



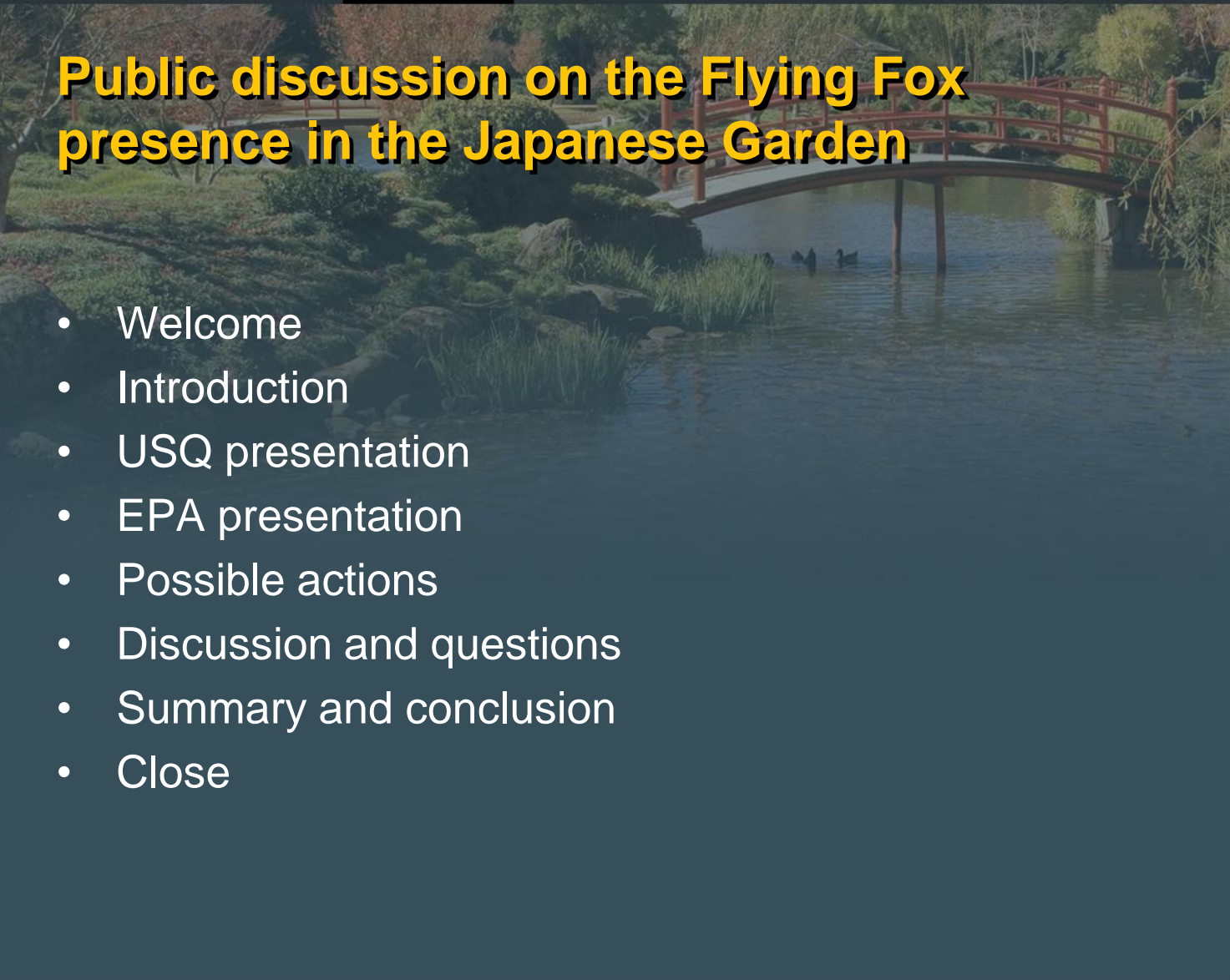
**Public discussion on the Flying Fox
presence in the Japanese Garden**

Welcome!



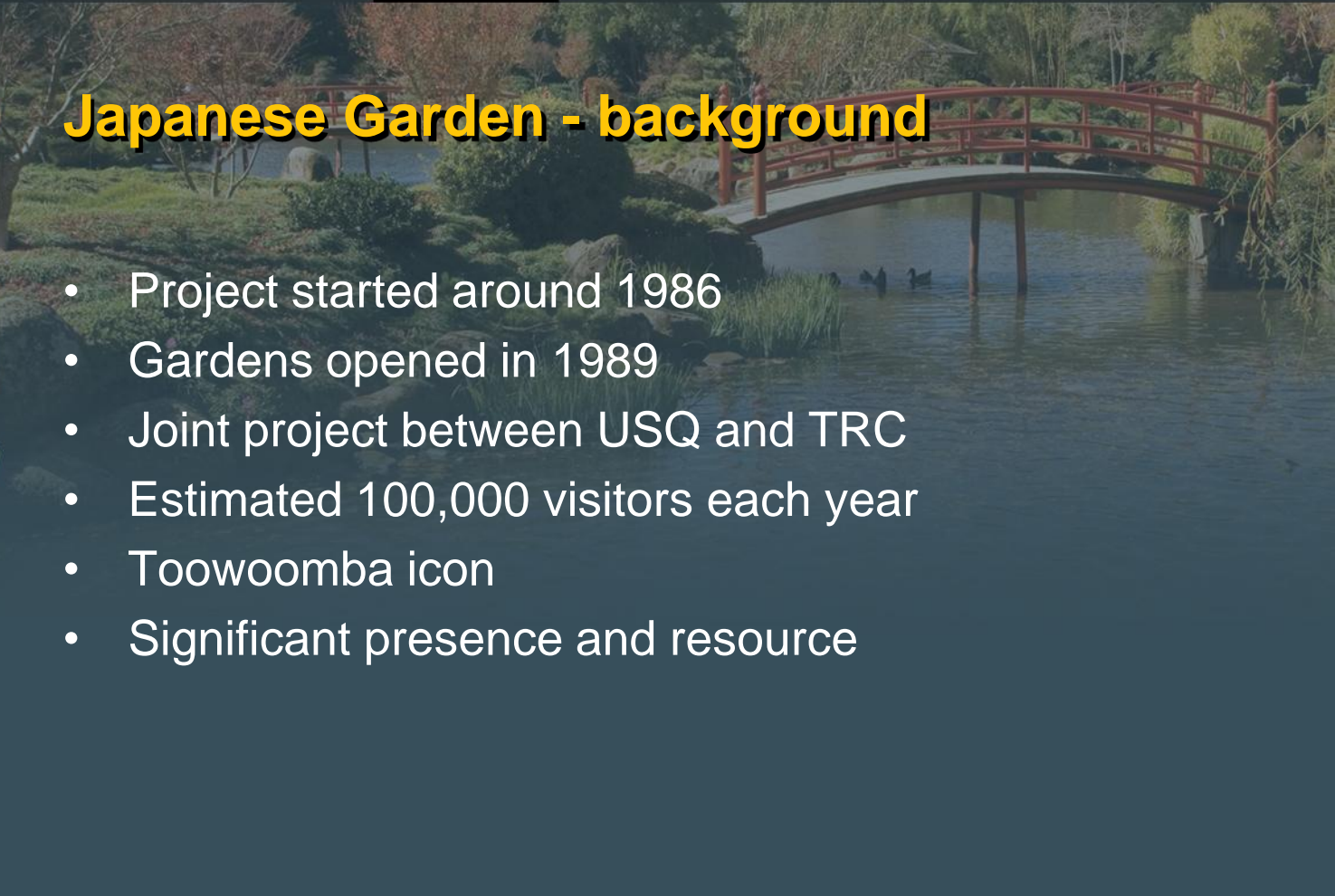
Public discussion on the Flying Fox presence in the Japanese Garden

- Welcome
- Introduction
- USQ presentation
- EPA presentation
- Possible actions
- Discussion and questions
- Summary and conclusion
- Close



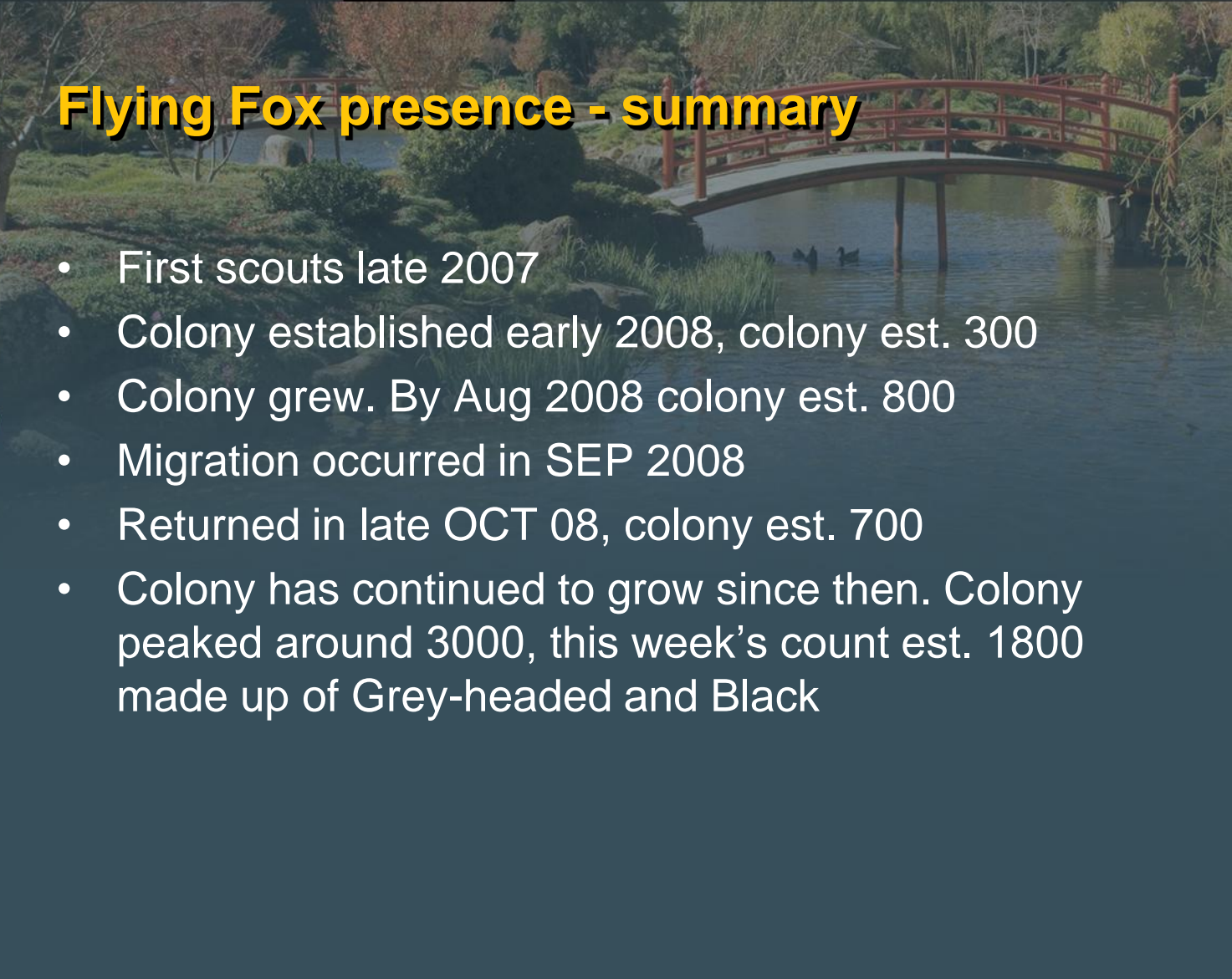
Japanese Garden - background

- Project started around 1986
- Gardens opened in 1989
- Joint project between USQ and TRC
- Estimated 100,000 visitors each year
- Toowoomba icon
- Significant presence and resource



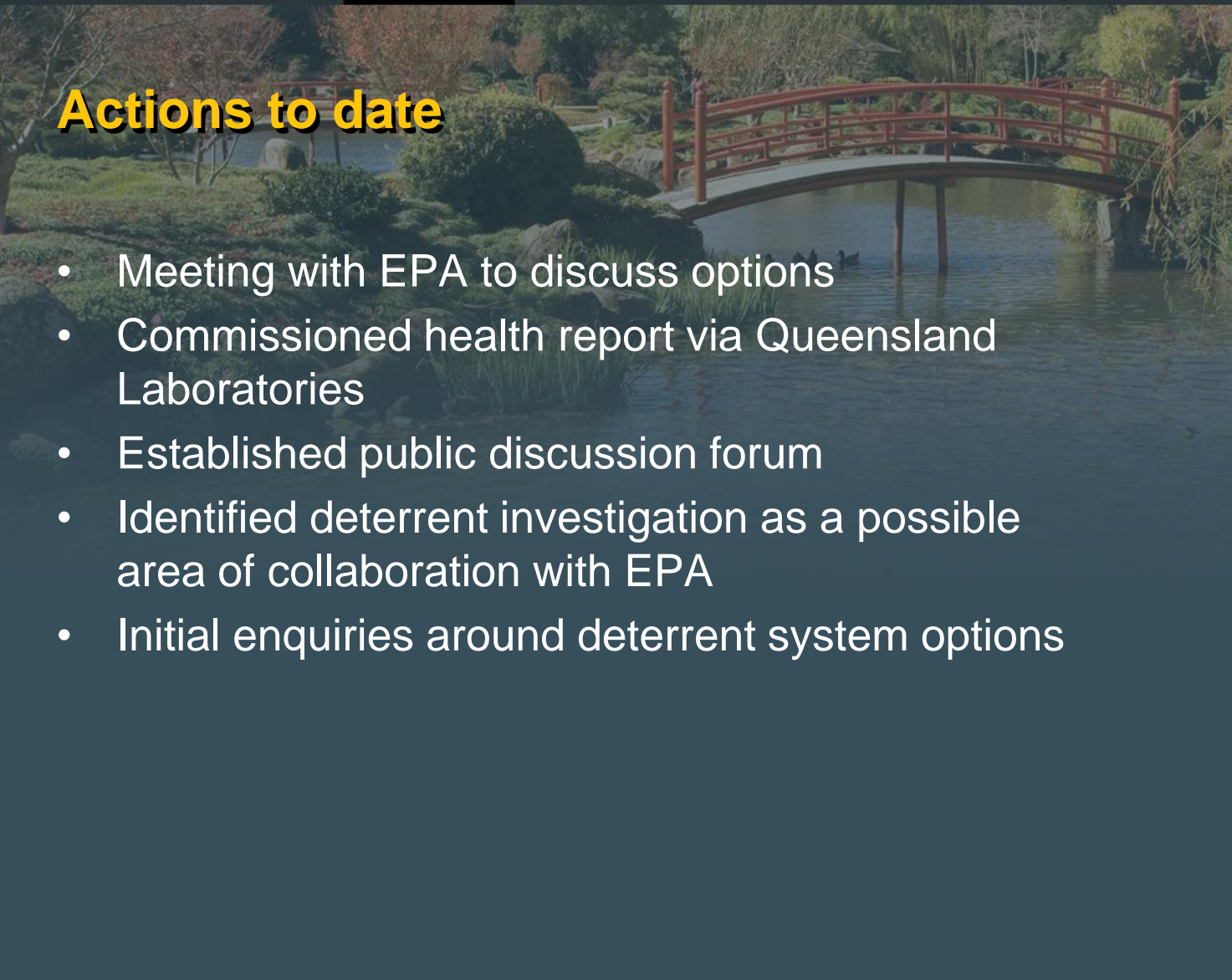
Flying Fox presence - summary

- First scouts late 2007
- Colony established early 2008, colony est. 300
- Colony grew. By Aug 2008 colony est. 800
- Migration occurred in SEP 2008
- Returned in late OCT 08, colony est. 700
- Colony has continued to grow since then. Colony peaked around 3000, this week's count est. 1800 made up of Grey-headed and Black



Actions to date

- Meeting with EPA to discuss options
- Commissioned health report via Queensland Laboratories
- Established public discussion forum
- Identified deterrent investigation as a possible area of collaboration with EPA
- Initial enquiries around deterrent system options



Queensland Laboratories summary

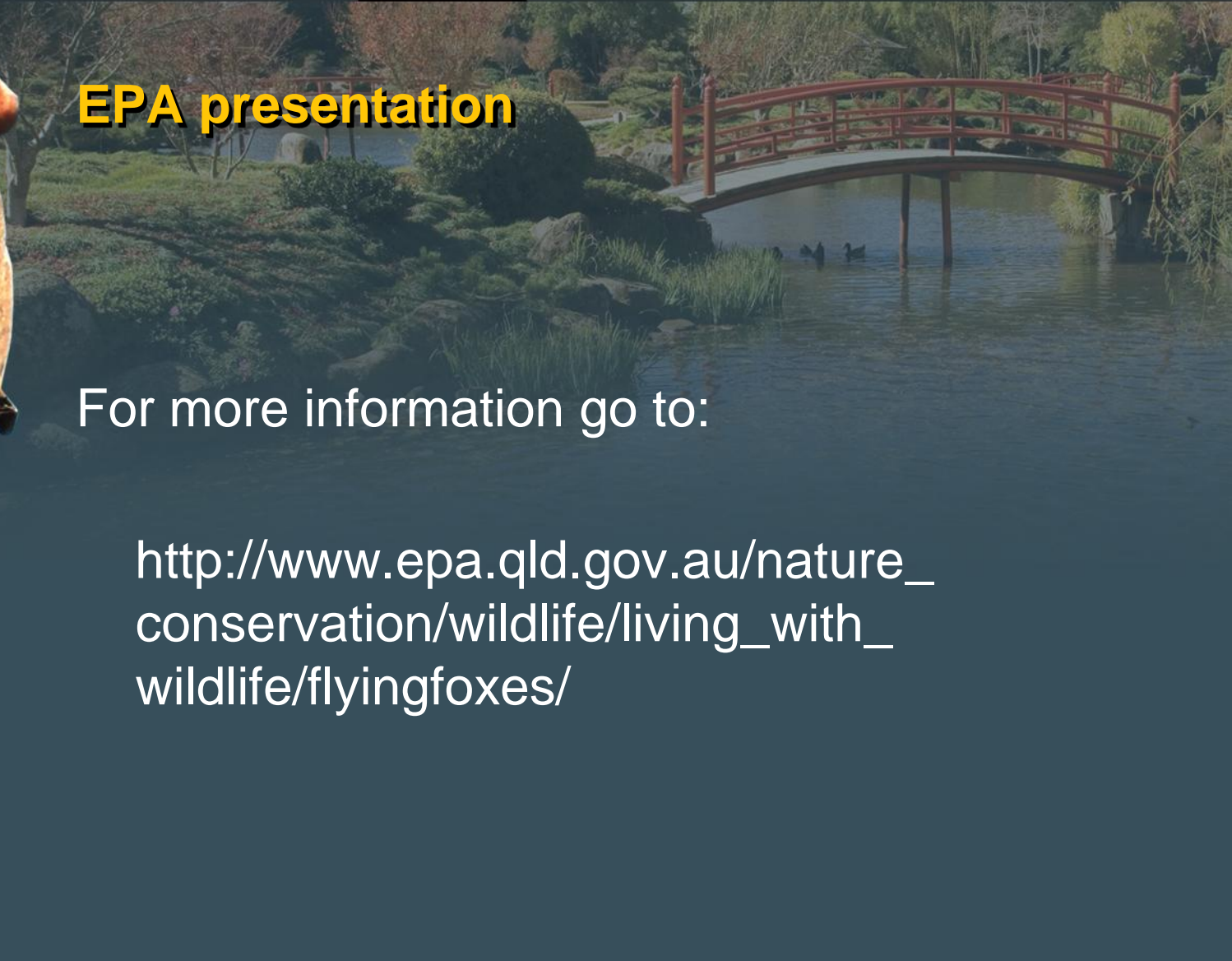
Public Health:

- Install signage informing public of facts
- Cleanse the garden of droppings regularly
- Check trees for loose or damaged limbs and remove
- Check for dead or diseased animals regularly
- Consider vaccination for staff in regular and direct contact
- Re-assess risk if population increases

EPA presentation

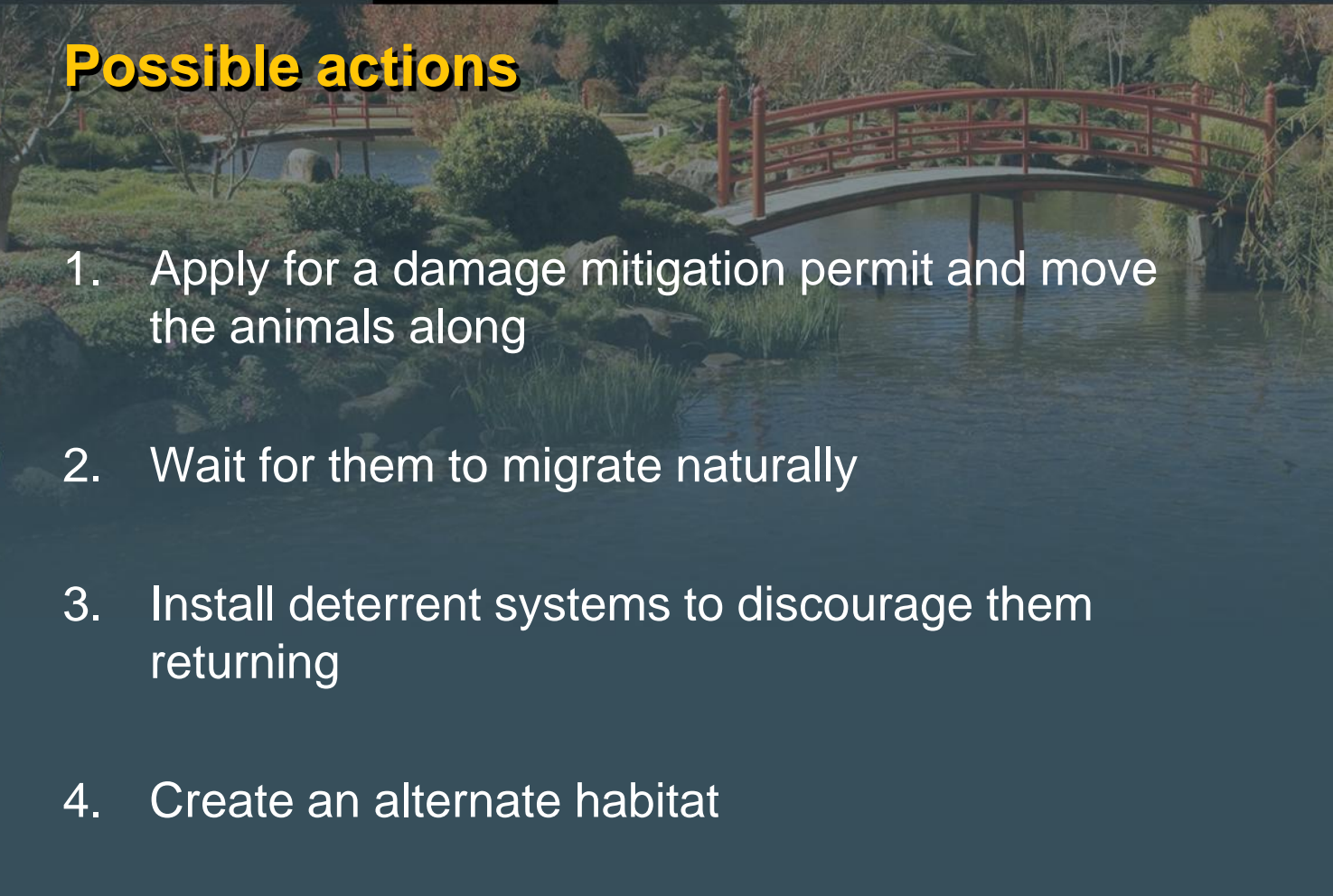
For more information go to:

[http://www.epa.qld.gov.au/nature_
conservation/wildlife/living_with_
wildlife/flyingfoxes/](http://www.epa.qld.gov.au/nature_conservation/wildlife/living_with_wildlife/flyingfoxes/)



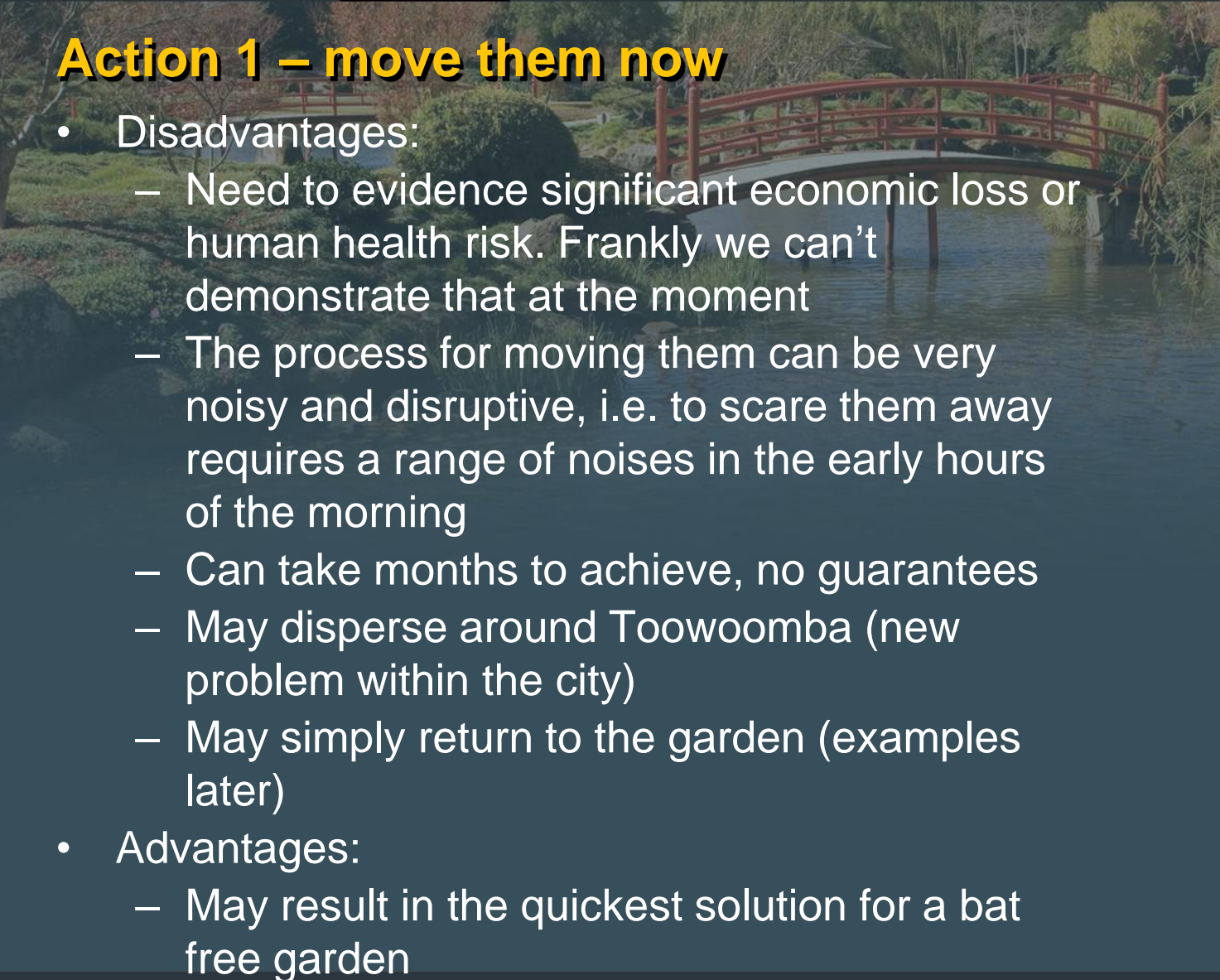
Possible actions

1. Apply for a damage mitigation permit and move the animals along
2. Wait for them to migrate naturally
3. Install deterrent systems to discourage them returning
4. Create an alternate habitat



Action 1 – move them now

- Disadvantages:
 - Need to evidence significant economic loss or human health risk. Frankly we can't demonstrate that at the moment
 - The process for moving them can be very noisy and disruptive, i.e. to scare them away requires a range of noises in the early hours of the morning
 - Can take months to achieve, no guarantees
 - May disperse around Toowoomba (new problem within the city)
 - May simply return to the garden (examples later)
- Advantages:
 - May result in the quickest solution for a bat free garden



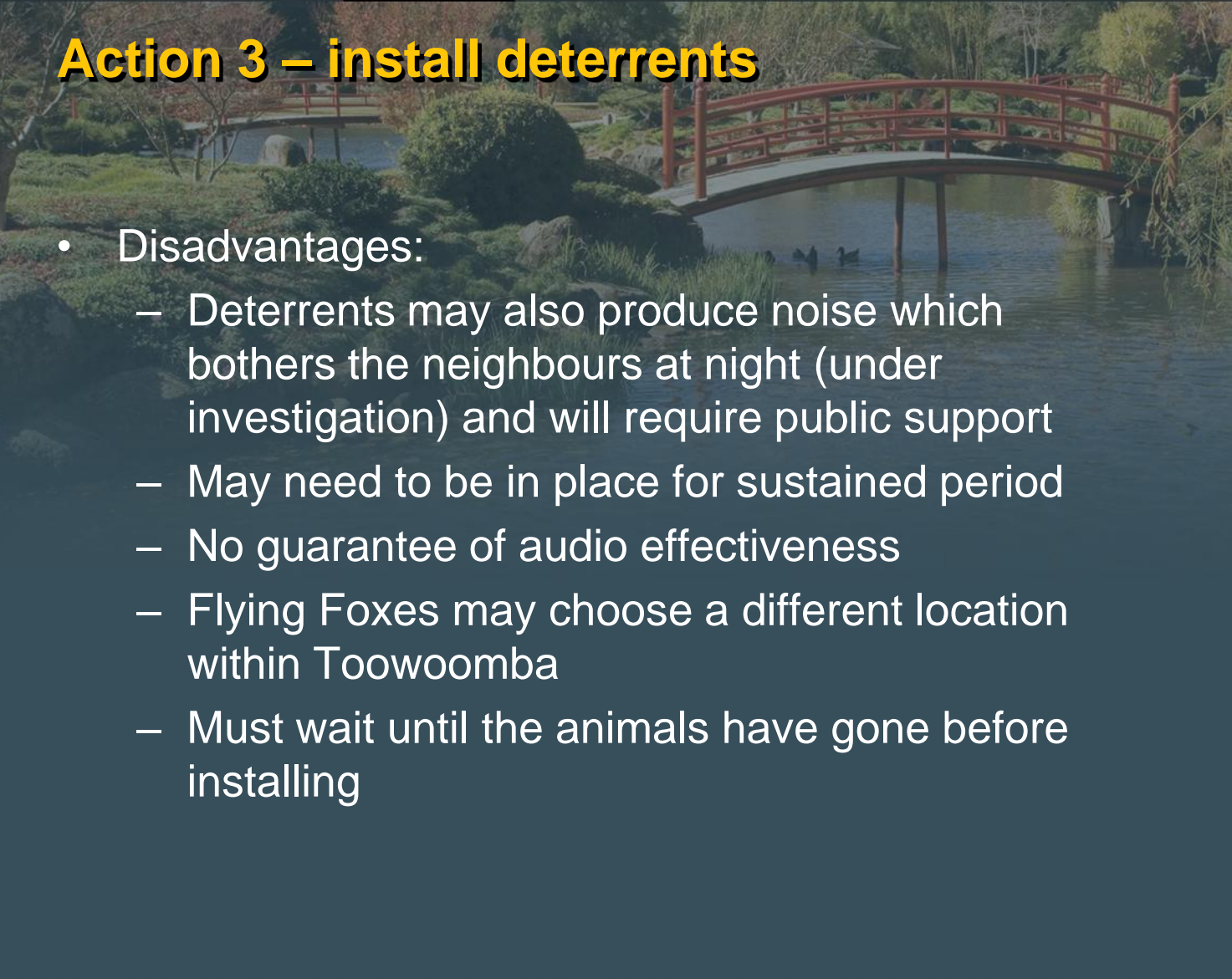
Action 2 – wait for natural migration

- Disadvantages:
 - Natural migration is unpredictable and may take some time, generally in cold weather
 - Continued negative effects until migration occurs
 - Animals may simply return to the garden
- Advantages:
 - Natural outcome, best for the animals
 - Avoids permit involvement
 - Avoids additional disruption to neighbours



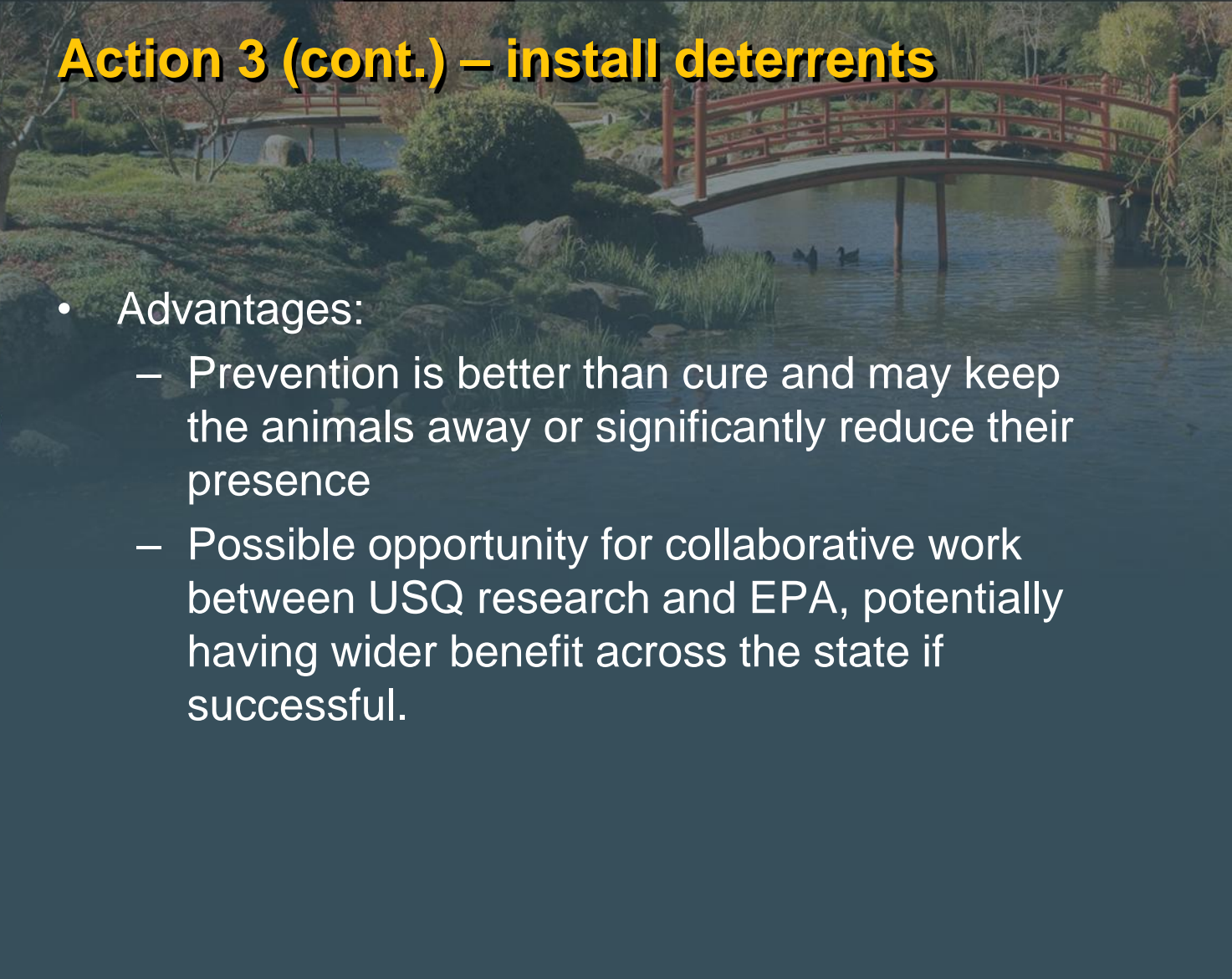
Action 3 – install deterrents

- Disadvantages:
 - Deterrents may also produce noise which bothers the neighbours at night (under investigation) and will require public support
 - May need to be in place for sustained period
 - No guarantee of audio effectiveness
 - Flying Foxes may choose a different location within Toowoomba
 - Must wait until the animals have gone before installing



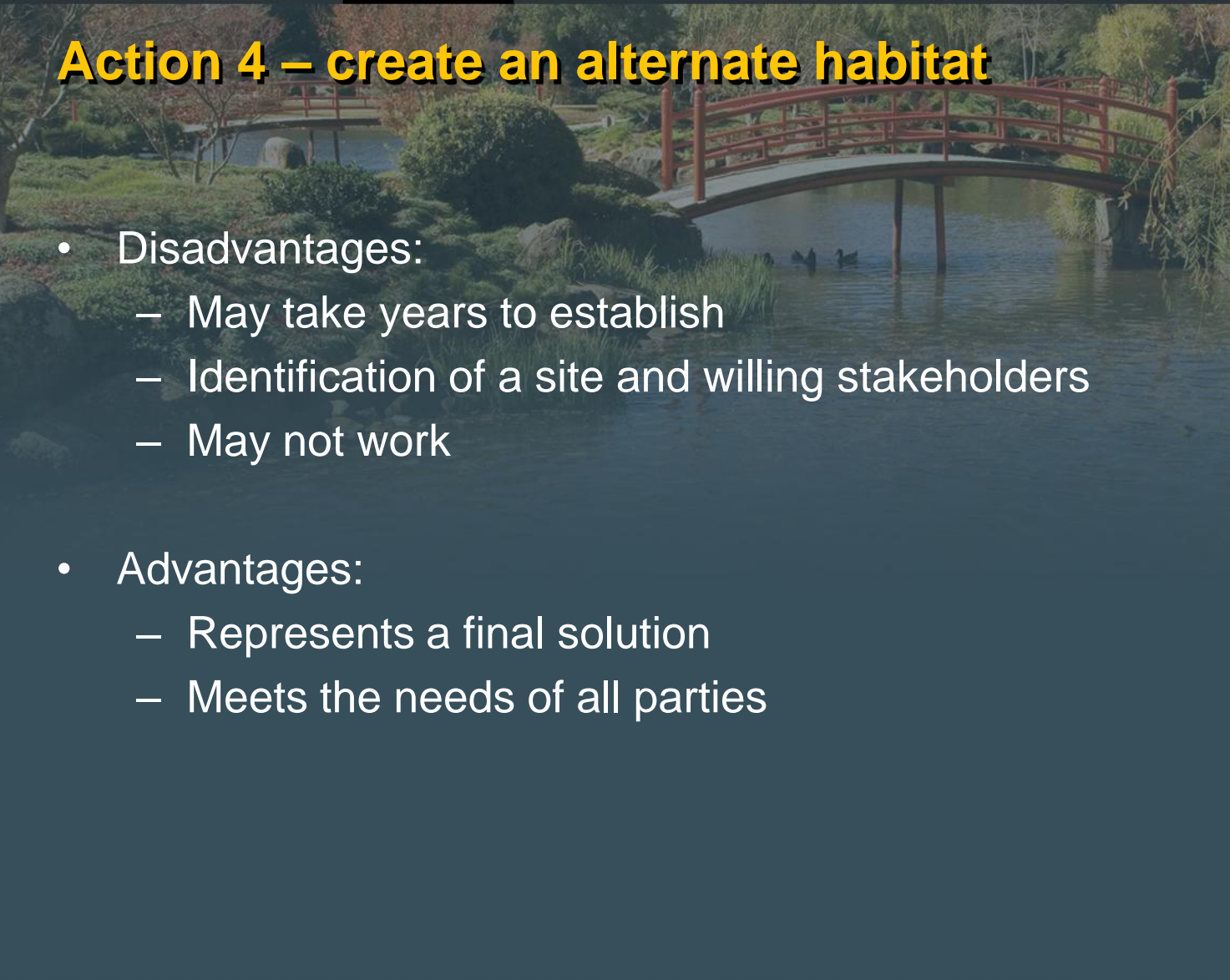
Action 3 (cont.) – install deterrents

- Advantages:
 - Prevention is better than cure and may keep the animals away or significantly reduce their presence
 - Possible opportunity for collaborative work between USQ research and EPA, potentially having wider benefit across the state if successful.



Action 4 – create an alternate habitat

- Disadvantages:
 - May take years to establish
 - Identification of a site and willing stakeholders
 - May not work
- Advantages:
 - Represents a final solution
 - Meets the needs of all parties



Experiences elsewhere

Location	Strategy	Time to achieve	Cost	Outcome
Maclean Rainforest Reserve, NSW	Relocate to alternate habitat by noise generation for 3-4 hours per day	Some success occurred after 6 months, but efforts continued for 7 yrs	\$400,000 over the 7 years	Flying foxes (about 1000) still try to inhabit the reserve and only move after days of noise generation
Royal Botanical Gardens in Melbourne	Relocate to alternate habitat by seeding with other flying foxes in cages in conjunction with noise deterrents	13 months	\$3 Million	Flying foxes dispersed to two separate sites. The alternate habitat was never used by the Flying Foxes



Discussion and questions

Japanese Garden web link

<http://www.usq.edu.au/facilities/gardens/default.htm>