



Australian Government
Department of the Environment

Protocol for creating and updating maps of biologically important areas of regionally significant marine species



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Front cover: Australasian gannets (Richard Freeman), whale shark (Paradise Ink), Flatback turtle nesting (GBRMPA), dugong feeding (GBRMPA)

Back cover: Great White Shark (Andy Murch), Red-footed Booby nesting with chicks (Fusion Films), Southern right whales (Georgina Steytler)

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Purpose

This protocol explains how to supply new information for the purposes of creating or updating biologically important areas (BIA) of regionally significant marine species. It explains what BIAs are and how they can be maintained; outlines the process for updating or creating a BIA; and provides background information on the BIA concept.

What are Biologically Important Areas of Regionally Significant Marine Species?

Biologically important areas (BIAs) are spatially defined areas where aggregations of individuals of a species are known to display biologically important behaviour such as breeding, foraging, resting or migration. They are an important consideration in decisions made under national environmental protection law.

BIA maps and descriptions are available in the Conservation Values Atlas at: www.environment.gov.au/topics/marine/marine-bioregional-plans/conservation-values-atlas.

Who manages BIAs?

BIAs are managed by the Australian Government Department of the Environment (the Department). The department creates and maintains BIAs with assistance from research scientists and others who provide data and review BIA information. The department also maintains the Conservation Values Atlas: a visual mapping tool which displays all BIAs.

BIAs were first identified using expert scientific knowledge about species' distribution, abundance and behaviour under the marine bioregional planning program. They form an important consideration in decisions under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). To date, BIAs have been created for species for which the marine environment plays an important role.

Why should BIAs be updated?

Biologically important areas are a new data construct designed to assist decision-making under the EPBC Act. BIA mapping has been undertaken for over 70 species protected under the EPBC Act across six marine regions. These maps can be updated as new relevant species information becomes available and as our understanding of species' behaviour expands.

The department welcomes the contribution of new and relevant species information which may improve existing BIAs or lead to the creation of new ones.

Which species are BIAs relevant to?

BIAs have been created for regionally significant marine species which are protected under the EPBC Act. These are species listed as threatened species (critically endangered, endangered, vulnerable, conservation dependent), migratory species, cetaceans or marine species. An individual species may be listed under more than one category. A current list of species' protected under the EPBC Act is available on the department's website at: www.environment.gov.au/legislation/environment-protection-and-biodiversity-conservation-act/about-epbc-act/epbc-act-lists

Steps for updating an existing BIA

1. Contact the Department of the Environment

Contact the Department via
marine.metadata@environment.gov.au

Determine with a departmental contact officer

- whether a change to an existing BIA is appropriate
- the scope of the change
- if the updated BIA would require a third party review
- if third party review is required, how this can be achieved.

2. Provide relevant information to the department

Complete the attached table (BIA Protocol Table) and send it to the department, along with any other relevant information. Shape files, hand drawn maps, published papers or any other relevant information should also be provided.

The table provides a record of the information used to create a BIA, including relevant metadata. The attached template includes examples to assist users and additional instructions are provided on page nine. If further clarification is needed, please seek advice from the departmental contact officer.

Most information in the table will be available as an information pop-up box within the Conservation Values Atlas. The metadata are also available through the department's Discover Information Geographically (DIG) website at: **www.environment.gov.au/topics/science-and-research/databases-and-maps/discover-information-geographically**.



Photo: Fairy terns (Georgina Steytler)

3. Update BIA

The departmental contact officer will send all of the information you provide to the department's GIS technical officers. They may require further input from you, to ensure that the information is interpreted correctly.

Please note, due to the technical nature of this work and competing priorities, updates to BIAs may not be completed immediately. The departmental contact officer will discuss an appropriate timeframe with you. Considerations may include: the species' listing status; the scale of the change to the BIA; the format of the information you are providing (for example, if a shape file is provided, less work may be required to update the BIA); and the BIA's relevance to current decision-making.



Photo: Southern right whales (Georgina Steytler)

4. Approve the updated BIA

The departmental contact officer will seek your approval of the updated BIA.

Please note the department encourages the dissemination and exchange of public sector information provided on its website on an open and reusable basis.

All BIAs and supporting information will be published on the department's website under a Creative Commons Attribution 3.0 Australia licence. If you do not agree to providing BIA information under these terms please discuss it with the departmental contact officer.

The details of the relevant licence conditions are available on the Creative Commons (<http://creativecommons.org.au/>) website, as is the full legal code for the Creative Commons Attribution 3.0 Australia licence (<http://creativecommons.org.au/learn/licences/>).

5. Review the updated BIA

Any changes to a BIA will need to be reviewed by an external party, unless the change is based on information from a peer-reviewed source. Third party review of BIAs ensures user confidence in the data. The departmental contact officer will discuss an appropriate review process with you, based on how the updated information has been collected.

If the third party review results in any changes to the update, you will be notified by the departmental contact officer.

6. Updated BIA uploaded to the Conservation Values Atlas

Once the update has been reviewed by a third party it will be uploaded to the Conservation Values Atlas. The departmental contact officer will notify you once this is complete.

Steps for contributing to a new BIA

1. Contact the Department of the Environment

Contact the department via
marine.metadata@environment.gov.au

Determine with a departmental contact officer

- whether the species is protected under the EPBC Act
- whether a new BIA is appropriate
- whether the data collected meet the criteria for a BIA
- whether the new BIA would require a third party review
- if third party review is required, how this can be achieved

2. Provide relevant information to the department

Complete the attached table (BIA Protocol Table) and send it to the department, along with any other relevant information. Shape files, hand drawn maps, published papers or any other relevant information should also be provided.

The table provides a record of the information used to create a BIA, including relevant metadata. The attached template includes examples to assist users and additional instructions are provided on page nine. If further clarification is needed, please seek advice from the departmental contact officer.

Most information in the table will be available as an information pop-up box within the Conservation Values Atlas. The metadata are also available through the department's Discover Information Geographically (DIG) website at: **www.environment.gov.au/topics/science-and-research/databases-and-maps/discover-information-geographically**.

3. Develop the new BIA

The departmental contact officer will send all of the information you provide to the department's GIS technical officers. They may require further input from you, to ensure that the information is interpreted correctly.

Please note, due to the technical nature of this work and competing priorities, updates to BIAs may not be completed immediately. The departmental contact officer will discuss an appropriate timeframe with you. Considerations may include: the species' listing status; the scale of the new BIA; the format of the information you are providing (for example, if a shape file is provided, less work may be required to update the BIA); and the BIA's relevance to current decision-making.

4. Approve the new BIA

The departmental contact officer will seek your approval of the BIA once it has been finalised.

Please note the department encourages the dissemination and exchange of public sector information provided on its website on an open and reusable basis and seeks to publish all material on its website under a Creative Commons Attribution 3.0 Australia licence.

All BIAs and supporting information will be published on the department's website under a Creative Commons Attribution 3.0 Australia licence. If you do not agree to providing BIA information under these terms please discuss it with the departmental contact officer.

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5. Review the new BIA

All new BIAs need to be reviewed by a third party, unless they are based on information from a peer-reviewed source, for example, a published journal paper. Third party review of BIAs ensures user confidence in the data. The departmental contact officer will discuss an appropriate review process with you, based on how the new BIA has been derived.

If the third party review results in any changes, you will be notified by the departmental contact officer.

6. Upload the BIA to the Conservation Values Atlas

Once the update has been reviewed and approved by a third party it will be uploaded to the Conservation Values Atlas. The departmental contact officer will notify you once this is complete.



Photo: (from top) Juvenile Australian Sea Lion (Michael Snedic), Green Turtle laying eggs (Robert Thorn), Red-tailed Tropicbird and chick (Ian Hutton), Grey Nurse Shark (Nigel Marsh)

Information needs

Datum formats

Where possible, please provide data in the format of an ESRI shapefile or file geodatabase

Deriving a polygon

If a shapefile is not provided, the department will require sufficient information to derive a polygon for the BIA. This could be provided through the BIA Protocol Table, or through other information sources/descriptions that specify a location. These may include, but are not limited to:

- a collection of satellite tracking points
- a description of a specific area e.g. the western half of xx Bay
- coastal waters out to the 20m depth contour
- a 10km band, 50m wide following the 100m depth contour from point x to y.
- maps with shapes hand drawn on them
- relevant journal articles.

Attachment A: BIA Protocol Table to accompany spatial boundary data

[see excel table attached]

The attached BIA Protocol Table captures the data needed to create or modify a BIA, including relevant metadata. Instructions for filling in the table are provided below and an example is included in the table to assist users. If further clarification is needed, please contact the departmental contact officer.

Instructions for populating the BIA Protocol Table:

- fields in grey should only be filled in by departmental officers
- fields marked with an * are mandatory
- unless otherwise specified, all text, apart from fields in grey, will be publically available on the CVA through the information pop-up box
- please keep punctuation and abbreviation to a minimum and do not use special characters (*&^%\$#@!) when filling in the fields
- Species group (**column B**): select from the drop-down list
- Genus (**column C**): insert Genus only
- Species name (**column D**): please include full species name (including genus)
- Common name (**column E**): species common name
- Location (**column F**): A geographic description of the area including physical landmarks, known boundaries or other ecological features. This information will be used to define and/or validate the spatial extent of the area. This field must be populated. (Max characters = 254)
- At least one behaviour must be filled out (**columns G - J**): select from the drop-down list
- Other (**column K**): Any other biologically important behaviour occurring within this area and its presence certainty (known to occur, likely to occur, or may occur). Additional distribution information not considered to be biologically important can also be included in this field. Please leave blank if not applicable to the area. (Max characters = 254)

- *Occurrence vs Use Level (columns L & M):*

‘**Occurrence**’ refers to the certainty of a species’ overall presence in an area and whether it is known or likely to occur.

Known biologically important area is an area where the species is known to occur and includes areas where there have been confirmed sightings or robust records of the species exhibiting a biologically important behaviour in that area (i.e. sourced from observations or satellite tracking etc).

Likely biologically important area is an area where the species is likely to exhibit a biologically important behaviour in that area. Likely biologically important areas have been identified on the basis of extrapolations made by scientists:

- about suitable habitat that may support a biologically important behaviour; and
- there is some evidence that the species is likely to be present in the area (e.g. strandings of dead animals on adjacent coastal areas or from fishing records, past observations).

‘**Use Level**’ refers to the extent to which a population uses the area: select from the drop-down list.

Use level is important information, particularly in the context of referrals, and will be captured in the CVA information box. **Column N** can be used if further information is needed.

Where a species displays multiple behaviours with different use levels, a separate row should be created in the table for each behaviour. If the different behaviours have the same use level, a single row can be used.

It is important to capture both occurrence and use level as they refer to different things. For example, in relation to seabirds there may be two islands for which there are confirmed sightings of a species nesting. Therefore the occurrence is ‘known’ for both sites. However, one island may have a significant number of breeding pairs on it, whilst the other may have less than 10. In this case, the use level would be ‘high’ for the first island and ‘low’ for the second.



Photo: Red-footed Booby (Fusion Films)

- *Eco Reason (column O)*

This column refers to the ecological reasoning for the species presence or utilisation of this area (why is this area important from a habitat and/or niche perspective?). For example, whales may aggregate in an area to feed due to an upwelling event or dugongs may feed in an area as it is a seagrass meadow.

- **Season (column P):** describe seasonal use - please specify months rather than summer/autumn etc
- **Comments (column Q & R):** only fill in if necessary
- **Source category (column S):** how has the information been obtained, e.g. expert opinion, published journal paper etc
- **Source description (column T):** eg: journal reference, name of expert who provided the information etc
- **Contact details (column U):** contact details of expert (this information will not appear in CVA).

To be filled in at a later stage if relevant:

- **Reviewed by (column V):** name of third party reviewer (if this occurred)
- **Review date (column W):** date of review by third party (if this occurred)
- **Reviewer comments (column X):** record any comments as necessary.

Background

How are BIAs derived?

BIAs have been identified using expert scientific knowledge about species' distribution, abundance and behaviour in the region. The presence of the observed behaviour is assumed to indicate that the habitat required for the behaviour is also present.

In many instances, BIAs represent a substantial improvement on the distribution mapping provided through the department's **species profile and threats database** (SPRAT), not only through improved confidence in occurrence (expert agreement), but also in the more precise and helpful description of ecological use of that spatial area (e.g. breeding known to occur).

An important caveat on BIAs is that they do not represent a presence/absence dataset; that is, just because a BIA is not identified for a particular area does not mean that the species does not occur in that area.



Photo: (from top) Green Turtles mating (Andy Warmbrunn), Caspian tern (Brian Furby)

