

NSW Comprehensive Coastal Assessment Fauna Habitat Data Audit.

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Aims: Increasing development in coastal NSW has led to increased levels of direct and indirect impacts on fauna and fauna habitat. This can be addressed through effective strategic planning which considers fully the conservation of biodiversity. This, in turn, requires access to relevant information. The audit sought, for the first time, to collate and assess the quality of information available for conservation planning in the Comprehensive Coastal Assessment (CCA) study area.

Findings: The audit systematically gathered data from a range of sources through liaison with councils, consultants, community groups and state government agencies. Key findings of the audit are listed below. The project report contains considerable detailed information in support of these findings.

Priority Species Lists. The impracticality of sampling all fauna from all habitats within an area commonly leads to the identification of a subset of important species for conservation assessments. Draft priority species lists including native amphibians, reptiles, birds, mammals, invertebrates as well as exotic pests were developed for the northern and southern sections of the CCA study area.

Some 255 priority species were identified, of which 176 species, primarily birds, were considered to have the highest potential to be directly affected by coastal development. As expert opinion relating to which species should be included was equivocal, the lists remain as draft but, nonetheless, it provides strong guidance to the list of appropriate indicator species.

Previous Conservation Planning and Assessment Programs. State-wide, bioregional, sub-regional and local government area-based assessments were reviewed. While these studies have generated large fauna datasets none have included a comprehensive assessment of fauna values for the CCA study area as a whole. Not surprisingly, local government area-based assessments were focussed on providing data most relevant to local environment planning and development assessments.

Collation, Review and Evaluation of Fauna Data. A total of 267 documents were located, catalogued and categorised in terms of a range of accessibility and reliability criteria. Overall, at the time of the audit, councils were found not to maintain fauna databases and generally relied on information in the DEC Wildlife Atlas for assessments. However, it was found that where other data was obtained for development assessments, a considerable amount of that data was not being forwarded to DEC for addition to the Wildlife Atlas.

Evaluation of Point Locality and Modelled Data. Of the approximately 877,000 records within the Wildlife Atlas for the entire coastal area, around 141,100 or 16% are for the draft priority species developed for the CCA. When filters were applied for data reliability and accuracy, approximately 67,266 records or less than 50% of the priority species data within the coastal area was found to be suitable for use in fine scale conservation assessment and planning. A similar trend was found when examining records for threatened species only.

Autoecological Review. Autoecology includes those factors that influence the establishment, growth and survival of individuals and species. A good understanding of autecology is essential

to ensure that species management is targeted in the most appropriate manner. The assessment of autecology in this project included two main components: a baseline assessment of gaps in autecological knowledge of priority coastal species; and, a more detailed assessment of the autecology of the ocean beach, rocky shore and estuarine assemblages - combined to form a coastal bird assemblage.

The review found some distinct differences in the level of knowledge between species and habitat assemblages. The autecology of wetland birds (estuarine, ocean beach, rocky shore and wetland assemblages) that utilise open habitats and roost and/or forage and breed communally is better known than most other species and assemblages.

For the coastal bird assemblage, key areas where information is lacking include knowledge of nocturnal roost and foraging sites, mainly for shorebirds, gulls and terns; knowledge of diurnal foraging sites for all species; knowledge of nest sites for all species; knowledge of roost, foraging and nest sites of mangrove endemics; knowledge of the seasonal movements of resident birds and knowledge of intra-habitat movement.

Gap Analysis. A preliminary qualitative assessment of the 224 priority species identified a subset of 104 species from the northern and 72 species from the southern sections of the CCA study area which may be affected by coastal development, and are worthy of additional study.

The fauna gap analysis identified significant variation in the availability of data between fauna groups and study areas. The numbers of reliable fine scale records across the study area for many priority species is very low, particularly for reptiles and frogs but also for certain mammal and bird species.

The gap analysis also has identified the importance of floodplain, wetland, estuarine and ocean beach together with heath and woodland and to a lesser extent forest fauna and habitats as warranting future work.

Conclusion: The audit has delivered a comprehensive report on the availability and reliability of faunal data for the CCA study area along with suggestions for better integration of fauna data into coastal planning and assessment. The development of biodiversity conservation strategies at a range of spatial scales and within recognised conservation planning frameworks is anticipated as providing the means for effective protection of our unique coastal fauna.

Related CCA projects and references:

CCA 02 - New South Wales Department of Environment and Conservation, 2003, *NSW Comprehensive Coastal Assessment Vegetation Data Audit*, prepared for the Comprehensive Coastal Assessment (DoP) by DEC, Hurstville.

CCA 04 - R.J. Williams, G. West, D. Morrison and R.G. Creese, 2006, *Estuarine Resources of New South Wales*, prepared for the Comprehensive Coastal Assessment (DoP) by the NSW Department of Primary Industries, Port Stephens.

CCA 08 - New South Wales Department of Environment and Conservation, *Targeted Vegetation Survey for the Far North Coast Planning Region*.

CCA 11 - New South Wales Department of Environment and Conservation, 2006, *Decision Support Tools for Biodiversity Conservation: Biodiversity Forecasting Toolkit*, prepared for the Comprehensive Coastal Assessment (DoP) by the NSW Department of Environment and Conservation, Armidale.

CCA Guidebook – New South Wales Department of Planning, 2006, *The CCA Integrated Decision Framework: A guide for sustainable land use planning*, prepared for the Comprehensive Coastal Assessment (DoP), Sydney.

NSW National Parks and Wildlife Atlas

<http://wildlifeatlas.nationalparks.nsw.gov.au/wildlifeatlas/watlas.jsp>