

**DRAFT**

# **MARINE SCIENCE PROGRAM**

## **MSP GUIDELINE No. 3**

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**DEFINITION, FORMAT AND PROCESS TO PUBLISH MARINE  
SCIENCE DATA AND TECHNICAL REPORTS**

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**October 2008**

**Science Division  
Department of Environment and Conservation**

# MSP GUIDELINE No. 3

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## DEFINITION, FORMAT AND PROCESS TO PUBLISH MARINE SCIENCE DATA AND TECHNICAL REPORTS

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The aim of this manual is to provide the definition, structure and format of Marine Science Program (MSP) data and technical reports. It also provides information on the process of MSP report publication.

### Definition of reports

#### *Data Report*

- For archival of data, survey site information, sampling methods and data analysis methods.
- May contain results of some preliminary analysis of raw data e.g. raw results of video transect analysis
- Contains no results of statistical analysis or methods of statistical analysis – this goes in the Technical Report.
- Consider the Data Report as a metadata report that also includes the data.

#### *Technical Report*

- For presentation of results of statistical analyses and interpretation/discussion of the results in the context of what they mean for conservation management (i.e. includes an ‘implications for management section’).
- Follows a typical scientific report format (e.g. intro, methods, results, discussion)
- Contains no raw data – this goes in the Data Report

# Structure of reports

## ***Data Report***

**Summary**

**Contents**

**Brief introduction** - including background to the study and objectives/aims

**Methods**

- **study location**
- **survey design** –state the results of any power, precision and cost benefit analysis used to determine the survey design/methods (if reporting about the results of a pilot study then this statement should go into the results section)
- **survey sites** – include maps where possible
- **sampling methods**
- **data analysis**

**Data Management and Report Distribution** – provides information on where the data is archived including any digital video cassettes, video imagery, still imagery, other raw data, and data sheets etc. Also includes information on report archival/ distribution, i.e. states where the report will be stored and who the report will be distributed to. Include a digital copy of the Data Report on a CD inside the back cover of the report.

**Data/Results** – provide a hard (if appropriate) and digital copy (e.g. CD inside back cover of report) of the raw data including the raw data sheets (if appropriate) in the report.

**References** – if appropriate

**Appendices** – if appropriate

## ***Technical Report***

**Summary** – including summary of major results and recommendations

**Contents**

**Introduction**

- **background**
- **objectives/aims**
- **this report (mentions aim of report)**

**Methods** (cut and paste from Data Report but with an additional statistical analysis methods section)

- **study location**
- **survey design** –state the results of any power, precision and cost benefit analysis used to determine the survey design/methods (if reporting about the results of a pilot study then this statement should go into the results section)
- **survey sites** – include maps where possible
- **sampling methods**
- **data analysis**
- **statistical analysis**

**Data Management and Report Distribution** – Brief section that refers the reader to the Data Report for information on where the data is archived and includes information on report archival/ distribution, i.e. states where the report will be stored and who the report will be distributed to. Include a digital copy of the Technical Report on a CD inside the back cover of the report.

**Results** – results of any statistical analyses or summary of data i.e. averages etc

**Discussion** – including implications for management

**Conclusion** – if appropriate

**References**

## Appendices

# Procedure to publish and distribution of final report

## **Data Report**

1. First draft – write the report
2. Internal review - Obtain internal MSP review
3. Final report – Amend report from any changes from review
4. Obtain Science Division approval for publication – Obtain relevant signatures to complete the ‘Approval form for scientific and technical publications, reports (including interim grant reports), posters and conference abstracts, website etc’ (Appendix 1).
5. Prepare a PDF of the inside of the report (excluding the cover) and determine which photographs you will use on the cover – 1 large and 4 small images. This will be sent to Strategic Development and Corporate Affairs (SDCA<sup>1</sup>)- see next step. MSP will provide SDCA with the entire inside of the report in a PDF so that it is not changed. SDCA will provide MSP with a ‘style guide’ so that the type of font, size, spacing, etc etc is consistent between reports. *Note: This style will be developed in consultation with MSP staff during the publication process of the first report.* SDCA will create the cover for us (once you have provided them with photographs and text) and organize printing of the report.
6. Complete the ‘Request for publications’ form. On completion send the form to SCDA with the final PDF report and images.
7. Liaise with SDCA until report is published.
8. Report Published.
9. Distribution- SDCA will distribute copies of the report to the DEC Woodvale library, Archives at DEC Woodvale library and the Serials Section of the WA State Library. Further distribution of the report is the responsibility of the author. The author should distribute a copy of the report to:
  - Program Leader, Marine Science Program
  - Relevant Senior Research Scientist, Marine Science Program
  - Director, Science Division
  - Relevant Regional Manager
  - Relevant District Manager
  - Relevant Marine Park Coordinator
  - Relevant Regional Marine Ecologist
10. Make sure a PDF and hard copy of the report goes into the MSP library.
11. Enter your project metadata into the iVEC MEST online, publicly available metadatabase of Western Australian marine science projects:  
<http://mest.ivec.org/geonetwork/>

## **Technical Report**

Note: Exact same procedure as data reports but with an external review step (step 17).

1. First draft - Draft the report
2. First internal review - Obtain internal review of report from relevant MSP staff member
3. Second draft - Amend report from internal review comments

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<sup>1</sup> Current SDCA contact: Samille Mitchell, [samille.mitchell@dec.wa.gov.au](mailto:samille.mitchell@dec.wa.gov.au), (08) 9389 8644

4. Second internal review - Obtain internal review from relevant senior MSP staff member: i.e. Temperate or Tropical Senior Research Scientist (or Program Leader, possibly not necessary?, Al and Shawn instead)
5. External review – obtain external review when appropriate from a scientist (external to DEC) who has recognized expertise on the subject matter.
6. Final internal review - Obtain internal review from relevant senior MSP staff member: i.e. Temperate or Tropical Senior Research
7. Final report – Amend report from any changes from final review
8. Obtain Science Division approval for publication – Obtain relevant signatures to complete the ‘Approval form for scientific and technical publications, reports (including interim grant reports), posters and conference abstracts, website etc’ (Appendix 1).
9. Prepare a PDF of the inside of the report (excluding the cover) and determine which photographs you will use on the cover – 1 large and 4 small photographs. This will be sent to Strategic Development and Corporate Affairs (SDCA)- see next step. MSP will provide SDCA with the entire inside of the report in a PDF so that it is not changed. SDCA will provide MSP with a ‘style guide’ so that the type of font, size, spacing, etc etc is consistent between reports. *Note: This style will be developed in consultation with MSP staff during the publication process of the first report.* SDCA will create the cover for us and organize printing of the document etc.
10. Complete the ‘Request for publications’ form. On completion send the form to SCDA with the final PDF report and photographs.
11. Liaise with SDCA until report is published.
12. Report Published.
13. Distribution- SDCA will distribute copies of the report to the DEC Woodvale library, Archives at DEC Woodvale library and the Serials Section of the WA State Library. Further distribution of the report is the responsibility of the author. The author should distribute a copy of the report to:
  - Program Leader, Marine Science Program
  - Relevant Senior Research Scientist, Marine Science Program
  - Director, Science Division
  - Relevant Regional Manager
  - Relevant District Manager
  - Relevant Marine Park Coordinator
  - Relevant Regional Marine Ecologist
14. Make sure a PDF and hard copy of the report goes into the MSP library.

## **Distribution of drafts**

All reports must be clearly marked as such while in draft form (e.g. watermarked ‘DRAFT’ or with ‘DRAFT’ clearly placed in large text on the front cover). Reports must not be distributed outside of MSP until adequately reviewed internally by MSP staff, unless a limited distribution is approved by the MSP Program Leader. Only reports in final form will typically be available for external distribution.

## **Format of reports**

**Note to author: Once the format, including text size and type, page margins, design of cover, line spacing etc are determined during the process of publishing the first report, complete this section including all the information needed to format the report so that they all look the same.**

# APPENDIX 1 – PUBLICATION APPROVAL FORM

## Department of Environment and Conservation, Science Division

### APPROVAL FORM FOR SCIENTIFIC AND TECHNICAL PUBLICATIONS, REPORTS (INCLUDING INTERIM GRANT REPORTS), POSTERS AND CONFERENCE ABSTRACTS, WEBSITE ETC.

(Junior authors on publications to be reviewed and submitted by an external senior author need only complete the sections indicated by \*)

Type of submission ..... \*

For publication in ..... \*

Author(s) ..... \*

Title ..... \*

Manuscript already read critically by .....

Has manuscript been read by Project Leader (if applicable)? .....

To which RPP or SPP does this publication relate?  /  \*

Attach the plain English synopsis of <250 words and summary of management implications Yes

Avoid jargon, explain why the research was done, give the main results, and if appropriate indicate the conservation status of the taxon studied.

Submitting AUTHOR'S NAME ...../...../200... \*

PROGRAM ..... \*

This form and the accompanying manuscript should be submitted to Biometrician and Program Leader by email simultaneously, and to the Herbarium Curator if it contains a taxonomic component related to plants, algae or fungi.

1. Paper submitted to Biometrician for review and databasing \*

Approved by Biometrician ...../...../200...

OR returned to author for revision ...../...../200...

2. Paper submitted to Herbarium Curator for checking of specimens if necessary \*

Approved by Curator  
...../...../200...

OR returned to author for revision ...../...../200...

3. Paper submitted to Program Leader for appraisal of policy, economic and management implications \*

Approved (or noted) by Program Leader ...../...../200...

OR returned to author for revision ...../...../200...

4. If approved, Biometrician files a copy on the SPP/RPP file, returns MS to author for submission to external journal,  
T:\529-CALMscience\Shared Data\Marine Science Program\ADMINISTRATION\GUIDELINES\MSP  
GUIDELINES\3 DRAFT\_Data and Technical reports.doc

and sends signed approval sheet and Abstract to Woodvale Librarian for database \*

.../...../200...

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Author is to retain this form until one year after publication. Authors are responsible for the cost and distribution of any reprints they may wish to order. It is **obligatory** for all Departmental authors of technical and research articles published in external journals to provide a **reprint or photocopy**, immediately upon publication, to their Program Leader and Project Leader, **and two paper copies and one electronic copy** to the Wildlife Science Library.

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Last amended Feb 2007.

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# APPENDIX 2 - REQUEST FOR PUBLICATIONS FORM

## REQUEST FOR PUBLICATION

CALM Strategic Development and Corporate Affairs Division  
Tel: (08) 9389 8644 Fax: (08) 9389 8296

**New publication**      *Does this new publication also have to go on the web?* Yes  No   
**Reprint**              *Include CALM job reference number* .....

**PDF for web**        

If reprint, are there alterations? Yes  No  (If yes, please attach detailed list or marked-up copy)

**Title of publication:** .....

**Author(s):** .....

**Format (book, report, leaflet, brochure, flyer etc...):** .....

**Number of copies:** .....

**Date required (allow six weeks from time of text approval to delivery):** .....

**Delivery address:** .....

.....

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**Authorised by (Branch or Regional Manager):** .....

**Signature of Branch or Regional Manager:** .....

**Contact phone number:**.....**Mobile:**.....**Email:** .....

**Budget:** .....

**Account code:** .....

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**Text:**            1. Please supply Microsoft Word text on CD, disk or email.  
                     2. Please do not format documents with columns or tables.

**Artwork:**     Illustrations?                             Yes      No   
                     Illustrations/diagrams required?     Yes      No   
                     References supplied for illustrations? Yes      No

**Photographs:** Transparencies/negatives supplied? Yes      No   
                     High resolution digital images?     Yes      No

**Other special requirements?** .....

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# APPENDIX 3 – GUIDELINE NO. 9: PUBLICATIONS, REPORTS AND MANUSCRIPTS

## DEPARTMENT OF ENVIRONMENT AND CONSERVATION

### Science Division

#### GUIDELINE NO. 9 - PUBLICATIONS, REPORTS AND MANUSCRIPTS

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*'Knowledge is power' (the full quotation is 'knowledge is power if you know it about the right person' (Ethel Mumford, 1878-1940)).*

*'A little learning is a dang'rous thing' (Alexander Pope, 1688-1744). (Thomas Huxley, 1825-1895, has said of this 'If a little knowledge is dangerous, where is the man who has so much as to be out of danger?')*

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The policy of Science Division is that express approval must be obtained to publish research findings and educational articles. The authority to approve publications has been delegated by the Director to the Program Leader.

The purpose of this policy is to ensure that:

- All publications and reports produced by the Department of Environment and Conservation scientists are of the highest quality. This is achieved by internal refereeing and through review by senior, experienced staff. Publication of low calibre work reflects badly on us all, not just the author(s) and demonstrates that time and resources have been wasted.
- Papers are published in appropriate outlets, especially (where possible) in high standard, widely-circulated, refereed journals. (Too many Department publications in un-refereed journals will also reflect badly on all of us).
- Implications of the research outcomes are clearly understood by policy makers and managers in the Department and that decisions can be made about new procedures, etc., in a quiet and logical atmosphere. (Lobbying before careful consideration of the implications of research results can lead to poor decision-making because of the pressure-cooker atmosphere in which decisions are then often made.)

The Approval Form is not a means of censoring scientists, nor is it meant to be an attack on personal freedoms. The Director and the Division will always support the Department's scientists who wish to publish their work as long as it is sound science and/or up-to-date information. (As an aside, it is interesting to note that we in the Department have much more freedom to publish than many of our colleagues in private enterprise.) However, research results acquired while employed by the Department or while using the Department's funds are the property of the Department and a draft paper or report does not become an official Department document until such time as it has been approved for publication via the Approval Form.

Often the results of our research are politically sensitive, because they indicate that previously unknown environmental problems exist or that past policies or practices need modification. (There's nothing wrong with this - indeed it is the function of research to challenge the existing order). Lobby groups will want to use our research results to obtain action by Government or, sometimes, simply to embarrass policy-makers or politicians. For these reasons it is essential that the Department has the opportunity to review research findings and their implications before they are widely released. Also it is essential that people who wish to use knowledge have the full picture.

Scientists are sometimes not clear when to publish. Some err on the side of publishing too much preliminary work and later have to admit that their initial results did not hold up over a

longer time frame. Others insist on dotting every *i* and crossing every *t* before publishing and tend to publish too little. You should avoid either of these extremes: if you are in doubt seek advice from more experienced scientists or during your annual appraisal.

It is Division policy that scientific papers be published in high quality, refereed journals. Publication in Science Division should be restricted to papers which, because of their length or limited relevance outside Western Australia, may not be accepted by external journals. If in doubt, seek advice from your Project Leader or Program Leader.

Similarly, educational and/or information papers should be published in quality, reputable journals or magazines.

Electronic media are increasingly being employed for publication. Science Division supports the use of all appropriate media in order to publish the work of its staff. Even though this Guideline was initiated before electronic publishing was commonplace, all the issues detailed in this Guideline are relevant to, and are to be adapted for, electronic media. In particular, websites, pages, etc. created with a significant input by Science Division staff are to be reviewed before "publication" on any website. Eventually, an electronic system of templates and an automatic database will be established to expedite review and amendment of the pages of the Science Division website.

The web address corresponding to the uppermost level of nesting for the amendment or new work is to be recorded on the approval form. The web address should also be provided for journal publications that also appear in electronic form and all Science Division staff are encouraged to create links in web pages to facilitate access and dissemination of their work.

The first step in publishing research results is usually the preparation of a draft manuscript.

You should be careful with copies of drafts. There is a general rule on copying drafts that should be followed. Drafts, clearly marked as *draft-in-confidence*, may be sent to colleagues, both within and outside the Department, for critical appraisal but copies may not be supplied to anyone else, including political or

lobby organizations, without the approval of the Director of Science Division. It is not ethical for colleagues to copy or use information in drafts supplied to them for review. They should return the manuscript with their comments unless you have specifically given approval for them to keep a copy. (Obviously, you should follow these rules when you are asked to review or referee a manuscript.)

Some publications will have no or minor management or policy implications. In these cases there will be little or no delay in obtaining approval to publish if the paper is of sufficient quality (sound science etc.) and the target journal is appropriate. In other cases there may be major management or policy implications. If you have done your job properly these will have already been considered by managers and policy-makers before approval to publish a final draft is sought and, again, there will be little or no delay. If you haven't done this there may be some delay.

It is also recognized that many publications arise from collaboration with one or more external colleagues. In such arrangements the Science Division input may only result in junior authorship in any publications, and the internal review process will be undertaken, as is appropriate, within the senior author's organization. In such situations, Science Division officers are expected to keep track of the progress of any such publications and complete the Approval Form as appropriate, and attach a draft if practical. This procedure not only assists your personal tracking of the publication, but has the added virtue of maintaining the currency of SPP information. Also ensure that the senior author forwards sufficient reprints for your personal and departmental requirements.

It is most important that statistical analysis of the data collected is sound. If improperly analysed papers were to enter the scientific literature, the Department's (as well as your own) reputation and credibility would be exposed to attack. It is therefore sensible to heed the following good advice (taken from Maindonald, *N.Z. J. Agr. Res.* 35: 121-142, 1992).

- Describe the statistical analysis in enough detail that another scientist could reproduce your analysis in another data set.
- Include standard errors or standard deviations (or their equivalent) and sample sizes wherever relevant. Where there are multiple error strata, be sure to quote the SE that is relevant to the comparison made.
- Provide the reader with some reasonable minimum assurance that you have made coarse checks of the assumptions underlying your statistical methods.
- Ensure that the statistical analysis correctly reflects the experimental and sampling designs.
- Ensure that replication is at the level of whole treatment units, and analyse accordingly.

Applied scientists need to learn to look at what they write from the users' point of view: assume that the user is a hyper-sensitive individual and remember that diplomacy is usually better than confrontation. Confrontation should be used only as a last resort. If you see it looming it is important to keep personality out of the issue and involve your Project Leader, Program Leader or, if necessary, the Director, to ensure that your point of view is seen as an objective position of Science Division.

Authors submitting a paper to *Conservation Science WA* or *Nuytsia* are encouraged to nominate four scientists external to the Department and qualified to act as referees. Selection of referees is made by the Editor in consultation with the appropriate member of the Science Management Team, who is not obliged to accept any of the author's nominations. An author who is a member of this Committee will of course not be consulted about this matter. The manuscript will then be submitted to referees for evaluation of its scientific merit.

Authors who subsequently are dissatisfied that their paper has not been evaluated objectively by a referee should initially discuss their concerns with their supervisor. If concerns still exist, the matter should then be taken up with the Editor. If the matter cannot be resolved, the Director of Science Division and the relevant Program Leader will decide the matter.

Note that for all papers published by officers of the Department, copyright subsists in the Government of Western Australia (not by DEC or the officer). It is best that this requirement is brought to the attention of the Editor of the journal when the paper is submitted. Attached is a specimen letter that provides the appropriate words and tone.

**Explanatory Note – Science Division Publications Approval Form is needed for the following:**

- Paper for external journal
- Paper for Conservation Science WA
- Paper for *Nuytsia*
- Book chapter
- Book
- Conference paper
- Conference paper - abstract only
- Workshop paper
- Interim Grant Report
- Final Grant Report
- Text for a poster
- Article for *Landscape*
- Article for external popular magazine (e.g. *Geo*, *Australian Geographic*, *Australian Natural History*)
- Pamphlet
- Any other publication with a Science Division author identified in it
- Web pages and other electronic media

Note: book reviews are excluded.

Authored by:	Shannon Armstrong; Marine Science Program	September 2008
Reviewed by:	Kelly Waples; Marine Science Program	October 2008
	Kevin Bancroft; Marine Science Program	October 2008
	Alan Kendrick; Marine Science Program	October 2008
Revised by:		