

2023 ANNUAL REPORT



RLSF 2023 ANNUAL REPORT

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This report was designed and compiled by Ella Clausius & Antonia Cooper.
Photos by Rick Stuart-Smith, Antonia Cooper & Graham Edgar.

The Reef Life Survey Foundation is a non-profit environmental organisation. Donations to the RLSF are tax-deductible and support ongoing monitoring of the marine environment around Australia.

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OUR VISION

Improved knowledge & condition of reef systems

OUR MISSION

To inspire & engage a global volunteer community to survey reefs using scientific methods, & share knowledge about the marine ecosystem



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1. OVERVIEW



1.1 THE RLSF TEAM



THE BOARD

Rick Stuart-Smith
President

Graham Edgar
Executive Officer

Margo Smith
Community Dive Representative

Peter Mooney
Management Representative

SECRETARIAT

Antonia Cooper
RLSF Treasurer & Logistics/Data Officer

Jo Schmid
Communications Officer

Margo Smith
Safety Officer

ADVISORY COMMITTEE

Neville Barrett
IMAS - Science

Graham Edgar
IMAS - Science

Rick Stuart-Smith
IMAS - Science

Nathan Knott
NSW DPI - Management

Margo Smith
CHUG NSW

Danny Brock
SA DEWNR - Management

Jamie Hicks
SA DEWNR

Andrew Green
RLS Diving Community

Tom Holmes
WA DBCA - Management

Peter Mooney
Management

Amanda Richley
Management

Cath Samson
Parks Australia -
Management

Michael Sams
Parks Vic - Management

John Turnbull
URG NSW

Paul Day
WADDI NSW

1.2 PRESIDENT'S REPORT

It has been almost 17 years since the first Reef Life Survey training courses, and now 382 divers have contributed data from 16,369 surveys.

As our past annual reports show, RLS continues to grow every year, in terms of the temporal and spatial reach of the data, the number of participants, the database infrastructure, and data products available to scientists, government management agencies and marine enthusiasts. A lot goes on behind the scenes to sustain this growth, and at RLS HQ in Hobart, we often need to adapt to changing funding, partnerships, divers and technology.

This year we invited all RLSF members to help us take stock of some of the key processes and bottlenecks for sustainability, holding a strategic planning meeting in March 2023. Among a number of important outcomes, our systems for bringing in and training new diving members were identified as key areas needing improvement. Many of our divers, trainers and coordinators have been involved for a very long time, and better processes were needed to support them and plan for succession in key roles.

As a result, in 2024 we will revert back to holding dedicated training courses (likely one in each of the E, W and S coasts of Australia), rather than incorporating training opportunities into annual monitoring trips. It will be a trial year, but there is a collective belief that it will reduce the load on trainers, improve team bonding and commitment amongst new members, and enhance data quality (by ensuring adequate training time can be spent in dedicated data entry sessions). Further to this, our diver selection procedure will be overhauled and more widely shared amongst trainers and coordinators, hopefully allowing us to bring in the very best of the many divers who express interest in becoming involved every year.

Stepping out from the Australian RLS Foundation and considering the global RLS program, it has been another massive year for expanded scientific collaborations. RLS Canada and the Smithsonian's MarineGEO RLS programs have been expanding, the INBIOMAR project led by our Spanish trainers posted another year of training and surveys on the African Mediterranean coast, RLS Norway has kicked off, and a collaboration with our French colleagues



allowed expanded surveys around Corsica to be co-located with eDNA collections. An international scientific workshop was also held in Tasmania in January 2024, and the enthusiasm and commitment amongst the large network of international scientists who value the RLS data and wish to see it expanded was infectious.

The last year has also been significant for the release of even more incredible online tools. These get a special section in the annual report, so I won't spoil it here, but suffice to say that the RLS website has truly become a globally unique resource for exploring, identifying and learning the reef species of the world.

As I write this, RLS Founder Graham Edgar is 2/3 the way through a 3rd survey circumnavigation of Australia doing RLS surveys onboard a sailing boat. We will look

forward to reporting on outcomes in the next annual report, but keep your eye on socials, newsletters and website blog posts for details of this, and more!

Lastly for now, I would like to formally thank and recognise the effort from everyone who has: collected data; trained divers; coordinated trips; managed the database; provided communications, administrative, financial, software or web development support; or supported collaborative opportunities that expanded the possibilities for RLS. These diverse contributions come from shared passion, and hold RLS together above and below the water.

Rick Stuart-Smith
RLSF President



2.0 2023 IN
REVIEW

2.1 HIGHLIGHTS

RLS DATA WORKSHOP

In January 2023, researchers and students gathered in Triabunna, Tasmania to collaboratively workshop research publications using data collected by RLS divers over the years. Reef Life Survey HQ were joined by international and local collaborators, as well as PhD candidates from the Institute of Marine and Antarctic Science at the University of Tasmania. Throughout the week-long workshop, scientists from all stages of their careers were able to team-build, learn from the experience and expertise of other participants, and contribute to the growing body of research utilising RLS data.

LIVING OFFSHORE REEFS OF AUSTRALIAN MARINE PARKS LAUNCH

Using over 400 images collected from Australian Marine Parks, the RLS team published a hard-cover coffee table book highlighting the offshore shallow reefs of Australian Marine Parks.

Created by the Reef Life Survey team, with funding from Parks Australia, Living offshore reefs of Australian Marine Parks draws on over a decade of data, analysis and images collected by volunteer and scientific RLS SCUBA divers, from over 2000 sites around Australia, including three circumnavigations of the continent. The book highlights the incredible diversity of Australian Marine Parks and the fascinating marine life they aim to protect. In addition to spectacular images, the book provides summaries of Reef Life Survey findings on the environmental condition of shallow reefs within Australian Marine Parks.

RLS DATA TOOLS

During 2022-23, RLS HQ have been working with web developers Yanir and Uri Seroussi to update and expand the Reef Species of the World search platform, available through the RLS website. These updates have created what we hope will be an invaluable resources for not only RLS citizen scientists, but also the broader community of marine users. More detail on the new data tools can be found on page 20.

COASTCARE VICTORIA GRANT COMPLETED

With funding from the Victorian Government's VicCoasts initiative, Reef Life Survey HQ and James Chong of Reef Life Survey's Victorian diver network have worked toward expanding RLS training and educational outputs in Victoria. Volunteers carried out surveys across multiple sites in Port Phillip Bay, which included training of new RLS divers in order to grow the local Victorian diver network. Information about Port Phillip Bay's reef life was presented to a local high school and college. Additionally, this grant opportunity contributed to the development of new training tools for RLS volunteers which are now available on the Reef Species of the World web page.

2.2 GLOBAL SURVEY EFFORT

AUSTRALIA

647 SURVEYS
283 SITES
64 DIVERS

BELIZE

27 SURVEYS
16 SITES
4 DIVERS

CANADA

48 SURVEYS
35 SITES
7 DIVERS



ITALY

6 SURVEYS
6 SITES
4 DIVERS

NEW CALEDONIA

3 SURVEYS
3 SITES
2 DIVERS

PANAMA

7 SURVEYS
7 SITES
1 DIVER

797

SURVEYS COMPLETED

3980

VOLUNTEER HOURS
CONTRIBUTED

82

DIVERS INVOLVED

389

SITES SURVEYED

CANADA

1 SURVEYS

1 SITES

1 DIVERS

CAYMAN ISLANDS

7 SURVEYS

7 SITES

1 DIVER

FRANCE

12 SURVEYS

6 SITES

2 DIVERS



SAUDI ARABIA

1 SURVEYS

1 SITES

2 DIVERS

SEYCHELLES

15 SURVEYS

12 SITES

2 DIVERS

UNITED STATES

24 SURVEYS

13 SITES

2 DIVERS

2.3 AUSTRALIAN SURVEY EFFORT

WESTERN AUSTRALIA

109 SURVEYS

51 SITES

12 DIVERS

SOUTH AUSTRALIA

72 SURVEYS

22 SITES

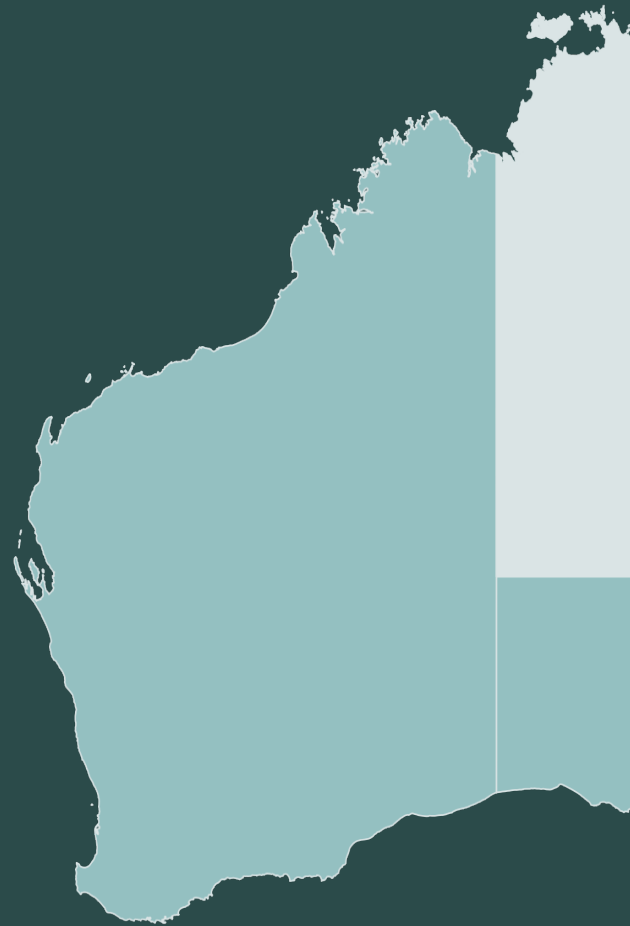
12 DIVERS

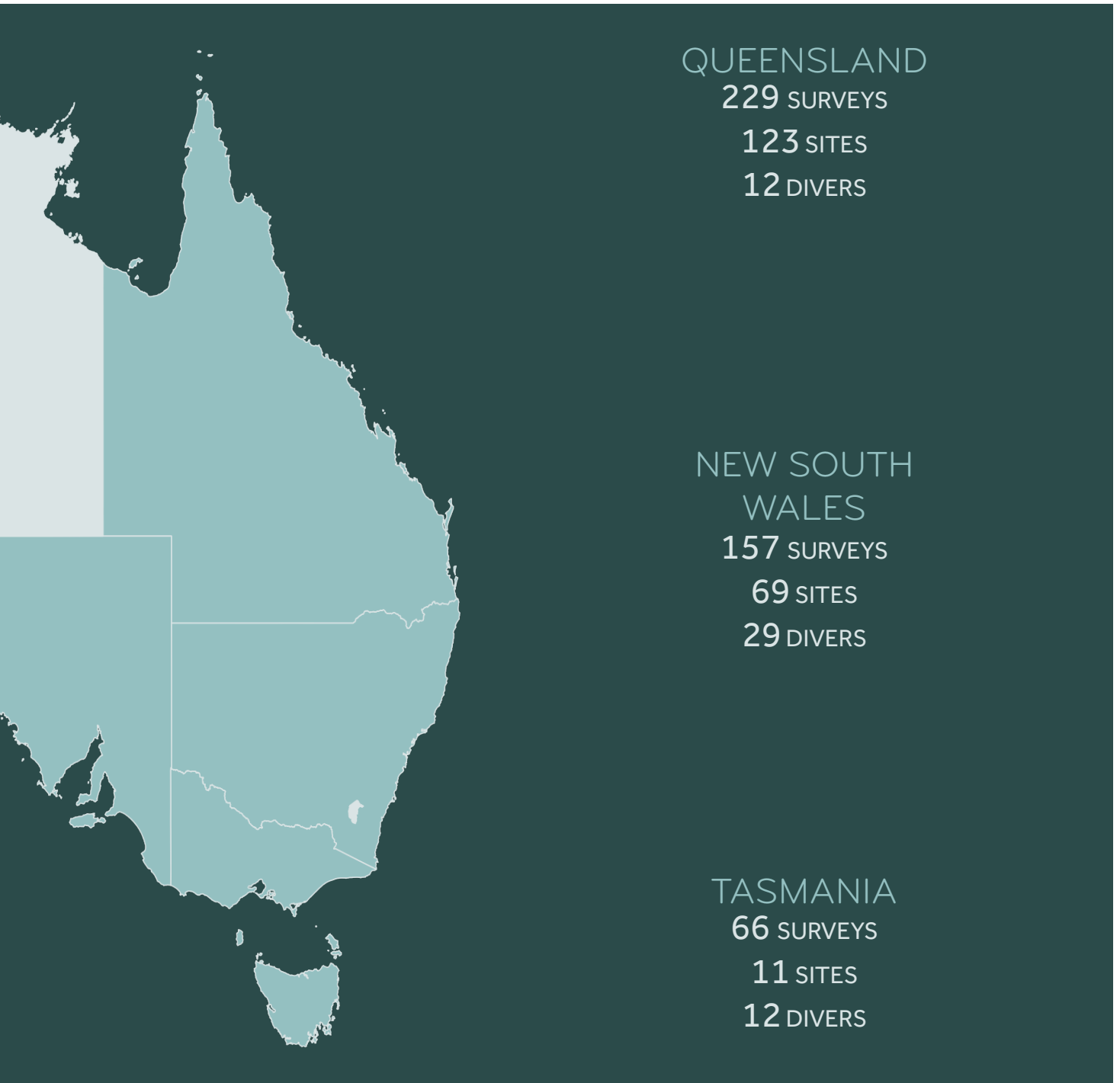
VICTORIA

14 SURVEYS

7 SITES

7 DIVERS





QUEENSLAND

229 SURVEYS

123 SITES

12 DIVERS

NEW SOUTH WALES

157 SURVEYS

69 SITES

29 DIVERS

TASMANIA

66 SURVEYS

11 SITES

12 DIVERS



2.3 SCORESBY SHEPHERD AWARDS

In honour of one of the Foundation's key benefactors and founding board members, Dr Scoresby Shepherd, these awards recognise exceptional contributions by individual members to the Reef Life Survey Foundation.



THE SURVEY PRIZE

For the RLS member who contributed to the greatest number of surveys during the year.

Yann Herrera Fuchs

This year's Survey Prize goes to Hobart-based surveyor Yann Herrera Fuchs who contributed to a whopping 91 surveys throughout the year. Honourable mentions go to Meryl Larkin, Chris Westley and Lizzi Oh who contributed to 90, 89 and 78 surveys, respectively. A massive effort by all!



THE DISTINGUISHED CONTRIBUTION AWARD

For the RLS member who made the greatest voluntary contribution during the year by means other than surveys.

Yanir Seroussi

This year's Distinguished Contribution Award goes to Yanir Seroussi for his ongoing voluntary commitment to developing and improving the data resources on the RLS website. Honourable mentions go to José Antonio Sanabria Fernández, Natali Lazarri, Jasmin Schuster, & Leah Harper for massive efforts in expanding RLS surveys internationally.



3.0 OUTPUTS



3.1 MANAGEMENT & SCIENTIFIC OUTPUTS

At least 23 papers and reports using RLS data were published in the last year. A few are highlighted here.

Continent-wide declines in shallow reef life over a decade of warming.

Edgar, GJ., et al. 2023.

Nature, Vol 615, 858-865.

Impacts of climate change on densities of the urchin *Centrostephanus rodgersii* vary among marine regions in Eastern Australia.

Davis, TR., et al. 2022

Diversity, vol 15, 419.

Benthic composition changes on coral reefs at global scales.

Tebbett, SB, Connolly, SR, & Bellwood, DR. 2023.

Nature Ecology & Evolution, Vol 7, 71-81.

Warming signals in temperate reef communities following more than a decade of ecological stability.

Soler, GA., et al. 2022.

Proceedings of the Royal Society B, vol 289: 20221649.

Tracking widespread climate-driven change on temperate and tropical reefs.

Stuart-Smith, RD., et al. 2022.

Current Biology, vol 32:19, 4128-4138.

Towards process-oriented management of tropical reefs in the anthropocene.

Seguin, R., et al. 2022.

Nature, vol 6, 148-157.

Living Offshore Reefs of Australian Marine Parks.

Edgar, GJ., Stuart-Smith, R & Cooper, T. 2022.

Authored Research Book.

A functional vulnerability framework for biodiversity conservation.

Auber, A., et al. 2022.

Nature, vol 13: 4774.



3.3 RLS DATA TOOLS

An overhaul of the Reef Species of the World (RSoW) platform on the RLS website is now complete. Yanir and Uri Seroussi worked with RLS HQ to update the back and front ends of the RSoW search engine, further expanding on the capabilities of this incredible online tool. Key updates of interest to users include:

PDF FIELD GUIDES

Export search results to download customized PDF field guides for any group of species or location surveyed by RLS.

OFFLINE APP

Download the RSoW functions into a progressive web app and use the site offline!

AI FISH ID

A new 'search by image' tool uses AI image recognition to find an ID match for any uploaded fish photo.

TRAINING TESTS

Pre-training and upskilling quizzes help raise the bar on reef species ID knowledge for RLS divers prior to training on survey trips, or can be used by schools or clubs.

WEBSITE INSIGHTS

109K
WEBSITE SESSIONS

30% INCREASE on 2022 FY.

212K
WEBSITE PAGEVIEWS

24% INCREASE on 2022 FY.

70K
WEBSITE USERS

15% INCREASE on 2022 FY.



4.0 FINANCIAL STATEMENTS

4.1 FINANCIAL SUPPORT

Reef Life survey would like to thank the following people for their support with RLS financials over the 2022/23 financial year.

COLLEEN MORRIS

Colleen has provided enormous voluntary support & much appreciated expertise to the financial record-keeping of the RLSF.

MICHAEL MULLER

Michael has generously supported the RLSF since the organisations's incorporation in 2011. RLSF sincerely thanks Michael for his invaluable accounting advice & auditing.

4.2 FINANCIAL REPORT

REEF LIFE SURVEY FOUNDATION INCORPORATED

The RLSF Incorporated account spends and receives grant funding and other income.

Budget Category	Subcategory	Amount
Income	Grants	\$397,950
	Membership	\$43,636
	Public Fund expenses paid by Inc	\$0
Total Income		\$441,586
Budget Category	Subcategory	Amount
Expenditure	Communications & Promotions	\$21,110
	Field Expenses	\$15,788
	Insurance	\$3,225
	Materials & Supplies	\$2,085
	Professional Services	\$184,878
	Safety Equipment	\$3,223
	Travel	\$19,116
	Depreciation Expenses	\$2,770
	Yacht Running Costs	\$1,120
	Accounting & Audit	\$1,700
	SAS Award	\$500
Total Expenses		\$255,625
Operating Profit		\$185,961

MARINE PUBLIC FUND

The Marine Public Fund is the account through which donations to the RLSF are spent and received.

Budget Category	Subcategory	Amount
Income	Donations	\$106
	Grants	\$54,235
	Merchandise	\$19
	Membership	\$680
	Sundry Reimbursements	\$517
Total Income		\$55,557
Budget Category	Subcategory	Amount
Expenditure	Repairs & Maintenance	\$32,600
	Depreciation expenses	\$3,200
	Communications, Web Design & Promotions	\$2,811
	Field Expenses	\$509
	Memberships	\$1,231
	Sundry	\$29
	Travel	\$21
Total Expenses		\$39,171
Operating Profit		\$16,386

4.3 BALANCE SHEET

RLS INCORPORATED

Assets	Subcategory	Amount
	Foundation Account	\$99,816
	Petty Cash	\$29
	Equipment	\$27,700
	Less Accumulated Depreciation	-\$4,090
	Debtor - Public Fund (IPF spending)	\$124,066
	Trade Debtors	\$48,000
Total Assets		\$295,521
Liabilities	Subcategory	Amount
	Unexpended income	\$20,890
	GST Collected	-\$833
Total Liabilities		\$20,057
Net Assets		\$275,464
Equity	Subcategory	Amount
	Retained Earnings	\$89,502
	Current Earnings	\$185,961
Total Equity		\$275,464

MARINE PUBLIC FUND

Assets	Subcategory	Amount
	Marine Public Fund	\$81,402
	Paypal Account (AUD)	\$3
	PayPal Account (USD)	\$13,973
	Dinghy	\$32,000
	Less Accumulated Depreciation	-\$11,511
Total Assets		\$115,867
Liabilities	Subcategory	Amount
	Unexpended income	\$0
	Creditors - Public Fund (IPF)	\$124,066
	GST Liabilities	-\$215
Total Liabilities		\$123,851
Net Assets		-\$7,985
Equity	Subcategory	Amount
	Retained Earnings	-\$24,371
	Current Earnings	\$16,387
Total Equity		-\$7,985

An underwater scene featuring several sharks swimming in a dark blue environment. The sharks are the primary focus, with their bodies and fins clearly visible. They are surrounded by a large number of smaller fish, likely sardines or similar species, which are scattered throughout the water. The lighting is dim, creating a moody and somewhat mysterious atmosphere. The text '5.0 ACKNOWLEDGEMENTS' is overlaid in the center of the image in a white, sans-serif font.

5.0
ACKNOWLEDGEMENTS

5.1 PARTNERS & SUPPORTERS

PARTNERS

Aquenal Pty. Ltd.
Australian Ocean Data Network (AODN)
Department for Environment & Water, SA
Department of Biodiversity, Conservation & Attractions, WA
Handfish Conservation Project
Institute for Marine & Antarctic Studies, University of Tasmania
Integrated Marine Observing System (IMOS)
NSW Department of Primary Industries
Parks Australia
Parks Victoria
Port Phillip Bay Fund, Department of Environment, Land, Water & Planning, VIC
The Ian Potter Foundation
The Minderoo Foundation
Rottnest Island Authority (RIA)
WA State NRM

SUPPORTERS

Amanda Bates, UVIC, Canada
Antonia Cooper, RLS/IMAS
Combined Hunter Underwater Group
Colleen Morris
Dane Jones
David Foster
Derek Shields
Deakin University
Emmett Duffy, MarineGEO, Smithsonian Institute, USA
Mikel Becerro, PNA-CSIC, Spain
Ella Clausius, RLS/IMAS
Environment Protection Authority, SA
Friends of Beware Reef
Glider Global
Green Adelaide
Jemina Stuart-Smith, Handfish Conservation Project/ IMAS
John Anderson, Forte Web Design
Justin Hulls, IMAS
Matt McLean, University of North Carolina
Michael Muller
Nature Coast Marine Group
Paul Day, Carijoa Consulting
Sarah Gracie, UTAS
Solitary Islands Underwater Research Group
Tasmanian Divers Group
Underwater Explorers Club of Western Australia
Underwater Research Group of New South Wales
Underwater Sports Diving Centre
Uri Seroussi
Western Australian Divers for Diversity Inc.
Whitsunday Escape
Yanir Seroussi

5.2 VOLUNTEERS

Eighty-two volunteers have conducted surveys in last financial year

Alexandra Lea
Alicia Sutton
Andrew Bickell
Angel Orozco Rodriguez
Anna Cresswell
Antonia Cooper
Ashley Smith
Ben Jones
Bruce Whiley
Carolina Garcia
Caterina Mintrone
Cathie Shorthouse
Cayne Layton
Chiara Ravaglioli
Chris Westley
Claudia Santori
Corinne Telford
Daniel Easton
Danny Brock
David Miller
Ed Parnell
Elouise Haskin
Em Lim
Emily Anderson
Fiona McQueen
Flora Jennifer
German Soler
Graham Edgar
Hunter Forbes
Iacopo Bertocci
Ian Shaw
Isabelle Cote
Jacqui Pocklington
Jaime McAllister
James Brook
Jamie Hicks
Jasmin Schuster
Jemina Stuart-Smith
John Turnbull
Josh Moloney
Joshua Batchelor
Jose Antonio Sanabria Fernandez
Kate Tinson
Kevin Smith
Kirrilee Stone
Kirsty Whitman
Kris O'Keeffe
Lara Denis-Roy
Leah Harper
Lisandro Benedetti-Cecchi
Liz Oh
Louise de Beuzeville
Madeline Davey
Margo Smith
Martin Puchert
Matt McLean
Matt Rose
Meryl Larkin
Naomi Springett
Nathan Knott
Nicola Davis
Nyrie Palmer
Olivia Johnson
Paul Day
Paula Ruiz
Peter Pfennig
Rachel Austin
Rick Stuart-Smith
Ross Whippo
Sam Owen
Scott Bennett
Scott Jones
Shane Holland
Shenae Willis
Simon Bryars
Tess Hoinville
Tom Davis
Valesca De Groot
Victoria Camilieri-Asch
Wendy Hutchison
Yanir Seroussi
Yann Herrera Fuchs

