



Department of **Biodiversity,**  
**Conservation and Attractions**

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# Addressing the challenge of managing local lake water quality

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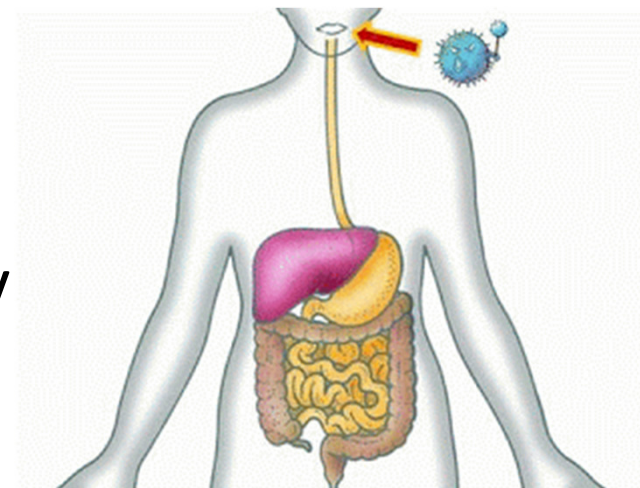
# The issue...

- Many local lakes are experiencing algal blooms
- ...these include toxic species
- Many LGAs find it challenging to manage these, and the issues surrounding them.



# The (real) issue...

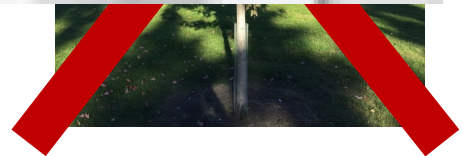
- What goes into the system is a key determinant system state!
  - i.e. algal blooms are the symptom
- An excess of nutrients (inorganic and organic) is usually the primary root cause.
  - Exacerbated by other factors



# Both cause and symptom need to be addressed

## Cause

- Thorough and updated awareness of catchment surface water inputs and quality.
- ...groundwaters!
- Appropriate planning and land management practices.





# Exacerbating factors...?

- Introduced fish (or others)
- Low dissolved O<sub>2</sub>
- Shallow (reduced input)



# Both cause and symptom need to be addressed

## Symptoms (blooms)

- Physical
  - Artificial destratification / mixing
  - Sediment removal
  - Algae removal (physical)
  - Ultrasonics
  - dyes
- Chemical
  - Capping with active clays
  - Allelochemicals (barley straw)
  - Algicides
- Biological
  - Bacteria/virus



- **Algicides should not be used** to control algal blooms, especially if connected to natural systems – toxic to aquatic flora and fauna.
- Algistats may only be used where they do not adversely impact downstream aquatic systems

*From: DoW interim position statement on constructed lakes, 2007*



# Products / treatments

- *Nualgi* – micronutrient product to trigger diatom growth.
- *Triple Strike* – flocculant (alum-based)
- Ca-Bentonite clay \*
- GOE Marine Clean
- Lysofoss
- Novozyme
- Ultrasonics \*
- Bacteria seeding plate-type products
- Wax

The potential for use of  
ultrasound to mitigate  
harmful algal blooms  
in the Swan Canning Estuary

Bianca M. Owen



# What is needed?

- Consolidated information (database)
  - Treatment product
  - Trialled?, date (range)
  - Lake ID and description
  - Success / failure / ?
  - Control?
  - Used regularly / discarded (why)



# What is needed?

- Informed decision by LGAs
  1. Address the cause and symptoms
  2. Give up on cause and address only symptoms
  3. Do nothing
- Coordination (via WALGA / Perth NRM?)

