



## DEPARTMENT OF ARTS AND MUSEUMS

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Your ref EN2013/0023

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Dear Dr Freeland

Thank you for your letter dated 29 May 2013, regarding the NT EPA Environment Guidelines for Public Consultation.

The Museum and Arty Gallery of the Northern Territory (MAGNT) within the Department for Arts and Museums (DoAM), is the foremost research institute for documenting and scientifically describing Northern Territory animal biodiversity. It has taxonomic expertise represented by curators in varying areas of marine and terrestrial fauna and has extensive specimen collections which serve as an important working reference for current and future understanding of species identification, distribution, biology and relationships. Much remains to be documented on the taxonomy and status of local fauna, with new information routinely gathered from the collections and field assessments as the opportunity arises.

I appreciate being given the opportunity to comment on the series of draft environmental guidelines. DoAM offers the following general comment regarding faunal field sampling. Faunal sampling is considered in aspects of several of the draft guidelines and our comments are directed to ensure that related assessment processes and statements are robust, defensible and consider the most up-to-date knowledge on target groups.

The foundation for species lists of an area and subsequent considerations outlined within the draft guidelines, rely heavily on the identification of fauna sampled including threatened, migratory, and narrow range endemic species. As such, procedures and protocols to guide and ensure the accuracy of identifications should be a significant component of field surveys. Key variables include levels of training and expertise of field staff; availability of reliable, detailed and recent field keys and levels of quality assurance/quality control. All these variables can be aided by independent peer review, training, and sample verification.

Sample verification should ideally be conducted for (a) specific issues such as to confirm threatened species occurrence, resolve cases of confusion, or document records of particular note, and (b) also be a routine process to scientifically validate and refine field identifications. This will not only potentially aid the quality of particular project outcomes, but can continue to build knowledge of Northern Territory Biodiversity by contributing material for taxonomic assessments. At the minimum, photo vouchers viewed by peers is recommended. Taking non-destructive genetic samples of some or all individuals for particular groups, with bar-code like typing (genetic identification) is increasingly being seen as best practice for development assessments in other jurisdictions. A physical voucher specimen with matching genetic tissue and life photo represents the technique offering the highest level of accuracy particularly for reptiles, frogs, fishes and invertebrates where the taxonomy is less complete than for example birds.

Additional text regarding the importance of sample verification and accurate taxonomic assessments could be incorporated into relevant sections of the draft guidelines.

The MAGNT would be happy to provide further information as needed, and be listed as a primary point of contact for taxonomic expertise.

Yours sincerely



HUGO LESCHEN

3 July 2013