Progress Report SP 2020-006

Ecology, threats and monitoring of the Pilbara Olive Python (*Liasis olivacea barroni*)

BCS Animal Science

Project Core Team

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X X
Project Team granted
Program Leader granted
Directorate required

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D Pearson

Context

The Pilbara olive python (*Liasis olivaceus barroni)* is a threatened species confined to the Pilbara and adjacent northern part of the Gascoyne IBRA region. Little is known about its ecology, habitat preferences and conservation threats. It is an apex predator consuming a diet of large birds, reptiles and mammals as an adult, including other threatened species such as northern quolls. A number of potential threats confront Pilbara olive pythons, but their relative importance is not understood. They include the loss of important prey items due to exotic predators; habitat loss and modification from mining activities and infrastructure development; and on a local scale, increases in road kills by vehicular traffic due to resource projects and tourism. The project will resolve some of the unknown life history parameters important for conservation of this species and for effective population monitoring. In particular, research will focus on important habitat elements, the reproductive cycle of the species and the predation of juvenile snakes.

Aims

- Collate and publish existing information on Pilbara olive python biology and management, including the proceedings of a 2013 workshop.
- Document the ecology of Pilbara olive pythons focusing on habitat preferences and life history characteristics (diet, shelter sites, juvenile mortality, reproductive frequency, etc.) likely to be influential in population dynamics and impacted by threats such as wildfire, grazing and mining activities
- Undertake experiments to determine threats to juveniles, the population cohort likely to be most affected by feral animal predation and habitat changes due to fire or grazing.
- Trial and improve existing and novel survey and monitoring techniques to enable more effective assessment and mitigation of potential impacts of resource projects and other land uses on Pilbara Olive Pythons.

Progress

- A reconnaissance trip was undertaken to select study sites and discuss the project with DBCA staff, mining companies and indigenous land councils to clarify land access and logistical issues.
- Fieldwork commenced with the capture and implanting of transmitters in pythons at Millstream-Chichester NP.
- An experimental trial using model snakes and automatic cameras was set up to identify potential predators of juvenile pythons.
- Existing genetic and morphometric data has been collated and a draft paper prepared on the taxonomy of the species.

Management implications

- Radio-telemetry results from this study and previous work indicate the importance of rocky spinifex areas adjoining watercourses during the winter months. This finding and maps of the location of telemetered pythons in Millstream-Chichester NP have been provided to regional staff to assist with the planning of prescribed burns to reduce impacts on pythons.

Future directions

- Radio-telemetry of Pilbara olive pythons at three or four sites to document habitat preferences, microhabitat use, diet, reproductive behaviour and sources of mortality in relation to land use.
- Collate records to refine distribution and better assess conservation status.

- Compare detection and monitoring techniques such as walked searches, head-torch surveys, eDNA and road transects.