



Economics of lake restoration

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Research overview

- Integrate environmental, economic and policy aspects of lake restoration
- Pressures on ecosystems and management responses
- Values of lake ecosystem
- Inform more effective regulation and management



Restoration of Lake Rotorua

- Eutrophication and its drivers
 - Point-source & diffuse pollution
 - Invasive weeds, sewage, farm run off
- Management responses
 - Weed spraying, alum dosing, floating wetland, land management
- Future options
 - Sewage treatment upgrades, land management



Costs of lake restoration

- ▣ Aim: TLI 4.2, 350t reduction nitrogen pa
- ▣ Costs (2012)
 - ▣ \$4,000,000 – Alum, land management change, artificial wetland, sewage reticulation)
 - ▣ \$ 30,000,000 to date

(Te Arawa Lakes Programme Annual Report 2012/2013)



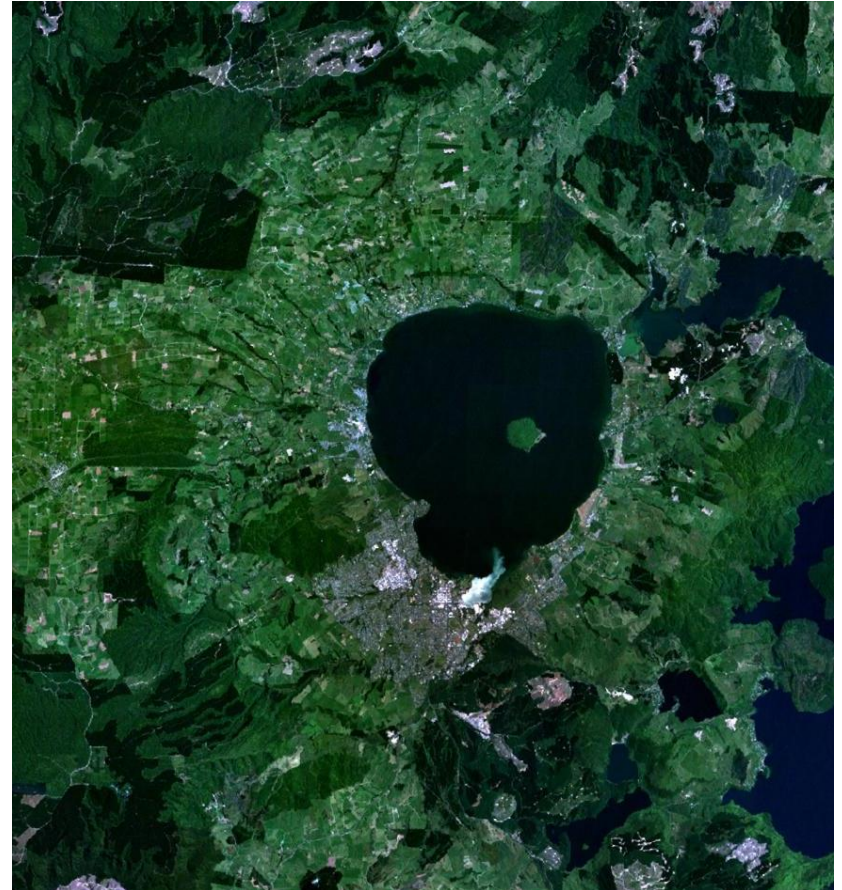
Values of Lake Rotorua

■ Ecosystem services

- Food
- Biodiversity
- Nutrient processing
- Recreation
- Aesthetics
- Education

■ Valuation (2012)

- \$120,000,000
- \$15,000/ha⁻¹



Conclusions

- ▣ Value of lake ecosystems often underestimated?
- ▣ Lake value justifies restoration cost
- ▣ Long-term perspective is important
- ▣ Land use change could be more cost-effective and sustainable





Kia ora

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