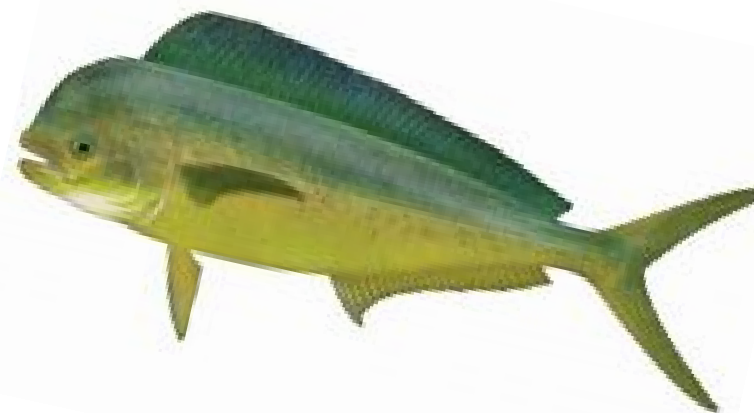




Redmap: a database and mapping resource for observational marine species data

Gretta Pecl, Jemina Stuart-Smith, Dianne Bray, Stewart Frusher, Mark Grubert, Gary Jackson, Natalie Moltschaniwskyj, Melissa Nursey-Bray, Keith Rowling, Marcus Sheaves and Peter Walsh

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What's on the move in Tasmanian waters?



Mahi mahi

Also known as dolphin fish, this species is very bright with colourful blues and yellows which fade quickly upon death. Older male fish have a steep forehead, like a lump (hump headed). Log this species wherever it is spotted in Tasmanian waters.

No. of sightings: 1
Latest sighting: Lawfish
Location: Fishing Block 6H4

FIND OUT MORE 

Check it out on the map 



WHAT IS REDMAP?

FIND OUT MORE 

Redmap, a new and interactive website, invites the Tasmanian community to spot, log and map marine species that are uncommon in Tasmania, or along particular parts of our coast.

PHOTO GALLERY



Send us your photos!

TEACHER RESOURCES

Welcome educators! In our teaching resources section we have provided some interesting worksheets and lesson ideas to help inspire your students. Please read the background information provided, it tells the story of how Tasmanian scientists are addressing the challenges of climate change and contributing to science on a global scale.

LATEST NEWS

- * Win a \$50 voucher from Mures Lower Deck!
- * Redmap is now live!
- * The Redmap launch

Find out more...

LOG YOUR SIGHTING

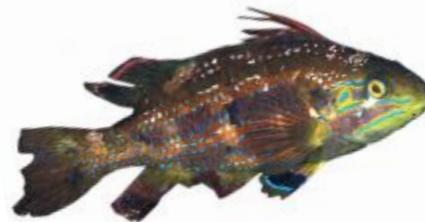


- Range Extension Database & Mapping
- Record 'out-of-range' species
- Pilot project in Tasmania
- Started Dec 2009
- Currently being developed Australia-wide

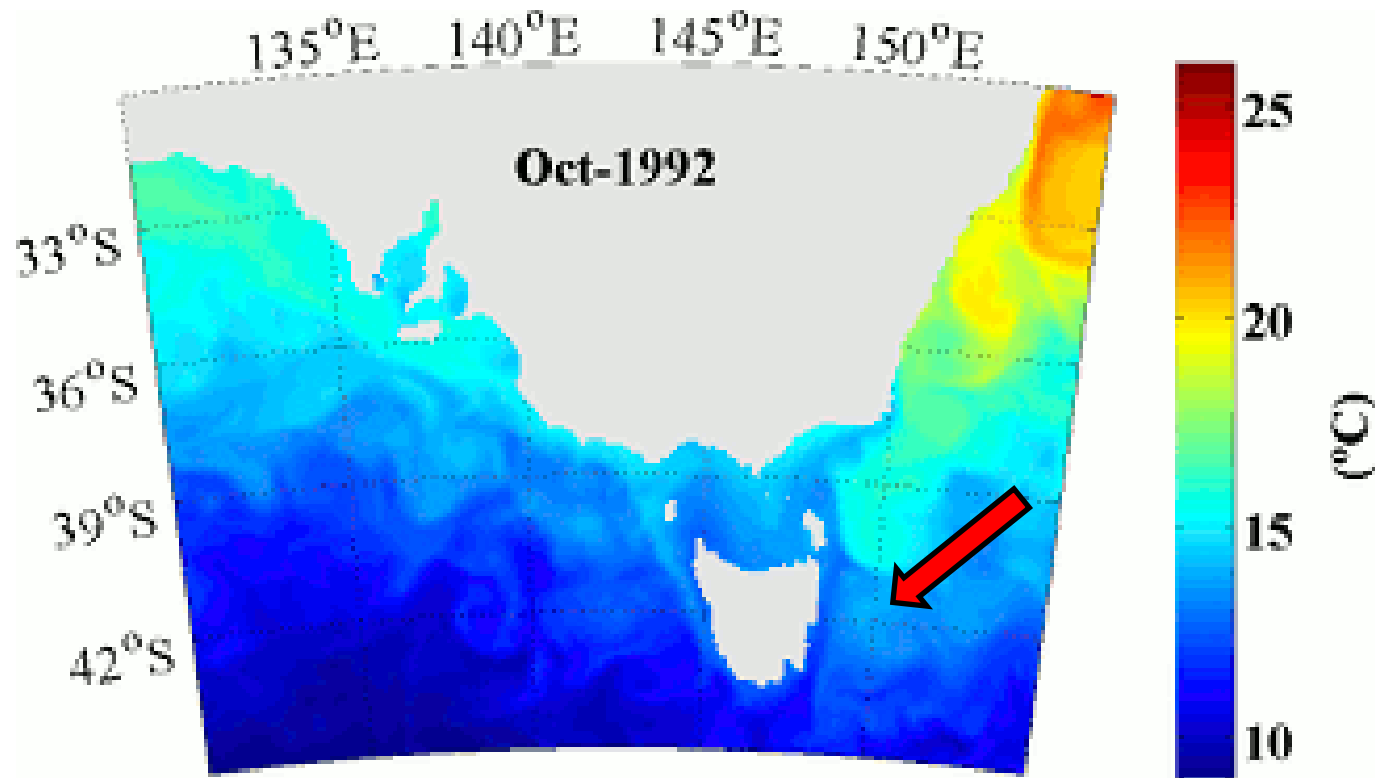


UTAS VC's Outstanding Community Engagement Award 2011

Several dozen new and range-extending species in Tasmania (since 1970) Last et al. 2010



Oceanographic changes in Tasmania



East Australian Current (EAC) - pushing further south and persisting for longer throughout the year

Specific 'ecological' aims of Redmap

- What 'new' or 'uncommon' species, usually observed only in warmer waters, are fishers and divers seeing in Tasmanian waters?
- Are these species being observed over cooler months/years, or only warmer months/years?



- Over winter or in large numbers - stronger evidence of 'range-shift'

- Is there evidence of a shift in distribution?

- Evaluate using presence only Species Distribution Models
 - Modelling approaches to assess impact of 'new' species on existing ecosystem
 - EARLY INDICATION of 'new' species (+/-)
 - Manage new species proactively to maximise benefits/minimise impacts
- SPATIAL PLANNING



Redmap: Capturing & maximising local knowledge

- Two-way knowledge exchange
- Gaps in knowledge being addressed *in partnership*

BROAD AIMS

- Monitoring for ecological change - large coastline & large-scale/long-term monitoring programs difficult!
- Engage, informs and educate our marine communities (using their *own* data)



WWW.REDMAP.ORG.AU

Fishing industry perceptions of climate change



Fishers have varying perceptions on reality of climate change

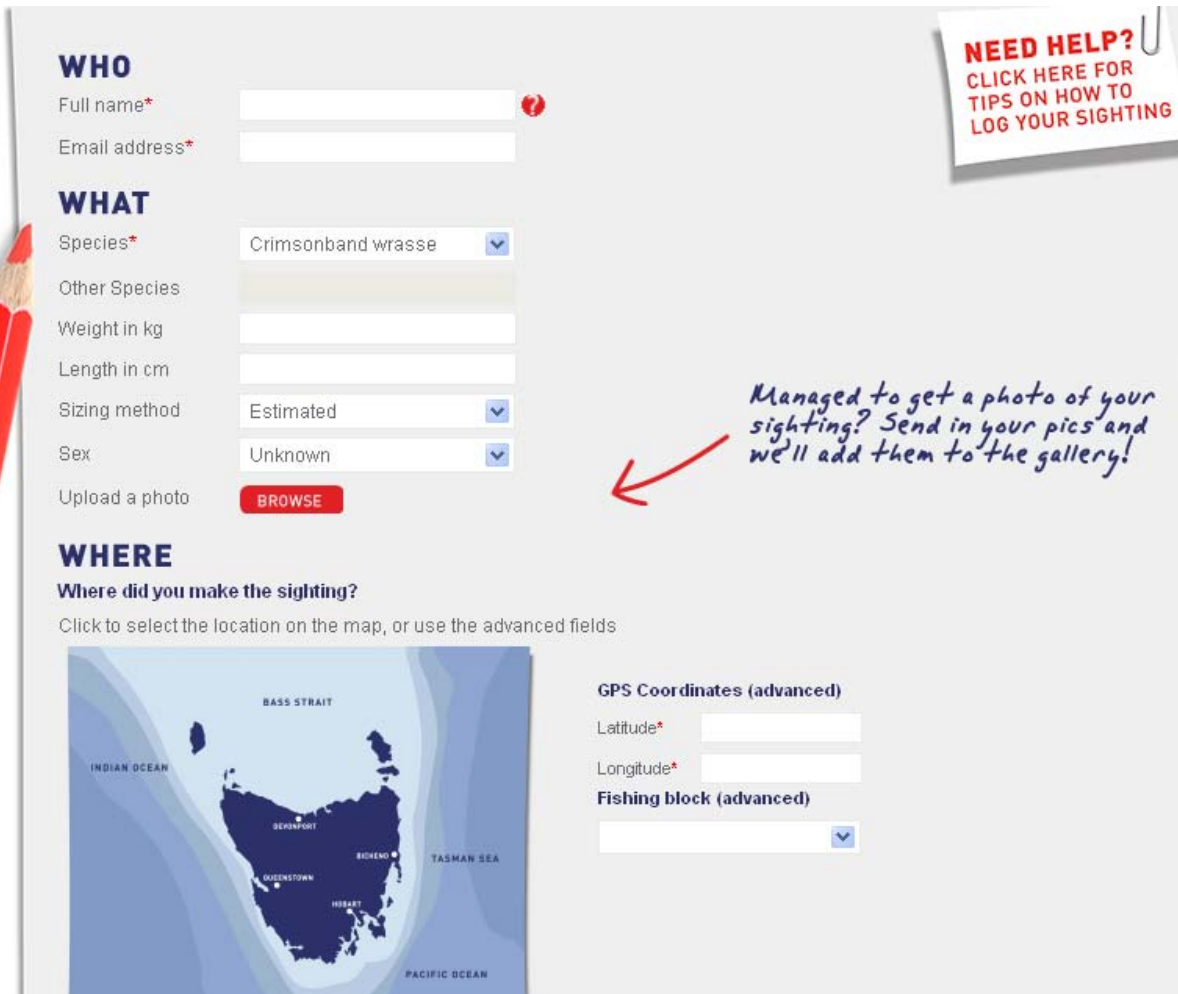
- 80% believe climate change is not happening
- 20% believe climate change is either happening or that 'something is up'

Fishers acknowledge changes BUT NOT climate change

COMMUNICATION IS A PRIORITY!!

(Nursey-Bray, Pecl et al. 2011, Marine Policy)


Logging a sighting is easy



WHO
Full name*
Email address*

WHAT
Species*
Other Species
Weight in kg
Length in cm
Sizing method
Sex
Upload a photo

WHERE
Where did you make the sighting?
Click to select the location on the map, or use the advanced fields



GPS Coordinates (advanced)
Latitude*
Longitude*
Fishing block (advanced)

NEED HELP?
CLICK HERE FOR TIPS ON HOW TO LOG YOUR SIGHTING

Managed to get a photo of your sighting? Send in your pics and we'll add them to the gallery!

- Community sightings
- Verified sightings (with a photo)
- Trained members (scientists, Reef Life Survey volunteers, museum staff)
- Listed species but can submit sightings of ANY species suspected or known to be unusual



Quality photos submitted to verify sightings

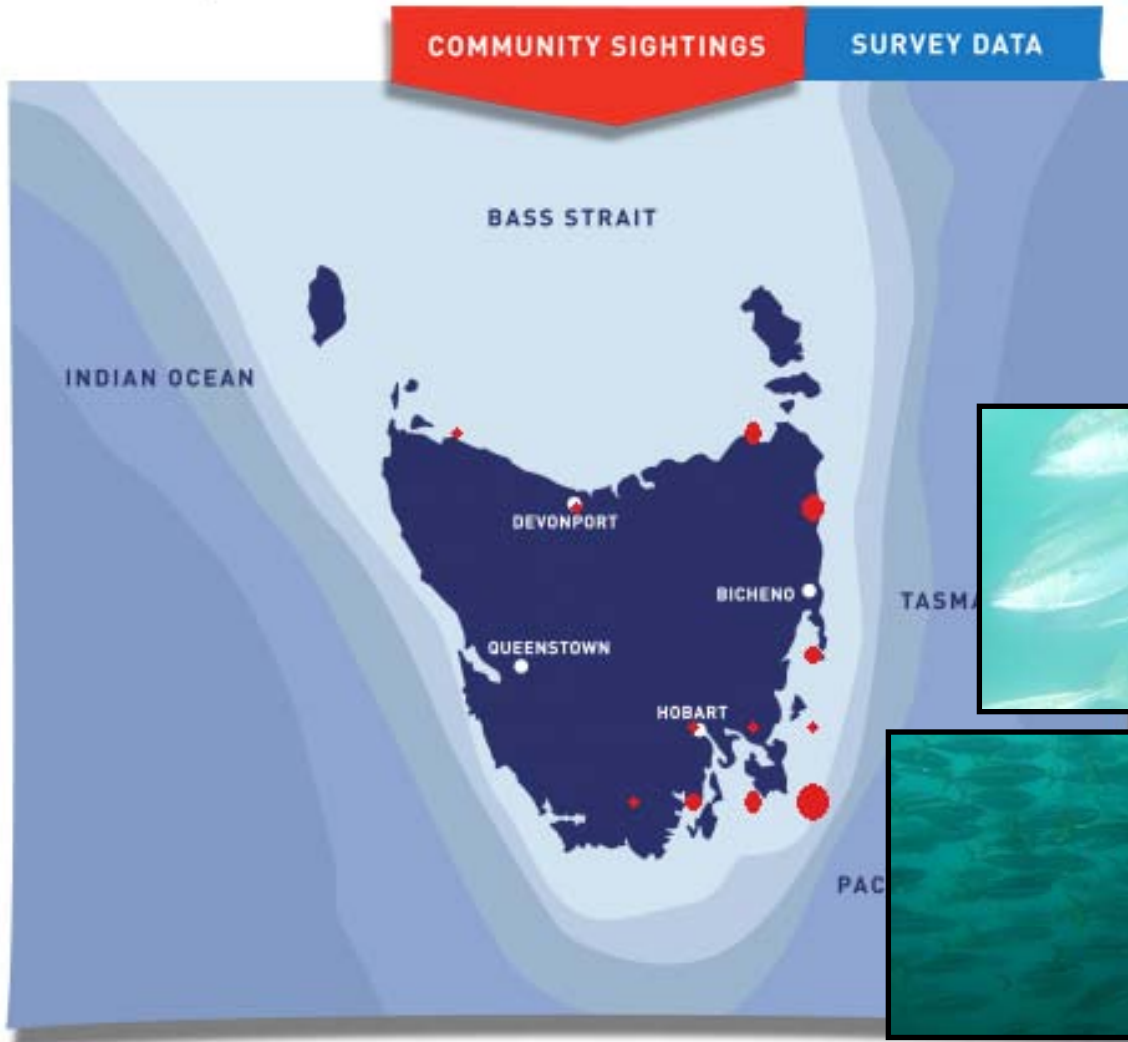


Up to 475 km
further polewards
than expected!

Photos are ID'd by many scientists - thanks to Rick Stuart-Smith, Graham Edgar, Neville Barrett, Peter Last & Daniel Gledhill in particular



Yellowtail Kingfish



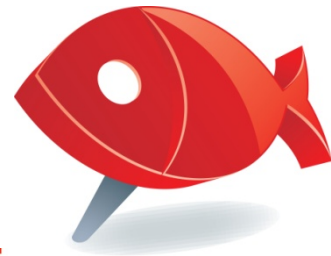
- Previously only recorded occasionally along north of Tasmania
- Redmap - multiple sightings of large schools, down south, in cool winter months



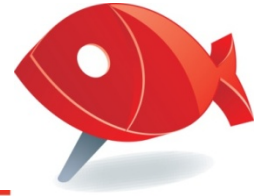


Success so far...

- 450 sightings, 70 species from 140 people
- Data used in 3 journal publications so far
- Target research projects & management change
- Over 50,000 discrete visits (hits) on the site
- 150,000 page downloads
- Visits from 165 countries
- 750 newsletter subscribers
- Radio, tv, print media
- Many emails requesting more stuff!
- Invitations to present at industry forums
- Climate change & marine species - 3rd most visited section of site



Why does Redmap work?

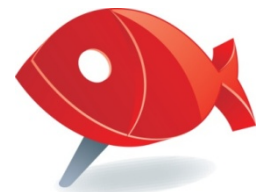


- Engaging website with clear project branding
- Immediate display of most community & fisher reported data
- Individual feedback provided for sightings with photos
- Recognition of contributions on website & in project newsletters
- Clear acknowledgement & valuing of industry & community knowledge
- Fishers love talking about what they caught & divers love taking photos!

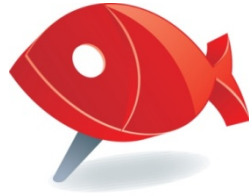


Next Steps - Redmap Australia

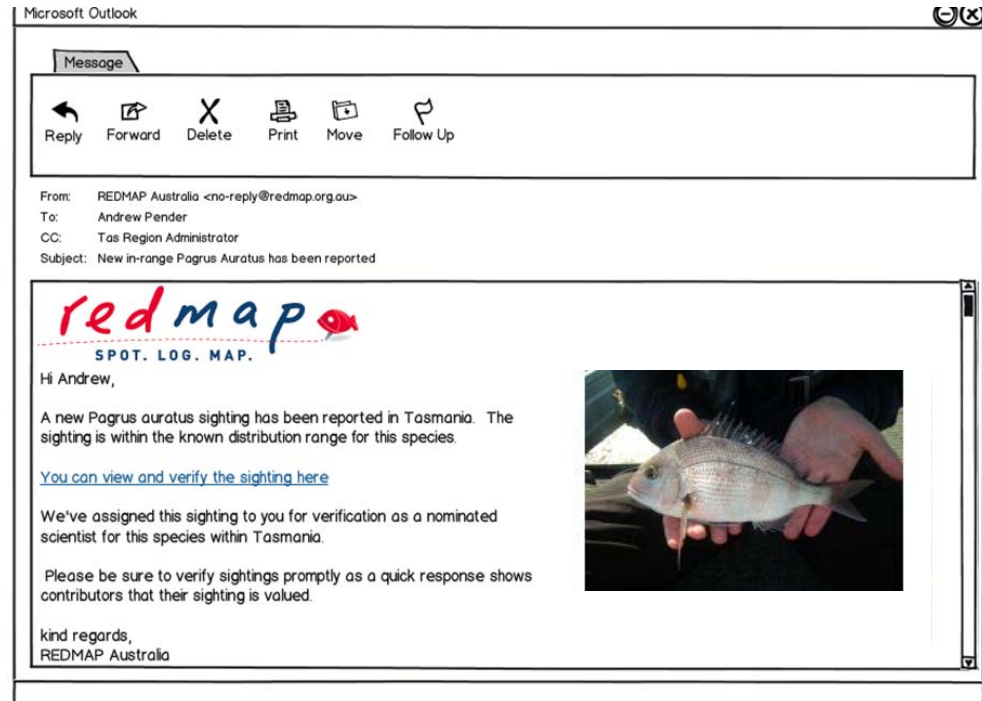
- Launches October 2012
- Greater species information and reporting - invertebrates, turtles, sharks etc
- Upload videos & multiple photos
- Increased engagement (ability to add captions on photos, link to Facebook)
- Extract geo-referencing information from submitted photos
- iPhone application for SMS reporting
- Automated allocation/distribution of sightings for verification



Scaling up: managing data & validation on a larger scale



- Semi-automating data flows & validation in Redmap Australia
- Expert panel of scientists for validation of photos (50+ - 100's)
- Each species of interest highlighted on website is linked to a scientist
- Distributed workload across many scientists all over Australia- individuals interested in particular species
- When a sighting submitted - scientist gets automatically sent an email alert



'Crowdsourcing' validation from large network of scientists - creating robust verifiable data from the untrained public

For the scientist: validating species ID and verification of sighting details is simple

Providing feedback to the observer (fisher or diver) is easy
- sent an automatic acknowledgement

A Web Page

http://

Sighting verification wizard

Verify photo and characteristics | Verify location | Assessment & response


Photo and characteristics checklist

- Photo clarity sufficient to correctly identify species
- Photo is of nominated species
- Reported characteristics match photo
- Reported characteristics match species

[Next, Verify location >](#)

Sighting details


Uploaded photo



Reported characteristics

Species	Ludrick
Gender	Male
Length	22 cm
Weight	500g
Type of sighting	In a small school (5 - 10 fish)
When	22 Feb 2011 at 2pm
Location	Tasmania, Fishing Block E16 1km accuracy
Activity	Diving
Comment	Was really surprised to see this little guy and his mates. There were about 30.

Reported location



Tasmania, Fishing Block E16
1km accuracy

Message

Reply Forward Delete Print Move Follow Up

From: REDMAP Australia <no-reply@redmap.org.au>
To: Emma Flukes
CC:
Subject: Pagrus Auratus sighting

redmap
SPOT. LOG. MAP.

Hi Emma,

We're pleased to report that your sighting has been reviewed by our Expert Panel who agree that it is indeed a Pagrus Auratus.

Now that the sighting has been verified we've added sighting, including your photo, to the REDMAP website so others can see and comment on it.

[You can view your sighting online here](#)

Thanks again for logging your sighting on REDMAP.

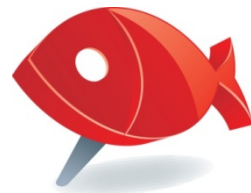
kind regards,
REDMAP Australia

Long-term benefits of Redmap

- Ecological monitoring - species ranges
- Cost effective way to identify where research could be targeted
- Promoting awareness within the general community (e.g. linkages with Facebook)
- Involving & engaging industry - acknowledge & values contribution
- Gives industry and community ownership of some of the knowledge
- Potential to improve adaptive capacity of marine industries indirectly - something constructive they can do to help!



Redmap Australia launches October 2012- 60,000km of coastline and 3.5 million fishers & divers!





Government of Western Australia
Department of Fisheries





Join us on Facebook



Keep up to date with what's on the move around Australia via our quarterly electronic newsletter

Many thanks to:

- 🐟 Recreational & commercial fishers
- 🐟 SCUBA divers
- 🐟 Scientific validation panel
- 🐟 Contributing author scientists
- 🐟 Community & industry groups that support Redmap

