Concept Plan SP 2019-067

Structured decision making for translocation

Animal Science

Project Core Team

Supervising Scientist	Megan Barnes
Data Custodian	Megan Barnes
Site Custodian	

Project status as of Feb. 5, 2020, 1:57 p.m.

New project, pending concept plan approval

Document endorsements and approvals as of Feb. 5, 2020, 1:57 p.m.

Project Team	granted
Program Leader	granted
Directorate	required

Structured decision making for translocation

Biodiversity and Conservation Science Program

Animal Science

Departmental Service

Service 6: Conserving Habitats, Species and Communities

Background

DBCA undertakes species translocations to support four goals: 1) improve the conservation status of threatened taxa, 2) manage genetic diversity of disjunct populations established through translocation, 3) re-establish species in areas where they have experienced local extirpation and threats have been ameliorated, 4) ecosystem . Translocation is a valuable conservation tool that can yield significant benefits but is costly and high risk. Decisions on translocations must include thorough consideration of potential benefits, weighed against costs and risks of the translocation and alternative option. Use of structured decision making (SDM) is recommended best-practice for managing translocation risks (IUCN SSC 2013 Guidelines for Reintroductions and other conservation translocations Version 1.0). The goal of this research is to embed SDM into translocation decisions across DBCA and provide greater transparency to the process.

Aims

The project will entail work in three domains:

1. Strategy evaluation and risk assessment: evaluate costs, benefits and risks of selected existing, and new proposed translocations, translocations, including the value of captive breeding where appropriate, to increase efficiency, mitigate risk and ensure decisions are robust to uncertainty in future conditions. This will include development and application of novel methods, use of SDM to overcome decision paralysis, and applying SDM to ongoing large scale translocation projects to frame decision making as series of linked decisions (active adaptive management), providing an exemplar for future multi-species translocations.
2. Best practice: embed SDM principles in translocation decisions to inform policy and manage risks to source populations.
3. Strategic priorities for translocation: In addition to translocations managed by DBCA, other state government departments and NGOs also request animals to support their reintroduction It is important to manage source and translocated populations holistically so that genetic diversity of all populations (within WA and nationally) is maximised, and risks to source populations are minimised. This project will inform a strategic approach to translocation decision making within WA and nationally.

Expected outcome

An explicit approach to assessing multi-species translocation risks and benefits, supporting more transparent and accountable risk management, and ultimately enhancing translocation success, source population security and ecosystem benefits. Policy and guidelines for the application of SDM to translocation decisions. Increased literacy in SDM across DBCA. At least 2 first-authored publications (Barnes) will result, plus at least two student papers that leverage this investment.

Strategic context

Translocation risks, strategic benefits and costs were raised by five of seven regions in consultation about recurring challenges where SDM could increase benefits and accountability. Using SDM as a routine method to manage translocation risks also aligns DBCA with global best practice, as recommended in the IUCN SSC 2013 Guidelines for Reintroductions and other conservation translocations (Version 1.0).

This project contributes to the following BCS strategic goals and key deliverables of the Animal Science and Species and Communities Program Plans including:

- Biodiversity, conservation and recovery programs are based on scientific knowledge – recommendations regarding conservation actions necessary to maintain sustainable populations, or recovery of, targeted species including the management of threatening processes; recommendations regarding the conservation status of targeted species; best practice guidelines that maximise translocation success; planning documents are prepared to guide the conservation of threatened species.
- Mitigation of pressures and threats to terrestrial ecosystems – strategies to enhance resilience of native fauna to habitat disturbance.
- Scientific knowledge is available to inform adaptive management and decision making – development of decision support tools to improve capacity for timely, effective decisions.
- Conservation advice based on scientific information – translation of research outputs in formats appropriate to the target audience to encourage adoption.
- Science is innovative and agile in assessing and adopting new methodologies - Identify and realise opportunities for adoption of technical advances and innovative approaches.
- Effective science partnerships enhance conservation outcomes – identification of external collaborative fauna conservation research opportunities to deliver on shared goals.

Expected collaborations

Western Swamp Tortoise case study (optimal translocation strategy): Nicki Mitchell (UWA).

Student led papers that strongly leverage my time investment:

Paper: Network interaction model for DHI: Michael Bode (QUT), Katie Peterson (JCU) (completed ~Jan2020). Travel to convene a workshop to initiate this process (~$2000) was funded by QUT.

Paper: Climate forecasting to integrate stochastic risk from climate change on source populations. Michael Bode (QUT) and student - Michael Bode (QUT).

David Pannell (UWA) – student on risk assessment and value of information will evaluate the utility of monitoring information for 3 case studies (up to 3 papers if recruited).

Proposed period of the project

Sept. 15, 2019 – March 30, 2022

Staff time allocation

Role	Year 1	Year 2	Year 3
Scientist	0.9	0.9	0.9
Technical			
Volunteer			
Collaborator	1.0	1.1	1.1

Indicative operating budget

Source	Year 1	Year 2	Year 3
Consolidated Funds (DBCA)	0	7000	5000
External Funding	2000	0	0