



ASFB 2019 CONFERENCE

14 - 17 October 2019

National Library of Australia, Canberra, ACT

'Communicate to Illuminate & Inspire'

PROGRAM BOOKLET

www.asfbconference.org

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Australian Government

Australian Fisheries Management Authority



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The ASFB 2019 Conference Organising Committee is pleased to welcome you to host city Canberra. In doing so, we acknowledge and celebrate the First Australians on whose traditional lands we are meeting, and pay our deepest respect to past, present and emerging elders.

Our goal for ASFB 2019 is to showcase and celebrate the many ways we can illuminate the wonderful world of fishes in the hearts and minds of people spanning a range of cultures, backgrounds and perspectives. Our conference program is packed with workshops, special events and sessions that will help you explore how effective communication via the visual arts, digital media, and the spoken and written word can bring new understanding and inspiration to the millions of people who value and depend on fishes for their wellbeing.

A special networking event 'Big Messages for Decision Makers', will take advantage of our gathering in the national capital. Speakers will make a short pitch of their big idea for the future of fish and fisheries to key people responsible for policy and investment in our aquatic resources, and share with the public how we can solve some of the issues that threaten the future of our aquatic ecosystems.

ASFB 2019 is also showcasing the diversity of our host city Canberra. Our beautiful conference venue is the National Library of Australia in the Parliamentary Triangle, where we will have our welcome networking event, the daily conference program, and a public forum. You'll also have the opportunity to discover more of Canberra via our social networking events, like the conference dinner at the National Gallery of Australia.

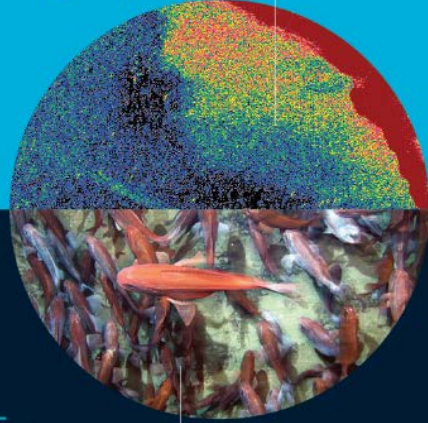
Welcome to the ASFB 2019 Annual Conference.

Chris Fulton

Chair of ASFB 2019 Organising Committee

At CSIRO we are solving the greatest challenges through innovative science and technology

From the application of innovative stock assessment technologies



To developing models informing decisions about use, development and protection of marine ecosystems

csiro.au/MRI

Australia's National Science Agency



DELEGATE INFORMATION

VENUE

National Library of Australia

Parkes Pl W,
Canberra ACT 2600
Phone: (02) 6262 1111
Website: www.nla.gov.au



REGISTRATION DESK – ASN EVENTS

The Conference Registration Desk is located in the Exhibition Area of the National Library of Australia. The desk will be attended at all times during the conference, see hours below. Delegates should collect their name tag on arrival. Registration open hours are:

Monday 14th October: 8:00am – 5:30pm

Tuesday 15th October: 8:00am – 5:30pm

Wednesday 16th October: 8:00am – 5:30pm

Thursday 17th October: 8:00am – 5:00pm

All conference related enquires should be directed to ASN Events staff at this desk. Accommodation queries should be directed to hotel reception desk.

INTERNET ACCESS

Free Wi-Fi is available to conference delegates at the venue. Please connect to the service with the below details:

Network: Public Wi-Fi (NLA)

No password required

DELEGATE INFORMATION

PARKING

There are several car parks surrounding the Library. A large all-day car park can be found further along Parkes Place, towards the lake. Disabled parking can be found immediately south of the Library, in the car park closest to the front entrance. A smaller all-day car park is also located south of the Library, near the loading bay and secure bicycle parking facilities. All car parks are regularly patrolled by parking inspectors so we advise that you ensure you are displaying the appropriate ticketing before leaving your vehicle.

Bicycle parking is available on the south side of the front entrance and in the car park adjacent to the loading dock off King Edward Terrace.

ENVIRONMENTALLY RESPONSIBLE CONFERENCE

This year's name tag is hand made from recycled paper and embedded with Thyme seeds. Soak card in water until soft. Place card on seed raising mix (in pot or ground). Lightly cover with more mix, water and keep moist. Germination should take 7 - 21 days. The Lanyards are also made from sustainably source bamboo.

ASFB 2019 has teamed up with **Greenfleet**, one of Australia's most reputable carbon offset organisations. For each full registration ASFB will purchase a tree which will be planted in riparian zone and managed and protected by Greenfleet for up to 100 years, providing habitat for Koalas, Brush-Tailed Phascogales, and aquatic species that benefit from rehabilitated riparian native vegetation, amongst other native species.

NLA BOOKSTORE DISCOUNT

Show your conference badge to receive 10% off your purchase at the National Library Bookshop. Valid from 9am – 5pm, 14 - 17 October 2019. No further discounts apply. (*Offer does not include limited edition prints, discounted and remaindered stock, newspapers, stamps, copy cards, magazines and vouchers*).

DELEGATE INFORMATION

ASFB ANNUAL GENERAL MEETING

All society members are encouraged to attend the ASFB AGM. The ASFB AGM will be held before the break from 13:30 – 15:30 pm on Wednesday 16th October in the Theatre, Lower Ground.

SOCIAL PROGRAM

WELCOME RECEPTION

Time: 5:30 pm - 7:30 pm

Date: Monday 14th October 2019

Venue: National Library of Australia

STUDENT - MENTOR FISH QUIZ

Time: 6:00 pm - 8:00 pm

Date: Tuesday 15th October

Venue: Debaque - Mode 3, 24 Lonsdale St, Braddon ACT 2612

Bus transfers will depart from the National Library at 5:30pm via Rydges Capital Hill

BIG MESSAGES PUBLIC FORUM

Time: 5:30 - 6:30pm (*Post forum drinks 6:30pm - 7:30pm*)

Date: Wednesday 16th October 2019

Venue: Theatre, Lower Ground, National Library of Australia

CONFERENCE DINNER

Time: 7:00pm - 11:00pm

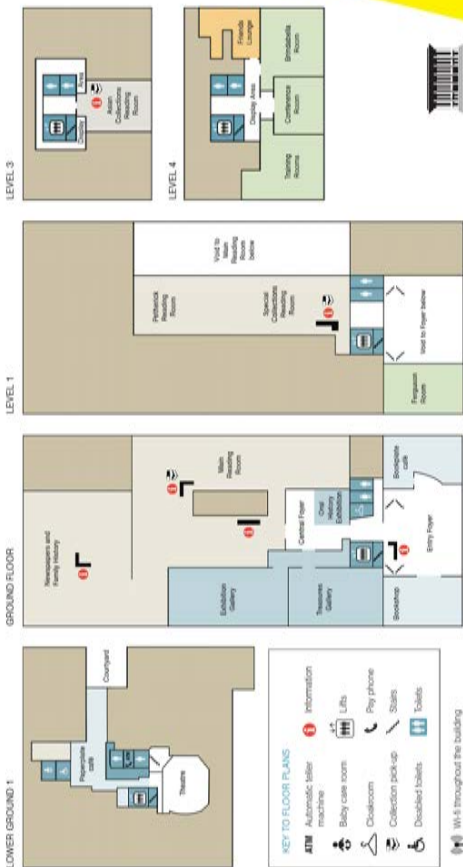
Date: Thursday 17th October 2019

Venue: Gandel Hall, National Gallery of Australia

Bus transfers will depart from Jolimont Centre & Rydges Capital Hill at 6:45pm

Return transfers back to Rydges Capital Hill and Jolimont Centre will depart at 10:30pm, 11:00pm and 11:30pm.

FLOOR PLANS



CONFERENCE APP

Download the official **ASFB 2019** App to access the latest information. You can flag sessions of interest, view floor plans, read abstracts and search for speakers by name.



To download the ASFB 2019 App onto your smart phone or tablet device follow these instructions:

1. Search for '**Currinda**' via the App Store from the following platforms or simply scan the QR code above
 - Android Products: Google Play
 - Apple Products: iTunes
2. Once you have downloaded the App, you will be prompted to log in
3. First you must click on the 'Client' box and search for '**ASN**'
4. Select '**ASN**' from the list provided below and then you can log in with your email address and password you used to register for the conference

The Smartphone 'App' will allow you to:

- View the full conference program
- Save your favourite sessions and plan your day
- View and search for speaker bios and abstracts
- Take notes which will then be saved and downloaded from your registration profile.
- View Sponsors and Exhibitors

You will be prompted to login each day. For further assistance please see ASN staff at the Registration Desk.

DELEGATE INFORMATION

SPEAKER PREPARATION INSTRUCTIONS

An IT Staff member will be able to assist presenters with loading their presentation. Speakers can contact ASN staff members at the registration desk during any breaks. Speakers are encouraged to load their presentations as soon as possible to avoid any last-minute rushes. The standard AV set up for all presentations will be data projection using MS PowerPoint. All presentations will be run from a PC.

DISPLAYING YOUR POSTER

You will be able to hang your poster from 9:00 am on Tuesday 15th October 2019 in the Exhibition Area, Lower Ground of the National Library of Australia. Please affix your poster to the allocated board prior to the Poster Session.

Posters should be taken down no later than 5:00 pm on Thursday 17th October. Posters remaining after this time will be removed by conference staff.

A photograph showing a person's hands holding a Macquarie Perch in water. The fish is dark brown with a lighter belly and is being held gently. The background is a calm body of water with ripples.

Innovation to protect the endangered Macquarie Perch

The Cotter Reservoir contains the only self-sustaining ACT population of the nationally endangered Macquarie perch.

Icon Water has worked closely with experts from local and national universities on a program to protect this threatened aquatic species.

Find out what we did at iconwater.com.au/fish

icon
WATER

INVITED SPEAKERS

DR ZOE DOUBLEDAY

Future Industries Institute, The University of South Australia

Zoe Doubleday is a marine ecologist and avid promoter of accessible science. She is on a mission to boost the readability and readership of what scientists write, particularly peer-reviewed publications. Her goal is to not only boost public engagement in science, but also boost collaboration within the STEM community. Zoe's research on writing has caught the attention of *Nature*, *PNAS*, *Trends in Ecology & Evolution*, and the Australian Academy of Science, as well as numerous research institutions in Australia and abroad. Zoe is also an award-winning science communicator and works regularly with the media to promote diversity in STEM, marine research and the environment.

ALISTAIR HOBDAY

Research Director for the Marine Resources and Industries Program at CSIRO Oceans and Atmosphere, and Adjunct Professor at the University of Tasmania with the Centre for Marine Socioecology, Hobart TAS

Alistair's research focus has been the study of environmental influences on the distribution and abundance of marine species. His projects have included documenting the impacts of climate change on marine biodiversity and fishery resources, and developing, prioritising and testing adaptation options to underpin sustainable use and conservation into the future. He has worked in multi-disciplinary teams, and seeks to support management and policy uptake of research, via co-production with stakeholders.

INVITED SPEAKERS

DR LINDSAY MARSHALL

Shark Fin ID Specialist / Fisheries Scientist / Natural History Artist

Dr. Lindsay Marshall is a shark scientist, shark fin ID specialist and natural history artist. She is the sole artist for the Chondrichthyan Tree of Life project (sharkrays.org) for which she has painted every species of Chondrichthyan fish (more than 1200 species). This was the first time in over 100 years that an artist has painted a vertebrate class in its entirety. Lindsay has also illustrated the much-anticipated 'Rays of the World' book (CSIRO Press), which was released in 2016. In addition to being a skilled artist, Lindsay is also a shark scientist. She's a published taxonomist and has expertise in shark morphology as well as fisheries science. In 2016 she also published an ID guide to shark fins with the FAO (World Food and Agriculture Organisation) that is hoped to aid the management and conservation effort surrounding the illegal shark fin trade.

STELLA MCQUEEN

Native Fish Specialist / Science Communicator / Field Ecologist / Author

Stella McQueen fell in love with New Zealand's native freshwater fish so hard and fast that she started writing a book about them six months after she realised they existed. The New Zealand Native Freshwater Aquarium was soon followed by A Photographic Guide to Freshwater Fishes of New Zealand, with a return to university sandwiched in the middle for good measure. She is now a roving freelance fish specialist. Stella is a very active science communicator, through her surprisingly popular Facebook page, New Zealand Native Fish, as well as radio and written articles. She will present on the subtle art of taking science nerdery to the masses.

INVITED SPEAKERS

KIRSTY NASH

*Centre for Marine Socioecology, University of Tasmania, Hobart, TAS
Institute for Marine and Antarctic Studies, University of Tasmania, Hobart, TAS*

Kirsty Nash is a Research Fellow at the Centre for Marine Socioecology and the Institute for Marine and Antarctic Studies at the University of Tasmania. Her research focuses on the resilience of marine social-ecological systems, functional ecology and facilitating interdisciplinary research. Kirsty did her PhD (Cum Laude) at the ARC Centre of Excellence for Coral Reef Studies at James Cook University. Her PhD thesis explored the spatial ecology of reef fishes as it relates to ecosystem resilience. Prior to joining the University of Tasmania, she was a postdoc at the Centre of Excellence for Coral Reef Studies, in Townsville. Kirsty won the 2018 ASFB Early Career Excellence Award.

DR TOM RAYNER

Griffith University, Gold Coast QLD

Tom Rayner is a Science Communicator at Griffith University, where he leads stakeholder engagement, impact evaluation and digital communication for The Global Wetlands Project. Tom's background is in freshwater ecology, as a Lecturer and Research Leader. He is now recognised as a pioneer in the development and application of researcher-centred approaches to science communication. Tom is a prominent advocate for greater authenticity in outreach, with a determination to inspire a new era of participation. Tom is also an award-winning conservation photographer and videographer, including as an expedition photographer with National Geographic.

<https://www.linkedin.com/in/tomraynerphd/>

INVITED SPEAKERS

DR TULLIO ROSSI

Science Communicator | Founder of Animate Your Science

Dr Tullio Rossi is an award-winning science communicator, marine biologist and graphic designer. As Founder of the communication agency "Animate Your Science", he helps researchers tell their story to the world. His engaging video animations and eye-catching graphics make science understandable for everyone, reaching millions of people around the world, thereby creating a real-life impact.

TIFFANY SIH

James Cook University, Townsville QLD

Dr. Tiffany Sih's research investigates deep-reef fishes in the context of global fisheries. This involves a suite of techniques such as Baited Remote Underwater Video Stations and otolith chemistry to investigate the ecology of fish communities living below 100 m. Originally from California, and by way of Hawaii, Tiffany reached Australian shores to make her mark on the Great Barrier Reef. Tiffany won the 2018 ASFB Student International Travel Award.

ERIN WALSH

James Cook University, Townsville QLD

Dr. Tiffany Sih's research investigates deep-reef fishes in the context of global fisheries. This involves a suite of techniques such as Baited Remote Underwater Video Stations and otolith chemistry to investigate the ecology of fish communities living below 100 m. Originally from California, and by way of Hawaii, Tiffany reached Australian shores to make her mark on the Great Barrier Reef. Tiffany won the 2018 ASFB Student International Travel Award.

PROGRAM

MONDAY 14TH OCTOBER 2019

Registration Opens

8:00AM - 5:00PM

Exhibition Area

Animal Ethics Workshop

9:00AM - 12:00PM

Meeting Room, Level 4

Fish Art and Imagery Workshop

9:00AM - 12:00PM

Training Room, Level 4

Using Graphical Abstract Workshop

1:30PM - 4:30PM

IT Training Room, Level 4

Strategic Science Communication Workshop

1:30PM - 4:30PM

Training Room, Level 4

Writing with Quality & Productivity Workshop

1:30PM - 4:30PM

Meeting Room, Level 4

Welcome Reception

5:30PM - 7:30PM

Foyer, Ground Floor

TUESDAY 15TH OCTOBER 2019

Registration Opens

8:00AM - 5:30PM

Exhibition Area, Lower Ground

Welcome to Country & ASFB Presidents Address

9:00AM - 9:20AM

Theatre, Lower Ground

Communication Plenaries

9:20AM - 10:20AM

Theatre, Lower Ground

Chair: Chris Fulton

9:20 AM Tullio Rossi

How to Stand Out and Unleash Your Impact abs# 1

9:40 AM Lindsay Marshall

Illustrating the World's Shark and Ray Species: my unexpected career as a natural history artist." abs# 2

10:00 AM Stella McQueen

Taking science nerdery to the masses abs# 3

TUESDAY

Morning Tea

10:20AM - 10:45AM

Exhibition Area, Lower Ground

Communication Plenaries and Communication in Fish & Fisheries Forum

10:45AM - 12:30PM

Theatre, Lower Ground

Chair: Chris Fulton

10:45 AM Erin Walsh

Scientific illustration for communication and conservation abs# 4

11:05 AM Tom Rayner

Pathways to impact: saving fish by saving yourself. abs# 5

11:25 AM Zoe Doubleday

Reimagining the way we write for bolder and brighter research abs# 6

Lunch

12:30PM - 1:30PM

Exhibition Area, Lower Ground

Alien Fishes Committee Meeting

12:30PM - 1:30PM

Meeting Room, Level 4

Aquageography Session

1:30PM - 3:15PM

Theatre, Lower Ground

Chair: Mae Noble

Session sponsored by



Australian
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1:30 PM Shankar Aswani Canela

Participatory GIS mapping for analysing local peoples' perceptions of environmental change in Madagascar and Solomon Islands. abs# 7

1:45 PM Wally Stewart

Aboriginal values in fish and fishing abs# 8

2:00 PM Martin Mallen-Cooper

Mungindi to the Mouth – Connecting cultures to conserve native fishes abs# 9

2:15 PM Michael Gilby

Re-Connecting people to Country through enhancing local fish communities... abs# 10

2:30 PM Erica Williams

Tuna (freshwater eels) and Māori socioecological systems abs# 12

2:45 PM Dean Mathews

Fuzzy GIS mapping of Yawuru cultural knowledge – some sea country examples abs# 13

3:00 PM Q&A

Monitoring Session

1:30PM - 3:15PM

Conference Room, Level 4

Chair: Matthew Beitzel

1:30 PM Ivone Figueiredo

Can we monitor the immense small scale and multi-species fisheries? abs# 14

1:45 PM Tyson Martin

Using recreational fishing data to monitor the performance of net free zones abs# 15

2:00 PM Belinda McGrath-Steer

Using the environment to control nets - Lakes and Coorong Fishery Finfish Harvest Strategy abs# 16

2:15 PM Jonathan McPhail

Why are Snapper eggs so important – Adaptive management of Snapper spawning closures abs# 17

2:30 PM Kim Smith

Interpreting the results of the first age-based assessment of sea mullet in WA abs# 18

2:45 PM Lenore Litherland

Monitoring sharks caught in Queensland's net fisheries abs# 19

3:00 PM Owen Burnell

Rethinking fishing effort to monitor stocks in a multi-species abalone fishery abs# 20

Fisheries Management Session

1:30PM - 3:15PM

Ferguson Room, Level 1

Chair: Kate Simpson

1:30 PM Shane Penny

Putting AI to work in Australia's Darwin Harbour abs# 21

1:45 PM Andy Moore

Developing a national social and economic survey of recreational fishers: do we have to choose between being robust and cost effective? abs# 22

2:00 PM Paula Kalinowski

Streamlining management arrangements in a complex fishery - Western Australia's first fishery with 100% electronic reporting. abs# 23

2:15 PM Genevieve Phillips

Prioritising clean accessible data as a means to improving fisheries management abs# 24

2:30 PM Miguel Gaspar

The use of information and communications technology (ICT), gyrocopters and drones to improve the monitoring and management of data-poor small-scale fisheries. abs# 25

2:45 PM Rhiannon Jones

Recreational abalone safety initiative implementing management and communication procedures to close a recreational fishing day due to predicted unsafe ocean conditions abs# 26

3:00 PM Samuel Williams

A spanner in the works: lessons learnt from a review of the harvest control rules in the Queensland spanner crab fishery. abs# 27

Evolution & Ecology Session

1:30PM - 3:00PM

Training Room, Level 4

Chair: Peter Cowman

1:30 PM Peter Cowman

UCEs and reef fish trees: the utility of targeted capture techniques to illuminate the evolutionary history of fishes on coral reefs. abs# 28

TUESDAY

1:45 PM Alexandre Siqueira

The evolution of traits and functions in herbivorous coral reef fishes through space and time abs# 29

2:00 PM Christopher Hemingson

Evolutionary and ecological relationships of eyespots in coral reef fishes abs# 3

2:15 PM Jeffrey Leis

Most surgeonfish relatives don't live on coral reefs: Revision and relationships of the Acanthuriformes abs# 31

2:30 PM Martin Gomon

When is a Red Cod not a Red Cod? – A surprisingly involved detective story. abs# 32

2:45 PM Kynan Hartog-Burnett

Ecology of reef based clupeiform affects genetic population structure abs# 33

Afternoon Tea

3:15PM - 3:45PM

Exhibition Area, Lower Ground

Aquageography Session

3:45PM - 5:15PM

Theatre, Lower Ground

Chair: Mae Noble

Session sponsored by



3:45 PM Virginia Marshall

Restoring value in Indigenous Science: Beyond the MD SA Royal Commission abs# 34

4:00 PM Mae Noble

Mapping stakeholder priorities in species and ecosystem threats in marine spatial planning abs# 35

4:15 PM Martial Depczynski

Monitoring Indigenous Sea Country: building a baseline for traditional and scientific partnerships in Australia abs# 36

4:30 PM Michael Gilby

Building the Capacity and Performance of Indigenous Fisheries Through Collaborative Partnerships. abs# 37

4:45 PM Jonathan McPhail

Filling the gap between the boat and fork – Connecting commercial fishers to the community abs# 38

5:00 PM Q & A

Monitoring Session

3:45PM - 5:15PM

Conference Room, Level 4

Chair: Matthew Beitzel

3:45 PM Stephen Mayfield

Building a replacement species specific, spatially structured harvest strategy for the SA abalone fishery abs# 40

4:00 PM Nathan Miles

Hooking into angler engagement in the NSW trout fishery: are our current science communication approaches effective? abs# 41

4:15 PM David Hohnberg

Closing the loop - Genuine adaptive management using existing data to develop meaningful objectives and the associated NSW Basin Plan fish response monitoring program. abs# 42

4:30 PM Greg Ringwood

“Identifying gaps and opportunities: moving forward with the Murray Darling Basin Plan fish monitoring strategy” abs# 43

4:45 PM Stuart Little

2024 a fish and flow odyssey – what are the next steps in flow planning for fish in the Murray-Darling Basin abs# 44

5:00 PM David Harasti

Impact of illegal recreational fishing on a fishery targeted species (Snapper: *Chrysophrys auratus*) within a remote no-take MPA abs# 45

Fisheries Management Session

3:45PM - 5:15PM

Ferguson Room, Level 1

Chair: Kate Simpson

3:45 PM Hui King Ho

Effective fisheries management: Phasing out opera house nets to benefit yabby fishing and platypus in Victoria abs# 46

4:00 PM Kylie Hall

Fishery reports cards for informing anglers about the status of popular recreational fish and fisheries abs# 47

4:15 PM Fay Helidoniotis

Using Decision Support tools to inform management and policy of climate related risks to fish productivity abs# 48

4:30 PM Jo Randall

Integrated approach to improving stock assessment of Black jewfish abs# 49

4:45 PM Mark McGrouther

Australasian Fishes might be your new online research tool abs# 50

5:00 PM Mahdi Parsa

Preliminary Estimates of Seabird Bycatch in Australian Commonwealth Longline Tuna Fisheries, 2010-2017 abs# 51

Trophic Ecology Session

3:45PM - 5:15PM

Training Room, Level 4

Chair: Chris Fulton

3:45 PM Mischa Turschwell

Flow-mediated predator-prey dynamics influence fish populations in a tropical river abs# 52

4:00 PM Michalis Mihalitsis

Piscivory on coral reefs: An ecomorphological perspective abs# 53

4:15 PM Vincent Raoult

Trophic ecology of Great Hammerhead sharks (*Sphyrna mokarran*) on the east coast of Australia abs# 54

TUESDAY

4:30 PM Emily Lester

Predation risk influences the behaviour of mesopredatory reef fish over large spatial scales abs# 55

4:45 PM Victor Huertas

Trophic separation in planktivorous reef fishes: a new role for mucus? abs# 56

5:00 PM Brendan Lanham

Facilitation of macroalgal habitats across heterogenous substrates alters predation of epifauna by fish abs# 57

Bus transfer from Library to Debackle (via Rydges Capital Hill)

5:30PM - 6:00PM

Student-Mentor Fish Quiz

6:00PM - 8:00PM

Venue: Debackle - Mode 3, 24 Lonsdale St, Braddon ACT 2612

WEDNESDAY 16TH OCTOBER 2019

Housekeeping & Announcements

9:00AM - 9:15AM

Theatre, Lower Ground

K Radway Award Ceremony & Plenary

9:15AM - 10:15AM

Theatre, Lower Ground

Chair: Stephen Balcombe

Alistair Hobday

In a fast-changing world – what does good science look like? abs# 58

Morning Tea

10:15AM - 10:45AM

Exhibition Area, Lower Ground

WEDNESDAY

Conservation Session

10:45AM - 12:30PM

Theatre, Lower Ground

Chair: Mark Lintermans

10:45 AM Scott Bonar

The Rarest Fish in the World: Current Research on Desert Fish Management and Recovery abs# 59

11:15 AM Peter Unmack

Malanda Gold: the tale of a unique rainbowfish from the Atherton Tablelands, now on the verge of extinction abs# 60

11:30 AM Karl Moy

From discovery to recovery: conservation of the Running River rainbowfish abs# 61

11:45 AM Hugh Allan

Spawning of a threatened upland galaxiid abs# 62

12:00 PM Charles Todd

Size at onset of maturity (SOM) is a poor measure for setting Murray crayfish fishing regulations, size at functional reproduction (SFR) is the gold standard. abs# 63

12:15 PM Scott Raymond

Establishing refuge populations of threatened southern pygmy perch in north-eastern Victoria abs# 64

Monitoring Session

10:45AM - 12:30PM

Conference Room, Level 4

Chair: Matthew Beitzel

10:45 AM Matthew Beitzel

Learning from and adapting long term fish monitoring in the ACT abs# 65

11:00 AM Nick Bond

Monitoring fish population responses to environmental water delivery in the murray-darling basin lessons and observations at the basin-scale five years in abs# 66

11:15 AM Shokoofeh Shamsi

Listening to the unseen horde: Parasites and environmental change in the Murray Darling Basin abs# 67

11:30 AM Chris Bice

Understanding fish movement in the Murray–Darling: introducing the basin-scale acoustic telemetry array and database abs# 68

11:45 AM Ben Broadhurst

Temporal patterns in a lowland larval fish community abs# 69

12:00 PM David Crook

Integrating acoustic telemetry with high resolution sonar to elucidate population-level effects of fish movement in a northern Australian stream abs# 70

12:15 PM Andrew Jansen

Optimisation of monitoring methods used to characterise tropical freshwater fish community composition abs# 71

Recruitment & Connectivity Session

10:45AM - 12:30PM

Ferguson Room, Level 1

Chair: Chris Fulton

10:45 AM Shaun Wilson

Climatic forcing and larval dispersal capabilities shape the replenishment of fishes on a tropical coral reef abs# 72

11:00 AM Rohan Brooker

Coastal development can affect fish recruitment by altering mangrove-associated settlement cues abs# 73

11:15 AM Hayden Schilling

The influence of onshore winds on estuarine fisheries production abs# 74

11:30 AM Paul Hamer

Early warnings: monitoring replenishment of the western Victorian snapper stock abs# 75

11:45 AM Anthony Fowler

The South Australian Snapper fishery – a complicated tale of different stocks abs# 76

12:00 PM Troy Rogers

Discriminating natal source populations of a temperate marine fish species using larval otolith chemistry abs# 77

WEDNESDAY

12:15 PM Koster Sarakinis

Analysing population structure and connectivity through otolith chemistry of stout whiting, *Sillago robusta* abs# 78

Behaviour Session

10:45AM - 12:30PM

Training Room, Level 4

Chair: Rebecca Fox

10:45 AM Giovanni Polverino

The bold and the sperm: positive association between boldness and sperm number in the guppy abs# 79

11:00 AM Tzu Nin Kwan

Diethylstilbestrol (DES) mediated paradoxical masculinisation does not impair reproduction in the pest fish *Gambusia holbrooki* abs# 80

11:15 AM Rebecca Fox

Should females mate with old males? Effects of male age and sexual experience on sperm quality, mating success and offspring fitness abs# 81

11:30 AM Kevin Bairos-Novak

Prey fish use a chemical alarm signal to communicate risk and coordinate defenses against predators abs# 82

11:45 AM Megan Head

Sex-specific responses to intraspecific competition in the mosquitofish *Gambusia holbrooki* abs# 83

12:00 PM Louise Tosetto

A fish can change its stripes: behavioural drivers of rapid colour change in bluelined goatfish abs# 84

12:15 PM Pauline Narvaez

Cleaner fish as vectors of parasitic diseases abs# 85

Lunch

12:30PM - 1:30PM

Exhibition Area, Lower Ground

ASFB Annual General Meeting

1:30PM - 3:30PM Theatre, Lower Ground

Afternoon Tea

3:30PM - 4:00PM

Exhibition Area, Lower Ground

Conservation Session

4:00PM - 5:15PM

Theatre, Lower Ground

Chair: Mark Lintermans

4:00 PM Lisa Evans

Should we try, try again when it comes to fish habitat rehabilitation? abs# 86

4:15 PM Charlotte Birkmanis

Shark conservation hindered by lack of habitat protection abs# 87

4:30 PM Raf Freire

Behavioural assessment of Murray cod decision-making and implications for conservation and welfare abs# 88

4:45 PM Mark Lintermans

In the red: the first national IUCN Red List assessment for Australian freshwater fish abs# 89

5:00 PM David Roberts

Using social media to inform conservation risks and guide management actions for the endangered Mary River Cod abs# 90

Monitoring Session

4:00PM - 5:15PM

Conference Room, Level 4

Chair: Matthew Beitzel

4:00 PM Nathan Knott

A quantitative assessment of the biodiversity of rocky reef fish assemblages and a range of anthropogenic threats across the Hawkesbury Shelf Marine Bioregion abs# 91

4:15 PM Matt Rees

Modelling the spatial distribution of rocky reef fish assemblages in the Hawkesbury Shelf Marine Bioregion abs# 92

4:30 PM Courtney Harvey

Movement and distribution of Grey nurse sharks (*Carcharias taurus*) in an ocean warming hotspot abs# 93

4:45 PM Jane Williamson

Is it time to consider replacing divers and snorkelers with Remotely Operated Vehicles (ROVs)? abs# 94

5:00 PM Giverny Rodgers

Acoustic recording technology as a method for monitoring the use of Australian Marine Parks by recreational vessels abs# 95

Spatial Ecology Session

4:00PM - 5:15PM

Ferguson Room, Level 1

Chair: Robert Streit

4:00 PM Robert Streit

Spatial ecology of coral reef fish functions in a transitioning world abs# 96

4:15 PM Ashley Fowler

Patterns and drivers of movement for a coastal benthopelagic fish, *Pseudocaranx georgianus*, on Australia's southeast coast abs# 97

4:30 PM Patrick Burke

Novel use of passive satellite archival telemetry in sawsharks: insights into the movement of the common sawshark *Pristiophorus cirratus* (Pristiophoridae) abs# 98

4:45 PM Aaron Puckeridge

Fine scale behaviour of bluespotted flathead around a designed artificial reef abs# 99

5:00 PM Daniel Swadling

Using acoustic tracking to improve marine reserve design: movement patterns and habitat connectivity of juvenile Luderick (*Girella tricuspidata*) abs# 100

Behaviour Session

4:00PM - 4:30PM

Training Room, Level 4

Chair: Rebecca Fox

4:00 PM Robert Perryman

Investigating social interaction dynamics in reef manta rays abs# 101

4:15 PM Culum Brown

Does ocean warming affect quantity discrimination ability in sharks? abs# 102

Big Message Public Forum

5:30PM - 6:30PM

Theatre, Lower Ground

Associate Professor Chris Fulton

Which seafood is that & should I eat it?

Dr John Koehn

Hope and opportunities beyond carp and fish kills.

Tristan Guilleman

The unexpected solution to answering 'Where do fish go?'

Professor Scott Bonar

Communicating Critical Science Issues to a Diverse Public.

Dr Genevieve Philips

Digitally transforming Australia's fisheries: it's all about the data.

Phil Duncan, Dr Martin Mallen-Cooper and Dr Brenton Zampatti

Connecting cultures to conserve rivers and communities.

*Post Forum drinks and canapes will be held in the Library Foyer
from 6:30 – 7:30pm*

Session sponsored by



Housekeeping & Announcements

9:00AM - 9:15AM

Theatre, Lower Ground

Early Career Award & Student Award Plenaries

9:15AM - 10:15AM

Theatre, Lower Ground

Chair: Stephen Balcombe

9:15 AM Tiffany Sih

Now entering the Twilight Zone abs# 103

9:45 AM Kirsty Nash

Planetary Boundaries and the Sustainable Development Goals on a Blue Planet abs# 104

Morning Tea

10:15AM - 10:45AM

Exhibition Area, Lower Ground

Fish Kills Session

10:45AM - 12:30PM

Theatre, Lower Ground

Chair: Craig Boys

Session sponsored by



Department of Primary Industries

10:45 AM Iain Ellis

Dissecting the Menindee fish deaths abs# 105

11:00 AM Simon Mitrovic

Findings of the independent panel assessment of the 2018-19 fish deaths in the lower Darling abs# 106

11:15 AM Badger Bates

The people of the river: What the Darling River fish deaths mean to the Barkindji abs# 107

11:30 AM Graeme McCrabb

Cod or canaries: Are the Menindee fish deaths forewarning the demise of a river and the communities that depend on it? abs# 108

11:45 AM Katherine Cheshire

Death by Numbers: Learning from the Menindee fish deaths to inform future management abs# 109

12:00 PM Craig Boys

Creating oxygen refuges for fish during hypoxia-caused fish death events – evaluation of emergency measures abs# 110

12:15 PM Alec Davie

Linking water quality and river flow to fish health to improve our predictive capacity around fish kill events. abs# 111

Ecosystem Ecology Session

10:45AM - 12:30PM

Conference Room, Level 4

Chair: Shaun Wilson

10:45 AM Sterling Tebbett

Lessons learnt from reef fish functional ecology abs# 112

11:00 AM Renato Morais Araujo

Pelagic subsidies underpin fish productivity on a degraded coral reef abs# 113

11:15 AM Holger Janes

Stable isotopes infer the value of Australia's coastal vegetated ecosystems from fisheries abs# 114

11:30 AM Vincent Raoult

Stable isotopes indicate significant saltmarsh provisioning for two commercially important penaeid species in a temperate seagrass dominated estuary abs# 115

11:45 AM Max Mallett

Determining the trophic foundations of a salmonid fishery abs# 116

12:00 PM Taylor Patterson

Moray eels biodiversity behavior conservation status and ecological roles on coral reefs abs# 117

12:15 PM Chris Fulton

Future tropical reefs: what can we expect for fish & fisheries? abs# 118

Genetic Applications Session

10:45AM - 12:30PM

Ferguson Room, Level 1

Chair: Elise Furlan

10:45 AM Jess Morgan

A kraken great tale about Australian squid abs# 119

11:00 AM Jonathan Chang

A macroevolutionary perspective on the distribution of commercially exploited fish species abs# 120

11:15 AM Michael Hammer

Unravelling the taxonomy and identification of a problematic group of sympatric fishes from a tropical lowland river abs# 121

11:30 AM Maiko Lutz

Hybrid vigour in macquarie perch breeding and stocking abs# 122

12:00 PM Meaghan Duncan

FishGen: Identifying stocked fish in the Murray-Darling Basin using genetic parentage testing abs# 124

12:15 PM Jawahar Patil

Trojan chromosome: a genetic sex ratio manipulation approach to control the pest fish, *Gambusia holbrooki* abs# 125

Physiology Session

10:45AM - 12:30PM

Training Room, Level 4

Chair: Mariah Millington

10:45 AM Christopher Lawson

Scaling up to ocean giants: energetics of shark and ray megafauna abs# 126

11:00 AM Adam Downie

How do coral reef fishes develop into athletes? abs# 127

11:15 AM Essie Rodgers

Taking the heat: understanding organismal responses to eutrophication and climate warming in tandem abs# 128

11:30 AM Rose O'Dea

Thermal developmental plasticity in fish abs# 129

11:45 AM Laura Michie

Mitigation of cold water pollution: effects on larval fish growth and development abs# 130

12:00 PM Monique Parisi

The rate of physiological acclimation to low temperatures: Is physiological plasticity sufficient for fish to respond to cold water pollution? abs# 131

12:15 PM Shannon McMahon

The effects of heatwaves and ocean acidification on a juvenile reef mesopredator, *Chrysophrys auratus* abs# 132

Lunch

12:30PM - 1:30PM

Exhibition Area, Lower Ground

Poster Session

12:30PM - 1:30PM

Exhibition Area, Lower Ground

Fish Kills Session

1:30PM - 3:00PM

Theatre, Lower Ground

Chair: Craig Boys

Session sponsored by



1:30 PM Daniel Gomez Isaza

Nutrient pollution, high temperatures and fish kills: How physiological and experimental approaches can assist in predicting future mortality events? abs# 133

1:45 PM Alison King

Lessons from fish kills outside of the Murray-Darling Basin: Tracking recovery of the Katherine River fish assemblage after the 2012 hypoxic blackwater event abs# 134

2:00 PM Jason Thiem

Can stocking play a role in recovering fish populations after fish kills? - Lessons following blackwater events in the Edward-Wakool river system abs# 135

2:15 PM Ivor Stuart

Murray cod in the lower Darling River: environmental flows protect populations abs# 136

2:30 PM Martin Mallen-Cooper

Rehabilitating fish populations in the Barwon-Darling: an ecohydraulic perspective on fish kills and the future. abs# 137

2:45 PM John Koehn

Fish kills: we have been there before, we know what to do, what's the hold up? abs# 138

3:00 PM Sam Roseby

The Native Fish Management and Recovery Strategy abs#177

Ecosystem Ecology Session

1:30PM - 2:45PM

Conference Room, Level 4

Chair: Shaun Wilson

1:30 PM Vincent Raoult

Utilisation of a recovering wetland by a commercially important species of penaeid shrimp abs# 139

1:45 PM Jonathan Mitchell

Novel video-based observations of shark depredation and behavioural interactions with fishing gear abs# 140

2:00 PM Pia Bessell-Browne

Stock assessment of Australian east coast spotted mackerel (*Scomberomorus munroi*): predictions of stock size and impacts of environmental variation abs# 141

2:15 PM Kylie Scales

Understanding oceanographic and environmental factors impacting the Eastern Tuna and Billfish Fishery abs# 142

2:30 PM Ben Stobart

Fishing smart: using biological and economic information to direct abalone harvest strategies abs# 143

Genetic Applications Session

1:30PM - 3:15PM

Ferguson Room, Level 1

Chair: Elise Furlan

1:30 PM Sharon Appleyard

From teleosts to elasmobranchs, Sanger to Illumina; using genetic data from the Australian National Fish Collection abs# 144

1:45 PM Frederieke Kroon

Identifying fish predators to mitigate Crown-of-Thorn seastar outbreaks abs# 145

2:00 PM Mitchell Aafjes

Corallivores as potential indicators of coral reef health: diet and microbiome abs# 146

2:15 PM Joseph DiBattista

The development of eDNA metabarcoding to assess fish biodiversity in coastal ecosystems and integrating these data into marine monitoring programs abs# 147

2:30 PM Elise Furlan

Using eDNA to corroborate predicted distributions of threatened fishes abs# 148

2:45 PM Katrina West

eDNA metabarcoding in the offshore and coastal waterways of the Kimberley, WA abs# 149

3:00 PM Cindy Bessey

Methods for maximising tropical fish alpha diversity measurements using eDNA metabarcoding abs# 150

Physiology Session

1:30PM - 3:00PM

Training Room, Level 4

Chair: Louise Tosetto

1:30 PM Kelly Hannan

Exposure to elevated pCO₂ affects the cardiac performance of cobia, *Rachycentron canadum* abs# 151

1:45 PM Laura Velasquez

Anthropogenic noise affects behavioural traits that determine survival in coral reef fishes abs# 152

THURSDAY

2:00 PM Shafaq Fatima

Effect of Light Pollution on Diurnal Rhythm of Melatonin in Catla Catla and Labeo Rohita; Comparative Study in Farm and Indoor Facility Illumination Conditions abs# 153

2:15 PM Julian Hughes

Discovery of a specialised anatomical structure in some physoclistous carangid fishes which permits rapid ascent without barotrauma abs# 154

2:30 PM Jasmin Martino

Disentangling intrinsic and extrinsic drivers of otolith chemistry in a coastal marine fish abs# 155

2:45 PM Brendan Adair

Muddy waters: An assessment of the suitability of zygocardiac ossicles for direct age estimation in the Giant mud crab *Scylla serrata* abs# 156

Afternoon Tea

3:15PM - 3:45PM

Exhibition Area, Lower Ground

Fish Art & Science Session

3:45PM - 5:15PM

Theatre, Lower Ground

Chair: Lindsay Marshall

3:45 PM Nastaran Mazloumi

Using visual tools to communicate science abs# 158

4:00 PM Lindsay Marshall

The Science of Art: how science has influenced me as an artist. abs# 159

4:15 PM Mark McGruther

Driftwood fishes abs# 160

4:30 PM Brendan Ebner

Schematic representations of fish interactions, habitat use and life cycle abs# 161

4:45 PM Maggie Watson

When is art 'art' and when is it 'scientific illustration'? abs# 162

Aquatic Translocations & Invasives Session

3:45PM - 5:00PM

Conference Room, Level 4

Chair: Bonnie Holmes

3:45 PM Mariah Millington

Silent invaders- ornamental fish as a leading invader of Australian freshwaters abs# 163

4:00 PM Bonnie Holmes

Evidence of naturalisation of the invasive jaguar cichlid (*Parachromis managuensis*) in Queensland, Australia. abs# 164

4:15 PM Timothy Brown

Testing the adaptive advantage of a threatened species over an invasive species using a stochastic population model abs# 165

4:30 PM Raihan Mahmud

Characterisation and aetiology of Jelly-like gonad condition (JGC) in the common carp, *Cyprinus carpio* (L) abs# 166

4:45 PM Chris Bird

Freshwater Biosecurity in Western Australia abs# 167

5:00 PM Agus Sunarto

Biological and Genetic Controls of Tilapia abs# 202

Spatial Ecology Session

3:45PM - 5:00PM

Ferguson Room, Level 1

Chair: Robert Streit

3:45 PM Kyle Tyler

Reproductive activity of freshwater fish differs spatially and temporally across the hydrological gradient of a wet-dry tropical river catchment abs# 168

4:00 PM Gordon O'Brien

River connectivity and fish migrations: Lessons learnt from regional scale E-flow assessments in Africa. abs# 169

4:15 PM Sandra Leigh

Flow-related spatial ecology of Murray cod: implications for environmental flow delivery abs# 170

THURSDAY

4:30 PM Samantha Davis

Vagrant migrant or resident - an eel-life example abs# 172

Physiology / Biology Session

3:45PM - 5:00PM

Training Room, Level 4

Chair: Jason Thiem

3:45 PM Daniel Wright

Latitudinal variation in age-length relationships of golden perch within the Murray-Darling Basin abs# 173

4:00 PM Victoria Camilieri-Asch

Shedding light on the neuroanatomical organisation of the olfactory system in a shark (*Chiloscyllium punctatum*) compared to a teleost (*Carassius auratus*) abs# 174

4:15 PM Nina Wootton

Microplastics in seafood - a comparison between Australia and Fiji abs# 175

4:30 PM David Booth

Weedy seadragon demography through citizen science abs# 176

Bus depart from Jolimont Centre & Rydges Capital Hill at 6:45pm

Conference Dinner

7:00PM - 11:00PM

Gandel Hall, National Gallery of Australia

Bus transfers to Jolimont Centre via Rydges Capital Hill at 10:30pm, 11:00pm and 11:30pm

POSTER LISTING

Alan Halliday abs# 201
Ngā Kaitiaki o Ngā Wai Māori: Caretakers of freshwaters - a pathway to return the essence of life to our waterways

Alistair Hobday abs# 203
Prepared for change? An assessment of the current state of knowledge to support climate adaptation for Australian fisheries

Malte Willmes abs# 204
Conservation implications of otolith geochemical discoveries for California's imperiled migratory fishes

Rhian Clear abs# 205
How has a population of endangered Macquarie perch responded to reservoir enlargement?

Yi-Yang Chen abs# 206
Sargassum epifaunal communities vary with reef fish biomass and seascape setting within a fringing coral reef ecosystem

Alexandre Siqueira abs# 207
Historical biogeography of herbivorous coral reef fishes: the formation of an Atlantic fauna

Amy Tims abs# 208
A phylogeny of Australian freshwater fishes

Liam Bartlett abs# 209
Invasion genetics of common carp at the south east Queensland frontier

POSTER LISTING

- Karina Hall** abs# 210
Historic voyages, dusty tomes and shrivelled museum specimens: the search for the true identity of the Australian “common squid”
- Ryan Nevatte** abs# 211
Contrasting patterns of population structure in sawsharks from southern Australian waters
- Lenore Litherland** abs# 212
Queensland shark ID tool – a non-linear key for field identification
- Tristan Guillemin** abs# 213
Using parasites to solve the enigmatic movements and population structure of marlin.
- Ugyen Lhendup** abs# 214
Has reservoir enlargement changed the predator prey dynamics between an introduced salmonid predator and a threatened Perichthyid?
- Kylie Hall** abs# 215
The rise and fall of the Hazelwood pondage barra fishery. How the changing fate of coal-fired power generation affects tropical fish in a temperate environment
- Jonathan McPhail** abs# 216
King George Whiting pie - who gets what when the pie shrinks
- Paloma Matis** abs# 217
The IMOS Larval Fish Monitoring Program – A valuable open access database to assess the future health of our oceans
- Brendan Lanham** abs# 218
Boat moorings alter seascapes with consequences for fish communities; is there a solution?

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AUSTRALIAN FISHERIES MANAGEMENT AUTHORITY (AFMA)



Australian Government

Australian Fisheries Management Authority

The Australian Fisheries Management Authority (AFMA) is responsible for the efficient and sustainable management of commonwealth fish resources on behalf of the Australian community. AFMA was

established under, and is governed by, the fisheries administration act 1991. AFMA has four offices located in Darwin, Thursday island, Canberra, and lakes entrance, Victoria.

ACT GOVERNMENT



The act government environment, planning and sustainable development directorate is shaping canberra's future by making it a great place to live, work and play. we do this by being informed, connected and innovative in everything we do.

The directorate is responsible for a wide range of policies and programs within the act public service that includes areas as diverse as climate change policy, energy policy, nature conservation, environment protection policy, strategic and statutory planning, development approvals, building policy, land policy and economics, heritage and water. the directorate also includes the act parks and conservation service which manages nature reserves, national parks, commercial softwood forests and rural lands to ensure canberra provides open and safe space to its community.

In addition the directorate provides corporate and governance support for the suburban land agency and the city renewal authority. the directorate, the authority and the agency when considered together are referred to as the epsdd portfolio.

CLS ARGOS



Argos is a unique, satellite-based location and data collection system dedicated to studying and protecting the environment since 1978. Argos helps the scientific community to better monitor and understand our environment and enables industry to comply with environmental protection regulations.

today, Argos is operated and managed worldwide, by CLS group, a CNES subsidiary.

CSIRO



CSIRO's world-class oceans and atmosphere research provides scientific knowledge, state-of-the-art technology and collaboration opportunities to monitor and manage our oceans. We partner with industry, government, research organisations and communities to deliver innovative solutions that help deepen our understanding of the marine environment — now and for the future. www.csiro.au/oanda

MURRAY-DARLING BASIN AUTHORITY (MDBA)



The Murray–Darling Basin Authority (MDBA) is an independent, expertise based statutory agency that reports to the Commonwealth Minister responsible for water. The MDBA manages the River Murray system on behalf of the Australian Government and Basin states. The MDBA has functions and powers needed to ensure the water resources of the Basin are managed in an integrated and sustainable way in the national interest.

NSW DPI FISHERIES



**New South Wales
Recreational
Fishing Trusts**

All money raised by the NSW Recreational Fishing Fee is placed into the Recreational Fishing Trusts and spent on improving recreational fishing in NSW. One component of the Recreational Fishing Trusts is the Habitat Action Program, which supports the engagement and involvement of recreational fishers in on-ground actions to enhance fish habitat in NSW and support healthy and resilient recreational fisheries.

SPOT X UNDERWATER VISION



Spot X Underwater Vision is a specialist design and engineering firm, building leading-edge inspection tools for researchers, consultants and asset managers. Our range of drop/tow cameras, ROVs and ROV components are widely used in the Australian and international markets. Spot X is constantly innovating, with new products to complement the acoustic telemetry field, as well as developing solutions for live underwater web streaming.

VEMCO



VEMCO is a leading developer of underwater acoustic telemetry monitoring and tracking systems used by researchers worldwide for behaviour, migration, positioning and high residency studies of aquatic animals in fresh and saltwater environments. Products include acoustic transmitters; automated receivers for long term studies; and receivers that deliver high-resolution position information.

INFOFISH AUSTRALIA



Infofish Australia provides fish biomass and habitat surveys utilising advanced echosounder technology. Infofish specialises in surveying large areas of shallow, complex environments common to Australian impoundments and estuaries. Our survey process can isolate specific classes of fish by size, habitat preference or use of the water column and in some cases species. Every fish and habitat element are GPS marked and depth recorded, allowing full spatial analysis both in mapping tools and 3D. Using cutting edge Machine Learning based assessment hundreds of thousands of datapoints can be assessed within hours of survey completion for rapid access. Infofish Australia is committed to delivering the best possible data on shallow water habitats and fish biomass to scientists, the general public and decision makers.



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ASFB 2019 PROGRAM AT A GLANCE

PRE CONFERENCE WORKSHOPS - MONDAY 14TH OCTOBER

9:00 - 12:00	Animal Ethics Workshop	Fish Art and Imagery Workshop	Fisheries Committee Meeting	
12:00 - 13:30	Lunch at leisure			
13:30 - 17:00	Writing with quality & productivity Workshop	New media for Science Comms Workshop	Using Graphical Abstract Workshop	Threatened Species Committee Meeting

17:30 - 19:30 **Welcome Reception (National Library Australia Foyer)**

DAY 1 - TUESDAY 15TH OCTOBER

9:00 - 9:20	Welcome to Country & ASFB President's Address			
9:20 - 10:20	Communication Plenaries			
10:20 - 10:45	Morning tea			
10:45 - 12:30	Communication Plenaries & Communication in Fish & Fisheries Forum			
12:30 - 13:30	Lunch (ASFB Alien Fishes Committee Meeting – Meeting Room)			
13:30 - 15:15	Aquageography	Monitoring	Fisheries Management	Evolution & ecology
15:15 - 15:45	Afternoon tea			
15:45 - 17:00	Theatre	Conference Room	Ferguson Room	Training Room
17:00 - 17:30	Aquageography	Monitoring	Fisheries Management	Trophic ecology
18:00 - 17:30	Bus transfer to Pub Quiz Night (via Rydges Capital Hill) Student Fish Quiz at Debackle			

ASFB 2019 PROGRAM AT A GLANCE

DAY 2 - WEDNESDAY 16TH OCTOBER

Theatre				
9:00 - 10:15	K Radway Award Ceremony & Plenary			
10:15 - 10:45	Morning tea			
Theatre		Conference Room		Ferguson Room
10:45 - 12:15	Conservation	Monitoring	Recruitment & Connectivity	Behaviour
12:30 - 13:30	Lunch			
13:30 - 15:30	ASFB Annual General Meeting (Theatre)			
15:30 - 16:00	Afternoon Tea			
Theatre		Conference Room		Ferguson Room
16:00 - 17:15	Conservation	Monitoring	Spatial ecology	Behaviour
17:30 - 18:30	Big Messages Public Forum <i>(followed by post-forum drinks until 7:30pm)</i>			

DAY 3 - THURSDAY 17TH OCTOBER

Theatre				
9:00 - 9:45	ASFB Early Career Award & ASFB Student Award Plenaries			
10:15 - 10:45	Morning tea			
Theatre		Conference Room		Ferguson Room
10:45 - 12:30	Fish kills	Ecosystem ecology	Genetic applications	Physiology
12:30 - 13:30	Lunch			
13:30 - 15:15	(ASFB Education Committee Meeting - Boardroom 3rd Floor)			
Theatre		Conference Room		Ferguson Room
13:30 - 15:15	Fish kills	Ecosystem ecology	Genetic applications	Physiology
15:15 - 15:45	Afternoon Tea			
Theatre		Conference Room		Ferguson Room
15:45 - 17:00	Fish art & science	Aquatic translocations & invasives	Spatial ecology	Physiology / Biology
17:00 - 18:45	<i>Bus transfer to NGA from Rydges Capital Hill and Jolimont Centre</i>			
18:45 - 19:00	Conference Dinner at NGA			
19:00 - 23:00	<i>Bus transfers to Rydges Capital Hill and Jolimont Centre</i>			