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IIAMW Why do we need this workshop?

Ben Hoffmann CSIRO Sustainable Ecosystems, Darwin



Ant eradication success

Globally in past 80 years, 12 sites, < 30 ha

Hoffmann BD, Abbott KL, Davis P (2010) Invasive ant management. In: Ant ecology (eds. L Lach, CL Parr & KL Abbott). Oxford University Press. pp 287-304.









Taxonomic bias in eradication success

95% eradication success rate for the Norway rat *Rattus norvegicus*

Howald G, Donlan CJ, Galván JP, Russell JC, Parkes, J, Samaniego A, Wang Y, Veitch, Genovesi P, Pascal M, Saunders A and Tershy B (2007) Invasive rodent eradication on islands. Conservation Biology 21, 1258-1268.









Geographic bias in eradication success

NEW ZEALAND

89% of completed programs commenced since 1990 have achieved eradication

Clout MN and Russell JC (2006) The eradication of mammals from New Zealand islands. In: Assessment and control of biological invasion risks (eds. Koike F, Clout MN, Kawamichi M, De Poorter M and Iwatsuki K), Shoukadoh Book Sellers, Kyoto, Japan and IUCN, Gland, Switzerland, pp. 127-141.









Taxonomic bias in invasions

6% of world's worst invasive species are ants

> 150 species now in exotic range

Lowe S., Browne M., Boudjelas S., De Poorter M. (2000) 100 of the World's Worst Invasive Alien Species. A selection from the Global Invasive Species Database. *Aliens* 12, 1-12.









Financially viable options

Australian RIFA program Benefit:Cost 390:1

Antony G, Scanlan J, Francis A, Kloessing K and Nguyen Y (2009) Revised benefits and costs of eradiating the Red imported fire ant. Proceedings of the 53rd Annual conference of the Australian Agricultural and Resource Economics Society, Cairns, 10-13 February 2009.









General protocols for success are known

- Single line of authority
- Legal authority
- Target organism susceptible to control treatments
- Sufficient resources
- Target detectible at low densities
- Early intervention
- Reinvasion prevented

Myers, J. H., Simberloff, D., Kuris, A. M. & Carey, J. R. (2000) Eradication revisited: dealing with exotic species. *Trends in Ecology and Evolution* 15, 316-320.

Simberloff, D. (2009) We can eliminate invasions or live with them. Successful management projects. Biological Invasions. 11:149-157.

















• Very few ant-specific protocols









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 Most programs are commencing after populations are well established









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- Under-developed links between managers and researchers









- Very few ant-specific protocols
- Most programs are commencing after populations are well established
- Under-developed links between managers and researchers
- Lack of incorporation of ant biological knowledge into program protocols









Management programs are research arenas

• Need for active adaptive management

Defined as where research is embedded into management program









Key talks in this workshop

- Invasive ant issues
- Invasion ecology
- International politics of invasion risk
- Genetics







