

GETTING INTO PRINT

A student guide to publishing research

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1. Publish or Perish

The most tangible outcome of a research project is the publication(s) arising from it. Therefore, a researcher's publication list provides a measure of their research ability, experience and future potential. What you publish, how much, and where (which journal) will determine your prospects for getting a job, getting promoted, or being awarded a grant. Ironically, if you don't have a sufficient track record to get a grant, it becomes increasingly difficult to do the research which leads to publications to establish the track record in the first place.

If you currently have no publications, the sooner you start the better. It is not wise any longer to wait until your PhD thesis has been handed in to start to convert chapters into papers. It is much better to do it the other way around, producing papers as your research program develops so that by the time you begin to look for a job, you will already have a research profile. Remember that apart from the examiners, your supervisor(s), and your mother, very few people will ever read your thesis. In contrast, a publication in a journal will end up on desks and in libraries around the world, and the abstract will be indexed electronically (e.g. in Current Contents, Biological Abstracts, Web of Science, etc).

Increasingly, PhD students emerging into the real world are expected to already have some publications. For example, to be competitive in an ARC Post-Doctoral application you would need to have a minimum of about four publications. You should not wait until after your PhD thesis is completed to write up, because in all probability it may never happen, especially if you relocate or start a new full-time job. A good record of a finishing PhD student might consist of the following: a publication from your Honours work, three more from the first two years of your PhD (giving 4 already out by the time you finish), and a further one or two submitted for publication (in review or in press) by the end of your PhD. Thereafter, a productive researcher is expected to produce about 3 papers a year (although this can vary widely among fields).

Are you on schedule?

In some countries or at some institutions, a PhD thesis can consist entirely of a series of already published papers on a common theme. Elsewhere, published work is discouraged or prohibited from a thesis (especially if the candidate is not the sole author, or the first author). Most Australian institutions fall between these two extremes. Generally, one or more chapters may consist of published papers, *but* there must be a unifying topic, and an overall Introduction chapter and a Discussion chapter. You should check what format is currently acceptable in your Department/Institution. If publications are allowed as part of your thesis, you should avoid the intermediate stage of writing unpublished chapters as much as possible. Apart from boosting your research profile, published chapters are much easier for the thesis examiners to review, and the thesis should be approved faster with fewer amendments.

2. Selecting a journal

A student, J. Bloggs, proudly presents their supervisor with a draft of his/her first paper for feedback. "Which journal is it for?", the supervisor enquires. "I haven't decided yet", replies the student, "does it really matter?".

IT MATTERS A LOT. The content, length, audience, format and writing style vary greatly from one journal to the next. In reality, your work will be judged by the quality of the journal it appears in, as well as its intrinsic merits. You should always decide first where you will submit the paper, and write it in the appropriate way. Criteria you should consider when choosing a journal include the following:

2.1 SUBJECT MATTER

Don't send your paper to a journal that rarely or never deals with the topic or approach of your study. Firstly, the editors and reviewers are likely to reject it as being inappropriate, and secondly your target audience may miss it entirely because they don't read that journal. The subject matter of a journal is usually stated up front on the cover or in the "Instructions to Authors". The following are some examples:

Coral Reefs: "Papers published in the journal deal with population dynamics and community ecology of reef organisms, energy and nutrient flows, biogeochemical cycles, physiology of calcification, reef response to natural anthropogenic stress, behavioral ecology, sedimentology, diagenesis, reef structure and morphology, evolutionary ecology of reef biota, paleoceanography of coral reefs and coral islands and the science which underpins reef management."

American Naturalist: "...welcomes manuscripts that attempt new theoretical syntheses, especially in combination with new empirical information of broad significance."

Ecology: "We invite contributions from scientists working on the full spectrum of ecological problems. Included within this spectrum are studies of the physiological responses of individual organisms to their abiotic and biotic environment, ecological genetics and evolution, the structure and dynamics of populations, interactions among individuals of the same or differing species, the behaviour of individuals and groups of organisms, the organization of biological communities, landscape ecology, the processing of energy and matter in ecosystems, historical ecology and paleoecology, and the application of ecological theory to resource management and the solution of environmental problems. Reports of ecological research on all kinds of organisms in all environments are welcome."

Science: "Priority is given to papers that reveal novel concepts of interdisciplinary interest."

Check the content of the journal to see if it really is publishing what it claims it is. If you are still not sure if your paper is suitable, ask the editor.

2.2 AUDIENCE

Decide whom you would like to read your paper. A paper in *Science* or *Nature* must be of very broad interest, while one in *Veliger* or *Crustaceana* will only be seen by a specialised audience. Check out the circulation of the journal. Is it global, regional or parochial? In general, the impact of your publication will be greatest if you target a broad audience and journals with large circulations and frequent citations. Unfortunately, these papers are the hardest to write and the rejection rate is very high.

Abbreviated Journal Title	Articles	Abbreviated Journal Title	Cites	Abbreviated Journal Title	IF
PHYS REV B	5782	NATURE	443967	CA-CANCER J CLIN	74.6
APPL PHYS LETT	5449	P NATL ACAD SCI USA	416018	NEW ENGL J MED	50.0
J APPL PHYS	4168	SCIENCE	409290	ANNU REV IMMUNOL	41.1
PHYS REV LETT	3905	J BIOL CHEM	407492	NAT REV MOL CELL BIO	35.4
J BIOL CHEM	3761	J AM CHEM SOC	318252	PHYSIOL REV	35.0
ACTA CRYSTALLOGR E	3533	PHYS REV LETT	310717	REV MOD PHYS	34.0
P NATL ACAD SCI USA	3508	PHYS REV B	250465	JAMA-J AM MED ASSOC	31.7
J AM CHEM SOC	3242	NEW ENGL J MED	205750	NATURE	31.4
J PHYS CHEM C	2888	APPL PHYS LETT	179925	CELL	31.3
PHYS REV D	2863	ASTROPHYS J	177571	NAT REV CANCER	30.8
J GEOPHYS RES	2860	J CHEM PHYS	164492	NAT GENET	30.3
J CHEM PHYS	2763	LANCET	148106	ANNU REV BIOCHEM	30.0
PHYS REV A	2502	CIRCULATION	143852	NAT REV IMMUNOL	30.0
PHYS REV E	2361	CELL	142064	NAT REV DRUG DISCOV	28.7
OPT EXPRESS	2322	ANGEW CHEM INT EDIT	139534	LANCET	28.4
ASTROPHYS J	2128	J GEOPHYS RES	129836	SCIENCE	28.1
J PHYS CHEM B	2103	CANCER RES	125341	NAT MED	27.6
BIOCEM BIOPH RES CO	2095	J IMMUNOL	123910	ANNU REV NEUROSCI	26.4
J APPL POLYM SCI	2050	BLOOD	122032	NAT REV NEUROSCI	25.9
LANGMUIR	2026	J NEUROSCI	120933	ANNU REV ASTRON ASTR	25.8

The 20 largest, most-cited and highest-impact journals are tabulated above for the latest year available, 2008. By comparison, over the same period *Coral Reefs* had 90 source items, 3167 citation and an Impact Factor of 2.975. Clearly, *Coral Reefs* has a limited and specialised audience of reef biologists and geologists. A paper there is unlikely to be seen by terrestrial or temperate biologists. Other journals restrict their coverage (and their audience) to a limited geographic area (e.g. *Australian Journal of Ecology*), with most submissions coming from only one country. The geographic coverage of *Coral Reefs* is much wider (see Figure 1).

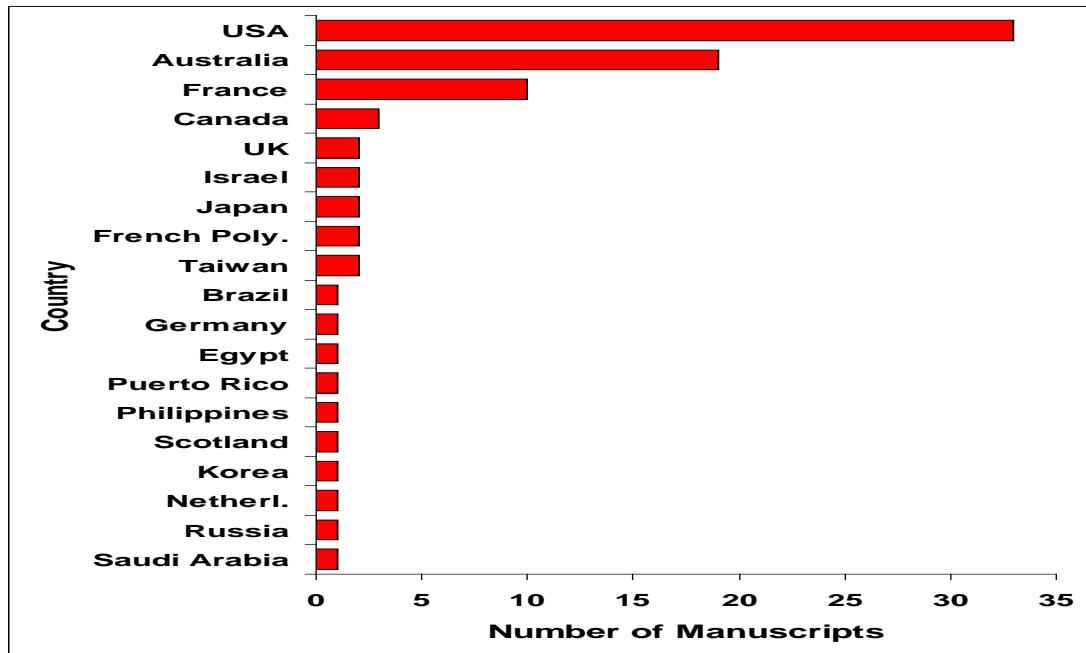


Figure 1. The geographic distribution of manuscripts submitted to *Coral Reefs*. The USA, Australia and France dominate, with 15 other countries having 1-3 papers each. A paper published here would reach a diverse, international audience.

2.3 LENGTH OF MANUSCRIPT

Clearly, this varies greatly. For example, a Letter in *Nature* has a limit of 2 pages, while a paper in *Ecological Monographs* could run to 35 printed pages or more. Some journals have multiple types of publications, each with a different length (e.g. Editorials, Perspectives, Letters, Articles, Reviews) which you may be able to choose between. The decision to publish one long paper versus two or more short ones should be made very carefully. Early on in your career it may be tempting to produce more, shorter papers in journals with fast publishing times rather than a few more substantive papers which take a long time to come out. However, the number of papers is often less important than how good they are, and where they were published.

2.4 SPEED

When do you want your paper to appear in print? If you are close to submission of your thesis (and need to apply for a postdoc or job soon) you will probably want your publications to come out quickly. It's also a good idea to have a steady publication record, rather than long periods without any new papers. Consequently, if you have not yet got a publication for the current year you may want to ensure that it will appear in print before December 31st by targeting a fast journal.

The length of time for reviewing, and from acceptance to eventual publication varies enormously. For example, reviewing in *Nature* takes 3-4 weeks, in *Marine Ecology Progress Series* (MEPS) or *Coral Reefs* about 10 weeks (fig. 2), in *Ecology* or *American Naturalist* about 15-20 weeks. The limiting factor is usually the willingness of reviewers to provide their time for free.

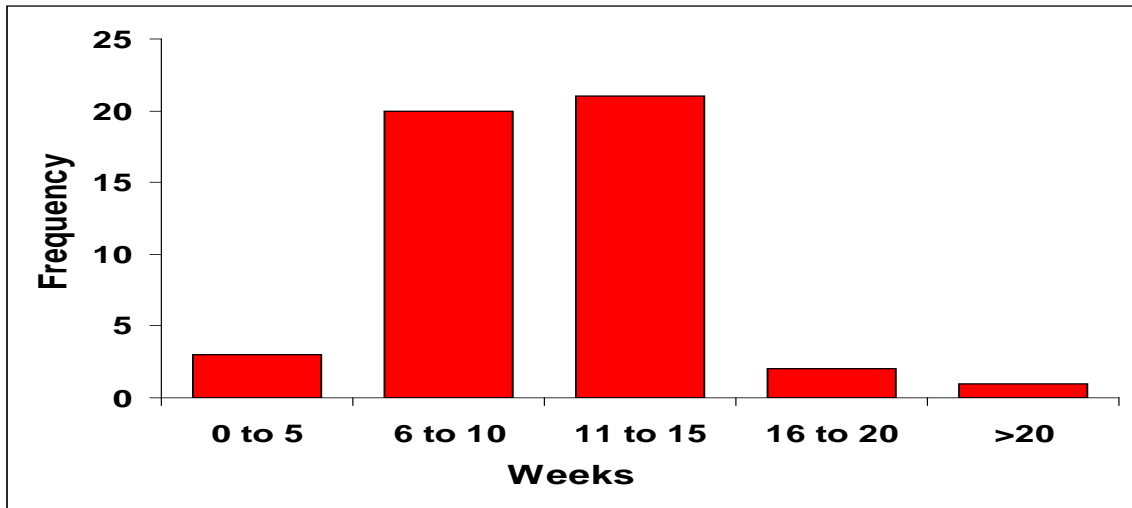


Figure 2. A frequency distribution of the length of time for reviewing of a manuscript submitted to *Coral Reefs*. Delays of >16 weeks occur when 2 or more reviewers fail to reply and a new reviewer has to be sought. Other journals are faster or slower.

After the reviews have been returned to the Editor, he or she will forward them to you. The length of the next stage, for revision, is up to you. Often the longest delay in the publishing process is the length of time the author takes to respond to the reviews (Fig. 3).

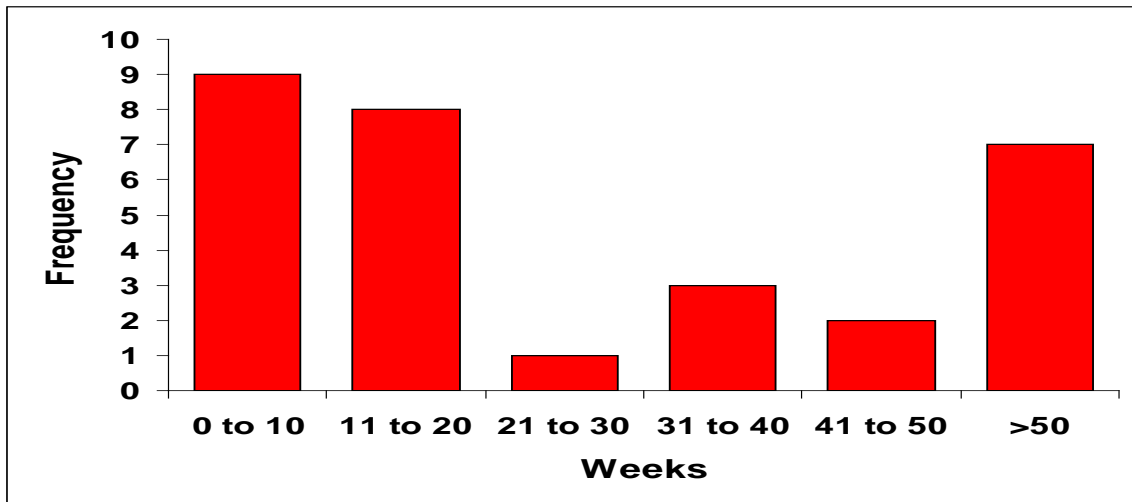


Figure 3. The length of time required for an author to return a revised manuscript, following receipt of their reviews. Note the graph is bimodal. Generally, papers requiring only minor revision are returned within 4 months. Those requiring major work can take over a year.

After acceptance, the delay before publication varies from 2-18 months. So the length of time from submission to final publication is typically about a year, but it may be half that or double, depending on the journal and on quickly you do the revisions. Unfortunately, some prestige journals tend to take far longer, so there may be a trade off between speed and quality.

2.5 QUALITY OF YOUR PAPER

How good is your paper? Everyone produces publications that vary in quality. One or two might be good enough for *Science*, others might be suitable only for a symposium proceedings where reviewing is less than rigorous or even absent. For example, you may wish to publish a fairly boring description of a technique (so you can refer to it in a more interesting subsequent paper). You should aim your paper at the appropriate journal, where it is likely to be surrounded by papers of similar quality. If you aim a mediocre paper too high it will be rejected. Similarly, you should always avoid "underselling" your work by publishing excellent stuff in a low quality journal or in symposia proceedings.

2.6 QUALITY OF PRINTING

The publishing format, quality of text, figures, maps, tables, and plates can vary substantially between journals. Only some journals publish colour photographs.

2.7 PRESTIGE

Some journals are held in high esteem by your peers, others are not. You get more "brownie points" by publishing in the best possible place. A journal's Impact Factor is being used increasingly as a crude measure of the visibility and quality of a publication. To assess someone's publication record, the number of publications is less important than the venue. A few, well-placed papers is better than many publications in obscure or poorly-regarded journals.

2.8 PRECEDENT

You may wish to publish in a journal that has featured your topic prominently in the past. For example, your paper may be one in a series, or it may be an extension or rebuttal of another previously published in the same journal. Be aware though that every journal has its own audience, so do not publish again and again in the same place. Spread your work around to numerous journals to expose more people to it.

2.9 COST

Many journals will send you a bill for page charges, changes to figures, excessive corrections of proofs, colour photographs, etc., which may exceed \$1000. Some provide 25 or 50 reprints free of charge, while others do not. The cost of reprints varies. It is important that you buy and distribute reprints, or alternatively email out PDF's, especially early in your career. Reprints are an important part of the documentation accompanying a job application, and they look more professional than a xerox copy.

2.10 EDITORIAL BOARD

Journals function in different ways, and have different power structures. The board membership is usually indicated on the journal cover. You may wish to submit to a journal where the editor that is likely to handle your paper is well known to you, or is particularly interested in your line of research. Conversely, you may wish to avoid

someone who might look upon you or your research unfavourably. Be aware of who is going to handle your paper. Get to know them personally by going to international conferences, "networking", swapping reprints, etc.

The following are examples of editorial boards. How many people do you know on them? Which editor would be the best for dealing with your manuscript?



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Fish population dynamics, distribution and the impacts of fishing on populations. Mediterranean fisheries; fish biogeography and climate change

Nick Tolimieri

[Nick.Tolimieri\(at\)noaa.gov](mailto:Nick.Tolimieri(at)noaa.gov)

Fish ecology: population dynamics, larvae and recruitment, competition, predation; regime shifts; statistics and experimental design

Antony J. Underwood

[aju\(at\)bio.usyd.edu.au](mailto:aju(at)bio.usyd.edu.au)

Experimental intertidal and subtidal ecology; behavior; life cycles of sessile invertebrates

Peter Verity

[peter.verity\(at\)skio.usg.edu](mailto:peter.verity(at)skio.usg.edu)

Plankton ecology and pelagic food web structure

Alain Vézina

[vezinaa\(at\)dfo-mpo.gc.ca](mailto:vezinaa(at)dfo-mpo.gc.ca)

Ecosystem modelling; primary production; phytoplankton ecology

Rory P. Wilson

[R.P.Wilson\(at\)swansea.ac.uk](mailto:R.P.Wilson(at)swansea.ac.uk)

Role of seabirds in the marine environment: ecology, behaviour, distribution, foraging; recording systems attached to birds

REVIEW EDITORS

Review Editors critically assess the scientific value of manuscripts, and may advise authors in matters of manuscript presentation.

David G. Ainley

[dainley\(at\)penguinscience.com](mailto:dainley(at)penguinscience.com)

Top levels of marine food webs, marine ornithology, marine mammalogy

Anil AC

[acanil\(at\)darya.nio.org](mailto:acanil(at)darya.nio.org)

Biofouling, invertebrate larvae, phytoplankton ecology, coastal ecosystems

Philippe Archambault

[philippe_archambault\(at\)uqar.qc.ca](mailto:philippe_archambault(at)uqar.qc.ca)

Benthic and rocky shore ecology; biodiversity; aquaculture–environment interactions

William S. Arnold

[Bill.Arnold\(at\)MyFWC.com](mailto:Bill.Arnold(at)MyFWC.com)

Molluscan fisheries and ecology; larval dispersal and recruitment; marine population restoration

Karl Banse

[banse\(at\)u.washington.edu](mailto:banse(at)u.washington.edu)

Biological oceanography; plankton research

Mario Barletta

[barletta\(at\)ufpe.br](mailto:barletta(at)ufpe.br)

Tropical and subtropical estuarine and coastal habitats, connectivity, fish ecology, environmental impacts

Peter G. Beninger

[Peter.Beninger\(at\)univ-nantes.fr](mailto:Peter.Beninger(at)univ-nantes.fr)

Bivalve feeding; reproduction

Tom Berman

[berman\(at\)amiad.org.il](mailto:berman(at)amiad.org.il)

Phytoplankton ecology

Antonio M. Bode

[antonio.bode\(at\)co.ieo.es](mailto:antonio.bode(at)co.ieo.es)

Planktonic food webs and nitrogen cycles

Patricia Bonin

patricia.bonin@univmed.fr

Structure and diversity of marine microbial communities; nitrogen cycle

Erik Bonsdorff

erik.bonsdorff@abo.fi

Coastal, estuarine and brackish benthic ecosystems: experimentation; biodiversity; environmental impacts

Barbara E. Brown

ProfBarbaraBrown@aol.com

Effects of anthropogenic and natural disturbances on coral reefs

Richard S. Burton

rburton@ucsd.edu

Population genetics; evolutionary mechanisms in populations; biochemical and molecular genetic analyses of invertebrates

Juan Carlos Castilla

jcastilla@bio.puc.cl

Rocky shore ecology and anthropogenic impacts; coastal management and conservation; shellfish and invertebrate predators

Nanette Chadwick

chadwna@auburn.edu

Fouling communities, reef-building corals, sea anemones, tunicates, symbioses, competition, population dynamics, behavior

Margaret G. Chapman

gee@bio.usyd.edu.au

Intertidal ecology, experimental design, impact assessment, restoration, mangroves, benthic ecology, urbanization, biodiversity

Franciscus Colijn

fcolijn@ftz-west.uni-kiel.de

Primary production; biomass; algal species composition; instrumentation of measurements on phytoplankton and microphytobenthos

Yves Collos

collos@univ-montp2.fr

Nitrogen metabolism of phytoplankton

Sean D. Connell

sean.connell@adelaide.edu.au

Macroecology; landscape ecology of urban habitats; disturbance; kelp forests

Peter Corkeron

pjc99@cornell.edu

Marine mammals: ecology, behaviour, management; ecosystem-based fisheries management

Richard F. Dame

oys52@aol.com

Bivalve physiological ecology; estuarine and shallow marine ecosystems; reefs (bivalve, coral, worm, etc); ecosystem analysis and complexity

Omar Defeo

odefeo@dinara.gub.uy

Coastal ecology, conservation, anthropogenic impacts; sandy beaches; fisheries

Don Deibel

ddeibel@mun.ca

Zooplankton ecology and nutrition, gelatinous organisms: ecology and physiology

Victor N. de Jonge

v.n.de.jonge@planet.nl

Estuarine and coastal processes; algae and vascular plants; eutrophication; nutrient chemistry; effects of global change; conservation, restoration and management of coasts and estuaries

Rutger de Wit

rde-wit@univ-montp2.fr

Benthic microbial ecology; eutrophication and biogeochemical cycling; ecophysiological modelling of microorganisms

Ana I. Dittel

[adittel\(at\)UDel.Edu](mailto:adittel@UDel.Edu)

Larval ecology of invertebrates

Sergey Dobretsov

[sergey\(at\)squ.edu.om](mailto:sergey@sqju.edu.om)

Chemical ecology of invertebrates, microbiology, and biofouling; larval settlement, epibiotic and biofouling communities

Quay Dortch

[quay.dortch\(at\)noaa.gov](mailto:quay.dortch@noaa.gov)

Phytoplankton: physiological ecology; nutrient dynamics, eutrophication, harmful algal blooms

Daniel E. Duplisea

[DupliseaD\(at\)dfm-mpo.gc.ca](mailto:DupliseaD@dfm-mpo.gc.ca)

System level analyses

Edward G. Durbin

[edurbin\(at\)gso.uri.edu](mailto:edurbin@gso.uri.edu)

Zooplankton and fish ecology; food chain interactions

Anastasios Eleftheriou

[telef\(at\)her.hcmr.gr](mailto:telef@her.hcmr.gr)

Benthos ecology, environmental impacts

Charles E. Epifanio

[epi\(at\)udel.edu](mailto:epi@udel.edu)

Early life history of fish and invertebrate larvae

Tom Fenchel

[tfenchel\(at\)bi.ku.dk](mailto:tfenchel@bi.ku.dk)

Population biology; microbial ecology

Jonathan A. D. Fisher

[jonathan.fisher\(at\)queensu.ca](mailto:jonathan.fisher@queensu.ca)

Fisheries ecology and conservation, intertidal and community ecology

Nicholas S. Fisher

[nfisher\(at\)notes.cc.sunysb.edu](mailto:nfisher@notes.cc.sunysb.edu)

Physiological ecology of phytoplankton

Peter Fong

[pfong\(at\)gettysburg.edu](mailto:pfong@gettysburg.edu)

Invertebrates; rocky intertidal; mud flat ecology; reproduction; neurophysiology

Ken Furuya

[furuya\(at\)fs.a.u-tokyo.ac.jp](mailto:furuya@fs.a.u-tokyo.ac.jp)

Phytoplankton ecology; community structure; dynamics

José A. Garcia Charton

[jcharton\(at\)um.es](mailto:jcharton@um.es)

Reef fish ecology and conservation; marine protected areas; environmental impact assessment; experimental design.

Brendan J. Godley

[b.j.godley\(at\)exeter.ac.uk](mailto:b.j.godley@exeter.ac.uk)

Marine Turtle Biology: ecology, behaviour, distribution, status and conservation; particularly interested in satellite tracking

Jacob González-Solís

[jgsolis\(at\)ub.edu](mailto:jgsolis@ub.edu)

Pelagic ecology; seabird conservation

Per Juel Hansen

[pjhansen\(at\)bi.ku.dk](mailto:pjhansen@bi.ku.dk)

Protist and phytoplankton ecology

Nicola Hillgruber

[n.hillgruber\(at\)uaf.edu](mailto:n.hillgruber@uaf.edu)

Fish ecology; trophic interactions

Masahiro Horinouchi

[horit\(at\)soc.shimane-u.ac.jp](mailto:horit@soc.shimane-u.ac.jp)

Seagrass fish assemblages

Kevin Hovel

[hovel\(at\)sciences.sdsu.edu](mailto:hovel@sciences.sdsu.edu)

Coastal landscape ecology, predator-prey interactions, marine invertebrates

Cindy Hull

[Cindy.Hull\(at\)roaring40s.com.au](mailto:Cindy.Hull@roaring40s.com.au)

Foraging and breeding in seabirds, satellite telemetry

George L. Hunt

[glhunt\(at\)uci.edu](mailto:glhunt(at)uci.edu)

Seabirds; marine mammals; their roles in carbon fluxes

Catriona L. Hurd

[Catriona.Hurd\(at\)botany.otago.ac.nz](mailto:Catriona.Hurd(at)botany.otago.ac.nz)

Seeweed nutrient physiology and ecology; hydrodynamics and biomechanics

David Hyrenbach

[khyrenbach\(at\)hpu.edu](mailto:khyrenbach(at)hpu.edu)

Marine bird and mammal distributions and habitats

Adrianna Ianora

[ianora\(at\)szn.it](mailto:ianora(at)szn.it)

Zooplankton ecophysiology, reproduction and development; chemical ecology of phytoplankton-zooplankton interactions

William M. Kemp

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Primary production and eutrophication, estuarine ecosystem metabolism

David S. Kirby

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Fishes: fishery oceanography; behavioural ecology; population dynamics; modelling

Erik Kristensen

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Sediment biogeochemistry; bioturbation; microbial ecology; mangrove ecology; ecology of marine benthos

Michael R. Landry

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Food web interactions; zooplankton ecology

Janet A. Ley

[Janet.Ley\(at\)MyFWC.com](mailto:Janet.Ley(at)MyFWC.com)

Fish community structure, mangrove ecosystems, marine protected areas, fisheries effects, trophic ecology

Steven E. Lohrenz

[steven.lohrenz\(at\)usm.edu](mailto:steven.lohrenz(at)usm.edu)

Phytoplankton ecology and physiology, nutrient and carbon biogeochemical cycling, aquatic optics

Samuel N. Luoma

[snluoma\(at\)usgs.gov](mailto:snluomo(at)usgs.gov)

Feeding ecology of deposit feeders; geochemistry of trace elements in sediments

Mark Meekan

[m.meekan\(at\)aims.gov.au](mailto:m.meekan(at)aims.gov.au)

Ecology of fish larvae, sharks, and coral reefs

Gilles Miron

[mirong\(at\)umoncton.ca](mailto:mirong(at)umoncton.ca)

Benthic ecology, recruitment and settlement processes, ecoethology

Peter J. Mumby

[p.j.mumby\(at\)exeter.ac.uk](mailto:p.j.mumby(at)exeter.ac.uk)

Multivariate statistical analysis; coral bleaching; marine protected areas, coastal reef ecology; reef fish behaviour; fish population dynamics

Takeshi Naganuma

[takn\(at\)hiroshima-u.ac.jp](mailto:takn(at)hiroshima-u.ac.jp)

Microbial biogeography

Richard D. M. Nash

[Richard.nash\(at\)imr.no](mailto:Richard.nash(at)imr.no)

Fish biology, population dynamics, fisheries management

Helen Neil

[h.neil\(at\)niwa.co.nz](mailto:h.neil(at)niwa.co.nz)

Marine geology; paleoceanography; paleoclimate; isotope geochemistry (esp. otoliths)

Thomas Noji

[Thomas.Noji\(at\)noaa.gov](mailto:Thomas.Noji(at)noaa.gov)

Ecosystem processes, zooplankton ecology

Emil Olafsson

[emilolafsson\(at\)menntun.org](mailto:emilolafsson(at)menntun.org)

Benthic ecology: energy flow and food webs, impact assessments, meiofauna

Per J. Palsbøll

[Per.Palsboll\(at\)gmt.su.se](mailto:Per.Palsboll(at)gmt.su.se)

Evolutionary, ecological, population and conservation genetics; marine mammals

Claire Paris

[cparis\(at\)rsmas.miami.edu](mailto:cparis(at)rsmas.miami.edu)

Biological oceanography: biophysical modeling; ichthyoplankton and recruitment

Anna F. Pasternak

[pasternakanna\(at\)hotmail.com](mailto:pasternakanna(at)hotmail.com)

Ecological physiology of zooplankton, life cycle strategies and diapause

Myron A. Peck

[myron.peck\(at\)uni-hamburg.de](mailto:myron.peck(at)uni-hamburg.de)

Ecology of fish early life stages, copepod vital rates, ecophysiology, individual based modelling of invertebrates and fishes

Paulette Peckol

[ppeckol\(at\)email.smith.edu](mailto:ppeckol(at)email.smith.edu)

Algal physiology, nutrients and photosynthesis, population interactions; effects of disturbance on coral reefs and reef fishes

Peter Petraitis

[ppetrait\(at\)sas.upenn.edu](mailto:ppetrait(at)sas.upenn.edu)

Field experimental design, community ecology of rocky shores

Roberto Pronzato

[pronzato\(at\)dipteris.unige.it](mailto:pronzato(at)dipteris.unige.it)

Benthos population dynamics

Peter Ralph

[Peter.Ralph\(at\)uts.edu.au](mailto:Peter.Ralph(at)uts.edu.au)

Chlorophyll a fluorescence; coral bleaching; sea ice photosynthesis; toxicology - algal; macroalgal physiology; seagrass physiology

Hans Ulrik Riisgård

[hur\(at\)biology.sdu.dk](mailto:hur(at)biology.sdu.dk)

Environmental effects, bioenergetics and filter-feeding in macroinvertebrates

Michael J. Risk

[riskmj\(at\)univmail.cis.mcmaster.ca](mailto:riskmj(at)univmail.cis.mcmaster.ca)

Coral reef ecology; soft bottom ecology; coastal processes

Benjamin Ruttenberg

[ben_ruttenberg\(at\)nps.gov](mailto:ben_ruttenberg(at)nps.gov)

Reef fishes: life history, recruitment, biogeography; marine reserves

David R. Schiel

[david.schiel\(at\)canterbury.ac.nz](mailto:david.schiel(at)canterbury.ac.nz)

Experimental marine ecology; marine plant/herbivore interactions; demography and ecology of algae; invertebrate fisheries; aquaculture

J. Malcolm Shick

[SHICK\(at\)Maine.edu](mailto:SHICK(at)Maine.edu)

Marine physiological ecology: oxygen toxicity and UV radiation stress in symbiotic invertebrates

Robert Stead

[stead\(at\)ulagos.cl](mailto:stead(at)ulagos.cl)

Soft bottom meio- and macrofauna; population and community ecology

Peter D. Steinberg

[P.Steinberg\(at\)unsw.edu.au](mailto:P.Steinberg(at)unsw.edu.au)

Marine chemical ecology; fouling, antifouling and colonisation biology; bacterial biofilms; herbivory; seaweed ecology; prokaryote/eukaryote interaction

Kerrie Swadling

[k.swadling\(at\)utas.edu.au](mailto:k.swadling@utas.edu.au)

Zooplankton; sea ice ecology; food web dynamics

Guglielmo Tita

[guglielmo_tita\(at\)uqar.qc.ca](mailto:guglielmo_tita@uqar.qc.ca)

Benthic ecology, meiofauna, environmental impact of aquaculture

Dianne Tracey

[d.tracey\(at\)niwa.co.nz](mailto:d.tracey@niwa.co.nz)

Deep-sea corals and deep-sea fisheries; biodiversity; seamount research

John F. Valentine

[jvalentine\(at\)disl.org](mailto:jvalentine@disl.org)

Biotic processes and flow of energy among trophic levels; seagrass food webs

Wen-Xiong Wang

[wwang\(at\)ust.hk](mailto:wwang@ust.hk)

Marine pollution and ecotoxicology; biogeochemistry of trace elements; physiological ecology of marine invertebrates; trophic interaction

Mark E. Warner

[mwarner\(at\)cms.udel.edu](mailto:mwarner@cms.udel.edu)

Physiological ecology of reef building corals; photosynthesis and photoinhibition

Paula E. Whitfield

[paula.whitfield\(at\)noaa.gov](mailto:paula.whitfield@noaa.gov)

Invasion ecology and biology; climate change effects in marine communities

Marsh Youngbluth

[youngbluth\(at\)hboi.edu](mailto:youngbluth@hboi.edu)

Biological oceanography with special emphasis on zooplankton ecology and behavior

2.11 INVITATIONS

Later in your career you may be invited to participate in an edited book or a special issue of a journal, or to provide a review (e.g. in *Trends in Ecology & Evolution*, *Biological Reviews* or *Annual Reviews*). Journals that specialise in reviews have very high impact factors and are highly regarded. They tend to be quite fast and they usually enforce rigid deadlines. Editors of books may also approach you to contribute a chapter. However, you should be wary of the exceptionally long publication times for many multi-authored books. Often by the time the slowest chapter is finished, the earlier submissions are out of date. New journals often solicit submissions for their first few volumes, but the papers may be poorly cited until the journal is better established.

2.12 CONFERENCE

Beware of too many conference papers on your cv. They are difficult to find, poorly cited, and easy for others in your field to ignore. Conferences are useful places to publish mediocre or boring work, but you should save your better publications for more visible outlets. Conferences are primarily about meeting people (colleagues, potential employers, future referees and editors, etc). It is important to go to them for this reason, quite apart from anything you might learn from the presentations. There is no reason why you can't give a stunning talk (to evoke profuse admiration and feedback), but then publish the data elsewhere.

In summary, the choice of a journal in which to publish should be an active decision based on numerous criteria, including those outlined above. Make the decision in the context of your whole research profile, e.g. plan to have a steady output of 2 or 3 papers a year, of varying lengths (i.e. not all very short), with a mixture of outlets (including as many prestige journals as possible, and not too many symposia proceedings). For example, the publication profile of the ARC Centre of Excellence for Coral Reef Studies is shown below. How do you think it could be improved?

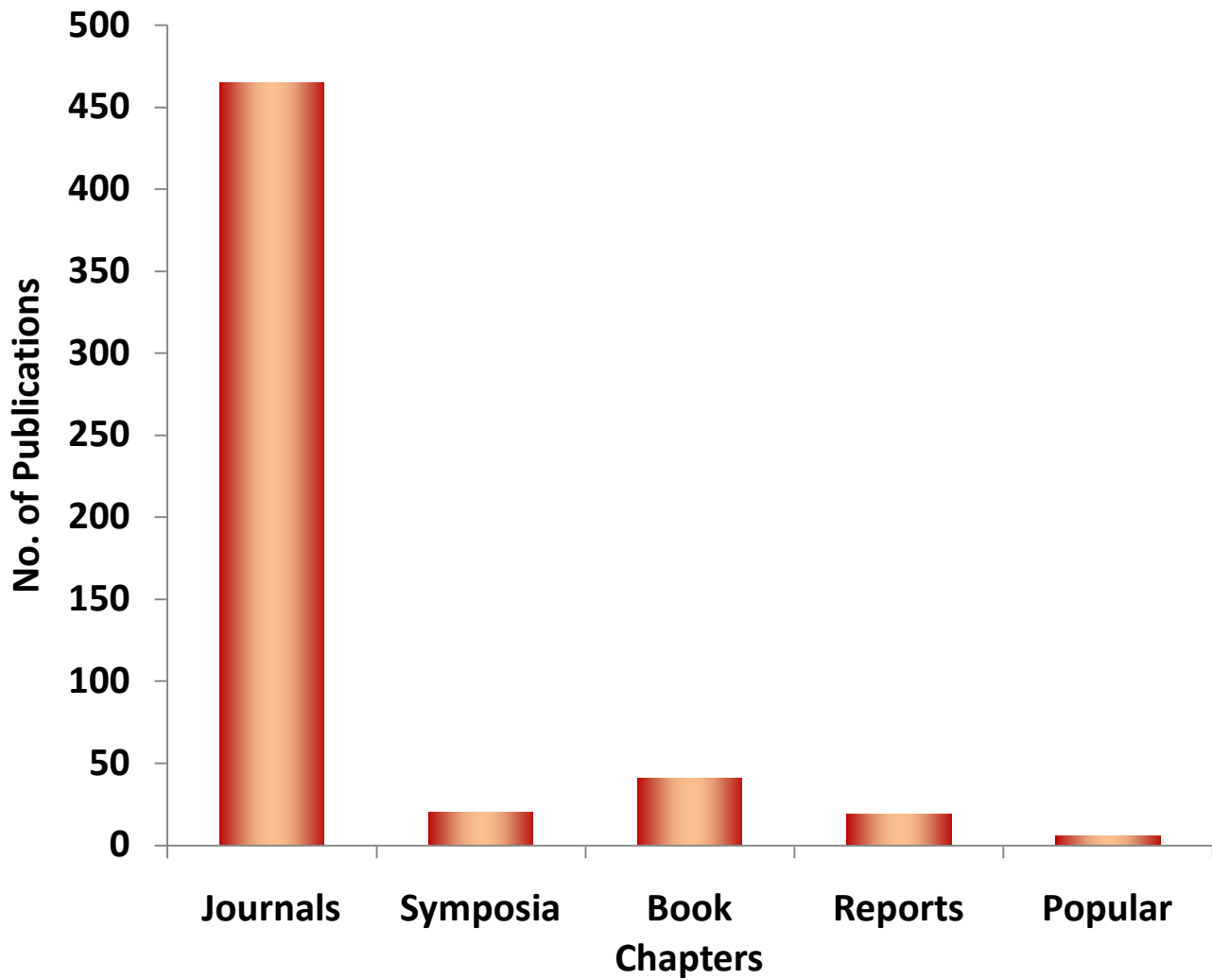


Figure 4. The venue of papers published by ARC CoE Researchers from 2006 to 2008.

3. Impact Factors, half-lives and Journal Quality

"The IMPACT FACTOR is a measure of the frequency with which the "average article" in a journal is cited in a particular year. The impact factor of a journal is calculated by dividing the number of all current citations of items published by that journal during the previous two years by the number of articles the journal published in those two years. The impact factor is useful in understanding the significance of absolute citation frequencies. It tends to discount the advantages of large journals over small ones, and is an important tool for journal evaluation."

"The HALF-LIFE is the number of years it took to accumulate 50% of the citations for a journal."

(Source: ISI Web of Science)

Journals with high impact factors are cited more often by definition, and a long half-life indicates that citations continue to accumulate long after an article is published. Increasingly, granting agencies and employers are using measures such as these to weight the number of publications an individual has, in recognition of the fact that the number of papers is less important than their content and where they are published.

The journals with the highest impact factors are in medical and molecular sciences, where the pace of research is fast (e.g. experiments are often short and lab based). In ecological studies, impact factors are lower, in part reflecting the length of time it takes to test or build upon recently published results. The most highly cited journals in each of several disciplines is illustrated below:

<u>Discipline</u>	<u>Most cited Journal</u>	<u>Impact Factor</u>
Biochemistry	Cell	31.3
Cell Biology	Nature Reviews Molecular and Cell Biology	35.4
Ecology	Bulletin American Museum Natural History	16.7
Fisheries	Fish and Shellfish Immunology	3.2
Genetics	Nature Genetics	30.3
Limnology	Limnology and Oceanography	3.7
Marine Biology	Advances in Marine Biology	4.9
Medicine	New England Journal of Medicine	50.0
Multidisciplinary	Nature	31.4
Plant Science	Annual Review of Plant Biology	22.2
Zoology	Wildlife Monographs	4.3

These are among the premium journals in their respective fields. Most journals, however, have an impact factor of <1. The current Impact Factors for most journals in four categories (Multidisciplinary Sciences, Ecology, Marine Biology and Zoology) are tabulate on the next page:

Marine Journals	Impact Factor
ADV MAR BIOL	4.9
OCEANOGR MAR BIOL	4.4
BIOFOULING	3.7
AQUAT TOXICOL	3.5
FISH SHELLFISH IMMUN	3.2
CORAL REEFS	3.0
MICROB ECOL	2.9
J PHYCOL	2.8
FRESHWATER BIOL	2.7
HARMFUL ALGAE	2.7
MAR ECOL-PROG SER	2.6
MAR POLLUT BULL	2.6
MAR BIOTECHNOL	2.5
J N AM BENTHOL SOC	2.4
CAN J FISH AQUAT SCI	2.3
J MARINE SYST	2.2
AQUAT MICROB ECOL	2.2
J EXP MAR BIOL ECOL	2.1
ESTUAR COAST SHELF S	2.1
J SEA RES	2.1
MAR ENVIRON RES	2.0
MAR BIOL	2.0
BIOL BULL-US	1.9
AQUAT SCI	1.9
EUR J PHYCOL	1.8
ECOL FRESHW FISH	1.8
REV FISH BIOL FISHER	1.8
MAR MAMMAL SCI	1.8
J PLANKTON RES	1.7
AQUACULTURE	1.6

Ecology Journals	Impact Factor
B AM MUS NAT HIST	16.7
TRENDS ECOL EVOL	11.9
ANNU REV ECOL EVOL S	10.2
ECOL LETT	9.4
GLOBAL CHANGE BIOL	5.9
MOL ECOL	5.3
GLOBAL ECOL BIOGEOGR	5.3
ECOL MONOGR	5.2
FRONT ECOL ENVIRON	5.1
ISME J	5.0
ECOLOGY	4.9
EVOLUTION	4.7
CONSERV BIOL	4.7
AM NAT	4.
J BIOGEOGR	4.6
J APPL ECOL	4.6
J ECOL	4.3
WILDLIFE MONOGR	4.3
J ANIM ECOL	4.2
ECOGRAPHY	4.1
FUNCT ECOL	3.7
PERSPECT PLANT ECOL	3.7
ECOL APPL	3.6
BIOL CONSERV	3.6
J EVOLUTION BIOL	3.5
EVOL ECOL	3.4
DIVERS DISTRIB	3.4
BIOGEOSCIENCES	3.4
ECOSYSTEMS	3.3
BEHAV ECOL	3.2

Molecular Journals	Impact Factor
CELL	31.3
ANNU REV BIOCHEM	30.0
NAT MED	27.6
ANNU REV BIOPH BIOM	17.0
NAT CHEM BIOL	14.6
TRENDS BIOCHEM SCI	14.1
MOL CELL	12.9
PLOS BIOL	12.7
MOL PSYCHIATR	12.5
MOL SYST BIOL	12.2
PROG LIPID RES	11.2
NAT STRUCT MOL BIOL	11.0
CURR BIOL	10.8
BBA-REV CANCER	10.3
GENOME RES	10.2
TRENDS MOL MED	9.6
PLANT CELL	9.3
CURR OPIN STRUC BIOL	9.1
CRIT REV BIOCHEM MOL	8.3
EMBO J	8.3
MOL INTERV	8.3
ADV MICROB PHYSIOL	8.2
CURR OPIN CHEM BIOL	7.9
CELL DEATH DIFFER	7.5
NAT PROD REP	7.4
MOL ASPECTS MED	7.3
MOL BIOL EVOL	7.3
HUM MOL GENET	7.2
ONCOGENE	7.2
EMBO REP	7.1

Multidiscipline Journals	science	Impact Factor
NATURE		31.4
SCIENCE		28.1
P NATL ACAD SCI USA		9.4
NANO TODAY		8.8
IBM J RES DEV		3.7
J R SOC INTERFACE		3.6
SCI AM		2.3
ANN NY ACAD SCI		2.3
PHILOS T R SOC A		2.3
NATURWISSENSCHAFTEN		2.1
THESCIENTIFICWORLDJO		1.8
HFSP J		1.8
P ROY SOC A-MATH PHY		1.7
AM SCI		1.2
J R SOC NEW ZEAL		1.0
DISCRETE DYN NAT SOC		1.0
AN ACAD BRAS CIENC		0.9
INT J BIFURCAT CHAOS		0.9
ISSUES SCI TECHNOL		0.8
COMPLEXITY		0.8
P JPN ACAD B-PHYS		0.8
CURR SCI INDIA		0.8
CHINESE SCI BULL		0.7
S AFR J SCI		0.6
SCI ENG ETHICS		0.6
PROG NAT SCI		0.5
T ROY SOC SOUTH AUST		0.5
FRACTALS		0.5
HER RUSS ACAD SCI+		0.4
SCIENTIST		0.3

If you publish your research in journals with a high Impact Factor, you will almost certainly be cited more often and reach a broader audience. However, you may miss part of a specialized group of people whom you want to reach. For example, the Impact Factor for *Science* is very high at 28, compared to the *Canadian Journal of Fisheries and Aquatic Science* at 2.3. A publication in the former carries a lot of prestige and will be widely read, but the latter is also a well respected journal which guarantees access to virtually all fisheries biologists. There is only a loose correlation between Impact Factor and quality, but in general the higher the IF the more visible the paper and the more "brownie points". A track record of publications all with IF's less than 1.0 would not be a good one. The Impact Factor for a symposium would usually be less than 0.2.

What are the Impact Factors of papers that you have already published? How do they compare to the distribution of Impact Factors for the ARC Centre of Excellence, shown below?

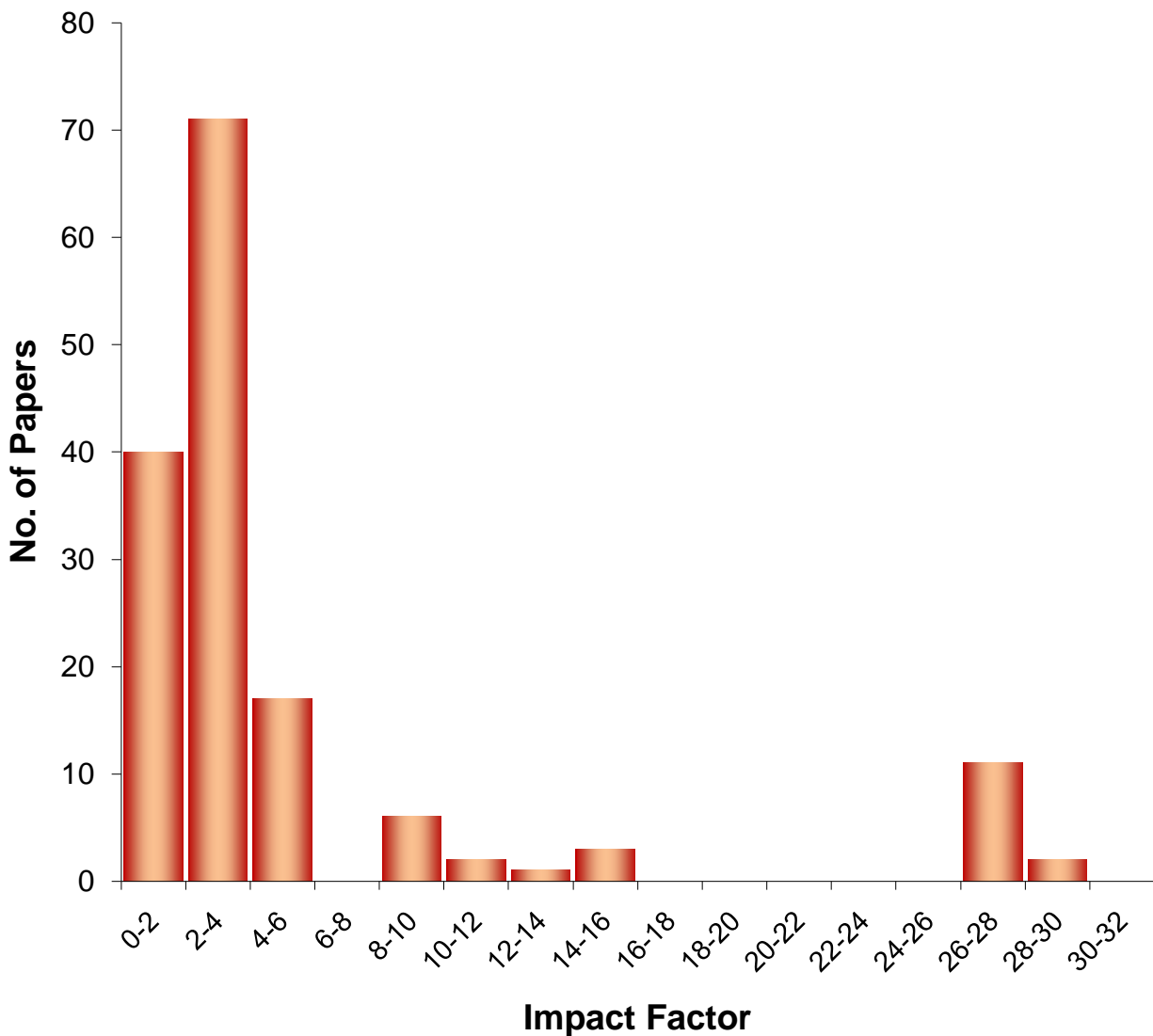


Figure 5. The distribution of Impact Factors for papers published by ARC CoE in 2008

4. How a Journal Works

In this section, I outline the mechanics of submission of a paper, the review process, responding to reviewers' comments, and what happens after the paper is accepted.

4.1 Submitting a paper

Submission to most journals is done electronically by filling in boxes in a form and uploading your manuscript and figures. The instructions vary greatly from Journal to Journal.

Prepare the paper according to the INSTRUCTIONS TO AUTHORS for the journal (see examples following). If submission is by mail, be sure to send the appropriate number of copies (usually 3 or 4), and address the submission to the correct person. Some journals have a single Managing Editor to whom all submissions must be sent, while others give you a choice of people to whom you can submit. Obviously, you should pick the person who you feel will look upon your work the most favourably. You will need to write a submission letter. Some journals give detailed instructions on the content of the cover letter, but most do not. You should include any planned change of address, your phone and fax number, and an email address.

It is a good idea to list potential friendly reviewers, which the editor might call upon. It is perfectly normal and acceptable for an author to request that certain people (one or two) are NOT asked to review your paper. Usually, the editor will respect your wishes. Even if they don't, they will bear in mind that there is some potential conflict. The next few pages illustrate an example of instructions to authors, from Coral Reefs:

INSTRUCTIONS FOR AUTHORS

Coral Reefs: [Journal of the International Society for Reef Studies](#)

1. Copyright declaration

The authors guarantee that the manuscript will not be published elsewhere in any language without the consent of the copyright holders, that the rights of third parties will not be violated, and that the publisher will not be held legally responsible should there be any claims for compensation. Authors wishing to include figures or text passages that have already been published elsewhere are required to obtain permission from the copyright holder(s) and to include evidence that such permission has been granted when submitting their papers. Any material received without such evidence will be assumed to originate from the authors.

Copyright for US Government Employees: The work of US Government employees prepared as part of their official duties cannot be copyrighted and, therefore, copyright cannot be transferred. Authors should, however, complete the Springer Copyright Form and add the following wording:

"I (we) certify that the article named above was prepared as part of my (our) official duties. The article is thus in the public domain and cannot be copyrighted."

US Government authors are permitted to distribute or post their published papers elsewhere but normal subscription terms apply for access to the article via Springerlink.

2. Copyright Form

When authors receive their proofs from the publisher they will be required to sign the copyright declaration.

3. Submission procedure

Manuscripts must be submitted online at <https://mc.manuscriptcentral.com/coral> (the journal website). Authors will be required to complete a simple registration procedure to obtain an account. They will then be led through a series of menus which will help them submit their manuscript. Instructions for this procedure and help files are available.

Authors will be able to check the progress of the review by logging on to their account. They will also be notified by e-mail when the review is complete.

Peer review will involve the following steps:

1. Author submits manuscript.
2. Editorial Office checks formatting (manuscript may be sent back for corrections at this stage).
3. Editor-in-Chief assigns a Topic Editor.
4. Manuscript is subject to Pre-Review
5. Topic Editor assigns Reviewers.
6. Reviewers submit reviews online.
7. Topic Editor makes recommendation.
8. Editor-in-Chief makes final decision.
9. Author is informed of decision.

The manuscript and all accompanying tables, figures and supplementary information must conform to the style and formatting detailed in these instructions. Errors will be returned by the Editorial Office for correction before the manuscript is sent for review. If any data in the manuscript were previously published or are used in another manuscript presently under consideration elsewhere, describe the extent of the overlap in the cover letter and include copies of the relevant papers. Similarly, include PDF copies of related manuscripts that are 'in press', submitted to another journal, or that reviewers are likely to have difficulty locating.

Pre-Review

Manuscripts will be subject to a pre-review on the following criteria:

1. Does the paper fall within the remit of Coral Reefs?
2. Does the paper have the potential to make a substantial contribution to the field of research?
3. Is the subject area of potential interest to a wide readership?
4. Is the paper in the correct style and format for Coral Reefs?
5. Are the figures appropriate and well presented – is there unnecessary use of colour?
6. Is the manuscript well written?

Either the Editor-in-Chief or a Topic Editor undertakes the pre-review assessment. A manuscript may be rejected without further review at this stage.

<https://mc.manuscriptcentral.com/coral>

4. Revisions and Resubmissions

Rejection of manuscripts typically arises because of flaws in experimental design or faulty methods, or if the writing is unclear, the manuscript poorly organized, incomplete, or deviates significantly from the Coral Reefs style. Coral Reefs normally only allows one major revision of any submission. If the revision of a paper is still not acceptable the manuscript may be rejected. In certain circumstances, the editor may invite an author to resubmit a paper for consideration as a new manuscript after, e.g., further research has been done. Such resubmissions must represent a profound rewrite and not merely cosmetic changes.

5. Decisions

Decisions by the Editor-in-Chief are final and correspondence will not be entered into.

6. Manuscript Types

Reports - Reports are full length papers which should not exceed 10-12 printed pages (approximately 8000 words, including Abstract, References, Acknowledgements and Figure Legends).

Reviews - Authors who wish to submit reviews must seek prior approval from the Editor-in-Chief and submit a proposal. This proposal may be sent out to experts in the field for advice before the Editor allows submission. Proposals should be limited to 1000 words, and should include the following:

- a provisional title, along with a fuller explanation of material to be covered and excluded
- a list of authors and roles, including all institutional affiliations
- a statement indicating why the review is both timely and needed
- an explanation of the approach to be taken
- an explanation of the overall novelty of the approach and its likely impact on practice or thought
- the proposed length

Reviews will normally be the same length as Reports. The Editor-in-Chief may also invite an author to write a Review. Since a Review is intended to be an authoritative statement, a very high standard of presentation will be required both in language and style, and figures.

Notes - Short papers (2–4 printed pages, up to 2900 words including Abstract, References, Acknowledgements and Figure Legends) should combine the results and discussion, and have an abstract of no more than 150 words.

Perspectives – short papers which present opinions or novel interpretation of existing ideas may be submitted in Note format. These will be printed as ‘Perspectives’. Headings may be chosen to suit the style of the Perspective.

Comments and Responses - The Editors welcome constructive comments and criticism of papers already published in the journal, where these are in the interests of science. Such manuscripts should be structured and styled in a manner similar to a full-length paper, modified to suit the circumstances. They will be subject to the normal review process.

Reef Sites - Reef Sites must not exceed 1 printed page in length. The emphasis is on high quality photograph(s) with a short explanatory text, (include references only if essential). The topic must be scientifically interesting (e.g., an unusual event or phenomenon, or an unexplored reef location). Authors must supply a text file excluding the figures in Word.DOC format, and a proposed layout in Word or PDF format with the figures embedded. The purpose of the layout file is to demonstrate to the Editor that the Reef Site will fit on a single page. The figures must be provided as TIF or EPS files as appropriate (see the instructions on figure preparation below). Digital images are required as these can be uploaded to the website. Authors should contact the Editorial Office for advice where prints or transparencies are involved. The normal word length of a Reef Site should not exceed 450 words including title, references, acknowledgements, and author details.

7. Manuscript preparation

General remarks – Authors are strongly encouraged to use the template (DOT file) available from the Journal home page, or the online submission site, this will help to avoid their manuscript being returned for incorrect formatting. The template can be used with MSWord for Windows and Macintosh. All manuscripts are subject to final copy editing by the publisher, after acceptance.

Language - Manuscripts should be in English. If English is not your first language we suggest that the text is edited, before submission by an English speaker.

Style – Manuscripts should be written in the third person and the past tense: e.g., “The experiment was conducted...” Do not use “I”, “we”, “our”, etc.

Spelling – Coral Reefs accepts both English and American variants of spelling, but manuscripts must be consistent throughout.

Configuration and Layout -

- Format: - Word. DOC
- Font: - Times New Roman is preferred as this converts best to the PDF proof.
- Line Spacing: - double space the abstract, main text, and legends. Single space and hanging indent the Reference List. Single space the body of any Table.
- Line and Page Numbering – do not use, this will be automatically created in the online PDF proof.
- Cite each figure and table at the appropriate point, numbered consecutively.
- Running head and Headers and Footers – do not use
- Headings: If you do not use the template, your main headings should be in lowercase bold letters using a large font. Use bold normal sized font for sub- headings; and further subheadings may be used as long as their order is clear (e.g., use italics or bold italics). Headings should be kept short. Do not number headings and subheadings.
- Species names: must be in italics; the genus is written in full at the first mention in the Abstract and again in the main text and the figure and table legends, and abbreviated thereafter.
- All Abbreviations and Acronyms: Should be defined at first mention in the Abstract, and again in the main body of the text and thereafter use only the abbreviation. Do not use a list of abbreviations at the beginning of the manuscript.
- Appendices: If there is more than one appendix, they should be numbered consecutively.
- Footnotes: Essential footnotes to the text should be numbered consecutively and placed at the bottom of the page to which they refer. In general, avoid the use of footnotes.
- Units: Use standard SI units. Relations or concentrations (e.g. mg per l) must be given as ‘mg l⁻¹’ (not ‘mg/l’). This applies to text, tables and graphs. Units of time should be expressed as s, min, h, d, yr; do not abbreviate 'week' or 'month'. Use hh:mm for time of day, not ‘am’ or ‘pm’, e.g., 0900 hrs, 2300 hrs.

- Means and Standard deviations / standard errors: If you present results as means with either the standard deviation or standard error make it clear which you are reporting. E.g., 300 ± 20.5 cm (mean ± SD). Similarly if you are reporting a range or a confidence interval say so.
- Date Format: Use English date formats, i.e., 3rd March 2005; 1–3 March 2003, between 1 and 3 March 1980, 1 March to 1 April (not 1 March–1 April), March 1980 to August 1981, March–April 1991.

8. Order of Manuscript/ Section Formats

The Word.doc file must contain all of the following sections. Any requirement to enter the Author details, Abstract, Keywords, or legends on the manuscript submission site is additional and is used as ‘metadata’ during the review process.

Title Page – The first page should contain the following information:

- A concise and informative title
- Names of the authors
- Affiliations and addresses of authors
- E-mail address, telephone and fax numbers of communicating author
- Keywords - 4 to 6 key words are required for indexing purposes.

Abstract - Reports and Reviews must be preceded by a single paragraph abstract presenting the most important results and conclusions in no more than 300 words. Notes should have a short abstract of up to 150 words. Abstracts must not contain literature cites, or excessive data. Omit 'introductory' statements that summarize previous work and avoid statements that do not identify actual findings. Summarise, rather than advertise both the important findings and their significance.

Introduction - The Introduction should state the purpose of the investigation in the context of earlier studies. A short review of the pertinent literature is generally appropriate. The Introduction should conclude with a statement of the scientific hypothesis to be tested / purpose of the study. Do not report the findings of the study in the Introduction.

Materials and methods - This section should give sufficient information for the methodology to be critically evaluated. Descriptions of the study site should appear in this section.

Results - The Results should describe the outcome of the study.

Discussion - The Discussion should explain and interpret the results in the context of other published research and may be used to present concepts or theories based upon the findings.

Do not use a ‘Conclusion’ or ‘Summary’ section.

Acknowledgements - These should be brief. Any grant that requires acknowledgement may be mentioned. The names of funding organizations should be written in full. Authors are responsible for ensuring that all persons named in the Acknowledgments section know and agree to being identified there (since it may be interpreted as endorsement of the data or conclusions).

Reference List - see below for further details

Figure Legends – see below for further details

9. References

Text Citations - In the manuscript text, references should be cited by the author and year e.g., (Hammer et al. 1993; Hammer 1994; Hammer and Sjöquist 1995; Brown 2000, 2004) and listed in year order first, followed alphabetically for references with the same year. Please note the correct punctuation; use 'and' where there are two authors and 'et al.' for multiple authors. Do not use italics. References should be separated by semicolons, multiple references by the same author are separated by a comma. Where a cite needs to be differentiated in the text, use 'a' or 'b': e.g, Smith et al. 1999a, b, and include the 'a' or 'b' in the Reference List.

Reference List - The list of References should only include works that are cited in the text and that have been published or accepted for publication. It should be in alphabetical order. Where there are multiple papers by the same first author, the correct order is; single author papers, followed by two author papers, three author papers, etc., and by year within each group. Always show all the names of the authors in the Reference List – do not abbreviate to 'et al.'

Abstracts, 'In preparation', or 'submitted' or 'in review' are not acceptable; all should be cited in the manuscript text as 'unpublished'. Do not include unpublished citations in the Reference List.

Unpublished data – the citation of unpublished data should be kept to a minimum. Do not use your manuscript to include previous unpublished data of your own unless you are willing to subject it to full peer review. If necessary this can be done by means of ESM (see below) where the same standards of reporting and review apply.

Commercial Software: - do not list normal commercial software in the Reference List. Include any unusual or specialist software which is otherwise difficult to locate.

Personal communications should only be mentioned in the text, together with the initials and name of the correspondent.

Reports, Newsletters, Magazines - Do not cite articles from magazines, newsletters (e.g., Reef Encounter, Eos) or newspapers. Reports of Government and International Organisations, learned bodies, Non Governmental Organisations are normally acceptable, but these should be readily accessible.

Theses - may be cited, but the inclusion of unpublished data from these sources will be carefully reviewed, and may not be acceptable.

10. Reference List Formats

Correct punctuation is required in References– e.g., no spacing between authors initials, comma between multiple authors, no stops after journal abbreviated names.

ENDNOTE bibliography users – a new output style (Coral Reefs 2006.ens) is available to download from the submission web site, please use this. We cannot guarantee that this is correct in all respects since it has been produced by the manufacturer of EndNote and not journal staff.

Journals - Do not include issue numbers unless each issue is paginated separately from the volume.

Risk MJ, Sammarco PW, Edinger EN (1995) Bioerosion in *Acropora* across the continental shelf of the Great Barrier Reef. *Coral Reefs* 14:79–86

Conley DJ, Schelske CL, Stoermer EF (1993) Modification of the biogeochemical cycle of silica with eutrophication. *Mar Ecol Prog Ser* 101:179-192

Goreau TJ (1977) Coral skeletal chemistry: physiological and environmental regulation of stable isotopes and trace metals in *Montastrea annularis*. *Proc R Soc Lond B Biol Sci* 196:291-315

Use abbreviated journal titles in the BIOSIS format – a list (in MSExcel format) of the 8000 most common titles and their abbreviations is available from the submission website. If your journal is not listed use the link to the website and carry out a search. Where a journal is not listed the name is given in full.

Articles with a Digital Object Identifier (DOI)

Gooseff, M. N., D. M. McKnight, W. B. Lyons, and A. E. Blum. 2002. Weathering reactions and hyporheic exchange controls on stream water chemistry in a glacial meltwater stream in the McMurdo Dry Valleys. *Water Resour Bull* 38 [doi: 10.1029/2001WR000834]
If there are page numbers then 38:15-32 [doi: 10.1029/2001WR000834]

Books and Technical Reports

Sorokin YI (1993) *Coral reef ecology*. Springer, Heidelberg

Food and Agriculture Organization (FAO). 2001. *Global forest resource assessment 2000: Main report*. FAO Forestry paper 240, FAO, Rome

You should aim to provide sufficient detail to enable a reader to locate the book/report. Each publication will have been produced in a different way so there can be no hard and fast rule.

Theses and dissertations (use the term thesis)

Coppard SE (2002) Morphological and ecological differences between species of the echinoid genera. Ph.D. thesis, University of London, p82

Winter A (1991) Carbon and oxygen isotope time series from an 18-year Caribbean reef coral. M.Sc. thesis, University of Puerto Rico, p150

Chapters

Bosence DWJ (1991) Coralline algae: mineralization, taxonomy, and palaeoecology. In: Riding R, Jones FR (eds) *Calcareous algae and stromatolites*. Springer, New York, pp98–113

International Coral Reef Symposia - The International Coral Reef Symposia are treated as a special case by the journal and are shown as follows:

Steven ADL, Broadbent AD (1997) Growth and metabolic responses of *Acropora palifera* to long-term nutrient enrichment. *Proc 8th Int Coral Reef Symp* 1:867–872

Other Conference Proceedings - For conference proceedings other than the Coral Reef Symposia, please give the title of the proceedings in full, e.g.,

Lough JM (2001) Perspectives on global climate change and coral bleaching: 1997-1998 sea surface temperatures at local to global scales. Proceedings JAMSTEC International Coral Reef Symposium: Coral Reef Biodiversity and Health as Indicators of Environmental Change. Science and Technology Agency, Japan Marine Science & Technology Center, Tokyo, pp215-229

You should aim to provide sufficient detail to enable a reader to locate the proceedings. Each conference will have been published in a different way so there can be no hard and fast rule.

Websites - The citing of websites should be avoided because of their temporal nature. The Editorial Office will verify that websites are sufficiently permanent as part of the reference check carried out after submission.

Stewart SR (2005) Tropical cyclone report: Hurricane Ivan. National Hurricane Center. <http://www.nhc.noaa.gov/2004ivan.shtml>

Articles In Press - If a reference does not yet have page numbers, the DOI may be added in lieu, or the paper should be cited as 'in press' as follows: (Note: For 'in press' citations, authors will be expected to give the publication details when they receive the proofs for correction from the publisher.)

Simberloff D (2006) Flagships, umbrellas, and keystones: is single-species management passé in the landscape era? *Biol Conserv* 'in press'

11. Reporting Statistical Results

Significance and threshold values - a result is significant if the P value is less than a preset threshold value α . In Coral Reefs α should normally be set at 0.05. If a result is significant, the P value can be reported in the text or a table, together with the F-stat, e.g., $F_{1,24}=5.6$, $p=0.001$. It is equally acceptable to use $p<0.05$, or $p<0.01$ etc.

Terminology - do not use terms such as highly and extremely significant where $p<0.01$ or 0.001 respectively, it will be for the reader to assess the relative importance of the result. Also do not use almost significant or just not significant where $p>0.05$.

Non significant P values – authors should consider whether a non significant result may have been the result of a lack of statistical power and whether this might affect the interpretation of their results. In these circumstances it is acceptable to report a p value greater than 0.05, at the same time you must report the power and explain the context of the result. In all other cases, simply report "X was not significantly different from Y".

Beyond significance - think beyond 'significance', by asking the question: "My results are statistically significant but are they scientifically important or even interesting?" For example statistics will detect extremely small differences where large Ns have been used, e.g., in flow cytometry, but do these very small differences have any meaning?

12. Figures - (see the submission website for a more detailed guide to figure formats and computer programs used to produce them)

Do not embed your figures in the manuscript. Please prepare your figures very carefully; poor figures in particular are a principal source of delay and additional work in the review and production process. Each figure will be checked by the Editorial Office before the manuscript enters the review process. Obvious errors or poor quality will be returned to the

author at this stage. Figures must be presented, each in its own file, correctly formatted (see below). A single composite figure is required where there are several parts to a figure. Lowercase letters (a, b etc.) must be used to identify figure parts both in the figure and in the manuscript text, and the figure legend.

Figure Legends - These should be typed at the end of the manuscript, and must be brief, self-sufficient explanations of the illustration. Always give any species name or acronym in full where they first appear in each legend. Do not include 'results' in the legend. The legends that you enter as 'metadata' on the submission site when you upload each figure are automatically placed next to the figure in the PDF and HTML proof; they are used to help the reviewer, not as the definitive legend. (Tip: copy and paste your legends from your manuscript file into the metadata, and then insert any special formatting.)

Graphs and Line Drawings - Prepare as vector line graphics and store in EPS format (with TIF preview). Adobe Illustrator is the preferred program to create EPS files. Please do not draw with hairlines; the minimum line width is 0.2 mm (i.e., 0.567pt) relative to the final size. If a line drawing cannot be computer generated it may be captured by scanning and inserted as a bitmap into an EPS file. The scan should be composed at 800dpi or greater relative to final size, before inserting in the EPS file. Please bear in mind that any bitmap images embedded in an EPS file cannot be edited by the journal office, or the printer. Any alterations required, however minor, will have to be returned to the author. Where possible any text, etc should be added in vector EPS format. Graphs should be prepared using a good scientific graphing program which can save/export the graph direct to an EPS file. We cannot accept scanned graphs other than in exceptional circumstances with prior approval from the Editorial Office. Figures composed of part photograph and extensive line art (whether colour or black and white) should be submitted in EPS format where the photograph will be in bitmap format (at 300dpi) and the line art/text in vector. If the figure only contains a very small amount of line art, e.g., scale bars and labels, it may be prepared as a photograph (see below). In EPS figures, the edges of lines and text should be crisp when viewed at high magnification 'on screen'. Pixelly or fuzzy edged line art will not be suitable.

Maps - These should be prepared as for Line Drawings. They should include a scale and a compass orientation. Latitude and Longitude should be expressed in degrees, minutes, and where necessary, seconds together with N/S and E/W.

Photographs - Black and White, and Colour photographs should be saved in TIFF format (Colour as RGB 8 bits per channel, B&W as greyscale) Scan/ save at 300dpi. Use scale bars and embedded text and annotations as required. Several figures or figure parts should be grouped in a plate on one page. Where there is extensive annotation it is better to use an EPS format (see above). TIFF figures are preferred at the size of one or two column widths (either 8.6 or 17.6 cm). The maximum printed page height is 23.6 cm. Authors should prepare any TIFF figures at the intended final size, and view and run a test print prior to submission. If all parts of the figure can be clearly seen in the printed version this will be a good indication that the figures will be acceptable.

Colour Figure Printing Costs Coral Reefs does not charge for colour figures in either the online or printed version of the journal.

13. Tables

Tables must be submitted separately from the text in one Word.DOC file, together with their legends in the same file. Tables legends should be brief and include any species names or acronyms in full together with an explanation of any abbreviation or symbol (e.g., asterisks for significance value) used in that table. Footnotes to tables should be indicated by superscript lowercase letters. Double line space the legends and single space the table content. Care should be taken to produce well designed layouts.

N.B. There is no need to enter the 'metadata' (caption/legend) in the file details tab on Manuscript Central for Word.DOC tables. This facility is provided for other journals who configure their tables in a different way.

14. Electronic Supplementary Material

Electronic supplementary material (ESM) for an article printed in this journal will be published and be permanently available to subscribers on Springer's website. Prepare any ESM in a similar format to the main manuscript. In the printed article, reference should be given to the ESM and vice versa.

ESM may consist of:

- Original data that relate to the paper, e.g. tables, additional illustrations (colour and black/white).
- Information that is more convenient in electronic form.
- Information that cannot be printed: e.g., animations, video clips, or sound recordings.
- There is no charge for colour in ESM.

15. Proofreading

Authors will be notified by e-mail once the printer's proofs are available online. Full instructions are provided at the time. The author is entitled to formal corrections only. Substantial changes in content, e.g., new results, corrected values, title and authorship are not allowed without approval. In such circumstances please contact the Editor-in-Chief before returning the proofs to the publisher.

After online publication, further changes can only be made in the form of an Erratum, which will be hyperlinked to the article.

16. Offprints, Free copy

50 offprints of each contribution are supplied free of charge to the corresponding author. Additional offprints may be purchased. An order form is sent to authors with the proofs and contains full details.

4.2 The Review Process

The editor will send your paper for review, usually to 2 or 3 people, who have been chosen for their expertise in the topic of your manuscript. People at your own Institution, anyone who has co-authored a paper with you before, or individuals named in your Acknowledgments section will not be asked. Often the editor will choose someone who is cited frequently by you, so this is one way to target favourable reviewers.

The reviewers will be asked to return their comments (a separate set for the author and for the editor) within a specified time, usually 4-8 weeks. Invariably, most reviewers need to be reminded, while some will fail to reply at all. This can delay the review process while a new reviewer is chased up.

When all or most of the reviews are returned to the editor, he or she will use them to guide their decision on whether to accept or reject your paper. If all the reviews are strongly disapproving, rejection is likely to be automatic. Even favourable reviews very rarely recommend acceptance of a manuscript without any revision. Reviews which are thorough and specific are likely to influence the editor more than those which are short and uncritical. A good editor will occasionally reject a paper even after it has received favourable reviews if they feel the paper is below the standards of the journal. (Clearly, this will not endear them to the author whose ego and reputation are at stake). Reviews, especially critical ones, are rarely signed (for obvious reasons). Often, the reviewers comments to the editor are more brutal than the version they write for the authors.

Frequently the reviews will be conflicting (although one may be more convincing than another). Figure 6 on the next page indicates the range of recommendations (reject, revise, accept) by 2-4 reviewers of 56 manuscripts submitted to *Coral Reefs*. Thirty-one of these manuscripts were eventually accepted, but all of them required varying amounts of revision. Twenty-five were rejected, even though about 40% of reviewers felt that the paper could be acceptable after revision. The editor decided to side with the more critical reviewers who recommended rejection. Note that a few of the rejected papers even had reviews which recommended acceptance without revision.

Manuscript	Reject	Revise	Accept	Action
1			2	Accept
2		1	1	Accept
3	1	1		Accept
4	1	1		Accept
5		2		Accept
6		2	1	Accept
7	1	2		Accept
8		2		Accept
9		2		Accept
10		3	1	Accept
11		3		Reject
12	1		1	Reject
13	1	1	1	Reject
14	1	2		Reject
15	1	2		Reject
16	2	1		Reject
17	2	1		Reject
18	2			Reject
19	3			Reject
20	3			Reject

Reviews of Papers submitted to Coral Reefs

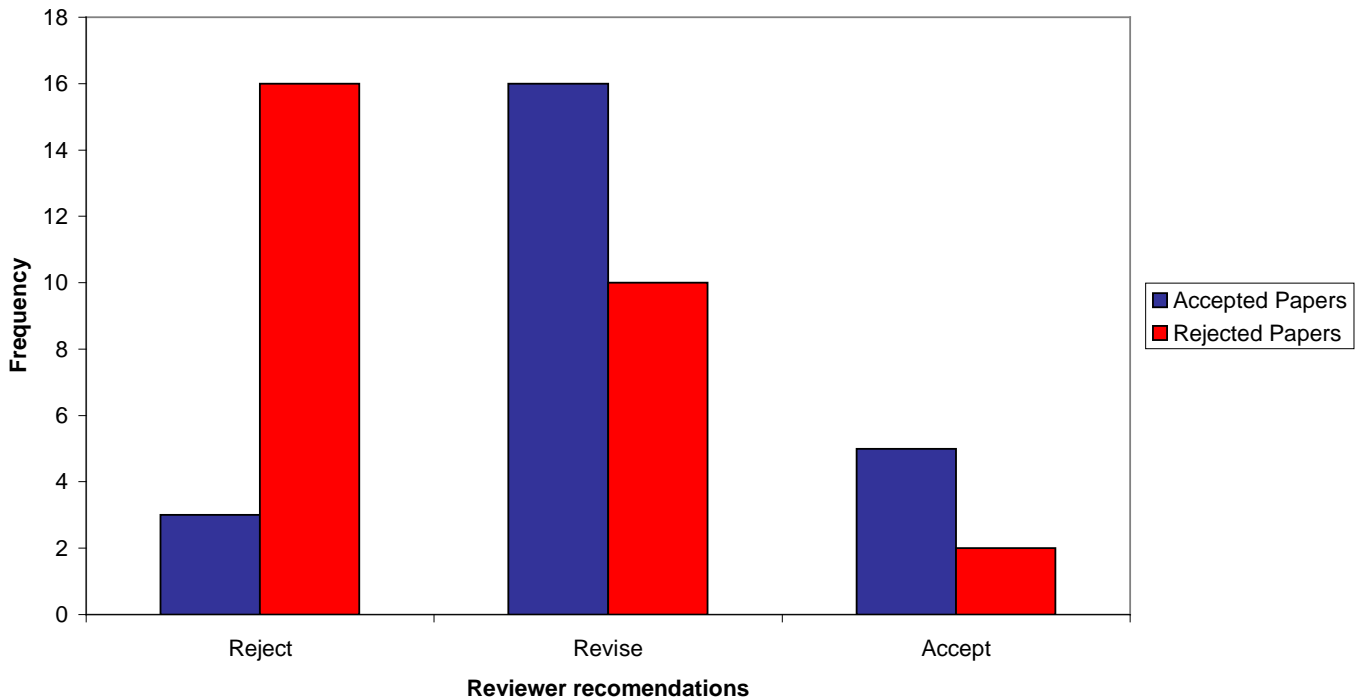


Figure 6. Recommendations by reviewers of manuscripts eventually accepted (above) or rejected (below) by the editor of *Coral Reefs*. Note the diversity of opinions.

4.3 Dealing With Reviews

The reviews and any copies of the manuscript that have comments on them will be returned to you by the editor along with a letter explaining their decision. If the manuscript has not been rejected, they will summarise the most important revisions which are required before the manuscript can be accepted. It is now up to you to revise the manuscript to meet the specifications stipulated by the editor and reviewers. A good editor is likely to ask for additional corrections that were not mentioned by the reviewers, which you need to pay special attention to.

The multiple set of comments should be viewed together. You especially need to address problems that have been raised by more than one person. Conflicting comments can be used to your advantage (e.g. reviewer 1 wants a figure deleted, but reviewer 2 stated that it was the most interesting result). Some comments will be harder to address than others (and some may be impossible, e.g. to collect more data). Do as many of the easy ones as you can. You probably don't have to respond to every last detail, but the more you do the more likely it is that the revision will be accepted.

When you resubmit the revised manuscript, you will need explain in detail in a cover letter how you have responded to the reviews, to convince the editor of what a wonderful job you have done. The best way to do this is to return a copy of the reviews with each point numbered, with corresponding numbers in your letter. A 3-4 page letter is not uncommon, depending on how much revision was required. If there are significant points which you do not change, you will have to convince the editor why the reviewer was wrong and you are correct. You cannot just ignore significant comments. Never insult a reviewer in your response even if they said something idiotic. Remember that the editor chose them, and they are likely to regard the reviewer highly.

The editor can respond in several ways to your revision: (a) he or she can accept the manuscript if they are satisfied with the improved version, (b) they could return it to you for further corrections, or (c) they could send it for further review, especially if major changes were required. This is bad news because a new set of reviews takes time, and new problems may arise. Often one of the original reviewers will be asked to look at the paper again. Finally, (d) the editor could reject the paper if your attempt at revision is inadequate. Being asked to revise a manuscript is no guarantee that it will be accepted.

4.4 After Acceptance

CHARGES. Some journals will send you a bill for page charges, corrections to figures, colour plates, etc. In some cases, page charges are waived if you plead poverty or are a member of a society associated with the journal (e.g. the Ecological Society of America, which owns *Ecology*, *Ecological Monographs*, and *Ecological Applications*). You may want to join the society when your paper looks like it will be accepted to avoid a nasty bill.

The cost of reprints is never waived, although you may get a few (25 usually) for free. Many granting agencies prohibit spending funds on publication costs and reprints, although your department or supervisor may be able to help out. Most journals provide you with a pdf version of your paper for free.

Printing. After acceptance, the publisher may contact you seeking clarifications about your paper. For example, citation in the text may be missing from the bibliography, an awkward sentence might need to be rewritten, or the axis-label of a graph could need to be enlarged.

PROOFS. A few months after your paper has been accepted, you will receive the proofs which show what the final produce will look like. You will be expected to return them with the corrections within a day or two, so if you are going to be away make arrangements from someone to email or fax them to you. Proofs invariably contain lots of mistakes, especially if the typesetter does not speak English. Check the data in the tables very carefully; a missing decimal place could be embarrassing. Update any recently published papers which had been in press. For clarity, you will be expected to use a set of convention symbols used by proofreaders, which the journal may or may not explain to you (see next page).

Remember, you cannot alter the content of the proofs - the time for revision was months ago.

COPYRIGHT. You will usually be asked to sign over the copyright to the journal. If any part of your paper is republished by someone else (e.g. in a future review article) the author will usually have to have written permission from both you and the journal you published in.



Proofreader's Marks

In general, indicate within the text line where a correction is to be made; indicate in the right margin what the correction is. Where possible, use the proofreader's marks below; otherwise please describe the change to be made. The example at the bottom shows how to mark multiple corrections in a single line.

<u>Mark the text</u>	<u>In the margin</u>	<u>Meaning</u>
Now ^(s) is the time	\sim	Delete; take out
Now is the ti ^{me}	\frown	Close up
Now ^s is the time	#	Insert space
Now [^] is the time	is	Insert word(s)
It is time [^] We	⊙	Insert period
It is time [^] but	↑	Insert comma
It is time [^] we	;	Insert semicolon
The high [^] energy pump	-	Insert hyphen
Smith [^] 1977 [^] stated	(/)/	Insert parentheses
Evaluation of in e^{\wedge}	∨	Insert as superscript
The value of E^{\wedge}_{max}	\wedge_{max}	Make subscript
<u>The value of</u>	<u> </u>	Straighten line(s)
all cases [^] The value [^]	¶	Make new paragraph
of most times	no ¶	No paragraph-run in
Th [^] of value [^] is	∥	Transpose
E_{max}	\leftarrow	Move left as indicated
E_{max}	\rightarrow	Move right as indicated
<u>Now</u> is the time	rom	Roman type
<u>now</u> is the time	cap	Capital
<u>Smith</u> (1977) said	s.c.	Small capitals
Now is <u>the</u> time	l.c.	Lower case
<u>Now</u> is the time	ital	Italic
<u>now</u> is the time	cap ital	Capital italic
<u>Now</u> is the time	b.f.	Boldface type
Now ^(is) the time	stet	Let stand as is

Example

<u>Mark the text</u>	<u>In the margin</u>	<u>To read</u>
^ Now (the is) time for all ^	ψ (tr) ~ /	"Now is the time for all
Good Men [^] come to the	no E (l.c.) // to (tr)	good men to come to the
aid [^] said Smith [^] 1977 [^] of	∨ (s.c.) (/) ∨	aid," said SMITH (1977), "of
their country [^]	their ⊙ ∨	their country."

4.5 Dealing With Rejection

So your paper has been rejected. After you kick the wall a few times, you need to decide what to do next. You have 3 options:

SULK, GIVE UP. This is rarely appropriate, and it won't help your career. Some reviewers and even editors can be pretty vicious, but usually they indicate that the paper can be published eventually (often somewhere else, and after suitable improvements). If the paper is rejected repeatedly from several places even after revision, *then* forget about it.

CHALLENGE THE DECISION. Occasionally, a reviewer will misunderstand something in your paper, or there is something missing which you can easily add. A lazy editor may go along with the reviewer's recommendation to reject where it is not justified. If you think the rejection was half-hearted, write a constructive letter to the editor, outlining how you can easily fix the problem, and ask them if they would be willing to reconsider a revised manuscript. Be constructive, positive, polite. If you are brash and abusive, they will certainly tell you to get lost. Your chances of success may be fairly slim, and again it may depend on if they know you and have some confidence in your abilities.

SUBMIT ELSEWHERE. This is the most common option. Generally you should lower your sights and go down the quality hierarchy to a journal with a lower rejection rate (e.g. first in *Ecology*, then in *Oecologia*, then *MEPS*, finally a symposium. Having wasted 3-6 months waiting for the first set of reviews, you may wish to resubmit to a fast journal such as *MEPS*. However, if the rejection was based on philosophical grounds, or if the paper can easily be fixed, then you can try to send it to a journal with a comparable quality and rejection rate. If the manuscript was rejected because it was overspecialised (e.g. too fishy for *Ecology*) and the reviews are otherwise quite favourable, then you should send the reviews with your paper to the editor of the next journal, along with an indication of how you have addressed them. He or she can then see that the paper has already been reviewed quite favourably. They are likely to require further reviews (especially if the first ones were not signed), but the process should be quicker. It would not be wise to send the new editor any reviews which really trashed the first version.

Never resubmit a paper without first trying to address the flaws brought up by the reviewers. If they misunderstood something, it is your fault as much as theirs, so fix it. Always reformat the manuscript to suit the style of the new journal, otherwise the reviewers will figure out that the paper has already been rejected somewhere else.

5. How To Avoid Rejection

The rejection rate varies greatly between outlets, from 95% for *Science* and *Nature*, 60% for *Ecology*, 30-40% for most journals, to less than 5% for most symposia proceedings. How do you minimise the chances of having a paper rejected?

5.1 DO GOOD, TOPICAL RESEARCH

Obviously, shoddy research is harder to publish than excellent work. The research must also be topical. For example, a descriptive paper on zonation of corals would have been publishable in a top journal twenty years ago, but today even a specialised marine journal is unlikely to take it. Even if the study is well executed, if it is old-fashioned and boring, it will probably get rejected.

5.2 WRITE WELL

An excellent study can be rejected if the writing is poor. Bad writing may confuse or irritate reviewers and editors. It is not their job to rewrite the paper for you (and they won't). If you need to, take a course in scientific writing. Common writing flaws are discussed later in this document.

5.3 COLLABORATE

A coauthored paper is less likely to be rejected if the authors compliment each others' skills (e.g. in designing the project, conducting it, or writing it up). First-time authors often have difficulty writing clearly and succinctly, or in the appropriate style for a particular journal. Consequently, an inexperienced author may benefit by teaming up with a more capable writer. Honours student in particular benefit substantially by writing their first paper with their supervisor (see figure below). Guidelines for coauthorship are discussed elsewhere.

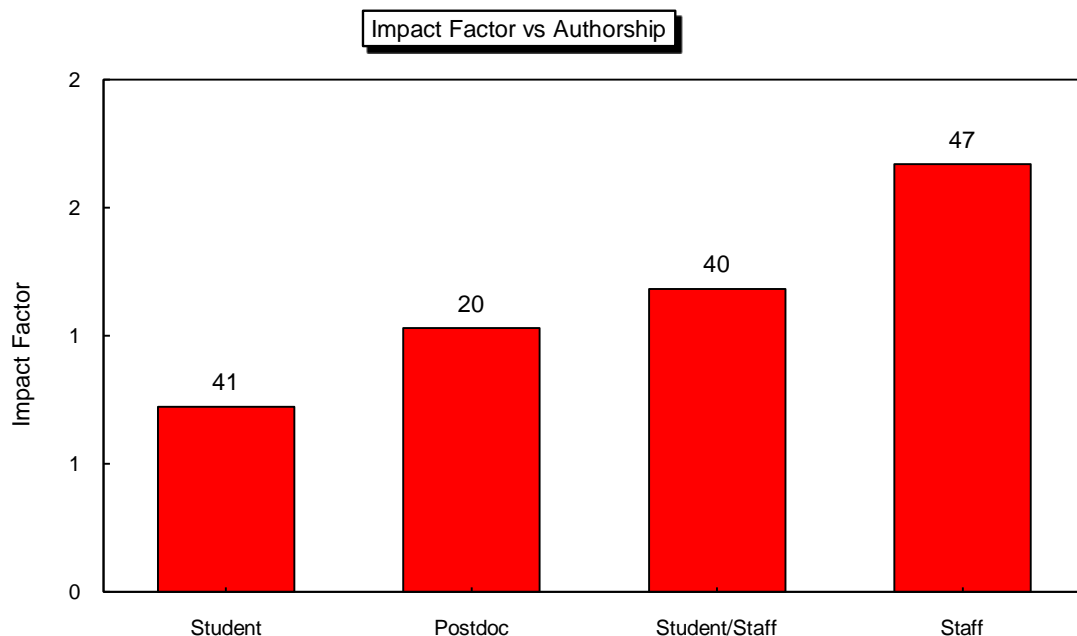


Fig. 7. The effect of author experience on the impact factor of publications. Note that papers written by student alone have an Impact Factor of 0.7, compared to 1.2 for publications coauthored with a staff member. Based on 148 papers published by the Marine Biology Department, JCU.

5.4 DO NOT SUBMIT PREMATURELY

Make sure the paper is as good as it can be before sending it off for review. Have your colleagues review several drafts informally, and/or if you are a member of a graduate discussion group, arrange to lead a seminar with your paper as the reading material. Your friends should be able to point out any correctable flaws which a reviewer might use as the grounds for rejection. A rushed submission (e.g. with spelling mistakes, poor figures, missing references) will not endear you to editors or reviewers.

5.5 FOLLOW INSTRUCTIONS TO AUTHORS

There is nothing more irritating to an editor or reviewer than to have to deal with an author who hasn't bothered to write their paper in the correct format (e.g. single spaced instead of double, references without titles when they should be given, an Abstract which is 4 times the maximum length, tables and figures in the wrong place, footnotes present when they are forbidden, etc.). Examples of "Instructions for Authors" are provided earlier. Each journal is different, so if your paper is rejected from one and you wish to send it to another, remember to reformat it.

5.6 RESPOND TO REVIEWERS' AND EDITOR'S COMMENTS

You must be seen to respond to comments and criticisms, especially where more than one person raises a particular issue. If you don't do something requested of you, you have to say why in your cover letter. Don't be overly defensive, and never resort to calling the reviewer an idiot, even if they are. Be positive, and indicate a willingness to consider any further suggestions the editor may have on your revision.

5.7 RESPOND PROMPTLY

The term of an editorship is usually about 3 years, so if an author takes a full year to revise a paper after it has been reviewed (which is unfortunately not unusual) there is something like a 30% chance that they will have to deal with a new person. This can be bad news. The first editor may have requested minor revisions of a paper that a new editor feels should have been rejected. He or she could overturn the original decision or send the revised paper out for a further round of reviewing. You should avoid this problem by revising the manuscript quickly (i.e. within 8-12 weeks). Many journals impose a time-limit for revising (usually 2-3 months), after which the returned paper is treated as a brand new submission.

5.8 NETWORK

Get to know editors and leading people in your field who are likely to be asked to review your papers. If your paper is marginal, but the editor and reviewers have an appreciation of your abilities, they are more likely to recommend major revision than rejection. If they have never heard of you, then the simplest way for them to deal with a manuscript which requires a lot of work is to reject it. When you submit the paper, suggest potential reviewers (all of which are your friends, of course). If they are respected and well-known researchers, there is a good chance that an editor will call on one of them as a reviewer. They are unlikely to pick your supervisor, mother, etc.

6. Common Writing Flaws

Poor-quality writing is often a contributing factor in a reviewer or editor's decision to reject a paper. ALWAYS get your friends, colleagues and supervisor(s) to read several drafts of your manuscript. If you have problems writing, take a professional course in scientific writing. A good reviewer or editor will usually point out an occasional awkward or ambiguous sentence, but they cannot be expected to rewrite the paper for you. Below are some general comments on the major sections of a paper, including notes on ubiquitous writing mistakes which drive editors nuts (which is not a wise thing to do):

TITLE: This is the most important phrase in the whole paper, yet some people appear to put very little thought into composing it. The title is what the reader looks at first, to decide if they should bother with the Abstract, followed by the rest of the paper. Many titles are too long, too specific or vague, and too parochial. Take for example, "Interannual variation in rates of recruitment, growth and mortality of the corals *Acropora hyacinthus* and *Pocillopora damicornis* (Scleractina) from Lizard Island, Great Barrier Reef, Australia". Why do we need the last 7 words, which only tell us where the study site is? Do we really need to have the two species names in the title? These excessive details will turn off readers who work elsewhere or on other species (which is everyone else on the planet). A better title might be something like "Life histories and population regulation in clonal organisms: A longterm study". The title needs to be tailored to the target audience. Note that the first title would be acceptable for a specialised journal (e.g. *Coral Reefs*), while the alternative would appeal to a much wider readership (e.g. *Ecology*).

ABSTRACT. The Abstract should state the objectives, the results, and the significance. Your Abstract will be indexed in places like *Current Contents*, *Biological Abstracts*, etc. If it is boring or unclear, then the reader will not read the rest of the paper. Often inexperienced writers include too much methodological detail, which belongs elsewhere. Abstracts are often too short; use the full word-limit allowed by the journal. An Abstract should be specific, with some numbers. For example, avoid vague statements like "species A grew faster than species B". Provide more detail, e.g. "Species A grew at $14.2\text{mm} \pm 2.2$ (SE) per year, four times faster than species B ($3.5\text{mm} \pm 1.2$). Do not end off with "these results will be discussed".

INTRODUCTION. This should present an overview of the field, its current status, and an indication of gaps (especially the ones your data are about to plug). State your objectives and hypotheses up front. Most journals allow a brief statement of results at the end.

Do not turn your Introduction into a full-blown review. Often inexperienced writers want to indicate just how many papers they have read on their topic, and they use 150 references where 30 will suffice. Don't state the obvious or insult the readers intelligence. Cite review articles rather than long strings of references to avoid breaking up the flow of the text.

Do not use the passive voice excessively. Archaic phrases like "it was thought that.." or "it has been shown that" should be avoided. American journals in particular use

the active voice predominantly, i.e. "I measured corals" rather than "corals were measured".

METHODS. This is an account of how you fulfilled the objectives. Use subheadings which reflect each objective rather than each technique so we do not wonder at the end of a paragraph why you did a certain procedure. Put the details of site and species descriptions here rather than in the Introduction. Think carefully about whether you really need a map of the site. New authors often have excessively detailed Methods sections which are lifted from their thesis. Be brief, especially with standard techniques and analyses. Do not blather on and on about standard statistical models and transformations.

Often in a field study, some samples or sites will be lost or omitted for some reason. If this occurs, do not refer to sites "1, 2, 4 and 6", because the reader will want to know what happened to 3 and 5. Renumber the four published sites in a full sequence to avoid confusion.

RESULTS. This section states what you found out. Do not repeat the methods or discuss the results prematurely. Use topic sentences which highlight the main theme of each paragraph. A very poor, but common lead sentence is "The results are shown in Figure 1 and Table 2", instead of "There was a striking difference in growth rate between species (Fig. 1, Table 2)". Do not expect the reader to pore over huge tables to find out the results themselves. You must lead them through each figure and table. Do not bury results in figure captions. Above all have a logical structure to this section, preferably in the same sequence as the objectives in the Introduction, with subheadings to guide the reader. Avoid having results appear out of the blue, on topics which had no introduction.

DISCUSSION. This section states the main conclusions and consequences of your findings, relates them to past work, and suggests future directions. Most people find the Discussion the hardest to write. Do not restate the results excessively, but when you do refer to them cite the appropriate Tables and Figures. Concentrate on the major points; you do not have to discuss every last finding. Again, good topic sentences and a logical structure will make for a clearer paper. Start with the most interesting result and try to end with a bang.

ACKNOWLEDGMENTS. Be very brief. Include an acknowledgment of funding sources and a contribution number where appropriate. Remember that anyone cited here will not be asked to be a reviewer. Thank a few famous people: it looks good. State if the work was part of a degree. Please indicate here if your research was supported by funding awarded to the ARC Centre of Excellence.

REFERENCES: Do not have too many (check out the average number for similar length papers in the same journal). If you have a choice between several, pick ones that are the most relevant and the most accessible (e.g. a paper in *Science* rather than a symposium in Russia, published in German). Avoid theses and grey literature if possible. Make sure that all references in the text are also in the bibliography, and visa-versa. Follow the Instructions to Authors for the correct format in the text and in the bibliography. Remember to update the bibliography after revisions or if you are submitting to a different journal. When the proofs arrive, update any references

which had been in review or in press which recently may have come out. It is considered bad form to have 90% of the references to yourself.

FIGURES AND TABLES. Check that the number is not excessive for the length of your text. Avoid redundancy in their content. If several figures have the same axes, consider merging them. Most maps add very little to a paper. Remember that your figures will be reduced sharply in size for publishing. Use your computer to ensure that the reduced figures are still clear. Be consistent in your use of symbols and patterns from one figure to the next (e.g. species A is always the black circles, species B the open ones). If you have a plate, do not submit a low resolution version for review (unless it is very clear). Each reviewer will need to see the images clearly to decide if they need to be published.

Figure captions are often too short. Make sure that the figure can be understood without further help from the main body of text. It is usually clearer to put the legend for symbols directly on the figure, rather than in the caption.

7. Guidelines for Authorship of Scientific Publications

The following guidelines were originally written by Professor Howard Choat, and have been modified slightly for a broader audience.

A priority for a professional scientist is the publication of their research in journals which incorporate a peer review process. The first step in determining authorship and priority is to acknowledge that both supervisors and students have responsibilities in seeing work through to publication. The guidelines spell these responsibilities out. Their key feature is that they provide a basis for negotiating in advance. Although they focus on student publication they will also serve as a basis for developing a general policy on academic authorship.

More than half the papers published in such journals are either co- or multi-authored. What constitutes a valid claim for authorship and the order in which authors are listed on papers are important questions. In many cases these questions may be resolved by informal one-off arrangements amongst research workers. However as authorship becomes an increasingly important yardstick of professional status there is a need to establish more formal procedures. The purpose of such procedures is to provide a framework for negotiating authorship arrangements. Authorship guidelines can also provide a basis for resolving disputes. However if the guidelines have done their job such disputes should be rare although research workers will need to have some procedures to follow if disputes do arise.

These guidelines focus on papers arising from supervised research projects within honours and higher degree programs. In all such projects publication of research material is a priority. Such programs involve a certain degree of research training, including the ability to get into print. The importance of such training varies with the degree program. The requirements for assistance with the preparation process are usually greatest at the honours level when students are attempting their first publication. Such efforts may require considerable input from the supervisor,

especially in the actual writing process. PhD students should be more self-sufficient and able to accomplish the writing of an acceptable first draft themselves.

The guidelines provide a framework for negotiating when a paper should be authored by the student alone, when it should be co-authored and how the order of authorship is sorted out. Additional aspects of authorship including multi-authored papers and the role of persons who have provided paid technical and scientific assistance will be discussed below. The added complication of directed research funded in order to achieve particular objectives must also be taken into account.

The question of single v co-authored papers may be most profitably considered in the context of potential advantages and disadvantages. A student contemplating publication for the first time may feel that the paper should bear their name alone. There are advantages associated with single authorship including attribution of credit to one person. It may also be felt that one person can accomplish a task more quickly than two. However the writing of a scientific paper leading to its publication is a frequently cited journal is no simple task. A co-authored arrangement involving the supervisor has the advantages of combining skills and resources, spreading the workload and the experience to deal with the debilitating experience of critical and sometimes contradictory reviews of your work. Co-authorship may also enhance your profile. There are benefits associated with publishing your initial papers with a well known figure in the field. The idea of a scientific apprenticeship with a student progressing from co- to single authored papers is a useful mode.

8. Guidelines for Authorship of Publications

Guidelines vary considerably among disciplines eg field-based research versus team-based laboratory research. For ecologists, a research project usually comprises six elements, from the initial ideas to the submission of a paper.

- 1) **The concept:** This includes the development of the research questions which provide the framework for the project. In many instances it includes the development of a formal research proposal.
- 2) **Funding:** Research projects are not always funded by a single successful proposal. Funding often involves the acquisition of funds from a number of sources. Obviously both the concept and the funding will determine the project's viability.
- 3) **The experimental design, pilot studies & equipment development:** For biological projects the design and its validation by pilot studies is critical. For some projects the development of equipment or computer programs can plan an important role. However, the most important contribution is the design which provides an operational framework for data collection and subsequent analysis.
- 4) **Data collection:** This covers the execution of the research program. For most biological projects this involves field studies. Although this is the main hands-on component of the study, it will only be as good as the experimental design allows. If it is a laboratory based study, the same caveats apply.

- 5) **Data analysis:** This is often an area where assistance will be required but the ground work for the analysis should be laid down when the experimental design is considered. Biological data is often intrinsically difficult to deal with and most workers will need to consult a biometrician at some stage.
- 6) **Writing up:** This includes the organisation of the paper as distinct from the thesis, literature reviews, the actual writing and the preparation of bibliographies, illustrations and all the requirements of checking and proof reading.

Authorship could be based on a contribution to 4 of these categories although there is room for negotiation in particular cases and different research disciplines and cultures also vary. It may be that a paper simply cannot get to the draft stage without a major input from a supervisor or co-worker. However there is no place for purely honorary authorship or claims based on the performance of paid technical work. It should be emphasised that authorship implies mastery of the subject matter and the ability to take responsibility for the material published. This includes sufficient knowledge of the topic to defend the results in a scientific forum.

The significance of the tasks listed in the above schedule varies with the career stage of the student. For students commencing a research career the major difficulties are often associated with writing, especially introductions and discussions. Many papers are rejected because of poor performance here. For more experienced students the significance may shift to the development of questions and concepts, experimental design and data analysis. This will have its effect on the allocation of authorship and its order. A useful rule of thumb is that the senior author should be responsible for writing the first draft of the paper. It should be kept in mind that even a polished final draft such as would be accepted for a thesis is only a first step in publication. It is highly unusual for papers to be accepted by journal without the requirement of some re-writing.

An increasing amount of research within tertiary institutions is carried out with the support of dedicated funding which commissions research workers to carry out particular tasks. Such funding frequently identifies studentships as a means of accomplishing some part of the research. Under these circumstances the research project must remain within the area identified in the funding proposal. If the research is carried out under some form of contractual obligation a rapid turnaround time in publication may be required. In these circumstances it is especially important to establish publication agreements in advance, preferably with a written document. It is also important for the student to be aware of any intellectual property implications before undertaking the research.

The copyright for research results generated by a student project such as an honours thesis belongs to the student. Delays may occur in the writing-up schedule of research programs and can be caused by both parties in the student/supervisor collaboration. For these reasons it is especially important to have a pre-publication agreement which allows either party to write up the work if delays occur. Although the student owns the data under copyright law having a joint authored paper written by the supervisor is better than no paper. It should be stressed that the purpose of the

guidelines is to provide a basis for negotiating and reaching agreement on these topics before publication is planned.

It is also important to understand that many institutions and granting agencies require that authors deposit copies of raw data in institutional archives when work is submitted as a thesis or for publication. This does not mean that other parties have unrestricted access to this information. However it is essential that the raw data can be made available to resolve disputes concerning the interpretation of the published work.

Two additional aspects of authorship should be acknowledged. Multi-authored publications involving student research also occur and should be negotiated on a case by case basis. In many projects paid work of a technical or scientific nature is commissioned to cover particular aspects of the work. If this work is funded at an appropriate professional rate (as opposed to a student stipend) then such persons do not automatically obtain authorship. Their work is usually a contractual arrangement in which a specified service is provided for money. To obtain authorship such persons would need to contribute to the elements listed above. Such arrangements should be clarified at the start of employment.