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## Plant monitoring manual

Summary: ARI has developed a standardised guide to monitor plant populations in the field. This manual has been designed for everyone, from professional scientists to interested citizens.

Theme: Monitoring

Partners: Experts and practitioners across Victoria

Region: Statewide

Link: <https://www.ari.vic.gov.au/research/environmental-management/field-techniques-and-monitoring/plant-monitoring-manual>

Photo link: <https://www.ari.vic.gov.au/__data/assets/image/0029/731684/varieties/square400w.jpg>

## Flood recovery 2022-23

Summary: ARI responded to the aftermath of the 2022 Victorian floods with targeted biodiversity assessment and recovery actions. We worked alongside communities to improve emergency response, and provide research to inform future management strategies.

Theme: Emergency events

Partners: Victorian Fisheries Authority (VFA), Dja Dja Wurrung People (DJAARA), Zoos Victoria, Australian National University, Victorian Government (Flood Recovery Program)

Region: Loddon Mallee, Hume

Link: <https://www.ari.vic.gov.au/research/emergency-events/flood-recovery-2022-23>

Photo link: <https://www.ari.vic.gov.au/__data/assets/image/0029/735626/Flooded-forest-2022-web-banner-Adrian-Kitchingman.jpg>

## Wombat Forest: co-manager shared vision

Summary:  ARI has worked with Traditional Owners and government agencies to develop a shared vision for Wombat Forest. Collaborative discussions and knowledge sharing helped develop aspirational co-management arrangements moving forward.

Theme: People and nature

Partners: Dja Dja Wurrung Clans Aboriginal Corporation, Wadawurrung Traditional Owners Aboriginal Corporation, Wurundjeri Woi Wurrung Cultural Heritage Aboriginal Corporation, DEECA (Forest Management Planning, Grampians Region), Central Highlands Water, Country Fire Authority, Coliban Water, Hepburn Shire Council, Macedon Ranges Shire Council, Melbourne Water, Moorabool Shire Council, North Central Catch Management Authority, Parks Victoria

Region: Grampians

Link: <https://www.ari.vic.gov.au/research/people-and-nature/wombat-forest-co-manager-shared-vision>

Photo link: <https://www.ari.vic.gov.au/__data/assets/image/0022/733216/Wombat-forest-Jos-Moore-DSC01655-1000x415.JPG>

## Unearthing the secrets of healthy Victorian soils

Summary: ARI is collaborating with Agriculture Victoria on a two-year study to better understand the role of microbiomes in healthy soils. This research will provide data to guide future decision-making about soil health, supporting greater agricultural productivity and ecological recovery.

Theme: Monitoring

Partners: Agriculture Victoria, Commonwealth Government (Department of Agriculture, Fisheries and Forestry)

Region: State-wide

Link: <https://www.ari.vic.gov.au/research/environmental-management/field-techniques-and-monitoring/unearthing-the-secrets-of-healthy-victorian-soils>

Photo link: <https://www.ari.vic.gov.au/__data/assets/image/0021/751350/Soil-biome-project-Cape-conran-Matt-Bruce.jpg>

## Moorabool Yaluk flow monitoring

Summary: ARI has been assessing the impacts of managed flows along Moorabool Yaluk (Moorabool River). These assessments inform Traditional Owner’s management of the river, shaping its ecological and cultural outcomes.

Theme: Environmental water

Partners: Wadawurrung Traditional Owners Aboriginal Corporation (WTOAC), DEECA (Water and Catchments)

Region: Barwon South West

Link: <https://www.ari.vic.gov.au/research/waterway-management/environmental-water/moorabool-yaluk-flow-monitoring>

Photo Link: <https://www.ari.vic.gov.au/__data/assets/image/0020/751151/Moorabool-River-East-Branch-during-a-water-delivery-photo-by-Matilda-Foerster.-.jpg>

## Enfield Grevillea

Summary: ARI is seeking to better understand the impact of fire intervals on Enfield Grevillea, through pre and post-burn monitoring. Continuing this monitoring long-term will be vital in providing data to inform planned burns in the future.

Theme: Threatened species

Partners: DEECA (Grampians Region), Parks Victoria

Region: Grampians

Link: <https://www.ari.vic.gov.au/research/threatened-plants-and-animals/plants/enfield-grevillea>

Photo link: <https://www.ari.vic.gov.au/__data/assets/image/0041/749588/EnfieldGrevillea_IrenaCassettari-adjusted.jpg>

## Winged Peppercress monitoring

Summary: ARI is undertaking long-term monitoring of a population of Winged Peppercress at Hattah Lakes. This monitoring allowed us to determine its response to the 2022 floods, and informs us of management actions required to conserve this threatened species.

Theme: Threatened species

Partners: Mallee Catchment Management Authority, Parks Victoria

Region: Loddon Mallee

Link: <https://www.ari.vic.gov.au/research/threatened-plants-and-animals/plants/winged-peppercress-monitoring>

Photo link: <https://www.ari.vic.gov.au/__data/assets/image/0029/751088/WingedPeppercress-small-plant_ClaireMoxham.jpg>

## Science to inform renewable energy policy

Summary:  ARI is leading a series of research projects to provide the evidence needed to help decision-makers protect wildlife while supporting Victoria’s clean energy transition. This research draws upon scientific evidence from around the world and data from the Victorian context, to inform the Victorian Government’s *Handbook for the development of renewable energy in Victoria.*

Theme: Strategic Projects for Policy

Partners: DEECA, Victorian Government (A better approach to managing biodiversity impacts of renewable energy projects program)

Region: State-wide

Link: [https://www.ari.vic.gov.au/research/strategic-projects-for-policy/science-for-renewable-energy-policy?\_gl=1\*19bs95j\*\_ga\*MTExMDMwNjExNS4xNzUwNjQwNTY3\*\_ga\_YHGD96V05G\*czE3NTA3MjE1NTEkbzMkZzAkdDE3NTA3MjE1NTEkajYwJGwwJGgw](https://www.ari.vic.gov.au/research/strategic-projects-for-policy/science-for-renewable-energy-policy?_gl=1*19bs95j*_ga*MTExMDMwNjExNS4xNzUwNjQwNTY3*_ga_YHGD96V05G*czE3NTA3MjE1NTEkbzMkZzAkdDE3NTA3MjE1NTEkajYwJGwwJGgw)

Photo link: <https://www.ari.vic.gov.au/__data/assets/image/0022/751810/Challicum-Hills-Wind-Farm-1000x415.jpg>

## The Great Victorian Koala Survey

Summary: The Great Victorian Koala Survey is Victoria’s biggest and most comprehensive koala monitoring project to date. The project will provide a deeper understanding of the drivers and significance of disease in koala population dynamics in Victoria, through surveying, health and welfare assessments and genetic sampling.

Theme: Wildlife management

Partners: Deakin University, Federation University, The University of Melbourne, and the University of Queensland

Region: State-wide

Link: <https://www.ari.vic.gov.au/research/environmental-management/wildlife-management2/the-great-victorian-koala-survey#toc__id_2_koala>

Photo link: <https://www.ari.vic.gov.au/__data/assets/image/0030/683373/Koala_2.jpg>

## Understanding and protecting our freshwater crayfish

Summary: Victoria is home to 38 described species of native freshwater crayfish, with around half of these species being considered threatened. ARI is supporting their conservation through research, monitoring and management projects, that are helping us better understand their diversity, abundance and recovery from threats.

Theme: Threatened species

Partners: DEECA, Yorta Yorta Nation Aboriginal Corporation, Wamba Wamba traditional owners, Yarra Ranges Council, Murray Darling Basin Authority, Victorian Fisheries Authority, Victorian Environmental Water Holder, Commonwealth Government, Melbourne Water, Parks Victoria, Community Weed Alliance of the Dandenongs, North Central Catchment Management Authority, and other community groups

Region: State-wide

Link: <https://www.ari.vic.gov.au/research/threatened-plants-and-animals/animals/understanding-and-protecting-our-freshwater-crayfish>

Photo link: <https://www.ari.vic.gov.au/__data/assets/image/0026/680804/Murray-Cray-close-up-of-head-web-page.jpg>

## Dandenong Ranges windstorm forest recovery

Summary: Following the severe windstorm in the Dandenong Ranges in 2021, ARI worked closely with community to assess forest regeneration. Through collaboration with the Yarra Ranges Council and Mt Dandenong Primary School, ARI also supported community recovery, fostering greater connection between people and nature after this disaster.

Theme: Monitoring

Partners: DEECA (Port Phillip Region), Parks Victoria, Yarra Ranges Council, Mt Dandenong Primary School

Region: Port Phillip

Link: <https://www.ari.vic.gov.au/research/environmental-management/field-techniques-and-monitoring/dandenong-ranges-windstorm-forest-recovery>

Photo link: <https://www.ari.vic.gov.au/__data/assets/image/0022/609007/windstorm1.jpg>

## Measuring connection with nature

Summary: All Victorian adults are welcome to participate in this short survey, which will contribute to the ongoing protection of our environment. The is ongoing and the results will help guide what we need to do, and how, to increase our capacity to protect biodiversity together as Victorians.

Theme: People and nature

Partners: Monash University, DEECA

Regions: State-wide

Link: <https://www.ari.vic.gov.au/research/people-and-nature/victorians-value-nature/measuring-connection-with-nature>

## Black Summer Bushfires 2019/20

Summary: ARI collaborated alongside partners to aid the recovery of numerous threatened and vulnerable species that were impacted by the 2019/20 bushfires. Research surveys and recovery actions such as emergency translocations not only provided immediate harm mitigation for ecological communities, but also provided data about fire impact for future management decisions.

Theme: Bushfire

Partners: DEECA regional staff, Parks Victoria, Museums Victoria, Royal Botanic Gardens Victoria (RBGV), University of Melbourne, Zoos Victoria, Victorian Government (Bushfire Biodiversity Response and Recovery program), Commonwealth Government (Bushfire Recovery Package for Wildlife and Their Habitat), philanthropic organisations and consultants.

Regions: Gippsland, Hume, Barwon South West

Link: <https://www.ari.vic.gov.au/research/emergency-events/fire/bushfire-recovery-surveys-after-the-black-summer-fires>

Photo link: <https://www.ari.vic.gov.au/__data/assets/image/0030/736347/2019-20-bushfire-regeneration-Marcia-Reiderer.jpg>

## Brolga

Summary: By tracking brolgas with GPS, ARI is learning about the species’ movements, habitat use and nesting choices. This information, alongside data gained through habitat modelling, supports policy makers and wetland managers to mitigate development impacts on brolgas.

Theme: Threatened species

Partners: DEECA Water and Catchments, DEECA regions

Region: State-wide

Link: <https://www.ari.vic.gov.au/research/threatened-plants-and-animals/animals/brolga>

Photo link: <https://www.ari.vic.gov.au/__data/assets/image/0033/732957/Brolga-Greenslake-WetMAP-stage-4-tracking-Nevil-Amos-Landscape-1000x415.jpg>

## Estimating wildlife abundance across Victoria

Summary: ARI researchers used populations models to estimate animal population numbers across large areas. These models allow ARI to support data-based wildlife management, both in and outside of Australia.

Theme: Modelling

Partners: DEECA (Biodiversity Division), New Zealand Department of Conservation

Region: International

Link: <https://www.ari.vic.gov.au/research/technology-and-skills/modelling/estimating-wildlife-abundance-across-victoria>

Photo link: <https://www.ari.vic.gov.au/__data/assets/image/0025/637522/camera-trap.jpg>

## Southern Right Whales in Victoria

Summary:  ARI is learning about Southern Right Whale movements and their population recovery through aerial surveys and a citizen science program. Through greater community engagement and awareness, ARI is helping protect the species and reduce their exposure to threats such as boat strikes.

Theme: Threatened species

Partners: DEECA (Barwon South West Region), DEECA (Icon Species Program), Deakin University, SWIFFT

Region: Barwon South West, Port Phillip, Gippsland

Link: <https://www.ari.vic.gov.au/research/threatened-plants-and-animals/animals/southern-right-whales-in-victoria>

Photo link: <https://www.ari.vic.gov.au/__data/assets/image/0032/680936/Southern-Right-Whale-Drone-BL-and-calf-website.jpg>

## Fish management advice informs Snowy 2.0

Summary: ARI has provided expert advice to inform potential aquatic Management Plan options for the Snowy 2.0 project. This advice draws on monitoring and catchment survey programs and translocation and captive breeding strategies to identify options that protect threatened fish species.

Theme: Freshwater wildlife

Partners: Snowy Hydro, other specialists

Region: Australia

Link: <https://www.ari.vic.gov.au/research/waterway-management/freshwater-wildlife/fish-management-advice-informs-snowy-2.0>

Photo link: <https://www.ari.vic.gov.au/__data/assets/image/0026/638621/Snowy-Mountains-stream.jpg>

## 10inTen – recovering 10 threatened species in ten years

Summary: A conservation facility at Snobs Creek Hatchery is part of a collaborative, rehabilitative program that aims to recover at least 10 threatened species in 10 years. Multiple agencies are working together on species selection and breeding and release programs, filling in knowledge gaps about recovery actions.

Theme: Threatened species

Partners: Victorian Fisheries Authority, the Victorian Environmental Water Holder, Victorian Government, Federal Government

Region: Gippsland, Hume, Loddon Mallee, Grampians, Barwon South West

Link: <https://www.ari.vic.gov.au/research/threatened-plants-and-animals/animals/a-conservation-hatchery>

Photo link: <https://www.ari.vic.gov.au/__data/assets/image/0016/609001/Sth-Gipps-Spiny-Cray.jpg>

## Recovery of Watson’s Tree Frog

Summary: ARI is working to protect and support the recovery of Watson’s Tree Frog, a nationally threatened species. Monitoring through remote acoustic recorders and genetic seek to mitigate the species’ apparent decline.

Theme: Threatened species

Partners: DEECA Gippsland, DEECA (Icon Species Program), Zoos Victoria and Wild Research

Region: Gippsland

Link: <https://www.ari.vic.gov.au/research/threatened-plants-and-animals/animals/recovery-of-watsons-tree-frog>

Photo link: <https://www.ari.vic.gov.au/__data/assets/image/0027/755622/Watsons-tree-frog-Louise-Durkin-1000x415.JPG>

## Strategic Management Prospects

Summary: Strategic Management Prospects tool is designed to help biodiversity managers consider and compare which actions to do where. To deliver the Biodiversity Plan’s goals and targets and to try to prevent more species from becoming threatened, we need our management efforts to achieve the most benefits for the most species.

Theme: Modelling

Partners: DEECA

Region: State-wide

Link: <https://www.environment.vic.gov.au/biodiversity/natureprint>

<https://www.ari.vic.gov.au/research/modelling/habitat-distribution-models-hdms>

Photo link: <https://www.environment.vic.gov.au/__data/assets/image/0022/49081/Brochure-Cover-450px.jpg>

## Fire Analysis Module for Ecological values (FAME)

Summary:  A pioneering project that comprehensively collates all available ecological and fire data in one place! FAME creates an interactive and visual tool for fire planners to consider environmental values.

Theme: Bushfire

Partners: DEECA (Forest, Fire and Regions Group), University of Melbourne, La Trobe University

Region: State-wide

Link: <https://www.ari.vic.gov.au/research/fire/fire-analysis-module-for-ecological-values-fame>

## Ageing and sexing game birds using feathers

Summary:  ARI has published a field guide to help age and sex game bird species to better understand their population dynamics and inform game management decisions.

Theme: Monitoring techniques

Partners: Game Management Authority

Region: State-wide

Link: <https://www.ari.vic.gov.au/research/field-techniques-and-monitoring/ageing-and-sexing-game-birds-using-feathers>

Photo link: <https://www.ari.vic.gov.au/__data/assets/image/0029/415784/ageing-feathers_Australian-Shelduck-JDavies-.jpg>

## Native Fish Report Card Program

Summary: Native Fish Report Cards are brief overviews of fish populations, presenting survey summaries and three key indicators of the health of the fishery and its recreational fishing potential.

Theme: Field monitoring

Partners: DEECA (Water & Catchments), Victorian Fisheries Authority, Recreational Fishing Licence Holders

Region: State-wide

Link: <https://www.ari.vic.gov.au/research/field-techniques-and-monitoring/native-fish-report-card-program>

Photo link: <https://www.ari.vic.gov.au/__data/assets/image/0011/400520/native-fish-report-cards_processing-fish2.jpg>

## Integrated Biodiversity Values Model

Summary:  Modelling habitat distribution and biodiversity priorities for forest-dependent threatened species that are considered to be susceptible to timber harvesting operations.

Theme: Modelling

Partners: DEECA (Forest, Fire and Regions Group)

Region: State-wide

Link: <https://www.ari.vic.gov.au/research/modelling/regional-forest-agreements-ari>

## Southern Right Whale movements

Summary: Individual whales can be identified from the unique pattern of white markings (callosities) on their head. This has been utilised to track whale movements via photographs, which are stored in a south-eastern Australian and a national catalogue of southern right whales.

Theme: Threatened species

Partners: DEECA (Barwon South West), Victorian Government (Threatened Species Protection Initiative)

Region: Barwon South West, Gippsland, Port Phillip

Link: <https://www.ari.vic.gov.au/research/threatened-plants-and-animals/southern-right-whale-movements>

Photo link: <https://www.ari.vic.gov.au/__data/assets/image/0022/57442/whale-photo-ID_two-SEA-SRW-PIC_1.jpg>

## Tracking eel migration using satellites

Summary:  We're using satellite trackers to track the migration of both Short- and Long-finned eels as they travel thousands of kilometres to fill important knowledge gaps about their lifecycle.

Theme: Monitoring

Partners: Gunditjmara Traditional Owners, Glenelg Hopkins Catchment Management Authority, Melbourne Water, Technical University of Denmark

Region: Barwon South West, Gippsland, Port Phillip

Link: <https://www.ari.vic.gov.au/research/field-techniques-and-monitoring/tracking-eel-migration-using-satellites>

Photo link: <https://www.ari.vic.gov.au/__data/assets/image/0029/415397/eel-tracking_Anguilla-australis-TRaadik1.jpg>

## Index of Estuary Condition

Summary: Monitoring the health of Victoria's estuaries to improve knowledge, identify investment priorities for management and share the importance of estuaries with the community.

Theme: Waterway management

Partners: DEECA (Water and Catchments)

Region: Gippsland, Port Phillip, Barwon South West

Link: <https://www.ari.vic.gov.au/research/rivers-and-estuaries/index-of-estuary-condition>

Photo link: <https://www.ari.vic.gov.au/__data/assets/image/0030/72579/IEC_powlett-river-mouth-akitchingman_crop.jpg>

## Koala translocation

Summary: A science-based investigation into how individual Koalas fare after translocation. This research will help inform future wildlife management strategies.

Theme: Wildlife management

Partners: DEECA (Port Phillip Region), Parks Victoria

Region: Barwon South West, Port Phillip

Link: <https://www.ari.vic.gov.au/research/pests-weeds-and-overabundant-species/koala-translocation>

Photo link: <https://www.ari.vic.gov.au/__data/assets/image/0035/66698/koala-translocation_release-pmenkhorst1.jpg>

## Wetland Intervention Monitoring Program

Summary: WIMP is a research project targeted at understanding responses of wetland vegetation to changed management of cattle and sheep grazing, determining whether responses vary depending on wetland type or location in the landscape.

Theme: Monitoring

Partners: DEECA (Water and Catchments), Glenelg Hopkins CMA, Corangamite CMA,

Region: Grampians, Barwon South West, Gippsland

Link: <https://www.ari.vic.gov.au/research/wetlands-and-floodplains/wetland-intervention-monitoring-program>

Photo link: <https://www.ari.vic.gov.au/__data/assets/image/0022/90283/WIMP-workers-kmorris1.jpg>

## Protecting critically endangered grasslands on private land

Summary: ARI researchers are working with partner agencies to help manage grasslands on farms. Projects include monitoring to detect changes after management actions (like burning and weed control) and using modelling to identify high-priority sites for further action.

Theme: Threatened ecosystems

Partners: Glenelg-Hopkins CMA, The Federal Government's National Landcare Program

Region: Barwon South West, Port Phillip

Link: <https://www.ari.vic.gov.au/research/threatened-plants-and-animals/ecosystems2/protecting-critically-endangered-grasslands-on-the-private-estate>

Photo link: <https://www.ari.vic.gov.au/__data/assets/image/0028/576730/Grassland-conservation-page-purple-flower.jpg>

## Managing invasive species in wetlands

Summary:  This collaborative research project between ARI and land managers will inform the management of invasive plants and animals to protect wetland conditions and values.

Theme: Introduced animals and plants

Partners: DEECA (Water and Catchments), DEDJTR (Agriculture Services and Biosecurity Operations and Agribio) (now DJPR), Invasive Species Cooperative Research Centre, Parks Victoria, CMAs and consultant biologists

Region: State-wide

Link: <https://www.ari.vic.gov.au/research/pests-weeds-and-overabundant-species/managing-invasive-species-in-wetlands>

Photo Link: <https://www.ari.vic.gov.au/__data/assets/image/0021/55605/grassland-weeds_red-parrot-pea-garry-cheers.jpg>

## Fire regimes for Banksias

Summary: Research into the life-cycle of Banksia spinulosa var cunninghamii (Hairpin Banksia) to inform fire managers.

Theme: Bushfire

Partners: Parks Victoria, DEECA (Forest, Fire and Regions Group)

Region: Gippsland, Port Phillip

Link: <https://www.ari.vic.gov.au/research/fire/fire-regimes-for-banksias>

Photo link: <https://www.ari.vic.gov.au/__data/assets/image/0030/72696/Banksia-spinulosa-cone-amuir.jpg>

## Monitoring impacts of burning on endangered grassy ecosystems

Summary: Analysing how fire regime impacts the long term health of critically endangered grassland and grassy woodland systems.

Theme: Bushfire

Partners: DEECA

Region: Gippsland

Link: <https://www.ari.vic.gov.au/research/emergency-events/fire/monitoring-impacts-of-burning-on-endangered-grassy-ecosystems>

Photo link: <https://www.ari.vic.gov.au/__data/assets/image/0023/56741/grassland-rail-res_flower-cmoxham1.jpg>

## Southern Right Whale identification using photos

Summary: ARI's working with Citizen Scientists to better understand the Southern Right Whale's migratory habits and monitor their numbers.

Theme: Citizen science

Partners: DEECA (Barwon South West), SWIFFT, CeRDI

Region: Barwon South West, Port Phillip, Gippsland

Link: <https://www.ari.vic.gov.au/research/people-and-nature/southern-right-whale-identification-using-photos>

Photo link: <https://www.ari.vic.gov.au/__data/assets/image/0032/354587/whale-photo-id-cit-sci_photographers_crop.jpg>

## Restoration thinning to recover habitat

Summary: Can restoration-focused thinning help a declining forest system? We looked at enhancing tree growth and hastening the development of old-growth characteristics with this forestry practice.

Theme: Monitoring

Partners: Parks Victoria

Region: Loddon Mallee, Grampians

Link: <https://www.ari.vic.gov.au/research/field-techniques-and-monitoring/restoration-thinning-to-recover-habitat>

Photo link: <https://www.ari.vic.gov.au/__data/assets/image/0029/415694/BIB-thinning_multi-aged-gbrown1.jpg>

## Assessing benefits of water for the environment

Summary: ‘Environmental water’ is water that is specifically managed to protect and restore a healthy environment within rivers, floodplains, wetlands and estuaries. The Victorian Environmental Flows Monitoring and Assessment Program (VEFMAP) has an increased focus on intervention-based monitoring to confirm fish and vegetation responses to environmental flow events.

Theme: Environmental water

Partners: DEECA (Water and Catchments), University of Melbourne, Melbourne Water, CMAs, Victorian Environmental Water Holder, Victorian Fisheries Authority, La Trobe University, Deakin university, South Australian Research and Development Institute, NSW Department of Primary Industries, Murray-Darling Basin Authority, CEWO, CSIRO, consultants, independent scientists

Region: State-wide

Link: <https://www.ari.vic.gov.au/research/rivers-and-estuaries/assessing-benefits-of-water-for-the-environment>

<https://youtu.be/T19Z0zsujHU>

Photo link: https://www.ari.vic.gov.au/\_\_data/assets/image/0017/84050/VEFMAP\_silver-perch-juvenileA.jpg

## Fire regimes, carbon levels and biodiversity

Summary: How is carbon distributed within the forest? How fires influence carbon levels and distribution? We're surveying birds, fire-sensitive plants, and carbon levels to answer these questions.

Theme: Bushfire

Partners: DEECA (Forest, Fire and Regions Group), University of Melbourne, Commonwealth Government (Biodiversity Fund)

Region: Hume, Port Phillip

Link: <https://www.ari.vic.gov.au/research/fire/fire-regimes,-carbon-levels-and-biodiversity>

Photo link: <https://www.ari.vic.gov.au/__data/assets/image/0026/56627/Carbon-burnt-pmacak1.jpg>

## Recovering Macquarie Perch

Summary: For decades ARI has been involved with Macquarie perch monitoring and reintroductions. We're finally seeing some really positive signs for this much-loved species.

Theme: Threatened species

Partners: Goulburn Broken Catchment Management Authority

Region: Hume

Link: <https://www.ari.vic.gov.au/research/threatened-plants-and-animals/recovering-macquarie-perch>

Photo Link: <https://www.ari.vic.gov.au/__data/assets/image/0023/422483/Mac-perch-recovery_release1.JPG>

## Fish spawning and recruitment

Summary: Finishing a six year research program, we investigated the effect of varying flows and the use of environmental water, on aspects of fish breeding in the Barmah-Millewa Forest.

Theme: Environmental water

Partners: Murray-Darling Basin Authority

Region: Hume

Link: <https://www.ari.vic.gov.au/research/wetlands-and-floodplains/fish-spawning-and-recruitment>

Photo link: <https://www.ari.vic.gov.au/__data/assets/image/0023/58622/fish-spawning-BMForest_floodplain.jpg>

## Salinity tolerance of Murray Hardyhead

Summary:  ARI has spawned wild-caught adult Murray Hardyheads in captivity. Our research has discovered how 'hardy' the species is to salinity at different stages of its lifecycle. Our findings are helping the management of saline wetlands and long-term survival of the species.

Theme: Threatened species

Partners: DEECA, North Central Catchment Management Authority (CMA), Mallee Catchment Management Authority (CMA), Victorian Environmental Water Holder

Region: Loddon Mallee

Link: <https://www.ari.vic.gov.au/research/threatened-plants-and-animals/salinity-tolerance-of-murray-hardyhead>

## Dandenong Burrowing Crayfish in Cool Temperate Rainforest

Summary:  This collaborative monitoring and weed control project supports the conservation of Cool Temperate Rainforest in the Dandenong Ranges and improves our knowledge of the elusive and threatened Dandenong Burrowing Crayfish.

Theme: Threatened species

Partners: DEECA, Yarra Ranges Council, Community Weed Alliance of the Dandenongs, Melbourne Water, Parks Victoria, Friends of Sassafras Creek

Region: Port Phillip

Link: <https://www.ari.vic.gov.au/research/threatened-plants-and-animals/animals/dandenong-burrowing-crayfish-in-cool-temperate-rainforest>

Photo link: <https://www.ari.vic.gov.au/__data/assets/image/0025/423169/dandenong-burrowing-cray_cray-ageschke1.jpg>

## Leadbeater’s Possum - camera surveys in trees

Summary: Through innovative survey methods, we are discovering more Leadbeater's Possums, improving our knowledge of their distribution and habitat use across the species’ range.

Theme: Threatened species

Partners: DEECA (Forest, Fire and Regions Group)

Region: Port Phillip

Link: <https://www.ari.vic.gov.au/research/threatened-plants-and-animals/leadbeaters-possum-camera-surveys-in-trees>

Photo link: <https://www.ari.vic.gov.au/__data/assets/image/0021/115932/LBP-cameras_animal_1.jpg>

## Natural Values Recovery Program following the 2009 bushfires

Summary:  After the devastating fires of 2009, ARI led 19 of the Natural Values Recovery Program projects. Many of these projects focussed on threatened species including crayfish, frogs, reptiles, fish and orchids. Others focused on dunnarts, microbats, deer, feral cats, weeds and fire-sensitive vegetation. Engaging the community in bushfire recovery and research was also an aim for some of the projects.

Theme: Bushfire

Partners: DEECA (Forest, Fire and Regions Group), Parks Victoria, Catchment Management Authorities, community members

Region: Port Phillip, Gippsland, Hume

Link: <https://www.ari.vic.gov.au/research/fire/natural-values-recovery-program-following-the-2009-bushfires>

Photo link: <https://www.ari.vic.gov.au/__data/assets/image/0031/56659/VBRRA-Southern-Toadlet-KHoward1.jpg>

## Freshwater Catfish at Tahbilk Lagoon

Summary:  Tahbilk Lagoon near Nagambie, central Victoria, is an important refuge for the Freshwater Catfish (Tandanus tandanus), being one of the few locations in Victoria with a relatively abundant population. ARI investigated the timing of catfish spawning by sampling for larvae and young fish of a few months in age. The results will help inform management of environmental water releases that ensure suitable breeding opportunities for species.

Theme: Threatened species

Partners: Goulburn Broken Catchment Management Authority, Victorian Government (Threatened Species Protection Initiative)

Region: Hume

Link: <https://www.ari.vic.gov.au/research/threatened-plants-and-animals/freshwater-catfish-at-tahbilk-lagoon>

Photo link: <https://www.ari.vic.gov.au/__data/assets/image/0029/57458/catfish_tahbilk-lagoon_fhames1.jpg>

## Plains-wanderer and Hooded Scaly-foot habitat

Summary: ARI has undertaken a project to restore the habitat of the ground-dwelling bird Plains-wanderer Pedionomus torquatus and legless lizard Hooded Scaly-foot Pygopus nigriceps. This work, which included predator baiting and carefully managed ecological grazing, was undertaken at two key reserves in north-central Victoria, Terrick Terrick National Park and Bael Bael Grassland Nature Conservation Reserve.

Theme: Threatened species

Partners: Parks Victoria, Victorian Government

Region: Loddon Mallee

Link: <https://www.ari.vic.gov.au/research/threatened-plants-and-animals/Plains-wanderer-and-Hooded-Scaly-foot-habitat>

Photo link:<https://www.ari.vic.gov.au/__data/assets/image/0030/57594/vepp-plainswanderer-habitat_male-and-chicks-gbrown1.jpg>

## Smoky Mice movement across a strategic fuel break

Summary: ARI has completed a study on the movements of the threatened Smoky Mouse (Pseudomys fumeus) that aimed to see whether the fuel break was acting as a barrier to this small nocturnal rodent.

Theme: Threatened species

Partners: DEECA (Forest Fire and Regions Group)

Region: Hume

Link:<https://www.ari.vic.gov.au/research/threatened-plants-and-animals/animals/smoky-mice-movement-across-a-strategic-fuel-break>

Photo link: <https://www.ari.vic.gov.au/__data/assets/image/0024/61737/smoky-mouse_-fuelbreak-collar-pmenkhorst1.JPG>

## Translocating River Blackfish in the Tarwin River Catchment

Summary:  Since 2015, the WGCMA, ARI and local recreational fishers have worked together to trial the translocation of River Blackfish into rehabilitated habitat sites in the Tarwin River and investigate whether they establish new home ranges.

Theme: Freshwater wildlife

Partners: West Gippsland Catchment Management Authority, Victorian Government

Region: Gippsland

Link <https://www.ari.vic.gov.au/research/rivers-and-estuaries/translocating-river-blackfish-in-the-tarwin-river-catchment>

Photo link: https://www.ari.vic.gov.au/\_\_data/assets/image/0018/325062/river-blackfish-translocation\_fish-release1\_crop.jpg

## [Riparian Intervention Monitoring Program](https://www.ari.vic.gov.au/research/rivers-and-estuaries/riparian-intervention-monitoring-program)

Summary: The Riparian Intervention Monitoring Program (RIMP) is a statewide, long-term program developed by DEECA that aims to assesses the impact and effectiveness of riparian management. RIMP examines three common management interventions: 1. weed control, 2. replanting of native vegetation and 3. fencing to restrict livestock access.

Theme: Waterway rehabilitation

Partners: Catchment Management Authorities, DEECA

Region: Statewide

Link: <https://www.ari.vic.gov.au/research/rivers-and-estuaries/riparian-intervention-monitoring-program>

Photo link: <https://www.ari.vic.gov.au/__data/assets/image/0018/74205/RIMP_water-plantain-flower_a.jpg>

## The frogs are calling you

Summary:  Our scientists are listening and looking for frogs along the edges of wetlands as well as searching for tadpoles. We’re also using automated recorders called AudioMoths which record frog calls that can be identified later. Anyone can join the program as a citizen scientist and help improve our knowledge and increase awareness of the benefits providing water for the environment.

Theme: Citizen science

Partners: Frogs Victoria, Australian Museum, Goulburn Broken Catchment Management Authority (CMA) and North Central CMA, University of Melbourne, DEECA

Region: Hume, Loddon Mallee

Link: <https://www.ari.vic.gov.au/research/people-and-nature/the-frogs-are-calling-you>

Photo link: https://www.ari.vic.gov.au/\_\_data/assets/image/0028/426907/Wetmap-frogs-cit-sci\_L\_peronii\_gheard1.JPG

## Use of nest boxes in Victoria

Summary: Nest boxes are widely used in Victoria by community groups, researchers, and government. ARI asked for information from those involved in nest box programs to understand more about the number and distribution of nest boxes in Victoria, what animals were using them, and whether monitoring data was being collected.

Theme: People and Nature

Partners: DEECA

Region: Statewide

Link: <https://www.ari.vic.gov.au/research/people-and-nature/use-of-nest-boxes-in-victoria>

Photo link: <https://www.ari.vic.gov.au/__data/assets/image/0028/399421/nest-boxes_sugar-glider-jess-lawton1.jpg>

## Fishers fishing for fish ear bones

Summary: ARI has partnered with angler citizen scientists to collect fish ear bones to understand how environmental water delivery support native fish populations. Since 2018, anglers have been sending in ear bones for analysis to understand when the fish was born, where it travelled throughout its life and whether it was a wild or stocked fish.

Theme: Citizen science

Partners:  DEECA (Water and Catchments), local fishers and fishing clubs, Victorian Fisheries Authority, North Central Catchment Management Authority and Goulburn Broken Catchment Management Authority

Region: Hume, Loddon Mallee

Link: <https://www.ari.vic.gov.au/research/people-and-nature/fishers-fishing-for-fish-ear-bones>

<https://youtu.be/VDbnxX0337I>

Photo links: <https://www.ari.vic.gov.au/__data/assets/image/0018/117702/otoliths_in-hand_2.jpg>

## Assessing wetland response to water for the environment

Summary:  Wetland Monitoring and Assessment Program for environmental water (WetMAP) is measuring the response of wetland vegetation and a range of fauna to natural water regimes that are supplemented by environmental water. Numerous aspects of wetland ecology will be studied; for example, tree condition, diversity of plants, numbers and breeding activity of waterbirds, fish and frogs.

Theme: Environmental water

Partners:  DEECA (Water and Catchments Group), Catchment Management Authorities, Victorian Environmental Water Holder, consultant ecologists.

Region: State-wide

Link: <https://www.ari.vic.gov.au/research/wetlands-and-floodplains/assessing-wetland-response-to-water-for-the-environment>

Photo link: https://www.ari.vic.gov.au/\_\_data/assets/image/0023/126167/wetmap\_birding\_Hirds-Swamp\_crop.jpg

## Preparing for carp herpesvirus

Summary:  ARI is contributing to research that will underpin the National Carp Control Plan by leading a five-state collaborative project with La Trobe University to develop an international best-practice to determine how many carp are in eastern Australia. This research will assist with the development of carp biocontrol strategies.

Theme: Introduced animals and plants

Partners:  La Trobe University, NSW Department of Primary industries, SA Research and Development Institute, QLD Department of Agriculture and Fisheries, ACT Environment and Sustainable Development Directorate

Region: Australia

Link: <https://www.ari.vic.gov.au/research/pests-weeds-and-overabundant-species/preparing-for-carp-herpesvirus>

Photo link: https://www.ari.vic.gov.au/\_\_data/assets/image/0017/87200/carp-biomass\_adult\_1.jpg

## Victorian venom bank collaboration - snakes

Summary:  ARI is contributing its expertise in venomous snakes to establish a collection of venomous terrestrial and marine animals and their venoms, to form a basis for medical research and taxonomic and biodiversity studies.

Theme: Monitoring

Partners:  Museum Victoria, University of Melbourne's Australian Venom Research Unit

Region: Gippsland, Hume

Link: <https://www.ari.vic.gov.au/research/field-techniques-and-monitoring/victorian-venom-bank-collaboration-snakes>

Photo link: <https://www.ari.vic.gov.au/__data/assets/image/0035/55889/venom-bank-snakes_tigersnake-nclemann1.jpg>

## Deer-livestock interaction and disease

Summary:  ARI is developing a model to predict wild deer population dynamics and calculate the risk of disease being passed from deer to livestock. This model will contribute to the state and national approaches for responding to animal disease emergencies, therefore enhancing current capabilities in controlling potential livestock epidemics.

Theme: Introduced animals and plants

Partners: Centre for Invasive Species Solutions (CISS), La Trobe University, VIC Department of Economic Development, Jobs, Transport and Resources, NSW Department of Primary Industries, QLD Department of Agriculture and Fisheries

Region: Australia

Link:<https://www.ari.vic.gov.au/research/pests-weeds-and-overabundant-species/deer-livestock-interaction-and-disease>

Photo link:<https://www.ari.vic.gov.au/__data/assets/image/0022/403834/deer-stock-interactions_deer-in-forest1.jpg>

## Population models for native fish - response to flows

Summary:  ARI is developing fish population models and modelling a range of flow conditions to allow quick exploration of likely outcomes to complex management scenarios. This will enable different management options to be compared so that the benefits to fish can be maximised.

Theme: Modelling

Partners:  Murray-Darling Basin Authority

Region: Australia

Link: <https://www.ari.vic.gov.au/research/modelling/population-models-for-native-fish-response-to-flows>

Photo link: <https://www.ari.vic.gov.au/__data/assets/image/0027/55836/modelling-native-fish_goldenperch-sraymond1.jpg>

## Cultural conservation of freshwater turtles

Summary:  ARI researchers collaborated with Yorta Yorta people to manage freshwater turtle populations that are experiencing a high mortality rate. The project works to build upon a knowledge system that will assist in the plight of their struggling totem, the Broad-shelled Turtle (Chelodina expansa).

Theme: Freshwater wildlife

Partners: Yorta Yorta Traditional Owners, Murray-Darling Basin Authorities' The Living Murray Program.

Region: Loddon Mallee

Link: <https://www.ari.vic.gov.au/research/wetlands-and-floodplains/cultural-conservation-of-freshwater-turtles>

Photo link: <https://www.ari.vic.gov.au/__data/assets/image/0032/57677/yorta-yorta-turtle-data-logger-khoward1.jpg>

## Using monitoring to improve native vegetation management

Summary: ARI has developed a monitoring approach that focuses on the links between management activities, threat reduction and native vegetation condition. This approach identifies ecological indicators that can accurately evaluate the effectiveness of a management activity.

Theme: Monitoring

Partners:  Catchment Management Authorities, Victorian Government

Region:  Barwon South West

Link: <https://www.ari.vic.gov.au/research/field-techniques-and-monitoring/using-monitoring-to-improve-native-vegetation-management>

Photo link: https://www.ari.vic.gov.au/\_\_data/assets/image/0030/55857/native-vege-monitoring\_flowers-cmoxham1.jpg

## How Victorians can act for nature

Summary: DEECA’s Biodiversity plan states that this goal will be achieved by: “increasing the number of Victorians connecting with nature, and who act to protect or enhance biodiversity”. ARI’s working with researchers at RMIT to tells us the best actions Victorians can do to achieve this goal.

Theme: Victorians value nature

Partners: RMIT

Region: Statewide

Link: <https://www.ari.vic.gov.au/research/people-and-nature/how-victorians-can-act-for-nature>

Photo link: <https://www.ari.vic.gov.au/__data/assets/image/0021/456321/Vic-act-for-nature_CitizenScience_AndrewGeschke_crop1.jpg>

## Understanding threats to potoroos and bandicoots

Summary:  ARI is using camera trapping and computer modelling to help understand the impacts of invasive predators, and provide a baseline against which to measure the impact of the 2019-20 bushfires.

Theme: Threatened species

Partners:  DEECA (Southern Ark, Glenelg Ark, Grampians Ark, Otways Ark and the Barry Mountains Fox control program)

Region:  Gippsland, Hume, Barwon South West, Grampians

Link: <https://www.ari.vic.gov.au/research/threatened-plants-and-animals/understanding-threats-to-potoroos-and-bandicoots>

Photo link: <https://www.ari.vic.gov.au/__data/assets/image/0034/595249/Bandicoot.jpg>

## Discovering the secrets of Victoria’s small bats

Summary:  Microbats play a vital role in our ecosystem functioning, consuming large quantities of insects, including mosquitoes and agricultural pests. However, due to their nocturnal and cryptic behaviour, they are difficult to study. To address this, ARI is using innovative approaches to shed light on these fascinating creatures.

Theme: Monitoring

Partners:  DEECA (Barwon South West, Bushfire Recovery and Icon Species programs), Zoos Victoria and Mallee Catchment Management Authority

Region:  State-wide

Link: <https://www.ari.vic.gov.au/research/field-techniques-and-monitoring/discovering-the-secrets-of-victorias-small-bats>

Photo link: <https://www.ari.vic.gov.au/__data/assets/image/0032/566708/Southern-Bentwing-Bat-Lindy-Lumsden.jpg>

## Assessing ecosystem condition using expert judgements

Summary: ARI researchers have been combining expert opinion and modelling techniques to measure ecosystem condition in a cost-effective and consistent way. This method has been applied across a wide variety of places, from Victorian Volcanic Plains grasslands to the Mongolian Gobi Desert.

Theme: Modelling

Partners: DEECA (Melbourne Strategic Assessment), Oyu Tolgoi (Mongolia), Wildlife Conservation Society (Mongolia)

Region: Port Phillip, International (Mongolia)

Link: <https://www.ari.vic.gov.au/research/technology-and-skills/modelling/assessing-ecosystem-condition-using-expert-judgements>

Photo link: <https://www.ari.vic.gov.au/__data/assets/image/0025/570229/researchers-and-camels.jpg>

## Understanding and protecting our threatened galaxiids

Summary: For many years, researchers at ARI have been at the forefront of galaxiid research. They have led many projects to understand and conserve these small native fishes. This has included identifying new species, uncovering the details of their distribution, and helping to manage the threats of climate change, invasive species and bushfire.

Theme: Threatened species

Partners: Partners: DEECA (FFR, Biodiversity)

Region: State-wide

Link: <https://www.ari.vic.gov.au/research/threatened-plants-and-animals/understanding-and-protecting-our-threatened-galaxiids>

Photo link: <https://www.ari.vic.gov.au/__data/assets/image/0020/570242/Tapered-galaxias.jpg>

## Artificial intelligence identifies frogs – by their calls

Summary: With a leap of innovation, ARI researchers have developed sound-recognition software to identify some of Victoria’s frogs. Using deep-learning artificial intelligence, this technology has the potential to save scientists thousands of hours by listening to recordings on their behalf.

Theme: Monitoring techniques

Partners: DEECA (Forest Protection Service Program), The Living Murray and Regional Forestry Agreement Landscape Surveys Program

Region: State-wide

Link: <https://www.ari.vic.gov.au/research/field-techniques-and-monitoring/artificial-intelligence-identifies-frogs-by-their-calls>

Photo link: <https://www.ari.vic.gov.au/__data/assets/image/0028/556741/Spotted-Marsh-Frogs_Call-recognition-webpage.jpg>

## Ecological monitoring within the Victorian Murray Floodplain Restoration Project

Summary: VMFRP aims to restore ecologically significant wetlands and floodplains at nine sites along the Victorian Murray River floodplain. ARI has developed the Monitoring, Evaluation and Reporting Plan for the project and is working closely with CMAs to undertake the ecological monitoring.

Theme: Environmental water

Partners: Mallee Catchment Management Authority, MDBA, North Central CMA

Region: Loddon Mallee, Hume

Link: <https://www.ari.vic.gov.au/research/wetlands-and-floodplains/ecological-monitoring-within-the-victorian-murray-floodplain-restoration-project>

Photo link: <https://www.ari.vic.gov.au/__data/assets/image/0028/556615/Vegetation-survey-VMFRP.jpg>

## Gone Growling – listening out for the local vocal celebrity

Summary: ARI and partners are calling on Melbournians to record Growling Grass Frog calls. Community collected recordings will complement expert surveys to better understand the species distribution in urban areas.

Theme: Citizen science

Partners: DEECA (Biodiversity Division- Melbourne Strategic Assessment), Melbourne Water

Region: Port Phillip

Link: <https://www.ari.vic.gov.au/research/people-and-nature/gone-growling-listening-out-for-the-local-vocal-celebrity>

Photo link: <https://www.ari.vic.gov.au/__data/assets/image/0025/542293/Growling-grass-frog.jpg>

## Instream Woody Habitat

Summary: ARI is leading several projects assessing the importance of instream woody habitat for fish and river health. We are helping catchment managers restore rivers and their native fish populations by identifying suitable reaches for instream habitat protection or addition.

Theme: Waterway rehabilitation

Partners: VicRoads, DEECA, Victorian Fisheries Authority, Melbourne Water, Catchment Management Authorities

Region: State-wide

Link: <https://www.ari.vic.gov.au/research/waterway-management/waterway-rehabilitation/instream-woody-habitat>

Photo link: <https://www.ari.vic.gov.au/__data/assets/image/0024/543660/Reinstating-IWH.jpg>

## Nature-led Community Resilience (NLCR) Toolkit

Summary: This program is helping impacted communities to learn about how nature is responding to disasters, and to lead projects that benefit local plants, wildlife and habitats. It supports the recovery of both nature and people in Victoria.

Theme: People and nature

Partners: Zoos Victoria, RMIT, Bushfire Recovery Victoria, Victorian Government (Biodiversity Flood Recovery program), Natured Based Resilience, Biodiversity Council, City of Greater Bendigo, Community Resilience Officers Network, Conservation Volunteers Australia, Creative Recovery Network, Department of Education, DEECA, Dja Dja Wurrung Enterprises (DJANDAK), Emergency Recovery Victoria, Fire to Flourish Project, Foundation for Rural & Regional Renewal, Future Proof Project, Loddon Mallee Traditional Owner Flood Recovery Forum Working Group, Natural Hazards Research Australia, North Central Catchment Management Authority (CMA), Regional Landcare Coordinators, Victorian Landcare, Youth Advisory Council Victoria

Region: State-wide

Link: <https://www.ari.vic.gov.au/research/people-and-nature/nature-led-community-recovery>

Photo link: <https://www.ari.vic.gov.au/__data/assets/image/0020/725141/varieties/large1200w.jpg>

## Biodiversity Knowledge Framework

Summary: ARI’s built a network of models to describe how we understand our environment and the relationship of conservation actions to biodiversity. These models underpin a framework that will help informed decisions about what actions will deliver greater benefits, for more species, and across more landscapes in Victoria.

Theme: Modelling

Partners: DEECA (Biodiversity Division), University of Melbourne

Region: State-wide

Link: <https://www.ari.vic.gov.au/research/modelling/biodiversity-knowledge-framework>

Photo link: <https://www.ari.vic.gov.au/__data/assets/image/0033/529467/biodiversity-knowledge-portal_causal-model_foxes1.jpg>

## eDNA technology – an innovative survey method

Summary: The field of eDNA species detection is still new, and ARI is helping to develop the technique for Victorian species and conditions. eDNA has great potential for detecting species that are difficult and time-consuming to find, such as rare or cryptic species, as well as identifying outbreaks of pest species.

Theme: Monitoring techniques

Region: State-wide

Link: <https://www.ari.vic.gov.au/research/technology-and-skills/monitoring-techniques/edna-technology-an-innovative-survey-method>

Photo link: <https://www.ari.vic.gov.au/__data/assets/image/0025/443464/eDNA-samplingA.jpg>

## Walking with scientists VR 360

Summary: Have you ever wondered what it’s like to be a field scientist? Our 360 VR films create virtual, first-hand experiences to bring our science to life. We’ll show you a range of field techniques we use including electrofishing, small reptile surveys, trapping turtles, bird monitoring, spotlighting for arboreal mammals and infrared-camera bat surveys.

Theme:  People and nature

Region: State-wide

Link: <https://www.ari.vic.gov.au/research/people-and-nature/walking-with-scientists-vr-360>

Photo link: https://www.ari.vic.gov.au/\_\_data/assets/image/0037/483787/VR\_MudIslands\_AGeschkecrop.jpg

## Best-practice guidelines for fox management

Summary: ARI has investigated the key characteristics of successful fox control programs. This research provides an evidence-based approach in supporting land managers to achieve the best-value wildlife outcomes.

Theme: Introduced animals and plants

Partners: DEECA (Biodiversity and Forest, Fire and Regions Group), Mallee Catchment Management Authority, Parks Victoria, Conservation Ecology Centre, Trust for Nature, NSW Forestry Service

Region: State-wide

Link: <https://www.ari.vic.gov.au/research/pests-weeds-and-overabundant-species/best-practice-guidelines-for-fox-management>

Photo link: <https://www.ari.vic.gov.au/__data/assets/image/0024/483261/fox-mgt-best-practice_fox1.JPG>

## Alpine Sphagnum bogs: if we map them we can manage them

Summary: Mapping Alpine Sphagnum bogs to better protect and manage threats such as fire, weed control and feral animals.

Theme: Threatened ecosystems

Partners: Parks Victoria, Ecology Australia, Victorian Government (‘Biodiversity On-ground Action – Regional Landscapes Targeted Action’ project)

Region: Hume, Gippsland

Link: <https://www.ari.vic.gov.au/research/wetlands-and-floodplains/alpine-sphagnum-bogs-if-we-map-them-we-can-manage-them>

Photo link: <https://www.ari.vic.gov.au/__data/assets/image/0026/198413/alpine-bogs_burnt-edges-of-bog-mike-dower-806x605.jpg>

## Melbourne Strategic Assessment Program - ARI

Summary: To protect and manage threatened ecosystems on the fringes of Melbourne, ARI has been contributing to the Melbourne Strategic Assessment program from the design of the program to its implementation.

Theme: Threatened species

Partners: DEECA (Biodiversity)

Region: Port Phillip

Link: <https://www.ari.vic.gov.au/research/threatened-plants-and-animals/melbourne-strategic-assessment-program-ari>

Photo link: <https://www.ari.vic.gov.au/__data/assets/image/0033/57489/MSA_golden-sun-moth_ssinclair1.jpg>

## Waterbirds at the Western Treatment Plant

Summary: ARI has been monitoring waterbirds at the Western Treatment Plant for almost two decades to help guide management of this critical habitat.

Theme: Monitoring

Partners: Melbourne Water

Region: Port Phillip

Link: <https://www.ari.vic.gov.au/research/field-techniques-and-monitoring/waterbirds-at-the-western-treatment-plant>

Photo link: <https://www.ari.vic.gov.au/__data/assets/image/0024/58434/WTP-pink-eared-ducks-in-flight-MWC_1.jpg>

## East Gippsland foothill forests fire history - lessons for the future

Summary: A retrospective study that assessed how past fires influence the present occurrence and abundance of plants and animals in foothill forests of East Gippsland. Results will contribute to the planning of prescribed burns, including appropriate fire intervals to maintain species populations.

Theme: Bushfire

Partners: Hawkeye monitoring project, DEECA (Forest, Fire & Regions Group)

Region: Gippsland

Link: <https://www.ari.vic.gov.au/research/fire/fire-ecology-retrospective-study-looking-back-to-learn-for-the-future>

Photo link: <https://www.ari.vic.gov.au/__data/assets/image/0023/56642/fire-retro-0_5yrs-gsutter1.jpg>

## Removing trout for Barred Galaxias conservation

Summary: ARI analysed 22 years of trout survey data to determine the effectiveness of the construction and modification of instream barriers for protecting Barred Galaxias (Galaxias fuscus) populations against predation from trout species.

Theme: Threatened species

Partners: DEECA

Region: Hume

Link: <https://www.ari.vic.gov.au/research/threatened-plants-and-animals/removing-trout-for-barred-galaxias-conservation>

Photo link: <https://www.ari.vic.gov.au/__data/assets/image/0017/57500/BarredGalaxias_trout_gfuscus-traadik1.jpg>

## Burrowing crayfish post-fire surveys in Gippsland

Summary: Following the 2009 bushfires, trials were conducted in burnt and unburnt regions to determine the effect of fire on crayfish species in Gippsland and develop more effective methods for surveying these species.

Theme: Bushfire

Partners: DEECA, Parks Victoria

Region: Gippsland

Link: <https://www.ari.vic.gov.au/research/fire/new-survey-methods-and-fire-effects-on-rare-crayfish-in-gippsland>

Photo link: <https://www.ari.vic.gov.au/__data/assets/image/0031/58585/Crayfish_Engaeus-hemicirratulus-MtWorth-NP-traadik1.jpg>

## Citizen science - looking for Rainbow Lorikeets

Summary: Citizen scientists have been using the online tool “Where’s Lori?” to help monitor the distribution of Rainbow Lorikeets and their nesting sites across Victoria.

Theme: Citizen science

Partners: Monash University

Region: State-wide

Link: <https://www.ari.vic.gov.au/research/people-and-nature/citizen-science-looking-for-rainbow-lorikeets>

Photo link: <https://www.ari.vic.gov.au/__data/assets/image/0035/79298/cit-science_rainbow-lorikeet-pmenkhorst.jpg>

## Electrofishing technology

Summary: ARI have helped develop a prototype boat-mounted electrofishing unit that has the capacity to operate in saline environments such as estuaries. This innovative electrofishing unit will enable more thorough studies of estuaries to be conducted and will help fill a significant gap in worldwide fish research.

Theme: Monitoring techniques

Partners: Hans Grassi

Region: Port Phillip, Gippsland

Link: <https://www.ari.vic.gov.au/research/field-techniques-and-monitoring/electrofishing-technology>

Photo link: <https://www.ari.vic.gov.au/__data/assets/image/0032/55868/electrofishing_grassl-boat_netting1.jpg>

## Extensive new knowledge on threatened species in the Central Highlands

Summary: Scientists at ARI have been investigating the status, distribution and habitat use of ten high priority threatened fauna species to provide updated information and contribute to evidence-based policy.

Theme: Threatened species

Partners: DEECA

Region: Gippsland, Port Phillip, Hume

Link: <https://www.ari.vic.gov.au/research/threatened-plants-and-animals/extensive-new-knowledge-on-threatened-species>

Photo link: <https://www.ari.vic.gov.au/__data/assets/image/0032/55868/electrofishing_grassl-boat_netting1.jpg>

## Fish Friendly Stream Gauging Station Program

Summary: The Fish Friendly Stream Gauging Station Program is assessing stream gauges across Victoria to determine how much of a barrier each presents for native fish throughout Victoria’s riverine network.

Theme: Waterway rehabilitation

Partners: DEECA (Water and Catchments), CMAs, water authorities and Bureau of Meteorology

Region: State-wide

Link: <https://www.ari.vic.gov.au/research/rivers-and-estuaries/fish-friendly-stream-gauging-station-program>

Photo link: <https://www.ari.vic.gov.au/__data/assets/image/0020/421904/stream-gauges_fishway-janicetaylor1.jpg>

## Genetic health of native fish

Summary: ARI is exploring how we can target environmental water delivery to enhance population connectivity to boost the genetic health of native fish populations.

Theme: Freshwater wildlife

Partners: DEECA, La Trobe University, University of Melbourne, North Central Catchment Management Authority (CMA), Goulburn Broken CMA, South Australian Research and Development Institute, and New South Wales Department of Primary Industries

Region: Hume, Loddon Mallee

Link: <https://www.ari.vic.gov.au/research/rivers-and-estuaries/genetic-health-of-native-fish>

Photo link: <https://www.ari.vic.gov.au/__data/assets/image/0025/392065/fish-genetics_murray-cod-crop.jpg>

## Finbox – a demonstration reach toolkit

Summary: A Demonstration Reach is a proven river restoration model. ARI and partners have developed a river restoration toolbox, called Finbox, to provide valuable resources for all those interested in river restoration.

Theme: Waterway rehabilitation

Partners: Murray-Darling Basin Authority

Region: Australia

Link: <https://www.ari.vic.gov.au/research/waterway-management/waterway-rehabilitation/finbox>

Photo link: <https://www.ari.vic.gov.au/__data/assets/image/0027/56547/finbox_toolbox1.jpg>

## Rabbit biological control

Summary: ARI is testing new ways of analysing Rabbit Haemorrhagic Disease Virus (RHDV) molecular data and assessing how accurately the spread of different RHDV strains can be predicted. This study will be the foundation for the fine-tuning of RHDV as a method for reducing the economic and environmental impacts of feral rabbits in Australia.

Theme: Introduced animals and plants

Partners: CSIRO, University of Auckland and the Western Australian Department of Agriculture and Food

Region: Australia

Link: <https://www.ari.vic.gov.au/research/pests-weeds-and-overabundant-species/rabbit-biological-control>

Photo link: <https://www.ari.vic.gov.au/__data/assets/image/0024/57813/rabbit-RHDV_animal-dramsey1.jpg>

## Weed control in threatened native grasslands

Summary: As part of a cross-agency partnership, a herbicide control program has been applied to a series of roadside and rail line grasslands for several years. During this time, ARI has been closely monitoring the grasslands to measure its effective at improving native grassland quality.

Theme: Introduced animals and plants

Partners: Glenelg Hopkins Catchment Management Authority (CMA), Corangamite CMA, DEECA (Forest, Fire and Regions Group), CFA, local councils, VicRoads, VicRail and private contractors.

Region: Barwon South West

Link: <https://www.ari.vic.gov.au/research/pests-weeds-and-overabundant-species/weed-control-in-threatened-native-grasslands>

Photo link: <https://www.ari.vic.gov.au/__data/assets/image/0021/57810/grassland-weeds_Phalaris-aquatica-bfarmilo1.jpg>

## Using models to help manage the impacts of Carp

Summary: ARI has developed a population model that is being used to quantify how carp populations may respond to a variety of flows, including natural flows, environmental watering and irrigation flows.

Theme: Introduced animals and plants

Partners: Murray-Darling Basin Authority

Region: Australia

Link: <https://www.ari.vic.gov.au/research/pests-weeds-and-overabundant-species/using-models-to-help-manage-the-impacts-of-carp>

Photo link: <https://www.ari.vic.gov.au/__data/assets/image/0030/57819/carp-models_carp-csharpe1.jpg>

## National emergency response system for freshwater fish incursions

Summary: ARI has been involved in a national project reviewing current management of freshwater fish incursions and recommending ways to progress the establishment of national emergency response arrangements for freshwater fish incursions in Australia.

Theme: Introduced animals and plants

Partners: Invasive Animals Cooperative Research Centre

Region: Australia

Link: <https://www.ari.vic.gov.au/research/pests-weeds-and-overabundant-species/national-emergency-response-system-for-freshwater-fish-incursions>

Photo link: <https://www.ari.vic.gov.au/__data/assets/image/0026/57851/fish-incursions_carp-removed-ovens-ghackett1.jpg>

## Assessing stock management practices on remnant vegetation in the Mallee

Summary: ARI has developed and field tested a monitoring protocol and designed a long-term monitoring strategy that assesses the impact of Stock Containment Areas and stock exclusion fencing on the quality of priority remnant vegetation.

Theme: Introduced animals and plants

Partners: Mallee Catchment Management Authority

Region: Loddon Mallee

Link: <https://www.ari.vic.gov.au/research/field-techniques-and-monitoring/assessing-stock-management-practices-on-remnant-vegetation-in-the-mallee>

Photo link: <https://www.ari.vic.gov.au/__data/assets/image/0022/56542/mallee-stock-mgt_vege-survey-mduncan1.jpg>

## Improving semi-arid non-eucalypt woodland condition

Summary: ARI has developed a long-term monitoring program to measure the progress of Parks Victoria’s grazing management plan, which aims to improve the condition of semi-arid woodlands.

Theme: Monitoring

Partners: Parks Victoria, Mallee Catchment Management Authority, DEECA

Region: Loddon Mallee

Link: <https://www.ari.vic.gov.au/research/field-techniques-and-monitoring/health-of-semi-arid-non-eucalypt-woodlands>

Photo link: <https://www.ari.vic.gov.au/__data/assets/image/0035/490787/semiarid-woodlands_buloke-measuring.jpg>

## Camera Trapping

Summary: ARI has been using automated cameras to conduct mammal surveys for many years. We have used cameras to detect the presence of threatened and introduced species, obtain estimates of detection probability and document mammal behaviour and interactions.

Theme: Monitoring

Region: State-wide

Link: <https://www.ari.vic.gov.au/research/field-techniques-and-monitoring/camera-trapping>

<https://www.youtube.com/watch?v=d_CEEjupGT4>

Photo link: <https://www.ari.vic.gov.au/__data/assets/image/0026/55871/heat_motion-cameras_insitu1.jpg>

## Waterbird surveys in a large, tidal bay

Summary: ARI has been conducting surveys in the North Arm of Western Port to estimate how many birds, and which species, were using the area, and what habitats were important.

Theme: Monitoring

Region: Port Phillip

Link: <https://www.ari.vic.gov.au/research/field-techniques-and-monitoring/waterbird-surveys-in-a-large,-tidal-bay>

Photo link: <https://www.ari.vic.gov.au/__data/assets/image/0027/55863/waterbird-surveys_telescope-tobrien1.jpg>

## Population modelling software

Summary: 'Essential' modelling software provides a platform for developing stochastic population models that allow for wildlife management policies to be assessed and compared quantitatively. Essential has been used to provide management assessment on a number of terrestrial and aquatic species such as Leadbeater's Possum, Koala and Murray Cod.

Theme: Modelling

Region: State-wide

Link: [**https://www.ari.vic.gov.au/research/modelling/population-modelling-software**](https://www.ari.vic.gov.au/research/modelling/population-modelling-software)

Photo link: <https://www.ari.vic.gov.au/__data/assets/image/0015/55014/Essentail-graph.jpg>

## Mapping vegetation extent and condition

Summary: ARI staff have been developing a range of novel datasets to assist land managers to make informed decisions about the management of native vegetation and conservation programs.

Theme: Modelling

Region: State-wide

Link: [**https://www.ari.vic.gov.au/research/modelling/mapping-vegetation-extent-and-condition**](https://www.ari.vic.gov.au/research/modelling/mapping-vegetation-extent-and-condition)

Photo link: <https://www.ari.vic.gov.au/__data/assets/image/0025/55852/vege-condition_vic-map-gnewell1.jpg>

## Wetland connectivity

Summary: ARI is undertaking an assessment of wetland habitat connectivity at the state-wide scale to inform wetland policy development

Theme: Waterway rehabilitation

Partners: DEECA

Region: State-wide

Link: <https://www.ari.vic.gov.au/research/wetlands-and-floodplains/wetland-connectivity>

Photo link: https://www.ari.vic.gov.au/\_\_data/assets/image/0028/57682/wetland-connectivity\_vege-kmorris1.jpg

## Vegetation response to environmental watering at Hattah Lakes

Summary: ARI has been monitoring the response of three plant communities (Lake Bed wetlands, River Red Gum and Black Box woodlands) to environmental watering to assess the success of an environmental watering program that began in 2005, and inform future water deliveries.

Theme: Environmental water

Partners: DEECA, Victorian Environmental Water Holder, Murray Darling Basin Authority, Mallee Catchment Management Authority.

Region: Loddon Mallee

Link: <https://www.ari.vic.gov.au/research/wetlands-and-floodplains/vegetation-response-to-environmental-watering-at-hattah-lakes>

Photo link: https://www.ari.vic.gov.au/\_\_data/assets/image/0015/501054/hattah-watering\_LakeNipNip\_Nov2017\_2.JPG

## A guide to livestock grazing on wetlands

Summary: ARI, in collaboration with environmental consultants and wetland specialists, have developed a guide to assist wetland practitioners identify grazing options and understand the potential benefits and impacts of grazing in wetlands.

Theme: Waterway rehabilitation

Partners: DEECA (Water & Catchments), Catchment Management Authorities, wetland specialists

Region: State-wide

Link: <https://www.ari.vic.gov.au/research/wetlands-and-floodplains/a-guide-to-livestock-grazing-on-wetlands>

Photo link: <https://www.ari.vic.gov.au/__data/assets/image/0030/57657/wetland-grazing_cattle-kmorris1.jpg>

## Native Fish Guide for Coastal Victoria

Summary: The 'Guide to the Management of Native Fish: Victorian Coastal Rivers and Wetlands' provides information on fish biology and habitat requirements for native fish. The guide supports local natural resource managers with various aspects of fish management.

Theme: Freshwater wildlife

Partners: The National Heritage Trust

Region: Barwon South West, Port Phillip, Gippsland

Link: <https://www.ari.vic.gov.au/research/waterway-management/freshwater-wildlife/native-fish-guide-for-coastal-victoria>

Photo link: <https://www.ari.vic.gov.au/__data/assets/image/0023/55814/native-fish-plan-black-bream-rudi-kuiter1.jpg>

## Lower Snowy River fish monitoring

Summary: Summary: In 2013, ARI commenced four integrated programs to help inform and improve management of the lower Snowy River and associated wetlands. These programs will investigate environmental flows, native fish, wetland biota and habitat connectivity.

Theme: Freshwater wildlife

Partners: East Gippsland Catchment Management Authority, Parks Victoria

Region: Gippsland

Link: <https://www.ari.vic.gov.au/research/rivers-and-estuaries/lower-snowy-river-monitoring-and-assessment>

Photo link: <https://www.ari.vic.gov.au/__data/assets/image/0022/55714/snowy-river-monitoring_aerial-ppapas2.jpg>

## The Native Fish Strategy

Summary: ARI was a key partner in the development of the Native Fish Strategy, through a suite of research projects and working with other partners in implementing on ground actions. Research projects included new population modelling approaches, non-lethal methods to discriminate between wild and stocked fish and integrated river rehabilitation.

Theme: Freshwater wildlife

Partners: Murray Darling Basin Authority

Region: Australia

Link: <https://www.ari.vic.gov.au/research/rivers-and-estuaries/the-native-fish-strategy>

Photo link: <https://www.ari.vic.gov.au/__data/assets/image/0024/55707/native-fish-strategy_replanting-fhamesA.jpg>

## Helping Platypus Recover

Summary: ARI is collaborating with conservation groups and management agencies to help protect the platypus in Victoria. These projects range from comprehensive threat analysis to state-wide mapping of instream barriers which might affect platypus movement.

Theme: Threatened species

Partners: Australian Government (Natural Heritage Trust), the Victorian Government, Melbourne Water, One Tree Planted, Ballarat City Council, Coliban Water, Zoos Victoria, catchment management authorities, Australian Platypus Conservancy, Traditional Owners, Parks Victoria and Landcare.

Region: State-wide

Link: <https://www.ari.vic.gov.au/research/threatened-plants-and-animals/helping-platypus-recover>

Photo link: <https://www.ari.vic.gov.au/__data/assets/image/0028/594046/Platypus-Buffalo-R.jpg>

## Murray River resnagging

Summary: ARI scientists conducted a seven-year monitoring program to assess the effectiveness of a large-scale habitat restoration program at increasing fish populations along the Murray River. To date, this is the largest resnagging and restoration project of its kind within Australia.

Theme: Waterway rehabilitation

Partners: Murray-Darling Basin Authority

Region: Hume

Link: <https://www.ari.vic.gov.au/research/waterway-management/waterway-rehabilitation/murray-river-resnagging>

Photo link: <https://www.ari.vic.gov.au/__data/assets/image/0022/55705/resnagging_murrycod-jlyonA.jpg>

## Growth response of native fish to flows

Summary: ARI scientists examined the links between flow regimes and the growth of long-lived native fish. Research outcomes provide support and guidance for the effective use of environmental water to enhance fish populations.

Theme: Environmental water

Partners: Murray-Darling Basin Authority

Region: Hume

Link: <https://www.ari.vic.gov.au/research/rivers-and-estuaries/growth-response-of-native-fish-to-flows>

Photo link: <https://www.ari.vic.gov.au/__data/assets/image/0019/55702/fish-growth-flows_otolith-ztonkin.jpg>

## Victorian Demonstration Reach Program

Summary: A rehabilitation program targeted at specific stretches of river, referred to as a 'Demonstration Reach' has been established to increase fish populations and improve fish habitat. Another aim of the program is to involve the community in rehabilitating waterways and to show how this can improve river health.

Theme: Waterway rehabilitation

Partners: Murray-Darling Basin Authority

Region: Hume

Link: <https://www.ari.vic.gov.au/research/rivers-and-estuaries/victorian-demonstration-reach-program>

<https://www.youtube.com/watch?v=H517M7aMkf4>

<https://www.youtube.com/watch?v=D-gjqJUq-6M>

Photo link: <https://www.ari.vic.gov.au/__data/assets/image/0024/55167/demo-reach_carp-people-fhames.JPG>

## Fishways and fish movement

Summary: ARI is working closely with Catchment Management Authorities, water authorities and the community to reconnect rivers across Victoria with the aim of helping to improve native fish populations.

Theme: Waterway rehabilitation

Partners: DEECA (Water & Catchments)

Region: State-wide

Link: <https://www.ari.vic.gov.au/research/rivers-and-estuaries/fishways-and-fish-movement>

Photo link: <https://www.ari.vic.gov.au/__data/assets/image/0026/55655/fishways_rocks-joconnor.jpg>

## Rainforests: will they cope with a changing fire regime?

Summary: ARI has completed a research project to determine how Cool Temperate Rainforest in the Yarra Ranges National Park had fared ten years after the fires of 2009.

Theme: Bushfire

Partners: Parks Victoria

Region: Port Phillip

Link: <https://www.ari.vic.gov.au/research/fire/rainforests-will-they-cope-with-a-changing-fire-regime>

Photo link: <https://www.ari.vic.gov.au/__data/assets/image/0023/442661/CoolTempRain_mrytlebeech-resprout_mkohout.jpg>

## Genetic management of threatened species breeding programs and translocations

Summary: ARI has led several collaborative projects exploring genetic diversity dynamics and that aim to improve how models can inform the design of translocations, including establishing meaningful quantitative targets to measure success.

Theme: Threatened species

Partners: Murdoch University and the Western Australian Department of Biodiversity Conservation and Attractions

Region: Australia

Link: <https://www.ari.vic.gov.au/research/threatened-plants-and-animals/genetic-management-of-threatened-species-breeding-programs-and-translocations>

Photo link: <https://www.ari.vic.gov.au/__data/assets/image/0027/476307/genetics_translocations_woylie_SabrinaTrocini1.jpg>

## Tracking turtles to determine impacts of water for the environment

Summary: ARI is studying the impact of flow regimes on turtle movement and habitat use within the floodplains of Barmah-Millewa Forest, with a focus on the threatened Murray River Turtle.

Theme: Environmental water

Partners: Murray-Darling Basin Authority, Goulburn Broken Catchment Management Authority, NSW Parks and Wildlife Service

Region: Hume

Link: <https://www.ari.vic.gov.au/research/wetlands-and-floodplains/tracking-turtles-to-determine-impacts-of-water-for-the-environment>

Photo link: <https://www.ari.vic.gov.au/__data/assets/image/0028/500788/turtle_tracking_return.jpg>

## Restoring Black Box Wetlands

Summary: Through a coordinated suite of projects, ARI scientists have been monitoring changes in Black Box woodlands in response to environmental watering and other restoration actions.

Theme: Environmental water

Partners: DEECA, Murray-Darling Basin Authority, Mallee Catchment Management Authority and Parks Victoria

Region: Loddon Mallee

Link: <https://www.ari.vic.gov.au/research/wetlands-and-floodplains/restoring-black-box-woodlands>

Photo link: <https://www.ari.vic.gov.au/__data/assets/image/0023/514418/restoreBlackBox_healthy1.jpg>

## MSA - Population viability analysis models for threatened species

Summary: ARI is contributing to the Melbourne Strategic Assessment (MSA) Program in multiple ways, including developing population viability analysis (PVA) models for nine priority threatened species such as the Button Wrinklewort (Rutidosis leptorrhynchoides) and Golden Sun Moth (Synemon plana).

Theme: Modelling

Partners: DEECA, species’ experts and land managers

Region: Port Phillip

Link: <https://www.ari.vic.gov.au/research/modelling/msa-population-viability-analysis-models-for-threatened-species>

Photo link: <https://www.ari.vic.gov.au/__data/assets/image/0022/435091/MSA_PVA_button-wrinklewort-ssinclair1.jpg>

## Assessing the conservation benefits of revegetation

Summary: ARI has completed research to understand how revegetation contributes to nature conservation by examining bird and butterfly communities. A monitoring method to evaluate how well revegetation goals are being achieved has also been developed.

Theme: Monitoring

Partners: La Trobe University, land managers, non-government agencies and community groups

Region: State-wide

Link: <https://www.ari.vic.gov.au/research/field-techniques-and-monitoring/assessing-the-conservation-benefits-of-revegetation>

<https://www.youtube.com/watch?v=62U9xVB0HDA&feature=youtu.be>

Photo link: <https://www.ari.vic.gov.au/__data/assets/image/0015/500460/revegetation-benefits_plantingsA.jpg>

## Determining the population structure of feral pigs using genetics

Summary: ARI is co-leading a project that is using genetic profiling to determine the population structure of feral pigs across south-east Australia for improved control.

Theme: Introduced animals and plants

Partners: Agriculture Victoria (Animal Health and Welfare Unit) and public land managers across Victoria, New South Wales and South Australia

Region: Australia

Link: <https://www.ari.vic.gov.au/research/pests-weeds-and-overabundant-species/determining-the-population-structure-of-feral-pigs-using-genetics>

Photo link: <https://www.ari.vic.gov.au/__data/assets/image/0032/466259/pig-genetics_survey-camera-animal.jpg>

## Birding is better when we work together

Summary: In partnership with Birdlife Australia, ARI is looking for citizen scientists to help us investigate how birds respond to water for the environment. We're learning what their preferred water regime and habitat is. If you are a bird observer, help us to document birdlife in some of Victoria’s key wetlands. See the link below for how to get involved.

Theme: Citizen science

Partners: DEECA, BirdLife Australia, BirdLife Goulburn Broken, Goulburn Broken Catchment Management Authority (CMA) and North Central CMA.

Region: Hume, Loddon Mallee

Link: <https://www.ari.vic.gov.au/research/people-and-nature/birding-is-better-when-we-work-together>

Photo link: <https://www.ari.vic.gov.au/__data/assets/image/0026/456830/wetmap-birds-cit-sci_Shepparton-treatment-plant1.jpg>

## Victorians Value Nature

Summary: Summary: In late 2018, DEECA conducted the first state-wide survey (the Victorians Value Nature Foundation Survey) to understand the Victorian public’s level of connection to nature, awareness of biodiversity and activity levels of pro-environmental behaviour. The results will guide our next steps includes making opportunities for people to act for nature more visible, accessible and fun for all Victorians.

Theme: People and nature

Partners: DEECA, local governments, nature-based agencies, Traditional Owners and Aboriginal communities, Victorian and international research groups, and community groups

Region: State-wide

Link: <https://www.ari.vic.gov.au/research/people-and-nature/victorians-value-nature>

Photo link: <https://www.ari.vic.gov.au/__data/assets/image/0021/443505/vic-value-nature_globe-drawing.jpg>