

## SPUMS ANNUAL SCIENTIFIC MEETING 2000

### ABALONE FISHING IN SOUTH AUSTRALIA

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#### Key Words

Abalone, decompression illness, equipment, occupational diving.

#### Introduction

I have been an abalone diver for 15 years based in Port MacDonnell, on the south east of South Australia. Over the years this unprotected coastline, subjected to the prevalent westerlies, has claimed many sailing ships on its lee shores. Port MacDonnell is virtually the start of Bass Strait which has the reputation of being one of the most dangerous stretches of water in the world.

There are very few protected areas along this coast where swells are less than 1 m and with the westerlies more likely 2 m. To this can be added the complications of currents, surge and poor visibility so the diver does a lot of head butting of rocks and getting the knife jammed. The few calm days that do occur each year are fully occupied with diving and rough days are used for maintenance. Because of long underwater times decompression sickness (DCS) is a real danger.

Abalone are usually associated with thick kelp and with the boat bouncing about in the rough conditions the surface supply hose can get hooked in the kelp. Movement of the boat can drag the diver backwards through the kelp, tangle the hose and even tether the diver to the bottom. In the old days that meant a rapid ascent after disconnecting the hose but now we reduce the risk of air embolism by wearing a bail out bottle and can go onto scuba for a more controlled ascent.

On a number of occasions White Pointers have been spotted off Port MacDonnell, not too far off the wharf. I have never seen any, but they are there.

#### The old days

One has to be a bit of a hunter to be an abalone diver, to be underwater for the long hours. Work usually starts early in the day and goes for 8 hours. Divers might get in the water at 9 o'clock and get out of the water at midday for about 20 minutes or half an hour to have some lunch and then back in the water. In the early days the diver would just work hard to fill his 50 or 100 kilo bag. He then would inflate the parachute and surface with the bag. The deck

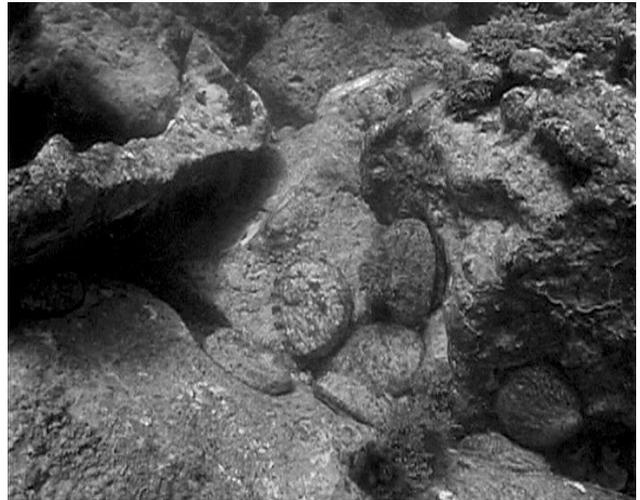


Figure 1. Abalone on rocks before harvesting.



Figure 2. Abalone in diver's hand.

hand would give him another bag and he would descend. This happened every half hour to an hour, depending on the stocks on the bottom and would continue all day. And so all day it was up and down, up and down. A pretty good dive profile, for trouble, really!

Before I came into the industry the previous license holder used to tell a story of how he would inflate the bag and hang onto it to get a ride up with it. He thought that was pretty good, because he liked the head spin that he got when he reached the surface. And he would smoke a joint on the way home after work!

We have advanced a long way from the old days with a petrol driven compressor and sometimes no one in the

boat. Two men died underwater from carbon monoxide poisoning some years ago when the compressor intake fell into the boat and into a pool of engine exhaust.

In the early days we were owner divers. The owner of the license had to dive it. We could not employ anyone. We had borrowed huge amounts of money to purchase a license, so it was just pretty gung ho and get the quota as quickly as one could to pay the loan off as fast as possible.

Most of the early divers were not trained in diving at all before they started. They picked it up as a hobby and went on from there. If they had any training it was just an open water recreational diving certificate. Now new divers coming in the industry will require a level 2 commercial training.

### Abalone diving now

There are now 32 abalone divers in South Australia working in three zones along the South Australian coast. Six of us work in the southern zone, six in the central zone and 24 in the western zone, which is near Port Lincoln. Each diver is issued with a quota of abalone to catch each year. Once the quota is reached the diver cannot fish for abalone for the rest for the year. How long it takes to collect the quota depends a lot on the weather.

Abalone diving is still intensive hard labour and not without the risk of physical injury. Today divers of the southern region wear dry suits. Unlike wet suits, the divers remain dry and warmer.

Because the divers and the State Government want to keep the abalone industry viable there are size limits on the fish allowed to be harvested as well as quotas. Divers have to report to the Fisheries Department by phone before and after each dive. The catch has to be logged onto the Fisheries computer so that they can check all catches and can make sure that quotas are not exceeded. Another requirement is that the catch has to be stored in bins, and the lids sealed, to make sure the fish are not tampered with before they get to the processing plant.

Now we can employ divers. It took us many years to convince the State Government to do this. It means we need to have our gear spot on with the Occupational Health and Safety because the employer now has a duty of care to his divers. Over the past couple of years Des Gorman and I have worked out a scheme for the South Australian divers to follow. Soon new divers coming into the industry have to become a level 2 commercial diver before they can dive on an abalone license.

Today we use a shot line that to drop another bag down, and we stay on the bottom till lunch time and just carry on, which limits the number of ascents. I limit my



**Figure 3.** Close up of G Pollard underwater, showing full face mask containing communications equipment.



**Figure 4.** Diver swimming across kelp. Note the air supply hose going to the top left-hand corner, bail out bottle on his back, buoyancy compensator and full face mask.

diving to about 15 m (50 ft), but I know of other divers who start their diving at around 30 m (100 ft) and work into the shallower water though the day.

We also use full facemasks with wired communications. Air is from compressed air banks, which are large cylinders set longitudinally in the boat's hull. This system offers lower maintenance, more reliable delivery of air than petrol driven compressors and a much quieter environment. We no longer disregard the tables, we use dive computers.

We carry oxygen and a normal first aid package on board on my boat. I do not carry nitrox. I will not use it

because I employ two other divers and it becomes too risky. A couple of the other divers in our zone are using Nitrox mixtures now. They have reported that they do not feel quite so fatigued at the end of the day.

### Diving accidents

Over the years I have had a few incidents. About 13 years ago I had DCS and was taken to the Royal Adelaide Hospital with a cerebral and spinal bend. Des Gorman was the doctor who supervised my 13 days of treatment before I was able to go home.

Twelve months later I had another little bout of DCS when my umbilical hookah line blew off at about 15 m while working in a thick kelp forest. When it blew off I thought "Oh, well it must be just here somewhere" so I was fossicking around in the weed trying to find it when I realised I still had to breathe. So I made a rapid ascent to the surface. This put me back in the chamber for another three days. Then I started to learn. Wear a bail out bottle. Better connections on the hose and umbilical and so on.

Another time I was dragged along the bottom through a thick kelp bed and got tangled up in the weed. It was worrying not being able to get to the surface and having my regulator pulled out of my mouth. The only reason I got out of that one was that I had started to wear a dry suit and I just hit the button and blew the suit to its maximum and was able to get to the surface. That was while working in about a 25/30 knot wind with a deck hand who was unfamiliar with the boat and could not start the motors. Now I have two deck hands so that if there is an accident at least one of them can drive the boat and the other can offer first aid. A stand by diver on the boat who could go down if the diver is trapped may come in the future.

### AUDIENCE PARTICIPATION

#### David Elliott

This question is based on the way that similar people dive in the Channel Islands. They begin the season in the shallow water and gradually fish that out so during the months when they were fishing, gradually work on down deeper. I guess you possibly do the same, but because of the weather you do not necessarily dive every day.

The Channel Islanders were diving every day and one of the worst bends I ever had to deal with was a man who had gradually worked into to the deeper depths and was doing basically two or three bottles on the bottom and the fourth bottle was for doing a spiral up to the surface, pseudo-decompression. Then, poor chap, his mother died so he took a week off to go to the funeral and fix the affairs, came back and the first day back he bent very badly. I believe



**Figure 5.** G Pollard during ascent. Note dive computer in right hand, abalone knife hanging from right wrist and the lifting parachute attached to the catch bag full of abalone.

it was because he lost his acclimatisation. Do you consider this business of adaptation acclimatisation as important?

#### Graham Pollard

Very much so. I had not been diving for probably 2 months and I had just got over the flu and then we did five days straight. In extremely cold water in the middle of August, and that was the time I ended up in the chamber with Des looking after me.

#### Simon Mitchell, Brisbane

I recently treated a fish collector in Brisbane whose diving profile for the day had been between 18 and 30 m for four hours and 45 minutes later he did about 3 hours at 18 m. Extraordinarily he claimed that he had been doing that sort of profile for years and years and never had a problem. Have there been a lot of divers who have got bent and dropped out of the industry?

#### Graham Pollard

They have been bent and have not been treated and a lot are still in the industry. One of our divers in Port Fairy, he only dives very shallow, probably the deepest only 12 m (40 ft) and he got out of diving last year. He was 70 years old. And he is sharp as a tack..

*The Editor thanks Mr Darren Sharam of Vortex Entertainment for permission to reproduce the illustrations all of which been provided by him.*

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