken by our neighbouring Councils, Canterbury Bankstown, Sutherland and other coastal councils to enhance Osprey nesting habitat with the possibility of developing a regional approach;*
 - (iii) *the actions and activities undertaken by the NSW National Parks and Wildlife Service and the NSW Roads and Maritime Service;*
 - (iv) *the findings of the draft Biodiversity Study; and*
 - (v) *possible sources of funding (such as grants) that are available for the installation of strategic artificial nesting platforms and nesting habitats.*
38. The Eastern Osprey is listed as Vulnerable in New South Wales, with habitat loss listed as a threat to their population by the NSW Government, specifically “Disturbance to or removal of large trees near the coast that have been or could be used as nest sites.”
39. Ospreys make their nests high in the crowns of trees, or in some cases where tall tree habitat is not available, on artificial structures. In recent years, a breeding pair of Osprey have been recorded nesting on a disused crane close to Little Moon Bay in the Sutherland Shire.
40. In 2018, Sutherland Shire Council in collaboration with Greater Sydney Local Land Services (GSLLS) and Roads and Maritime Services (RMS) completed construction of an artificial shorebird platform in Woollooware Bay as part of a broader public access project.
41. Discussion with Greater Sydney Local Land Services and Sutherland Shire Council officers in June 2020 and again in April 2021 has revealed that the platform is experiencing success, with threatened shorebirds such as Pied Oystercatchers using the platform alongside abundant species such as seagulls and pelicans. As the platform is designed for shorebirds and not raptors, no Ospreys have been recorded there.
42. Central Coast Council installed a purpose-built platform when the species was found nesting at a Council depot, stadium and sewage treatment plant. In this instance a purpose-built platform was the most immediate way in which to support the species at operational sites. Central Coast Council support Osprey through continued environmental education and waterway management programs.
43. In March 2021, the City of Canterbury-Bankstown Council provided information on its investigation of artificial nesting platform viability. Having been in contact with Griffith University’s School of Environment and Science, Canterbury-Bankstown Council was recommended to implement artificial breeding platforms in the LGA away from urban areas, due to the prevalence of conflict with urban birds and humans and the confirmed presence of Osprey within the Canterbury-Bankstown LGA.
44. However, City of Canterbury-Bankstown has not yet made a commitment to constructing artificial platforms, pending further research into the following:
 - Prevalence of interspecies competition at nesting sites, particularly from urban birds such as ravens; and
 - Benefit to constructing artificial breeding sites further upstream of Georges River to minimise urban impacts.
45. Council also contacted Roads and Maritime Services (RMS) Botany Bay and Port Hacking Maritime Command and National Parks and Wildlife Services (NPWS) relating to Osprey and their habitat. Their responses are respectively summarised as follows:
 - The NPWS Ranger for Georges River National Park indicated that there are at least two breeding pairs currently utilising the Georges River river-bank area for nesting in unsuitable sites. NPWS Head Office is currently investigating methods to influence Ospreys to nest in safer sites.

- RMS indicated that it has had no sightings of Eastern Osprey in Botany Bay or the lower Georges River.
46. The NPWS, as published on its website, enable the NSW Government's Saving our Species program which represents the biggest conservation commitment in NSW. Overall, the program supports the control of threats to biodiversity such as weed eradication and feral animal control. The project also fosters reintroduction of species through breeding programs where required.
 47. NPWS also undertakes a variety of ongoing biodiversity research towards native vegetation mapping and classification projects to continually monitor and record biodiversity throughout the State. The NPWS confirmed with Council in April 2021 that it is considering ways in which Osprey can be encouraged to nest in safer and more appropriate sites (when compared with the crane near Little Moon Bay). The timeframe for the outcome of this work is not known.
 48. Currently there are no sources of grant funding available for Osprey and raptor habitat enhancement projects. Council will continue to monitor grant funding sources, including the NSW Department of Planning, Industry and Environment's ongoing Environmental Restoration and Rehabilitation grant program.
 49. However, given there were no observed Eastern Osprey within the Georges River LGA within the Biodiversity Study, it is unlikely Council will obtain grant funding over municipalities with observed or known Osprey.
 50. Council will continue to remain in contact with neighbouring councils and NSW agencies and progress future regional collaborations to support Osprey within southern Sydney if possible, through grant funding and if deemed suitable by NSW agencies.
 51. To enhance Osprey and native raptor habitat in the LGA, priority will be given to the planting of native canopy trees on Council land within proximity to the Georges River during routine and grant funding planting programs.

FINANCIAL IMPLICATIONS

52. No budget impact for this report.

RISK IMPLICATIONS

53. No risks identified.

COMMUNITY ENGAGEMENT

54. Community engagement was conducted as outlined within this report. Due to the technical nature of the Study and its findings, public exhibition is not required

FILE REFERENCE

SF21/24, D21/82283

ATTACHMENTS

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| Attachment 1 | Environment - Biodiversity Study Volume 1 - Final Version - PUBLIC ACCESS VERSION - Stage 4 Deliverable - Total Earth Care - <i>published in separate document</i> |
| Attachment | Environment - Biodiversity Study - Volume 2 - Final PUBLIC ACCESS VERSION |

- 2 - Georges River Council Total Earth Care - June 2021 - *published in separate document*