

What we do

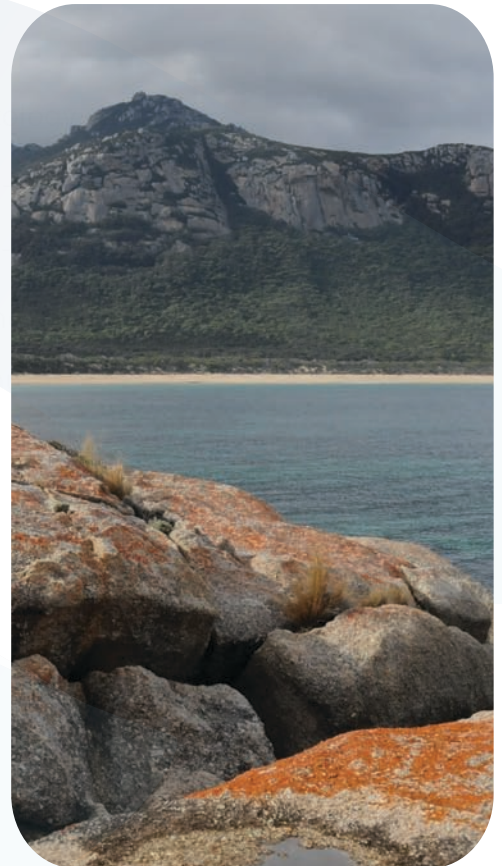
Elgin Associates provides high quality environmental consulting services in coastal, marine and freshwater environments. Our core services include:

- * Marine Ecology Surveys
- * Freshwater Ecology and Water Quality Assessments
- * Environmental Assessments - Land, Sediments and Groundwater
- * Coastal and Estuarine Assessments
- * Microscopy and Taxonomy Services
- * Marine Technical Services - Scientific Diving and Support Vessels

About Us

Formed in 2007, Elgin Associates brings together expertise developed from a strong background in research and industry. The genesis of Elgin Associates goes back to the mid 1990s when its three principal scientists - Dr Luke Finley, Andrew Roberts and Dr Nicholas Yee were at university. Project teams are led by these principal scientists who maintain a 'hands on' approach through all stages of a project, including fieldwork, data analysis and reporting to deliver projects with innovative but practical solutions on time and on budget.

Elgin Associates are based on the eastern seaboard with offices in New South Wales, Tasmania and Victoria, and undertake projects across Australia and overseas. We have successfully worked on a range of complex projects for private industry and all levels of government, both as lead consultant and as part of collaborative teams. We have a strong safety culture and our OH&S policies and procedures and qualifications have been accredited by a third party independent assessor.



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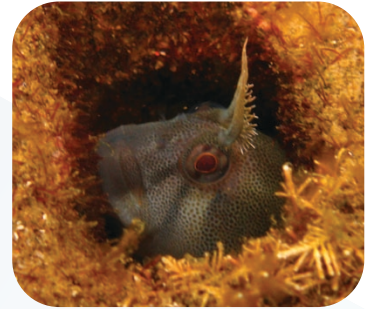
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Elgin Associates specialise in marine ecological assessments, including biological monitoring and baseline biodiversity surveying of marine communities, habitat mapping, and targeted surveys for marine pest incursions. We undertake preliminary to multi-staged site assessments for marinas, ports and harbours. Elgin scientists are ADAS accredited divers and diving work is conducted in accordance with the Australian Standard for occupational diving AS2299:2.

- survey design, implementation and statistical analysis;
- baseline biodiversity studies, including biological monitoring programs for the detection of environmental impacts;
- non-destructive survey methods including still photography and underwater video;
- benthic sediment sampling for biological and physical classification;
- water quality sampling and testing;
- taxonomic identification of marine plants and animals;
- assessments of threatened marine species;
- habitat mapping using GIS techniques, and;
- marine ecology education for schools and community groups.



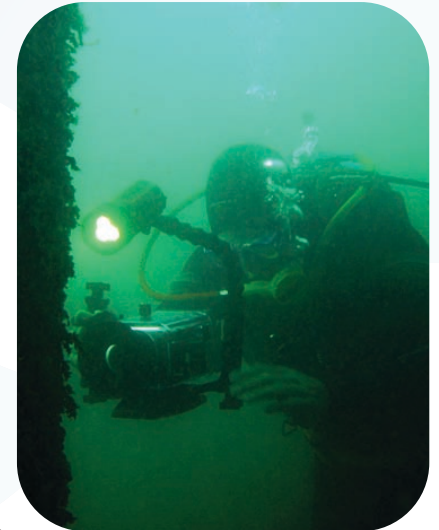
Our services are applicable to marine algae, fish, invertebrates, marine mammals, seabirds, benthic sediments, and water quality. Elgin maintains two vessels in commercial survey that provide excellent platforms for all marine assessments.

Recent projects include:

Queenscliff Harbour: Survey of Introduced Marine Pests and Sediment and Water Quality Monitoring at the Queenscliff Harbour redevelopment site in Victoria. For Compass Environmental and Draper Civil Constructions;

Beaumaris Motor Yacht Squadron, Victoria: Survey of sea floor for internationally significant fossils at a proposed redevelopment site. For Landserv;

Merimbula Bay Deepwater Survey: Survey of reef habitats in Merimbula Bay, NSW to identify algal species that may be contributing to algal blooms. For Bega Valley Shire Council;



Preparation of two Issues Papers for the review of Grey Nurse Shark and White Shark Recovery Plans, with Latitude 42 Environmental Consulting. For Dept of Sustainability, Environment, Water, Population and Communities, and;

Preparation of a National Assessment Report for Reducing the Incidental Catch of Seabirds in Longline Fisheries, with Latitude 42 Environmental Consulting. For Bureau of Rural Sciences (BRS).

Members of: Australian Marine Sciences Association (AMSA); Australian Society for Phycology and Aquatic Botany (ASPAB); Environment Institute of Australia and New Zealand (EIANZ), and; Professional Association of Diving Instructors (PADI).

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COASTAL AND ESTUARINE MONITORING

Elgin Associates has extensive project experience working in coastal environments including studies of Ramsar wetlands, and monitoring in coastal waters and estuaries. Our services include:

- Flora and fauna studies;
- Estuary water quality monitoring – effects of eutrophication;
- Estuary process studies – investigations of physical processes and biological communities;
- Habitat mapping – seagrass, saltmarsh and mangroves, and;
- Impact studies investigating the effects of anthropogenic disturbance eg. dredging works during harbour developments.



Recent projects include:

Ecological Character Description (ECD) of a 2,300 Ha Ramsar wetland on Flinders Island, Tasmania, that will be used to assess its change over time. The ECD describes the ecology and setting, identifies issues and threats, sets limits of acceptable change and recommends management measures for the site. For the Department of Sustainability, Environment, Water, Population and Communities;

Bega River Estuary Algal Bloom Monitoring: Collection and taxonomic evaluation of bloom species composition and monitoring of water quality parameters over the life of algal bloom events. For Bega Valley Shire Council;

Environmental monitoring of coastal lakes and lagoons in the Bega Valley Shire using Monitoring Evaluation Reporting (MER) protocols of the NSW Office of Environment and Heritage. Water quality and algae occurrence and composition are monitored as key indicators of estuarine condition. For Bega Valley Shire Council;

Investigation of seasonal algal blooms along the far South Coast of NSW: Analysis of water and macroalgal samples for nitrogen stable isotopes ($\delta^{15}\text{N}$ signatures) to identify sources of nitrogen that may contribute to seasonal algal blooms. For NSW Office of Environment and Heritage, and Bega Valley Shire Council, and;

Preparation of Natural Values Report for Batemans Marine National Park (NSW). Report on the physical and ecological values of the Batemans Marine Park. For NSW Office of Environment and Heritage.



Elgin Associates staff are members of: Australian Marine Sciences Association (AMSA); Australian Society for Phycology and Aquatic Botany (ASPAB); Australasian Land and Groundwater Association (ALGA), and; Environment Institute of Australia and New Zealand (EIANZ).

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FRESHWATER ECOLOGY AND WATER QUALITY

Elgin Associates conduct freshwater ecology and water quality projects in a variety of inland aquatic environments including rivers, floodplains, wetlands, and urban streams. Our services include:

- Catchment water quality monitoring;
- Flora and fauna surveys;
- Assessment of contaminants on freshwater ecosystems;
- Sediment quality assessments;
- Assessment of stream health using Rapid Bio-Assessment methodology to survey macro-invertebrate communities, also known as AUSRIVAS – Australian River Assessment System;
- Riparian and wetland condition assessments, and;
- Assessment of artificial wetlands to improve water quality.



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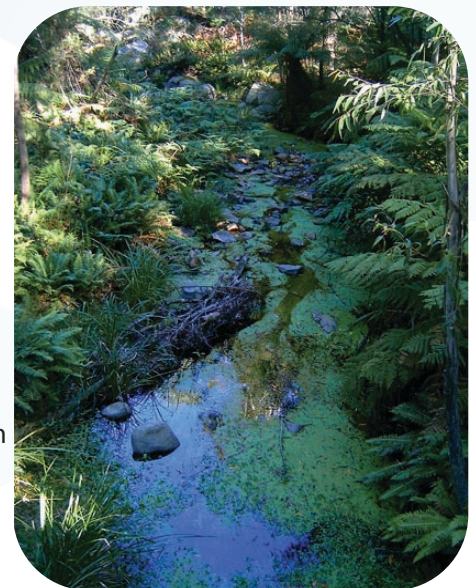
Melbourne Airport Water Quality Monitoring Program: Water quality monitoring of stormwater discharge from Melbourne Airport and receiving waterways using EPA Victoria Rapid Bioassessment methodology. For Australian Pacific Airports;

Wimmera River Water Monitoring Program: Surface water quality monitoring in western Victoria to assist catchment managers on the river health issues that include salinity and nutrient runoff. For Wimmera Catchment Management Authority;

Beaconsfield Gold Mine Wetlands Assessment: Investigation of the performance of a constructed wetlands system used to treat mine water, tailings decant and town stormwater prior to its discharge into Tamar estuary. For Allstate Exploration and Coffey Environments;

Watson Creek Water Quality and Ecological Monitoring: Monitoring as part of catchment management efforts to improve water quality and environmental values of Watson creek, which flows into Yaringa Marine National Park in Western Port Bay. For Mornington Peninsula and Western Port Biosphere Foundation, and;

Macquarie Marshes Ramsar wetland - Floodplain Vegetation Survey: Surveys of river red-gum health and understorey vegetation in areas of the northern and southern reserves using field protocols developed for the Sustainable Rives Audit. For University of New South Wales.



Elgin Associates staff are members of the Environment Institute of Australia and New Zealand (EIANZ) and the Australasian Land and Groundwater Association (ALGA).



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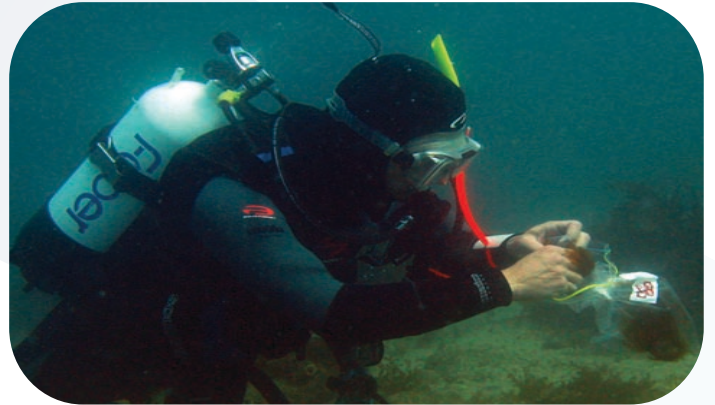
MARINE TECHNICAL SERVICES

SCIENTIFIC DIVING

Elgin Associates diving personnel are highly qualified and experienced marine scientists, technically skilled in planning and executing fieldwork in sub-tidal marine environments. Marine projects that require divers are undertaken in accordance with the requirements of Australian Standard 2299.2 Occupational Diving Operations – Scientific Diving (AS2299.2, 2002). Our divers are accredited under the Australian Diving Accreditation Scheme Part 1 - Scientific Diving (ADAS 2815.1).

Our team of marine scientists can plan and conduct sub-tidal projects that include:

- Habitat and visual census surveys;
- Habitat mapping, especially algae;
- Biota sampling;
- Marine pest surveys;
- Transect and quadrat surveys;
- Underwater video surveys and underwater still photography;
- Benthic sediment sampling by grab or coring methods, and;
- Air-Lift - custom-made pneumatic vacuum that can rapidly sample or remove sediments and other debris from the seabed.



Elgin Associates staff are members of Shipping Australia, Australian Marine Sciences Association (AMSA), Diver Alert Network (DAN) and Professional Association of Diving Instructors (PADI).

WORKBOATS AND COXSWAINS

Elgin Associates operate two commercial workboats to facilitate our diving and survey work in coastal and inshore waters. Skippered by our coxswains, these workboats are available to other organisations for scientific or general purpose work.

Stabicraft 6m Aluminium Workboat 'Draughtsman'

This workboat has a range of applications in coastal and inshore waters, including diving, sediment sampling, pollution response wildlife observation/tagging, instrument deployment/retrieval, sample logging and water quality monitoring. This vessel is maintained in 2C(R) commercial survey.



Zodiac 4.2m Inflatable Workboat 'Elgi'

This workboat is ideal for survey work in shallow waters such as embayments, estuaries, lakes and rivers. The boat can be used for a range of applications including diving, water quality monitoring, sediment sampling and wildlife observation. It can be inflated and launched from most shorelines without the need for a boat ramp. The boat is maintained in 2D/2E commercial survey.



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ENVIRONMENTAL ASSESSMENTS LAND, SEDIMENT AND GROUNDWATER

Elgin Associates has extensive experience in environmental site assessment, remediation and risk management for audit or due diligence purposes.

Our services include:

- Phase 1 Environmental Site Assessments to establish site history, site setting and identify contaminants of potential concern;
- Phase 2 Environmental Site Assessments to assess soil and groundwater quality across a site and to form a conceptual model on the extent of contamination, routes of exposure, and potential receptors at risk;
- Site remediation and validation, including removal of underground fuel tanks, validation of excavations, and classification of contaminated soils for treatment or disposal;
- Groundwater quality monitoring of the status and changes to contaminant plumes, including assessment of risk to groundwater users and receiving surface waters;
- Preparation of Environmental Management Plans for site construction works and ongoing site operations, and;
- Sediment quality assessments for Ports and Harbour works and assessing impacts from groundwater discharge zones, stormwater drainage and mine dewatering processes.



Recent projects include:

Regional and targeted groundwater monitoring events in the Melbourne Ports Precinct, for Port of Melbourne Corporation;

Lease due diligence environmental site assessment, Anderson Road, West Melbourne, for Port of Melbourne Corporation;

Sediment quality monitoring during harbour redevelopment works of Queenscliff Harbour, Victoria, for Draper Civil Construction and Compass Environmental;

Sediment quality assessment of a wetland system constructed to treat mine wastewater, Beaconsfield, Tasmania, for Allstate Exploration and Coffey Environments;

Elgin Associates staff are members of the Environment Institute of Australia and New Zealand (EIANZ) and the Australasian Land and Groundwater Association (ALGA).



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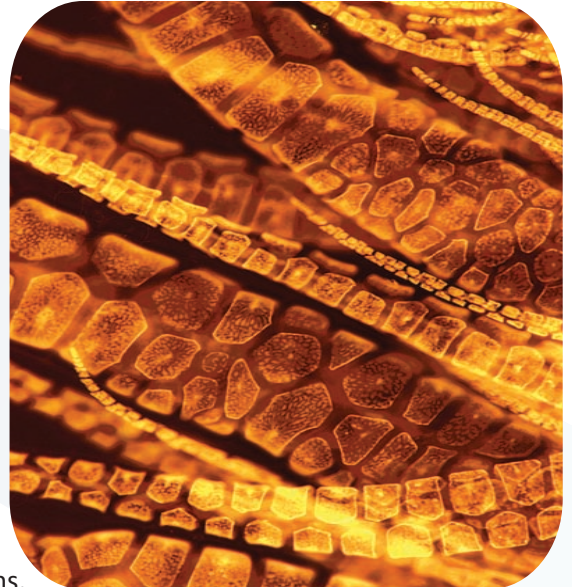
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MICROSCOPY AND TAXONOMY

Elgin Associates personnel are highly qualified and experienced in light microscopy, including the identification of marine, estuarine and freshwater biota. Our New South Wales office has a biological laboratory where specimen identification and taxonomic work is conducted. This laboratory is equipped with microscopes, digital imaging tools, taxonomic references, and an in-house reference collection.

We can also archive specimen reference collections for projects that require historical documentation such as baseline ecological surveys. Elgin use specimen curation procedures that follow standard museum and herbarium protocols for labeling, preservation and recording.

Our laboratory provides specialist taxonomic services for marine and freshwater algae and can provide taxonomic QA/QC to other organisations.



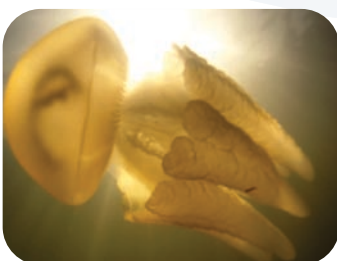
Our identification services include:

Freshwater biota

- Macroalgae and phytoplankton
- Riparian and aquatic plants
- Stream macro-invertebrates
- Amphibians

Estuarine, Coastal and Marine biota

- Specialising in macroalgae
- Seagrasses, mangroves, saltmarsh communities
- Fish assemblages
- Invertebrate communities – benthic infauna, epifauna, and sessile invertebrates of beaches, rocky reefs and artificial structures.



Our biological identification and laboratory services are directed by Principal Scientist Dr Nicholas Yee, who holds a PhD in macroalgal taxonomy and biodiversity and is accredited by EPA Victoria in the identification of stream macro-invertebrates to family level. Expertise in marine invertebrate fauna and amphibians is provided by Dr Luke Finley and Michelle Love.

Elgin Associates are members of the Australian Systematic Botany Society (ASBS), Phycological Society of America (PSA) and Australian Marine Sciences Association (AMSA).

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