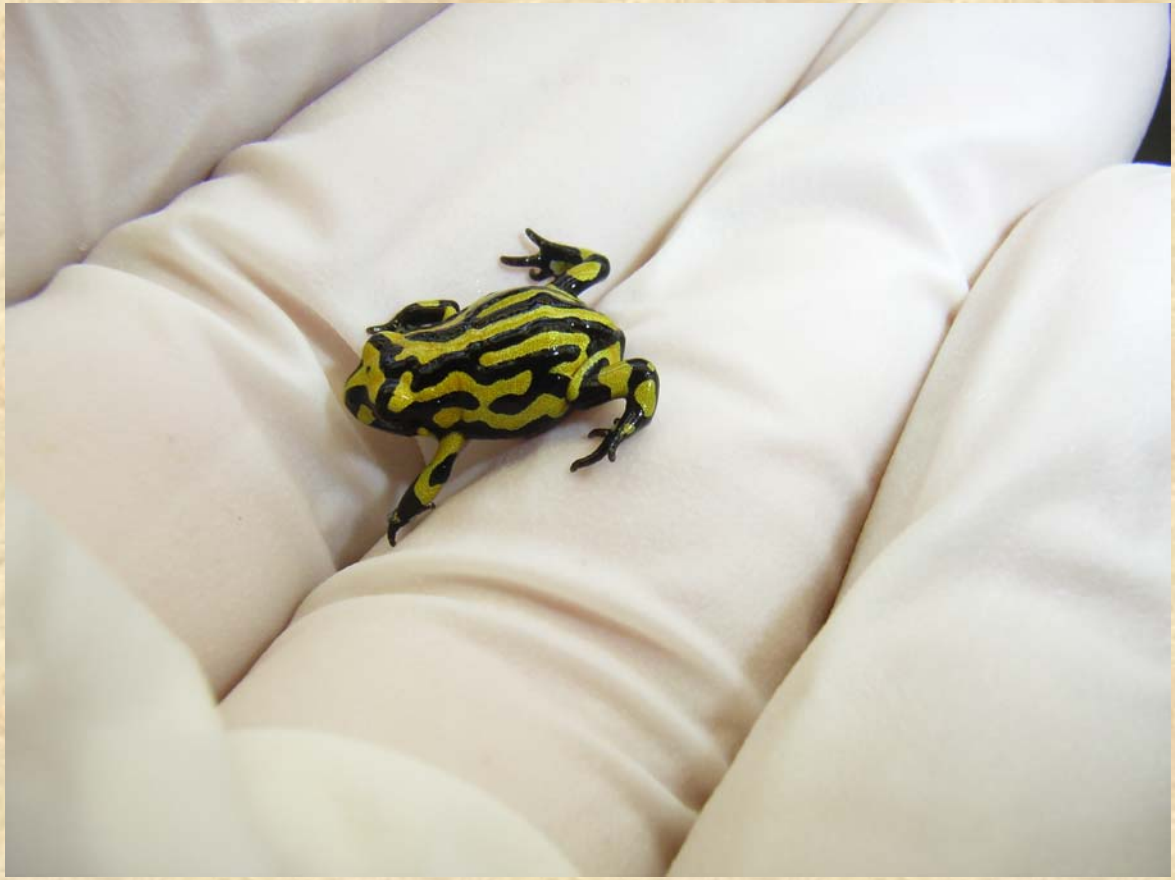
Biosecurity



amphibian ark

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Why do we need Quarantine?

- To prevent the transmission of pathogens and disease amongst amphibians.

- This includes –
  - From the wild into captivity,
  - From captivity back into the wild, and
  - Between specimens in captivity.

Assessing the Risk

- First, we must assess what are the greatest risk factors.
- Disease can be spread by what enters and what leaves an enclosure.
- Pathogens can be present on a new frog, on cage furnishings, in the water or on the keeper maintaining the cage.

What level of biosecurity is needed?

- Any species which may be used as part of a reintroduction or release program should be maintained with the strictest quarantine.

- The level of quarantining in a collection between species largely depends on the reason the species is being held.

How do we implement effective biosecurity?

- Quarantining new specimens.
- Using strict protocol and barrier equipment and working between specimens.
- Facility or enclosure design.
- Quarantining equipment and wastewater exiting a facility.

Quarantining of new specimens

- All new specimens should be quarantined and not released until:
  - Diagnostic tests for certain diseases return negative results (I.e. Chytrid fungus).
  - The animals if feeding and not losing weight.
  - No health problems have been detected.
  - There have been no abnormal behaviours.

  The length of the quarantine period will vary, a good starting point could be 60 days.

Quarantine Procedures

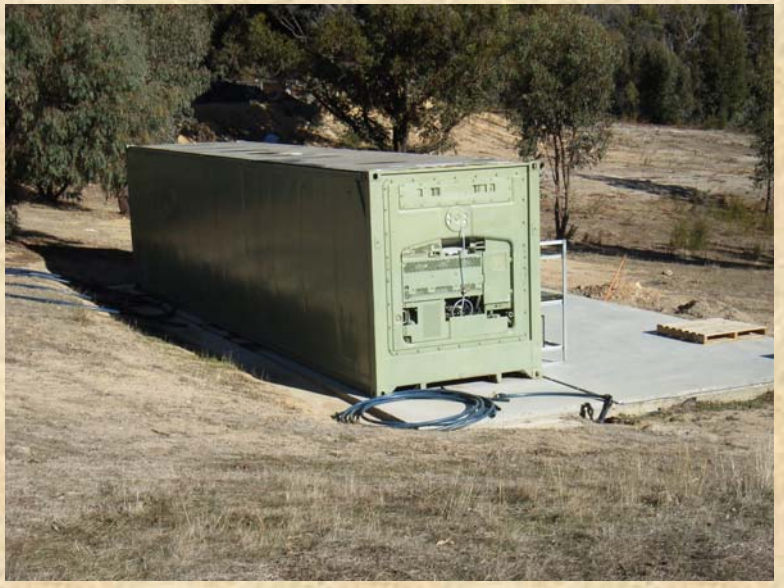
- Servicing amphibians of most significance before any other animals.
- Use barrier techniques entering a facility, including:
  - dedicated boots or foot baths,
  - dedicated clothing (or showering upon exit) and
  - using disposable gloves between animals and enclosures.

Quarantine Facility

- Ideally, the quarantine facility should be a separate building from the main collection.
- It should have separate air conditioning systems and wastewater outlets to minimise risk of pathogen transfer.
- Quarantine tools and equipment should never leave the quarantine area.
- Amphibians coming into or leaving quarantine should do so on an “all in – all out” basis.

The use of shipping containers as quarantined amphibian facilities, as pioneered by the Amphibian Research Centre, Australia

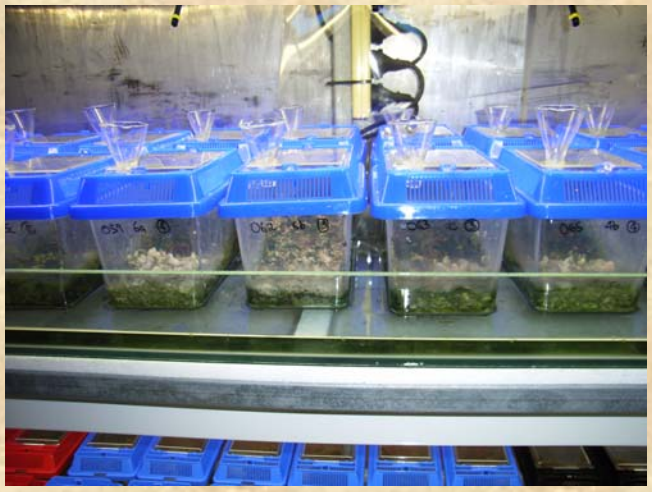
- Southern Corroboree Frogs, Taronga Zoo, Sydney



•Northern Corroboree Frogs, Tidbinbilla Nature Reserve, Canberra

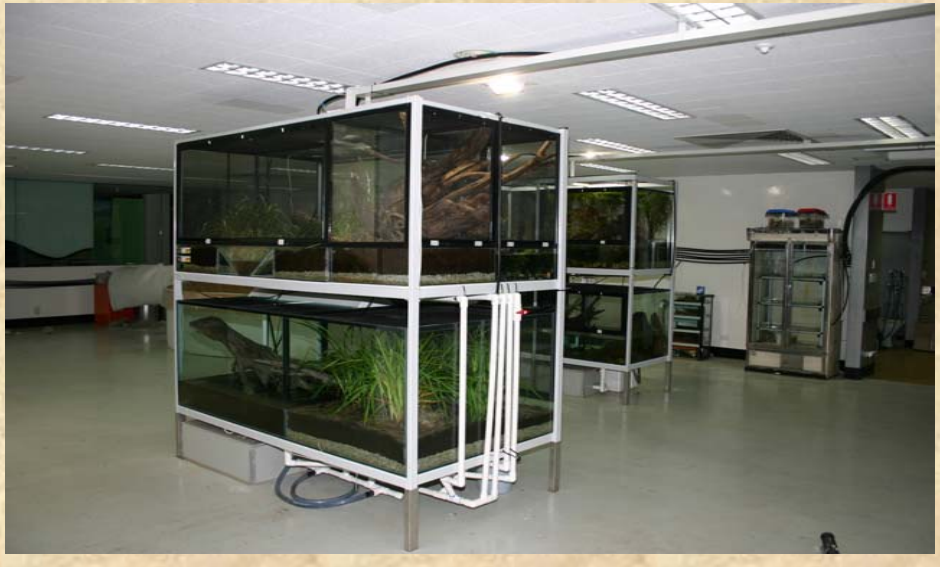
Enclosure design

- The design of an enclosure can add greatly to the level of biosecurity.
- Enclosures designed with minimal need for keeper access automatically reduce the risk of keeper error.
  - This can include automated sprayers, filtering systems and funnel feeders if applicable.



Enclosure Design

- Enclosures should also be designed so that there is:
  - No water splashing between enclosures,
  - No risk of backwash through the drainage,



Quarantining waste

- There is always a real possibility that the local wild amphibian can be infected by diseases in the captive collection too.
- For this reason, every effort should be made to protect the local amphibians and sterilise waste.
- Wastewater leaving enclosures should be treated and cage furnishing should be destroyed.

Quarantine applies to field work too!!!!

- Additional attention must be paid to ensure that diseases are not spread by biologists in the field.
- Between sites – If possible, shoes and vehicle wheels should be cleaned and clothes should be changed.
- Between specimens – always wear a new pair of disposable gloves and sterilise equipment used on the frogs.