OPTIONS FOR ESTABLISHING A SUSTAINABLE USE PROGRAM FOR THE OENPELLI PYTHON
SUMMARY

A precautionary harvest of Oenpelli pythons to establish a captive breeding program for commercial trade can be supported.

A proponent needs to complete the following processes:

1. If the activity is on ALR(NT)A land, the proponent will need to negotiate a Land Use Agreement with the NLC. This agreement will specify the commercial details of the arrangement such as the sale/lease value of any wild harvested breeding stock; the sale/lease value of any display stock; the royalty or fee for sale of progeny; the formula for payments back to TO’s and the financial arrangements for acquiring and holding commercial display animals. These negotiations are independent of NTG and the TPWC Act and need to be completed by the proponent before the second step.

2. If the proposed activity is on land managed by the Commonwealth, then the EPBC Act will apply and the proponent will need to negotiate an agreement with the Commonwealth and the landowner.

3. Other than Commonwealth land, once agreement for the activity has been reached with the Landowner, the proponent will need to apply for a permit under the TPWC Act. The application will be assessed to determine whether the harvest is ecologically sustainable. In addition to the normal permit conditions of reporting any activity conducted under the permit, there will be additional conditions such as:
   - the permit duration being tied to the LUA; microchipping and DNA sampling of stock;
   - permit holder will be the person/entity indicated in the LUA;
   - demonstrated competency in keeping reptiles;
   - no export of breeders from the NT.

As the Oenpelli python is a listed threatened species under NT legislation, any take from the wild will require Ministerial approval.

Any harvest proposals for Oenpelli pythons will be assessed under this framework and initial harvests will be ‘precautionary’ and limited to small numbers of animals.
DEFINITIONS

F1 generation – The first generation of offspring bred from the wild harvested founder stock.

F2 generation – The second generation bred from F1 individuals or by backcrossing F1 with wild harvested founder stock.

Founder stock – the original wild harvested animals that are used to establish the captive breeding population.

IPA - Indigenous Protected Area.

LUA – Land Use Agreement negotiated pursuant to Section 19 of the Aboriginal Land Rights Act.

NLC – Northern Land Council

NRETAS – Department of Natural Resources, Environment, the Arts and Sport

TO’s – Indigenous Traditional land owners
INTRODUCTION

Sustainable use of the Oenpelli python *Morelia oenpelliensis* is a rather unusual example of wildlife use. It is both a listed threatened species and its distribution falls entirely on Aboriginal owned land. The first attribute demands an extremely precautionary approach to any use. Nonetheless, there are existing precedents in the Northern Territory, notably the existing sustainable use program for the cycad *Cycas armstrongii*, listed as vulnerable under Territory legislation. The latter aspect puts Traditional land owners (TO’s) in a powerful and privileged position of potentially totally controlling the trade in this species for a period of time. The species currently commands very high prices in the live reptile trade due to its rarity and lack of any legal supply. Such high prices will not be maintained once legal trade opens up. Traditional owners therefore have a small window of opportunity (perhaps only several years) to maximise economic benefits from this species. Use of the Oenpelli python therefore requires some informed strategic thought and decision making by the landowners and the regulatory agency. It potentially provides significant short-term economic benefits which could support the early establishment phase of some broader-based wildlife harvests.

While there is a surplus of fine detail that can be discussed in developing a sustainable use program for the Oenpelli python, the fundamental issues can perhaps be distilled down to several key decisions or questions.

1. Can a wild off-take be sustained without detrimental impacts or will market supply be through a captive breeding program?
2. Will the TO’s retain ownership of breeding adults or approve sale of potential breeders to third party reptile dealers?
3. What are the options and mechanisms for TO’s to gain financially from the sale of F1’s and subsequent generations?
4. Will TO’s engage in captive breeding and/or approve others to do this through some financial arrangement with one or several third parties.
5. If the latter, will TO’s select a facility for captive breeding or conduct an open process such as EoI or tender to select a facility?
6. How can sustainable use contribute to the conservation of this species?
7. What are the opportunities for long-term Indigenous employment?

CONTEXT

Biological Status

We know little about the Oenpelli python in terms of population size and dynamics. It has been coded as Vulnerable under NT legislation under criterion IUCN C2a(i)

Population size estimated to number fewer than 10,000 mature individuals and either:

*A continuing decline, observed, projected, or inferred, in numbers of mature individuals AND at least one of the following (a-b): (a) Population structure in the form of one of the following: (i) no subpopulation estimated to contain more than 1000 mature individuals, OR (ii) all mature individuals are in one subpopulation. (b) Extreme fluctuations in number of mature individuals.*
As the species is totally restricted to the NT it is likely the national conservation coding will be the same over the next few years, when Commonwealth and State listings become more closely aligned.

Threats are thought to be both illicit collecting and changed fire regimes which may have increased direct mortality and probably more importantly, reduced habitat suitability.

There is no existing monitoring program for the species, nor any established standard survey/inventory protocol. The species probably occurs at low densities.

The Oenpelli python is narrowly distributed and confined to the sandstone massif of western Arnhem Land covering about 34,000 km$^2$ of land (Figure 1). The entire distribution is confined to Aboriginal land and the NLC has indicated this distribution will involve a very large number of clan groups.

**Commercial status**

The market value of an Oenpelli python is difficult to determine as there are no legal sales. One internet posting in 2005 offered a juvenile pair for $35,000. A local herpetologist has indicated in 2009 that a realistic fee might be in the order of $5,000-10,000 per individual. It is certain the price would fall as a legal supply of snakes comes onto the market and as captive breeding increases the commercial supply of snakes. It is almost certain that there are already a small number of illegally obtained pythons currently in private collections.

A comparable example is the Rough-scaled python *Morelia carinata* that was recently discovered in the Kimberley. Due to the rarity of the species, the initial prices were around $20,000 per pair. After successful captive breeding the price is now around $1,000 per pair.

**Legislative and regulatory context**

*Aboriginal Land Rights (Northern Territory) Act*

This Commonwealth Act establishes the Land Councils. A function of the Land Councils is that they confirm the correct landholders (traditional owners) have given their permission for any commercial wildlife harvest before any *TPWC Act* permits are issued.

This Act also provides for Section 19 Land Use Agreements (LUA) which should be in place for commercial harvest of wildlife. It is clear that any proposed commercial use of the Oenpelli python would require such an agreement. If multiple land owners elect to engage in separate commercial transactions, then multiple LUA’s will be required. Such an agreement requires the submission of a detailed business plan. These agreements can provide the power to impose royalties, ownership restrictions on the harvested wildlife and the conditions of access to land for the purpose of harvesting. There should be consistency between *ALR Act* Land Use Agreements and *TPWC Act* permits. The LUA can establish the financial basis of the activity and for the commercial use of Oenpelli pythons should as a minimum detail the following:

- the sale/lease value of any wild harvested breeding stock;
- the sale/lease value of any display stock;
- the royalty or fee for sale of progeny;
- the formula for payments back to TO’s;
- the conditions for displaying animals in commercial establishments.

Officers of the Northern Land Council will, under their statutory obligation, consult with the relevant people to establish a Land Use Agreement to enable the sustainable collection of Oenpelli pythons.

**Territory Parks and Wildlife Conservation (TPWC) Act**

The TPWC Act contains provisions for the management and conservation of native animals including reptiles. All indigenous reptiles are classified as protected wildlife throughout the Northern Territory under Section 43 of the TPWC Act. Section 66 of the Act prohibits the taking or interfering with protected wildlife without a permit issued by the Director of the Parks and Wildlife Commission of the Northern Territory (PWCNT) or their delegate. It is also an offence under Section 66 of the Act to possess or trade in live or dead reptiles, reptile eggs or parts of reptiles without a permit.

It is an offence to possess live reptiles or their eggs except in accordance with a permit issued under Sections 55-57 of the TPWC Act by the Director of the Parks and Wildlife Commission or their delegate.

Permits to possess and/or trade in reptiles may be issued by the Director of the Parks and Wildlife Commission or a delegate in accordance with Sections 55, 56 and 57 of the TPWC Act. The Director may under Section 57 of the Act apply terms, conditions or limitations to the permit to regulate the harvesting and farming of reptiles.

Commercial use of Oenpelli pythons will be regulated by issuing individual permits under Section 55 of the TPWC Act. The Department of Natural Resources, Environment, the Arts and Sport (NRETAS) web site provides details of the types and conditions of permits relating to wildlife (http://www.nt.gov.au/nreta/wildlife/permits/index.html).

The following are the types of TPWC Act permit that will be required for any commercial activity involving Oenpelli pythons.

**Permits to Take**

Any removal of protected wildlife from the wild requires a Permit to Take from NTG.

If the permit holder is not the land owner then the landholder must give approval for the ‘Take’ of wildlife under a TPWC Act permit. If the ‘Take’ is on Aboriginal land declared under the ALR(NT) Act, the landholder approval is in the form of a Land Use Agreement under sec. 19 of ALR(NT) Act.

The permit specifies the harvest area(s) for collection of specimens as a map at Attachment 1 in the permit application. The permit also specifies the harvest limits.

In the case of Oenpelli pythons, it is proposed that the Permit to Take will be made valid for the period up to duration of the Land Use Agreement, subject to annual review.
The permit holder must provide the Northern Territory Government with a written report on activities conducted under the permit. This report should include details on the number of animals (including eggs if permitted) taken, the size and sex of each animal that was taken, and a GPS location of the harvest. Annual reports/returns need to be submitted each year for a multi-year permit.

Failure to lodge a return or the inclusion of insufficient or incorrect information in the permit return may result in issuing a warning letter, caution notice, an infringement notice, the refusal of future permit applications, revocation of permits and/or prosecution. The Northern Territory Government may cancel a permit at any time if information becomes available that indicates that conservation management measures may be required to protect a population.

It will be a condition of the Permit to Take that all wild harvested individuals be microchipped and have a DNA sample taken. These details will form part of the information in the permit return and NRETAS will maintain these data as part of a captive breeding stud book.

Permits to Keep

A Permit to Keep from the Northern Territory Government is required to keep and/or trade live reptiles for the pet trade. A Permit to Keep species in captivity is subject to annual reporting and renewal and compliance with the provisions of the TPWC Act and the Animal Welfare Act.

Harvest for a ranching/captive breeding facility will result in a corresponding Permit to Keep being issued in conjunction with the Permit to Take. Hence an applicant harvesting for breeding needs to simultaneously apply for both a Permit to Take and a Permit to Keep.

Permits to Export

A permit issued under the TPWC Act is required to export (including re-export) wild caught, commercially farmed and captive-bred reptiles from the Northern Territory to other Australian States and Territories. The exporter will also require an import permit from the relevant jurisdiction.

Other relevant provisions of the TPWC Act

Section 32(1) (a) of the Act states that wildlife management programs may be developed and implemented for the protection, conservation and sustainable use of wildlife.

Section 29 of the Act requires that all wildlife in the NT is classified with its conservation status. Under this provision of the Act, the Oenpelli python is classified as “Vulnerable” and a consequence of this listing is that any research or take from the wild requires explicit Ministerial approval. Such a listing and the requirement for Ministerial approval will demand a highly precautionary approach to the use of Oenpelli pythons.

Animal Welfare Act
The *Animal Welfare Act* ensures that animals are treated humanely; cruelty to animals is prevented and community awareness about the welfare of animals is promoted. Reptiles held in captivity under permit are classified as stock animals under the *Animal Welfare Act* and persons must not neglect, or commit an act of cruelty that causes an animal unnecessary suffering.

Compliance with the *Animal Welfare Act* will be a condition of all permits issued to take and/or keep reptiles and hence enforcement is achieved through the *TPWC Act*. An indication of a decrease in animal welfare standards or a suspected breach of the *Animal Welfare Act* will result in an inspection. Non-compliance with the *Animal Welfare Act* may result in an infringement notice, the permit being revoked and/or prosecution under either the *Animal Welfare Act* or the *TPWC Act*.

*Environment Protection and Biodiversity Conservation (EPBC) Act*

This Commonwealth legislation regulates imports and exports to and from Australia of all Australian native animals or their parts. However, the Commonwealth does not allow commercial live international export of native fauna so commercial live trade of the Oenpelli python will be restricted to the domestic market and there is no proposal for any commercial international trade.

Northern Territory Management Programs can be submitted to the Commonwealth for approval as a Commonwealth wildlife trade management plan pursuant to Section 303FO of the *EPBC Act*. In the absence of any international export it is unlikely such an approval will be needed or sought. Further, a State/Territory management program for wild populations is not required under the EPBC Act if a State/Territory elects to limit use to captive breeding.

The *EPBC Act* also has provisions to list nationally threatened species and it is anticipated that the Oenpelli python will be classified nationally as ‘Vulnerable’ within the next few years.

If there is any proposed harvest from Commonwealth managed lands or should the Oenpelli python become an EPBC listed threatened species then permits under the *EPBC Act* will be needed for harvest. The issuance of these permits may be facilitated if an NT Management Program is developed and is approved by the Commonwealth.

*Area-based Plans of Management*

The recently declared Indigenous Protected Areas (IPA’s) of Djelk and Warddeken (see Fig. 1) and surrounding areas are a likely geographic source of pythons. Any explicit policies on wildlife use set out in the Plans of Management for these IPA’s are considered to be for guidance only and are not binding.

*Ownership of Animals*

*Territory Parks and Wildlife Conservation (TPWC) Act*

Section 62 of the *TPWC Act* states:
If wildlife is taken by a person under a permit, the wildlife becomes the property of the holder of the permit and, subject to any lawful agreement or other lawful arrangement the holder has entered into that affects his or her rights and interests in the wildlife, the holder may lawfully deal with that wildlife as its owner.

_Aboriginal Land Rights (Northern Territory) Act_

The _Aboriginal Land Rights (Northern Territory) Act_ through the sec 19 LUA can impose ownership conditions on the harvested wildlife.

Clarity of the mechanism to establish legal ownership of all animals is fundamental to the commercial success of any operation involving OPs. Breeders will not enter into expensive arrangements for access to animals without clarity and surety of being able to conduct legal commercial sales.

It is clear under the _TPWC Act_ that, should the landowner give permission to a third party to collect animals from their land and the subsequent permit is issued to that third party – then the land owner has passed ownership of the animals (and any subsequent progeny) to that third party. If the landowner is the permit holder then the landowner clearly retains ownership of the wild harvested animals and any derived progeny. _TPWC Act_ permits can also be made out ‘corporately’. In the case of Oenpelli Pythons, a corporate permit could be issued to any enterprise with the Traditional owners as the Nominees on the permit. Such an arrangement effectively secures ownership to the TO’s.

The LUA under the _ALR(NT) Act_ is the legal contract that lists the terms of the agreement between the collectors and the TO’s or a TO representative organisation, including royalty, time frames and special conditions.

In the case of the Oenpelli Python, the special conditions would cover ownership of snakes and progeny, maintaining the database of information, the holding of snakes and the process of liaising with buyers.

**QUESTION 1 - SOURCE OPTIONS**

The commercial supply could be based on an ongoing wild harvest or through a captive breeding program.

**Option 1a: Wild Harvest.**

An ongoing wild harvest of any stage of the life cycle (eggs, juveniles, adults) will require some understanding of population size and dynamics in order to determine a sustainable off-take. As stated above – these data are lacking. The species appears to be of a highly secretive nature and it is likely that neither eggs nor juveniles would be located in sufficient numbers to provide a commercial harvest. Indeed, given relatively low densities of adults in the wild, it is unlikely that these will be encountered from targeted searching in sufficient numbers to maintain an ongoing wild-caught off-take.

**Option 1b: Captive Breeding program.**
In the first instance, a captive breeding population appears to be both the most precautionary in terms of impact on the wild population and to be the most capable of providing a commercial supply of pythons. There are two distinct aspects to the genetics of a captive breeding program. A captive breeding program targeted simply for commercial supply of individuals into the pet trade could commence with the absolute minimum of a single captive pair. To reduce the in-breeding problems of such a narrow genetic base it would be preferable to have several geographically disparate pairs. If the captive breeding program is identified as forming part of a conservation program then the provenance, genetics and record keeping become significantly more important. The key aspect is the maintenance of a stud book so that the genetic base can be managed.

There is a paucity of animal husbandry data for the Oenpelli python but the limited information available indicates it presents no significant husbandry problems and it is expected to be similar to other large pythons and in particular similar to other species of *Morelia*. Some anecdotal evidence indicates that Oenpelli pythons produce small clutches (6-10 eggs) of comparatively large eggs for pythons of the same genus (Charles & Wilson, Thylacinus vol. 10 no.4 1985; Krauss, Thylacinus vol 17 no.1 1992; TWP observation, 1993). There is one observation (Krauss, 1992) of a captive female starting to show signs of maturity at about 10 years of age. This is quite a long time for maturation compared with the closely related Carpet python which can mature within 2 years. It is likely that Oenpelli pythons at best would be capable of producing only one clutch per year and, depending on the body condition of the female, it may be one clutch every 2 years. The possible long period to sexual maturity for females could be obviated by the capture of mature females from the wild as the founding breeding stock.

**Preferred option**

Given the current threatened status of the species, a precautionary approach would favour a limited wild harvest to establish a captive breeding population. The situation could be reviewed if adequate surveys were undertaken and a monitoring program established.

**QUESTION 2 - OWNERSHIP OPTIONS**

A permit issued under the *TPWC Act* allows the permit holder to be either the landowner or a third party that has been granted land access for specimen collection by the landowner.

The permit holder becomes the owner of the ‘Taken’ wildlife and ‘owns’ subsequent progeny from that wildlife. This is subject to any other legal agreements being in place. The LUA would be such an agreement that could create different legal ownership options. This becomes critical to the recognition of ownership of individual animals and hence to any future financial payments such as negotiated royalties.

**Option 2a: Traditional Owners retain ownership.**

If permits are issued to traditional owners of the land from which specimens are collected, the TO’s then own the pythons and their progeny. It would also be possible to issue permits to a single entity that represents the TO’s such as various Indigenous corporations. Relevant TO’s
that supply specimens can become nominees on such a corporate permit. In either of the above scenarios, the TO’s effectively retain ownership of the individual snake. With approval of the owner the snake can be housed at any location under the ‘Keep’ permit. TO’s can therefore choose from a number of financial alternatives depending on their wish for the extent of involvement in the industry and the extent of economic return. The greatest control and economic return is likely to result from the TO’s undertaking the captive breeding and direct sale of the progeny.

Option 2b: Traditional Owners sell adults to permit holders

If TO’s opt for large initial payments to sell potential breeders to other third parties then this option passes ownership to the third party (as the permit holder) and will rapidly result in other (non-TO) breeders supplying pythons to the market. TO’s could presumably command high individual animal prices in the first instance and for a limited time. Ultimately, breeding success and legal supply to the market will reduce the unit price to a level probably commensurate with other similar readily available pythons. For example, the following are some estimated retail prices: Olive python ($350), Carpet python ($200), Black-headed python ($700) and Water python ($200).

QUESTION 3 – PROGENY OWNERSHIP AND DISPOSAL OPTIONS

Ownership of the F1 generation will be held by the permit holder unless otherwise stipulated in another agreement such as an LUA. The F1 generation will be raised primarily for the commercial pet trade. Most of this trade is expected to be interstate. Because of free trade provisions, it is unlikely that royalty and/or leasing arrangements can be stipulated and enforced for animals traded to other states. Parks & Wildlife does have the ability to place conditions on the permit and has the ability to control domestic export out of the NT. Section 66(3) of the TPWC Act makes it an offence to take protected wildlife out of the Territory unless a person is authorised. Using this provision of the Act means it is possible to ensure breeding founder stock remain in the NT and that only NT-based facilities engage in captive breeding.

A critical issue is whether the disposal of the F1 individuals is by sale – and hence including transfer of ownership rights to the purchaser – or whether these individuals would be leased to new lessees.

A further critical issue is the mode of disposal of F2 and subsequent generations. The trail of royalty payments to the TO’s of the original founder stock becomes increasingly complex with breeding and cross breeding of subsequent generations.

The LUA may be able to place some conditions on sale and ownership of subsequent generations. However, a pragmatic approach would seem to favour accepting that financial and ownership control is not practical once the F1’s enter trade and that F1’s will enter trade through direct sale. The detriment to TO’s with relinquishment of ownership or control of F2’s and subsequent generations is that it may result in a range of other commercial competing enterprises.

Whether TO’s opt for a fixed fee or a royalty percentage payment for sales of F1 progeny is an issue to be determined as part of the LUA. Related issues include review periods for the
level of fees/royalties and the entity that has responsibility for making payments to TO’s. There will also be administrative processes to establish such as conditions for the issue of export permits e.g. documentation to show that fee/royalty has been paid before export permit is issued.

QUESTION 4 – CAPTIVE BREEDING FACILITY OPTIONS

This question comes down to the capacity in terms of ‘know how’ and enterprise costs and profitability, particularly in regard to infrastructure to set up and successfully manage a captive breeding population. The key factors for a successful commercial outcome are animal husbandry knowledge (reptiles in particular) and record keeping. The latter relates to both the maintenance of a genetically healthy breeding stock and to managing the financial arrangements.

There are numerous facilities in the NT and interstate which have the capacity to maintain and potentially breed Oenpelli pythons. A number of these facilities have made representations to the NTG for permits to ‘Take’ pythons. A decision on the most recent submission was deferred pending further consultation with landowners.

In terms of lasting Indigenous involvement, the favoured options should be those in which TO’s retain control of breeding stock and options in which TO’s ‘Value add’ to the final commercial product i.e. a marketable individual snake for the pet/collector trade.

Constraints for TO’s establishing captive breeding operation(s) on country are access to appropriate facilities and skills capacity in animal husbandry. Hence, another option for TO’s is to ‘lease’ or ‘loan’ breeding adults to other facilities with a demonstrated competence in reptile breeding. The captive breeding undertaken by a third party would be under either a lease payment and/or royalty or set fee on offspring sold. These financial details would be covered in the LUA. To enforce the intent of the LUA, the NLC has indicated it would need an agreement (simple contract or Benefit Sharing Agreement) with any other third parties that want to establish captive breeding programs.

This raises a very basic question of whether TO’s collectively support a single on-country point of lease/sale for prospective captive breeders or whether TO’s should be able to negotiate their own separate arrangements. There are probably two basic models to be considered in terms of control of the captive breeding. A model of a single on-country point of commercial transaction is something akin to the ‘Co-operative’ which is a well established model in many rural sectors and also in the Indigenous art industry. Such a model certainly provides some benefits. Amongst these are that such a central point can be made responsible for activities such as microchipping, taking DNA samples, maintaining a stud book, maintaining all the commercial records and hence payments back to TO’s. It also facilitates advertising and marketing when commercial enquiries can be directed to a single point of contact. Such an arrangement will require that all TO’s involved are prepared to support such a single entity and have confidence in the facility to maintain the program. It seems unlikely that such an agreement could be reached for all TO’s within the range of the Oenpelli python. The alternative model is allowing separate TO’s to enter into their own arrangements. This would increase competition and possibly reduce the unit price but TO’s may be able to negotiate a better financial arrangement because of the direct nature of their transactions. Provided separate TO’s can meet the administrative and animal welfare requirements of stock control then there may be commercial benefits through opening up the arrangements. This is
another critical aspect that the LUA negotiations will need to resolve i.e. to determine the favoured position of all TO’s within the range of the Oenpelli python.

QUESTION 5 – TO’s pre-select a preferred facility or go to a tender/Expression of Interest (EoI) process

Should TO’s agree to allow third party involvement in the breeding of Oenpelli pythons then a wise commercial approach may be for TO’s to go out to an EoI or tender. This has the dual advantage of ensuring a competitive price for the animals and ensuring an open and equitable process for breeders wanting to acquire stock. Breeding facilities would need to demonstrate competency to maintain and breed reptiles. TO’s would have to assess all tenders/EoI’s and the decision may be commercially based or be based on other factors such as preferred business partners, short term versus long term benefits and capacity building. The LUA should determine whatever approach is to be used.

QUESTION 6 – CONSERVATION BENEFIT

The Northern Territory’s Sustainable Use of Wildlife strategy requires a demonstration of conservation benefit arising from that use. These benefits include:

1. The establishment of a properly managed captive breeding population that can provide animals of known genetic provenance for reintroductions following any catastrophic local extinction.
2. The basis of ‘ranching’ is to return some of the captive raised individuals to the wild to supplement a declining population (although any such return to the wild may pose risks of disease spread – see ‘Future Needs section’).
3. A portion of the funds raised through commercial activity can be directed to survey, monitoring and research into the species.
4. By providing a significant commercial value to Oenpelli pythons this should serve as a conservation incentive for relevant land managers to implement management actions that support the retention of Oenpelli python habitat.

QUESTION 7 – LONG-TERM INDIGENOUS EMPLOYMENT OPPORTUNITIES

Sustainable use of the Oenpelli python has been envisaged as an opportunity for Indigenous groups to benefit economically from the use of wildlife on their land. The large sums of money (see Commercial status) indicated by proponents for the purchase of initial breeding stock fuels these expectations of not only direct financial benefit but also longer-term employment opportunities.

As discussed under ‘Commercial status’, one of the issues is that the value of the Oenpelli python will certainly fall dramatically within a period of several years as snakes become more readily available through captive breeding. Therefore it needs to be acknowledged that Oenpelli pythons alone are unlikely to sustain long-term employment. A secondary issue is that income from direct sales or royalties could become just another form of ‘sit down’ money unless the income is clearly structured and directed towards employment outcomes.
It is recognised that there will be different models proposed in terms of how benefits are returned to communities and what subsequent employment may be generated. The NTG further recognises the right of communities to determine these parameters themselves.

Commercial use of the Oenpelli python will therefore potentially be an important contribution to employment opportunities in a commercial wildlife enterprise on Indigenous land and based in Indigenous communities. It will require an explicit desire to structure the financial arrangement towards this outcome.

DISPLAY SPECIMENS

There will be a demand for public wildlife displays to acquire specimens only for display purposes. Conditions for such display need to be established. One model could be that TO’s sell or lease adults for display purposes to recognised institutions. A lease arrangement would retain ownership of animals to the TO’s. If display animals were restricted to males then no subsequent breeding would occur and TO’s could continue to retain some control of breeding operations.

The lease arrangement could specify the interpretive information to accompany the display which provides context and recognition of the traditional owners.

It is likely that there will be overseas institutions wanting display animals and it may be possible to argue for EPBC Act permits on a case by case basis for international export to recognised scientific/educational institutions.

FUTURE NEEDS

A survey of the Oenpelli python aimed at providing a population estimate, population structure and details on behaviour and habitat use is required to properly assess the conservation status and determine sustainability limits for any wild harvest. Note that sampling for population estimation may be difficult given low detectability and likely low densities for this species. An appropriate survey methodology needs to be developed. There are real opportunities with external funding to develop a project based around Indigenous ranger participation in Oenpelli python surveys.

There is a need to record the traditional ecological knowledge relating to this species. Such knowledge will form the mainstay of any interpretive material for display animals. Further, this knowledge will contribute to the understanding and planning of surveys and monitoring.

The captive breeding program makes much of the conservation potential achieved through release of captive bred stock back into the wild. Any intensive animal husbandry operation can provide conditions for potential spread of disease. This can be exacerbated when animals are brought in from the wild or kept with other species. There will be a need to develop strict protocols for both the quarantine and treatment of newly acquired wild animals and for animals destined for release into the wild. Animals should not be released back into the wild unless there is an identified need.
Fig. 1. Distribution map of the Oenpelli python. Open circles are records of Oenpelli pythons from the Fauna atlas database. Note that this mapping only represents records from or made available to NRETAS, and does not fully represent the species’ range.