

# PSDiver Magazine



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• PSDiver Survival Workshops

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## From the PSDiver Archives

### Closure After 14 Years

*By Howard Alexander*

### Boat Accident Investigation

*By Dr. Ron Becker*

*"And now you want to be a Clearance Diver?"*

*By Tony Ely*



## Greetings,

Over the last few months we have seen and witnessed a great amount of destruction related to flood waters, tidal surge and hurricane driven wind and rain. For some of us, it is just a new season for others it was devastating.

We were in Nassau, Bahamas a week after the Hurricane Dorian leveled Abaco and Freeport. At home in Texas, we watched in awe as the meteorologists tracked the storm and we had immediate memories of Hurricane Ike when it erased the Bolivar Peninsula. When we got to Nassau, there was no sign of damage, no visible flooding, no leveled buildings or downed trees. There was no obvious damage at all. The island had received some strong winds and areas that typically flood did get some water.

With the exception of news broadcast over radios played in shops, or signs posted in hotel lobbies and in heavy tourist areas asking for help and donations for Abaco, there was no sign of the hurricane.

Yet, the news from the radio was local, not international. Talk shows and news shows were reporting on the conditions of Abaco and Freeport. They talked about the missing persons, the bodies that were still being found and the utter devastation of the islands. I heard things there that were never reported or repeated in the US.

A week after we returned home Tropical Storm Imelda visited the Gulf Coast of Texas. It was remarkable in that it dumped a tremendous amount of rain in a short period of time. In one area, almost 42 inches of rain fell in a 12 hour period. Flooding occurred.

The areas hardest hit were some of the same areas that either had just recovered or were almost recovered from the flooding caused by Hurricane Harvey two years ago.

Homes destroyed, businesses lost and people left numb with the aftermath wondering how or even if they will be able to recover.

We were fortunate. We only had 3 inches of water throughout a family home. But just 3 inches of water caused at least 30

thousand in damages – maybe more. We were fortunate to still be able to afford Flood Insurance. Most of what can be repaired or replaced is covered. Others in the area took out loans after Hurricane Harvey to afford the repairs from its' flood. Now they have nothing, owe for a loan and their homes are destroyed.

For 35 years I worked these disasters as a professional firefighter and Emergency First Responder. Watching from the sidelines now is almost nightmarish. I have found ways to help when I can but the longer I am retired, the fewer contacts and connections I seem to have. It hurts me to watch the news knowing what I know and what I have experienced. The loss of life, the loss of property and the threat to any viable future for those involved is dramatic. If you have not been involved as a participant, you can only speculate at what it feels like, what it looks like, what it smells like... those become embedded, permanent memories.

Church groups and civic organizations jump into action and begin collecting donations for those in need. At a local level, they are sometimes the ONLY source for help. They provide an unrecognized amount of help to their communities.

Civilian volunteer SAR groups have dramatically increased over the years. Some go through the trouble of training and preplanning how they will aid others in need. Admittedly there are some groups who end up being part of the problem but there are others who have saved lives that would have been lost if not for them. Groups from one of the many self-named Cajun Navies to [AEROBridge](#) whose volunteers flew over a half a MILLION pounds of supplies to the Bahamas.

First Responders or SAR volunteers, when disaster strikes you are needed. You may not receive the notice or recognition you deserve but it is appreciated. From the rescue of an elderly couple from a flooded home to the group that puts tarps on peoples homes to the ladies who cook dinners at the church for days on end –

## Thank You.

*Dive Safe! We want to talk with you, not about you.*

**Mark Phillips** Editor / Publisher [PSDiver Magazine](#)



## From the Archives of PSDiver Magazine

### Closure After 14 Years

*By Howard Alexander*

Originally published in PSDiver Magazine Issue 4

On the weekend of July 4<sup>th</sup> 1986 there was a tragic event on a deep and isolated water filled quarry near Knoxville TN. An 18 yr old male was swimming with friends when for some reason became incapacitated and slipped below the surface. The Knoxville Volunteer Rescue Squad dive team was called to respond to the emergency and after determining the last scene point was in water believed to be over 200' deep, set in motion an extensive and lengthy recovery effort. This recovery operation was conducted every day for almost two months without success.



**Knoxville Rescue Squad and Loudon County Dive Rescue teams providing topside support for the operation.**

After scaling back the operation to one of weekends only but involving any available technology, the operation still was conducted for over a year and continued without results.

After that it became one of those "best effort" operations that are seemingly endless, pointless, and can be demoralizing. Capt. John Yu of the Knoxville Volunteer Rescue Squad continued throughout this 5-year period to maintain a professional and compassionate relation with the family of the victim, while assuring them that while their efforts had gone un-rewarded, that the pain and suffering that the family had endured would not soon be forgotten by the members of the rescue squad, and that if anything were to develop or change with the situation that he would personally deliver the news. At some point the family reluctantly decided to conduct a funeral service for their lost loved one and move on with their lives.

Almost 14 years later on May 7<sup>th</sup> 2000, two divers utilizing some of the latest technology in SCUBA, breathing mixed gasses containing helium, computer generated custom decompression tables, underwater Diver Propulsion Vehicles, HID lighting systems, streamlined gear configurations, etc. made an amazing discovery. For one of the divers, with a BS degree in Anthropology it was obviously human remains, for the 2<sup>nd</sup> diver with 16 years in EMS/rescue and public safety diving it was obviously a potential project with very far reaching results. For what started off as a routine dive to 200' in a new dive site with discovery around every corner, soon became an opportunity to bring to a close the mystery behind the missing drowning victim from 1986, both for the family of the victim and for the members of the rescue squad, several of whom the 2<sup>nd</sup> diver would count among his friends and colleagues,

The following is the transcript of an interview I did for Ed Young (Knox County Detective) just after the recovery was made.

**Were you involved in the original search 14 years ago?**

No, that was handled by the Knoxville Volunteer Rescue Squad Led by Captain John Yu. I understand that they searched every day for over a month, and were searching every weekend for over a year. Finally after 5 years the family decided to have a funeral in which they buried an empty casket.

**Give a little info about the Loudon County Dive Rescue Team, (including the proper name), number of personnel on the team, etc.**

Loudon County Dive Rescue Team Inc. was formed in 1994. We have 15 members 9 of which are divers and 6 shore Techs. We serve a county that has 7% of its area covered by water. 3 TVA dams and 4 lakes. On average we respond to 12-15 missions per year typically including 2 drownings and the ever-increasing Jet-ski accidents. We also handle all evidentiary recovery operations requested of us by the various law enforcement agencies in our county. Our members

come from varied backgrounds, including EMS, fire/rescue, law enforcement, nursing, and civilians.

**How many from the team was present during the recovery operation last Wednesday?**

Five total, our Team leader, an Underwater Investigator, our Chief Shore tech and two divers

**When were you tri-mix certified and through what agency?**

1997 by Technical Diving International

**How many tri-mix dives do you have?**

302 including two dives to 370'

**What is your level of diving as a team, and with the other people involved in the recovery last week? How many dives have you and Joel, Alan, Billy done together, etc.**

I have logged 281 cave dives and 302 extended range and Tri-Mix dives to date, 95% of them with one or more of these four guys. We also train with the dive team monthly in the "normal" dive-rescue



**Divers (L-R) Alan Williams, Billy Wilkins, Howard Alexander. Joel. Clark is not pictured, after the recovery.**



scenarios, shore-based, boat-based rescue/recovery etc.

**What was your intention when you leased Immel Quarry, (training, exploration, and search for the missing boy?)**

The quarry was leased as an exclusive tri-mix and extended range dive site only. Open-water diving is limited to dive team members only due to the hazards and the terms of the lease. I consider each TriMix dive I plan and execute as a training dive. We utilize a standard gear configuration that never changes and a consistent breathing gas selection along with decompression table generation. Also important is dive buddy selection. I only do dives of this nature with the same 4 or 5 individuals. This is how dives of this nature become routine and can be executed flawlessly and without incident.



**What was the name of the software program you used to figure your dive?**

We use two programs. Primarily we use DecoPlanner, written and distributed by Global Underwater

Explorers and DECOM for comparison. We typically carry the DecoPlanner tables on the dives.

**Explain the events of the initial find Saturday, (diving for fun, searching, etc.) and your reaction when you found the remains.**

The dive on May 7<sup>th</sup> was planned to 200' for 25 minutes. Scooters were used and back gas of 18% O2 and 35% Helium. This was the first dive at this location in over a year and was essentially a "recon" dive to scope out the prevailing conditions and visibility. Initial decent was to 145' with visibility out to 50' or more. This type of visibility was completely unexpected.

We rode our scooters over the edge of the 170' bench, which revealed visibility continuing in the 50' range. Continuing on out to the 190' bench but now out of the daylight zone, we could easily see the bottom of the quarry at 205' under our HID lights and proceeded on down with the planned depth and bottom time. Seventeen minutes into the dive we spotted a remarkable change in color on the bottom of the quarry.

My first impression was that of a dropped bag of cement. The color was an ashen blue/grey color

almost totally without form. I had the strong impression at once that something had decayed in this spot. I first recognized the Tibia/Fibula and Femur bones of both legs and then the skull. The only clothing appeared to be cut-off blue jeans but the video and still photography revealed them as red shorts covered with a gray material of some sort.

At this point I signaled my partner to hold his position while I found a suitable tie-off for a lift bag that I deployed to mark the location. This was done and our planned bottom time of 25 minutes was reached.

**The day of the recovery, describe that dive in as much detail as you desire. (Started dive at---am and reached bottom in --- minutes, Alan voided while --- & --- did recovery and --- held bag of contents, you get the idea). Include descent time, bottom time, gas switches, deco time on what gas, etc.**

Planning for the recovery dive actually began on Saturday during the 35 minutes of decompression we had to complete after making the discovery. I was mentally beginning to formulate the dive plan in case we were asked to perform the recovery. I knew



**Photos of victim's lower extremities (tibia/fibula above, femur's below)**

which diver was best suited to handle the bones, which diver was best suited to document on video the recovery.

May 9<sup>th</sup> was dedicated to dive planning. Attention to insuring the divers were utilizing the exact same back gas, the exact decompression gases, the tables I would be distributing complete with loss of gas and bail-out contingencies, and more importantly that we were mentally ready to execute **the planned 200' for 25** minute dive on Wednesday morning.

Topside Briefing began as scheduled at 9AM. Team assignments were verified to insure the assigned divers would carry out all objectives while at depth on the planned 25-minute dive. Joel Clark would be assisted by Billy Wilkins to recover the remains.

Alan Williams would be Videographer. I was Alan's partner and would take the packaged remains from Clark and Wilkins and secure them to the ascent line and gather a pair of shoes found near the body.

The packaging materials were required to be very simple and easy to manipulate at 200' while wearing heavy neoprene glove. A simple pillowcase was

selected for the skull and jaw containing the teeth. A nylon mesh dive bag was selected to hold the bones.

## Time Line

11:15 four divers begin descent

**11:19 All divers are at 180' All OK. Continue descent to 198'**

11:20 Clark and Wilkins begin recovery (Skull and teeth 1<sup>st</sup>)

11:22 I attached packaged skull and jaw with teeth to the ascent line

11:25 I gather shoes and attach to a bag on the ascent line

11:36 I attach the bag of skeletal remains to the ascent line and signal topside tender with 3 tugs.

11:39 All divers OK and we begin ascent to 1<sup>st</sup> **decompression stop at 100'**

11:42 begin decompression schedule

11:51 All divers make 1<sup>st</sup> gas switch at 70'to 50% Nitrox

12:02 All divers make 2<sup>nd</sup> gas switch at 20'to 100% oxygen

12:24 All divers surface

The planned dive of 200' for 25 minutes is accomplished in 69 minutes



**Photo of the victim's red shorts**

## **Describe bottom conditions, depth, temp, visibility, etc.**

Conditions at the depth of 198' were 48 deg water temp, and ~25-30' visibility. Of course the visibility went to zero as soon as the remains were removed, the 2 divers picking up and packaging had to move slowly and in only one direction. There was no going back after they started.

## **What are your feelings now that the recovery is over and positive identification has been made?**

This incident was the 34<sup>th</sup> drowning we have been involved in. On each callout I pray for a successful rescue that no one gets hurt or killed on, but secretly know that we will be satisfied with a quick recovery.

A long and protracted recovery operation is every dive teams Achilles heel. They are resource hogs and consume immeasurable man-hours and hidden costs.

**More importantly the family's anxiety grows exponentially with no end in sight for them. We all become part of the victim's family when this happens. I am hopeful that even after nearly 14 years, the victim's family found some relief in this recovery effort.**



**Give any additional comments or reflections you may have.**

We feel it is important for neighboring dive teams to work together at every opportunity. They are **great ways to share "best practices" and learn** new and creative methods and to put in trial new ideas that may have not yet found a practical application or general acceptance.

I know that deep-water recovery operations are a safe and viable option in our East Tennessee region.

We would like for all of our neighboring dive teams to consider this option available to them at any time.

This was a classic example of open communication, joint operational planning, gathering of appropriate resources, communication of the agreed upon plan and execution of the plan. Start to finish the entire on-scene operation took only 5½ hours. This was a textbook example of what has been referred to as "building bridges, not barriers".

The discovery and recovery of the victim's remains were made by members of the Loudon County Dive Rescue team in a quarry that lies within the



**Photo showing the victim was in a semi-prone fetal position**

jurisdiction of the Knox County Sheriff's dive team as well as the Knoxville Volunteer Rescue Squad.

All three dive teams worked together to plan and execute this rather unusual operation from the actual diving, the topside support, the University of Tennessee's Forensic team that came on-scene and confirmed the identity of the victim, to perhaps most importantly the ongoing relationship that John Yu had maintained with the **victims'** family for the last 14 years.

Every facet of this operation fit together so completely, it was as if we had all been training for this operation for years. It was something you could say you were proud to be a part of.

**Your stories are important  
and can help other teams learn.  
If you have an interesting story to share email me  
directly at the address below!**

**[Mark@PSDiver.com](mailto:Mark@PSDiver.com)**

**Share your stories – send them in!**



# Boat Accident Investigation

By Ron Becker

Originally published in PSDiver Magazine Issue 50

Boat collisions differ markedly from auto collisions. The automobile accident reconstructionist generally deals with automobiles that remain on the ground and leave visible traces of their passage. Occasionally a vehicle will vault and become airborne but ultimately the path of the vehicle can be traced by the marks left prior to vaulting and those left when the vehicle returns.

The automobile accident investigator deals with two dimensions. Not so for the underwater investigator that is trying to reconstruct a boat collision. If two boats collide, one generally rides up onto the other. There are no skid marks to reveal the path of the boats or their impact points. No skid marks in the traditional sense, but boats do have evidence of having come into contact with one another and marks borne by the boats can reveal much about the directions of travel, impact point and right of way.

Keeping in mind that boat investigations involve three dimensions, some of the information that will be available to the investigator may be submerged. In fact point of impact can be confirmed by debris left as a result of the impact. Just as in auto collisions, there is a beginning and end to the

debris left at the accident site.

Finding the beginning of the debris puts the investigator very close to the point of impact. So to, underwater debris that can be associated with one or more of the vessels involved in a collision can assist in determining point of impact.

Of what value is point of impact? In auto collisions the point of impact and the resting point of the vehicles can assist in approximating speed at time of impact; to a lesser degree, point of impact can assist in determining right of way and speed in boat collisions. In those witnessed collisions where the impacting boat is launched overtop the impacted boat the distance traveled can assist in determining the speed of the impacting vessel. Most boating accidents do not occur in a vacuum.

Someone survives; someone witnessed the collision or the boats prior to collision. With the extensive use of recreational waterways today there is almost always

someone watching if not videotaping or photographing in the area. Those who may be witnesses need to be identified as soon as possible and interviewed. Photographs and video footage should be examined for other observers or witnesses, and boats or automobiles in the background (Hickman, 2002).

When boats collide one of two patterns generally results. If the impacting boat is planning (on step) its bow will be



**Figure 9-4 Photo of vaulted boat damage**  
Source: Dr. William Chilcott

elevated. If the collision occurs with the impacting boat bow elevated it is likely to pass over or onto the impacted boat. In those situations there will be evidence of that passing on the bottom of the impacting boat. Any scratches on the bottom of the impacting boat that are attributable to the collision will impart a direction to the impact. In addition to the damage caused by the boat there may also be evidence of damage or injury resulting from the propeller or bow cleat (tie down).

If the impacting



**Figure 9-1**



**Figure 9-2**



**Figure 9-3 Photo of the bottom of the vaulting boat Source: Dr. William Chilcott**



**Figure 9-5 Photo of ultraviolet speedometer Source: William Chilcott**

boat does not pass over or onto the impacted boat, damage should be to the hull of the impacted boat and to the bow of the impacting boat.

The speed of the impacting boat and its weight will contribute to the depth of penetration in these kinds of collisions. There are no standard "depth penetration" tables that can be used based on make and model of boats as there are for automobiles but the depth of penetration can partially explain what happened before, during and after the collision.

Occasionally the dynamics of a crash can be best understood by reenacting the crash and documenting the collision and its aftermath.

The collision may result in the destruction of a boat's tachometer and/or speedometer. When this happens it is reasonable to conclude that the speed or horsepower reflected in the damaged instrument reflects the speed of the boat at the time of impact. Upon impact the indicator needle of the instrument may slap the back of the gauge and lodge there.



Occupants will secondarily impact with the interior of their boats or be thrown from them. The occupant of a boat involved in a collision will be thrown in the direction opposite the collision impact. Often secondary impacts leave evidence of the change in speed during the collision.

Steering wheels that are misshapen or broken, windshields that are cracked are evidence of passenger impact and can be used to ascertain speed. The type of steering wheel or windshield can be subjected to laboratory testing applying force sufficient to duplicate the damage on the original item and giving some indication of the velocity necessary to create the deforming force.

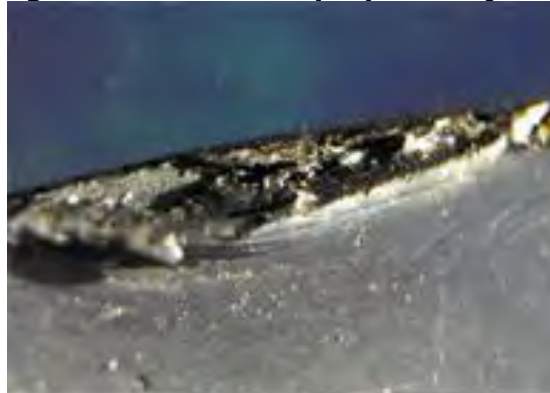
## Propeller Injuries

Often in boating accidents an occupant may be thrown from the boat. If the occupant is the only person on board the vessel may begin a slow circle at high speed heading back to the point at which the occupant was lost. Most boats today are equipped with safety mechanisms that turn the engine off should the driver be thrown from the boat but many boaters fail to use this mechanism making them subject to the high speed turning boat.

It is not uncommon for boats to run over swimmers, snorkelers, divers, water skiers or other boats. In instances when



**Figure 9-6 Photos of propeller injuries**



**Propeller Damage Magnified  
Source: Dr. William Chilco**

injury or death arises from the incident some conclusions may be drawn from the propeller cuts on the body. Different types of boat engines impart unique characteristics to propeller cuts.

Deformities in the propeller may also be evident in the injuries produced by the propeller. In investigations involving propeller injuries or death it is important to obtain the motors and propellers from the boat. An examination of the propeller may immediately rule out a particular boat or tests may have to be done to determine whether the propeller in question caused the injuries or death being investigated.

### **The character of the wound may suggest a number of things:**

- **Straight Cuts** occur when a propeller is performing at maximum efficiency (moving rapidly in or through the water). The cuts are fairly equidistant in spacing with substantial distance between cuts.
- **Curved Cuts** occur when a propeller is performing less than its maximum efficiency (moving slowly in or through the water). The slow movement of the propeller cuts and pushes tissue backward.
- **Cuts Close** together generally indicate a propeller in reverse gear in that

the backward motion of the vessel is substantially reduced by gear ratios thereby depositing numerous cuts very close to each other.

Much of what needs to be known about propeller cuts can be discovered as a product of experimentation with limb prosthetic devices or anatomically correct dummies.



Propellers themselves can provide information about a crash, property damage, human injury and death. A thorough examination of the propeller will reveal that it has come into contact with something. The bends and dents may be a product of general use but serious distortion prevents the propeller from operating without shaking the boat apart.

Serious distortion is a product of contact with something hard enough to damage the propeller. In injury and death it may be necessary to remove the propeller from the motor and package it so as to preserve it for laboratory examination.

A gross examination of a propeller will reveal it has been impacted but a microscopic examination may reveal the source of the impact. Blood, tissue, hair and fiber may cling to the propeller. Suspect boats should have propellers packaged in such a fashion as to avoid the loss or damage of trace evidence.



## ***"And Now You Want To Be A Clearance Diver?" Part 1***

Excerpt from a book in progress By Tony Ely  
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Originally published in PSDiver Magazine Issue 27

When we (HMAS Melbourne) arrived back at Garden Island dockyard from the Far East I was immediately posted to HMAS Rushcutter; to start down the long hard road that would eventually lead to me becoming a fully-fledged Naval Clearance Diver.

From memory, we started the course with about fifteen hopefuls. Most of them were ex junior recruits who had completed their sea time on the other carrier, Melbourne's sister ship - HMAS Sydney. Prior to starting any diving, we all had to pass the Seamanship and NBCD courses for Able Seaman, and so moved across to HMAS Penguin, which at that time was home to the RAN's future Submariners and housed the Naval hospital, Seamanship and NBCD schools. Most of the class enjoyed this short respite as there were a number of WRANS stationed at Penguin. Little did I know at that time, but I would be returning to Penguin much sooner than I could ever have imagined.

Finally we were ready to start the serious side of being in the Navy. As Rushcutter had no accommodation other than for the nightly duty watch, everyone was billeted at HMAS Watson; the Torpedo Anti-Submarine (TAS) school located atop Sydney's South Head. Navy buses or trucks shuttled us backwards and forwards each day. Everybody from Rushcutter hated Watson for a number of reasons.

Watson was real navy, much like Cerberus; full of bullshit and pompous officers. Whereas Rushcutter was within walking distance of King's Cross, Watson was at the end of



the world and worst of all as far as we were concerned, it was compulsory to go to church on Sundays if you were onboard. For these reasons and a number of others, a large percentage of the qualified CD's shared flats up near **the "Cross", either with other diver's, or with girlfriends.**

The worst part about church on Sundays was that most of us had hit the town on the only night of the week that we had to spare, and the last thing we wanted to do was be up and dressed in full uniform by 0800 on Sunday morning; whatever the reason. The only alternative for us was to be out the gate on the first and only Liberty Boat at 0800, and this unfortunately also entailed being in full dress uniform. We all lined up at attention as the duty officer inspected every detail of our uniforms before allowing us ashore, knowing full well that we were only going ashore to avoid church and would be back at about 1100. The second liberty boat would not be until after the completion of church.

The local civilian population must have thought we were a weird bunch. Sunday morning and Watson's Bay full of sailors wandering around in dress uniform. The only consolation was that it was normal for a number of young

### **Clearance Diving Team One**

Clearance Diving Team One first formed in 1966 and was the first Team to serve in Vietnam, albeit very briefly. This occurred when they were in Singapore, exercising with the RN Far East Clearance Diving Team. A request was received which resulted in the Team being flown to Saigon, where they worked with the USN at Nha Be from 31 May to 5 June 1966.

In the early 1970s the Team comprised 12 CDs - 2 officers and 10 sailors. This number was augmented by the services of a Sick Berth Branch sailor qualified in Underwater Medicine; initially when operating detached from base at HMAS WATERHEN and eventually full time on complement.

**The Team's responsibilities were defined as "All operational Diving, Explosive Ordnance Disposal, including Improvised Explosive Devices, in ships and establishments and below High Water Mark on the Australia Station".**

In 1974, the Team structure altered and complement was increased to 24. Later again, in 1994, a more radical restructuring took place, in line with the disposition of Fleet Units, so that today there are only two PNF Clearance Diving Teams - Team Four based at Fleet Base West, HMAS STIRLING, WA and Team One on the East Coast based at HMAS WATERHEN each with complements of approximately 60.

ladies to be sun-baking topless on the beach on Sunday mornings.

Our course began with basic air diving to refresh our skills in the **water, and lots of "run jumps"**. We were pushed and harassed constantly with not a second to spare. The minute the second dickey thought you had nothing to do; as when divers were in the water and all spare hands had finished recharging and lugging about the 220 cubic feet air cylinders that we seemed to use by the dozens every day, he felt it his duty to keep us busy. This usually entailed laps of the parade ground, speed dressing and undressing in both wet and dry suits, any number of push-ups, jumping over the side to get a handful of mud, or any other sadistic exercise that came into his devious mind. It was a relief to get into the water although even then you had no peace.

Some sort of physical task was usually required and a stream of

directional signals from the surface would have us on the move constantly.

There were a number of reasons for this assault on our minds and bodies. Firstly, it was a necessary part of being a Clearance Diver to be fit and able to respond immediately,



and secondly they wished to sort the "stayers" out from the "non-hackers" as soon as possible. They did not wish to waste an excessive amount of time on individuals who may drop out later in the course as things became tougher both mentally and physically. At the end of our first week, our joint Petty Officer instructors, 'Badger' Dall and Harry Bingham told us that a maximum of six or seven of us would qualify. We had 14 on the course at that time, so everyone

wondered who would go and who would stay.

I remember every Friday afternoon Badger would bring us one at a time into his cabin on our diving boat 'Tortoise', to read us our 'horoscopes'. I clearly recall on about the second or third Friday, four of our course mates emerged from Badger's cabin with very long faces. They had just been told that they would make better TAS rates than divers and were off course from that moment. There was no room for discussion or second chances; the instructor's word was final. As the numbers were whittled away, we that remained slowly gained in confidence that we might make it, me included.

Then disaster struck.

We had been night diving and finished quite late; so late that the duty driver had to make a special trip to Watson for our class. The driver was new to Rushcutter and was a surly 'A stroke' (acting) Leading Stoker who didn't have much time for Ord CDs. I always found it strange how certain branches of the Navy had it in for Divers. Perhaps it was jealousy or

envy, perhaps they knew they couldn't hack the pace, I'm not sure, however this turkey was one of those. In theory, when we traveled backwards and forwards to Watson, we were supposed to be in the working dress of the day; at that time shorts, shirt and long socks and shoes. That was usually fine, however at 11 pm and after a full day in the water; you are not inclined to worry too much about it, as most drivers usually had the decency to drop us off right outside our accommodation block. It was quite normal practice after night diving to travel back to Watson in bare feet. On this particular night our less than friendly driver decided that he would deposit us at the main gate where we would be under the eyes of the duty gangway staff as we left the bus. This meant shoes and socks on.

Unfortunately I was at the back of the bus and therefore last off after scrambling to get my shoes and socks on in the dark. As I had obviously kept him from his 'rack' for at least an extra 30 seconds, he came apart at the seams and accused me of being out of the 'dress of the day' and told me to report to the duty Petty Officer at Rushcutter in the morning. At that phase of our course we were required to be fallen in as a class on the parade ground dressed in the dreaded dry suits in time for 'Colours' at 0800. As the bus arrived

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late at about 0750, I decided that the sensible thing to do was to scramble into my dry suit, fall in for Colours, tell Badger what had happened and then report to the Duty PO.

As I flew off the bus, our stropy driver reminded me to report to the DPO as directed. I said I had to fall in with my class and would report immediately after Colours. I did exactly that, however when I reported to Acting Petty Officer Bill Burrows no more than 12 minutes later, he informed me **that our friendly stoker was charging me with "disobeying a direct order" and "silent contempt"; both very serious charges.**

Bill was a CD and explained that he thought it was a ridiculous charge; however he had no choice but to follow through with the formal charge. The seriousness of these charges meant that only the Captain could decide the outcome. Everyone told me, this could not have happened at a worse time. The Captain of Rushcutter (in fact a Commander, and non-diver) was hell bent on introducing formal naval discipline to Rushcutter, which was perceived by many outsiders as the Aussie version of McHale's Navy.

What these turkeys failed to realize was that Clearance Divers were the most disciplined sailors in the RAN; when it really counted. How could they be otherwise when they operated in such a hostile and dangerous environment where each man puts his life in the hands of his teammates every time he enters the water or handles explosives?

CD's were disciplined when it really counted and put little value in the pompous and arrogant 'parade ground' military discipline blindly adhered to and enforced by 'non-combatants'. However I digress. I knew I was in trouble when the Captain found me guilty and my punishment would be announced in front of the whole ship's company. At the 'Clear Lower Deck' I was almost in a state of shock. I was about to be sentenced in front of my peers and I was thinking, what had I done that deserved this, and worst of all, I thought my diving career had come to an abrupt end.

How could I possibly be allowed to remain on course? I stood at attention with cap in hand as the Captain, with all the formality of a hanging judge, announced that I was to be confined to '**cells**' for 5 days. A paddy wagon was waiting outside and I was locked in the back like the dangerous criminal that I was, and immediately taken to the cells at HMAS Penguin. As I left I could see from the looks on the faces of the ship's company that they were just as shocked as I was.

During my 5 days detention, I was confined in solitary in a cold windowless cell that had no furniture other than a raised timber board that I soon discovered was to be my bed. A smooth rectangular block of wood served as my pillow and I had one very thin blanket. Every morning I was brought my daily allowance of food and this comprised exactly 18 dry 'Sao' biscuits, and as much water as I wanted. They left me with several 30 centimetre lengths of 11 cm. diameter rope. By 'lights out' in the evening, I was required to have un-



picked this rope down to every single strand. The only reading material in the cell was a Bible.

Every evening during 'rounds' I was visited by the duty Medical officer and I had to stand at attention while he, dressed in his best Mess uniform and smelling strongly of port, asked me if I was fit and well. This was purely a formality, as I doubt he even heard my reply. I had developed quite a bad ear infection by about the second day and it took until the fourth day before anyone took any notice. Instead of having my ears checked that evening, the duty MO said I was to be taken the 200 metres to the hospital the following morning for a checkup. I think he was in a hurry to get back to his glass of port and the warmth of the Wardroom.

Next morning I was handcuffed and escorted by two naval patrolmen to the outpatient's section. It was soul destroying to be treated like a dangerous criminal. When I was taken in to see the duty Doctor, he proved to be a decent type and told the '*crushers*' that he was not going to examine anyone wearing handcuffs, and they were to remove them immediately. It was with great reluctance that they obeyed. Perhaps they thought I would thump them and abscond (the thought did cross my mind). After checking my ears the

Doctor reprimanded them severely for not providing treatment sooner as the infection was quite advanced.

During this nightmare experience, my biggest concern was that I would be removed from my CD course, not because I couldn't handle it or was not suited, but because of some pathetic little power crazy acting/LS. I had a lot of time to think during those 5 days and I learnt a valuable lesson about the Navy.

Discipline is a necessary part of the Military but unfortunately the system allows too many incompetent characters more authority than they are capable of handling. When I was released and taken back to Rushcutter, I was ordered to report immediately to my Course officer, Lieutenant Alex Donald. As I entered his office I braced myself for the worst.

To my great surprise, he was quite friendly and attempted to cheer me up by telling me that he had obtained his officer's commission after having spent time in cells as a young sailor. He gave me quite a fatherly talk and then told me to **"get the hell out of my office" and back to my class, and** prove to him that I had what it took to be a Clearance Diver. My instructor acted as if I had never been away. My cell time was not mentioned; however it was obvious to all that he expected me to swim harder, run faster, do more push-ups and generally outperform everyone else in my class.

I realized that I was being tested and had to shine. After about 2 or 3 weeks of steady pressure that would have been called bastardization anywhere else, Badger called me in for the weekly horoscope session. He told me that I had probably noticed (a bit of an understatement I thought) that he and the second dickey had been giving me a particularly **hard time since my short "absence" however he felt that I**



had suffered it gladly and with a smile on my face, as any potential CD should. He said because of my positive and determined attitude, I was once again just one of the class **and not to let him down because he thought I was "CD material". I left his cabin feeling about 8 feet tall with a** fierce determination to do everything possible to justify the faith that was being placed in me.

Another valuable lesson for me - CD's were made of much sterner stuff than the rest of the Navy and they would close ranks around their own.

As with most things in life, we usually only remember the good things, and training to be a Clearance Diver was in hindsight, a particularly interesting, demanding, exciting and challenging experience. The only downside at the time was the intense mental and physical demands placed on us, however we were all mature enough to realize that we were undergoing some very heavy character building.

**To become a CD you had to be able to "hack it" and have a very positive "can do easy" attitude. On the one hand it was** drummed into us how important it was to be part of a team, as your life would one day depend on your team-mates, yet on the other hand you had to have many of the characteristics of a loner. On the surface you were always part of a team, whether it was on a diving boat or in a pub, but when you were on the bottom of the seabed, cold and miserable in zero visibility, trying to locate or deal with a piece of ordnance, you were most definitely your own man. However it

was always comforting to know that topside there was a bunch of your mates whose sole interest in life at that particular moment was to keep you alive.

As the course progressed, we were gradually introduced to more and more complex items of diving equipment. Once we were considered proficient in one, we moved on to the next. The one constant however was building experience with the Oxygen Rebreather. This was the one potential killer that could sneak up on the unwary. Because it was our mainstream diving set, the UBA had applications other than attack swimming. By removing the small oxygen cylinders in the front and attaching larger twin cylinders of mixture gas to the rear of the harness, the set could then be used for deep diving and was then known as the CDDBA, or Clearance Diving Breathing Apparatus.

We had three gas mixtures available to us; 60% oxygen - 40% nitrogen, 40% oxygen - 60% nitrogen, and 32½% oxygen - 67½% nitrogen. Once again because of the partial pressure of oxygen in the mixture, each of these had a depth limitation. **60/40** had a maximum safe depth of 77 feet,

**40/60** - 132 feet, and **32½/67½** - 170 feet. Because of the different percentages of oxygen in each mixture, different flow rates had to be set on the reducing valve, and with the higher nitrogen content, the unused gas had to be exhausted through a relief valve in the breathing bag. This valve was designed to break up the exhaust gases into a steady stream of small bubbles. A necessity because this set was also used for the CD's primary role of Mine Disposal. As the

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magnetic and acoustic signatures of the set were quite low, it was relatively safe for the diver when dealing with Magnetic and Acoustic Mines.

Normally when diving with this set in the CDBA mode, we would wear boots instead of fins. These were heavy rubber boots with lead sole inserts and a quick release flexible brass rod. It was also normal to wear the dreaded "dry" suit with this set although it was an extremely lucky and rare diver who had a suit that was in fact dry. If you managed to get your hands on a dry 'dry suit' you treated it like a baby. Occasionally the CDBA was worn for deep swimming and normally this was done within the depth limitations of 60/40, or at less than 77 feet.

Soon we began to work-up for deeper diving. As CD's under training, we had to be proficient with all equipment and be able to perform effectively at all depths up to and including 180 feet. Weekly dives in the 10 man RCC kept us acclimatized to the effects of nitrogen under pressure. Nitrogen is a strange gas. It is inert, yet it affects the human body in an unusual manner. '**Nitrogen Narcosis**' generally starts to take effect at a depth below 100 feet, depending on individual tolerance, and it is very similar to drinking too much alcohol.

Non worked-up divers have been known to exhibit some very irrational and alarming behavior when under the influence of the '**Narcs**'. Fortunately any diver who dives to depth regularly becomes temporarily immune to the potentially

dangerous effects. I suppose a little like a seasoned drinker does to the intoxicating effects of alcohol. One of the amusing side effects of nitrogen is the way that it alters the human voice. At 180 feet, every diver's voice is several octaves higher than normal, although Helium produces a more pronounced Donald Duck characteristic.

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One of the not so amusing side effects of nitrogen is Decompression Sickness or more commonly known to the layman as the '**Bends**'. Depending on the severity, this infamous condition if not treated quickly and properly advances from severe pain in the joints, through loss of muscle control and coordination, to ultimately unconsciousness and death. The only effective treatment is to get the diver back under pressure as quickly as possible, and gradually, in accordance

with a very strict set of tables, stage him back to normal atmospheric pressure. The air we breathe contains 79% nitrogen and to my knowledge, the only useful purpose of this inert gas is that it acts as a diluent in our planet's atmosphere.

To the diver, this inert characteristic becomes a major problem. Briefly, the gases taken into the lungs are passed into solution and carried to the body tissues by the blood. There is a natural equilibrium as oxygen is consumed and carbon dioxide is given off from the cells. As the human body is subjected to increases in pressure, as in diving, these gases are compressed and absorbed in increasing quantities into the tissue. This '**on-gassing**' of the tissue will continue as pressure increases, or until equilibrium is reached. Nitrogen, being inert, cannot be used by the body in any way, so that





when the pressure is relieved, as in a diver ascending, the nitrogen must then have sufficient time to **'off-gas'** from the tissue and be carried by the blood back to the lungs where it is exhaled.

This creates the necessity for decompression after long and/or deep dives. The requirement to decompress can begin from dives as shallow as 40 feet. Saturation divers in the offshore oil industry often undergo many days of decompression after a long dive. The big problem for divers arises when the pressure is relieved too quickly, as in ascending too rapidly and failing to adhere to the decompression tables. The nitrogen still remaining in the tissue and the blood begins to expand and coalesce into tiny bubbles. In severe cases the blood actually appears to **'boil'**. These bubbles collect in various parts of the body and continue to expand and grow as more nitrogen is released from solution by the decreasing pressure. If these, albeit tiny, gas bubbles are not rapidly reduced in size by recompression, to allow the necessary time for **'off-gassing'**, irreparable tissue damage may result. The interesting thing about decompression is that there is no set formula. All the tables in use today were arrived at by trial and error and many divers have died in the process of developing safe tables.

I remember an instructor once telling me that to be a good diver, you started by being a 1st class seaman. I have always held that to be true. A diver who could not apply

sound seamanship skills when working under the worst of conditions was of no value to his mates or the Navy. As a consequence our instructors went out of their way to ensure that we dived in the worst places that they could find.



The darker the hole, the stronger the current and the deeper the mud, the more they liked it. They told us often enough that we did not need to see what we were doing, as we had five eyes on each hand. By the second or third month we were wondering if there was such a thing as good visibility, and perhaps it was against Navy regulations to dive in clear water anyway. Anything over about 3 feet was considered by us to be great **"vis"**. **It obviously all had its purpose as we realized** that we needed to become comfortable with working under the worst possible conditions while still in the relatively safe and highly supervised environment of the Diving School.

Later, whenever diving in really good visibility, I always had a feeling of being half naked. Bad visibility feels a little like being cocooned in a protective blanket.

Our initial deep dives were done in the deepest and blackest hole in Sydney harbour. It was only about 120 feet deep however in broad daylight it was as black as a **"goat's guts"**. **We gradually progressed to our deeper air** dives outside Sydney Heads. Using the diving boat's depth sounder, we would find bottom as close as possible to 180-190 feet, lower a 56 pound concrete shot over the side to 180 feet and start diving while the boat drifted, as it was far too deep to get any small boat's anchor to hold.



I remember our first dive off the Heads on a lovely calm sunny day. Jim Henry was '*first dip*' and he took a sealed empty protosorb tin with him to the bottom. When he surfaced he held it up for all to see. It had imploded under the additional pressure of 80 pounds per square inch it had been subjected to when it accompanied him down the shot line. Jim had said he had actually reached the bottom, but when it came time for my dive, the boat had been drifting seaward. When I arrived at the shot, it was suspended perhaps 30 or 40 feet from the clean sandy bottom. I clearly remember the cold and eerie deep blue half-light. The warmer colours of the spectrum are completely filtered out at that depth and everything takes on a dark blue shade. It left me with the feeling that this was probably the loneliest place on earth. All sensations were slightly intensified by a mild touch of the *Narcs* and I wanted to stay there for much longer than our 11 minute '*bottom time*' allowed. Our first deep ocean dive was definitely a very exhilarating experience.

For decompression purposes, all dives are timed from when leaving the surface until leaving the bottom, so a rather rapid descent is called for if you wish to spend any time at all on the bottom. A slow descent can result in no more than a bounce dive if you wish to avoid lengthy decompression. Ascents are more controlled and a rule of thumb for the diver is to follow his smaller bubbles towards the surface.

We conducted *stops* in the water from a '*lazy shot*'.

This is another heavy shot that is lowered from the boat to a pre-determined depth, depending where the *stops* are to begin. When the diver arrives at the shot, he signals the surface, from where his decompression is totally controlled by the diving supervisor topside. At the set stoppage time intervals, the shot is raised to the next shallower depth, usually in 10-foot increments, with the diver only required to hang onto the shot as if it were his latest girlfriend.

As we started to become more at home in the water, emphasis was shifted towards actually being able to perform useful work underwater. We learnt to use underwater oxy-hydrogen cutting equipment and some of us actually mastered the difficult art of underwater welding. In between diving and constant physical exercise, we also had our regular share of classroom work. Diving theory had to be mastered as did underwater medicine. Boyle's law, endurance and maximum safe depths formulae still bounce around in my head to this day. The ability to be able to maintain every piece of equipment in the CD inventory had to be learnt in meticulous detail. The possible consequences of poor maintenance were painfully clear to us. We had all been issued with personal items of diving equipment and

were individually responsible for their maintenance and safe operation. As our lives depended on it, we all took this obligation very seriously.

With the bulk of the diving phase almost over, it was time to become adept at some of the other areas of expertise expected of a Clearance Diver. These *other areas* revolved around the use of, and the disposal of, high explosives.

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## NEWS

### Clark Magnet teacher, sheriff's volunteer aids in Conception tragedy recovery efforts

<https://www.latimes.com/socal/glendale-news-press/news/story/2019-09-13/clark-magnet-teacher-sheriffs-volunteer-aids-in-conception-tragedy-recovery-efforts>

SEP. 13, 2019 By ANDREW J. CAMPA

Clark Magnet High School science teacher Dominique Evans-Bye received the sort of call she was well-trained to handle but never expected on Labor Day.



**Clark Magnet High School environmental geographic information science teacher Dominique Evans-Bye, here diving near the Los Angeles River last September, assisted in the Conception boat fire rescue and recovery efforts last Tuesday. Evans-Bye operated an underwater remotely operated vehicles near Platt Harbor, right off Santa Cruz Island. (File Photo)**

That morning, Evans-Bye was contacted by the Ventura County Sheriff's Department, for whom she has served as a volunteer public safety diver since 1992, to help in the rescue and recovery efforts for the worst maritime disaster in the state's history.

Earlier that day, [34 people died in the Conception boat fire](#) investigators believe [broke out around 3:15 a.m. off Santa Cruz Island](#), about 32 miles southwest of Ventura.

"My main motivation for responding to the Conception tragedy was to help bring closure to the families of the victims," Evans-Bye said. "I can't imagine how devastating it must be to lose a loved one in an accident like this."

Along with diving, Evans-Bye has served as the Ventura County Sheriff's research-and-development officer for almost a decade, while she is also a skilled operator of underwater remotely operated vehicles or ROVs.

Her talents were put to use last Tuesday when Evans-Bye spent most of the day aboard a sheriff's boat operating a 25-pound, \$100,000 VideoRay Pro 4 ROV utilized in her geographic information science and mapping classes at Clark Magnet.

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Clark Magnet graduate Shaye Holladay McCarthy enrolled in Evans-Bye's geographic information science classes the past two years and said the **teacher's efforts provided motivation.**

"After going on a trip where we cleaned up the L.A. River a bit, that definitely inspired me to want to take part in other cleanup days, especially the ones at beaches to **protect the ocean,**" Holladay McCarthy said.

This time, however, instead of seeking sea pollutants or oil, Evans-Bye was searching for human remains and ruins.

"There were still people missing when we responded, and they wanted to make sure that no one had floated away down current," Evans-Bye said. "Between the divers and the ROV, we covered it thoroughly and just determined that no



**Clark Magnet High School music teacher Dominique Evans-Bye was contacted by Ventura County Sheriffs, for whom she has served as a volunteer public safety diver since 1992, to assist in the rescue and recovery efforts for the worst maritime disaster in the state's history. Earlier that day, 34 people died in the Conception boat fire investigators believe broke out around 3:15 a.m. off Santa Cruz Island, which is about 32 miles southwest of Ventura. (Los Angeles Times)**

one was in our search area."

Evans-Bye was a part of a large team from Ventura County that helped in the efforts by Santa Barbara and Los Angeles county sheriff's departments.

Evans-Bye said, in all, there were 16 Ventura divers along with the ROV working that day. Her area included depths of 40 feet near Platt Harbor, right off Santa Cruz Island. Previously, Evans-Bye had worked on hundreds of rescue efforts in Lake Piru, the Channel Islands and Point Mugu, having found bodies of unlucky night watchmen, retirees and [teenagers](#).

On Tuesday, she found nothing, though she said Ventura divers uncovered so much charred wood they designed their area a "debris field."

The tragedy, which



claimed several professional divers and sea lovers, was difficult for Evans-Bye. "It's really sad because the dive community is such a tight, close-knit community," she said.

That sense of community led Evans-Bye to Ventura on Tuesday.

"If I can bring any measure of comfort by participating in recovery efforts," she said, "then I am very willing to take time off work to do so."

## [Tocantins Fire Department Invests In Safety Dive](#)

09-13-2019

Military personnel of the Tocantins Military Fire Department (CBMTO) and members of invited institutions, have been participating since August 5, 4th class of the Public Safety Scuba Diving Course (CMAUT), simultaneously with the Supervisor Course and Course of Diving Instructor.

Since 2009 CBMTO has been among the pioneer corporations in the standardization of internationally certified diving courses.

Conceived by today's Major Jairon Domingues Soares, one of the pioneer divers in the state of Tocantins, CMAUT lasts eight uninterrupted weeks, where students participate in intense physical and scuba diving training



and practice, as well as an extensive workload of theory classes in the classroom.

The CBMTO Diving Course is certified by an international entity specializing in public safety, training professionals from around the world, adapting diving to search and rescue techniques that apply to submerged environments.

Among the body of instructors are:

- **Major Jairon Domingues Soares** - One of the pioneer divers in the state of Tocantins;
- **Captain Rafael Barreto de Menezes** - Commander of the Independent Search and Rescue Company, diver since 2011, with extensive experience in rescue and search dives;
- **CBMPE Reserve Colonel Josualdo Rodrigues de Moura** - Instructor with broad national reference, having in his portfolio more than 6,000 student certifications, in addition to almost 10,000 registered dives.
  - Based on continuing education during CMAUT activities, other divers who are already operating operational activities are also improving six military personnel being accredited on the Supervisor Course and one on the Dive Instructor Course.
    - Scheduled for completion in early October, divers will graduate



Photo: Alex Bezerra Barros

with several certifications, including:

- Open Water Diving, Advanced Diving, Rescue, Search and Recovery , Distress Rescue
- Night, Restricted Visibility
- Nitrox, Dry Suit (for polluted or very cold waters)

With all these certifications in the curriculum, the military will be able to dive in various environments with depths up to 40m, prepared for the most varied situations involving Public Safety Diving in order to provide a better response to society.

## Officers, Firefighters Dive Into Training

<https://www.duluthnewtribune.com/news/government-and-politics/4669826-Officers-firefighters-dive-into-training>

Sep 19th 2019 Written By: Shelley Nelson

### When funding dried up, so did Superior's dive team. Now they're back in the water

A familiar team is rebuilding after a few years in hiatus to help fight crime and protect public safety around waterways.

The joint dive team made up of members of the Superior police and fire departments and the Douglas County Sheriff's Office is back in training with funding through Wisconsin Emergency Management.

"We already had a dive team; we put in moth balls quite a while ago," Superior Police Sgt. Chris Kirchoff said. "The state realized ... we need regional dive teams. The reason we got it started was federal grants, and that money dried up. Now they



**John Lundberg emerges from the Superior Bay off of Barkers Island during a training exercise with the Superior/Douglas County Dive Rescue team Monday, Sept. 16. The team has recently reformed after getting its funding back. Most of the divers are new to the team. (Jed Carlson / [jcarlson@superiortelegram.com](mailto:jcarlson@superiortelegram.com) )**

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realized again that it's a good idea to have dive teams."

The funding helped pay for new equipment and training, Kirchoff said.

Four members of the original team remain, and eight new members joined the team. With the funding through Wisconsin Emergency Management, new members were able to get their basic public safety dive training in this summer, said



Superior Police Capt. Tom Champaigne, co-commander of the team and one of the original members. Now they continue to expand on that training. After all, public safety diving is not the same as recreational diving.

“With recreational diving, you’re trained to dive with a partner,” Champaigne said. “In public safety diving, there is one diver in the water at a time.” He said the equipment is different too, to allow divers to communicate with divers not in the water. Public safety divers use full face shields and hard hats when they can rather than a regulator and a mask. The need to be able to communicate, are tethered with a



**The Superior/Douglas County Dive Rescue Team runs a training exercise from the pier on Barkers Island on Monday afternoon. The group first recovered evidence for an active case, then trained.**

(Jed Carlson / [jcarlson@superiortelegram.com](mailto:jcarlson@superiortelegram.com))

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safety line and can get air from a surface supply.

“When I dive on vacation, the gear is different than what I wear at work,” Champaigne said. This week, the dive team got a chance to train in blackwater search techniques while searching for a cellphone in connection with an actual case.

The phone had been thrown in the water off Barker’s Island and divers were successful in recovering it,

Champaigne said.

Among the things the original dive team has been able to recover was a safe, stolen jewelry, firearms and even a Porsche that had been stolen in Superior 20 years earlier, Champaigne said.

“We’re starting out baby steps,” Kirchoff said. “We’re not quite where we used to be, but we try to train once a month and it’s joint training so we all get together and train together ... eventually, we’ll be back up to where we used to be.”

New members still have to be trained for diving in a dry suit, which protects divers from the cold and pollutants that could be in the water, Champaigne said. He anticipates one more outdoor training session before ice starts to form in November, at which time the team will train in pools. He said

while the team won’t be ready for ice dive training by then, it’s another step the team will build on over time.





**Patrick Deignan, left, is tethered to Alan Clarke while diving in the Superior Bay off of Barkers Island during a training exercise with the Superior/Douglas County Dive Rescue team on Monday afternoon. Clarke gave directions to Deignan through a communication system.**  
(Jed Carlson / [jcarlson@superiortelegam.com](mailto:jcarlson@superiortelegam.com))

Kirchoff said it will take a couple of years before the full team is fully trained.

The joint dive team in Superior is now part of Wisconsin Alert, one of five regional teams Wisconsin Emergency Management can call on to respond in major events.

Champaign said it doesn't even have to be an emergency. If the president were coming to the Duluth Entertainment Convention Center, the Secret Service could call on the team to perform a search of the waterfront, he said.

But if they are called into action, Champaign said they will be ready. "

"We're capable now because of the four members,"



**Patrick Deignan goes over directions before submerging into the Superior Bay off of Barker's Island during a training exercise with the Superior/Douglas County Dive Rescue team Monday, Sept. 16. (Jed Carlson / [jcarlson@superiortelegam.com](mailto:jcarlson@superiortelegam.com))**

"Champaign said. "You need multiple divers on the topside for support."

## **Story Next Door: AFD Rescue Team One Of A Kind In Oregon**

[https://www.gazettetimes.com/news/local/story-next-door-afd-rescue-team-one-of-a-kind/article\\_b02c72ab-f832-5db3-aa20-5db6c95979a9.html](https://www.gazettetimes.com/news/local/story-next-door-afd-rescue-team-one-of-a-kind/article_b02c72ab-f832-5db3-aa20-5db6c95979a9.html)

Sep 25, 2019 CAITLYN M. MAY Albany Democrat-Herald

John Zimmerman has been clocking into work at the Albany Fire Department for 24 years. But he remembers some of the worst days on the job, when he knows there's someone in a car submerged underwater but he can't reach them.

Heartbreaking, he calls it.

Luckily for Zimmerman — and for those who find themselves underwater in a car — **that's no longer an issue in Albany and the surrounding areas.**

The Albany Fire Department team is the only one in the state certified for the Rapid Diver System, which allows anyone, trained as a diver or not, to use special front-seated equipment for water rescues. And while the equipment and certification have come in handy this summer with a higher-than-average call volume, Zimmerman and his 26-man team said what makes it all work is teamwork.

**"What we have is something unique,"** said Zimmerman, the deputy water team director.

The team has been in operation since the 1980s, but 10 years ago, the department purchased the Rapid Diver System, increasing its services. **"Instead of a scuba tank, this sits on the front of a person,"** Zimmerman said.

Dive team leader Tim Verdun said the equipment has been invaluable: **"It allows us to extend our reach. You don't have to be a diver. If there's a vehicle underwater, we have the ability to use this."**



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*Black Laser Learning*

In the last year, the team has extended the use of the equipment by earning certifications in public safety diving and increasing the number of members on the team who are certified in different areas. Their credentials now read like an alphabet soup: PADI, NFPA and DPSST. But it all boils down to having more certifications from state agencies that allow for more detailed rescues and using the new equipment to make water

recreation a bit safer. According to Verdun, 85% of the dive team is now qualified to deploy the Rapid Diver System.

**"Albany Fire is the first and only team in the state currently to have attained such credentials,"** he said.



**Albany Fire Department Lt. John Zimmerman prepares to go under to train with a Rapid Diver system while training officer Tim Verdun waits at the end of a safety line.**  
Mark Ylen Mid-Valley Media

It means the team often gets calls outside of Albany.

**"We get calls all year long,"** Zimmerman said. **"This summer has been unprecedented. We were getting, I would say, one every third day."**

The team attributes the higher call level to longer periods of high temperatures this summer, but also to a case of having a good resource for beating the heat.





**Diver Trevor Daley helps Albany Fire Department Lt. John Zimmerman with his rapid diver system.  
Mark Ylen, Mid-Valley Media**

“Areas are gaining attention and people are coming from Portland and Eugene,” Verdun said of swimming holes along the Willamette River in the mid-valley.

“There’s a misconception because it’s a slow-moving river and not deep.”

The danger, though, is still very real.

The team responded to a call this summer, assisting another agency. The Albany team arrived on scene about halfway into the call after someone went under the water and didn’t come back up.

“The hazards are real,” Verdun said. “It was a sunny day with low water.”



**Zimmerman maneuvers a water craft on the Willamette River while Alex Chang places a "victim" in a strainer for teams to attempt to rescue. Mark Ylen Mid-Valley Media**

The team couldn’t save the swimmer that day, but team members say that’s an unfortunate reality of the job — one that demands a certain type of mindset.

“When you’re part of the rescue team, it’s a little more,” Verdun said.

“You come in, get mentally prepared, do what you have to do but then also take care of the training you need to be on the team and know you might get that call.”



**[Technical Rescue Magazine](#)**



# PSDIVER WORKSHOPS



## **PSDiver A.S.E. Workshop** ***Automobile Subsurface Extrication***

Learn various methods of removal from a Hasty Recovery when there is a chance for rescue, to rigging options for tow truck hookups and air bag lifting.

[Click on the image to launch video!](#)

When a vehicle goes into the water, it is rarely an accident. Occupants are not always able to escape; sometimes they are **purposefully prevented** from escaping. If the entry is witnessed and there is a potential for rescue, this workshop includes how to perform a **Hasty Recovery** when recovery of the entire vehicle might be quicker that attempting to extract victims from the vehicle underwater.

If rescue is not an option, the workshop offers a range of methods to bring the vehicle to shore. Methods include utilizing traditional tow hooks and equipment to air bag rigging and deployment to lift the vehicle and pulling it to shore by hand.



It can be difficult for teams to learn these or similar techniques. Teams may only have the opportunity to perform these techniques on actual vehicle recoveries and that training potential for the team is almost always lost.



### **We Bring Our Own Car!**

Depending on your location, we can solve that problem. We bring a specially designed and environmentally clean vehicle with us.

In the PSDiver ASE Workshop, teams will learn how to **choke, cinch and seize** ... Rigging and Lift Bags. This is an extraordinary team, department or regional training program.

Date, Location, and additional details and information will be posted on all our social media sites and [PSDiver.com](http://PSDiver.com)

**We are working to take away your excuses and understand the problem of being a volunteer and self-funded. With funding provided by corporate sponsors, we have kept the cost of our workshops extraordinarily reasonable for ALL!**

# **PSDiver SURVIVAL Workshop**



Designed for the individual diver, this workshop teaches a series of skills designed to build confidence and comfort underwater when task loaded and low or out of air. We call it **"building panic resistance"**.

This program is extraordinary for ANY diver; recreational or PSD!

We are not teaching divers how to dive. While we are not teaching any *dive team* concepts or skills, we are teaching a new perspective on risk management, skills and training proficiency. We even introduce methods of equipment configuration to better a diver's efficiency and muscle memory.

This workshop focuses on the individual diver, not the search and recovery of anything.

If you were entangled in zero vis, at depth and no longer had



access to air, what would you do? Do you have the skills and training to free yourself before you pass out or inhale water or drown?

If you are tangled, out of air or unable to get air and at depth, how long do you have to make a decision, perform an action or multiple actions before you die?

## **5 SECONDS?**

Would 5 more seconds make a difference? What about 10 or 20 seconds or even a minute more?

If in just 5 additional seconds, you could solve the problem and save your life, what would those seconds be worth to you? What would you be willing to do to gain that time?

The PSDiver SURVIVAL Workshop is focused on building just those few seconds.

We teach skills and techniques that most divers have never seen. We will show you how to hone your skills to be more proficient and deliberate with your movements. Our goal is to extend your capabilities when the worst of conditions exist, and afford you the potential to survive.

This is not a "sharks and minnows" program or a training agency specialty. It is the PSDiver SURVIVAL Workshop.

Not all emergencies underwater are going to be life threatening but some will. The PSDiver SURVIVAL Workshop will teach you how to turn some of those emergencies into manageable inconveniences.

**For announcements, schedules and locations of the PSDiver SURVIVAL and ASE Workshops, Follow our [PSDiver Monthly Facebook Page](#) Join our Facebook [Public Safety Divers - PSDiver Group](#) Or visit our web site [www.PSDiver.com](http://www.PSDiver.com).**

**If you would like information on becoming a sponsor or hosting a workshop, email Mark Phillips at [Mark@PSDiver.com](mailto:Mark@PSDiver.com).**







## 2019 PSDiver Workshop Sponsors

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YOUR DIVE SAFETY ASSOCIATION

If you would like information on becoming a sponsor or hosting a PSDiver Workshop, or becoming part of the PSDiver Magazine team, email Mark Phillips at [Mark@PSDiver.com](mailto:Mark@PSDiver.com).

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## Resources

### DAN: Divers Alert Network - Scuba Diving and Dive Safety Association

Medical Information Line 1-919-684-2948  
24-Hour Emergency Hotline 1-919-684-9111 to help divers in need of medical emergency assistance for all incidents

### ChemTrec – Haz-Mat / Chemical Spill Information 1-800-424-9300.

### Centers for Disease Control and Prevention

1600 Clifton Rd. Atlanta, GA 30333, USA  
800-CDC-INFO (800-232-4636)

### National Suicide Prevention Lifeline

Call 1-800-273-8255 Available 24 /365

### NAMI: National Alliance on Mental Illness

Help Line 800-950-6264

### First Responder Support Network



The mission of the First Responder Support Network is to provide educational treatment programs to promote recovery from stress and critical incidents experienced by first responders and their families.



### THE CODE GREEN CAMPAIGN

We call code strokes, code STEMIs, and code trauma. It is time we called a code alert on our mental health.

### Crisis Resources



### IAFF RECOVERY CENTER

Treatment for successful recovery from substance abuse, PTSD and other co-occurring behavioral health



