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The recent illegal importation of Dwarf Mexican Crayfish (*Cambarellus patzcuarensis*) into Australia is cause for extreme concern. North America is home to crayfish plague *Aphanomyces astaci* which has severely impacted crayfish populations when introduced to Europe. Crayfish plague is not present in Australia, and the potential introduction of this disease has severe ramifications for Australian crayfish. These illegally imported crayfish are still for sale in Australia, and there seems to be no appetite to do anything about this situation by the relevant authorities.

**ASFB Threatened Species Committee  
Report – to December 2016**  
Compiled by Mark Lintermans  
(Convenor)

**Threatened Species Committee**

State representatives for the committee are listed below. The committee tends to meet once a year during the Annual Conference of the society, and the meeting is open for all to attend. For further details, ideas, questions or suggestions, please contact your state representative or anyone listed below.

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**ASFB Threatened Fishes Committee**

The Threatened Species Committee met immediately before this year's annual ASFB conference in Hobart with the major focus of the meeting being a half day workshop to review the conservation status of species in the sub family Sicydinae (cling gobies) and the genus *Chlamydogobius*. This was the third workshop in a series that will proactively review the entire Australian freshwater fish fauna over a series of workshops over the coming years.

As in previous workshops, it was not intended that this workshop would prepare detailed nominations for individual species. The intention of the workshops is that over a number of years the entire Australian freshwater fish fauna will be proactively reviewed, rather than just reactively waiting for nominations of threatened taxa, with 2016 being the third in the workshop series. The workshop was intended to canvas opinion, knowledge and the current status of species, and identify those that are priorities for further knowledge synthesis and/or development of individual nominations

Eleven people attended the workshop with a series of presentations given. Peter Unmack (Uni of Canberra) provided a background on the phylogeny and taxonomy of the *Chlamydogobius* species and Brendan Ebner provided a review of the distribution, abundance and ecology of the cling gobies.

The workshop participants identified seven cling gobies and three *Chlamydogobius* species considered to warrant the preparation of full nominations or review of existing status. The species were:

*Stiphodon semoni*  
*Stiphodon pelewensis*  
*Stiphodon surrufus*  
*Stiphodon rutilaureus*  
*Sicyopus discordipinnis*  
*Smilosicyopus leprurus*  
*Smilosicyopus fehlmani*  
*Chlamydogobius gloveri*  
*Chlamydogobius japalpa*  
*Chlamydogobius micropterus*

One cling goby (*Sicyopterus cynocephalus*) was put on a watch list to clarify whether it is a vagrant to Australia.

Preparation of nominations will continue over the next 1-2 years, and species will then be formally assessed. It is intended to conduct another workshop in 2017. Thanks to the ASFB who provided assistance in organising the workshop.

#### Annual TFC meeting

Following the threatened fishes workshop, the TFC annual meeting discussed a range of issues

including how to encourage attendance at TFC meetings by interested ASFB members; attracting more marine representatives; the potential for establishing a small competitive grant schemes for work on threatened fish; and how to deal with the current ASFB listings for species at lower risk categories (i.e. Data Deficient, Lower risk, least concern, etc). It was decided not to publish these lower risk categories in the annual newsletter, as it has been a considerable period since information on some of these species has been reviewed.

#### Changes to ASFB Threatened Fish Listings in 2016

The TFC then considered threatened species nominations for two undescribed rainbowfish taxa (Malanda rainbowfish and Running River rainbowfish), One other rainbowfish (Utchee rainbowfish *Melanotaenia utcheensis*) and one Galaxiid (Swan galaxias *Galaxias fontanus*, currently listed by ASFB and the EPBC as Endangered). The major threats to all 3 rainbowfish were hybridisation with translocated populations of another rainbowfish (*M. splendida*) and the limited and fragmented distributions of all 3 species. The swan galaxias has continued to decline since last reviewed in 2002, with four populations lost, range contraction as a result continued invasion by alien salmonids, and likely competition with another galaxiid after invasion following a large flood. After careful consideration, all nominations were accepted by the TFC, and the proposed new listings of the Running River and Malanda rainbowfishes, and the Swan galaxias as critically endangered and the Utchee rainbowfish as vulnerable species were ratified at the ASFB Annual General Meeting. The complete 2016 ASFB Threatened Fish list is at the end of this report.

#### Time for a new Convenor

After 7 years in the role as Convenor of the ASFB TFC, Linto has indicated it is time for some new ideas, and to make the transition a little smoother, will be co-convenor for a year or two. Discussion are currently progressing with a new co-convenor, so stay tuned

#### New Nominations sought

The committee welcomes new nominations or proposals for recategorisation. Could anyone working on species that they consider threatened

but which are not currently on the ASFB Threatened Fish list, please contact their State/Territory ASFB TFC rep, or contact the Convenor. Nominations must be received at least one month before the annual conference date to allow distribution to and consideration by committee members.

## **National**

*Compiled by Mark Lintermans*

### EPBC Act 1999

#### **Common Assessment Methodology**

As part of a process to harmonise national and state/territory threatened species lists, a Common Assessment Methodology (CAM) has been developed. IUCN criteria are being used, with the addition of a Conservation Dependant category for commercial species that are being managed under a fishery management plan (e.g. eastern gemfish, some sharks). Under the CAM, a species can only be listed once, with all new nominations to be assessed at national level first, and if they don't meet the criteria for national listing, then they can be listed as populations within a jurisdiction. Species already listed (legacy species) will need to have their national status agreed upon, or be reassessed, over the next 2 years.

#### **New fish species listed**

The Flathead galaxias (*Galaxias rostratus*) was listed as critically endangered in early May 2016.

#### **Recovery Teams**

The Federal Government released best practice guidelines for Recovery Team Governance for public comment, with submissions due by 7 November. Unfortunately, members of recovery teams were not informed of this document, and so many have missed the opportunity for comment. The same release also calls for national recovery teams (those in place or those who wish to establish themselves), to be nationally registered with the details of what this entails included in the best practice guidelines. Not exactly sure how recovery teams who wish to establish themselves were meant to know about this, but go to the link below. The guidelines can be accessed here: <http://www.environment.gov.au/system/files/pages/9241e156-2ee9-422b-8e32-ed678cec0bcb/files/draft-recovery-team-governance.pdf>

#### **Recovery and threat abatement plans**

The whisper is that the national recovery plan for Macquarie perch is close to release for public comment. Work on this plan commenced in the early 2000's. Macquarie perch was one of 3 freshwater fish first listed as nationally endangered in 1980, so after a 36 year wait, here's hoping a national plan is imminent.

The finalised recovery plan for three handfish species (*Brachionichthys hirsutus* (Spotted handfish), *Thymichthys politus* (Red handfish), *Brachiopsilus ziebelli* (Ziebell's handfish)) is now available on the Departments website.

#### **Threatened Species Strategy and Action Plan**

The Commonwealth Threatened Species Strategy and Action Plan has now identified 20 birds, 20 mammals and 30 plants as priority species, but still no fish. Mark Lintermans met with the Threatened Species Commissioner in early 2016 to highlight the plight of Australian freshwater fish, and highlight the lack of a national freshwater fish action plan (there are national plans for mammals, birds, reptiles etc). The Commissioner expressed interest in the information presented, and undertook to raise the issues for freshwater fish with the national Threatened Species Scientific Committee. Two small project proposals for threatened freshwater fish (Running River rainbowfish and Stocky galaxias) were submitted by Mark Lintermans to the Threatened Species Commissioner in mid 2016, but no response was received.

<http://www.environment.gov.au/biodiversity/threatened/publications/strategy-home>

#### **IUCN Freshwater Fish Specialist Group**

Anyone with an interest in freshwater fish conservation should have a look at the IUCN Freshwater Fish Specialist Group (FFSG) newsletters. Mark Lintermans is the Regional Chair for Oceania/Australia, and can provide further information about the FFSG to interested people or go to the FFSG website at <http://www.iucnffsg.org/>

#### **NESP Threatened species Recovery Hub: Monitoring Workshop**

A new set of guidelines for monitoring threatened species is being developed, following a workshop

in Sydney in September 2016 which brought together 28 managers and scientists from government conservation agencies, NGOs, and the NESP TSR Hub. The workshop was conducted as part of the TSR Hub's Project 3.2 *Action evaluation and on-ground monitoring of threatened species*, which is led by Professor David Lindenmayer and Associate Professor Sarah Legge. Workshop participants examined threatened species monitoring in the contexts of Value, Adequacy, Decision-making, Indirect Monitoring, Precision and Participation, Design Challenges and Adaptive Management. The next phase of the project will see participants drafting chapters of a best-practice monitoring book, as well as contributing to a manuscript. Mark Lintermans is contributing a chapter on threatened fish monitoring.

### **South Australia**

Prepared by Chris Bice (SARDI), Nick Whiterod (Aquasave-NGT), Lara Sutor (DEWNR) and Scottie Wedderburn (Adelaide University).

### **Freshwater fishes to receive formal State conservation listings**

In South Australia, the *National Parks and Wildlife Act* (1972) is the key legislation for conservation and protection of threatened species within the State. Nonetheless, the Act has historically had a terrestrial focus with freshwater fishes absent from the list of threatened species. Alternatively, several freshwater fishes were afforded the status of 'protected' under the *SA Fisheries Management Act* (2007). Protection under this Act pertains to the harvest or 'take' of fish and undoubtedly provides an effective tool for conservation of species that may otherwise be targeted for harvest (e.g. freshwater catfish). Nonetheless, many species afforded protection under this act are small-bodied (<100 mm) and unlikely to be targets of harvest. The fragmented distributions and/or declining population sizes of these species, which have led to their protection, are more typically a result of river regulation, altered land use, wetland reclamation, interactions with introduced species, etc. In reality this Act has little power to influence catchment management and the mitigation of these threats.

From mid-2015, the state Department of Environment, Water and Natural Resources (DEWNR) has been undertaking a review and update of all listings under the *National Parks and*

*Wildlife Act*. A key component is the first inclusion of freshwater fishes. This has involved input by key experts across the state and assessment of current status for 52 species using IUCN criteria. Listings are not yet formalized, but will see greater protection of species of conservation concern, particularly those of state concern that do not have national conservation listing.

### **Murray hardyhead doing well in the Riverland South Australia**

In recent years, Disher Creek and the Berri Evaporation Basin in the Riverland, have been the subject of both engineering works and environmental water delivery to increase the area of favourable habitat and maintain favourable salinity regimes for remnant populations of Murray hardyhead. Works were undertaken as part of the *Riverine Recovery Project* and environmental water delivered under an initiative by the Commonwealth Environmental Water Holder and DEWNR. These actions have coincided with and likely facilitated high abundances of Murray hardyhead at both sites throughout 2016. Specific environmental water allocations have been secured for the sites for the next couple of years, suggesting likely continuation of the favourable status of these populations.

### **Status of threatened fishes in the Coorong, Lower Lakes and Murray Mouth (CLLMM) Region 2016**

From 2011–2013, southern pygmy perch ('Protected' in SA), Yarra pygmy perch ('Vulnerable' under EPBC Act), Murray hardyhead ('Endangered' under EPBC Act) and southern purple-spotted gudgeon ('Protected' in SA) (total fish >15,000) were reintroduced into the Lower Lakes region of South Australia following declines or population extirpation during the Millennium Drought. Populations have since been monitored annually by Adelaide University (Scottie Wedderburn, as part of the MDBA's *The Living Murray* program). As of 2016, populations of Murray hardyhead and southern pygmy perch are showing signs of continued population increase, but the nationally threatened Yarra pygmy perch are still to return to previous abundances, despite reintroduction of a further 1000 fish in spring 2015 (by Aquasave-NGT). A recent study by Adelaide University in concurrence with these reintroductions suggests competition for food resources with non-native eastern gambusia may be

contributing to failure of reintroduction attempts. Whatever the mechanism, further reintroductions and intervention appear necessary to ensure the long-term persistence of the Lower Lakes population of this species. Over 2016/17, further reintroductions of Yarra pygmy perch and Murray hardyhead are planned, including the release of Murray hardyhead into Lake Albert where the species has failed to recovery following the millennium drought.

### **Southern purple-spotted gudgeon conservation in the lower Murray**

Continued efforts have been undertaken by Aquasave–NGT and the South Australian Murray-Darling Basin Natural Resource Management Board to secure surrogate refuge populations and reintroduce captive produced southern purple-spotted gudgeon into previous wild habitats. The species was rediscovered at a single wetland site in South Australia in 2002, but this site dried completely at the height of the millennium drought (2008/09).

Since 2014, 600 individuals, produced by captive breeding, have been reintroduced at this site with follow up monitoring detecting single individuals in spring 2015 and summer 2016. Further releases are planned for 2016/17 with individuals likely to be sourced from a recently established surrogate refuge. Since 2014, 450 individuals have been released into a man-made wetland at a new housing development near Victor Harbour. As of 2016, monitoring has indicated consistent increases in population size, with evidence of annual recruitment. This population now represents a valuable source of individuals for wild reintroductions.



Reintroducing and recapturing purple-spotted gudgeon at the original site where the species was 're-discovered' in 2002.

### **River blackfish hanging on in Eastern Mt Lofty streams**

River blackfish ('Protected' in SA) were once common in the SA section of the MDB, but now persist as isolated populations in four Eastern Mt Lofty catchments (Marne, Bremer, Angas and Tookayerta). One of these populations, restricted to a 500m stretch of a tributary (Rodwell Creek) of the Bremer River, was only discovered in 2004, but since that time has been the focus of considerable management intervention. During the height of Millennium Drought, over 100 site visits were made to monitor water quality and water level, which prompted emergency water releases and undoubtedly averted complete pool drying and loss of the species. As conditions improved following the end of the Millennium Drought, recruitment and increased abundance were realised in association with increased flows and water levels. Yet, the status of the population remains precarious and continues to be actively managed (by Aquasave–NGT). Automated telemetry of water quality and water level now assists real-time intervention and water delivery to ensure population persistence (confirmed through spring 2016 sampling, although only large individuals were sampled with no sign of recent recruitment).



River blackfish persisting in Eastern Mt Lofty streams

## Western Australia

Compiled by David Morgan

Western Australia's threatened fishes have received a great degree of attention during 2016. The following publications relate to research on some of the threatened fishes in the state.

### Whale Sharks

Whale Sharks globally were upgraded from *Vulnerable* to *Endangered* by the IUCN Red List in 2016 due to a decreasing population trend under criteria A2bd+4bd (Pierce & Norman 2016). Some important studies of the Western Australian populations were published in 2016 on the connectivity of Indian Ocean populations, diet, return rate and movement patterns.

Andrzejczek, S., Meeuwig, J., Rowat, D., Pierce, S., Davies, T., Fisher, R. & Meekhan, M. (2016).

The ecological connectivity of whale shark aggregations in the Indian Ocean: a photo-identification approach. *Royal Society Open Science* 3: 160455.

Marcus, L., Virtue, P., Pethybridge, H.R., Meekan, M.G., Thums, M. & Nichols, P.D., (2016).

Intraspecific variability in diet and implied foraging ranges of whale sharks at Ningaloo Reef, Western Australia, from signature fatty acid analysis. *Marine Ecology Progress Series* 554: 115-128.

Norman, B.M. & Morgan, D.L. (2016). The return of "Stumpy" the whale shark: two decades and counting. *Frontiers in Ecology and the Environment* 14: 449-450.

Norman, B.M., Reynolds, S. & Morgan, D.L. (2016). Does the whale shark aggregate along the Western Australian coast beyond Ningaloo Reef? *Pacific Conservation Biology* 22: 72-80.

Pierce, S.J. & Norman, B. (2016). *Rhincodon typus*. The IUCN Red List of Threatened Species. 2016: eT19488A2365291.

### Sawfish

Some notable publications on the biology and ecology of sawfishes in Western Australia were published during 2016, including the value of sawfish as a flagship species, the contrasting population structure of Western Australia's three *Pristis* spp., activity of Freshwater Sawfish and the fate of sawfish that are captured and released after having their rostrum removed illegally. Other research is currently being undertaken on sawfishes in the state by Murdoch University researchers, including Murdoch University PhD candidate Karissa Lear, who received a Forrest Foundation Fellowship under the supervision of Adrian Gleiss, David Morgan and Stephen Beatty to examine the thermal ecology of Freshwater Sawfish in the Kimberley (Fitzroy River). Emma Dobinson completed a MSc on the movement patterns of Dwarf Sawfish in the estuary of the Fitzroy River, which was funded under the NESP program and CSIRO.

Ebner, B.C., Morgan, D.L., Kerezszy, A. Hardie, S., Beatty, S.J., Seymour, J.E., Donaldson, J.A., Linke, S., Peverell, S., Roberts, D., Espinoza, T., Marshall, N., Kroon, F.J., Burrows, D.W. & McAllister, R.R.J. (2016). Enhancing conservation of Australian freshwater ecosystems: identification of freshwater flagship fishes and relevant target audiences. *Fish and Fisheries*.

Gleiss, A.C., Morgan, D.L., Whitty, J.M., Keleher, J.J., Fossette, S. & Hayes, G.C. (2016). Are vertical migrations driven by circadian behaviour?

Decoupling of activity and depth-use in a large riverine elasmobranch, the freshwater sawfish (*Pristis pristis*). *Hydrobiologia*.

Morgan, D.L., Wueringer, B.E., Allen, M.G., Ebner, B.C., Whitty, J.M., Gleiss, A.C. & Beatty, S.J. (2016). What is the fate of amputee sawfish? *Fisheries* 41: 71-73.

Phillips, N.M., Chaplin, J.A, Morgan, D.L. & Peverell, S.C. (2016). Contrasting population structures of three *Pristis* sawfishes with different patterns of habitat use. *Marine & Freshwater Research*

## South-western Australia's threatened fishes

Threatened freshwater fish research continues on the region's imperilled freshwater fishes, with limited resources however. Congratulations to Mark Allen who was awarded his PhD for work on the critically endangered Trout Minnow (*Galaxias truttaceus*) and the Little Pygmy Perch (*Nannoperca pygmaea*). Mark was supervised by Stephen Beatty and David Morgan. Publications on the region's threatened fishes during 2016 include work on resolving the taxonomy of the Trout Minnow, and this extinction risk of the region's aestivating fishes, namely the Salamanderfish and Black-stripe Minnow. There are a number of further research publications in the final stages, so keep an eye out!

Morgan, D.L., Beatty, S.J., Close, P.G., Allen, M.G., Unmack, P.J., Hammer, M.P. & Adams, M. (2016). Resolving the taxonomy, range and ecology of biogeographically isolated and critically endangered populations of an Australian freshwater galaxiid, *Galaxias truttaceus*. *Pacific Conservation Biology*.

Ogston, G., Beatty, S.J., Morgan, D.L., Pusey, B.J. & Lymbery, A.J. (2016). Living on burrowed time: Aestivating fishes in south-western Australia face extinction due to climate change. *Biological Conservation* 195: 235-244.

## Australian Capital Territory

Compiled by Mark Lintermans, University of Canberra

### University of Canberra

The University of Canberra in collaboration with ANU has completed the first 3 years of phase 2 (2013-2016) of the long-term monitoring program for the enlarged Cotter Reservoir, with the focus on Macquarie perch. For 3 years now there has been a lack of YOY in the reservoir, and this is considered the result of a series of impassable natural barriers during the Macquarie perch spawning season.

In response to the lack of Macquarie perch recruitment in Cotter Reservoir, a new project has commenced utilising acoustic telemetry to investigate which of the instream barriers is posing the blockage to upstream migration from the reservoir. Led by Ben Broadhurst, there are

currently 40 adult Maccas buzzing around the reservoir.

Prue McGuffie has finished her fieldwork for her PhD on Macquarie perch breeding and recruitment in the upper Murrumbidgee River. More importantly, she and partner Kas produced a lovely baby girl (Alira Joy) in September, congratulations.

Sally Hatton has finished her PhD on trophic upsurge in Cotter Reservoir, and is now working in the ACT Parks and Conservation Service, as well as working on papers from her thesis. Alan Couch, is madly writing to finish his PhD thesis on Murray cod (see last years newsletter). Alan has published/submitted a couple of papers so far, with more to come.

Three new Masters students have commenced at the University of Canberra, all working on threatened fish projects: Karl Moy is working the conservation translocation of the newly ASFB-listed Running River rainbowfish; Hugh Allan is working on the ecology of two ASFB-listed galaxias (Stocky galaxias *G. tantangara* and Short-tailed galaxias *G. brevissimus*); and Daniel Orwin is working on movement of Macquarie perch in Cotter Reservoir.

### ACT Government

The ACT fisheries legislation has been updated to include changes to Murray Cod size limits (55-75cm) in line with NSW and other jurisdictions and the reduction of the bag limit on Murray Cod in the Murrumbidgee to 1 fish per person per day to improve the sustainability of this important population. Other legislative changes include the protection of two species of medium sized spiny crayfish *Euastacus rieki* and *Euastacus crassus* from take. Both species appear to have a restricted distribution in the ACT.

Funding has been obtained for construction of additional engineered log jams in the Murrumbidgee River to complement the initial trial of these structures constructed in 2013 which have been shown to be highly successful in managing sediment and providing habitat for native species (including Trout cod).

Revision of the ACT *Aquatic and Riparian Strategy* is well underway, with the revised strategy to also include Action Plans for each listed species.

For fish, this means Trout cod, Macquarie perch, Murray crayfish, Silver perch and Two-spined blackfish.

### Recent publications

Broadhurst, B. T., Clear, R. C., Fulton, C. and Lintermans, M. (2016). *Enlarged Cotter Reservoir ecological monitoring program: technical report 2016*. Institute for Applied Ecology, University of Canberra, Canberra.

Bylemans, J., Furlan, E., Hardy, C., McGuffie, P., Lintermans, M. and Gleeson, D. (accepted 8/11/2016). An environmental DNA (eDNA) based method for monitoring spawning activity: a case study using the endangered Macquarie perch (*Macquaria australasica*). *Methods in Ecology and Evolution*

Couch AJ, Dyer F, Lintermans M, Ross-Magee P. (2016) Drift net performance for larval fish sampling in rivers. PeerJ Preprints 4:e2416v1 <https://doi.org/10.7287/peerj.preprints.2416v1>

Couch A.J., Unmack P.J., Dyer F.J., Lintermans M. (2016). Who's your mama? Riverine hybridisation of threatened freshwater Trout Cod and Murray Cod. PeerJ 4:e2593; DOI 10.7717/peerj.2593

Lintermans, M. (2016). Finding the needle in the haystack: comparing sampling methods for detecting an endangered freshwater fish. *Marine and Freshwater Research*

Pavlova, A., Gan, H.M., Lee, Y.P., Austin, C.M., Gilligan, D., Lintermans, M. & Sunnucks, P. (accepted 2/11/2016). Purifying selection and drift shaped Pleistocene evolution of mitochondrial genome in an endangered Australian freshwater fish. *Heredity*, HDY-16-OR0171R,

### **New South Wales**

*No report received*

*Some snippets compiled by Mark Lintermans*

Following recommendations from the NSW Fisheries Scientific Committee (FSC), the Stocky Galaxias has been listed as Critically Endangered in NSW. For the snail huggers, two riverine snails have also been listed.

A review of the recovery plan for Eastern Freshwater Cod has been recently completed and is on the NSW DPI website:

<http://www.dpi.nsw.gov.au/fishing/species-protection/conservation/what-current/endangered-species/eastern-freshwater-cod/review-recovery-plan>

The indicative (or known and expected) distributions for a number of NSW freshwater threatened species has been modelled and maps can be downloaded from the link below:

<http://www.dpi.nsw.gov.au/fishing/species-protection/threatened-species-distributions-in-nsw/freshwater-threatened-species-distribution-maps>

A series of new factsheets (Primefacts) for threatened aquatic species is also available on the website:

<http://www.dpi.nsw.gov.au/fishing/species-protection>

### **Victoria**

*No report received*

### **Tasmania**

*Compiled by Rob Freeman*

#### Native Fish Conservation Monitoring

#### **Saddled galaxias and Arthurs paragalaxias**

Surveys for threatened fish species were conducted for the period May - October 2016.

At Woods and Arthurs Lake, the annual monitoring survey for the endangered Arthurs paragalaxias (*Paragalaxias mesotes*) and the saddled galaxias (*Galaxias tanycephalus*) were conducted in the last week of October.

The timing of this survey was to specifically locate the Arthurs paragalaxias that spawns during this period. While reasonably abundant in Arthurs Lake, this species was not recorded from Woods Lake during the period 1995-2014. A dedicated translocation program was commenced in 2008 with 2,470 Arthurs paragalaxias transferred from Arthurs Lake to Woods Lake over a five year program. Despite annual monitoring the species was not found at Woods Lake until October 2014, when 10 individuals were captured by the consultant organisation, Entura. Several broods of eggs were also found during snorkeling surveys in November of that year. In 2015 the IFS undertook

further surveys and found 34 individuals from two length cohorts. During monitoring this year (October 2016) 22 individuals were captured with possibly three length cohorts being recorded. This result indicates the species has re-established within Woods Lake with spawning detected over 2014-2016. The IFS and Hydro Tasmania (that control lake levels at Woods Lake as part of the hydro electricity generation system), are working together to ensure that lake levels at Woods Lake are maintained at favorable levels during the spawning and incubation period.

The results for the saddled galaxias surveys at Arthurs and Woods lake were encouraging with good numbers captured at both locations and well within the range historical records. The number of the Arthurs paragalaxias captured at Arthurs Lake was similar to the saddled galaxias, and was at the upper range of expectation when compared to past surveys.

The results of the monitoring surveys indicate both species are faring well at Arthurs and Woods lakes, with the Arthurs paragalaxias becoming well established at Woods Lake as a result of the translocation program.

### **Golden galaxias**

Monitoring the status of the golden galaxias populations at lakes Sorell and Crescent continued during 2016, with several consecutive years of good spring rains resulting in high levels of recruitment. Consequently, both lakes contained high abundances of golden galaxias with several year classes present.

### **Swan galaxias**

The conservation status of Swan galaxias (*Galaxias fontanus*) was recently reviewed with the species now being recognised as Critically Endangered by the ASFB. Monitoring of the western populations during November 2016 confirm its status with two of the three populations monitored showing declines in numbers despite favourable stream flows.

## **Queensland**

*No report received*

## **Northern Territory**

*Compiled by Michael Hammer*

Sawfishes and river sharks are protected species; if they are caught by recreational anglers they must be released safely back into the water. Fishers who are lucky enough to experience a close encounter with one of our protected sawfish or river shark species are meeting with some of the most interesting inhabitants of our northern waterways. By reporting sightings anglers can help researchers better understand the distribution of these species.

To better understand the status of northern Australia's current sawfish and river shark populations, research is being conducted under the Australian Government's National Environmental Science Programme program (NESP), through a partnership between Fisheries NT, Charles Darwin University (CDU) and CSIRO with support from Kakadu National Park and traditional owners.

Project leader, Dr Peter Kyne from CDU says "The project will provide the Department of the Environment with information to improve management and facilitate the recovery of these species. These species are poorly known, but we have recently discovered new populations of some, including the Critically Endangered Spertooth Shark in the Daly River." It seems the species has a broader distribution and more opportunities for long-term survival than previously thought.

## **New Zealand**

*No report received*

**Conservation Status of Australian Fishes – 2016**  
**ASFB Threatened Fishes Committee**  
**Mark Lintermans, Convenor**  
**([Mark.Lintermans@canberra.edu.au](mailto:Mark.Lintermans@canberra.edu.au))**

IUCN conservation categories and criteria are used

\* denotes taxa where formal taxonomic description has not been published but where listing is essential because of concern over their conservation status. Early formal publication will be encouraged to resolve their taxonomic status.

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<b>Category</b>	<b>Scientific Name</b>	<b>Common name</b>
EXTINCT IN THE WILD	<i>Galaxias pedderensis</i>	Pedder galaxias
CRITICALLY ENDANGERED	<i>Brachionichthys hirsutus</i>	Spotted handfish
	<i>Carcharias taurus (east coast population)</i>	Grey nurse shark
	<i>Chlamydogobius micropterus</i>	Elizabeth Springs goby
	<i>Chlamydogobius squamigenus</i>	Edgbaston goby
	<i>Craterocephalus fluviatilis</i>	Murray hardyhead
	<i>Galaxias fontanus</i>	Swan galaxias
	<i>Galaxias fuscus</i>	Barred galaxias
	<i>Galaxias truttaceus hesperius</i>	Western trout minnow
	<i>Galaxias longifundus</i>	West Gippsland galaxias
	<i>Galaxias lanceolatus</i>	Tapered galaxias
	<i>Galaxias mungadhan</i>	Dargo galaxias
	<i>Galaxias aequipinnis</i>	East Gippsland galaxias
	<i>Galaxias supremus</i>	Kosciuszko galaxias
	<i>Galaxias mcdowalli</i>	McDowall's galaxias
	<i>Galaxias gunaikurnai</i>	Shaw galaxias
	<i>Galaxias brevissimus</i>	Short-tail galaxias
	<i>Galaxias sp. Tantangara</i>	Stocky galaxias
	<i>Glyphis glyphis</i>	Bizant River shark
	<i>Maccullochella macquariensis</i>	Trout cod
	<i>Maccullochella mariensis</i>	Mary River cod

	<i>Melanotaenia</i> sp.	Running River rainbowfish
	<i>Melanotaenia</i> sp.	Malanda rainbowfish
	<i>Nannoperca pygmaea</i>	Little pygmy perch
	<i>Pristis pristis</i>	Freshwater sawfish
	<i>Scaturiginichthys vermeilipinnis</i>	Redfinned blue-eye
	<i>Stiphodon semoni</i>	Opal cling goby
ENDANGERED	<i>Centrophorus harrissoni</i>	Harrisson's deepsea dogfish
	<i>Galaxias auratus</i>	Golden galaxias
	<i>Galaxias johnstoni</i>	Clarence galaxias
	<i>Galaxias parvus</i>	Swamp galaxias
	<i>Galaxiella nigrostriata</i>	Black-striped minnow
	<i>Glyphis garricki</i>	Northern river shark
	<i>Lepidogalaxias salamandroides</i>	Salamanderfish
	<i>Maccullochella ikei</i>	Eastern cod
	<i>Macquaria australasica</i>	Macquarie perch
	<i>Melanotaenia eachamensis</i>	Lake Eacham rainbowfish
	<i>Nannoperca oxleyana</i>	Oxleyan pygmy perch
	<i>Paragalaxias dissimilis</i>	Shannon paragalaxias
	<i>Paragalaxias eleotroides</i>	Great Lake paragalaxias
	<i>Paragalaxias mesotes</i>	Arthurs paragalaxias
	<i>Pristis clavata</i>	Dwarf sawfish
	<i>Pristis zijsron</i>	Green sawfish
	<i>Pseudomugil mellis</i>	Honey blue-eye
	<i>Zearaja maugeana</i>	Maugean skate
VULNERABLE	<i>Anoxypristis cuspidata</i>	Narrow sawfish
	<i>Bidyanus bidyanus</i>	Silver perch
	<i>Brachaelurus colcloughi</i>	Colclough's shark
	<i>Brachionichthys politus</i>	Red handfish
	<i>Brachiopsilus ziebelli</i>	Ziebell's handfish
	<i>Cairnsichthys rhombosomoides</i>	Cairns rainbowfish
	<i>Carcharodon carcharias</i>	Great white shark
	<i>Carcharias taurus</i> (west coast population)	Grey nurse shark
	<i>Centrophorus zeehaani</i>	Southern dogfish
	<i>Chlamydogobius japalpa</i>	Finke River goby
	<i>Chlamydogobius gloveri</i>	Dalhousie goby
	<i>Craterocephalus amniculus</i>	Darling River hardyhead
	<i>Craterocephalus dalhousiensis</i>	Dalhousie hardyhead
	<i>Craterocephalus gloveri</i>	Glover's hardyhead
	<i>Epinephelus daemeli</i>	Black rockcod

<i>Galaxias rostratus</i>	Flat-headed galaxias
<i>Galaxias tanycephalus</i>	Saddled galaxias
<i>Galaxiella pusilla</i>	Dwarf galaxias
<i>Guyu wujalwujalensis</i>	Bloomfield River cod
<i>Himantura dalyensis</i>	Freshwater whipray
<i>Maccullochella peelii</i>	Murray cod
<i>Melanotaenia utcheensis</i>	Utchee rainbowfish
<i>Milyeringa veritas</i>	Blind gudgeon
<i>Mogurnda clivicola</i>	Flinders Ranges gudgeon
<i>Mordacia praecox</i>	Non-parasitic lamprey
<i>Nannoperca obscura</i>	Yarra pygmy perch
<i>Nannoperca variegata</i>	Variiegated pygmy perch
<i>Nannatherina balstoni</i>	Balston's pygmy perch
<i>Neoceratodus forsteri</i>	Australian lungfish
<i>Neosilurus gloveri</i>	Dalhousie catfish
<i>Ophisternon candidum</i>	Blind cave eel
<i>Prototroctes maraena</i>	Australian grayling
<i>Rexea solandri</i> (eastern stock only)	Gemfish
<i>Rhincodon typus</i>	Whale shark

## ASFB Education Committee

### Report

**December 2016**

It was an exciting year in the student award space at ASFB with the introduction of the hugely popular Student Competition in Science Communication (SCiSC). This had both a video component and a Rapid Fire presentation component at the Hobart Conference. Feedback from both the sections has been overwhelmingly positive with some thoughtful suggestions made as to how we refine this for 2017. The online videos attracted >27,000 views and 1,251 votes. Changes to the awards agreed to by the Committee and the Executive will be to decouple the video and rapid oral rounds, hide live voting on the Thinkable website for the video round, and introduce an additional members only voting prize for the video round. We will also double prize value for the video entrants so students, please get ready to prepare your video as the Thinkable website will go live in January 2017, stay tuned for Facebook and Twitter updates as to these changes.

The Rapid Fire presentations will again be held at the annual conference in Albany 2017. These fast-paced presentations will be brought forward in the program to ensure the students who enter will receive maximum exposure, but in a fun and relaxed forum that should spark great interest to attend their full oral presentations.

The past year was again outstanding in terms of the quality of student nominations for the other ASFB awards. Thanks to the judges for taking the time to select the winners and the Fisheries Research & Development Corporation (FRDC) for being the major supporter of the awards that helps to benefit the future of fisheries research in Australia. This year, John Glover Travel Bursaries supported 32 students to attend the Hobart conference and there were 32 students that entered the Gilbert Whitley Oral Presentation and John Lake Poster awards. We also had 12 entrants to the Michael Hall and Barry Jonassen awards. The Education Committee also proposes to introduce a runner-up cash prize to both the Barry Jonassen and Michael Hall awards starting in 2017 to reflect the quality of the research that is entered and increase the ASFB's support of student research.