

CITES-NDF Workshop
Case Study: South African
Encephalartos spp.

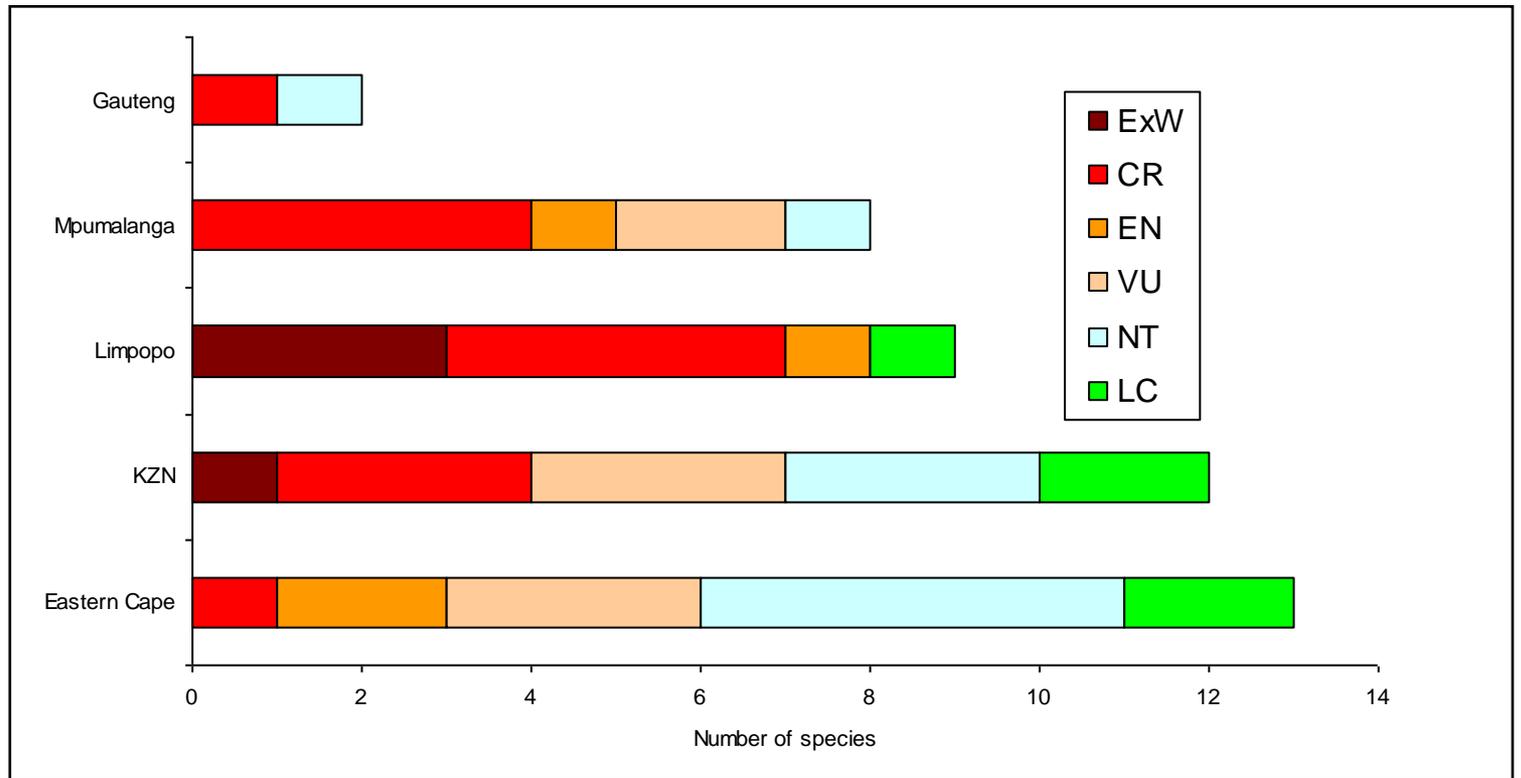


Encephalartos

37 spp in South Africa



Threatened status in South Africa



Declines in South African cycads

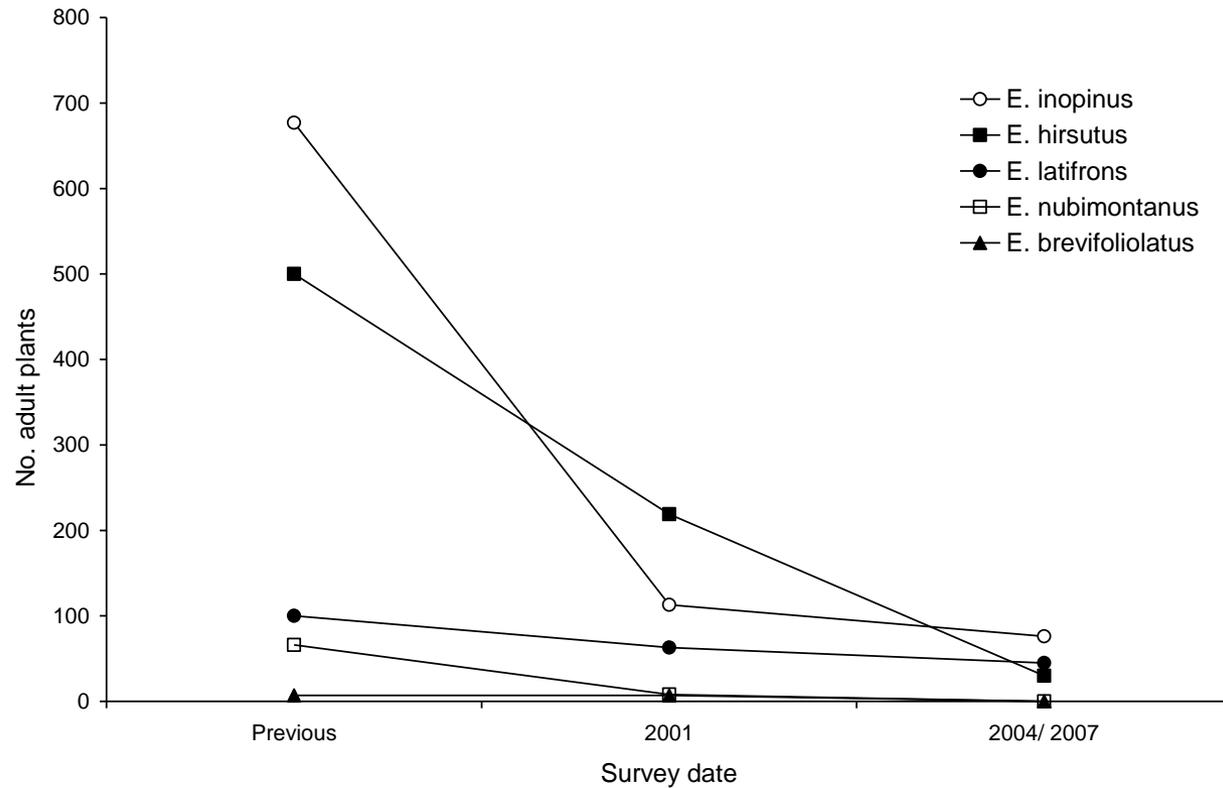


Fig. 2. Population trends for 5 Critically Endangered (one now EW) species of *Encephalartos* from South Africa. The first data point (previous) represents the population status between 1985 and 1995)

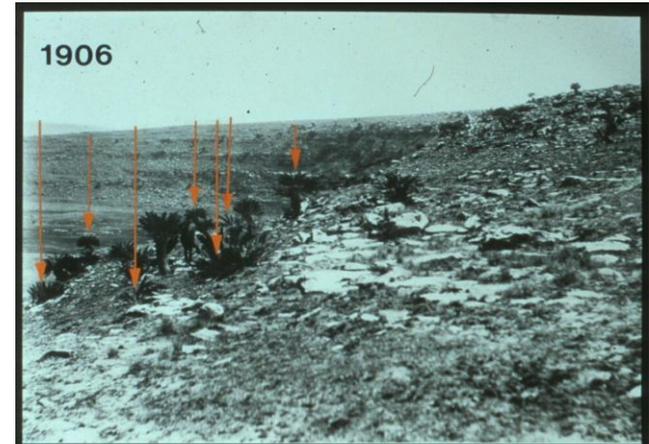


Trade & decline



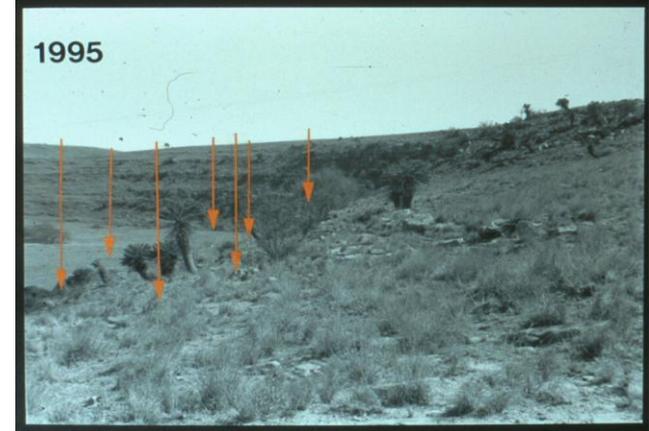
10%

Fig. 3. *Encephalartos* bark (circled) for sale in a muthi market



1906

67%



1995

Trade in SA *Encephalartos*

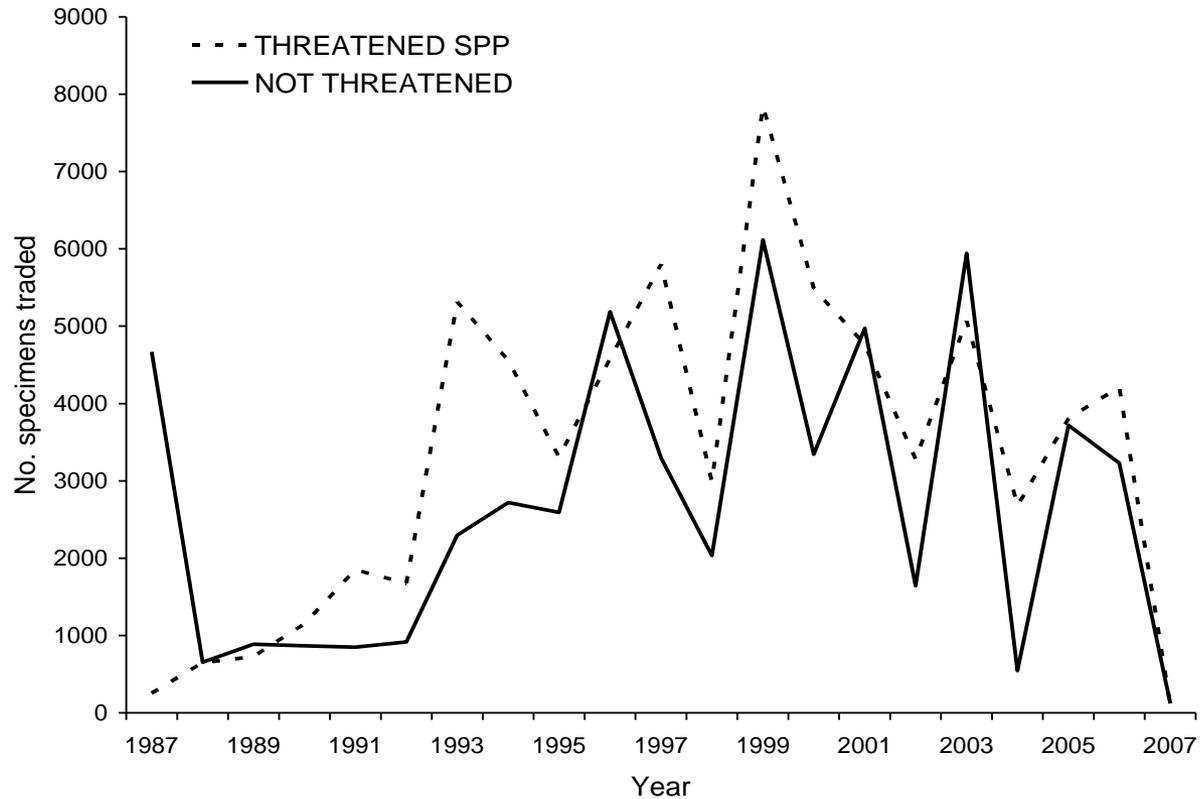
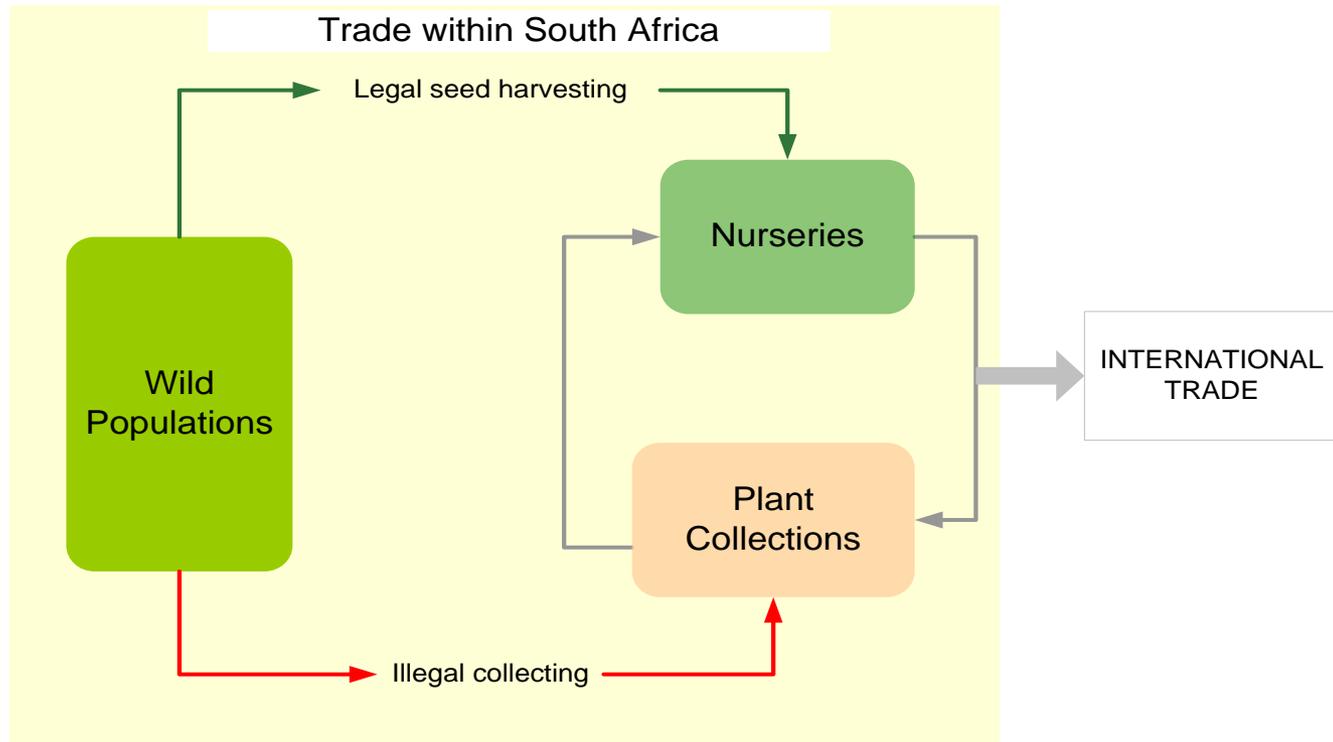


Fig. 6. Exports of indigenous *Encephalartos* species (live plants) from South Africa during the period 1987-2007





Hypothetical link to wild trade in South African cycads

Fig. 7. Diagrammatic representation of the possible link between wild trade and 'legal' international trade in *Encephalartos* species

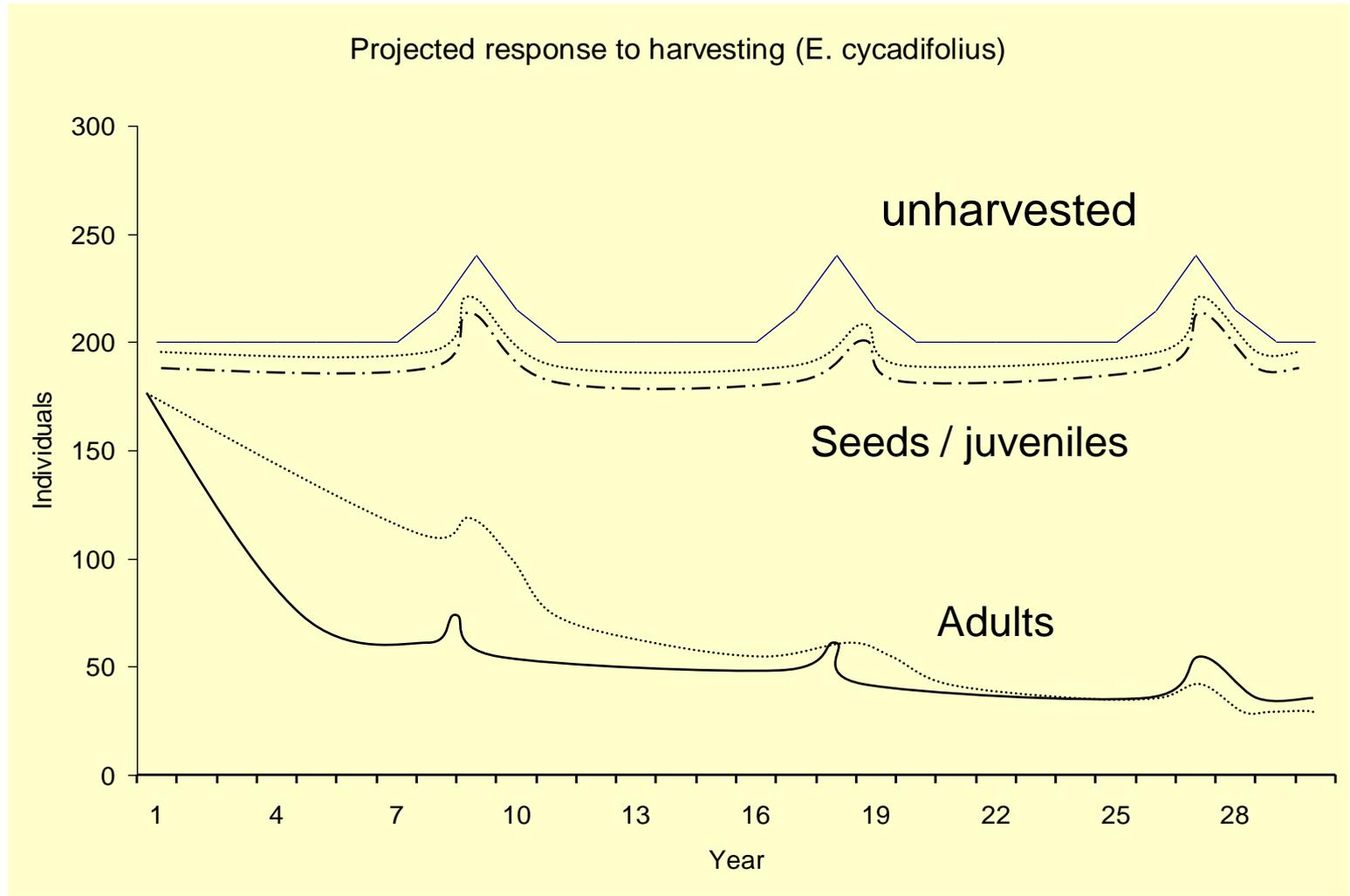


Population data

- General biology
- Population size
- Conservation status
- Demography (50%)
- Long term trends (30%)
- Site monitoring
 - 10 yrs (2 spp)
 - ad hoc (8 spp)



Modeling populations

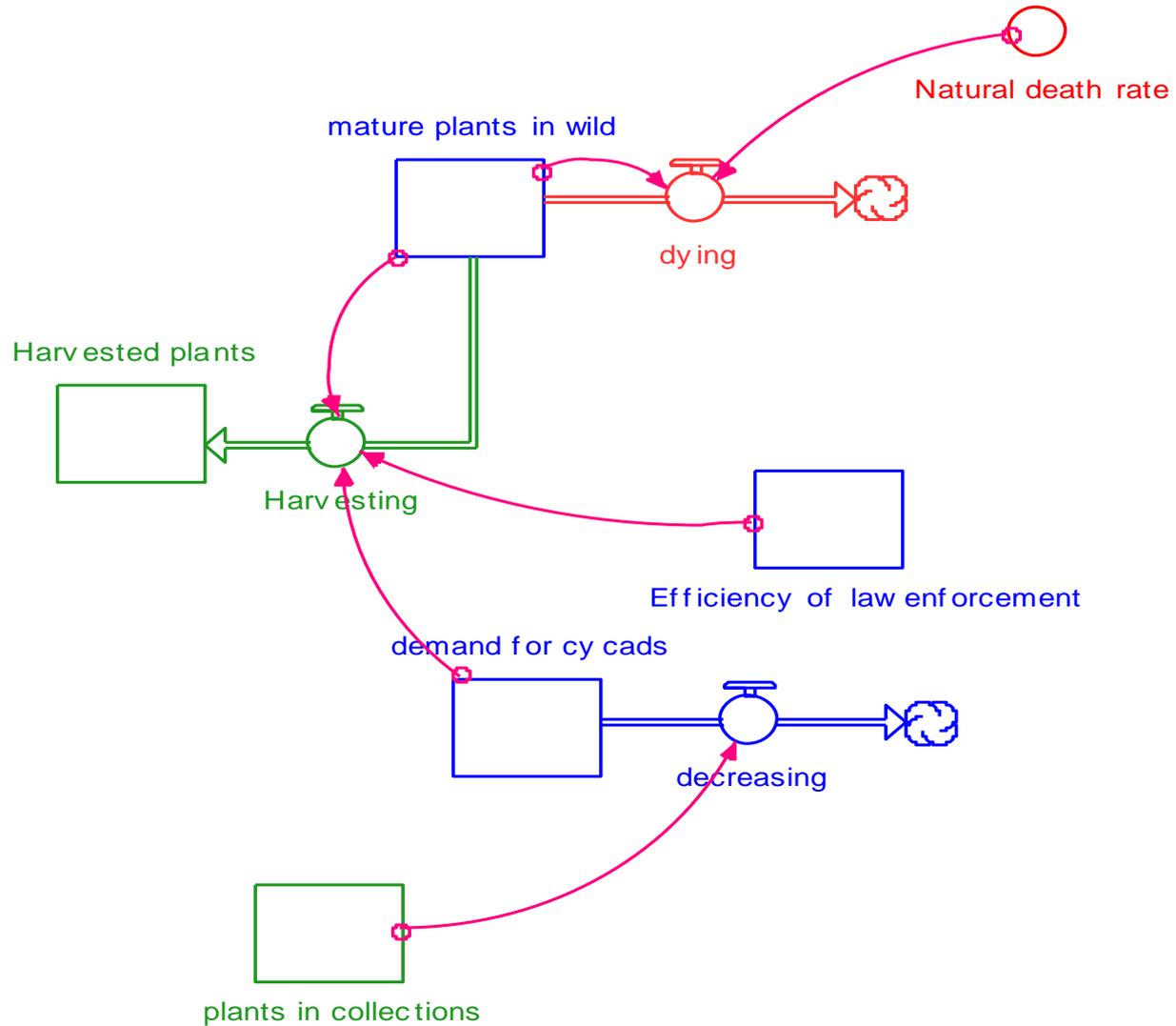


Lessons from population models

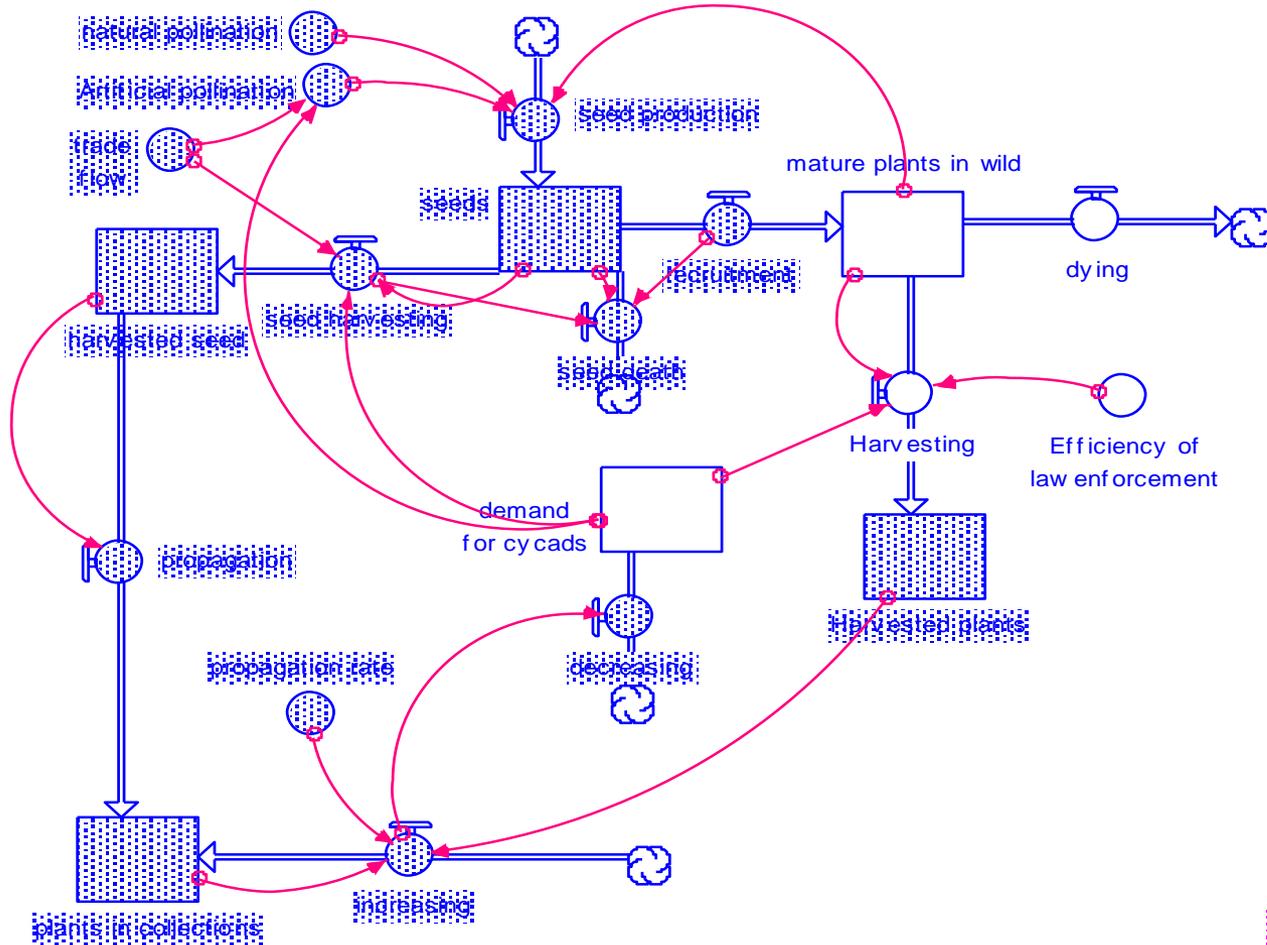
- Similar risk factors irrespective of life history
- Seeds were least vulnerable stage (harvest had almost zero impact)
- Adult plants were most vulnerable, irrespective of population size



Modeling cycad population / trade



Stock Flow models



Lessons from stock-flow models

- Need to concentrate on factors that decrease loss of mature plants
- Enforcement is critical
- Incentives are critical (especially if artificial pollination or site management is necessary)
- Therefore, NDF needs to consider trade as a risk and a benefit



Key factors for NDF assessment

- Proof of artificial propagation:
- Species identification:
- Threatened status (population size)
- Life History stage:
- Compliance with management plans:



DECISION TREE FOR NON-DETRIMENT-FINDING REGARDING TRADE IN *ENCEPHALARTOS* SPECIES

CRITERIA FOR NON DETRIMENT FINDING

1. Proof of artificial propagation

Is there absolute certainty that the specimens come from artificially propagated stocks?

NO YES

Issue Permit

2. Identity of specimen in trade

Can specimen/s be identified to species?

NO YES

Is species classified as threatened (CR, EN, VU)

3. Status of species in trade

Treat as CR species

YES

NO

4. Life history stage in trade

Does Species have a management plan?

What life history stage is being traded?

5. Compliance with management plan

NO YES

Does not comply with NDF
Deny Permit

Does trade comply with management plan?

Mature Plants

Seeds, seedlings, and plants within size limits

NO YES

Issue Permit

Fig. 8. Decision tree to support Non Detriment Findings relating to trade in South African *Encephalartos* species (CITES Appendix I)



Main problems/ uncertainties

- ALL LINKED TO ILLEGAL TRADE
- Mixing wild and artificially propagated stock
- Trading rare species under false names:
- NDF needs to deal with species identification and proof of artificial propagation:
- Compliance with management plans can achieve this:



DNA fingerprinting

