



POSITION DESCRIPTION

Job Title:	Research Technician in larval fish monitoring
Type of Employment:	Two-year fixed term, subject to continuation of funds. Full-time appointment.
Remuneration:	A salary package consisting of: <ul style="list-style-type: none">• Salary commencement of \$76,029p.a. (Research Assistant Level 5 Step 2)• Employer superannuation of 9.5% and Leave Loading• Employment specific training
Closing Date:	24th March 2019
Position Commencing:	April 2019
Further Information:	Mark.Scoqnamiqlio@sims.org.au

BACKGROUND

The Sydney Institute of Marine Science (www.SIMS.org.au) is a multidisciplinary marine research institute formed as a collaborative partnership of four universities (Macquarie University, University of Sydney, University of NSW and the University of Technology Sydney). This collaborative venture enables marine scientists and students in Sydney and NSW to investigate links between nearshore marine environments, urban harbours, fisheries and marine biodiversity. SIMS hosts the NSW Node of the Integrated Marine Observing System (www.IMOS.org.au) – a federal government initiative under the National Collaborative Research Infrastructure Strategy program that supports key marine infrastructure to collect valuable long-term data from Australia’s marine environment. SIMS was recently granted funding to facilitate the IMOS-larval fish monitoring program.

Larval fish are sensitive to environmental changes, with many oceanographic processes influencing their distribution, abundance and survival. Most species have eggs and larvae that can be sampled with simple plankton nets in the upper mixed layer of the water column resulting in the capture of a broad suite of larval fishes (Koslow & Wright, 2016). The sensitivity to oceanographic processes, and the ease of capture, make larval fish useful indicators of change. IMOS provides a national oceanographic monitoring framework, although there are many gaps in different parts of the ecological system, particularly fish reproduction.

Ichthyoplankton monitoring began at 3 east coast National Reference Stations (NRS) – North Stradbroke Island (NSI), Port Hacking (PH) and Maria Island (MAI) – and subsequently including Kangaroo Island (KAI) and Rottneest Island (ROT). Trials are commencing at the north Queensland Yongala site. The initial two years of data and over 3 decades of historical larval fish data were integrated and recently published (Smith et al. 2018). Our key advance was to recognise 218 standard, distinctive and abundant larval fish taxa, and to determine indicator taxa for the eastern seaboard. However, the power to detect temporal trends in these taxa was compromised by the lack of seasonal sampling and the Tasmanian waters were not well represented in the post 1997/98 ENSO event years. Therefore, there is a need to continue,

evaluate and consider on-going larval fish monitoring at the NRS, which provides a temporal backbone to the variety of broad spatial but intensive surveys undertaken by other government and university research groups. In early 2019 the IMOS-Larval Fish Monitoring distributed new 61 cm diameter bongo nets with the same mouth area and mesh size as before, and a superior flow meter (a TSK). Our vision is for larval fish monitoring to continue and investigate alternative technologies such as DNA barcoding.

Asch, R. G. 2015. Climate change and decadal shifts in the phenology of larval fishes in the California Current ecosystem. *Proc. Natl. Acad. Sci. USA* 112, E4065-E4074.

Koslow, J. A. & Wright, M. 2016. Ichthyoplankton sampling design to monitor marine fish populations and communities. *Mar. Policy* 68, 55-64.

Peabody et al. 2018. Decadal regime shifts in southern California's ichthyoplankton assemblage. *MEPS* 607: 71-83

Smith J. A., ... (20 others).. and I. M. Suthers. 2018. A database of marine larval fish assemblages in Australian temperate and subtropical waters. *Sci. Data.* 5:180207

DUTY STATEMENT

Primary Purpose of Position

This research technician position will have an interest and understanding in long-term ocean observing; in biological oceanography; and an interest and enthusiasm for fish and fish reproduction. The position is primarily a laboratory technician based around the monthly bongo net plankton samples at the 5 National Reference Stations (NRS), corresponding to 4 samples per station per month. Some field trips are likely to assess the sampling process (quality control) and opportunistic sampling around the 5 National Reference Stations. Under the supervision of Professor Suthers, the person will coordinate the entire ILFM program from sample delivery to sorting and identification of samples, to data and sample archive, archive the sample data-sheets, and depending on interest and aptitude to facilitating data analysis. The person will be trained in larval fish identification by Dr Tony Miskiewicz at UNSW (to at least the 218 taxa proposed in Smith et al. (2018) and will enter the data into the IMOS-Australian Ocean Data Network. The person will coordinate and train some student volunteers in the collection and sorting of samples.

Key Responsibilities

- 1) Undertake high level analysis of plankton samples to sort and identify larval fish;
- 2) Facilitate the delivery of samples and communication on QC/QA with the various NRS teams;
- 3) Enter data into the standard databases used by the IMOS National Mooring facility and meeting the standards of the Australian Ocean Data Network;
- 4) Facilitate the archiving of larval fish at the Australian Museum, and archiving of zooplankton; and requests for ethanol samples for DNA metabarcoding;
- 5) Contribute to preparation of regular milestone reports to IMOS, and contribute to the NSW-IMOS meetings at SIMS;
- 6) Coordination and training of student volunteers in sorting and identification;
- 7) Facilitate and promote the larval fish monitoring data sets for uptake by scientists of all ages;
- 8) Contribute to outreach activities for SIMS and IMOS, including setting up of displays and interacting with schools and the public, and any other reasonable tasks as assigned by the supervisor.

Reporting Relationship

This Research Assistant position will be academically supervised by Prof Iain Suthers, Dr Tony Miskiewicz and Prof Anthony Richardson (CSIRO-UQ) and will report to the Institutes General Manager.

SELECTION CRITERIA

Qualifications - essential

- 1) BSc-honours degree or better in quantitative marine science;
- 2) Car driver's licence;
- 3) Recreational Boat driver's licence or willingness to attain one;
- 4) Senior First Aid Certificate or willingness to attain one.

Knowledge and Skills - essential

- 1) Familiarity with plankton sampling and plankton ecology;
- 2) Demonstrated ability to undertake microscopic sorting for taxonomic identification;
- 3) Computer and data handling capabilities (Excel spreadsheets, and archiving pdfs);
- 4) Ability to work independently and meet milestones and deadlines;
- 5) Proven oral and written communication skills.

Desirable Knowledge and Skills

- 1) Familiarity with data processing and quality control;
- 2) Familiarity with fish taxonomy; and possibly larval fish identification;
- 3) Familiarity with the IMOS program and the IMOS-moorings at the National Reference Stations;
- 4) Evidence of boat-based field research experience;
- 5) Experience and understanding of health/safety and how its is applied in a field setting.

Personal Qualities

- 1) Interest in zooplankton and willingness to spend long hours at a microscope;
- 2) High level of organisational skills including the ability to operate independently while prioritising demands and meeting deadlines;
- 3) Commitment to accuracy and attention to detail;
- 4) Ability to work with a diverse range of people;
- 5) Ability to work autonomously as well as part of a small team;
- 6) Good organisational and motivation skills in the laboratory and at sea.

APPLICATION

Applications must consist of the following:

Covering Letter. The covering letter should include your email or postal address and telephone number. This is an opportunity in not more than one page to introduce yourself and outline the key reasons why you should be considered for the role.

Curriculum Vitae or Resume. This is a history of your education, research, employment and experience that covers the following areas:

- Educational qualifications that detail the full title of the qualification, year attained, and title of the institution attended.
- Research projects on which you have participated, in what capacity that was, and any outputs that emanated from that research.

- Employment history in chronological order, starting with the most current position and specifying dates of employment, title of position, name of employer, main duties or accountabilities and achievements.
- The names and contact details (preferably phone & email) of three referees, including if possible a senior person (preferably your supervisor) closely associated with your current position.

Selection Criteria. A statement addressing how you meet each of the selection criteria is required to assist the Selection Committee to determine whether you have the relevant qualifications, knowledge/skills, experience and personal qualities.

Applications are to be sent to:

Sydney Institute of Marine Science
c/o Human Resources Manager 19
Chowder Bay Road
Mosman NSW 2088
Email: HR@sims.org.au

Please note:

Do not send applications that are bound or enclosed in plastic or manila folders

Staple the application at the top left hand corner

Retain a copy for your reference, applications will not be returned to the applicant

Selection Process

A Selection Committee will consider all applications and shortlist for interview candidates who appear to meet the selection criteria at the highest levels. They will be invited to attend an interview and the remaining unsuccessful applicants will be notified accordingly.

We strongly encourage the application of people from minority groups.