

Report on the findings of the scientific  
research team during the 2015 RASSPL  
Nationals

for



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Parkinson

Hi Mike and Executive committee,

Herewith follows our report from the national and my suggested amendments to the rules for the new season. Before that, I would just like to thank everyone for being so supportive of the research that we are doing. After speaking to the students, it seems that all of the anglers were extremely helpful and friendly.

We thought that we would give you an update of the results of our research. Hopefully, this will help to give some perspective on why we are suggesting certain rule changes for the RASSPL. Obviously, because we have fished this league, we know what is easier for the angler, so we have been inclined to only recommend changes where we think that they will be realistic and achievable. Naturally, the decisions on the rule changes are ultimately yours, but if we want to promote the RASSPL as a “conservation brand”, then we will have to be progressive with the way we do things.

Just to give you all an idea of what we (the research group) was doing we will first give a quick summary. We tried to distribute the students all the way along the beach (we did not always get it right). Every time a fish was hooked the student would record the time of day, fight time, time from landing to the bucket, the distance from the bucket, difficulty of unhooking, where the fish was hooked, air exposure and the time at which the fish was released. The students then took the fish and did a series of tests (in a bucket) to determine their health (a score of 5 is very healthy, while a score of 0 is basically dead). Some of the students recorded the blood lactate and blood glucose without doing the previous tests (because the tests would have influenced the blood samples). On the third day, two groups took the fish from anglers as they were about to release them, placed them into 100l containers of fresh seawater, transported them to Kidds beach parking lot, tagged them and placed them into one of three 3000l pools with recirculating water. These fish were left in the tanks until 8:00am the next morning, after which they were captured (using a knotless landing net) and the same health tests were performed.

So, what did we find out? I have separated the results into edibles, non-edibles and barbel to make it easier for everyone and the average fight time, distance from bucket, time taken to place the fish into the bucket, time to take measurements and photos and total air exposure is shown in Table 1.

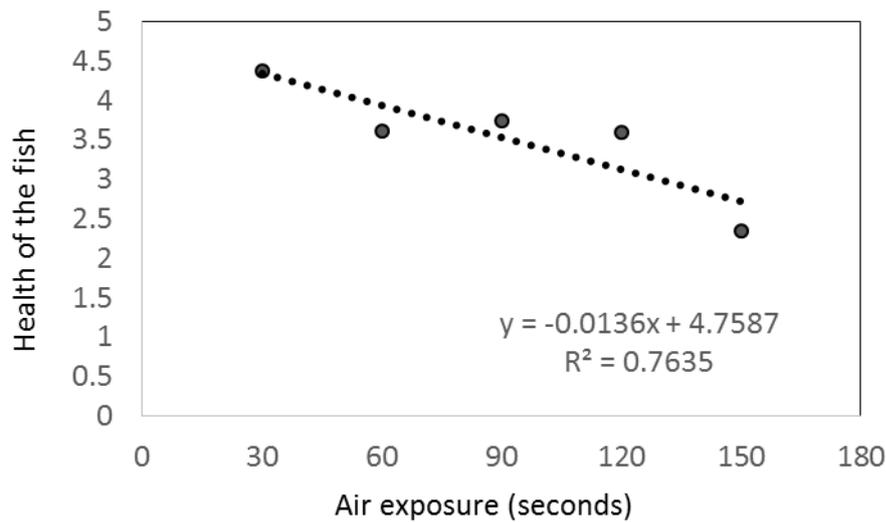
Table 1. Average (Min and Max) fight time, distance from bucket, time taken to place the fish into the bucket, time to take measurements and photos and total air exposure for 280 fish captured during the RASSPL catch and release nation competition.

	Fight time in seconds (Min-Max)	Distance from bucket in meters (Min-Max)	From landing to bucket in seconds (Min-Max)	Time to take measurements and photos in seconds (Min-Max)	Total air exposure in seconds (Min-Max)
Edibles	61.5 (10 - 319)	32.4 (3 - 150)	46.5 (4 - 647)	75.0 (20 - 246)	94.9 (5 - 267)
Non-edibles	74.3 (18 - 451)	40.1 (4 - 250)	51.7 (5 - 229)	98.1 (20 - 272)	117.9 (12 - 410)
Sea barbel	60.5 (18 - 180)	28.7 (2 - 150)	42.2 (5 - 200)	74.6 (13 - 346)	80.6 (16 - 185)

Immediately, you will notice that the total time that fish spend out of the water is long (80.6 – 117.0 secs). So what is the impact of so much air exposure on the fish? We ran a correlation between total air exposure and the results of the health tests (remember that 5 is very healthy and 0 is basically dead) for the edible fish (Figure 1). As you can see the health of the fish deteriorates as air exposure

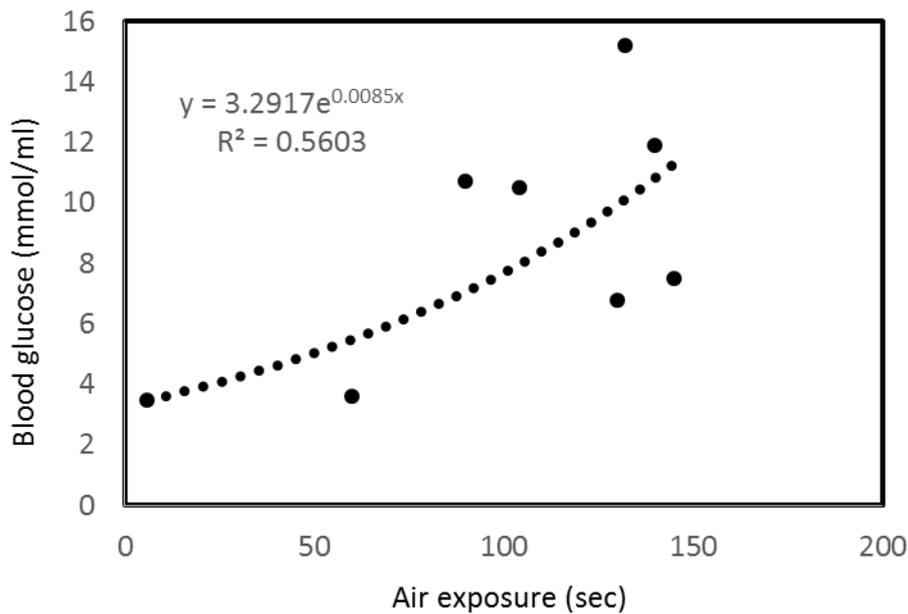
increases. This suggests that we have to place more emphasis on reducing the amount of air exposure for the fish that we catch.

Figure 1. Relationship between the health, as assessed using the Rapid Assessment of Motor Function technique for teleosts (excluding sea barbel) captured during the RASSPL national catch and release fishing competition.



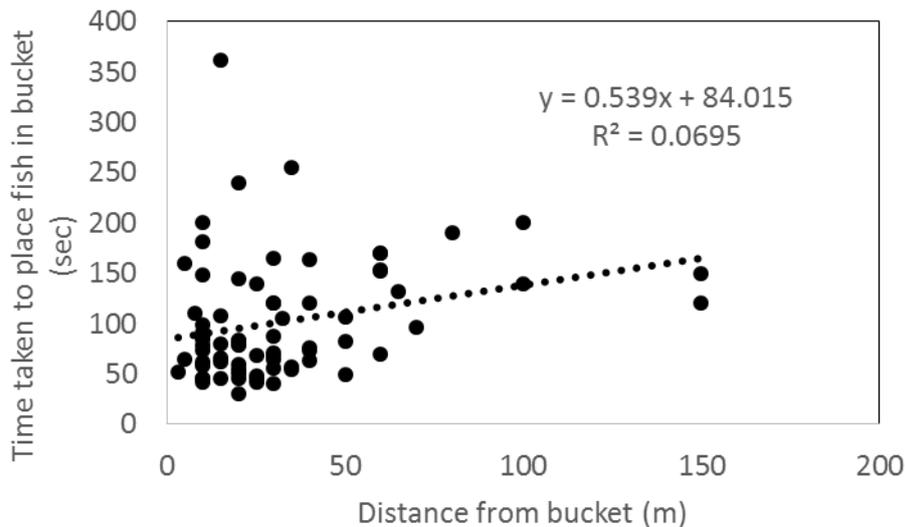
While the health assessment looked at the responsiveness of the fish, the blood samples gave us some idea of how the event influences their physiology. When blood glucose is elevated it suggests that fish are severely stressed. Unfortunately, we do not know what a baseline glucose level is, but there was a clear and exponential relationship between air exposure and the blood glucose level of blacktail (Figure 2). This provided evidence that air exposure also had a major impact on the physiological health of the fish. So based on the results shown in Figure 1 and 2, we propose that we aim to limit air exposure to no more than 90 seconds. This should be our goal as it will ensure that the fish are at a “health level” of about 4/5 and in the case of blacktail is just before the blood glucose level begins to spike.

Figure 2. Relationship between the air exposure time and blood glucose concentration for blacktail that were captured during the RASSPL catch and release national competition.



We can look at air exposure by breaking down the whole catch and release event (see Table 1). The first problem is the amount of time that it takes anglers to get the fish into the bucket (42.2 – 51.7 secs on average, but even up to 10 minutes). We ran a correlation between the distance from the bucket and the time that it takes to get fish into the bucket (Figure 2). Although it seems that other factors, such as time taken to untangle lines, may also have an impact, there was a positive relationship between the distance from the bucket and the time that it took for anglers to place the fish in the bucket. Therefore, we suggest the following amendment to the rules. Anglers are not allowed to share a RASSPL catch and release bucket. Anglers may not fish further than 50 m away from their buckets. This will hopefully encourage them to take their buckets with them when they want to try and cast in a spot just down the beach.

Figure 2. Relationship between the distance from the bucket and time taken to place the fish into the bucket for teleost (excluding sea barbel) fishes captured during the RASSPL catch and release national competition.



There are a few further points to mention on this issue. The first is that we did a random count to see if anglers had filled the RASSPL Catch and Release buckets while they were fishing at the end of the second day. Only 5 of the 15 RASSPL buckets inspected were full and there were 27 anglers fishing in the area (See example in Figure 3). Mike’s suggested rule (in the EXCO document) is that the RASSPL bucket must be full before casting. Clearly this is not happening and based on our results (long time before the fish is placed into the bucket), this is impacting the amount of time that the fish spend out of the water. The full bucket rule has to be enforced somehow. The only way that we can think of is through the use of marshals on the beach, but we are open to other suggestions.

The second point is that other anglers that are in the area should carry a bucket to the angler as he lands the fish and even help him to place it in the bucket. We did see this happening on a couple of occasions and it reduced air exposure considerably. It would be great if we would encourage that kind of behaviour in the franchise and national competitions.

The next stage of the catch and release event was measuring and photographing the fish. Unfortunately, you can see in Table 1 that this also took a lot of time (ranging from 74.6 – 98.1) and remember that the fish is out of the water during this time. There were some excellent examples where anglers measured and photographed their fish in 20 seconds, but this was definitely the exception rather than the rule. So, what was the problem during this stage? Firstly, anglers often unhooked the fish on the mat. This should be done in the bucket. About 10% of the fish jumped onto the dry sand during the measurement process. Jumping/moving fish are difficult to measure and photograph and this increases their air exposure. I recommend that each angler be issued with a RASSPL handling cloth (made out of superabsorbent material). This cloth should be used to handle the fish when taking it out of the bucket and measuring. The best way to get a fish to sit still and relax on the mat is to cover its eyes with a wet cloth. The mat photo should ideally show the cloth covering the fish’s eye.

The next stage involved filling in the card and taking the “trophy” photograph. It appeared that many of the anglers were disorganised during this phase. Many anglers took the fish out of the water before they had anything (camera, card, pencil, witness) ready. Many anglers did not know how to operate their cameras and cell phones for the photos. Cellphones (except waterproof ones are not recommended) because touch screens don’t work well when your hands are wet. It is also difficult to see the screen and the photographs during the day. Cameras must be ready (preferably on the angler – around their neck) and preferably waterproof, so that anglers don’t have to dry their hands

before the photos. The cards were also a problem, because they were often in a ziplock bag (to keep dry), they took long to get out. Anglers also had to dry their hands before writing on the card. We need to organise waterproof, reusable cards (we can send out a message on the symbol for the day on the night before the competition). We also definitely need to scrap the rule that the measurement needs to be on the card before the mat photo is taken. It increases their air exposure and places them under unnecessary stress.

Figure 3. Example of anglers fishing without a filled RASSPL catch and release bucket. Also not that all three anglers visible in the photograph were using the same bucket and two of them were at least 200m away.



We also felt that the witness was not involved enough during this phase. It works both ways when you are fishing with someone, so teamwork is key. The witness should be involved throughout the process. He should take all of the photos and can sign the card after the fish is released. He should therefore know exactly how his fishing partners camera works.

So, what can you do (as franchise owners) to improve air exposure during this stage? WE HAVE TO ENCOURAGE OUR ANGLERS TO BE MORE ORGANISED WHEN THEY CATCH A FISH. In the meantime, I am still playing around with a design for a single mat/bucket, with a waterproof card attached. This will hopefully reduce the air exposure time so that fish will only be exposed to air before they reach the bucket and during the “trophy” photo.

We saw a few more things that were concerning and should be drawn to your attention. Unfortunately, fish were often unhooked in the sand and even on the rocks. This damages the fish and increases the air exposure. Best place to unhook the fish is while it is in the RASSPL bucket. Anglers should have a pair of pliers either on their belts or close to the RASSPL bucket so that they can easily remove the hook if it is difficult to remove.

At least 12 % of all of the fish captured were dropped at some stage of the catch and release event. Some landed on wet sand, others landed on dry sand, while others landed directly onto rock. The majority of the fish were dropped while the angler was taking the third (trophy) photograph. The impact of dropping the fish depends on how high it was dropped from, where (on its body) the impact was and on the substrate on which it lands. From the perspectives of rules, it is really difficult to manage, but I would recommend that the angler does not stand up for the photo. They should remain on their knees (where they should be for the measurement of the fish anyway) and if the fish is small it should be lifted up above the bucket, so that it falls back into the bucket if it jumps. If it is large it should be held above the mat, so that it will fall directly onto the mat. This should minimise the damage caused to the fish when dropped. It would be good if this would be recommended to the anglers by the franchise owners before the new season.

Many of the larger edibles were also picked up by the gill cover when they were carried to the bucket. This practice should be banned as it is very harmful to the fish. Ideally a witness or the angler’s partner should help with the landing of a big fish. Either the fish’s head should be placed directly into the RASSPL bucket (while supporting its tail, so that it does not fall out), or the angler/partner should wet the front of their jacket and carry the fish to the bucket by cradling the fish between their body and arms.

Despite what seems to be a rather negative report, I must tell you that we are getting there. On the last day we managed to place a total of 13 sea barbel, 10 non-edibles and 8 edibles into the tanks at Kidds Beach, where they were kept overnight. Unfortunately 5 of the sea barbel died that same day, however none of the edibles or non-edibles died. In fact, the majority had recovered well. The edibles and remaining sea barbel all had a perfect health score 5/5 by the next day, while the non-edibles scored an average of 4.4/5. This was particularly pleasing as two of the edibles, the white musselcracker and yellowbelly rockcod had swallowed the hook and were not in good condition when we received them. By the next morning, there was no sign of the hooks and it appeared that the fish had swallowed them completely and they would probably be passed out in the faeces by the next day. These pleasing results indicate that the fish captured during a RASSPL event are certainly capable of making a good recovery within 24 hours. However, we must remember that these fish were exposed to perfect calm conditions in the pools and were not exposed to predators. This brings me to my next point. Anglers should be encouraged to put the captured fish into a deep rock pool with access to the sea (once the tide pushes). This will allow them to recover, before they are exposed to predators. Just make sure that there are no octopus in the rock pool. Another potential reason for the high survival was the low water temperature (16-17.5°) during the experiment. Low sea temperatures are good for fish survival as water retains more oxygen at lower temperatures. It is likely that we may have had additional fish deaths if the water temperature was higher.

**So to summarise, we would like to see the following rules/changes and guidelines introduced. We will leave it up to Mike and the EXCO committee to decide how this is done:**

**Rule:** *Anglers are not allowed to share a RASSPL catch and release bucket.*

**Rule:** *Anglers may not fish further than 50 m away from their RASSPL catch and release bucket.*

**Enforce:** *Anglers must fill their RASSPL catch and release bucket before casting in at a new spot.*

**Guideline:** *Anglers are encouraged to help other anglers by carrying a RASSPL catch and release bucket to where a fish is being landed. Where possible, help to get the fish into the bucket.*

**Guideline:** *Anglers should ensure that their RASSPL measuring mat is rolled out and ready, that their camera, cards and pencils are easily readily accessible.*

**Guideline:** *Fish should be unhooked in the RASSPL catch and release bucket.*

**Guideline:** *The witness should take all of the photographs*

**Guideline:** *Cellphones are not recommended for photographs as they are difficult to operate with wet hands and the screen is not always easily visible during the day.*

**Guideline:** *The angler should show his/her fishing partner how to work their camera before the competition begins.*

**Guideline:** *The angler should either carry a pair of longnose pliers or have them easily available at the RASSPL catch and release bucket.*

**Guideline:** *To prevent damage to fish if they are dropped, anglers should be positioned on their knees for the "trophy" photograph. If the fish is small it should be positioned above the RASSPL catch and release bucket, so that it lands directly into the water. If it is large, the fish should be positioned over the measuring mat.*

**Rule:** *A fish may not be lifted by the gill plate under any circumstances (if this is not a rule already).*

**Guideline:** *If possible, anglers should release fish into a deep rock pool with access to the sea (on a higher tide). This will allow them to recover, before they are exposed to predators.*

We are sure that we can put together an instructional video to highlight these rule changes and guidelines if this will help? This could be shown before the prize giving of the first of each franchise competition. Otherwise, the franchise managers should be required to get this information out to the anglers.

### **Species identification issues**

We were fortunate that the misidentification of spotted gully sharks did not result in major changes to the overall team scores, to the individual scores or to the prizes (with the exception of the most points on day 3). However to prevent this from happening, I suggest the following:

All spotted gully and smoothound sharks less than 80 cm be counted as one species (a smooth gully), while the Franchise owners will also be responsible to ensure that sharks over 80 cm are correctly identified. The only negative with this rule is that an angler could potentially catch two spotted gully's (or smoothounds), one below 80cm and the other above 80 cm and get bonus points for two species. Are you happy with this proposed change?

We will have to play other problems that may arise by ear. However, Matt and I will be available by phone on most competition days if there are any queries about a species identification, or anything else.

### **General organisation**

The RASSPL nationals have generally been organised very well and the national and relevant franchise organising committees should be very proud of their achievements. However, as with anything there are always a few issues. There have been issues with the photographs at the nationals over the last two years. The first problem is that there is always a massive queue of anglers waiting for their photos to be downloaded. We would like to suggest that the RASSPL organising team appoint a number of dedicated, computer literate people that do not fish at the card hand in station to begin with photos well before the deadline. We suggest that there should be at least one computer per 20 anglers – so at the last nationals there should have been 7 computers dedicated to receiving anglers' photos. All of these photos should then be collected on 1 or 2 computers for later verification. We also need the scorers to highlight potential photographs that need to be checked each day. These photos will include those of the anglers with 6 species or more, those of the anglers with fish up for a prize, photos of fish that the anglers are unable to identify. The RASSPL organising committee will then have to appoint a group of individuals to be available to check the photos in the evening, each day. Score card capturing can be done by one person, but splitting the cards between 3 people would be favourable. This had been the intention at the Nationals this year, however, the scorers ended up helping with photo collection. In terms of prize giving, getting all of the points finalised and all prizes allocated and photos checked, between lines up and prize giving starting is very challenging. Having dedicated people checking photos after each day, and during the next day's fishing, will go a long way in reducing the pressure at the end.

Another suggestion is to perhaps reduce the number of prizes that are given out at the Nationals, with some being handed out at a prize giving (perhaps the first of the season) held at each franchise. Alternatively, each of the 3 scorers could be responsible for allocating different prizes (one for points prizes, one for prizes for biggest fish, one for angler category prizes etc.). It is imperative that the prize categories are finalised some time before the start of Nationals to assist in planning the scoring accordingly.

We would also like to see some prizes and perhaps even significant ones handed out to individuals who handle their fish well. If RASSPL claims to be a conservation body, the prizes should reflect this. I would rather see some prizes dedicated to this than one angler winning several prizes for one fish. My opinion is that you restrict the prizes to one prize per fish. Obviously, the prize for a fish that was the biggest for the tournament will be bigger than the prize for the biggest of the day. This will also make life easier for the scorers. We would also like to see a team conservation trophy handed out to the franchise that handles fish the best at the nationals each year. My hope is that will become almost as important as the main trophy for the winning franchise.

Well Mike and the EXCO, that is what we have for you for now. We are sorry that it was long, but we wanted to ensure that we would not just recommend changes for the sake of making changes. There has to be a justifiable reason for changing rules in this competition and we hope that we have convinced you that these changes should happen.

Kind regards,

RASSPL research team