

AQUACULTURE SCIENCE AND TECHNOLOGY CAREER SNAPSHOT

Study Opportunities

Considering studying Aquaculture at JCU? Then check out

[Aquaculture - JCU Australia](#)

Clarify your study goals

Prepare yourself for the new world of work by exploring the careers that match your skills and interests.

[The Good Careers Guide](#)

Graduate Opportunities

Australia's marine environment is the world's third largest marine jurisdiction at 13.86 million square kilometres¹ (including 8M sq. km Australian Fishing Zone), however, due to relatively low biological productivity, Australia is a minor producer of fisheries products⁴.

In 2022 world aquaculture and fisheries production recorded 214 million tonnes of live weight², while in Australia the wildcatch volume was 172,657 tonnes and aquaculture volume increased by 24% to 131,578 tonnes amounting to a total of AU\$3.09 billion³. The size of employment in aquaculture and fishing across Australia is estimated at 10,000 individuals working in wild-catch fisheries and 7,000 people employed in aquaculture³ with Tasmania remaining the largest employing state. You will find more comprehensive information in the [Australian fisheries and aquaculture statistics](#) compiled by the Department of Agriculture and Water Resources ABARES (accessed August 2023) and on IBISWorld ([Industry Report Aquaculture in Australia](#)) available for free access through the JCU Library website.

JCU is one of the leading aquaculture research and innovation institutions in the world with institutes such as [Marine and Aquaculture Research Facility](#), [Sustainable Tropical Fisheries and Aquaculture](#) and a number of partnerships such as [International Center for Biosaline Agriculture](#) in the UAE, [Tropical Futures Institute](#) or [Aquaculture Innovation Centre](#) in Singapore offers ample opportunities to build your cutting edge knowledge and develop current practical skills.

The course focuses on tropical species including shrimp/prawns, pearl oysters, groupers, crabs and barramundi production. You will learn about aquaculture principles and practices, species farmed, aquatic animal ecophysiology, design of aquaculture systems, feeding and nutrition, pathobiology, propagation techniques, stock improvement, and sustainable aquaculture practices.

A career in aquaculture offers work that is both practical and highly strategic with your days comprising a mixture of managing animals and organisms, leading research projects, collecting field data analysing samples and contributing to new discoveries.

All sources below were accessed on 08/23.

¹ [Australia State of Environment: Marine Environment](#)

² [2022 The State of World Fisheries and Aquaculture](#)

³ [ABARES, Employment – Fast Facts](#)

⁴ [ABARES: Snapshot of Australia's commercial fisheries and aquaculture](#)

Aquaculture Science and Technology can lead to work in hatcheries, grow-out production, aquaculture supply companies, developing stock nutrition programs, designing water supply systems, research and development programs - or in the many aligned industries and government bodies servicing aquaculture including planning, strategy and policy development, teaching and trade.

You could be employed as a supervisor, technical manager or chief operations manager in pearl cultivation, or producing luxury foods such as oysters, prawns and finfish, or pursue research with organisations such as CSIRO developing resilient species with more immunity to disease and climate heating or take up freelance consulting work for smaller organisations that do not keep a full-time specialist.

Check [Business Queensland \(aquaculture\)](#) for further information on pathways in aquaculture. Graduates may choose to undertake postgraduate study in order to specialise in a particular area of interest within their discipline (e.g. genetics) or pursue further studies in an area outside of science.

JCU Graduates Employment Data

Explore more about our Labour markets. [Jobs and Skills Australia -- Home](#)

Review [JCU Alumni](#) listed on LinkedIn who have included "aquaculture" in their profiles.

The top 5 employers

- JCU
- Australian Institute of Marine Science,
- Australian Government Department of Agriculture and Water Resources,
- CSIRO

(Retrieved Jan 2024)

Gain Skills & Experience

You may be able to apply for or negotiate with some of these employers, skill development opportunities before graduation, such as farm work, vacation work and internships.

- [Aquaculture Talent](#)
- [Marine Education Society of Australasia Job Board](#)
- [World Aquaculture Society](#)
- [Jobs in the Tuna Industry](#)
- [Seafood Jobs \(Tasmania\)](#)
- [Australian Government Department of Agriculture Water and Environment](#)
- [Australian Government Australian Fisheries Management Authority](#)
- [Queensland Government Department of Agriculture and Fisheries](#)
- [LinkedIn Jobs](#)
- [Seek.com.au](#)
- [Seafood Australia: Directory](#)

While your course will provide you with the professional knowledge and skills, be proactive, make a plan and work towards filling any skill, knowledge or experience gaps you identify based on your research of job adverts (as explained above), so that you are competitive when entering the graduate labour market.

Your time at the university could be turned into a streak of deliberate skill development exercises.

Some activities do not require any previous experience, e.g. joining a [student club](#) and teams within (projects, events, campaigns, managing the club and its finances, recruiting new members, managing the Facebook page, etc.). Student clubs are a great way to start building experience and confidence.

You could also participate in the [Mentor Program](#) to develop your consulting and leadership skills first as a mentee and later as a mentor. Another great opportunity to develop teamwork and cross-disciplinary collaboration, leadership, project management and communication skills including presenting and selling your solutions to clients by engaging with a project through the [JCU Ideas Lab](#).

Participation in these programs provide evidence to employers that you have enterprising skills (identifying problems and taking initiative to use your skills and networks to address them). If you develop a taste for entrepreneurship and want to find out more you might like to contact:

- [JCU Connect](#)
- [Hatch](#)

Undertaking a [Study Abroad](#) semester included in your study, for example in the Asian Aquaculture hub Singapore, where JCU has an established campus, could be a great way to develop international industry networks, your global acumen, cultural sensitivity, resilience and adaptability.

[Volunteering](#) in a general or an environmental role provides an opportunity to give back to the community, and develop work skills and networks. Opportunities can be sourced from:

- [Australian Marine Parks](#)
- [Redmap](#)
- [Wet Tropics Management Authority](#)
- [Conservation Volunteers](#)
- [Australian Wildlife Conservancy](#)
- [Seek Volunteer](#)
- [Volunteering North Queensland](#)
- [Townsville City Council Community Directory](#)
- [Cairns City Council Community Directory](#)
- [Orpheus Island Research Station](#)
- [JCU TropWATER](#)

Engaging in a [part time job](#) and [mapping out the transferable skills](#) you develop would also be highly regarded by future employers.

You may be able to engage in a [placement subject](#) as part of your study that could give you an opportunity to get a taste of working in your industry.

Networking

Building your networks will increase your professional knowledge, grow your reputation with potential future employers and support you in opportunity scoping. Employers prefer to recruit someone they know or have met so take advantage of every opportunity to meet professionals.

Attend Key Events such as the

- [JCU TESS Seminars](#)
- [JCU Market Day](#)
- Industry Panels
- Information Sessions advertised through the [Career Hub](#).

For further ideas and access to professional development learning opportunities, start to build your Professional Affiliations.

Professional Associations and Industry Bodies

You are encouraged to investigate relevant Professional Associations and Peak Bodies to gain greater awareness of developments and opportunities within your future industry area. A number of Professional Associations offer discounted membership fees to students.

The benefits include access to industry news and trends, career opportunities, networking events, mentoring programs, online learning, conferences, and other professional development opportunities. Membership sends a clear signal to employers about commitment to your future profession and ongoing professional development.

- [World Aquaculture Society](#)
- [Australian Marine Sciences Association](#)
- [Australian Society for Fish Biology](#)
- [Aquaculture Association of Queensland Inc](#)
- [Aquaculture associations in Australia: directory](#)

Network via Social Media

Social media is a key way to connect with your profession and hear of future opportunities. Careful use of LinkedIn, Facebook, and Twitter will expand your networks and may lead to job opportunities. Social media is widely used by employers to promote job opportunities, recruit staff and background-check job applicants.

You need to ensure you [maintain a professional social media presence](#).

Useful links

Browse a variety of aquaculture and fisheries related websites.

- [ALife: video interviews](#)
- [Business Queensland: Aquaculture](#)
- [CSIRO Aquaculture](#)
- [Department of Agriculture and Fisheries QLD](#)
- [Fish.gov.au](#)
- [Fishes of Australia](#)
- [Fisheries Research and Development Corporation](#)
- [Food and Agriculture Organisation of the United Nations](#)
- [Marine Education Society of AU](#)
- [National Aquaculture Statement](#)
- [Ocean Watch Australia](#)
- [Queensland Seafood Industry](#)
- [Seafood New Zealand](#)
- [Seafood Industry Directory](#)
- [Women in Seafood Australasia](#)
- [Your Career: Agriculture, Forestry, Fishing](#)

JCU Careers Resources

As a student, consider accessing JCU Careers resources and be job ready by developing your Employability skills.

[Careers and Employability - JCU Australia](#)

Build your employability skills and fine tune your Application Skills

- Resumes
- Application Documents
- Interviews
- LinkedIn



For further ideas access [Career Ready Plan](#)