

Reef Life Survey data access

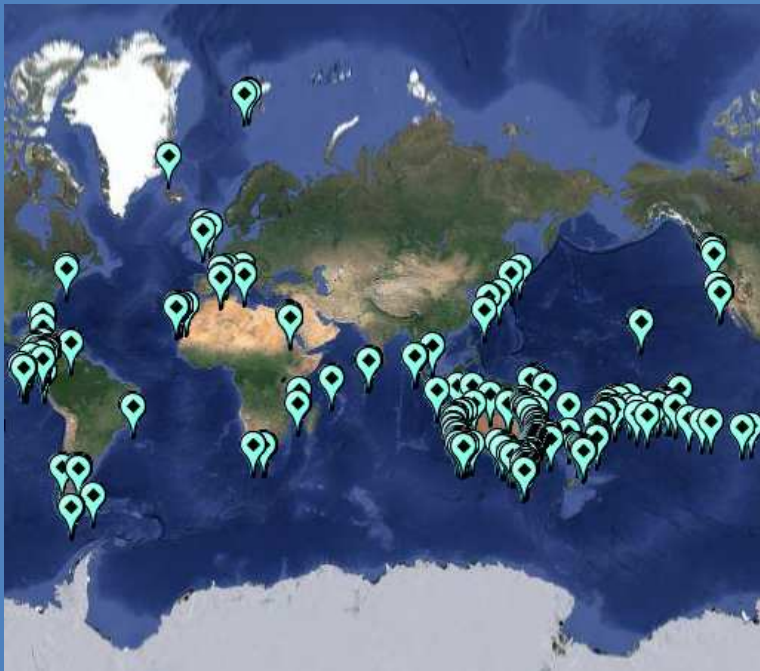
Roger Proctor, Xavier Hoenner, Katherine Tattersall, Just Berkhout, Rick Stuart-Smith & Graham Edgar

University of Tasmania
(roger.proctor@utas.edu.au)

Reef Life Survey (RLS) have visited 2500+ coral and rocky reef sites around the world and have conducted approximately 6000 surveys across those sites. Dive surveys can be repeated in one location at different times and every survey is conducted at a nominal 'site'.

During a dive survey observations are recorded of each

- vertebrate species abundance and biomass, and
- invertebrate species abundance.



Reef Life Survey (RLS) have visited 2500+ coral and rocky reef sites around the world and have conducted approximately 6000 surveys across those sites. Dive surveys can be repeated in one location at different times and every survey is conducted at a new 'site'.

During a dive survey observations include:

- vertebrates
- invertebrates

www.nature.com/scientificdata

SCIENTIFIC DATA

OPEN Systematic global assessment of reef fish communities by the Reef Life Survey program

Graham J. Edgar¹ and Rick D. Stuart-Smith¹

The assessment of patterns in macroecology, including those most relevant to global biodiversity

SUBJECT CATEGORIES

- » Community ecology
- » Macroecology
- » Biodiversity
- » Conservation

The image shows a screenshot of a scientific article page. The title is 'Systematic global assessment of reef fish communities by the Reef Life Survey program'. The authors are Graham J. Edgar and Rick D. Stuart-Smith. The article is categorized under 'SCIENTIFIC DATA' and is marked as 'OPEN'. The subject categories listed are Community ecology, Macroecology, Biodiversity, and Conservation. The abstract mentions 'The assessment of patterns in macroecology, including those most relevant to global biodiversity'. There are also decorative elements like a map on the left and a photo of a diver on the right.

Reef Life Survey



The screenshot shows the homepage of the Reef Life Survey website. At the top, there is a banner image of coral reefs with the RLS logo and the text "Reef Life Survey". To the right of the banner are links for "NEWS FEED" and "COMMENTS". Below the banner is a navigation menu with links for "HOME", "ABOUT", "DOCUMENTS", "SURVEYS", "RLS SPAIN", "CONTACT", and "SUPPORT". A search bar is located to the right of the navigation menu. Below the navigation menu is a secondary menu with links for "News", "Photos", and "Reports".

Welcome to Reef Life Survey

Reef Life Survey (RLS) aims to improve biodiversity conservation and the sustainable management of marine resources by coordinating surveys of rocky and coral reefs using scientific methods, with the ultimate goal to improve coastal stewardship. Our activities depend on the skills of experienced and motivated recreational SCUBA divers, partnerships with management agencies and university researchers, and active input from the RLS Advisory Committee.

RLS thus represents a new concept in marine conservation where scientists, marine managers, and recreational divers work together to maximise the collection, analysis, interpretation and effective use of broad-scale biodiversity information. RLS has established the first global baseline of marine biodiversity using consistent methods, which includes abundance data for over 3500 marine species at more than 2000 sites in 40 countries. This information is now used to track changing ecosystems, allowing managers and scientists to better understand how human society affects the marine environment, and to identify better ways forward to reduce threats.

Lord Howe Island Survey Trip – written by RLS diver, John Turnbull



5 RLS divers teamed up with the Lord Howe Island Marine Parks crew for 2 weeks of spectacular diving and over 100 surveys!

[Read the story »](#)

The Reef Life Survey Australian circumnavigation comes to a triumphant end



Over the last year, the catamaran, Reef Dragon, has been circumnavigating Australia with volunteer divers and crew on board collecting valuable data from core

eNews & Updates

Sign up to receive breaking news as well as receive other site updates!

Enter your email address...

News

Lord Howe Island Survey Trip – written by RLS diver, John Turnbull

5 RLS divers teamed up with the Lord Howe Island Marine Parks crew for 2 weeks of spectacular...

The Reef Life Survey Australian circumnavigation comes to a triumphant end

Over the last year, the catamaran, Reef Dragon, has been circumnavigating Australia with volunteer divers...

Photos

RLS worldwide marine surveys

Over the past 7 years, Reef Life Survey divers have collected data from over 40 different countries,...

RLS Tropical Survey Expedition – Photos from the east

Here are a few pictures taken by RLS divers during the east coast leg of the Tropical survey expedition. [Read More](#) →

<http://reeflifesurvey.com>



Reef Life Survey

The screenshot shows the homepage of the Reef Life Survey website. At the top, there is a banner image of coral with the RLS logo and the text "Reef Life Survey". To the right of the banner are links for "NEWS FEED" and "COMMENTS". Below the banner is a navigation menu with links for "HOME", "ABOUT", "DOCUMENTS", "SURVEYS", "RLS SPAIN", "CONTACT", and "SUPPORT". A search bar is located to the right of the navigation menu. Below the navigation menu are links for "News", "Photos", and "Reports".

The main content area is divided into several sections:

- Welcome to Reef Life Survey:** A large image of a diver underwater with a yellow tank and a clipboard. Text to the left describes the survey's purpose: "Reef Life Survey resources by improve coast SCUBA divers RLS Advisory C... RLS thus repre divers work to biodiversity inf methods, whic This informati understand ho threats."
- eNews & Updates:** A section with a "GO" button and a "NEWS FEED" icon.
- Lord Howe:** A section with a small image of a landscape and the text "The Reef Li".
- Marine surveys:** A section with the text "marine surveys ears, Reef Life ve collected data".
- Survey Expedition:** A section with the text "Survey Expedition - Photos from the east Here are a few pictures taken by RLS divers during the east coast leg of the Tropical survey expedition. Read More".

At the bottom of the page, there is a small image of two people on a boat and a text box that reads: "Over the last year, the catamaran, Reef Dragon, has been circumnavigating Australia with volunteer divers and crew on board collecting valuable data from core".

<http://reeflifesurvey.com>



Home → Search the Atlas

Search for **reef life survey** returned 3 results

Related Searches

[Occurrence records \(74,318\)](#)

[BHL Literature \(657\)](#)

Refine results

Section

[Dataset \(3\)](#)

Recorded in Australia

[Yes \(3\)](#)

Results per page Sort by Sort order

Dataset: [Reef Life Survey](#)

Reef Life Survey (RLS) aims to improve biodiversity conservation and the sustainable management of marine resources through the production of high-quality survey information at spatial and temporal scales beyond those possible by scientific dive teams (which have to work with increasingly limited resources)...

Dataset: [Reef Life Survey - Survey Records](#)

Reef Life Survey (RLS) aims to improve biodiversity conservation and the sustainable management of marine resources through the production of high-quality survey information at spatial and temporal scales beyond those possible by scientific dive teams (which have to work with increasingly limited resources)...

Dataset: [Reef Life Survey Images](#)

Reef Life Survey (RLS) aims to improve biodiversity conservation and the sustainable management of marine resources through the production of high-quality survey information at spatial and temporal scales beyond those possible by scientific dive teams (which have to work with increasingly limited resources)...

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Data

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[Digitisation guidance](#)

Associated sites

[Atlas mobile site](#)
[Biodiversity Heritage Library](#)
[IdentifyLife](#)
[Morphbank images](#)
[OZCAM](#)
[Australia's Virtual Herbarium](#)
[BOLD](#)

A subset of RLS data is in the ALA



Home → Search the Atlas

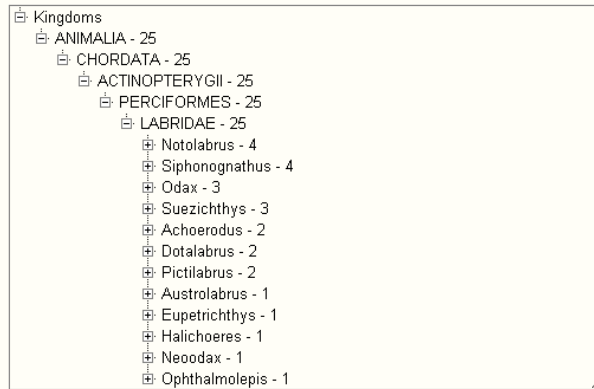
Search for **reef life survey** returned 3 results

Digitised records

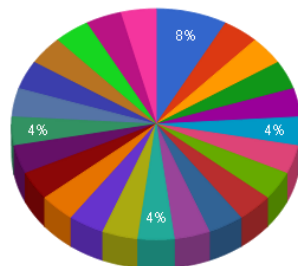
25 records can be accessed through the Atlas of Living Australia. This resource was last updated. The most recent data was published on **10 Apr 2014**.

[Click to view records for the Reef Life Survey resource.](#)

Explore records by taxonomy



By species



- Odax cyanomelas
- Achoerodus gouldii
- Achoerodus viridis
- Austrolabrus maculatus
- Dotalabrus alleni
- Dotalabrus aurantiacus
- Eupetrichthys angustipes
- Halichoeres brownfieldi
- Neodax balteatus
- Notolabrus fucicola
- Notolabrus gymnogenis
- Notolabrus parillus

▲ 1/2 ▼

Click a slice to drill into the next taxonomic level.
View all records

Related Searches

- [Occurrence records \(74,318\)](#)
- [BHL Literature \(657\)](#)

Results per page Sort by Sort order

reef biodiversity conservation and the sustainable management of marine resources through the production of high-resolution temporal scales beyond those possible by scientific dive teams (which have to work with increasingly limited

reef Survey Records

reef biodiversity conservation and the sustainable management of marine resources through the production of high-resolution temporal scales beyond those possible by scientific dive teams (which have to work with increasingly limited

reef ages

reef biodiversity conservation and the sustainable management of marine resources through the production of high-resolution temporal scales beyond those possible by scientific dive teams (which have to work with increasingly limited

	About the Atlas	Citizen Science	Help
Projects	Data Find a record Find a data set Sensitive data Data integration Dashboard Sandbox Upload species lists	Publications FAQ FieldData software help Atlas governance Digitisation guidance	Associated sites Atlas mobile site Biodiversity Heritage Library IdentifyLife Morphbank images OZCAM Australia's Virtual Herbarium BOLD

Home → Search the Atlas

Search for reef life survey returned 3 results

Digitised records

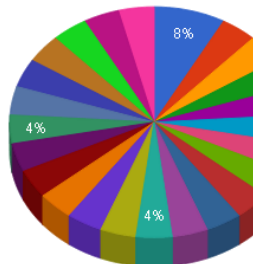
25 records can be accessed through the Atlas of Living Australia. This resource was last updated on 11/01/2017. The most recent data was published on 11/01/2017.

[Click to view records for the Reef Life Survey](#)

Explore records by taxonomy

- Kingdoms
- ANIMALIA - 25
 - CHORDATA - 25
 - ACTINOPTERYGII - 25
 - PERCIFORMES - 25
 - LABRIDAE - 25
 - Notolabrus - 4
 - Siphonognathus - 1
 - Odax - 3
 - Suezichthys - 3
 - Achoerodus - 2
 - Dotalabrus - 2
 - Pictilabrus - 2
 - Austrolabrus - 1
 - Eupetrichthys - 1
 - Halichoeres - 1
 - Neodax - 1
 - Ophthalmolepis - 1

By species



Click a slice to drill into the next taxon or [View all records](#)

Occurrence records

Customise filters

Narrow your results

- Taxonomic
- Temporal
- Record assertions

1,986 results for Data resource: Reef Life Survey Images

Records Map Charts

Downloads Alerts

Species: *Dasyatis brevicaudata* | Smooth Stingray
Data Resource: Reef Life Survey Images [View record](#)

Species: *Lethrinus harak* | Thumbprint Emperor
Data Resource: Reef Life Survey Images [View record](#)

Species: *Trinorfolkia clarkei* | Clark's Threefin
Data Resource: Reef Life Survey Images [View record](#)

Species: *Girella zebra* | Zebrafish
Data Resource: Reef Life Survey Images [View record](#)

Species: *Amblyglyphidodon leucogaster* | Whitebelly Damsel
Data Resource: Reef Life Survey Images [View record](#)

Species: *Echinaster luzonicus*
Data Resource: Reef Life Survey Images [View record](#)

Species: *Cypraea tigris* | Tiger Cowry
Data Resource: Reef Life Survey Images [View record](#)

Species: *Hymenocera picta* | Harlequin Shrimp
Data Resource: Reef Life Survey Images [View record](#)

Species: *Neosebastes scorpaenoides* | Common Gurnard Perch
Data Resource: Reef Life Survey Images [View record](#)

Species: *Pseudolabrus luculentus* | Luculent Wrasse
Data Resource: Reef Life Survey Images [View record](#)

Species: *Seriola hippos* | Samsonfish
Data Resource: Reef Life Survey Images [View record](#)

Species: *Cirripectes alboapicalis* | Whitedotted Blenny
Data Resource: Reef Life Survey Images [View record](#)

Species: *Cabestana tabulata* | Ploughed Triton
Data Resource: Reef Life Survey Images [View record](#)

Species: *Coris sandageri*
Data Resource: Reef Life Survey Images [View record](#)

Related Searches

- [Occurrence records \(74,318\)](#)
- [BHL Literature \(657\)](#)

Results per page: 40 Sort by: Relevance Sort order: normal

Help

Associated sites

- [Atlas mobile site](#)
- [Biodiversity Heritage Library](#)
- [IdentifyLife](#)
- [Morphbank images](#)
- [OZCAM](#)
- [Australia's Virtual Herbarium](#)
- [BOLD](#)



Home → Search the Atlas

Search for **reef life survey** returned 3 results
Digitised records

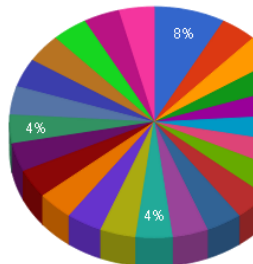
25 records can be accessed through the Atlas of Living Australia. This resource was last updated on 11/05/2014. The most recent data was published on 11/05/2014.

[Click to view records for the Reef Life Survey](#)

Explore records by taxonomy

- Kingdoms
 - ANIMALIA - 25
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 - Pictilabrus - 2
 - Austrolabrus - 1
 - Eupetrichthys - 1
 - Halichoeres - 1
 - Neodax - 1
 - Ophthalmolepis - 1

By species



Click a slice to drill into the next taxon
[View all records](#)

Occurrence records

Customise filters

Narrow your results

- Taxonomic
- Temporal
- Record assertions

Occurrence record: [http://www.reeflifesurvey.com#Achoerodus gouldii](http://www.reeflifesurvey.com#Achoerodus_gouldii)

Achoerodus gouldii | Western Blue Groper

Data quality tests

failed: 0
warnings: 0
passed: 9
missing: 16
unchecked: 53

[View full data quality report](#)

[Flag an issue](#)

[Original vs Processed](#)

Images



Rights: G. Edgar, www.reeflifesurvey.com

[Original image \(1 MB\)](#)

Date loaded: 2014-05-01

Related Searches

- [Occurrence records \(74,318\)](#)
- [BHL Literature \(657\)](#)

Results per page: 40 Sort by: best match Sort order: normal

Dataset

Data resource	Reef Life Survey
Occurrence ID	http://www.reeflifesurvey.com#Achoerodus gouldii
Basis of record	Not supplied
Rights	G. Edgar, www.reeflifesurvey.com

Taxonomy

Scientific name	<i>Achoerodus gouldii</i>
Taxon rank	Species
Common name	Western Blue Groper
Kingdom	ANIMALIA
Phylum	CHORDATA
Class	ACTINOPTERYGII
Order	PERCIFORMES
Family	LABRIDAE
Genus	<i>Achoerodus</i>
Species	<i>Achoerodus gouldii</i>
Taxonomic issues	No issues
Name match metric	Exact match The supplied name matched the name exactly.

Home → Search the Atlas

Search for reef life survey returned 3 results

Digitised records

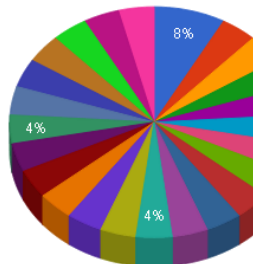
25 records can be accessed through the Atlas of Living Australia. This resource was last checked for updated data on 27 Sep 2010. The most recent data was published on 27 Sep 2010.

[Click to view records for the Reef Life Survey](#)

Explore records by taxonomy

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 - Ophthalmolepis - 1

By species



Click a slice to drill into the next taxon or View all records

Occurrence records

Customise filters

Narrow your results

- Taxonomic
- Temporal
- Record assertions

Usage statistics

Number of occurrence records downloaded from the Reef Life Survey - Survey Records through the Atlas of Living Australia.

Time Period	Downloads
This month	0 from 0 downloads
Last 3 months	9,643 from 31 downloads
Last 12 months	245,804 from 459 downloads

Breakdown by reason of occurrence record downloads from last 12 months:

Reason	Downloads
Conservation management/planning	20,088 from 39 downloads
Biosecurity management/planning	5 from 5 downloads
Environmental impact/site assessment	4,052 from 3 downloads
Education	18,462 from 29 downloads
Scientific research	49,259 from 274 downloads
Collection management	4 from 1 download
Ecological research	9,775 from 91 downloads
Systematic research	90 from 2 downloads
Other scientific research	0 from 0 downloads
Other	2,604 from 5 downloads
Testing	141,402 from 9 downloads

Digitised records

72,307 records can be accessed through the Atlas of Living Australia. This resource was last checked for updated data on 27 Sep 2010.

[Click to view records for the Reef Life Survey - Survey Records resource.](#)

Data quality tests

failed: 0
warnings: 0
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unchecked: 53

[View full data quality report](#)

Flag an issue

Original vs Processed

Images



Rights: G. Edgar, www.reeflifesurvey.com

[Original image \(1 MB\)](#)

Date loaded: 2014-05-01

Australian Ocean Data Network

A 'one-stop-shop' for Australian Marine data'

User Stories for RLS data pilot study

- 1) Show me what vertebrate and invertebrate species were found at this site
- 2) Show me all of the sites that were surveyed and the presence/absence of a particular species at each of those sites.

IMOS Ocean Portal <http://imos.aodn.org.au>

Step 1: Select a Data Collection

Measured parameter

- Dew point temperature of the atmosphere (1)
- Direction of motion (over ground) of measurement ... (1)
- Electrical conductivity of the water body (2)
- Practical salinity of the water body (3)
- Pressure (measured variable) exerted by the atmo... (1)
- Pressure (measured variable) in the water body ex... (1)
- Relative humidity of the atmosphere (1)
- Speed (over ground) of measurement platform (2)
- Temperature of the atmosphere (1)
- Temperature of the water body (3)

(more..)

Organisation

Platform

- land-sea mammals (1)
- vessel of opportunity (1)
- vessel of opportunity on fixed route (1)

Date (UTC)

Geographic Boundary

IMOS RLS survey data Select >>

Organisation - Integrated Marine Observing System (IMOS), Environment Protection Authority Victoria (EPA Vic)
Platform - vessel of opportunity on fixed route
Date range - 2013-10-05 +10:00 - 2014-03-19 +11:00
Parameters - Practical salinity of the water body - Temperature of the water body - Turbidity of the water body - Electrical conductivity of the water body
A real-time data stream from the Spirit of Tasmania I has been set up and went live in December 2013. The IMOS SCOP-TMV sub-facility collects data from an autonomous marine monitoring ... [more](#)

IMOS RLS species data Select >>

Organisation - Integrated Marine Observing System (IMOS), Macquarie University
Platform - land-sea mammals
Date range - 2007-04-03 +10:00 - 2014-03-19 +11:00
Parameters - Temperature of the water body - Practical salinity of the water body - Speed (over ground) of measurement platform - Pressure (measured variable) in the water body exerted by overlying sea water and any medium above it
The Australian Animal Tagging And Monitoring System (AATAMS) is a coordinated marine animal tagging project. Satellite Relay Data Loggers (SRDL) (most with CTDs, and some also with fluorometers) are ... [more](#)

IMOS SOOP-Sea Surface Temperature (SST) Sub-facility - Near real-time data Select >>

Organisation - Integrated Marine Observing System (IMOS), Australian Bureau of Meteorology (BOM)
Platform - vessel of opportunity
Date range - 2008-01-29 +11:00 - 2014-03-21 +11:00
Parameters - Temperature of the water body - Speed (over ground) of measurement platform - Direction of motion (over ground) of measurement platform - Electrical conductivity of the water body - Practical salinity of the water body - Wind from direction in the atmosphere - Wind speed in the atmosphere - Pressure (measured variable) exerted by the atmosphere - Temperature of the atmosphere - Dew point temperature of the atmosphere - Wet bulb temperature of the atmosphere - Relative humidity of the atmosphere
The Sea Surface Temperature (SST) sub-facility aims to enable accurate, quality controlled, SST data to be supplied in near real-time (within 24 hours) from SCOPs and research vessels in the ... [more](#)

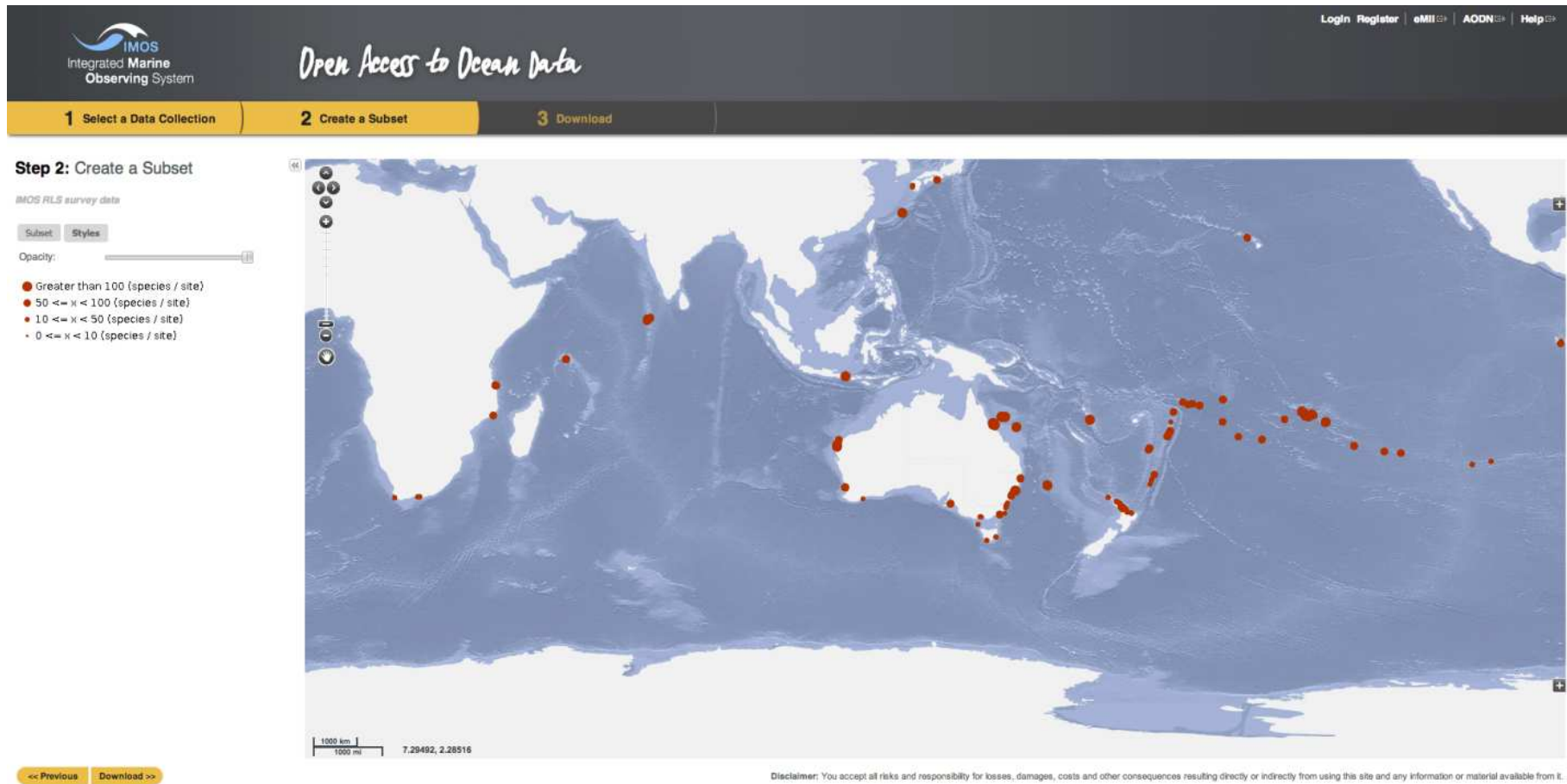
Page 1 of 1

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Select the RLS Survey Data or RLS Species Data views. Survey Data supports User Story 1, Species Data supports User Story 2.



RLS Survey data



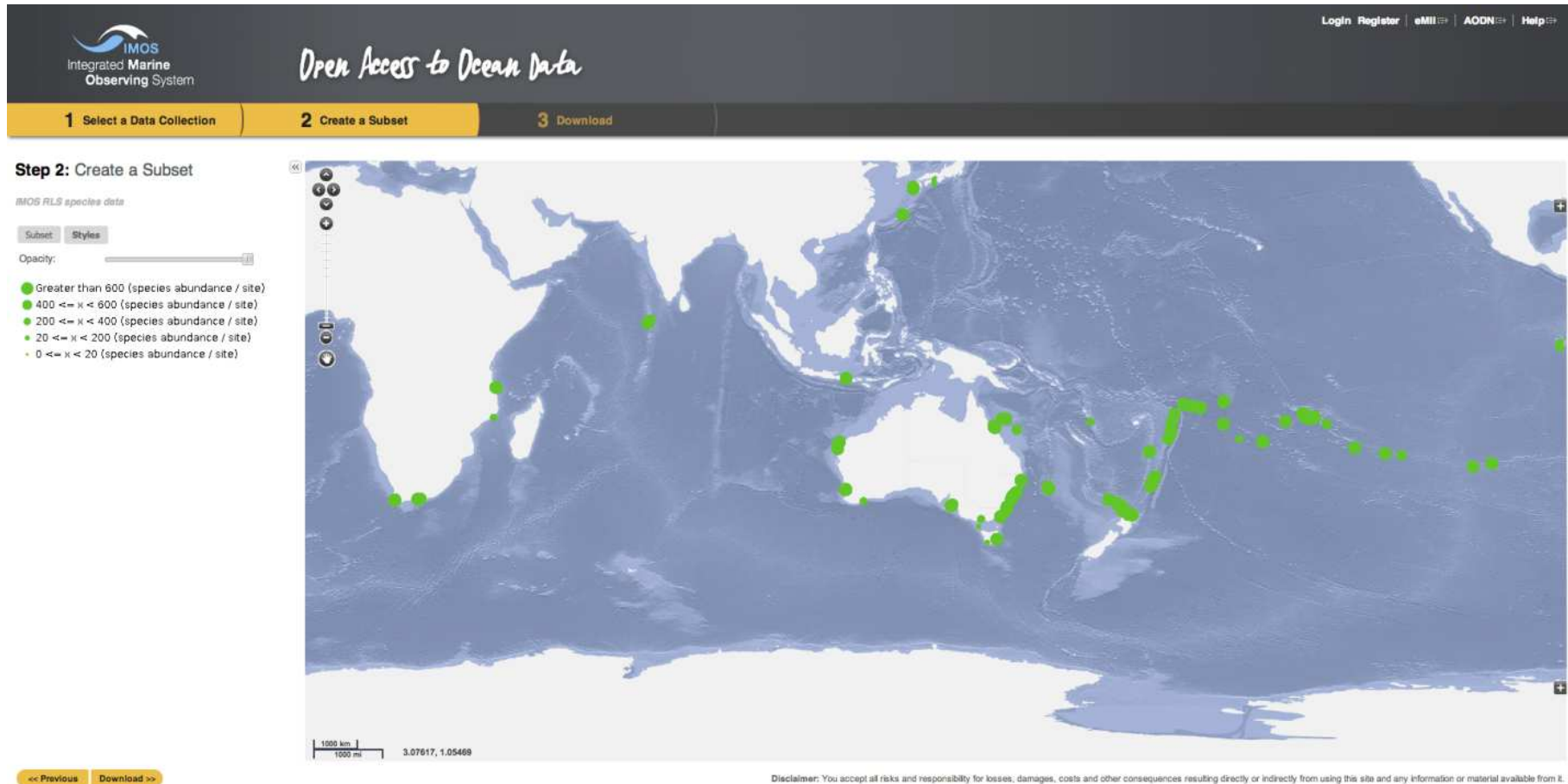
Survey Data 'style view' with the key to the map symbols in the left panel.

RLS Survey data

Survey Data ‘style view’ with the key to the map symbols in the left panel.

‘subset view’ with spatial subset options displayed in the left panel.

RLS Species data



Species Data 'style view' with the key to symbols in the left panel

RLS Species data

IMOS
Integrated Marine
Observing System

Open Access to Ocean Data

1 Select a Data Collection | 2 Create a Subset | 3 Download

Step 2: Create a Subset

IMOS RLS species data

Subset Styles

Spatial Extent
bounding box

Location

Site

Species Name
Heliocidaris erythrogran

Time
after
26/04/2012

Clear subset

Detailed information for 1 data collection(s) at this point
Lat: -39.8923 Lon: 144.1516 Depth: 4m

IMOS RLS species data

RLS_TEST_SPECIES_MAP

fid	SPECIES_NAME	SiteCode	Site	Country	State	Location	nb_surveys	time_start	time_end	min_depth	max_depth	total_abundance
rs_test_species_map.fid-9c731ff_145482a2232_4459	Heliocidaris erythrogramma	KIS1	Naracoopa Baudins	Australia	Tasmania	King Island	1	29/09/2012 12:00:00 AM	29/09/2012 12:00:00 AM	3.4	3.4	25
rs_test_species_map.fid-9c731ff_145482a2232_445a	Heliocidaris erythrogramma	KIS2	Naracoopa Jetty NW	Australia	Tasmania	King Island	1	29/09/2012 12:00:00 AM	29/09/2012 12:00:00 AM	3.6	3.6	77
rs_test_species_map.fid-9c731ff_145482a2232_445b	Heliocidaris erythrogramma	KIS3	Naracoopa Jetty SE	Australia	Tasmania	King Island	1	29/09/2012 12:00:00 AM	29/09/2012 12:00:00 AM	4.6	4.6	85
rs_test_species_map.fid-9c731ff_145482a2232_445c	Heliocidaris erythrogramma	KIS4	Naracoopa Golden Spoon	Australia	Tasmania	King Island	1	29/09/2012 12:00:00 AM	29/09/2012 12:00:00 AM	4.0	4.0	24

150,41382, -37,80493

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Species Data 'style view' with the key to symbols in the left panel

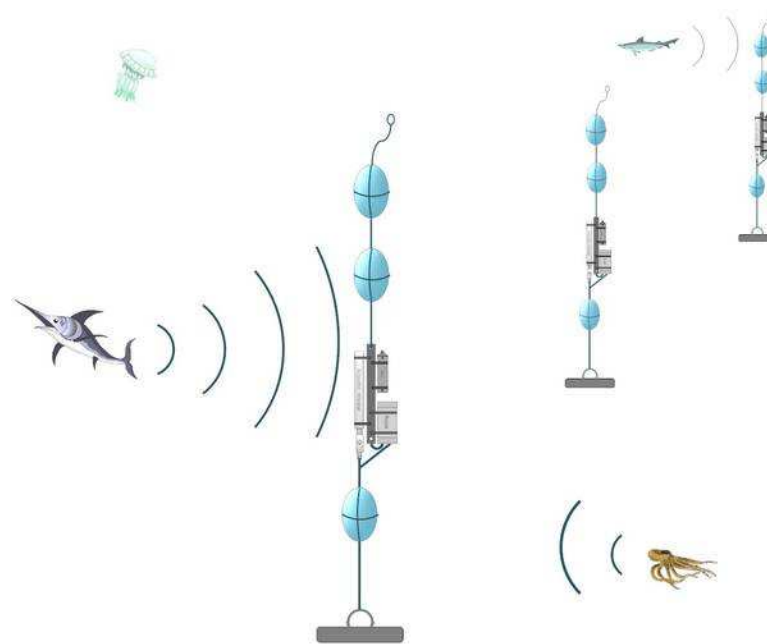
Species Data 'subset view' with spatial subset options

Step 3 – download a csv file with subsetted data

Next steps

- Load all RLS data into database
- Configure layers
- Publish!

- RLS data seen as a pilot study:
replicate the process for
acoustic detection data
(>50 million detections)



IMOS portal <http://imos.aodn.org.au>



An Australian Government Initiative
National Collaborative Research
Infrastructure Strategy

IMOS is a national collaborative research infrastructure, supported by Australian Government. It is led by University of Tasmania in partnership with the Australian marine & climate science community.

www.imos.org.au



Roger Proctor roger.proctor@utas.edu.au

The Operators of the IMOS infrastructure are:



Text: Tim Moltmann, Shavawn Donoghue, and Jess Tyler, IMOS, University of Tasmania, Hobart, Tasmania.

Design: CSIRO Creative Services, Hobart, Tasmania

Cover photo credits: A Słowinski, CSIRO; Australian Institute of Marine Science; CSIRO; Scott Bainbridge, Australian Institute of Marine Science; Kim Brooks, Australian Institute of Marine Science

