

Appendix E – Time line Barra

By Johnny Mitchell;
Johnny Mitchell's Fishing Charters
17 November 2011

My name is Johnny Mitchell, and the following article 'Time Line Barra ' was constructed during my own time. My entire life has been based in or around the ocean and the land. My experiences are well spread, having spent time as part of a blue water charter fishing operation and as an estuary and coastal commercial fisherman. I have been a professional barramundi fishing guide in Gladstone for the last five years and a small scale film maker. I have completed two films on barramundi, one on mud crabs and one on Spanish mackerel. My number one study fish is the barramundi, a species which I have observed carefully and thoroughly in the local harbour for over two decades and for over 14 years in Lake Awoonga. For about the last 14 years the species has taken up a huge portion of my life, with round the clock study sessions in both fresh and salt to refine and advance my knowledge with the species. I have an observant nature which has allowed the opportunity to record information about the time line of events from the Awoonga spill of 2010. I enjoy micro scoping any fishy situation.

Having lived in Gladstone for almost 37 years and extensively fished Lake Awoonga for barramundi during the last 14.5 years, the December 12, 2010 spill over event brought with it both positive and negative vibes. From watching some fish die from the free fall, to pondering the success of the mature fish transition there certainly was speculation as to the outcome of the event.

For the last 20 years, and especially the last 14, barramundi have become my number one study priority, personally spending between 250-350 days a year on the water and up to 3 sessions a day between salt and fresh water. From true wild fisheries in the Central Queensland region to the land locked waters of Awoonga I have relished in the challenge and variations between salt water and freshwater barramundi; both an a personal level and as a professional fishing guide.

My experiences between the two fisheries are vast.

My goal from the flood event was to follow the progression of the lake fish into the saltwater and to document their movements far and wide, why, because now we had two fisheries blending as one, 20 years of study blending together in a new chapter on barra- important to me. I witnessed their change in behaviour, and watched their state of health throughout; both good and bad.

Below is a timeline of information and photographs covering almost 12 months of events and observations during my time on the water from Rockhampton to Point Richards but using home waters of Gladstone Harbour as the central point of study.

December, 2010- The Overflow



Picture A. Shows a healthy fish from Lake Awoonga, photographed during the start of the flood event in Lake Awoonga- Mint Condition!

December 12, 2010, the much anticipated flood event arrives and with it many barramundi exit Lake Awoonga. Most of these fish were in the 90-130cm bracket and approximately 4 - 12yrs old. Thousands of fish went over in the first week or so. Around 30 fish in 30 seconds was the highest count I witnessed in my many visits to the wall lookout. It was rare to sit for a minute or two and not see a fish go over; it was usually multiple fish per minute. At just 1 fish per minute, the rate is equal to around 1440 a day. That's over 10,000 in a week. The rate of fish escaping varied, and was basically impossible to record once the water reached the 4m+ mark over the wall as the water was a raging white water torrent, but the rate of escape slowed considerably as the water level subsided. Printed figures of only 10,000 fish escaping the lake were neither accurate nor supported- those making the calls having reason to down play the situation rather than allowing reality to come forth. Even the modern figures of 20,000 - 30,000 seem unsupported considering the variables that were in play. Night time counts were impossible with no lights to assist and considering barramundi are instinctively active at night time it stands to reason to question what actually did escape in the dead of night, especially when the various lunar movements and wind change trigger periods are microscoped; the environmental stimulants that often dictate barra movement. Three professional fishing guides worked Awoonga daily up until the spill event. Two have now moved on to other work (myself included), the third has not landed a barra from the lake in nearly 12 months- a huge portion of Awoonga's adult barra have vanished. Personally I have seen only two documented barra captures from Awoonga in the last 11 months since the spill event. The remaining fish are laying low.

Around 1000 dead fish were counted along the shores of the Boyne from the dam wall and out to the harbour- obviously fish that died from wounds caused by the fall- some had head wounds, others had lost huge amounts of scales and skin and had red areas where there was no slime, skin or scales. Dead fish up to 135cm were found and measured by my close

friends. Rapidly rising flood waters made a proper count impossible as dead and dying fish ended up 20 - 50km from the dam wall and out into the harbour and open ocean in no time. Dying barra were picked up on the surface in blue water locations.

Within just one week of the initial spill over I witnessed many new fresh and lively arrivals (escapee lake fish), detected with the use of high definition depth sounder in areas within the harbour up to 43km from the dam wall. (over 20 km from Boyne River mouth) These fish seemed to rest in small schools on the bottom in deeper water- possibly adjusting to the change. Whilst none of these new arrivals were captured on a lure in this early period, their presence was noted. (February's information will highlight their immense behavioural change)



Photo B. Awoonga Dam Overflow event 2010.

January, February, March- Mystery and Intrigue.

100% capacity was reached around December 12, 2010, and 140.25% and 4.094m above spillway was reached on 28th December (GAWB INFO) and the dam was still flowing over on Sunday 23rd January, 2011, about 0.42m above. (About 40 days of spill and counting). It wasn't until late June 2011 that Awoonga actually stopped spilling over the wall. During January there were mixed reports from anglers of these escapees starting to feed and strike lures in the Boyne River system. First reports shared stories of weak fish that didn't fight very hard and many that floated away and died after release obviously showing signs of ill health from the overflow ordeal. Anglers stopped fishing for a period and when the fish showed greater health signs so began a period in the Pike's Crossing region (upper Boyne) known as the 'Turkey Shoot of 2011' where literally thousands of barra were captured by hundreds of anglers in narrow waters. (boats, kayaks and off the shore) This radical fishing below the dam wall included the whole month of February and trickled into March until a large exodus of fish that coincided with another mini flood and water rise from Awoonga during very early March.

In the mid to lower saltwater reaches of the Boyne, massive schools exceeding a thousand fish per school were evident (large barra schools found with modern side imaging sonar technology) with anglers catching double figure catches in a fishing session. It was evident that a leap frog of schools was happening; big numbers would exit the Boyne only to be replaced by schools from higher up the river. In the harbour and waters approximately 50km to the north and south the escapee barra also started to bite with a vengeance (late January) and typical daily catch rates for us doubled and tripled that of typical years with mostly wild stocks available. Sessions of 12-15 escapee barra averaging around 100cm were easily possible in just 1-2 hrs fishing. The eating quality of these harbour fish that escaped the lake and the river was first class with reduced fat levels evident in the flesh. The taste was so good that many locals commented- softer flesh than wild barra, flavour high and on par with any reef fish. It was noticeable by now (March) that many of the fish were starting to thin down (lose condition). Almost every escapee fish had some sign of damage, whether it be scale loss, open cuts (healing) or damage to the jaw or head; some wounds were severe although advanced healing was obvious, others had very insignificant wounds, but noticeable if you quickly searched. It was like nearly every fish had a reminder mark from the ordeal (see images below).



Figure C. Nearly every fish had a reminder mark from the ordeal.



Figure D. A skinny fish from post flood event at Boyne Mouth.

To make note – condition loss was expected since the lifestyle lived by the barra in Awoonga was fairly easy, food on tap, little water flow to contend with). To contrast the negative there was some very good looking barramundi being caught by anglers – everything looked fine and positive at this stage, healing, hungry fish being very encouraging.



Figure E. Some very good looking barramundi.

To make further note, turtle deaths became obvious in the Harbour in early March as well as an escalating commercial barramundi net fishing effort taking place at the mouth of the Boyne River just outside the river closure zone.



Figure F. Initially the commercial sector was blamed for the turtle deaths but the following months drew focus to a much bigger picture.

During late March escapee fish captured in the harbour that were kept for the table had started roe development for a possible late spawning due to high water temperatures in March. Barramundi frames including these roe developments were handed to Bill Sawynok for further analysis. The weather cooled immediately after these findings and no further roe developments were found. (The coming three months Nov, Dec, 2010 and Jan, 2011 will offer better information on escapee barra spawn possibilities).

During late March escapee fish captured in the harbour that were kept for the table had started roe development for a possible late spawning due to high water temperatures in March. Barramundi frames including these roe developments were handed to Bill Sawynok for further analysis. The weather cooled immediately after these findings and no further roe developments were found. (The coming three months Nov, Dec, 2010 and Jan, 2011 will offer better information on escapee barra spawn possibilities).

April- Booming

By the 1st April I had personally caught tagged barramundi over 51km from the Awoonga Dam wall (south to Bird Island, Rodd's Bay) Tag data showed place of origin was from Lake Awoonga. (See image A 1).



Figure G. Nice Barra

Charter and personal trips produced numerous saltwater caught, tagged barra, originally from Awoonga. Vast schools of barra had moved away from the Boyne and we lure caught hundreds of fish in this 50km southern zone and my predictions had some of these fish ending up in the Great Sandy Straights, well to the south. (currently 14/11/2011 there has been recorded tag data from Awoonga barramundi captured in the Burnett River, Bundaberg, approximately 174 km south) so the trend for wide spread movement is firmly documented.

At this stage (late April) during the time line it was looking fine, barramundi were being caught from the freshwater reaches of the Boyne, the harbour and now in numerous reaches of estuary systems over big areas. Some sensational lure fishing was still being had in the lower Boyne River whilst commercial netters still worked outside the mouth. By mid April it was obvious that barramundi were scattered over large distances of coast line creating impressive fisheries for both rec and commercial anglers.

I joined Dr Ben Diggles and Kurt Hutchby from GAWB on a science trip below the dam wall to catch by line as many barra as possible and check each one for health and disease.



Figure H. There were numerous issues noted by Dr Ben Diggles

May/June- Fins



My initial observations were of anal fins and the tips of barra tails eroding away or being eaten away during the month of May. Photographs of this occurrence were immediately sent to both Bill Sawynok and Dr Ben Diggles for comment.

Also a few barra with caligid copepods as well as a form of mucus or a monogenean parasites were captured- photos also sent to Dr B. Diggles for identification.

Figure I. Tail Fins of Barramundi and barramundi caligid copepods



Figure J. A definite 'thinning out' of barra body condition became more common place by the end of May and by June it was typical to catch escapee barra that looked nothing like their prime when in Lake Awoonga



Figure K. This image shows a mint conditioned Awoonga barramundi.



Figure L. This image shows a typically fit, slim, saltwater wild stock barramundi

These escapee were now also in a worse condition to that of typical wild stock saltwater barramundi that have always been known as a 'slim, fit fish'.

The tide was definitely turning with the barramundi beginning to look tatty and no longer carrying that 'prime brilliant look' that barra are known for.

By late June most anglers had reduced their fishing efforts unable to continue to catch barra, day in and day out, mostly governed by water temperature- even at the Gladstone Power Station warm water outlet it was easy to see less anglers and less fish being caught, however they were still in strong numbers but required more knowledge to catch. We successfully captured barra all winter, in great numbers. Guides excel while the average angler struggles. In this June period it was noted that in the 'best paddocks' in the harbour where forage food was abundant, the escapee lake fish were doing the best by retaining the most condition while in other areas with far less food it was clear to see the barra were worse off in health and condition.

One phenomenon I witnessed during late May was an intense density of barramundi north of Gladstone toward Ramsay's crossing. Over a distance of 2.4 nautical miles, barramundi continually showed on the sounder screen, rarely a moment passing with not a fish on the screen. I jig fished barramundi in this deeper area- no mistake, they were barramundi. To date, 14/11/2011 the school has departed; the nomadic ways of the barramundi, along with changing seasons have moved the fish away.



Figure M. Prime conditioned barramundi from Awoonga

July/ August- Getting Ugly

It was only in late July when I saw the first signs of eye problems, (see A 6), and in those fish that had eye problems, it was also clearly visible that these fish had busted through commercial nets with tight monofilament strangle marks across the forehead and/or snout.



Figure N. Barramundi showing net marks and cloudy eyes

This may have just been coincidence as we also captured escapee Awoonga barra, for many months, some with net marks on the snout above the eyes showing no eye issues at all. The eye problems seemed to be highlighted by a milky colouration – this obviously didn't hinder their ability strike a lure.



Figure O. Another barra caught on lure with cloudy eyes

Barra have been caught on lines for decades, across the country with occasional eye damage or in worst case- no eyes). Their ability to hunt by using vibration and sound to locate food source is a key to their survival without any eyes..... in those individual cases, unrelated to this current eye problem in some escapee Awoonga barramundi.

Eye damage wasn't common in our line caught specimens, but may have been more common than our catch rates dictated. Ill or suffering fish may not have been eating as much, if at all. What was again obvious and common was skinny fish, tattered fins and the loss of that glossy gleaming iconic barra glint. The fish were more dull and the body slime seemed more whitish rather than opaque.



Figure P. Barramundi with blemishes on skin and fins described below.

Blemishes on the skin and fins were more frequent and many captures of escapee lake fish had some kind of sign of deteriorating condition/health. At this point in time one of my close fishing companions and I discussed if these fish would ever regain their condition again or continue downhill until death. For every story of 'doom and gloom escapee barra caught' we also had stories of escapee barra from other areas within the harbour that were in way better condition. During July and early August I did manage to dive numerous times and film in the lower Boyne River in winter waters (cleaner) to observe hundreds of barramundi with many of these fish having hollow stomachs.(concave bellies) At no stage during diving or charter/personal barra fishing in the lower Boyne (mouth to 1st bridge) did I notice the poorer quality fish found from areas like the mid Calliope River, however in the upper reaches of the Boyne River's tidal extremities there were multiple cases of dead barra, sick barra, and dying barra in August.

September- Deaths and Sickness



Figure Q. Dead barramundi

In September in the upper tidal reaches of the Boyne there were dead barra, dying barra, dead bream, dying bream, dead mullet, dying mullet, dead catfish, dying catfish as well as a dying King Threadfin salmon noticed all on the same day. For a succession of days most of these species were again seen struggling, or dead. (King salmon spotted only once-covered in a fungus or mucus or something) My observations labelled that section of water as the warmest in the region, which was warmer than the hot water outlet in the Calliope River. From memory and notes it clocked 80 degrees F which was up to 8 degrees F warmer than other areas. It was common to see discoloured barramundi from this region, their heads and bodies covered in a white growth as well as green moss/algae growing on their bodies in places. I was still guiding clients in the area until the Harbour Closure mid September. I was glad to stop fishing in there as touching the fish was a great concern to me and for the welfare of my clients. We never captured a fish in that area that I considered 100% healthy nor in good condition. Some were rakey, skinny, tattered, rough looking barramundi.



Figure R. 135 cm barra described below.

Included was a massive 135cm barramundi with white eyes, torn fins and off coloured milky body slime that also carried an odour. Surprisingly, this was the heaviest and fattest fish I'd seen all year, even though very unhealthy.

In the mid Calliope River, fish were getting skinnier and even large fish were found floating or on the river bank, dead.



Figure S. 116 cm and 119 cm barra caught in the Calliope River

On one charter on 10 September, 2011 my clients caught a 116cm escapee Awoonga barramundi and a 119cm wild saltwater barra from the mid Calliope River.

This leads to my most valid point for the whole entire time line- not once throughout the whole ordeal have we caught a wild saltwater barramundi that has shown any sign of illness, infection or health issue. We catch escapee barra right beside wild salt water barra in certain locations and even with deteriorating escapee barra by the droves, we still have perfectly moulded, perfectly coloured, vivid, shiny, strong, healthy wild barramundi. They look like they are in mint condition which leads me to my confidence point- this issue of health isn't affecting the true wild barramundi stocks, only the escapee barra from Awoonga.

There is numerous distinguishing features between the escapee Awoonga barramundi and true wild barra from local waters. All of these differences can be detected by the eye. Examples of this are pectoral fin colour, body colour, head shape, head features, body shape, right down to body density- the list goes on but these fish can be picked by a trained expert eye. I have spent over a decade looking at them closely- I can pick the differences very easily.



Figure T. The above image shows 5 Gladstone caught barra - 2 true wild barramundi and 3 escapee Awoonga barramundi, one showing distinct scale loss from the free fall down the wall- trained eyes can pick the difference.

October

Commercial effort increased in the local area once again prior to the seasonal closure on November 1st, 2011.

The escapee fish were still in bad shape and obviously the commercial sector netted more ill fish than could be captured on a line due to the fact that very ill fish with bad health or closer to death don't feed, therefore not striking lures. The ugliest barra with the worst eye injuries/problems were either found dead, dying or captured in nets, not by line anglers. Many commercial catches were rejected by buyers due to unhealthy fish with red lesions and eye problems; fish I wouldn't dare eat.



November

Barramundi season closes in the salt water on Nov 1st. Commercial effort stops and recreational angling slows so information about fish health is reduced although reports from the upper tidal section of the Boyne highlights fatter fish and no signs of illness; a contrast to that of September. (data from a commercial fisher in Bundaberg highlights barra of ill health bearing tags from Awoonga). During 4 personal, local fishing expeditions in late October and very early November we managed to catch 31 barramundi averaging 97cm. The catch was dominated by saltwater barramundi, 24 wild saltys to 7 escapee lake barra. Of the 24 wild salty barramundi none had any signs of ill health (as expected) whilst 4 of the 7 escapee lake barramundi had tiny red lesions but were mostly of a good strong condition.

Department of Agriculture, Fisheries and Forestry

Call: 13 25 23 or +61 7 3404 6999

Visit: www.daff.qld.gov.au

