



# PSD Diver Monthly 102

Volume 8 \* Issue 102

March 2013



**VIRGINIA PSD  
TEAMS  
RESPOND TO  
PSD FATALITIES**

**Water  
Recovery  
Operations  
Course at RCC**

**MINI Series of  
Sonar Articles  
PART 2**

By Mark W Atherton ©

**BCD RECALL**

**OXYGEN TOXICITY &  
Diving**

**FOUND ON THE WEB**

**Continuing Education**

## **Greetings –**

A number of things happened during the time between the last issue came out and now including a couple of memorable events – for me anyway.

I was watching TV with my daughter when the space shuttle blew up. I was watching the morning news waiting for the next shift to arrive at the fire station when the World Trade Center was attacked. I was listening to news radio when it was announced that we were going to war in the Middle East. Yesterday I was working on the internet and saw the first report of the bombing at the Boston Marathon.

This editorial space is reserved for me each month and usually I have something worthy to share or a rant to give that has information I think you should be aware of. Since the inception of PSDiver and PSDiver Monthly, I have kept things as unbiased as possible and will continue to do so – except for now.

I do not consider myself a Democrat or Republican. I am not a Liberal or Extremist or a Tea Partiest, Green Partiest, Pacifist or whatever the opposite of pacifist is.

I am an American. I am a Texan. I am an independent thinker who refuses to be labeled and am able to glean information from a variety of sources and make my own credible decisions. I do not want or need government intervention in my life while recognizing government can be a good thing when it is focused on helping the people it governs and does not focus on helping itself.

I believe that those who run our country should participate in the same Social Security system, the same government pension plans and the same retirement plans

that the rest of us have to use. I cannot even imagine how we the people allowed our elected officials the ability to give themselves a raise, approve the ability to retire at their full salary for life after serving a single term, have unlimited and provided healthcare, security guards and all the other perks we hear about now.

I believe if you are out of work we as a people should help you if you want and need help. But I believe if you are capable you should be willing to work when work is available. I also believe that the government could reinstate a national workforce for those who cannot find work and let them earn a decent living doing public projects. Nothing should be free. Free has no value. Free has no worth. Free commands no respect. Free is ALWAYS taken advantage of.

**If you don't like the job offered, don't take it. Don't expect much in the way of financial assistance either.**

And by the way, if I have to take a drug test to work and earn the money that is taken from me in taxes so you can have a free place to live, food cards provided to you, utility bills paid for you, and all of the other perks you get – you should have to pass a drug test too.

I think we should have the strongest military on the planet but I do not believe we should allow ourselves to be forced to ever show our strength. I have been fortunate to travel to a variety of countries overseas and witness firsthand lifestyles and living conditions.

Amazingly enough, the majority of them are just like us. Content with what they have and living life the way they were raised to live life. For some it is a hard life but that is only apparent if you have something else to compare

to. I have traveled to France, Greece, Egypt, China, Japan, Spain, Italy, Switzerland, Germany, United Arab Emirates, Turkey and a few more and not once did I ever meet a local who was ready to kill me because I was an American. I am sure they exist but suspect that those individuals may be more aligned to the same kind of crazies we have here in the USA.

I have no problem with our government sending out foreign aid. I just wish they would send it to those in desperate need because their own government could not handle the consequences of an event that caused the need. Once the immediate need is met their own government should step in and take over because our government assistance ended and everyone LEFT. But if private organizations wanted to continue and have permissions and the protection of or from the local government, they should go.

I do not think our government should send continued aid, supplies, money, arms, goods, etc. to ANY country that has a political power base that rules their country and is a sworn enemy of the United States. If you have oil we need, and we have wheat you need then a bushel of wheat should cost the same as a barrel of oil. I will walk or ride a bike if I cannot afford gas. They can eat their oil.

If it is just too difficult to control our borders, to have fair trade practices with countries that have very low standards of living and wages to match – quit buying their stuff. Quit sending them the raw material they need. I will wear socks with holes in them, shoes till they come apart, shirts until they wear through; I will drive my car until the tires are bald and become Maypops. I will combine my families households into one to help with bills and buy food if necessary IF the gain is I will be able to

once again BUY AMERICAN and our government works to rebuild what once was..

Close the borders. IF we are going to really be serious, close them. No one gets in unless they are an American citizen or have a preapproved special need. If you get to come, we speak English here. Learn our language if you want to stay.

Today I heard that Senator Kerry stated Japanese students wanting higher education are afraid to come here. Apparently they are afraid of being shot because we **have such lax gun laws. ...Really. If it looks like bullshit,** smells like bullshit, I do not have to taste it to be sure. I am a Life Member of the NRA, the Texas Rifle Association and an NRA Firearms Instructor for Pistol and Rifle as well as a certified Range Master. I believe the Second Amendment affords me the right to protect myself and my family. Can you imagine an armed conflict with ground forces coming from Mexico into Texas? Mr. Obama, we got it. We will let you know if we need any help. I also have no problem with Texas reverting back to an independent republic.

You want more gun control? Because a couple of nut jobs went amok? I am both a parent and grandparent and I cannot imagine the emotional pain the families of those who lost their children must feel. But for our own government to USE those incidents to further political agenda – particularly gun control is reprehensible. It has become such a transparent effort that it is hard to believe our elected politicians even acknowledged the efforts. You can believe in what you want and if you believe there should be the kind of gun control that is being discussed I am ok with that. But I do not agree with you. There could be a compromise between us somewhere, I am a

reasonable person. But you should do some research on things like – 911 response times, statistics on robberies, home invasions, rape and murder. Yep – the bad guys use guns most of the time. But while you are researching you will likely run across statistics of crimes that were stopped because of the use of a gun. If gun control measures require guns to be confiscated or make them illegal or cause them to be registered and taxed – which of the two gun owning groups mentioned above will most likely comply? And the other?

We were attacked on American soil in World War II both in Hawaii and perhaps even Alaska. We have been attacked a number of times by terrorists or terrorist groups. We have had our embassies over run and our people executed. And yesterday we were attacked again.

I think it is time for us to warm up the big boot and kick **someone's ass. We do not have to take your country, we** probably just need to quit supplying you with goods or protection or food. We already know who and which countries are our friends, who is using us for political or financial gain without any intention of working with us, and those who have hate campaigns towards us because we are who we are.

If we kick the wrong ass the first time, it will still probably be deserved. Eventually we will get the right one OR the people in those countries – the people – will belly up and allow their governments to treat them like peasant slaves or they will take their country back and fight for a better life. If that happens, I think we should watch from a distance, encourage their leaders and IF there is a genuine movement THEN we should consider how we can help them without doing it for them.

But now – after what happened in Boston yesterday – enough is enough. I do not care what your political position is or your religious affiliation. If we disagree, then we can disagree. If your version of Heaven is different from mine I am happy for you. If your version requires you to commit acts of terror and kill innocents then we certainly do disagree. The only way we will truly know which of us is right is for us to die and see what happens next.

### ***You First.***

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If I have offended I apologize. I am angry and have few outlets to rant. This editorial space gives me that and if I took advantage of your time, I am sorry. I can only be up front and tell you it may happen again down the road. The last time I went this deep was in 1990 during the election campaigns for the next Texas Governor. Full page – **Local newspaper. ...They even *paid* me.**

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My world is soon to change here. After almost 34 years as a career firefighter I am finally retiring. My countdown clock is counting down to May 1, 2013 11:30 pm. When it goes to zero, I will be retired.

With 4 grandkids here at home, the magazine and the training programs I am developing – I am starting to wonder if I should have stayed at work – just to have a place to rest.

Dive Safe –

Mark Phillips  
Editor / Publisher  
[PSDiver Monthly](#)

# Special to PSDiver

## MINI Series of Sonar Articles PART 2

By Mark W Atherton ©

***"I don't want to know about beam angles or background reverberation! And, why are you spending time teaching us about data recording? We don't intend to do that. All we want to do is find 'Aunt Mildred,' recover her and go home! In a day and a half of your sonar training I haven't learned a damned thing!"***

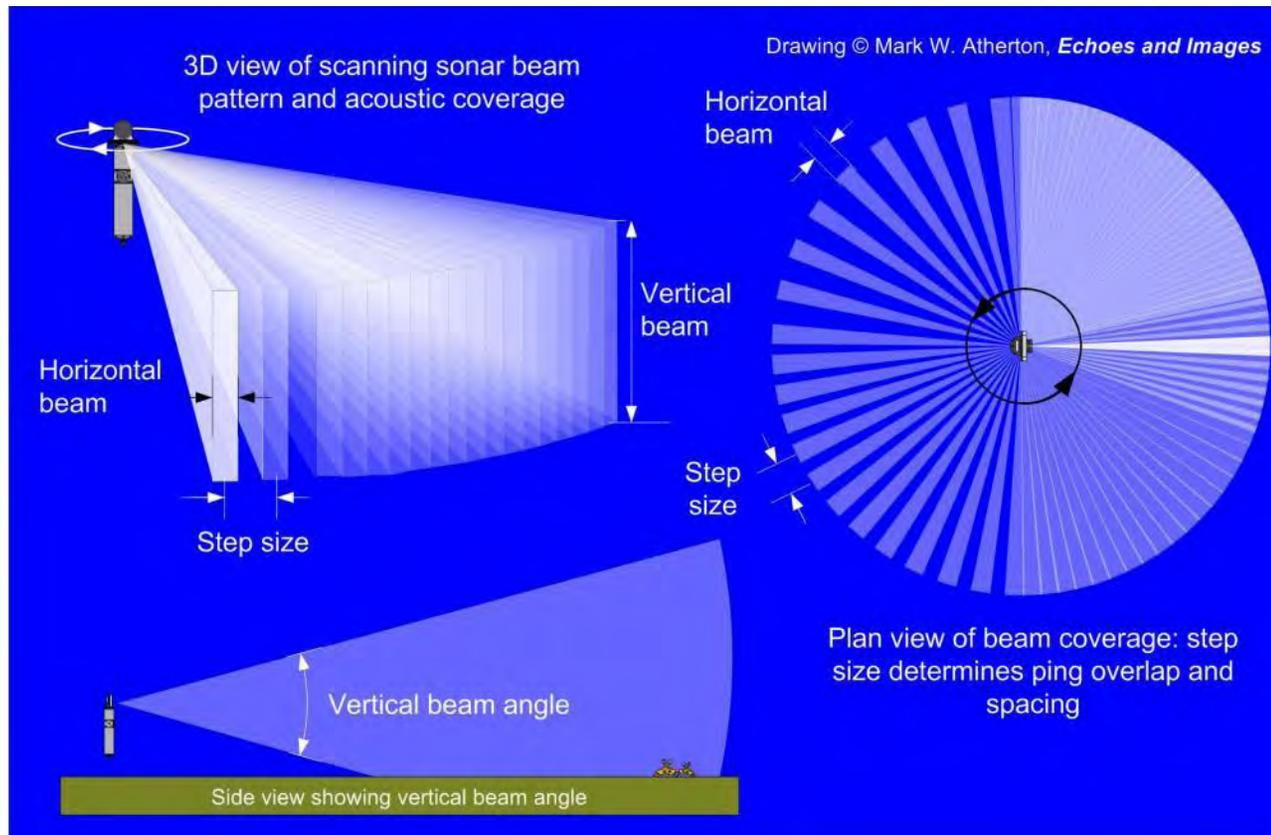
In 27 years of teaching underwater acoustics to search and recovery teams, that statement - from a senior police officer - hit me like a ton of bricks.

The officer was right! I couldn't teach him anything; he came to class with the perception you

toss the side-scan towfish into the water, turn it on and 'Mildred' appears. Why waste time learning anything else?

I wish it were that easy.

Anything underwater can be found. It takes the right equipment, operators that understand how to use the kit and interpret that data *plus* time and money (often a great deal of time and money!). And, to be honest... a bit of luck always helps. Oh - and one more thing; you have to look in the right location. It is hard to find something that isn't there.



If we take luck out of the equation, the best sonar operators are ones that know how the equipment works and understand the fundamentals of underwater acoustics (those discussed in Part 1, PSDiver Monthly Issue 99). In addition, the operator needs to

Figure 1 Typical Scanning Sonar Beam Coverage

know sonar coverage at any given range.

Call it what you like; it is basic geometry! This phrase is my mantra: **"When in doubt, draw it out!"** If it makes geometric sense, it makes acoustic sense!

This article focuses on sonar coverage. Finding a large target is easy. The problem is most of what SAR teams look for are bodies, evidence, small boats, cars and planes. In the

scheme of things, these are not particularly large targets.

### Beam Angles and Acoustic Coverage

The moment the transducer *pings* the transmitted

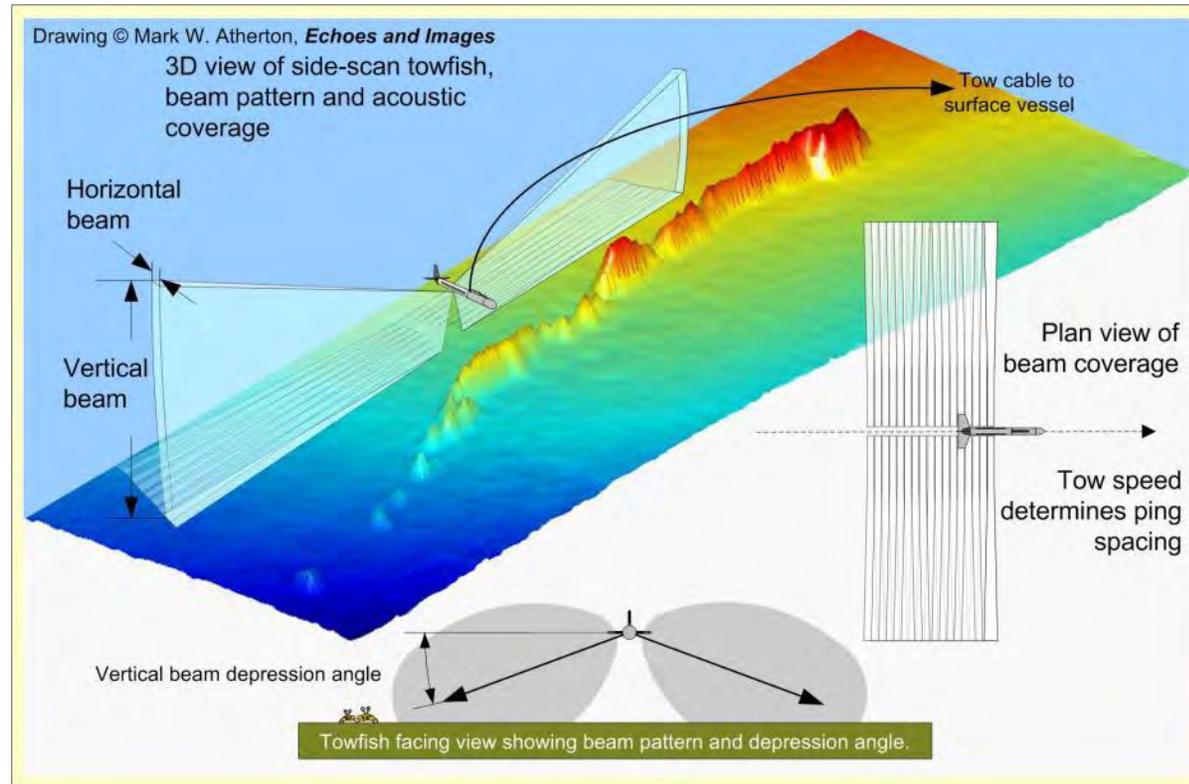
#### Tricks of the trade:

**Remembering formulas and quickly calculating transverse resolution are difficult. There is an easy way to determine the geometric spreading of the sonar beam in the transverse and vertical planes: simply remember the number 1.74.**

**For every 1°, the acoustic beam expands by 1.74 units per 100 units of distance. If the beam angle is 1°, the transverse resolution is 1.74' at 100' range. At 100m distance, the coverage is 1.74m.**

**For a sonar with a 0.5° beam angle, the 1.74 is halved for 100 units. Or, at 50' range the 1° beam footprint is also half of what it is at 100'. Whatever units used for the range must be the same for the transverse coverage.**

**In the vertical plane the beam is much wider, typically 30° to 60° - depending on whether it is a side-scan or scanning sonar. For 30° the vertical coverage of the beam is 30 X 1.74 or 52.2 units.**



**Figure 2 Typical Side-Scan Sonar Acoustic Coverage**

It is analogous to a lit candle in a dark room. At any given radius from the candle, the light energy is equal; however, as you move away, the amount of light

acoustic energy begins geometrically spreading over an area proportional to its beam angles in both the horizontal and vertical planes.

The farther the pulse travels from the transducer, the wider its coverage becomes - the sound energy on a target weakens the farther from

the source it's located.

proportionally becomes less. At some distance, the amount of light is so weak it no longer is sufficient to illuminate an object. The same happens with sound energy. The sonar operator must consider how this geometry affects the sonar record, and in particular, the sonar's sensitivity to detect a target's echo.

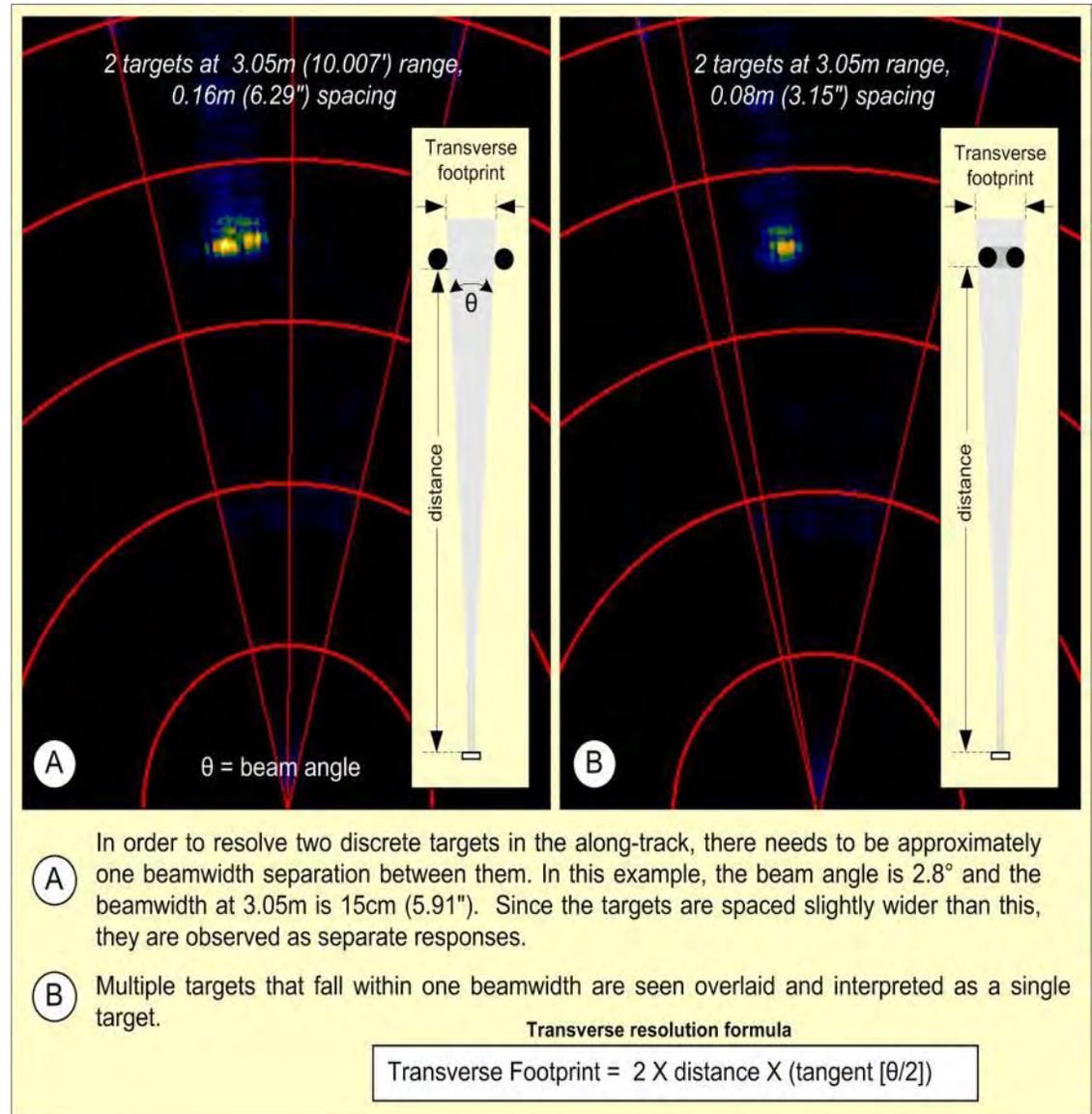
If two targets fall within one beam width, the sonar cannot discriminate them as being individual responses. As shown in the Transverse Resolution drawing, two targets separated by a beam width are clearly observed. However, move them closer so that they fall within a single beam width and they appear as one.

The key to any acoustic search is defining the **minimum target size** to be resolved before starting the program. Determining this allows the operator to calculate the area the beam covers – called **transverse resolution** – at any given range by knowing the transducer's horizontal beam angle. Select a range where the transverse coverage is smaller than the target – ideally, around half its size.

With single-beam sonar (as are most side-scan and all scanning sonar systems), the dilemma is the time it takes to obtain fine detail (resolution) using a focused acoustic beam, versus employing a wider beam to encompass a larger area at the expense of resolution.

"The formula in the transverse resolution

drawing requires a scientific calculator – and I don't have one handy! **GREAT, now what am I going to do?" Don't worry! There is another way around this.**



## Transverse Resolution

The Table below shows the range and transverse resolution for three common horizontal beam angles. If the sonar beam angle doesn't fall into that list, take each of the 1° horizontal beam angle table, range/transverse resolution values and multiply it by the your sonar's beam angle. Make a mini-sized cheat sheet and tape it to the sonar computer so every sonar operator knows what the transverse resolution is at any range. For longer ranges than shown, simply add them together and do the same for the transverse resolution value (for 175' add the 100' and 75' transverse resolution coverage for the selected beam angle [for a 1° beam angle, 1.22' + 1.74' = 2.96]).

Let's look at this table in practical terms. *To determine target shape the sonar needs at least two pings/hits on that object.* For example, take a full grown male 6' tall

(1.82m) and 2'(0.61m) across the shoulders. It is unlikely the target orientation to the sonar allows us the full 6' view. In the worst-case scenario, the target is aligned end on to the sonar beam, so its smallest dimension is two feet across.

*With a transducer beam angle of 1°* the Table shows the range to obtain two hits on target should not exceed 60' where the transverse coverage is 1.04'. For those using metric values, the transverse footprint for the same coverage is 0.34m - achieved at ranges out to 20m range. (This example assumes the target is intact. In a murder case, with suspected body dismemberment, consider the reduced target size.

Are there instances when to select a longer range even though it goes against the two pings on target rule of thumb? Absolutely!

1° horizontal beam angle		0.75° horizontal beam angle		0.5° horizontal beam angle	
Range	Transverse Footprint	Range	Transverse Footprint	Range	Transverse Footprint
5	0.08	5	0.06	5	0.04
10	0.17	10	0.13	10	0.08
20	0.34	20	0.26	20	0.17
30	0.52	30	0.39	30	0.26
40	0.69	40	0.52	40	0.35
50	0.87	50	0.65	50	0.44
60	1.04	60	0.78	60	0.52
70	1.22	70	0.91	70	0.61
80	1.39	80	1.05	80	0.70
90	1.57	90	1.17	90	0.75
100	1.74	100	1.30	100	0.87

**Table: Range versus Transverse Coverage for 3 Common Beam Angles**

Tripod-deployed scanning sonar lends itself to using different ranges when the head is stationary on bottom. Even though the suggested maximum range to define a body is 60' (when using a transducer with a 1° horizontal beam angle) it is highly likely on a featureless, low-reflectivity seabed (lake or riverbed) that body detection is possible out to 150' or more. It won't be clearly defined as a body, but an 'out of character' target may be identified. It only takes a few more minutes at each drop location to take multiple range scans; this can save hours of search time if the target is spotted. It is unfortunate but this technique does not easily apply to side-scan sonar.

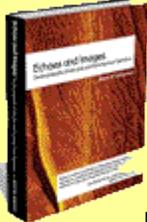
When conditions allow, collect 60', 90', and 120' (20m, 30m, 40m) range data at each scanning sonar drop point.

This leads to the question: What conditions limit seeing a target at longer ranges? Let's go back to the opening paragraph and the training remark made by the officer not wanting to learn about *background reverberation*. It is a BIG mistake not knowing the impact of reverberation on target detection!

### Background Reverberation:

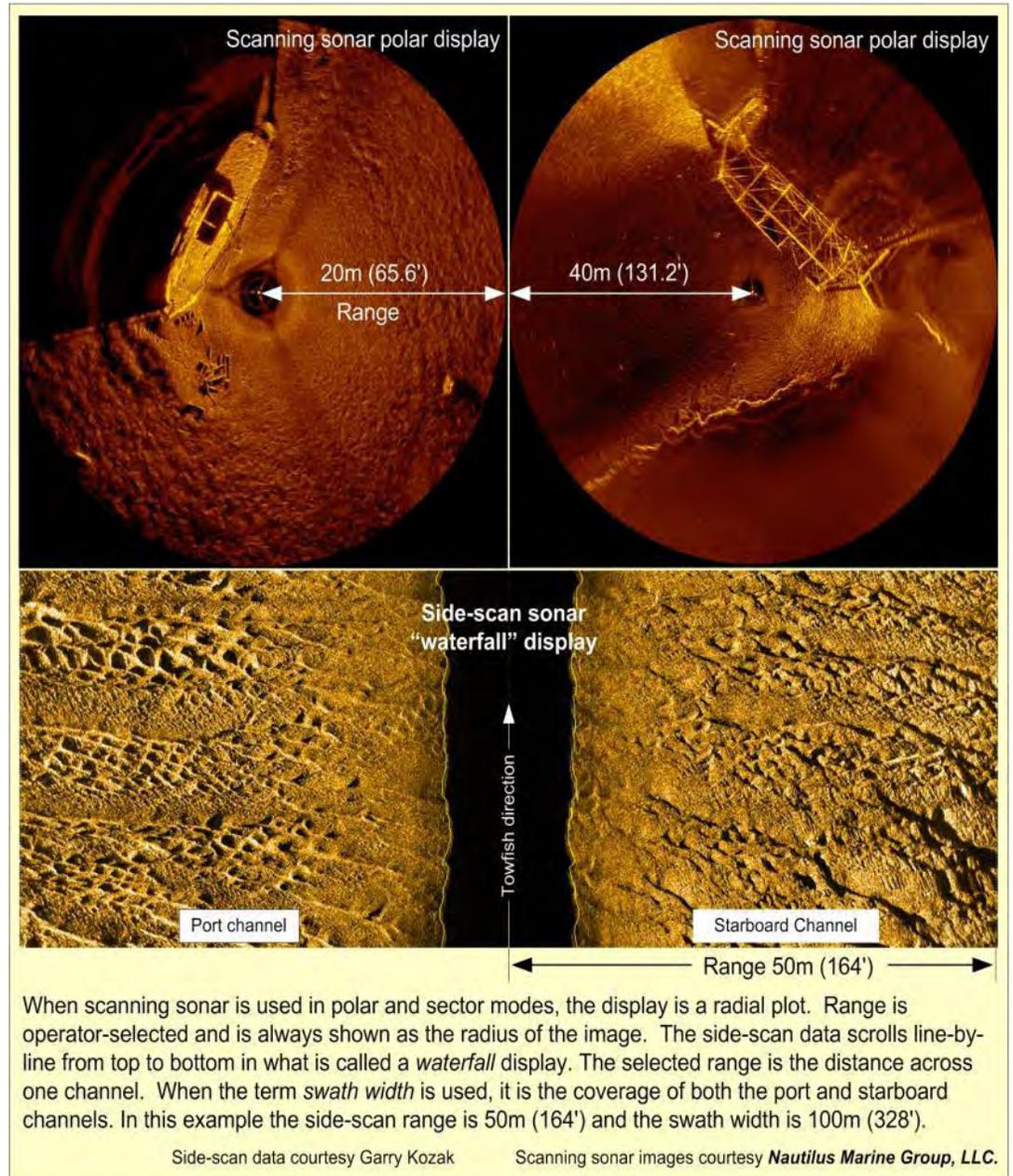
*Background reverberation* is the unwanted echoes from other reflectors that mask targets of interest. These can be from the surface, mid-water or bottom.

As the acoustic energy travels, it expands in both the horizontal and vertical planes. At some distance from the transducer, the vertical beam intersects with the water/air interface. Because of the dramatic change in speed of sound between the two mediums, this interface is a great sound energy reflector. When the selected sonar range is less than the water depth and the surface is flat, most of the sound pulse mirrors away. With the exception of a sometimes very thin line (parallel to the direction of travel with side-scan, or a concentric ring with scanning sonar

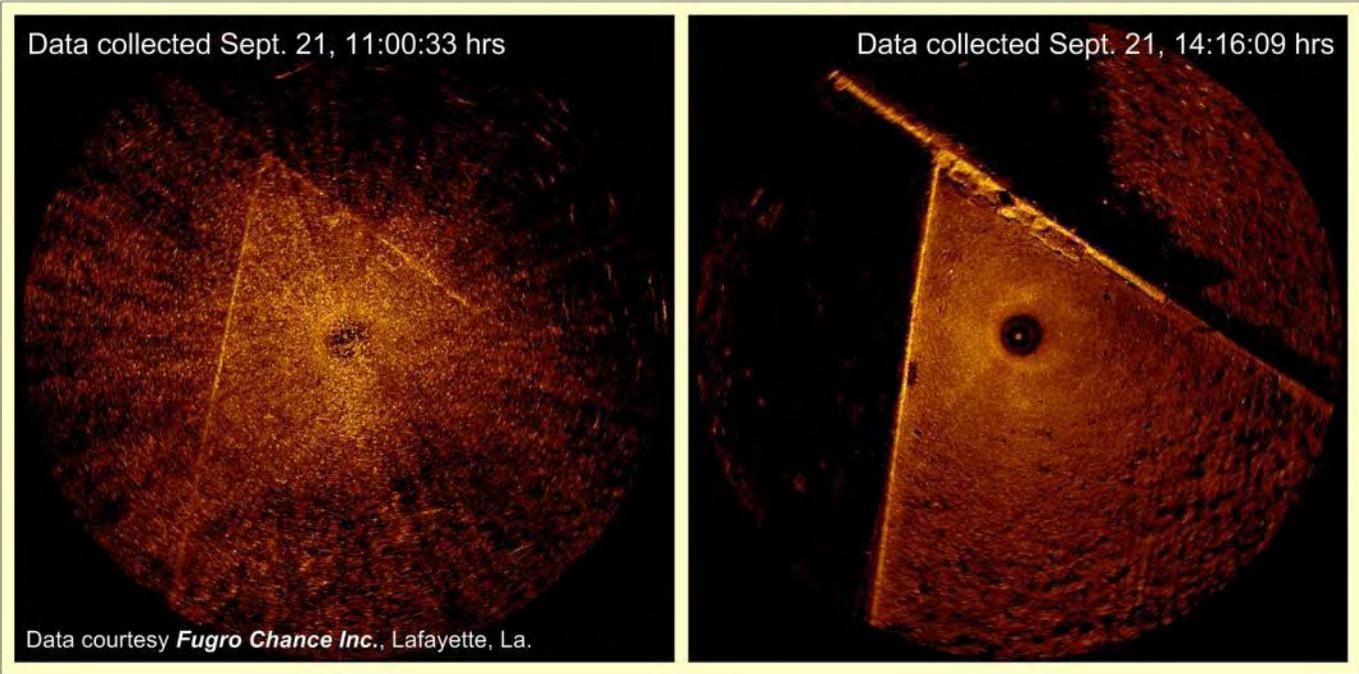


**Mark Atherton's**  
***Echoes and Images, The Encyclopedia of Side-Scan and Scanning Sonar Operations*** is the how-to guide for side-scan and scanning sonar operations.

**For more information or to purchase your own copy, go to**  
<http://echoesandimages.com/>



**Figure 3 Side-Scan and Scanning Sonar Image Display**



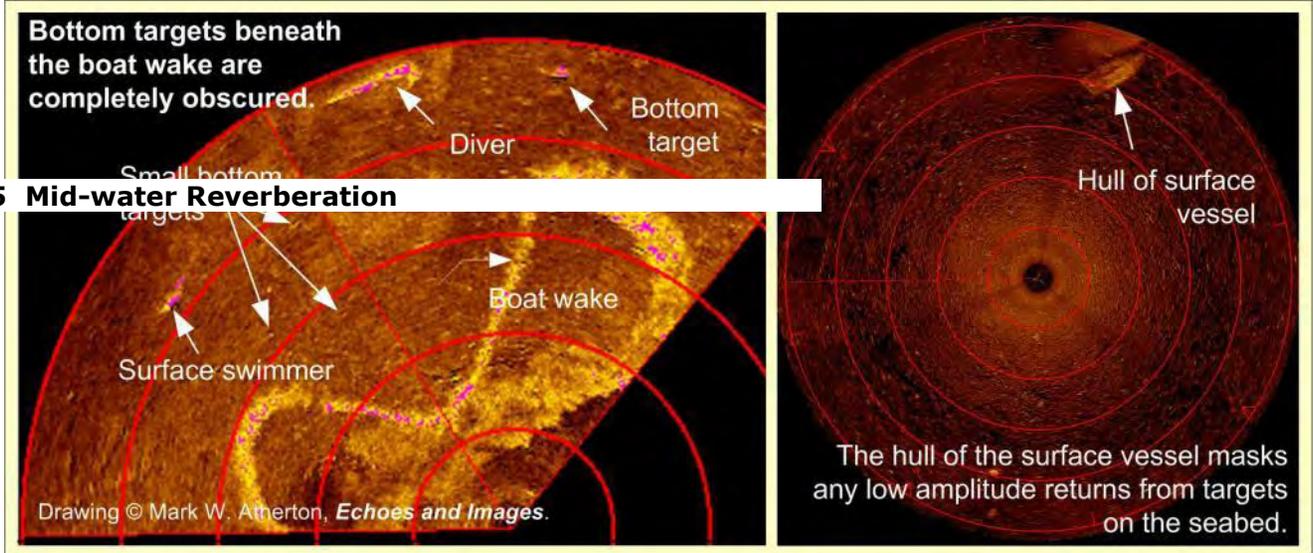
may limit detecting a body-like target.

*Mid-water reverberation* is often due to schools of fish or aeration in the water column. Microscopic bubbles from vessel motors or engine discharge are particularly troublesome, as they take a long time to clear. Fish schools are equally problematic; they tend to move but at no fixed time schedule. Bottom reverberation occurs when stronger reflectors surround the target of interest having less reflectivity. As earlier mentioned, body

there is little detrimental effect to the sonar record. The incident angle changes with the addition of and more of the backscattered sound energy echoes back to the

transducer. The amplitude of the *surface reverberation* can be so strong it masks bottom or mid-water returns.

The underside returns from floating surface ice, garbage, plant bogs, log booms, etc. causes surface reverberation and



**Figure 5 Mid-water Reverberation**

**Figure 4 Background Reverberation**

detection on a benign, low reflectivity seabed is possible at ranges well beyond those suggested in the supplied Range versus Transverse Resolution Table. When a body/low amplitude target is positioned amongst rocks or gravel, or a highly reflective surface, it needs to be isolated from these other reflectors. There is no easy way around this. The transverse footprint needs to be smaller than the target of interest – at least two times smaller and preferably even more than that. The only option is to use a smaller scale range to reduce the transverse footprint.

### **Refraction:**

As an acoustic signal propagates through the water column, it encounters different temperature and salinity (this is obviously primarily restricted to the ocean environment) and changes in pressure. The first Mini-series of sonar articles outlined each of these conditions and their effect on sound velocity. As the sound pulse passes through the boundaries of the different speed of sound layers it “bends” (*refracts*) to the medium with the slower velocity in accordance to Snell’s Law. In particular, when the *thermocline* (temperature) boundary has a few degrees of change the *ray bending* is very dramatic. Changing the height or the tilt of the

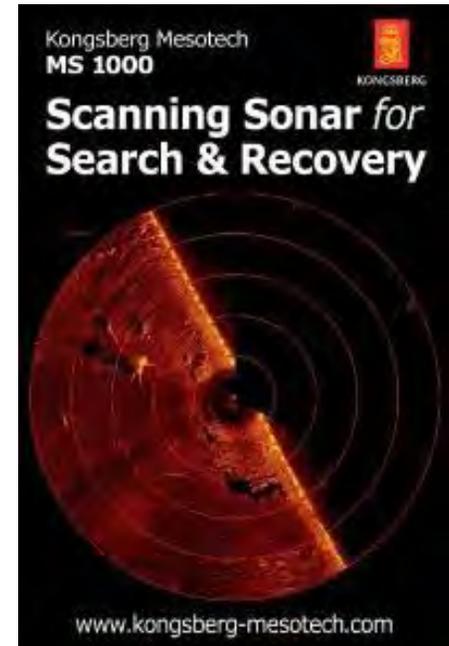
### **Tricks of the trade:**

Some projects attract media attention, and in particular, those in which a tragedy has occurred. The greater the tragedy, the more times an interview will be requested.

SAR teams need to appoint a single contact person to deal with the news people and ALWAYS keep the remarks professional. Smart-assed comments never come across well on camera. Also, assume anything said “off camera” may be quoted. If you are a volunteer team working with the police, *let them deal with the reporters.*

transducer to this layer dramatically alters the sonar image. In more northern/southern climates, with the exception of the upper few metres/feet of water, many lakes remain cold even during the summer months. In this condition, the speed of sound difference is so defined that the sound reflects off the thermocline boundary.

Remember that warmer water may not necessarily overlay colder layers below. In coastal areas, cold fresh water may overlay the saltwater below and cause the sound to bend **up**.



In the next article, we begin to look at sonar deployment issues and the dos and don'ts to generating sonar imagery. A few basic tips make all the difference in the world to collecting GREAT sonar data.

**Mark W. Atherton is the Special Projects Manager for Kongsberg Mesotech Ltd. and has been involved in underwater imaging, commercial diving and underwater search and survey operations since 1974.**

**He is the author of *Echoes and Images, The Encyclopedia of Side-Scan and Scanning Sonar Operations.***

<http://www.echoesandimages.com>





## Over 50 Attend Water Recovery Operations Course at RCC

**Cathy Hefferin, RCC Director of  
Communications**

**Photos provided by Ricky Ingold**

**ASHEBORO (April 9, 2013)** – Fifty-six law enforcement investigators and emergency responders from around the country took advantage of a unique Randolph Community College training opportunity at Randleman Regional Reservoir recently.



The Water Recovery Operations course, cosponsored by Randolph Community College, Ash-Rand Rescue & EMS, Guil-Rand Fire Department, and the Piedmont-Triad Regional Water Authority, took place over two weekends,

March 15-17 and March 22-24.

Students came from as far as Florida and St. Louis, Mo.

This was the first time that RCC has offered this course, according



to Paul Goins, RCC's Basic Law Enforcement Training director, who helped plan the event with a committee of local law enforcement and emergency services personnel.



Because Randolph Community College's 60-acre Emergency Services Training Center draws students from all over North Carolina and beyond, the college routinely partners with law enforcement, fire department and emergency services personnel to offer special training opportunities such as an annual Weekend Fire, Rescue and EMS College held in March. The facility includes three firing ranges, an emergency vehicle driving course, five-story drill tower, live burn building, tactical building, LP Gas facility with six props, USAR course, and underground confined space/trench area.

The opening of the Randleman Reservoir in March 2010 after the completion of the Randleman Dam has provided a location for RCC to conduct water-related rescue classes. Goins said that ESTC instructors have built an

extensive network of contacts within the law enforcement and rescue communities, so getting the right instructors for the new course was just a



matter of tapping those resources. "We are looking at doing an Advanced Water Recovery course next," he said.

Well-known instructors for the Water Recovery Operations course included Gene Ralston of Idaho, an environmental consultant who specializes in water-related environmental issues. Ralston has frequently volunteered his equipment and time to search for and recover drowning victims and other objects underwater. He has conducted



searches throughout the United States and Canada and has located 82 people. He travels extensively and works closely with law enforcement agencies, including the FBI.

Ray Smith, currently chief of the Pleasant Garden Fire Department in Guilford County, provided both a classroom session and hands-on training in on-water navigation/mapping and documentation.

K9 Deployment and Use training was provided by Lisa Mayhew, a death investigator and law enforcement instructor for the North Carolina Office of the Chief Medical Examiner since 2000 and a K9 handler since 1997; Cat Warren of Durham, who has handled a certified



land cadaver dog since 2006; Roxye Marshall, who began training canines for search and rescue in 2004; and Nancy Hook, a canine behavioral specialist who has been training dogs since 1983.

The classroom portions of the course were taught on Friday evenings at RCC's Asheboro Campus and the groups gathered at Randleman Lake Marina on Saturdays and

Sundays for hands-on training designed to give them the opportunity to learn and practice strategies and techniques that will improve the efficiency and safety of underwater recovery operations. Included were Side-Scan Sonar Operations, On-Water



Navigation/Mapping and Documentation, and K9 Deployment and Use, according to Goins.

Goins said the large-scale exercise was managed using the FEMA National Incident Management System (NIMS).



**For more information on law enforcement and rescue training at Randolph Community College, contact the RCC Emergency Services Training Center at 336-633-4165.**





## **VIRGINIA PSD TEAMS RESPOND TO PSD FATALITIES – VA Public Safety Diver Dive Medical Technician/Med Dive program**

We understand and acknowledge that public safety diving is a dangerous profession. We place our teammates and ourselves in an environment that is not fully understood by the average individual. The variety of dangerous factors that we deal with on every dive is something we just do. It helps that we had training to know and understand the complexities of entering an environment that can kill us with no regard for who we are, what we do, how much training we have or how good our equipment is.

We cannot expect those outside of our ranks to fully understand those dangers or even those faced by normal, recreational divers. This is especially true of emergency medical providers. Not many physicians, nurses, and EMS providers understand the effects of **Boyles, Daltons and Henry's law** on divers. The thought of over

expansion injuries, arterial gas embolism, and other decompression injuries is foreign to them. In fact the most common injury care providers think about is the "Bends" and they don't fully understand that.

When performing a mission dive, LE and Fire based teams do not regularly have EMS on standby. **It doesn't seem to matter if it's a training exercise, evidence recovery, or a** prolong recovery operations. Ambulances, particularly

medic-staffed, ambulances are rarely on standby for our divers. Weather its lack of understanding about the risks involved, a lack of resources or poor communications between LE, medics are not readily assessable. Furthermore, specific training in dive medicine is hard to find. While SWAT medics are becoming more common, medics certified in dive medicine are almost unheard of.

Public Safety Teams in Virginia are not immune to these circumstances and it took an unfortunate rash of events to bring the problem to light.

Since 2010, VA teams have experienced a few diving related incidents. Those incidents being:

- A VA State Police-
- Trooper Mark Barrett passed away Sept 14, 2010 while conducting deep diving exercises in Lake Anna.



- Chesapeake Police Officer Specialist Timothy Brian Schock passed away Dec. 20, 2011 while conducting dive-training exercises.
- A Richmond VA Firefighter, while trying to recover an occupied vehicle, became entangled in rope and experienced a near miss incident. Jan 6<sup>th</sup>, 2012
- A Chesterfield Firefighter experienced a medical issue, which required transport and treatment at a local ED, secondary to a body recovery on July 7<sup>th</sup>, 2012.



**Sept 14, 2010  
Trooper Mark  
D. Barrett,  
41, died after  
a training  
exercise on  
Lake Anna.**

[News Story  
in PSDiver  
Monthly  
Issue 77](#)

In addition to these incidents, there were a couple of high profile dive cases that pushed local dive teams to the limits. They were:

- Coast Guard Petty Officer 3rd Class Shaun Lin drowned while conducting tactical boarding exercise in the James River. There was an exhaustive multi agency and operational period search for his remains. (Oct. 2010)
- 10 NASA interns capsized an overloaded sailboat near James City. Two of the 10 were missing which created a large scale multi agency response (May 2011).

During these high profile search incidents, in 2010 and 2011, Bill Burket Director of the Hampton Roads Marine Incident Response Team (MIRT) started to notice the lack of EMS support for the teams and had other concerns.

Director Burket, became disturbed that divers were operating in remote areas and EMS access would not be quickly obtained if another diving incident was to occur. Furthermore, due to the nature of the events and lack of personnel, divers were starting to make repeated dives and continued diving until fatigued. Director Burket recognized the need and began to explore the idea of developing a true Dive Medic Program.

On Dec 20, 2011, 7 months after the last high profile search case, Chesapeake Police Officer Timothy Schock died during a routine training exercise. Officer Schock was diving with a dive buddy and began to have problems in approximately 15 feet of water. Initially he and his buddy were able to surface, then Officer Schock, unable to maintain his buoyancy, went back down with no air. He was retrieved quickly by his dive buddy and brought to shore where CPR was started. There was no ambulance on standby and medical care had to be requested via police communication, before appropriate ALS units were dispatched. This all took time and slowed the advanced care desperately needed by Officer Schock.

**Dec 20, 2011  
Chesapeake  
Police Officer  
Timothy Schock  
died during a  
routine training  
exercise.**



[News story in  
PSDiver Monthly  
Issue 91.](#)

The incident shook the region to the core and conversations about a dive medic program and diver safety intensified. Chesapeake Police in conjunction with Chesapeake Fire initiated a policy whereby an ambulance would be on standby for all dive related incidents. The

ambulance would be staffed with 1 of 4 the Fire Department medics that were assigned to the PD Dive team, much like the medics assigned to the SWAT team. This program/policy, known locally as the Chesapeake Model, became the goal, and standard, for other local law enforcement teams.

Further up the James River, on Jan 6<sup>th</sup> 2012, an elderly man drove his vehicle into the river. Richmond City Fire and Henrico County Fire Dive teams were called out for a potential rescue in the **38 degree water. Richmond Fire's team** was the lead dive team and Henrico stood by for assistance. The car was found but it was upside down and the victim was unable to be removed. All units went into the recovery mode. While trying to attach tow cables to the vehicle a Richmond City Fire Department diver became disoriented and lost contact with the vehicle. While trying to find the vehicle he became entangled on various webbing and lines used to pull the tow hook out to the car. About the same time his line tender began to get concerned about the divers air supply.

The tender signaled to the primary diver through line pulls and when the diver did not respond, the backup diver was deployed. Just as he moved into the water, the primary diver made it to the surface wrapped in rope. The tender attempted to pull the primary diver in but the ropes tightened on the diver. It took the backup diver 2-3 minutes to remove all

the line. The primary diver was removed from the water and examined by EMS crews on scene. The EMS crews had no background or training regarding dive injuries and could only provide a cursory exam.



As a result of this incident Richmond Fire went into a safety stand down until an after action review was completed. In addition to the after action review, Richmond Fire made some emergency purchases for equipment and training. Dive Rescue International was brought in to bring the entire team up to their Dive Rescue 1 level.

Approximately 6 months later Chesterfield Fire and Henrico Fire were involved in a drowning case on the James River as a result of a boat explosion. Units were dispatched to a reported fire with 8 people in the water with one individual underwater. An off duty Chesterfield firefighter was in the immediate area and witnessed the entire event. He made several attempts to free-dive down but was unsuccessful in finding the victim.

When crews arrived he was able to provide an excellent last scene point and CFD deployed a diver from a boat. Within 4 minutes of the diver splashing, he surfaced with the victim. The diver swam to the boat and handed off the victim to the boat crew. He was then assisted into the boat.

Boat crews noted that the diver had a dazed look and blood coming from his mouth and nose. The diver commented that he had a severe headache and did not



know where the blood was coming from. The boat made its way to shore where the diver was handed over to EMS crews who had again – or still, had no diving specific knowledge. The Chesterfield Fire Department diver was transported by EMS to a local ER for further evaluation and treatment.

At the hospital the ER staff did very little in the way of an exam. In the after action review of the event it was noted the local ER staff had very little knowledge of diving specific injuries. During the exam of the diver, only a chest x-ray was taken. No evaluation of his ears (the diver had expressed having trouble equalizing), no questions about the dive profile, depth, rate of ascent, breathe holding, etc. He was discharged later in the evening without a CT, ENT or even a consultation with the staff at DAN. This event confirmed that local ems and the hospitals were not knowledgeable and/or experienced in treating dive related emergencies.

### **TEAM LEADERS MEET / RESEARCH BEGINS**

With this cascade of events, it was obvious to Director Burket and the regional dive team leaders that something needed to be done to ensure the safety of our divers. With the obvious lack of dive injury knowledge by EMS crews and ER staff, Director Burket requested that the team leaders come together and discuss various options to train our teams on diver injuries. Captain Miers offered to do the research of various diving specific medical programs and present to the MIRT and regional leaders at this meeting.

The research was to be guided by a certain set of goals established ahead of time. It was felt that in order to maximize the training and safety of the divers a set of goals had to be reached. They were:

- Maximize LE and Fire's Medical Skill sets
- Establish base line neurological exams
- Establish pre-hospital protocols for diver specific injuries
- Have trained medical personnel on standby during ALL diving events
- Have trained personnel available to transport in an event of a diver injury (The transporting medic becomes patient advocate to Physician once at the ER)
- Provide the Dive Medic with a certification that is recognized by ER physicians as credible
- Maintain situational awareness about chambers available throughout the region.

It was recognized early on that there existed a large gap of medical knowledge between PD and Fire. If an advanced medical training program was developed, PD teams would likely receive no value out of it. Conversely, if the knowledge and skill sets were too basic, Fire Teams with ALS providers would potentially receive no benefit from it. In addition, the Fire ALS folks already had an **O**perational **M**edical **D**irector which allows for delivery of advanced skills. (i.e. intubation. IV therapy, drug administration, etc.).

With these goals in mind, several diving medical programs were evaluated. In addition to the goals above, course content, logistics of delivering the program, availability of being taught locally and length of the course were examined. The primary programs were:

1. Dive Rescue International MED DIVE
2. Divers Alert Networks
  - a. Diving First Aid for Professional Divers
  - b. Diving Emergency Management Provider (DEMP)
  - c. Dive Medicine for Divers part 1 and 2
3. Dive Medical Technician (DMT -commercial diver program)
  - a. Certified by National Diving Hyperbaric Medical Technology
  - b. Taught by Divers Alert Network

These programs were presented to Director Burket and local team leaders in the fall of 2012. While discussing the



courses it was agreed that the Dive Rescue MED DIVE program would be an excellent fit for the Police based teams as well as BLS Firefighters. The content was not to in-depth and provided a solid awareness level for BLS providers. It also discussed the need for neurological checks both pre and post dives and explained why. Dive Rescue was very accommodating and would work with us on our timeline. Logistically it was

very easy to host for DR.

With that, we started to look for what could be provided for the Fire ALS guys. The DAN based programs looked the most promising and we decided to explore the possibilities of having DAN come to VA and teach the [National Board of Diving and Hyperbaric Medical Technology \*\*Dive Medic Technician\*\*](#) program. It was agreed that the DMT program offered the greatest and most positive impact for our providers. The course content was very in-depth.

The program covered the following topics extensively:

- Diving physics and physiology
- Inert gas narcosis
- Gas toxicities
- Ear and sinus trauma
- Decompression sickness (DCS)

- Pulmonary Barotrauma and AGE
- Commercial and sat operations
- Evaluating medical fitness to dive
- Marine animal injuries
- Hyperbaric treatment and Hyperbaric tables
- Otoscope use
- Wound Closure
- Practical skills inside a chamber
- Incorporated ALS skills and when to use them

Scott Smith, DAN's DMT course coordinator, was contacted about the possibilities of bringing the DAN course to VA. While discussing the idea, Mr. Smith advised that they had been thinking about taking the program on the road and agreed that the Hampton Roads area would be a great place to conduct a BETA program due to its close proximity to DAN.

Discussion began with Mr. Smith about course content and logistical needs. The most pressing challenge was access to a multi-place (multiple people) Hyperbaric Chamber. Most of the hospitals in the area maintained mono-place chambers for wound care.

In order to obtain the use and possible emergent need for a multi-place chamber, the area had to reach out to the military bases in the region. **This proved to be ....** challenging.

There was concern that government property would be used for private enterprise but once the military supervisors were advised that this was for local "Other Governmental Agencies" OGA's dive teams and DAN



was a nonprofit organization, the course was granted permission and access to 2 chambers; one with the Navy and one with the Army.

Next, discussions began about the course content and length of the program. The original program is 6 days long. Mr. Smith agreed that if we only sent paramedics, we could omit paramedic skills already mastered by those students. This would reduce the length of the course. We also agreed that BLS participation would serve little benefit in the care of the injured diver and restricted the class to ALS providers. Fire ALS providers already have an OMD which allows the ALS provider to practice advance skills. It was felt that having

a department OMD sign off on a BLS provider doing these skills would be difficult and potentially place the BLS provider in a difficult spot.



There was also concern about compressing the length of the program and moving to fast through course content. Looking at the topics, the most time consuming part of the class was "Diving Physics and Physiology". Discussing this, we agreed upon placing Paramedics **who were also certified divers** through the program.



Having an already certified diver in the program ensured that the diving physiology and physics had been covered and these students would bring a base knowledge of diving physiology to the class.



With the courses selected to accommodate both PD and Fire teams, funding was identified and allocated by Director Burket. Monies from UASI Grants and Virginia Port Authority would provide for 2 Med

Dive Courses and 1 Dive Medic Course. The consensus was that the course could capture 40 Police and BLS Fire members with 2 MED DIVE courses and 18 Fire ALS providers would attend the DMT Course. This would bring in students from across the region and provide the broadest impact.

### ***Implementation of MED DIVE program.***

Diver Rescue International's MED Dive courses were strategically placed at opposite ends of the region. Allowing agencies from across the region to easily attend while minimizing travel expenses. VA Beach Police Department and James City Police Department both agreed to host the programs for the region.

The first course was delivered in VA Beach on Dec 18, 2012. Dive Rescue international brought in an instructor from Stockton, California to deliver the 20-hour program. It was decided by the participating agencies to complete the program with 2-10 hour days instead of the normal 2 ½ days.

Agencies that participated in the 1<sup>st</sup> Med Dive Program

- ❖ VA Beach Police Department
- ❖ Norfolk Police Department
- ❖ VA Beach Fire
- ❖ VA Beach EMS
- ❖ Henrico Division of Fire

James City County Police department hosted the second Med Dive course on Jan 22 2013. Again, the class was maxed out with 20 students from across the region. The Agencies that participated were:

- ❖ James City Police Department
- ❖ Norfolk Police
- ❖ VA Marine Resource Commission
- ❖ VA Inland Game and Fishers
- ❖ VA Beach Fire
- ❖ Henrico Fire

Both programs were excellent. While numerous subjects were covered everyone benefited from the neurological exams and importance of them. One of the things that was discussed was the how decompression sickness affects the neurological system. The quickest and easiest way to identify and a pressure related injury is with both a pre and post neurological exam. Furthermore the importance of Oxygen and its ability to wash out nitrogen as well as its use in treatment was thoroughly explained.

## **Implementation of Dive Medical Technician Program**

As for the DMT program, Newport News Fire Department agreed to host the program. Initially, since only one class was being funded, it was agreed that Newport News Fire would be the best location since it is centrally located to the region.

Agencies that participated in the Dive Medical Technician Course

- ❖ Chesapeake City Fire Department
- ❖ VA Beach Fire Department
- ❖ VA Beach EMS
- ❖ Newport News County Fire Department
- ❖ James City County Fire Department
- ❖ Chesterfield County Fire
- ❖ Richmond City Fire
- ❖ Henrico County Fire

This program was to be delivered in 4 days. This consisted of 3 days of intense classroom work and one day spent at the chambers. DAN brought in 3 instructors, 2 of which were NREMT-P/ DMT and one Doctor who specialized in hyperbaric medicine and marine animal injuries. One of the interesting things about them was that these instructors were also working the DAN hotlines over the course of the week! While the class was being taught, we would discuss phone calls they had on diving incidents from across the world. This real life case study aided in the understanding of various topics being taught.



Once the classroom portion was completed the students were split into 2 groups of 10. The 2 groups would be sent to either the Army base [Fort Eustis, VA](#) or Little Creek's Navy Mobile Savage Unit 2 (MDSU 2) for the chamber work. Both bases maintained numerous multi-place chambers that were incorporated into CONEX boxes. The chambers were set up for rapid deployment for both dive units.

On the bases, students received orientation to the chambers and an introduction to military diving. The students then were able to practice performing head to toe neurological **assessments, IV's, Foley catheters**, and neurological checks **inside** the chamber. The chamber tables were discussed and a demonstration of an emergent dive was performed in the chamber. Both Dive units were extremely accommodating and essential in the completion of the course.

## **Actions after the program**

Due to the tragic incident in Chesapeake, and several other close calls, dive teams across Virginia began to examine their teams closely. This in **addition to Director Burket's overall** situational awareness and support has led to tremendous opportunities in Dive Medicine advancement. Teams today are much better prepared to recognize and handle dive related emergencies and are planning for their future in public safety diving.

A regional DMT organization was established so team members and interested parties could communicate

across the region. This organization began to work on protocols for diving emergencies, establish neurological exams pre and post dive operation, and started to train other members of dive teams in diver injury awareness. The organization even reached out to the local hospitals to explore use of their monoplace chambers for emergent use.

With the increase awareness and understanding of dive emergencies, teams started to make upgrades to safety equipment and began to work together. Police dive teams purchased oxygen kits and some teams are now reaching out for Fire ALS standbys while conducting dive operations. A few fire departments have started providing staffed medic units to the Police dive team.

### **Looking into the future**

It's commonly agreed that this program shored up one leg of a PSD Safety triangle. In order to provide the maximum safety for our divers, other areas need to be addressed. The regional teams are now discussing the potential of conducting a Regional Public Safety Diver Academy. Regional instructors and DMT members would instruct newer divers in this program as well as provide continuing education for seasoned members. A second DMT program is being brought to the region. This second offering will have 20 students, bringing in York County Fire department as well as including 2 students from the FBI Dive Team. The region is also considering conducting a 3<sup>rd</sup> Med Dive course to ensure all PD teams are captured.

There is also talk of placing data recorders on divers to measure dive profiles and theory rates of ascent. This information, in an event of an emergency, would be



extremely valuable to the treating DMT and assist in determining a working diagnosis.

As a result of tragic loss there has been a tremendous gain. The Virginia Port Authority and local dive teams have come together and examined the way business is done. It was a painful self-critique but one that needed to be done. Now the region is far better prepared for diving emergencies and is planning for future events to strengthen the safety, ability, and dive professionalism while creating lasting bonds throughout the state.



**Author: Captain Bryan Miers**

**20 year Veteran with Henrico County Division Of Fire, Search Rescue Dive Team Coordinator, Henrico Marine Incident Response Team Coordinator, Degrees in Criminal Justice and Fire Science, Virginia Department of Fire programs Fire Officer 2, Certified NREMT-P, Dive Medical Technician, Padi Dive Master, ERDI II, Rescue 3 Swiftwater Ops**



# NEWS

## Police: 'Amazing' no one hurt in gun firing

<http://www.recorder.com/home/4874346-95/haigh-bullet-myers-sharpe>

March 4, 2013 By CHRIS CURTIS Recorder Staff

**ORANGE** — Police divers Monday morning retrieved a pistol from the Millers River believed to be connected to a very near miss the previous evening.

A bullet through the window of a passing car led to the arrest of a local woman Sunday after she accidentally fired a gun while unloading it, then disposed of it in the river, according to Orange Police Chief Robert Haigh Jr.

Lisa Sharpe of Orange said she was driving home from the laundromat with her grown daughter when the bullet **shattered the driver's side window of her Pontiac Grand Prix.**

"We just sat there for like five minutes in shock, she just looked at me and said 'Are you shot?'" Sharpe



said.

Sharpe had to pull a couple pieces of glass from the crook of her arm but neither woman was struck by the bullet.

The bullet passed through the arm of Sharpe's sweater, possibly glancing off her watch — **it's nicked but she can't be sure** — struck her windshield and lodged in the dashboard.

Haigh said police responded to what was originally treated as a medical call around 5:20 p.m. Sunday and arrested Carol Myers, 45, of 156 East Main St. Myers is charged with discharging a firearm near a roadway, discharging a firearm within 500 feet of a residence, carrying a firearm without a license, improper storage of a firearm, illegal possession of ammunition and wanton destruction of property over \$250.

Haigh said it appeared Myers was attempting to unload the revolver outside her home and accidentally fired it.

**"Initial reports look like the bullet ricocheted off the ground and went through the side window of a car that was driving down the street,"** Haigh said.

**"It's quite amazing that nobody was hurt,"** Haigh said.

**"They said within an inch, they said if I was one second less than I was the bullet would have been in me,"** Sharpe said. **"It was an accident so I can't be upset, that's what I tell myself."**

Now Sharpe has a windshield and window to replace, without glass coverage on her insurance, towing fees awaiting reimbursement, an inspection sticker that needs

replacing and a hole in a sweater given her by her deceased grandmother.

Myers panicked after discharging the pistol and threw it into the Millers River near the Orange Fire Station, where the State Police dive team retrieved a revolver believed to be the gun in question, Haigh said.

Divers were able to quickly locate the gun because Myers was forthcoming with the location, Haigh said.

Haigh said how Myers came to be in possession of a gun without a license remains under investigation.

## Dead Pigs In China Floating By The Hundreds In Shanghai River

[http://www.huffingtonpost.com/2013/03/10/dead-pigs-china-shanghai\\_n\\_2847775.html](http://www.huffingtonpost.com/2013/03/10/dead-pigs-china-shanghai_n_2847775.html)

03/10/13

**BEIJING (AP)** — Chinese officials say they have fished out 900 dead pigs from a Shanghai river that is a water source for city residents.

Officials are investigating where the pigs came from. A statement posted Saturday on the city's Agriculture Committee's website says they haven't found any evidence that the pigs were dumped into the river or of any animal epidemic.

The statement says the city and Songjiang district governments

started retrieving the pigs on Friday night. By late Saturday afternoon they had recovered and disposed of more than 900.

The statement says the water and environmental protection bureaus are ramping up monitoring of the river's water quality.

## Romeoville pond crash kills man; 3 others escape submerged car without injury

<http://abclocal.go.com/wls/story?section=news/local&id=9022733>

March 11, 2013

**ROMEOVILLE, III. (WLS)** -- A man died Monday after being pulled from a car that ended up 14 feet under water in a Romeoville retention pond.



***In this photo taken Thursday March 7, 2013 and made available Sunday, March 10, 2013, dead pigs are strewn along the riverbanks of Songjiang district in Shanghai, China.***

However, three other men who also were riding in the car were safe, however. Romeoville police say they got a call of a car into a retention pond at about 12:30 a.m. Monday.

According to police, the burgundy Pontiac Grand Prix somehow left the road at Lakeview Drive and Remington Boulevard.

Three men in the car managed to free themselves from the sinking car and were not seriously injured. They were able to flag

down a passing motorist for help. The accident happened inside a business district with several commercial office buildings.

### video



[Romeoville pond crash kills man trapped in car](#)

Fire department divers pulled the fourth man from the submerged car Monday morning. He was rushed to a hospital and pronounced dead on arrival. That man has been identified as Adam Johnson, 28, of Bolingbrook, Ill.

Johnson had been trapped inside and, apparently, was unable to make it out on his own.

Authorities said the details of the accident were unclear to the survivors.

"The victims were still pretty shocked as far as what was going on. So, we did conduct a basic interview, but we intend to talk to them at a later date after they've had some time to rethink the event in their own minds," Burne said.



Police said they believed Johnson was the one driving the car. Crash investigators were trying to determine the cause of the crash and whether drugs or alcohol or speed and wet weather played a role.

Johnson had just finished welding school and gotten his own

apartment in a nearby suburb. His funeral is scheduled for Thursday. He leaves behind loving parents, three brothers, and many friends.

Monday's Romeoville crash was the second fatal retention pond crash in two days. Emory Diaz Sepulveda, 20, died after the car she was driving left Interstate 88 in Aurora near Eola Road Sunday. Three passengers were rescued, and the cause of that crash was also still unknown

**Related Content**  
STORY: [Woman dies after car lands in Aurora pond](#)



"Because they had crashed into the water, and none of their phones were working," said Romeoville Police Dept. Sgt. Christopher Burne. "There was a delay in our response because of that. So, it's undetermined at this point how long the victim was in the water."

The car ultimately sank as far as 14 feet below the water.

The three men who survived initially were taken to the police department for questioning but were allowed to go home later.

## NY firefighter recounts attempt to save child at Disney World

<http://www.firerescue1.com/fire-ems/articles/1418539-NY-firefighter-recounts-attempt-to-save-child-at-Disney-World/>

**The firefighter tells of the frantic attempts to revive an unconscious child that was found in a swimming pool**

**March 14, 2013** By Charlie Specht [The Buffalo News](#)

**BUFFALO, N.Y.** — It seemed like a dream vacation for William Cybulski as he sat in Disney World on Sunday night.

The Buffalo firefighter was relaxing by the pool – watching a Buffalo Sabres game – with his girlfriend and her two young children at one of Disney’s theme resorts.

But when Cybulski’s girlfriend went to check on the kids, they both realized that tragedy had struck.

“I could just hear my girlfriend scream from the pool, and when she screamed like that, I knew something was wrong,” Cybulski said.

“It was the off-season, so it’s like a swim-at-your-own-risk kind of thing,” he said.

The South Buffalo resident jumped into action, rushing to the **boy’s side** as a nearby doctor tried to resuscitate the 13-year-old.

Cybulski, 27, dried the boy off and helped the doctor. Another nearby firefighter rushed to the scene.

Meanwhile, Cybulski’s girlfriend comforted the boy’s brother and ushered the few dozen children out of the pool.

“You see somebody in an emergency, and you just want to help, to do all you can,” he said.

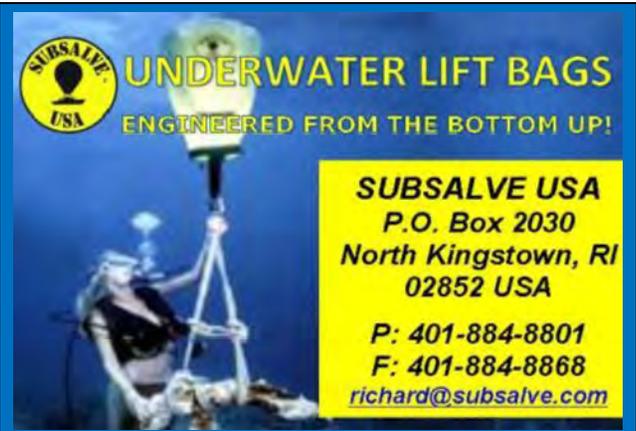
But their efforts were for naught. The boy never regained consciousness at the scene. He died Tuesday morning.

“It’s sad to see that he didn’t survive,” Cybulski said. “If they would have pulled him out a couple minutes earlier, you never know.”

The whole thing happened so quickly, Cybulski said, and was surprising given the relative shallowness – 4 feet, 6 inches – of the pool.



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A boy from another family was lying unconscious in the 4-foot-deep water. Disney’s lifeguards had apparently just left the pool for the night.



"A 13-year-old boy, you're not really going to think much of it in a small pool with 30 or 40 kids in the pool," he said.

Especially not in a place

that bills itself as the "happiest place on earth," he said.

"You never want to see a child pass away, but especially on vacation at Disney World," he said.

"The last thing you expect is to be on vacation and something like that happens."

He added that his family's concerns were small compared with the suffering of the boy's family.

"Our prayers are with them," he said.

"We have a lot of people praying for them, and hopefully they can get through this. Hopefully they can overcome the tragedy."

## Divers find bodies of elderly woman and her dogs after ferry plunge

<http://www.express.co.uk/news/uk/385846/Divers-find-bodies-of-elderly-woman-and-her-dogs-after-ferry-plunge>

March 21, 2013 By: Charlotte Meredith

The 76-year-old woman was a passenger in the car as it waited for a ferry crossing the River Fal, near Truro in Cornwall.

It is thought the driver had got out to take a photograph.

The body of the woman was recovered two hours later by the emergency services following a huge search and rescue operation involving police, divers, fire crews, coastguard and staff from RNAS Culdrose.

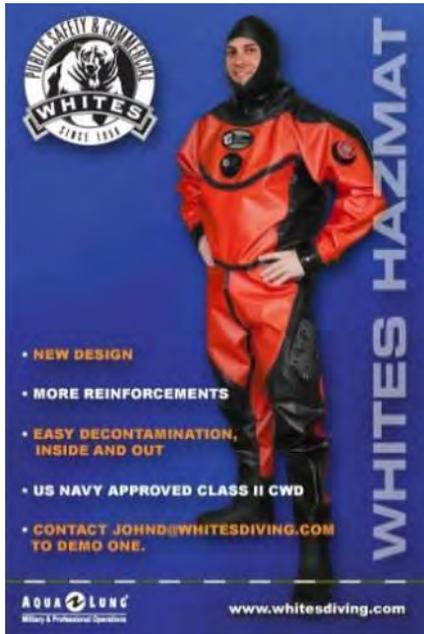
The bodies of the couple's pet dogs were reportedly still in the vehicle when it was brought to the surface.

Eyewitness Matt Vernon, a diver, said he tried to rescue the woman but could not reach her.

"It was really murky down there," he said, adding: "The window was wide open so the car was completely flooded and I couldn't get in it because of the depth and the



**A pensioner died while waiting to board the King Harry Ferry on the River Fal in Cornwall**



cold."

In a statement, the operators of the King Harry Ferry said the car went into the water when the ferry was at the Feock side of the river.

"The emergency services were called immediately," the statement said.

"Just after 6pm the emergency services pulled the car from the water. Tragically, they recovered the body of an elderly lady.

"Our heartfelt thoughts go out to the friends and family of everyone involved in this tragedy."

A Devon and Cornwall Police spokesman said the elderly female passenger was pronounced dead at the scene.

He said: "The male driver was not in the vehicle at the time of the car entering the water and is unharmed at this time.

"Police are appealing for witnesses to come forward with any

information and especially those in vehicles that were present at the time of this unfortunate accident."

***"The car was completely flooded and I couldn't get in it because of the depth and the cold"***  
**Matt Vernon**

## Woman jumps 77 floors to her death 'after attempting to behead partner'

<http://www.scmp.com/news/hong-kong/article/1193269/woman-plunges-her-death-after-attempting-behead-partner>

18 March, 2013 **Stuart Lau and Danny Mok**

A woman leapt to her death from a luxury apartment block in Kowloon West yesterday after she is believed to have attempted to behead her partner in the city's third suspected murder case uncovered in as many days, police said.

The 47-year-old woman, identified as Wong Suk-kan, was seen covered in blood as she jumped from the 77th floor of The Harbourside in Kowloon West at around 1pm, police said.

A police source identified the stabbing victim as Peng Chi-hui, 49. Official records indicate he was a director of Ho Fai Holding (Hong Kong), a company providing logistical



**Investigators inspect the body of a woman on a Kowloon estate.**

services between the city and the mainland.

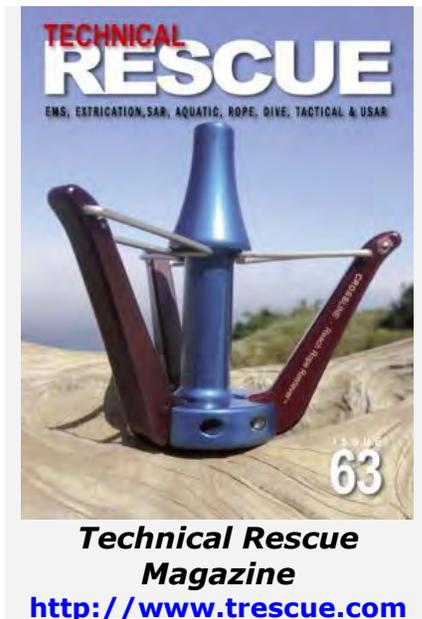
"Over 100 knife wounds were found on the man.... Knife wounds were on his head, neck, arms and legs," said Yu Hoi-kwan, chief inspector at Yau Tsim district.

"One knife wound almost cut off his head," Yu said, adding that police suspected the man had been sedated with sleeping pills before the attack. Two vegetable knives and a meat knife were found at the scene.

Yu said that the dead woman recently had been in an emotionally unstable state.

Wong and Peng had an eight-year-old son. The police source said she also had a six-year-old daughter with an estranged, expatriate husband, whom she had called to say she had killed someone and was about to commit suicide.

The latest deaths follow two suspected murder cases on Friday and Saturday, in which the victims were parents killed by a son. In Friday's case, a 29-year-old man and a 35-year-old accomplice are expected to appear in Kowloon City Court today on charges of murdering his



parents, Chau Wing-ki, 64, and his wife, Siu Yuet-ye, 63, who were dismembered.

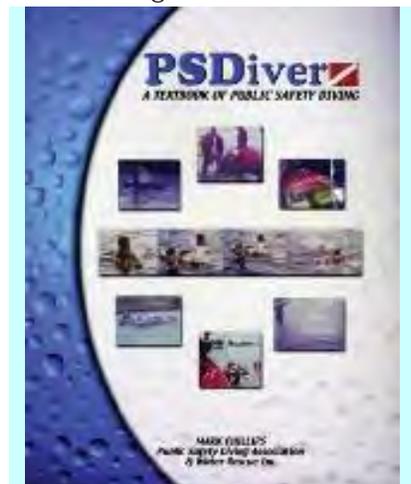
Police divers yesterday failed to recover a severed hand after a four-hour search off the waterfront a 15-minute walk from the crime scene at Hoi Hing Building in Tai Kok Tsui.

Officers recovered most parts of the bodies which were found in moisture-proof boxes and a refrigerator. The couple was first reported missing by their eldest son about a week ago.

"[The police] do not exclude the possibility that [the remains] have been washed away by the flow of water," said senior inspector Lai Wai-kei of the Hong Kong Island regional crime unit.

In Saturday's case, an 18-year-old male and his 19-year-old friend allegedly stabbed his 50-year-old father to death and seriously wounded his mother early on Sunday. Their case will be heard in Tuen Mun Magistrate's Court today in their absence.

The 18-year-old was heard screaming as he was being escorted by police back to the



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crime scene - his home in a Pat Heung village in Yuen Long yesterday.

## Diver tells how he tried to save elderly woman whose car rolled into river

<http://www.guardian.co.uk/uk/2013/mar/21/diver-tried-save-woman-car>  
21 march 2013 Press Association , The Guardian

Matt Vernon says he could not reach woman, whose car plunged into river Fal in Cornwall while waiting to board ferry

A diver has described how he tried to save an elderly woman from drowning when the car she was in rolled into a river.

The woman had been waiting to board a ferry when the vehicle plunged into the river Fal at the slipway to the King Harry ferry near Truro, Cornwall, at about 4pm on Wednesday.

The body of the woman was recovered two hours later by the emergency services following a search and rescue operation involving police, divers, fire crews,

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Fax: (626) 331-8584  
<http://seahorse.net>

coastguard and staff from RNAS Culdrose.

Matt Vernon, a diver, said he tried to rescue the woman but could not reach her. "It was really murky down there," he told the Daily Mail. "The river is very deep, around 80ft. The car was down at around 25ft.

"At one point I got down to one side and noticed the window was wide open so the car was completely flooded and I couldn't get in it because of the depth and the cold."

In a statement, the operators of the King Harry ferry said the car went into the water when the ferry was at the Feock side of the river.

"The emergency services were called immediately," the statement said. "Just after 6pm the emergency services pulled the car from the water. Tragically, they recovered the body of an elderly lady. Our heartfelt thoughts go out to the friends and family of everyone involved in this tragedy."

A Devon and Cornwall police spokesman said the elderly female passenger was pronounced dead at the scene. He said: "The male driver was not in the vehicle at the time





of the car entering the water and is unharmed at this time.

"Police are appealing for witnesses to come forward with any information and especially those in vehicles that were present at the time of this unfortunate accident."

A spokeswoman for the Maritime and Coastguard Agency said the search involved Falmouth and Portscatho Coastguard rescue teams, RNLi lifeboats from Falmouth

and the Royal Navy search and rescue helicopter from Culdrose.

She said: "Divers went on scene to help locate the vehicle underwater and, while search and rescue teams continued a search of the water and shoreline, fire and rescue units winched the vehicle out of the water.

"The lady occupant of the vehicle was recovered from within the car at 6pm and was transferred to hospital by helicopter."

The King Harry ferry connects St Mawes and the Roseland Peninsula with Feock, Truro and Falmouth and is an alternative route to a 27-mile journey through Truro and Tresillian. It has been operating since 1888.

## Police rescue N.J. boy stuck in mud up to his neck

<http://www.policeone.com/K-9/articles/6166583-Police-rescue-N-J-boy-9-stuck-in-mud-up-to-his-neck/?source=newsletter&nid=6161377>

**3 K-9 units tracked the child's scent to the bank of the creek where they found his shoes, heard his screams**

**03-25-2013** Mari A. Schaefer.. The Philadelphia Inquirer

**GLOUCESTER COUNTY, N.J.** — Quick action by police saved a 9-year-old Gloucester County boy with autism who was found submerged up to his neck in the thick mud of Mantua Creek during an incoming tide.

The unidentified child from the Mount Royal section of East Greenwich was reported missing by his parents at 3:45 p.m. Saturday after he wandered away from his Billows Drive home.

About 90 minutes later, three K-9 units, from East Greenwich, Logan, and Deptford Townships, tracked the child's scent to the bank of the creek near his home where they found his shoes, East Greenwich Police Chief Barry Jenkins said.

"They saw him sinking in the mud and heard him screaming," Jenkins said. The child was about 400 yards offshore on the other side of the creek and





going under fast; the tide was quickly rising, he said.

Seven officers and three dogs immediately plunged into the frigid water and swam 20 yards across

the creek. The officers crawled through the muddy marsh to reach the child and furiously dug with their hands until they could free the boy.

"They got under his armpits and pulled him from the muck," Jenkins said. The child was unclothed when he was pulled free, and Jenkins did not know whether the clothes were stuck in the mud or whether the child had discarded them.

Then the officers had to rescue one of their own, when East Greenwich Officer Bill Crothers also became trapped.

East Greenwich Sgt. Matt Brenner swam the child back across the creek to safety, Jenkins said.

The boy was reunited with his father and taken to Underwood Hospital for evaluation. Jenkins estimated the boy was within minutes of drowning in the incoming tide.

"I am very proud to be their chief," he said of his men.

Jenkins said the officers acted quickly and didn't take time to remove their weapons or gear, which may have

been ruined by the brackish water and dirt. Given recent budget cuts, he said he was not sure he had the money for replacements.

## Firefighters save woman in sinking car in Homestead

<http://www.miamiherald.com/2013/03/18/3293614/firefighters-save-woman-in-sinking.html>

03/26/2013 BY ANDREA TORRES

Miami-Dade firefighters rescued a woman from a sinking car on Thursday in Homestead.

A group of firefighters were on their way to pick up their dinner when they saw a car was sinking in a canal along Palm Avenue and Southwest 167 Street.

The firefighters noticed a woman was in the driver's seat of the submerging car. Firefighters Paul Newton and Bill Warren jumped into the canal and managed to save



**Miami-Dade firefighters rescue an unidentified woman from a sinking car Thursday in Homestead  
COURTESY OF MIAMI-DADE FIREFIGHTERS.**

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the woman before the car sank.

"We had to get in and grab her quickly," Newton said in a press release. "We didn't even get a chance to put on our dive gear."

Warren pulled the semi-conscious woman to shore, while Newton went back underwater to check if there were more victims inside. Rescue transported her to Homestead Hospital and the Homestead Police Department is investigating the incident.

## Texas Firefighters Recover Child's Body from Canal

[http://www.firehouse.com/news/10911772/texas-firefighters-recover-childs-body-from-canal?utm\\_source=FH+Newsday&utm\\_medium=email&utm\\_campaign=CPS130323003](http://www.firehouse.com/news/10911772/texas-firefighters-recover-childs-body-from-canal?utm_source=FH+Newsday&utm_medium=email&utm_campaign=CPS130323003)

MARCH 29, 2013 JACQUELINE ARMENDARIZ THE MONITOR

***A child's body, believe to be that of a 7-year-old boy who fell in a canal in McAllen on Wednesday, was recovered by firefighters late Thursday night.***

**March 29--MCALLEN** -- The body of a child believed to be John Perri, 7, was discovered about 11:30 p.m. Thursday in a canal in McAllen, according to McAllen city

spokesman Ray Pedraza. The body was discovered 200 yards north of where the child fell into the canal Wednesday near Ware Road and Auburn Avenue, Pedraza said.

McAllen fire Chief Rafael Balderas was on the scene late Thursday night as the discovery was made.

As the search for Perri hit 24 hours Thursday night, the McAllen Fire Department mobilized eight teams to scan the receding waters of the canal he fell into near his home.

The McAllen Fire Department led the search for Perri, who reportedly tripped and landed in the canal near Ware Road and Auburn Avenue about 7:10 p.m. Wednesday.

Balderas said he and police Chief Victor Rodriguez spoke to the boy's family Wednesday night, telling them the search had turned from a rescue effort into an attempt to recover their son's body.

A while later, about 5 p.m., Balderas said the canal's waters had receded by several feet to a depth of about three feet.

The two-person search teams sent out Thursday night, along with other

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personnel, made for a search party of about 25. Balderas said it was hoped the water would be low enough to easily see the boy.

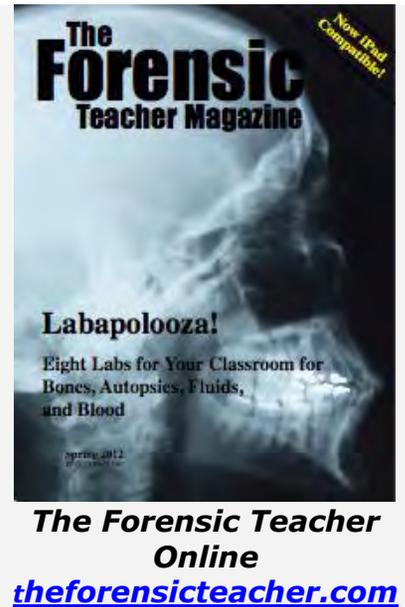
Officials said the chilly water temperature hindered the likelihood the boy's body would float to the surface sooner than later.

The 12-foot-deep canal maintained by Hidalgo County Irrigation District 1 stretches at least 26 miles from Penitas to the site where the boy fell, Field Operation Superintendent Richard Garza said.

Garza said he made the decision to drain the canal, shutting it down, with the approval of the district board Thursday morning.

"It had to be done," he said.

Garza said the controversy surrounding last year's search for Andres Frias, after the 18-year-old fell to his death in a canal south of McAllen, influenced his decision. For a time, Hidalgo County Irrigation District 2 officials said they would not drain the canal Frias fell into because it would affect five cities and thousands of acres of farmland.



The canal Perri fell into supplies Edinburg, Sharyland and Alamo, Garza said. The cities were aware of the shutdown and made preparations, he said.

Because thousands of gallons of water flows through the canal, it takes some time for it to drain and recent drought has pushed more through for farmers irrigating their lands, he explained.

The McAllen fire chief warned canals are often misleading; while the surface water appears calm, the undercurrent is very strong.

Authorities searched by land, water and air via a Texas Department of Public Safety helicopter for Perri. McAllen sent four engine companies, while the Mission Fire Department dive team used a boat and sonar to locate the boy. Edinburg and Pharr fire departments lent their equipment.

About 6:30 p.m. Thursday, a woman whom officials identified as the boy's grandmother stood anxiously watching on the canal banks.

The logo for M&J Engineering is circular. It features a lightbulb and a nut/bolt assembly in the center. The text 'OMNISWIVEL' is written around the inner edge of the circle. Below the logo, the company name 'M&J Engineering' is written in a bold, black font. Underneath that, the address '12520 Kirkham Ct #1 San Diego CA 92064' is listed, followed by 'United States'. The phone number 'Phone 1.858.748.9442' and fax number 'Fax 1.858.679.1632' are also provided.

**M&J Engineering**  
12520 Kirkham Ct #1  
San Diego CA 92064  
United States  
Phone 1.858.748.9442  
Fax 1.858.679.1632

The Mission Fire Department dive team had found something.

But, it wasn't John Perri.

Instead, battered and decayed lawn chairs were pulled out.

## Daunting task to recover bodies

[http://www.nzherald.co.nz/nz/news/article.cfm?c\\_id=1&objectid=10874683](http://www.nzherald.co.nz/nz/news/article.cfm?c_id=1&objectid=10874683)

Apr 1, 2013 By Natalie Akoorie



**A rescue helicopter flies over a Coastguard launch at the crash site off Kawhia. The bodies of Eric Hertz and his wife, Kathy Hertz, lie in 60m of water. Photo / Supplied**

The bodies of 2degrees chief executive Eric Hertz and his wife, Kathy, who died when their plane ditched off Kawhia on Saturday, may never be recovered.

Police say they will do everything they can to retrieve the bodies of the American couple, believed trapped in the sunken wreckage, but at 60m below the surface the recovery was a "very complex operation".

Waikato District Inspector Marcus Lynam told media in Raglan that police had to establish the structural integrity of the plane. The police dive squad performed a reconnaissance mission yesterday.

"With the plane 60m down it's very difficult to get any divers at that level," Mr Lynam said.

"I'm led to believe the New Zealand Navy has dived to a depth that deep, however, as you imagine, it's very difficult to get down."

Diving at such depths would require a recompression chamber and the police would decide whether to call in the navy.

Eric Hertz, 58, and Katherine Hertz, 64, were travelling in their twin-engine Beechcraft Baron to Timaru to visit their daughter when they reported engine trouble about 12.20pm on Saturday, crashing shortly after into the sea near Gannet Island.

The crash site was located at 1.30pm where debris and oil was discovered.

The area was extensively searched but the two occupants were not found.

A marker buoy was placed at the scene

An advertisement for G-DIVE products. It features a large 'G DIVE' logo in a blue square. To the right, a list of products is shown: Neck Seals, Wrist Seals, Ankle Seals, Gloves, Hoods, Socks, Finishing Tape, and Adhesive. A black latex glove is shown on the right side. At the bottom, the website 'www.G-DIVE.com' is displayed, along with an American flag and the text 'Made in the U.S.A.'. The tagline 'The Best Latex Seals in the World!' is at the top right.

overnight and police divers spent yesterday afternoon using sonar equipment to survey the area.

Mr Lynam said a high-impact air crash expert, together with sonar findings, indicated the couple remained trapped in the wreck.

The Coastguard had closed an area to the public to allow the mission to proceed.

Waikato Police spokesman Andrew McAlley said it was expected to be a prolonged operation.

Mr McAlley said police would decide today how to proceed with the recovery.

Yesterday, people who knew Mr Hertz or who are familiar with his work paid tribute to him.

The director of corporate affairs at 2degrees, Mat Bolland, said staff were struggling to come to terms with the loss of the company's chief executive.

"I think it's fair to say that the people at 2degrees are in shock. The fact that we won't see him back, or Kathy, is quite stunning. We're going to miss Eric's leadership, friendship and dry sense of humour.

"He was our 'honorary Kiwi' and greatly respected by our 760 staff."

During a management meeting on Thursday, Mr Bolland talked about his plans for the long weekend "and yet again Eric probably had a more exciting weekend planned than many of us".

The board and a management team are working on a plan to ensure the company continues.



**Royal Navy rescue helicopter, police, divers and fire crews joined efforts to rescue the woman. Photograph: Linda Nylind for the Guardian**

Mr Hertz joined 2degrees in 2009, after leading mobile app company Zumobi in the US and with an extensive telecommunications career spanning more than 30 years.

Communications and Information Technology Minister Amy Adams said Mr Hertz was one of the true gentlemen of the sector and it was a pleasure to work with him.

Ms Adams said Mr Hertz often spoke of how much he loved living in New Zealand. "He has been an integral part of the creation and growth of 2degrees, and there are hundreds of thousands of New Zealanders who are today benefiting from Eric's vision and commitment.

Actor Rhys Darby, who fronts the company's television commercials, said last night: "I'm very sad to hear about the loss of Eric and Kathy Hertz. My heart goes out to

their family, in particular their daughter, Ari, and all the team at 2degrees who appreciated their success was due in part to his humour, determination and leadership."

Gary Holmes, manager of the business association in Eden Tce, Auckland where 2degrees has a number of offices said Mr Hertz had been a big supporter of the precinct.

A US Embassy spokesman said staff were in contact with police and were actively tracking the situation.

### **TWIN ENGINE FAILURE 'RARE'**

An aviation commentator says it is rare for a twin-engined plane to go down because of engine failure.

Peter Clark said it was vital to raise the wreckage to find out what went wrong.

"A twin-engine aircraft failing and going down so quickly, you just don't hear of that. It's really rare to have both engines fail."

"It was very good conditions and for no one to have survived the accident is very, very unusual because you would think there would have been an opportunity to have glided and landed on the water."

"This, to me, is an extremely rare case."

Mr Clark said he was surprised that Eric Hertz and his wife, Kathy, were not able to get out of the doors.



A Civil Aviation Authority investigation would check the petrol levels, petrol quality and maintenance logs to uncover what went wrong.

There is no voice or data recorder on the Beechcraft Baron plane.

"It's essential to get the aircraft out of the water, if they can, so they can begin an investigation," said Mr Clark.

### **Police divers join search for Dow Loch father**

<http://www.scotsman.com/news/scottish-news/top-stories/police-divers-join-search-for-dow-loch-father-1-2872044>

**2 April 2013** FRANK URQUHART

SPECIALIST police divers, using sonar equipment, were today drafted in to search for the body of a father-of-two who fell through an ice-covered loch after spending the day sledging with his family on a remote Scottish hillside.

The 47-year-old man, who has still to be named, had been on an Easter Monday fun day out at Dow Loch, in the Cleish Hills close to the border between Perth and Kinross, and Fife when he disappeared beneath the partially frozen surface of the loch.

He had shouted to his wife and two teenage daughters to get clear of the loch surface when they tried to reach him.

At the height of the frantic search for the missing man fire crews from Perth, Dundee, Kinross and Lochgelly were joined by two RAF Sea King search and rescue helicopters.

The crews of the two rescue helicopters were deployed to break the thick ice on the surface of the loch by using the downdraft of their rotor blades and firefighters also battled in subzero temperatures to break the ice so they could deploy sleds and rescue boats onto the loch. But as darkness fell there was still no trace of the missing man.

Specialist divers from the underwater search team of the Grampian division of Police Scotland were today deployed to the area in the hope of recovering the body of the missing man.

Sergeant Ian Shepherd, from the Tayside division of the national force who is coordinating the search effort, revealed that the father had fallen into the water when he and his wife and two teenage daughters ventured out onto the ice covered surface of the small loch after sledging on a nearby hillside.

He said: "My understanding is that the family had been in the area sledging because there is a fair bit of snow still around. They had then ventured out on to the loch .It is a small loch right on



**Credits: QMI AGENCY**

the top of the Cleish Hills - little more than a large pool of stagnant water. It had frozen over.

**"They had been walking on the loch and the father of the family wandered further out than anybody else and had fallen through the thinner ice as he got toward the middle of the loch."**

Sgt Shepherd continued: "The family had obviously done what they could to reach him, bearing in mind their own safety, but he had shouted to them to get off the ice. The family are absolutely distraught.

One of the two young teenage daughters had raced down the hillside to get to a location where she could get a signal for her mobile phone to summon the emergency services.

Sgt Shepherd explained: "There were no other families there. It's quite an inaccessible spot and they were on their own. The eldest daughter ran back down to the road - about distance of a mile - to raise the alarm. Sgt Shepherd admitted that there now "no hope" of finding the missing father alive. He said: "I think it moved yesterday from a rescue operation to a recovery operation.



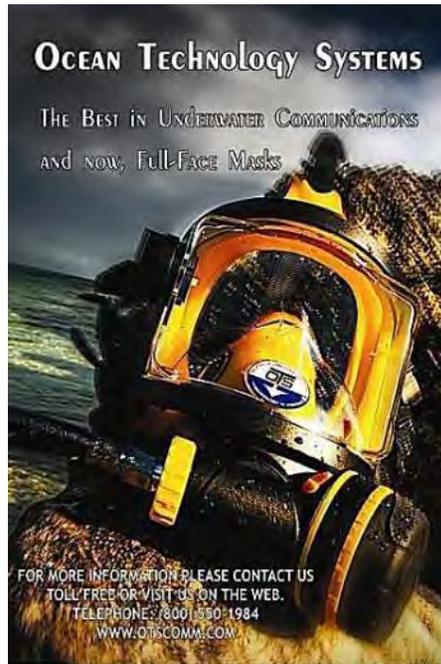
"Today members of the underwater search team are conducting a sonar search of the loch and we also have divers in the water. There has been no trace of the missing man **so far.**" He said the tragedy should serve as a warning of the dangers of venturing out onto ice during the current cold spell.

**Said Sgt Shepherd:** "Only in very exceptional circumstances should people consider going onto the ice. The only time that would ever be would be like a bonspiel where experts have **said it is safe.**"

Morven McDonald, a watch manager with the Scottish Fire and Rescue Service in Dundee, said that the emergency services had been called to Dow Loch shortly before 3pm on Monday following reports that a man was missing after falling through the ice covered loch.

**She said:** "A full Scottish Fire and Rescue Service (SFRS) water rescue team and supporting personnel were mobilised to the scene to locate the man. Police, ambulance and two search and rescue helicopters were also called to the incident.

"Emergency services have been working in very cold conditions for several hours to resolve the situation but



concerns have heightened with no signs of the man since the alarm was first raised."

**Ms McDonald explained:** "Firefighters had to travel to the area on foot as it was a considerable distance from the roadway, climbing an 150 foot ridge to gain access to the loch. Around 40 per cent of the water was covered with ice and fire crews initially deployed throw lines and a hose deflation kit into the water. A water rescue sled was then used to try and locate the man who had become submerged after it's believed he fell through the ice.

"Firefighters used ceiling hooks to break up the ice and access the loch with sleds and rescue boats." She continued: "The search and rescue helicopters were also mobilised to the incident and used their downdraft to help break through the thick ice covering the loch and improve the passage for two Scottish Fire and Rescue Service boats.

"Sadly despite the intense and concentrated efforts of all the emergency services at the scene the casualty has not yet been located. Police underwater search teams are now searching the water with support from a Scottish Fire and Rescue Service boat and safety team. Firefighters have also used ceiling hooks to dredge below the surface from a rescue sled."

A spokesman for the Scottish Fire and Rescue Service said: "We were quickly able to mobilise specialist resources including a full water rescue team and two SFRS boats to this incident. This was a remote location with the loch some way from the roadside and firefighters were only able to reach the incident carrying specialist equipment on foot.

“This appears to be a tragic incident but every effort is being made to locate the man with a full multi-agency response including the SFRS, police, ambulance crews, search and rescue helicopters and underwater police search teams.”

## **RCMP recover missing man’s body from St. Anns Bay in Cape Breton ferry incident**

<http://metronews.ca/news/halifax/617714/divers-discover-large-object-as-search-resumes-for-car-that-plunged-off-cape-breton-ferry/>

**April 2, 2013 By Staff Cape Breton Post**

A car that plunged off a raised ferry ramp into the icy waters of St. Anns Bay eight days ago was recovered Tuesday afternoon along with the remains of 81-year-old Jerry Hengeveld who had been reported missing by family since Friday.

**RCMP divers recovered Hengeveld’s remains from the submerged car at approximately 2 p.m., prior to having a tow truck operator haul the man’s silver-coloured Toyota Camry on to the shoreline on its roof.**

**Police confirmed the Waterville, Kings Co. man’s identity using his driver’s licence and other identification that was found on Hengeveld in the car. His family was notified of his death shortly after an RCMP dive unit pulled the man’s body out of the water.**

**“It brings some sort of closure to the family but it’s something you wouldn’t want to see placed on anybody. It’s going to be a hard day for the family for sure,”** said RCMP Staff Sgt. Craig Yorke, as he spoke with reporters on the windswept shoreline at Jersey Cove.



**CAPE BRETON POST \* The car of Jerry Hengeveld, 81, was found by police and brought to shore near the Englishtown ferry on Tuesday concluding the search for a car that drove off the ferry and into the frigid waters on March 25. Hengeveld’s body was also recovered in Tuesday’s search**

At midday, divers used a single buoy to mark the area where the vehicle had been found.

Earlier Tuesday morning, a side-scan sonar used by investigators picked up an image of a large object approximately 200 metres from the ferry terminal. When the car plunged in the bay shortly before 9 p.m. on March 25, several witnesses said that was the general vicinity where they last saw the car before it sunk in strong currents.

Divers worked to secure a line between the chartered fishing boat Second M of Sydney and the vehicle, which was under more than 12 metres of water. The boat slowly hauled the car to shallow water on the Jersey Cove side of the channel. It was at this point divers retrieved Hengeveld’s body from the car, covering it in a thick

plastic bag, before returning to the surface. Several men were needed to lift the body into the zodiac.

Yorke said the human remains were taken to shore near the ferry terminal, out of the view of the more than dozen onlookers who gathered to watch the recovery effort.

RCMP identification services were to photograph the body **and then take it to the medical examiner's office in Halifax** where an autopsy is to be performed, he said. **"They'll check for any underlying diseases the person may have had. That's all I can say in that respect."**

**Hengeveld's daughter, Linda Halliday, told reporters prior to learning it was her father in the vehicle, that he was an independent, religious man who wasn't depressed, or would ever contemplate taking his own life.**

Family members said Hengeveld had experienced short-term memory problems lately and had been known to travel for extended periods without taking time to rest or eat, despite pleas from his family for him not to do this. The RCMP said last week Hengeveld was last spotted at a gas station in Baddeck on March 25. He was in the area visiting relatives, according to Halliday.

She said she heard reports about a car driving off the **Englishtown ferry, but it wasn't until Friday morning when relatives called to ask if she'd seen Hengeveld that she began to suspect something wasn't right.**

Hengeveld was last seen by family driving his Toyota Camry on March 24. The RCMP have impounded the car for a mechanical review at its North Sydney detachment.

The Department of Transportation, responsible for **operating the province's seven cable ferries, is currently conducting its own investigation into the incident.**

## **Photos: Ky. firefighter trapped during river rescue**

***The firefighter was trapped in the water and pulled across rocky terrain***

<http://www.firerescue1.com/fire-products/water-rescue/articles/1426732-Photos-Ky-firefighter-trapped-during-river-rescue/>

April 3, 2013 By FireRescue1 Staff

BOWLING GREEN, Ky. — A Ky. firefighter was injured during a river rescue operation to save two teenagers after their fishing boat became stuck on rocks Monday.

The teens became trapped after their motor lost power near some of the rockiest conditions on the Barren River, according to **The Daily News.**



**All photos Joe Imel/Daily News**

They were taken safely to shore on a rescue boat.

During the operation, one firefighter became trapped in the water as he attempted to provide life jackets to the teens and was pulled across the rocky terrain.

Other firefighters were able to help him safely but he suffered an ankle injury in the incident, according to the report.



**View more photos from the incident at  
[The Daily News.](#)**

## **Diversity Gone Wild: Lifeguards Who Can't Swim?**

<http://www.gopusa.com/theloft/2013/04/05/diversity-gone-wild-lifeguards-who-cant-swim/?subscriber=1>

April 5, 2013 **By Bobby Eberle**

Here is another case of just how messed up our country is. The left is notorious for finding a "problem" that doesn't really exist and then doing everything, fair or not, to correct the so-called problem or injustice. That's exactly what's going on in Phoenix where there is a push to hire minority lifeguards, even if the recruits can't swim!

As reported at [NPR.org](#), the Phoenix aquatics department noticed a "problem." At the public pools that are used mostly by black and hispanic kids, the lifeguards were mostly white. Horrors, right? Thus, the quest began to recruit more minorities to be lifeguards.

The report indicates that the old "model" used to be that the city would recruit from schools that had swim teams, i.e. that had better swimmers, and these better swimmers happened to be white. And this is somehow a problem? Apparently so.

"The kids in the pool are all either Hispanic or black or whatever, and every lifeguard is white," Kelly Martinez (who works for the city) says, "and we don't like that. The kids don't relate; there's language issues."

Question... when someone is flailing his or her arms in the air, is it in a particular language? What about when the person starts sinking to the bottom of the pool? Is that in German, English, or Spanish?

[Judicial Watch](#) digs more into the story and reports that thousands of dollars were raised to recruit minorities for the job of lifeguard, even if the minorities were not good swimmers.

Evidently officials are willing to compromise those "effective services" at 29 public swimming pools spread throughout the city. To diversify the lifeguard force, Phoenix will spend thousands of dollars to recruit minorities even if they're not strong swimmers, according to an official quoted in a news report. Blacks, Latinos and Asians who may not necessarily qualify can still get hired, says the city official who adds that "we will work with you in your swimming abilities."



If a person is drowning, do you think he or she cares who is doing the saving? Probably not. However, the sinking person probably hopes that the person doing the saving can actually

## Michael Evans, Anthony Elliot, And Two Others Arrested After Nevada Official William McCune's Body Found In River

[http://www.huffingtonpost.com/2013/04/07/michael-evans-anthony-elliott\\_n\\_3034380.html?1365381234&cid=main-grid10%7Chtmlw-main-bp%7Cd5%7Csec3-link1%26pl%3D294860](http://www.huffingtonpost.com/2013/04/07/michael-evans-anthony-elliott_n_3034380.html?1365381234&cid=main-grid10%7Chtmlw-main-bp%7Cd5%7Csec3-link1%26pl%3D294860)

By MARTIN GRIFFITH 04/07/13

**RENO, Nev.** Investigators believe four suspects stole property in the apartment of Nevada's chief insurance examiner before killing him and dumping his body in a river, authorities said Sunday.

Carson City Sheriff Ken Furlong said all four suspects have been booked on murder charges in the death of

William McCune, 62, whose blanket-wrapped, duct-tape-bound body was found Saturday.



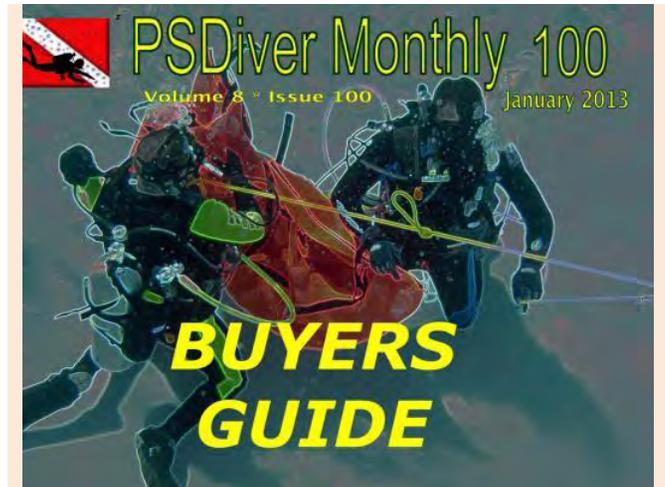
**William McCune**

Initially, Michael Evans, 23, and Anthony Elliot, 20, were booked on murder charges, while Raul Garcia, 22, and Makyla Blackmore, 20, were arrested on burglary charges. But Furlong said Sunday that Garcia and Blackmore were later booked on murder charges.

The suspects are from the Carson City area, he said, and the case isn't related to McCune's work for the state.

Investigators found evidence of a bloody, violent struggle in McCune's apartment on Thursday, the same day he was reported missing after he failed to catch a business flight with a co-worker.

Detectives believe McCune knew two of the suspects socially, Furlong said, and



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the possible motive was the theft of property or money from him driven by illegal drug use. They're still processing evidence at McCune's apartment and trying to compile an accurate list of stolen items, he said.

"We think stealing was quite apparently the motive because they took so much from him," Furlong told The Associated Press. "The mystery is if you intended on robbing and killing him, why did you have to take the body out? That doesn't make sense to me."

Three suspects were arrested Saturday on the Las Vegas Strip after allegedly trying to sell a "computer item," the sheriff said. Investigators were trying to determine whether it belonged to McCune.

Evans was taken into custody in Carson City, while authorities believe the other three suspects fled Carson City for Las Vegas after news broke of McCune's disappearance.

All four suspects were spotted near McCune's apartment around the time of his disappearance, and businesses frequented by the suspects provided important tips that led to their arrests, Furlong said. He declined to elaborate.

Authorities were unsure how long two of the suspects and McCune knew each other or how they met.

It wasn't clear Sunday whether any of the four had an attorney, and the Las Vegas and Carson City jails don't make new inmates available to the media for comment. The three suspects in Las Vegas are expected to be returned to Carson City within a week.

McCune had held his position since December 2009 and worked similar jobs for two decades before that. As head of the division's corporate and financial affairs section, McCune worked to ensure the solvency of insurance companies in the state. He was charged with ensuring each company had sufficient money in their reserves to cover all claims and obligations.

McCune was single and without any known children, Furlong said, and there was no forced entry at his home.

Investigators believe the body found in the Carson River

Saturday was that of McCune, even though a positive identification and cause of death are not expected to be officially established by the Washoe County medical examiner's office until later this week, he said.



There was no indication yet of the weapon or weapons involved in the death, he added, but investigators would have a better idea after autopsy results are released.

While authorities have not found McCune's pickup truck, they located its license plates Friday night at a Carson City residence that Evans was known to have frequented, the sheriff said.

Investigators do not expect any additional arrests in the case. "We believe all the people involved have been taken into custody," Furlong said.

## **American River Rescue: Kayaker Helps Save Family After Crash Into River**

[http://www.huffingtonpost.com/2013/04/08/american-river-rescue\\_n\\_3034940.html?utm\\_hp\\_ref=green&ir=Green](http://www.huffingtonpost.com/2013/04/08/american-river-rescue_n_3034940.html?utm_hp_ref=green&ir=Green)  
04/07/13

### **KYBURZ, Calif**

- A kayaker was being credited with helping to save a family of five after their SUV had veered off a road and ended up in a Northern California river.

The family was driving along Highway 50 near the Sierra Nevada community of Kyburz



**This image provided by the El Dorado County Fire Department shows a crash site where an SUV veered off a road and ended up in the American river near Kyburz, in Northern California. A kayaker is being credited with helping to save the family of five after this SUV landed in the river.**

**(AP Photo/El Dorado County Fire Department)**

Thursday afternoon when their SUV veered off the road, hit a concrete mile marker, a large tree, a boulder and then went into the American River, Sacramento television station KCRA-TV reported.

<http://nbcnews.to/12ykU9j>

A kayaker on the river was able to get three children – a 4-year-old girl and two 15-year-twin girls – out of the SUV and get them to shore, officials said.

When the kayaker – identified as Mark Divittorio of Placerville – went back to the SUV he found the driver with his head partly underwater and the man's wife helping to hold his head up, the station said.

"It was fortuitous that they didn't actually land on me," Divittorio told KCRA. "I was kayaking right there moments before they plunged off the cliff."

A fire crew that happened to be in the area for another call was able to get to the scene within three minutes, Mike Pott, division chief of the El Dorado County Fire Protection District, told The Associated Press.

Firefighters were able to stabilize the

driver and get him and his wife out of the vehicle, which was on its side and half-submerged in the river, Pott said.

The driver, Christian Lemler, 50, of Livermore, suffered moderate to major injuries, said California Highway Patrol Sgt. Mike Poore. With the cause of the crash still under investigation, it had not been determined how fast the SUV was going when it crashed into the river. It was raining at the time, but it was not known if the weather contributed to the crash.

The other family members suffered only bumps and bruises, officials said.

"All the circumstances came together," Pott said. "Several things came together to help save this family."

The two adults and the two teens were wearing seatbelts, while the child was strapped into a car seat, Pott said.

"If they didn't have their seatbelts on I'm sure they would have all been ejected," he said.

The area where the accident took place is in rural El Dorado County, about 75 miles northeast of Sacramento.



## A Coffee Mug for Public Safety Divers

You did not know you needed one of these did you? Just imagine how cool you will look in the morning drinking your coffee from this awesome mug.

Hard to contain your excitement isn't it? Limited supply – Don't wait until they are gone and live with regret for the rest of your life! ....[Order Yours Here!](#)

# 4<sup>th</sup> ANNUAL UWCIS SERIES\* BODY AND WEAPON RECOVERY SPECIALTY

May 10 - 12, 2013

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**Bob Wentz Park, Lake Travis**

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**CLASS SIZE IS LIMITED**

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PREPAID OR LATE  
REGISTRATIONS MUST  
BE IN BY 8AM MAY 10,  
2013 via SNAIL MAIL,  
EMAIL or PAID IN FULL  
IN PERSON.**



**\*The Underwater Crime Scene Series programs are stand-alone courses and can be attended in any order.**

Participants will gain classroom knowledge on basic concepts of zero visibility search and recovery, evidence handling, terminology, safety issues, standards information and the Public Safety Diving Discipline.

Attention is placed on zero visibility diving, diver and team safety, documentation and paperwork and successful dive missions. Participants will practice classroom skills to an acceptable level of proficiency in a clear water pool using blacked out masks and

will gain real experience in methods of underwater search and recovery in the simulated zero visibility environments.

During our open water scenario training, participants in the Body and Weapons Recovery Specialty will be challenged with successfully performing a search and evidence recovery of at least one weapon and will perform at least one successful body recovery.

Participants will receive specialty certifications through Emergency Response Diving International (ERDI). [Click Here](#)

To participate in water training participant must hold current open water SCUBA certification and meet the prerequisite medical release requirements.

**Medical and Liability Release Forms** These forms **MUST BE COMPLETED** and submitted before students will be allowed to participate. The forms can be downloaded at: <http://psdiver.com/uwcrimesceneseries.html> [Click Here](#)

The forms may be submitted in advance or at the start of the course. The medical release is a standard RSTC Medical Release. **Participants are asked to fill out the questionnaire.** If any question is answered 'Yes' - a physician release is necessary. Medical conditions that require a physician release will disallow divers participating in the scuba exercises if a medical release is not presented PRIOR to the start of the programs\*.

Prerequisites: Scuba participants **MUST** be a minimum of OW certified and should have a dive log showing no less than 15 dives.

**Payment is required at the time of registration. Please make check or money order payable to:**



**Travis County Emergency Unit**  
PO Box 141592  
Austin, Texas 78714-1592

For more information or to RESERVE spots call:

Neil Crump: 512-771-6075



**Email:** [ncrumpster@gmail.com](mailto:ncrumpster@gmail.com) [Click Here](#)

**Cancellation Policy** Cancellations received prior to 3 weeks before the start date of the class will receive a full refund. Cancellations received 8-14 days prior to class start date will receive a 50% refund. Cancellations received 0-7 days prior to class start date will not receive a refund.

Students **MUST** participate in all evolutions to qualify for certificate of completion and payment will **NOT** insure certificate. Water skills will be tested.

**Co-Hosted by:**  
**Toms Dive & Swim**  
**5909 Burnet Rd**  
**Austin, TX 78757-3224**  
**(512) 451-3425**

Participants must provide their own basic scuba gear. If necessary, some extra gear will be available but **prearrangement will be required** to insure you will have what you need. Please bring tanks and weights if you are driving. Air refills will be provided at no cost.

### Underwater Crime Scene Series

**Our scenarios are real.** Students will be challenged with an underwater crime scene in zero visibility and will use the skills and lessons learned to evaluate and conduct an underwater investigation and recovery. Safety, techniques, documentation and attention to detail will be challenged and tested.

The Underwater Crime Scene Specialties are designed to present a new aspect of Public Safety Diving to Fire, Police and SAR, Dive Recovery Teams or Water Response teams who work both above and below the surface.

[Click here to forward this email- Help Us Spread The News!](#)

COMING SOON:

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**UNDERWATER VEHICLE  
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**FIRE FIGHTER WATER SURVIVAL**

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\*\*\*\*\*  
**INDUSTRIAL WATER SAFETY  
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For information on hosting your own class, contact:  
Mark Phillips [PSDiverMonthly@aol.com](mailto:PSDiverMonthly@aol.com)

[Click Here](#)



## SPONSOR NEWS

### EdgeTech Welcomes Industry Expert: Les Ford

**EdgeTech**, the leader in high resolution sonar imaging systems and underwater technology, has hired marine industry expert Les Ford in a consultancy role with the company. With over 30 years in the industry, Mr. Ford has extensive operational and managerial experience with EdgeTech equipment and other respected marine technology solutions.

After a stint with the nuclear power industry, Mr. Ford began his marine endeavours in the North Sea while working with EG&G and subsequently worked with many deep water projects while part of ORE and Oretch BV. In 1994 he founded Sonar Equipment Services and worked extensively with EdgeTech equipment including the 4200 Side Scan Sonar and the 2000 Series Combined Side Scan Sonar & Sub-bottom Profiler in addition to **many other key components in customers' marine technology solutions.** Mr. Ford has assisted clients, and worked directly, on a diverse range of subsea projects including cable surveys, UXO clearance programs, wreck searches, pipeline inspections and much more. He has successfully integrated and adapted marine technology solutions into various deep water applications on **platforms ranging from ROV's to deep towed systems.**

In his role with the company Les Ford will work with EdgeTech on a number of business development activities focused on a range of growing sectors including side scan sonars, sub-bottom profilers, swath bathymetry systems, hosted platform products (AUV / ROV) and underwater positioning and tracking (USBL) solutions.

### L-3 Klein to Provide Its S5900 Side Scan Sonar Systems for the Royal Canadian Navy's Route Survey System Life Extension Program

**SALEM, N.H., March 19, 2013** – L-3 Klein Associates, Inc. announced today that it has received a \$4.3 million award from MacDonald, Dettwiler and Associates Ltd. (MDA) of Canada to supply four of its S5900 side scan sonar systems **and accessories for the Royal Canadian Navy's Route Survey System Life Extension (RSSLE) Program.**

The RSSLE Program will provide required updates for certain **subsystems of Canada's Integrated Survey and Inspection System (ISIS)**, operated in the Kingston-class Maritime Coastal Defense Vessels (MCDVs). The S5900, together with other updates, will provide the Canadian Armed Forces with extended in-service life-cycle support through the end of the planned operational life of the MCDV fleet (projected to at least 2025). The system will also provide improved seabed obstacle detection capability and a reduced risk of obstacle collision and tow body grounding during operations.

**"We are extremely pleased by the award of this contract, as the Royal Canadian Navy's mine countermeasures capabilities are respected worldwide,"** said John Cotumaccio, president of L-3 Klein. **"The selection of the S5900 side scan sonar by Canada, following on the heels of a contract from the U.S. Naval Oceanographic Office for seven S5900 systems, solidly establishes the Klein S5900 as the COTS system of choice for mine-like object detection and classification, both domestically and internationally."** **Route survey is an essential component of Canada's overarching naval mine countermeasures capability.** As an additional benefit, the operational capabilities of the Route Survey System (RSS) make it ideal to provide underwater maritime domain awareness in support of other Canadian defense requirements.



The Klein S5900 is a commercial-off-the-shelf multi-beam side scan sonar with sensors and capabilities that are ideally suited to mine-like object detection. The sonar provides high-speed, high-resolution imaging for sea bottom mapping **in detection and classification modes.** The addition of Klein's gap filler sonar on the S5900 tow body provides coverage in the sonar nadir region, thus enabling single-pass, 100 percent bottom coverage that reduces survey times by 40 to 60 percent. The high background-to-shadow contrast ratio of the S5900 enhances bottom features and target definition, while motion compensation in the advanced beam-forming technologies nullifies blurring caused by tow body motion.

L-3 Klein, a division of L-3 Marine & Power Systems, located in Salem, N.H., is a leading sensor technology provider that manufactures and designs high-resolution sonar systems, marine navigation systems, and radar-based security and surveillance systems. With over 40 years of experience, L-3 Klein's customers include commercial, government and military organizations; shipping and offshore oil companies and related support contractors; maritime facilities; academic institutions; and underwater vehicle manufacturers. To learn more, please visit the company's website at [www.L-3com.com/Klein](http://www.L-3com.com/Klein).

Comprising 25 operating companies, L-3 Marine & Power Systems (L-3 M&PS) is a worldwide leader in maritime automation and control, navigation, communications, dynamic positioning, and power distribution and conditioning for the U.S. Navy, allied foreign navies and commercial customers worldwide. L-3 M&PS also produces full-fidelity simulators for increased operator proficiency, resulting in safe operations for leading utilities and ship operators worldwide. With over 85 locations in 19 countries, L-3 M&PS is a cohesive, global partner with extensive capabilities and a proven track record in delivering the highest level of technology, service and integration. To learn more about L-3

Marine & Power Systems, please visit the company's website at [www.L-3com.com](http://www.L-3com.com).

Headquartered in New York City, L-3 employs approximately 51,000 people worldwide and is a prime contractor in C<sup>3</sup>ISR (Command, Control, Communications, Intelligence, Surveillance and Reconnaissance) systems, aircraft modernization and maintenance, and national security solutions. L-3 is also a leading provider of a broad range of electronic systems used on military and commercial platforms. The company reported 2012 sales of \$13.1 billion. To learn more about L-3, please visit the company's website at [www.L-3com.com](http://www.L-3com.com).



## Carol Christini adds Risk Management Course for Sport Divers to ReadyDiver.com

<http://www.divenewswire.com/NewsITems.aspx?newsID=12602>

4/9/2013

***The new ReadyDiver™ Sport Risk Management Course for the Recreational Diver is announced by Carol Christini.***



**ReadyDiver™ Sport: Risk Management for Divers** introduces the importance of understanding diver risk and obligations; dive buddy support, assistance and response; divers are responsible for their own safety and how divers can better manage their risks.

Following this course, divers will realize how managing their diving risks and demonstrating good

diver behavior will ultimately create a greater safety margin and a more enjoyable diving lifestyle.

Carol Christini stated, "Divers want to be in a position to understand and reduce risks where possible. An in-depth understanding and recognizing options allow divers **greater decision making abilities to minimize risks.**" Risk management is important in diving and **ReadyDiver™ Sport** is simply another tool. Risk management does not need to be scary. Risk management is common sense based and simple, and creates a more enjoyable dive experience for all. It is in divers best interest to mitigate risks.

This Risk Management Program for Sport Divers has taken six months to develop and a team of 14 contributors. The **ReadyDiver™ Sport** self-study course offers different, exciting and refreshing new concepts and will take approximately an hour and a half hour to complete and includes an exam.

**The course covers:**

- Risk and Obligations
- The Risk Threshold
- Diver Critical Thinking and the ReadyDiver OODA Loop
- Diver Competency – ReadyDiver 4 Cs of Diving
- Prevention and Management of Problems
- And Much More

Once the course is completed, each **ReadyDiver™ Sport** participant will be provided documentation of their Pursuit of

Good Diver Behavior.

**This course is also available in classroom style and can be taught by ReadyDiver™ Pros or at your local dive store.** Not a ReadyDiver Pro yet? Visit the [www.readydiver.com](http://www.readydiver.com) website, register and complete the ReadyDiver Pro Course and ReadyDiver Sport Course to become qualified to teach the ReadyDiver Sport Risk Management Course to your divers.

**The time is now to learn new diver risk management tools. Go to ReadyDiver.com and register to begin your pursuit of good diver behavior today!**

**ReadyDiver™** introduced the first course in January, **ReadyDiver™ Pro** an Advanced Risk Management for Dive Professionals, which provides new concepts in risk management, critical thinking, decision making, causes of accidents, professional responsibility, levels of responsibility, common areas of concern, and what to do in an emergency. This course is available to the industry

regardless of where professionals purchase insurance or have agency affiliation, if you work in the diving industry the ReadyDiver.com website is for you.

**ReadyDiver.com** is a website that focuses only on risk management for the diving industry and is dedicated to honor Jon Hardy for his many contributions to minimize and eliminate risk in diving. "It is very exciting to offer a new approach in risk management concept and to offer industry-wide accessibility," shared Carol Christini.

**Carol Christini, M.A. is located in Windsor, Colorado. She is the President of Insurance Management Services, Inc. and has offered insurance and risk guidance to the diving industry for 29 years and she authored more than 40 risk management articles. For questions on dive risk management contact Carol at [questions@readydiver.com](mailto:questions@readydiver.com)**



# RECALL NOTICE

## Aqua Lung Recalls Buoyancy Compensators Due to Drowning Hazard

Consumers should stop using this product unless otherwise instructed. It is illegal to resell or attempt to resell a recalled consumer product.

**Recall date: March 21, 2013**  
**Recall number: 13-146**

### Name of product:

Aqua Lung buoyancy compensators with SureLock II weight pocket handles

### Hazard:

The rubber handles can detach as divers are trying to remove the weight pockets to rise to the surface in an emergency. This poses a drowning hazard.

**Remedy:** [View Details](#) [Replace](#)

**Consumer Contact:** Aqua Lung; toll-free at (855) 355-7170 from 8 a.m. to 5 p.m. PT Monday through Friday or online at [www.aqualung.com](http://www.aqualung.com) and click on Recall Notice for more information.

[Report an Incident Involving this Product](#)

**Units: About 110,000**

This recall involves all Aqua Lung



buoyancy compensators with SureLock II rubber handles attached to weight pockets, including the following models: Axiom, Axiom i3, Balance, Black Diamond, Dimension, Libra, Lotus, Pearl, Pearl i3, Pro LT, Pro QD, Pro QDi3 and Zuma buoyancy compensators. The SureLock II handles are gray rubber and measure about 2 inches tall by 4 inches wide. The buoyancy compensator's model name is embroidered on the inside back pad or the weight pocket's right lobe. "SureLock" is molded into the back of the weight pocket.

### Incidents/Injuries

Aqua Lung is aware of 236 reports of handles detaching from the weight pockets. There are no reported injuries.

**Remedy:** Consumers should stop using the recalled buoyancy compensators and return the two weight pockets to an authorized Aqua Lung dealer to receive a free inspection and free replacement for recalled weight pocket handles.

**Sold at:** Sporting goods and scuba diving stores nationwide from September 2008 through September 2012 for between \$460 and \$700 for the buoyancy compensator with the weight pockets.

**Importer: Aqua Lung America, of Vista, Calif.**  
**Manufactured in China and Mexico**

The U.S. Consumer Product Safety Commission (CPSC) is still interested in receiving incident or injury reports that are either directly related to this product recall or involve a different hazard with the same product. Please tell us about your experience with the product on [SaferProducts.gov](http://SaferProducts.gov)

CPSC is charged with protecting the public from unreasonable risks of injury or death associated



with the use of the thousands of consumer products under the agency's jurisdiction. Deaths, injuries and property damage from consumer product incidents cost the nation more than \$900 billion annually. CPSC is committed to protecting consumers and families from products that pose a fire, electrical, chemical or mechanical hazard. CPSC's work to ensure the safety of consumer products - such as toys, cribs, power tools, cigarette lighters and household chemicals - contributed to a decline in the rate of deaths and injuries associated with consumer products over the past 30 years.

Federal law bars any person from selling products subject to a publicly-announced voluntary recall by a manufacturer or a mandatory recall ordered by the Commission.



We had an awesome turnout at the 2013 Symposium this year! The feedback has been excellent and we are looking to do even more at next year's Symposium! There were so many attendees from diverse representations that it's impossible to write a complete synopsis!

In case you missed the festivities, the presentations and photos are now up on our website:

- [Click HERE to view 2013 Symposium Presentations](#)
- [Click HERE to view photos of the 2013 Symposium](#)



## AIR BAG SAFETY NOTE

<http://www.trescue.com/>

### Deployment of vehicle airbags during flood conditions

#### From: Leicestershire Fire and Rescue Service - UK:

Fire crews recently attended a car stuck in floodwater with two elderly occupants inside. On arrival the wipers appeared to be on intermittent indicating that the ignition was probably still on. The crews were instructed to isolate the ignition which they did. The elderly female occupant was ill and on her way to being admitted to hospital, therefore an ambulance was requested. Approximately one minute later, whilst the crew were waiting for a stretcher to safely evacuate the lady, there were two loud almost simultaneous bangs and both side curtain, drivers and passenger seat airbags deployed.

We can only assume this occurred due to a short circuit in the wiring system caused by water ingress. Crews made immediate efforts to isolate the electrical system by disconnecting the battery. We believe the car had been in the water for no more than five minutes before the airbags deployed. Fortunately no personnel were affected or injured and the incident was recorded as a near miss. The car involved was a Volvo C3 with a 09 plate. The water depth was approximately 2.5 – 3 foot deep.

The AA have also reported that these types of incident have occurred, particularly with VW and Audi vehicles. Some vehicles fitted with electronic handbrakes are activating whilst the vehicle is being driven through flood water, due to the ingress of water shorting out the control modules leaving the car stuck in water.

Emergency crews need to be mindful of these risks when attending vehicles in flood water and ensure wherever possible they keep minimum personnel within a risk area, and a safe distance from any potential hazard.



# Diving Medicine Online

**Ernest Campbell, MD, FACS**

**Comprehensive information about diving and undersea medicine for the non-medical diver, the non-diving physician and the specialist.**

<http://www.scuba-doc.com>

## Oxygen Toxicity

<http://www.scuba-doc.com/oxygentox.html>

### Effects of Oxygen at Depth

The effects of oxygen are increased at depth so that the maximum PO<sub>2</sub> in diving is 1.6 ATA, and this is achieved at 218 fsw breathing air, 132 fsw breathing 32% O<sub>2</sub>, and 20 fsw breathing 100% O<sub>2</sub>.

This is due to the effects of Dalton's Law which states that on descent, the partial pressure of all component gases increase in the same ratio as the total pressure. this results in the creation of the elevated pO<sub>2</sub> that causes the convulsions of O<sub>2</sub> toxicity and is the direct cause of nitrogen narcosis and along with Boyle's law, is the cause of decompression sickness.

All O<sub>2</sub> treatments using 100% O<sub>2</sub> are given at 60 feet or shallower, except for gas gangrene and CO poisoning. This effect is also the limiting factor in the use of nitrox (increased O<sub>2</sub> percentages) in increasing the bottom time of "tech" divers.

### The Paul Bert Effect

- Muscle twitching and spasm
- nausea and vomiting

- dizziness
- vision (tunnel vision) and hearing difficulties (tinnitus)
- twitching of facial muscles
- irritability, confusion and a sense of impending doom
- trouble breathing, anxiety
- unusual fatigue
- incoordination
- Convulsion.

Convulsion at depth in water usually results in drowning or arterial gas embolism and is prevented by not using oxygen breathing with SCUBA and by limiting oxygen exposure with hyperbaric oxygen therapy 100% O<sub>2</sub> greater than 60 FSW.

### Factors increasing risk of O<sub>2</sub> toxicity

- Increasing exposure time
- Increasing depth
- Increasing the percentage of inspired O<sub>2</sub> (As in nitrox mixtures)
- The simple act of immersion setting off the diving reflex
- Exercise increasing the metabolic rate
- Increased CO<sub>2</sub> in the tissues (May be due to cerebral vasodilation)
- Cold stress (Shivering is a form of exercise) Systemic diseases that increase the metabolic rate (such as thyroid diseases)
- Sympathomimetic drugs (Drugs that mimic adrenalin in effect).

Sudafed is a medication often used by divers due to it's decongestive effect. It has few side effects but is a sympathomimetic drug (pseudephedrine). Whether or not

it should be used in nitrox or rebreather diving is discussed by Dr. E.D. Thalmann in DAN's publication a

<http://www.diversalertnetwork.org/medical/articles/article.asp?articleid=51>

"In 1962, none other than DAN's Chief Executive Officer, Dr. Peter Bennett, while working as a research physiologist at the Royal Navy Physiological Laboratory in England, published a paper (Life Sciences; 12:721-727, 1962) testing the hypothesis that oxygen toxicity and nitrogen narcosis were caused by similar mechanisms.

He found that in rats, sympathomimetics seemed to enhance oxygen toxicity. Pseudoephedrine was not tested specifically, but it is a sympathomimetic, so we might infer that it has a similar effect. In addition, our current understanding of the mechanisms which produce oxygen convulsions would predict that sympathomimetic drugs might enhance susceptibility to oxygen convulsions. It has been shown that drugs which inhibit sympathetic stimulation seem to reduce the likelihood of oxygen convulsions in animals. No human studies have ever been done. Thus, at least a theoretical reason exists why pseudoephedrine should be avoided while diving on high PO<sub>2</sub> dives."

### **Mitigation of oxygen toxicity**

**Q.**

We often see long lists of drugs that will increase the risk of CNS and pulmonary oxygen toxicity? Are there any drugs or therapeutic measures that can be taken to reduce the risks of acute oxygen toxicity?

**A.**

This is a question being studied by many for it's benefits

in the area of hyperbarics and in the military for reduction of risks for users of closed circuit breathing apparatus.

Bove, p. 135. "Factors that modify the rate of development of oxygen poisoning"

### **Factors that Delay Onset**

Acclimatization to hypoxia	Reserpine
Adrenergic blocking drugs	Starvation
Antioxidants	Succinate
Chlorpromazine	Trisaminomethane
Gamma-aminobutyric acid	Intermittent exposure
Ganglionic blocking drugs	Disulfiram
Glutathione	Hypothermia
Hypothyroidism	Vitamin E

Edmonds p. 210, mentions aerosolized [recombinant human manganese] superoxide dismutase as a preventive of pulmonary O<sub>2</sub> toxicity. He also mentions glutathione, and disulfiram, GABA, lithium (convulsions in rats), hyperventilation, hypophysectomy, adrenalectomy, adrenergic blockers, some anesthetics, magnesium and superoxide dismutase.

Some close relatives of the Carnobacterium in the Antarctic contain millimolar concentrations of intracellular Mn<sup>2+</sup> which helps these cells to mitigate oxygen toxicity.

Damaging or toxic effects of oxygen therapy likely are related to the unbridled formation and release of reactive oxygen species, such as superoxide, hydroxyl radical, and hydrogen peroxide. Superoxide dismutase, catalase, glutathione, and glutathione reductase keep the formation of these radicals in check until the oxygen load overwhelms the enzymes, leading to the detrimental effects on cell membranes, proteins, and enzymes. Other

antioxidants used by the body include vitamins C and E, selenium, and glutathione.

Interleukin 1 and Polyethylene glycol-attached antioxidant enzymes have been shown to reduce the effects of O2 toxicity in rats.

Due to the other dangers of diving while on drugs, probably the safest measures to take are the intermittent periods of air breathing used quite successfully in the hyperbaric chamber. That this cannot be so easily accomplished in the underwater environment should be readily apparent.

**Pulmonary oxygen toxicity (Lorraine Smith effect)** is a direct time/dose relationship on the lungs caused by a direct effect of O2 on the lungs, blockage of airways, increased CO2, pulmonary surfactant changes, enzyme interference and an inert as effect. The best treatment is prevention and removal of pure O2 at the first signs of toxicity.



**PSDIVER MONTHLY**  
**THE FIRST 38**  
 A collection of our first 38 issues on one disk.  
[Click HERE to Order FIRST 38 disk](#)  
**\$20.00.**

## 2013 EVENTS

### DUI Offers Special Training Workshop for Public Safety Dive Teams

DUI's Dive Ops program is conducted as part of the annual DUI Drysuit Demo Tour. The workshop gives Dive Teams access to equipment and training to keep them safer, tips on grant writing, the ability to network with other teams, as well as the opportunity to TEST DIVE the equipment. GET A DUI [GEAR GUIDE FREE](#)

*April 20-21	Pelham, AL	Dive Alabama
April 27-28	Eureka Springs, AR	Beaver Lake
May 4-5	Gloucester, MA	Stage Fort Park
*May 18-19	Bethlehem, PA	Dutch Springs
June 1-2	S. Beloit, IL	Pearl Lake
June 8-9	Monterey, CA	Monterey Breakwater
*Aug 25	Black River Falls, WI	Wazee Lake
*Sept7-8	Ottawa, OH	Gilboa Quarry
Sept 21-22	Metropolis, IL	Mermet Springs
Sept28-29	Bethlehem, PA	Dutch Springs
Oct 5-6	Alexandria Bay, NY	Alexandria Bay Marine Park
Oct19-20	Rawlings, VA	Lake Rawlings
Nov 2-3	Chiefland, FL	Manatee Springs
*Nov 23-24	Terrell, TX	Clear Springs Scuba Park
<a href="#">Risk Management through Advanced Technology for Public Safety Professionals &amp; Dive Teams at these Events on Friday</a>		



## Ocean Technology Systems Certified Technician Course Schedule

If you need to renew or get started on becoming a certified technician for the Guardian or Interspiro mask, here is your chance!

### Tacoma, WA

*Interspiro AGA* - Thursday, April 18, 2013

*Guardian* - Friday, April 19, 2013

### Clearwater, FL

*Interspiro AGA* - Tuesday, May 21, 2013

*Guardian* - Wednesday, May 22, 2013

### DEMA- Orlando, FL

*Interspiro AGA* - Thursday, November 7, 2013

*Guardian* - Friday, November 8, 2013

We also provide the Guardian technician course **online** for your convenience if you can't make it to the classes. Please inquire with Amie Litzinger to reserve your space or for more information:

➤ **Email:** [amie@otscomm.com](mailto:amie@otscomm.com)

### **April 26-28, 2013**

[Be A Diver Adventure Sports Festival](#)

Fort Lauderdale, Florida

### **May 20-24, 2013 Underwater Investigation Workshop.**

[http://www.chaminade.edu/grad/si/underwater\\_forensic\\_investigation.php](http://www.chaminade.edu/grad/si/underwater_forensic_investigation.php)

Chaminade University, Honolulu, Hawaii

**Jun 8, 2013 - Jun 9, 2013**

[SCUBA SHOW 2013 - Long Beach Events Calendar : Long Beach ...](#)

**November 6-9, 2013**

**[DEMA Show 2013](#)**

Orlando, Florida

**November 12-14**

**Subsea Survey IMMR**

Galveston, TX

[www.subseasurvey.com](http://www.subseasurvey.com)



**December**

**Oil & Gas Safety Conference/OSHA E&P**

[www.oshasafetyconference.org/Events/ugm/Osha2012/default.aspx](http://www.oshasafetyconference.org/Events/ugm/Osha2012/default.aspx)

**If you have an event to share, email the information to [PSDiverMonthly@aol.com](mailto:PSDiverMonthly@aol.com)  
Subject Line - EVENTS**

## **IMPORTANT NUMBERS:**

**Chemical spill information can be obtained by calling 1-800-424-9300.**

**DAN Medical Information Line at 1-919-684-2948  
DAN operates a 24-hour emergency hotline  
(1-919-684-9111) to help divers in need of medical emergency assistance for diving or non-diving incidents**

**Centers for Disease Control and Prevention  
1600 Clifton Rd. Atlanta, GA 30333, USA  
800-CDC-INFO (800-232-4636)  
[cdcinfo@cdc.gov](mailto:cdcinfo@cdc.gov)**



## Continuing Education

### PSDM-CE-102

- 1) Hospitals should have a person, Dive medical Technician, available for assistance with diving emergencies or death. These qualities should include which of the following?
  - a. Diving physics and physiology
  - b. Inert gas narcosis
  - c. Gas toxicities
  - d. Ear and sinus trauma
  - e. Decompression sickness (DCS)
  - f. All of the above
  
- 2) The \_\_\_\_\_ of development of the maggots tell how long a body must have been lying at the place it was found.
  - a. Stomach contents
  - b. Eye size
  - c. Size and Stage
  - d. Movement
  
- 3) All Sonar works the same. Price makes no difference.
  - a. True      False
  
- 4) The maximum PO<sub>2</sub> in diving is \_\_\_\_\_ ATA
  - a. 1.0
  - b. 2.0
  - c. .5
  - d. 1.6
  
- 5) The effects of oxygen are \_\_\_\_\_ at depth.
  - a. Decreased
  - b. Increased
  - c. Unaffected
  - d. Varies with age of diver
  - e. Any of the above
  
- 6) Dalton's Law which states that on descent, the partial pressure of all component gases \_\_\_\_\_ in the same ratio as the total pressure.
  - a. Increase
  - b. Decrease
  - c. Remain the same
  - d. Increase at first and then decrease as we go deeper.
  
- 7) All O<sub>2</sub> treatments using 100% O<sub>2</sub> are given at \_\_\_\_\_ feet or shallower.
  - a. 100
  - b. 133
  - c. 15
  - d. 25
  - e. 60
  
- 8) Convulsion at depth in water usually results in \_\_\_\_\_ or \_\_\_\_\_.
  - a. Acid Reflux, Stomach gas
  - b. Blindness, Loss of hearing
  - c. Drowning, Arterial gas embolism
  - d. Any or all of the above

- 9) The maximum for P02 in diving is \_\_\_\_fsw at \_\_\_\_ %O2 and \_\_\_\_fsw at \_\_\_\_%O2.
- 150 & 70 100 & 25
  - 200 & 70 100 & 50
  - 132 & 32 20 & 100
  - 300 & 70 100 & 50
- 10) Risk management should be addressed in your SOG/SOP.
- True
  - False
- 11) \_\_\_\_\_ bars any person from selling products subject to a publicly-announced voluntary recall by a manufacturer or a mandatory recall ordered by the Commission.
- Smith Cline case trial
  - State OSH
  - FDEA
  - Federal law
- 12) *Background reverberation* is the unwanted echoes from other reflectors that mask targets of interest. These can be from \_\_\_\_\_.
- Surface
  - Mid-water
  - Bottom
  - Any of the above
  - None of the above

**If you would like to be part of our Continuing Education Team and help us with this section contact Mark at [PSDiverMonthly@aol.com](mailto:PSDiverMonthly@aol.com) – Subject Line: Continuing Ed.**

## TEAM DISCUSSION:

- As a team, identify and discuss the resources in your own region that your team could use OR provide. Include trained dive teams, equipment, sonar equipment AND operators, boats, and anything else you decide. Once identified, document the resource, where it is, how it can be obtained and utilized etc. and include the document in your operational guidelines.
- Discuss with your team the characteristics of oxygen percentages used in your diving profiles.
- Discuss your **team's** risk management training or lack of.

**PSDiver Monthly is a free subscriber E-Zine distributed by Press Release notice and website download. We have a world wide distribution and a verified email subscriber list of over 13,000.**

**PSDiver Monthly is the magazine for PSDiver and is edited and published by [Mark Phillips](#)**

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**Public Safety Diving**

**Association (PSDA)** recognizes and approves the PSDiver CE program. Each month's Q&A program credits 1 CEU for renewal up to a maximum of 3 CEUs from this source for each year's renewal.



**ERDI** Recognizes and supports the PSDiver Monthly CE Program. Contact your ERDI Instructor for details.

**Life Saving Resources**

**Lifesaving Resources** advocates the need for Public Safety and Rescue personnel to be trained in Water and Ice Rescue and recognizes the PSDiver Monthly CE Program for continuing education training and credits.



**Lifeguard Systems – TEAM LGS**

**Dive Rescue International**

**Dive Rescue International** has remained exclusively committed to providing training and equipment for all public safety professionals involved in aquatic incidents.



**We welcome all training agencies and organizations to participate. For details, email [PSDiverMonthly@aol.com](mailto:PSDiverMonthly@aol.com)**



***This story happened a while ago in Dublin , and even though it sounds like an Alfred Hitchcock tale, it's true...***

John Bradford, a Dublin University student, was on the side of the road hitchhiking on a very dark night and in the midst of a big storm. The night was rolling on and no car went by.

The storm was so strong he could hardly see a few feet ahead of him. Suddenly, he saw a car slowly coming towards him and stopped.

John, desperate for shelter and without thinking about it, got into the car and closed the door.... only to realize there was nobody behind the wheel and the engine wasn't on.

The car started moving slowly. John looked at the road ahead and saw a curve approaching. Scared, he started to pray, begging for his life. Then, just before the car hit the curve, a hand appeared out of nowhere through the window, and turned the wheel. John, paralyzed with terror, watched as the hand came through the window, but never touched or harmed him.

Shortly thereafter, John saw the lights of a pub appear down the road, so, gathering strength; he jumped out of the car and ran to it. Wet and out of breath, he rushed inside and started telling everybody about the horrible experience he had just had. A silence enveloped the pub when everybody realized he was crying... And wasn't drunk!

Suddenly, the door opened, and two other people walked in from the dark and stormy night. They, like John, were also soaked and out of breath. Looking around, and seeing John Bradford sobbing at the bar, one said to the other....

Look Paddy....there's that idiot that got in the car while we were pushing it.'

CE- 102 Answers											
1	2	3	4	5	6	7	8	9	10	11	12
F	C	A	D	B	A	E	C	C	A	D	D

