Project Plan SP 2019-071

Structured decision making to support Abrolhos painted button quail conservation in the Houtman-Abrolhos Islands National Park

Animal Science

Project Core Team

Supervising Scientist	Megan D Barnes
Data Custodian	Megan D Barnes
Site Custodian	

Project status as of Oct. 26, 2020, 12:10 p.m.

Pending project plan approval

Document endorsements and approvals as of Oct. 26, 2020, 12:10 p.m.

Project Team	required
Program Leader	required
Directorate	required
Biometrician	required
Herbarium Curator	not required
Animal Ethics Committee	not required

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Biodiversity and Conservation Science Program

Animal Science

Departmental Service

Service 6: Conserving Habitats, Species and Communities

Project Staff

Role	Person	Time allocation (FTE)
Supervising Scientist	Megan D Barnes	0.3

Related Science Projects

Proposed period of the project

Sept. 1, 2019 – Jan. 31, 2021

Relevance and Outcomes

Background

The Abrolhos islands are a popular recreation site, currently free of introduced predators, and host the only WA population of the Abrolhos painted button quail (Turnix varius scintillans), several important seabird breeding areas, and sea lion breeding areas that may be negatively impacted by disturbance, among other biodiversity values. Abrolhos painted button quails (APBQ) were recently identified as at high risk of extinction. The APBQ is resident on East and West Wallabi Islands (a single connected population), now likely to be the only remaining population of APBQs, as a result of the extirpation of a population on North Island where they were once common. Houtman-Abrolhos Islands National Park (HAINP) was declared on 25th July 2019. HAINP was declared for its biodiversity, heritage and landscape values and to create opportunities for visitors to enjoy their unrivalled beauty. Managing HAINP requires a base of operations which is planned on East Wallabi Island. Significant investment to implement tourism infrastructure including a new jetty on East Wallabi Island has been assigned. Some natural values have already experienced declines on East Wallabi, and increased use may result in increased invasion risk by feral species such as rats. But how likely invasion will be is unclear, and there are also potential benefits, including increased opportunities to detect any invasion should it occur. In response to the HAINP declaration, given the likely increase in visitation and use identified in the draft management plan, and concern about the implications of the arrival of invasive mammals, a risk assessment was considered desirable. A pilot workshop was conducted at which a risk assessment was identified as a key need for APBQ.

Aims

This project aims to evaluate risks to the Abrolhos painted button quail and identify cost-effective management strategies to ensure their long term persistence, using Structured Decision Making in collaboration with the DBCA Midwest Region.

Expected outcome

The work will directly inform regional decision making by providing a better understanding of the potential risks to Abrolhos painted button quails, and identify cost-effective management strategies to ensure their long term persistence. The project is in collaboration with representatives of the Midwest Region, and Parks and Visitor services, supporting multiple departmental goals.

Knowledge transfer

The key users will be the Mid-West Region and Shark Bay Districts of DBCA's RFMS internally. The process is explicitly transdisciplinary. It has been co-designed with the Mid-West region. A pilot study including the Regional Manager and regional conservation operations and conservation staff was conducted which identified this assessment, and the explicit need to account for uncertainty, as a key need. The assessment will be conducted with extensive collaboration with the region, including consultation about objectives, constraints, and co-development of management strategies. Species and communities are all a key stakeholder through the listing and recovery planning process.

Externally, Birdlife and conservation groups are key stakeholders.

The project links with student projects at ECU and UQ and key information needs identified will inform project development that will further support the region in future.

Transfer Strategy:

- Co-design via participatory transdisciplinary research with the region will result in shared understanding and ownership of products.
- Reports detailing methods and results will be prepared.
- Findings will be reported via factsheets and presentations to external stakeholders upon completion of the risk assessment and strategy evaluation to communicate key strategies and leverage engagement.
- Results summary and key actions will be co-designed with Species and communities to inform future listing and recovery planning processes.

Tasks and Milestones

- Workshop 1: Pilot Workshop (September 2019)
- Problem Formulation and objective development (October 2019)
- Problem Summary (October 2019)
- SPP (August 2020)
- Elicitation Package completed (October 2020)
- Ethics Submitted (October 2020)
- Alternative Development completed (October 2020)
- Workshop Two completed (November 2020)
- Decision Tree Analysis Completed (January 2020)
- Report and communications materials prepared (January 2020)

References

Hemming, V., Burgman, M.A., Hanea, A.M., McBride, M.F., Wintle, B.C., 2018. A practical guide to structured expert elicitation using the IDEA protocol. Methods in Ecology and Evolution 9, 169-180.

Canessa, S., Converse, S.J., West, M., Clemann, N., Gillespie, G., McFadden, M., Silla, A.J., Parris, K.M., McCarthy, M.A., 2016. Planning for ex situ conservation in the face of uncertainty. Conservation Biology 30, 599-609.

Study design

Methodology

The research will be conducted in a Structured Decision Making Framework. A cost evaluation template will be developed and costs estimated based on existing program costs in collaboration with relevant program and regional staff. Alternatives will be developed via workshops with both program and regional staff, as well as

external experts. Structured elicitation using the IDEA protocol (after Hemming et al 2018) will be utilised to estimate the expected benefits of alternative strategies. A decision tree analysis approach will be used to evaluate the relative risk of alternate strategies in the risk assessment (after Canessa et al 2016, Cons Biol. 30. 599-609). Participation will be anonymous and free and informed consent will be obtained via participant consent forms from all participants in line with Australian Ethical standards.

Biometrician's Endorsement

required

Data management

No. specimens

Herbarium Curator's Endorsement

not required

Animal Ethics Committee's Endorsement

not required

Data management

Data will be archived with metadata following best practice Data Management Protocols, e.g. <a href="https://www.usgs.gov/al
ganization/science-support/survey-manual/5029-fundamental-science-practices-preservation">https://www.usgs.gov/about/orga
support/survey-manual/5029-fundamental-science-practices-preservation at <a href="https://data.dpaw.wa.gov.au/">https:/
within 6 months of project completion.

Code will be archived on GitHub and made publicly available upon project completion. Non-spatial data products will be archived on the relevant departmental server. Non-sensitive unique data products will be published and assigned a DOI.

Budget

Consolidated Funds

Source	Year 1	Year 2	Year 3
FTE Scientist			
FTE Technical			
Equipment			
Vehicle			
Travel			
Other			
Total			

External Funds

Source	Year 1	Year 2	Year 3
Salaries, Wages, Overtime			
Overheads			
Equipment			
Vehicle			
Travel			
Other			
Total			