Conservation Biology

Research expertise in conservation biology in all Earth's major realms: freshwater, terrestrial and marine ecosystems. Research focuses on key threatening processes (such as habitat loss, fire, climate impact and change, invasive species) and ways of mitigating these threats as well as working on many different plant and animal species and ecological processes.

More Information

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Competitive advantage

- Develop innovative ways to quantify environmental change across the world's ecosystems, including using remote sensing data (satellite, drones), geographic information systems, use of conservation tools and models and analyses from the landscape to microscopic scales and sustainable development of land and water resources for food production
- Implement a range of conservation tools to effect conservation, including molecular genetics, ecosystem typology, ecosystem modelling, use of drones and adaptive management

Impact

- Providing governments at all levels and communities with our research, focused on identifying problems and finding their solutions for conservation
- Working with our partners on improving fire, river, and land management outcomes for species and ecosystems
- Improving conservation management capacity within communities and governments
- Collecting data critical to natural resource management decisions (e.g. fire, ecosystems, species)

Successful outcomes

- Management of floodplain wetlands (Gayini wetlands, Paroo River, Macquarie Marshes)
- Fire management practices for New South Wales
- Restoration of desert ecosystems by reintroducing locally extinct mammals
- Developing a typology of Earth's ecosystems for assessment
- Management of invasive species
- Management of altered flow and flooding regimes
- Adaptive management of social-ecological systems
- Management of human-wildlife conflict
- Management of species, including risk assessments

Capabilities and facilities

- Field sites including Gayini wetlands, about 80,000 ha of floodplain wetlands on the Murrumbidgee floodplain; Fowlers Gap; Smiths Lake Field Station, Wild Deserts project in Sturt National Park
- Analytical skills and experience for tracking trajectories of species and ecosystems

- Equipment including analyses of isotopes, molecular genetics, surveys (e.g. drones, remote sensing)

Our partners

- Australian Museum
- Australian, New South Wales, Queensland, Victorian, South Australian Government and Western Australian Conservation agencies
- Taronga Conservation Society
- NSW National Parks and Wildlife
- Nari Nari Tribal Council