



PSDiver Monthly

Volume Number 5

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ISSUE 65

August 2009

NEWS
DIVING MEDICINE
EVENTS
CONTINUING EDUCATION
AND MORE!

Drysuit Maintenance

By Chris Gabel

2009

SCUBA EQUIPMENT
RECALLS & SAFETY NOTICES



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Greetings,

This time of year seems to always be one of the busiest for me. I usually have classes to teach, last minute trips to plan, new projects beginning or even hurricanes and their aftermath to deal with. So far this year the only thing missing is the hurricanes. I can honestly say I am not missing them.

Recently I was tasked with the responsibility of developing a classroom Law Enforcement First Responder for Water Incidents program. When I accepted the task, I had no reservations that I could produce such a program. The time it took and the stress I found myself under was surprising to me. Even though I found myself in unfamiliar territory I thought I was doing OK and did not reach out for help. In the end I produced a 4 hour program that covered most everything I thought was needed.

We did a beta presentation to a group of volunteers from a police academy. When it was over I was pretty pleased with how it had turned out. I spent the next day doing absolutely nothing PSD related and purposefully avoided my computer and the Internet. Having stressed over the program for so long I needed time away from it. With the program essentially finished and tested, I was able to let it go for the first time in over a month. The following day I awoke with a bad feeling. I was bothered by something I could not quite voice. I knew that something about the program was not

quite right. I fired up my laptop and reread my outline and presentation notes. It was not horrible but it was close. It was obvious I had gotten tunnel vision and somewhere gotten lost in the project. I hate admitting it but I had become one of *those* experts who know everything and failed to acknowledge otherwise. I should have asked for help ... but did not think I needed it. Big mistake ... In reality the project was doomed from the beginning and the presentation could have / should have been made in 30 minutes – if I had stayed true to my audience.

Tunnel vision set in without me realizing it. How often do we get tunnel vision on a call? Do we allow ourselves to get so wrapped up in what we are doing we lose sight of the goal? Do we get so focused that we can not see other ways to do things that might be better or safer? Keep this in mind the next time you go out – even if it is just for training. Expand your minds – be more objective and be willing to go down alternate paths if they lead to the same goal. It is a simple thing to say but extraordinarily difficult to do.

Never think you know everything. I got overconfident and screwed up a classroom presentation. In the field, we may learn from our mistakes but we have to survive them first.

Stay Safe,
Mark Phillips
Editor / Publisher

Special to PSDiver Monthly

Drysuit Maintenance

[Chris Gabel](#)

In the Beginning

When we address the history of the drysuit, we have to start with the development of the diving helmet. The first of these was the “smoke helmet” which was invented by Charles and John Dean in England in or around 1824. Two challenges that the brothers faced was that when the diver leaned forward, the “smoke helmet” would flood. The other was to allow air to exhaust out of the helmet.

A short jacket was attached to the helmet and air was allowed to exhaust from the bottom of the garment. This also helped resolve the flooding problem as well and the first divers dress was born. The helmet was modified around 1834 by Augustus Seibe in an effort to turn it in to an underwater diving helmet.

It was George Edwards, however, that really invented the first full divers dress, about 1838. It's Edwards that we should credit or blame for the invention of the first drysuit. Since then we've been inundated with many different designs both in pattern and material. There are some differing versions of the story. For more information, visit or contacting the Historical Diving Society at www.hds.org.

Materials

There are a variety of different types of drysuits on the market today. They all have their assets and liabilities. There is no such thing as the perfect drysuit. Everything has a trade off.

Of the several different drysuits on the market today, some of the most popular are the tri-laminate (Figure 1), butyl rubber, crushed neoprene, and the vulcanized rubber drysuits (Figure 2). For the purposes of this discussion, we'll only be referencing these types of suits.

The tri-laminate is a sort of re-invention of the original divers' dress of sorts. It uses modern synthetic materials to create a thin waterproof barrier. They are highly flexible but provide very little thermal protection. They are also not as chemically resistant as other drysuits. In contrast, the butyl rubber drysuit is highly chemically resistant very resilient suit. Like the tri-laminate suit the butyl rubber drysuit provides little in the way of thermal protection. It's also the least flexible of the suits we're discussing here. Next on the list is the crushed neoprene drysuit. This is a very popular suit that gives a diver



Figure 1

superior thermal protection and is very malleable. The downside is that, like the tri-laminate, it's not very chemically resistant and is not usually field serviceable. Finally, on our list, we have the vulcanized rubber suit. This is a tough suit that has become very popular in the commercial, military, and public safety communities. Although it provides little thermal protection it ranks just below butyl rubber for its chemical resistant protection properties. The vulcanized rubber drysuits are also more flexible than the butyl rubber suits and are field serviceable.



Figure 2

Seal Preference

Two of the most common are latex and crushed neoprene. I know, I know, you also have vulcanized rubber for the neck dams that can be installed to mate with dive helmets. In that case, you don't have a choice and a latex neck seal is commonly used underneath the neck dam. You're also talking about an environmentally

sealed system which changes some of the rules. In that case, you're also diving dry gloves that, by definition, separate the wrist seals from the surrounding water. A neoprene seal usually lasts longer and is not as prone to accidental damage as latex is. However, latex is easier to replace is characteristically more flexible. The choice comes down to preference and mission.

Basic Drysuit Maintenance

READ the manufacturers handbook that came with your suit. It will contain information for proper cleaning, handling and storage.

All drysuits needs to be maintained and checked thoroughly before and after every dive. Basic maintenance requires rinsing the suit in fresh water and allowing it to dry fully before stowage.

Keep all of the suits, no matter which material and design you chose, out of direct sunlight whenever possible. Even though every manufacturers handbook states that you need to make that a priority, we all know that's not always possible in the short term. But knowing that direct sunlight will break down the materials and lessen their operational lifespan, drysuits should be stored for long

A vertical advertisement for Dive Equipment Sales & Service. At the top, it says "Dive Equipment Sales & Service" in white on a blue background, with "For Commercial, Public Safety, & Academic Diving" below it. In the center, there is a logo of a diver's helmet with wrenches around it, and the text "Announcing KMDSI Sales and Service!". Below the logo, it lists services: "Equipment Inspection • Annual Helmet Maintenance", "Commercial Helmet Rebuilds • Regulator Repair", "Custom Helmet Brackets & Umbilical Services", and "Drysuit Repair/Modification". At the bottom, it says "Equipment Maintenance" and "Equipment Sales" in white, followed by the phone number "610.621.5750", the email "OESales@Ocean-Eye.net", and the website "www.OceanEyeInc.com".

term out if direct sunlight. Visibly checking for rips and tears in the materials is also essential. Not thoroughly checking for cracks, punctures and material gaps can be range from being uncomfortable in cold water to being deadly if diving with hazardous materials.

Dry Rot

One thing to pay particular attention to is dry rot. This is very common in older latex neck and wrist seals. You can see an example of this issue in figure 3.

Micro cracking will be the first sign or dry rot and can eventually later lead to breaches in the material. Direct sunlight and chemical exposure will weaken the material and can have a direct effect on the length of time to failure.

For other suit breaches that seem to defy explanation, there are a couple of field methods to find the leak. This is not a comprehensive list by any means but a quick and dirty way of finding out why you're getting wet. The first is to don the suit and jump into clear clean water. Pressurize the suit and ask someone on deck or in the water to look for bubbles. If that method isn't possible, then don and pressurize the



Figure 3

suit. Fill a spray bottle or bucket with soapy water.

Coat the suit with the soapy water solution and again look for bubbles to identify the source of the leak. Depending on the kind of suit you're using will depend on the resolution of the leak.

Field Replaceable Seals

These are available from several of the drysuit manufacturers. For instance, DUI offers their version of these in a product called ZipSeals. The work a lot like a freezer bag you get at a grocery store. Another version is a ring seal system offered by Trelleborg Viking, Inc. These ring seals consist of three parts. You have a rubber outer ring, a plastic inner ring, and the wrist seal

itself. One convenience is that they don't use any proprietary part for the wrist seal. It simply sandwiches the wrist seal in between the inner and outer rings. You should be able to change a complete set in less than 5 minutes. They also make a similar setup for the neck seal. Depending on your application, these work well to becoming a bit cumbersome. There is one added bonus with the Viking ring system, their dry gloves fit over top with no additional modification. This means that you can



Cuff Leak

dive with or without a dry glove system without having to change any other additional parts.

Patches

For minor field repairs, many of the drysuit manufacturers include a field repair patch kit. This will take care of minor breaches in the skin of the suit but not usually the latex pieces. Those are going to require replacement. Some neoprene seals can be field patched, but that is going to depend on the kind of damage and its location.

Any repair is going to dictate that you start with a clean, dry surface. Follow the instructions provided by your suit manufacturer for minor repairs. If you don't feel comfortable making those repairs or the suit requires more time and attention than you have at the time, send it to a factory trained professional repair facility. Sending it to a properly trained repair facility is paramount if you are diving in hazardous conditions. It is better to be confident that the contamination doesn't make contact with the diver than worry about having an injured team member - or worse.

A good quality drysuit will serve you for years if taken care of properly. It's like any other piece of equipment, the better you take care of it, and the longer it's going to serve you. Don't hesitate to contact any repair facility, retailer, or manufacturer should you have any question. Safety is the rule here.

NEWS


No wreckage found in apparent plane crash

<http://www.canada.com/news/wreckage+found+apparent+plane+crash/1838545/story.html>

Witnesses say something fell into Ottawa River
July 29, 2009 By Tony Spears, Canwest News Service

Reports of a plane crash on the Ottawa River sparked an extensive search Monday night and yesterday, but no wreckage could be found. The search began after several witnesses from both the Ontario and Quebec sides of the river reported seeing what appeared to be a light aircraft hit the water near a yacht club just before 10 p. m. on Monday. Some also reported hearing an explosion.

Dirk Keenan was sailing with friends when they saw the light of what looked like a small



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* some chemicals may vary

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aircraft to the east, close to the Quebec shore. "I noticed the light coming down. It was like a headlight, very bright," Mr. Keenan said yesterday. "It descended very rapidly, leveled off, then disappeared."



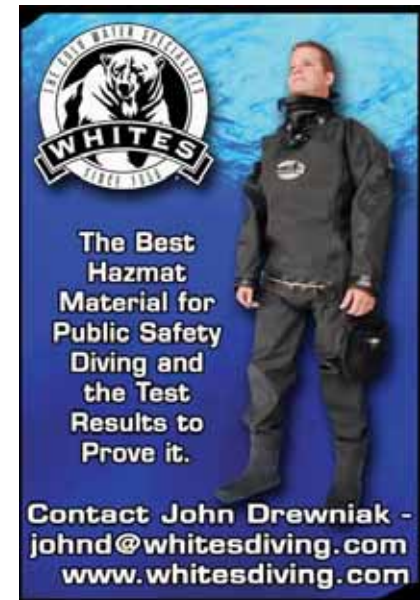
Mr. Keenan, a student pilot himself, thought it looked like the pilot had lost control and gone into a dive, then briefly recovered before going down. He steered his boat toward the position, but did not dare get too close to the Deschenes Rapids in the dark. The lights appeared to vanish into the river or into the forest on the Quebec side, he said.

Recovery teams -- consisting of two Ottawa firefighting boats, two Ottawa police boats and one Gatineau, Que., police boat -- used sonar and an underwater camera to scour the river downstream from the rapids. They were assisted for part of yesterday by a search-and-rescue helicopter from CFB Trenton.

Police divers also assisted with the search, which was made difficult by swift current and murky water. "It's a puzzle," Sergeant Andy Roach of Ottawa police said Monday night. "We still don't have 100-per-cent confirmation of what [witnesses] saw. It can be tricky, especially at night with lights at a distance."

Searchers did detect a large mass on the riverbed, but closer investigation found it to be a rock or a pile of logs. "Investigators conducted extensive interviews with witnesses, canvassed the area and also worked with NAV Canada," the Ottawa Police Service said yesterday in a news release. If a plane had gone down in the river, there would have been some other evidence -- pieces of wreckage floating downstream, for instance -- but none has been seen, said police spokesman Constable Alain Boucher. Furthermore, no planes or people had been reported missing.

Officials called off the hunt yesterday afternoon. "Nothing appears to have gone down last night," Const. Boucher said.



Man dies at hospital after 45 minutes under water (with video & additional scene photos)

<http://www.livingstondaily.com/article/20090731/NEWS01/907310302/-1/NEWSFRONT2>

July 31, 2009

A 23-year-old Westland man who was under water for 45 minutes after his canoe capsized died at an Ann Arbor hospital Thursday evening.

Westland resident Andrew Gravitt was flown by Survival Flight to the University Of Michigan Medical Center after his unconscious body was pulled from Baseline Lake.

([photo gallery](#))

Emergency personnel began cardiopulmonary resuscitation and were able to get a pulse at the scene. The victim was then taken by Livingston County EMS to the intersection of McGregor Road and Durston Drive in the Fisher-Eriksen subdivision, where he was placed on the helicopter and flown to U-M. But he died later in the evening at the hospital.

Hamburg Fire Chief Douglas Berry said Gravitt was fishing for bluegills with his father, also from Westland, on Hamburg

Township's Baseview Lake at about 4:25 p.m. "The son was talking to the father, and the canoe flipped," Berry said. "When (the father) surfaced, he was hanging onto the canoe, but he didn't see his son."

Hamburg Township police reported that once the boat flipped, the father was pulled to safety by other boaters on the lake. The canoe had two lifejackets aboard, police said, but neither the father nor the son were wearing the items at the time of the accident.

Firefighters were on scene within two minutes, and divers from Livingston and Washtenaw counties began searching the lake, which is reportedly 15 feet deep. The Westland man was found at 5:10 p.m., about 15 yards from where he was last seen by the father.



Emergency workers hurriedly pull a boat holding an unconscious 23-year-old man pulled from the water after being under for nearly 45 minutes in Baseline Lake in Hamburg Township on Thursday. He died at the hospital late Thursday.

Photos: (GILLIS BENEDICT / DAILY PRESS & ARGUS)



The canoe carrying the man and his father capsized on the lake.



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Hamburg Township Police Chief Steve Luciano said that Gravitt's condition declined as emergency crews were loading him aboard the Survival Flight helicopter.



Although the father was not physically injured, the father was extremely distraught. Emergency crews drove the father to the hospital because he wanted to be with his son. Berry could not say whether the 23-year-old man became tangled on anything in the water or why the canoe capsized.

German fireman dies on diving course

http://austriantimes.at/news/General_News/2009-08-03/15193/German_fireman_dies_on_diving_course
03. 08. 09. By Lisa Chapman

A German fireman on a diver training course was killed yesterday (Sun) when his breathing equipment failed.

Other divers said the man, 24, had panicked after his breathing equipment began to malfunction 30 metres underwater at the course in Steinbach am Attersee in

Vöcklabruck district, Upper Austria.

A 30-year-old German colleague, also from Bavaria, said the younger man ripped the equipment from his face and although he tried to give him oxygen from his own tank, the man was already unconscious.

An emergency doctor tried unsuccessfully to revive the man for an hour.

Local police said they would have the victim's diving equipment checked today (Mon) in an attempt to find out what had gone wrong

Unidentified body found

<http://www.news-mail.com.au/story/2009/08/04/unidentified-body-found/>
Joe Flynn And Clementine Norton | 4th August 2009

News Mail/Ron Burgin
TEAMS of police including scientific officers, scenes of crime detectives and photographers scoured a 40-hectare Gin Gin property for clues yesterday, after the body of a man was found on Sunday.

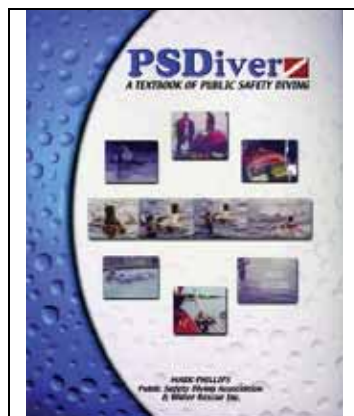


Police investigate the suspicious death of a male, found on a Settlement Road property at Gin Gin on Sunday afternoon.

The land-owner found the dead man just metres from a watercourse, believed to be a dam or lagoon. Detective Superintendent Maurice Carless said it appeared the man, believed to be in his 20s, died on Saturday afternoon or evening.

He said police were looking into information about a missing person reported in Gin Gin on Sunday morning, but he could not reveal further information. "We are still trying to confirm the identity of the deceased," Det Supt Carless said. "We did have some material on the body that could lead us to identification, but it was not conclusive." He said police may resort to DNA tests and fingerprints to help uncover the man's identity.

Investigators are currently contacting friends and family of missing persons. Although the death is being treated as suspicious, police will not confirm whether it is a murder enquiry until a post-mortem is carried out to determine how the man died.



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The detective would not reveal details of his injuries or speculate on a possible cause of death. "The circumstances under which he was found lead us to have some concerns (about how he died)," he said. "A pathologist will look at blood samples as part of the post-mortem."

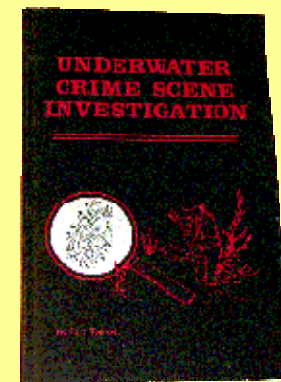
Police divers may be called up from Brisbane to examine the watercourse near where the body was found, or the water may be drained to enable forensic investigations.

Intelligence officers are also combing through records of telephone calls made in the area during the weekend. Det Supt Carless said the person who discovered the body had spoken with police "These kind of discoveries are quite upsetting," he said.

Neighbours, who had been told by police not to speak with the media while the investigation was ongoing, said a man had been missing in the area on

**"Underwater
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By Eric Tackett



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Saturday. "We had people come around and ask us if we knew anything about this guy who went missing," said a Gin Gin resident, who spoke on the condition of anonymity yesterday.

As police addressed the media yesterday afternoon, forensic teams scoured the area where the body was found. Det Supt Carless called on the public to come forward if they saw anything suspicious in the area on Saturday. A post-mortem examination will be conducted at the John Tonge Centre in Brisbane today.

TRENTONIAN EDITORIAL: Chappaquiddick

<http://www.trentonian.com/articles/2009/08/04/opinion/doc4a77b8c29e80e623279156.txt>

Published: Tuesday, August 4, 2009

Anniversary stories are a staple of American journalism — the 10th anniversary of this, the 25th anniversary of that. But one anniversary recently was allowed to slip by all but unobserved: the 40th anniversary of Chappaquiddick.

Was this due to the liberal inclinations of the news media? Or to sensitivity regarding the grave illness of Sen. Edward M. "Ted" Kennedy, the protagonist of Chappaquiddick? Maybe some of both.



In either event, the anniversary of the July 18, 1969, drowning death of Mary Jo Kopechne, at the bottom of a tidal channel off Chappaquiddick Island, trapped inside Kennedy's Olds 88, came and went with minimal journalistic fuss.



In fact, the anniversary of that tragic and disturbing event, which four decades ago held America's notoriously short attention span in its grip for weeks, went by mostly unremarked. Instead, the media busied themselves warming up for nostalgic retrospectives on another event that occurred not quite a month after Chappaquiddick — "Woodstock," the mud-wallowing, dope-ingesting orgy interspersed with musical performances.

Two New Jersey academics, however — Robert P. George, a professor of jurisprudence at Princeton, and Dermot Quinn, a professor of history at Seton

Hall, seemed determined to see to it that the Chappaquiddick anniversary received at least a nod of acknowledgement.

Uncomfortable though it may be to recall the circumstances of Mary Jo Kopechne's death, they wrote in a National Review Online article, "Americans must not forget what happened to her, nor must a delicate sensitivity prevent us from remembering how a powerful man and his savvy handlers were able to shield him from responsibility for his behavior...." The facts are readily recalled.

Kennedy left a picnic/party around midnight with Kopechne, a 29-year-old former aide in Robert F. Kennedy's presidential campaign. Careening down a dirt road, Ted Kennedy's Olds 88 came to a narrow bridge with no guardrail and plunged into the water. Kennedy got out and made it ashore. She did not.

His story later was — when he finally told it to authorities — that he made several futile attempts to extricate her from the submerged car. In any event, instead of stopping at a nearby house and summoning police and rescue personnel, Kennedy returned to the party and huddled with lawyer pals, one of them a cousin. Then the senator retired to his hotel room for the night in nearby



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The later testimony of the two lawyer pals was that they had urged Kennedy to report the incident to the police and assumed he had done so. Even the next morning, Kennedy delayed doing so. Instead, he got on a pay phone and solicited advice from friends and relatives. Then at last he went to police — after having one of the lawyer pals who was at the picnic vet a vague statement he had prepared on the matter.

Kennedy political spinners, fixers and legal counsel soon were swarming over the case as thick as flies on a manure pile. The upshot was that Kennedy got off with a suspended sentence for leaving the scene of an accident and a temporary driver's license suspension. This despite the inquest testimony of a police diver that Kopechne might have been rescued had help been summoned immediately. And despite the finding of the presiding judge at the inquest that there was "probable cause" for considering criminal negligence or manslaughter charges.

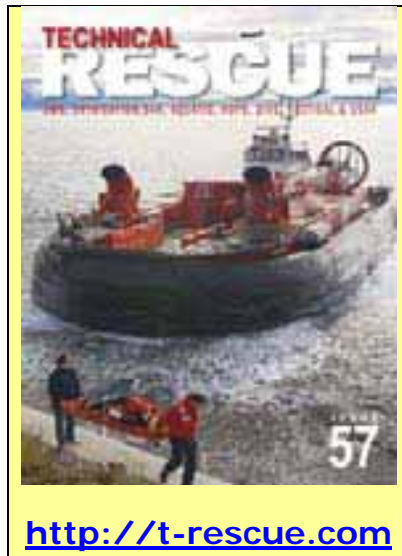
The summary of Chappaquiddick is an astounding reminder that no righteous literati rushed forward with novels inspired by the event, lamenting the toxic mixture of self-indulgent privilege and self-serving political clout that infects the American commonweal. No latter day

Sinclair Lewis ever stepped forward in the role of liberal public scold with a cautionary tale in the manner of "An American Tragedy."

It's an ecumenical axiom of all faiths that forgiveness requires (1) a clear acknowledgement of one's offense — no weaseling excuses aimed at off-loading personal responsibility; and (2) a heart-felt expression of regret supported by a willingness to accept the consequences of one's acts.

Kennedy has never offered either response in atonement. Atonement would have required him to forfeit his privileged place in politics, and that he couldn't bring himself to do, if indeed he ever seriously entertained the possibility of doing so.

Maybe he'll find forgiveness in another realm. In the here and now, it's hard to ignore the nagging, unpleasant truth, even 40 years later, that he's done nothing to deserve it.



'It feels like a nightmare' - Drowning Memories haunt pair after they tried to rescue man who sank to bottom of park lake

<http://telegraphjournal.canadaeast.com/city/article/750766>
August 5th, 2009

The children's screams for help, from a tiny island in Fisher Lakes. A sudden dash toward the cries, diving into the murky water, searching for a drowned man they had never met. And while the memories haunt them, Jeremy Whipple and Ben Bartlett say they don't regret a thing. "If a similar situation occurred again, I would do it in a heartbeat," said Bartlett, 23. "It just feels surreal. It feels like a nightmare," Whipple, 33, said Tuesday, standing with Bartlett along the secluded third cove of the Fisher Lakes beach in Rockwood Park. "But I think in these situations, you either react or you



Jeremy Whipple, taking off his sunglasses to wipe his eyes at Fisher Lakes in Rockwood Park Tuesday, says, 'It's hard to sleep sometimes,' because he is haunted by the memories of trying to save a man who drowned in the lake Saturday. Ben Bartlett, right, who joined Whipple in trying to save the 39-year-old man, says its tough knowing the victim didn't survive.

Peter Walsh/Telegraph-Journal



freeze."

The two men - unknown to each other - were swimming with their families on Saturday when they rushed to help a drowning

39-year-old man, who was later pronounced dead at Saint John Regional Hospital. Police haven't released his name.

Whipple had barely set his cooler on the sand when he heard the hysterical screams of a woman nearby. At first he thought a child was in trouble, and swam out to the island a short distance from the shore, where the water was about three metres deep.

A few kids were on the island, screaming, "He's drowning. He's drowning. After two dives to the bottom, Whipple felt his foot touch the man's torso. He dove down again and tried to lift the man up by the armpits, but something on the lake bottom cut Whipple's foot, and he sank into the mud. "It took every ounce of strength to pull him up," Whipple said. "I was taking in water myself." From that point, Bartlett and another man helped get the victim to the island shore. The men screamed for help from

lifeguards, who quickly rushed to the island. "They were lightning fast," Whipple said.

Bartlett was actually one of the first swimmers to try and help the man, but he was unable to find him underwater. "I knew every second was precious," Bartlett said.

After lifeguards and firefighters brought the man back to the main shore, and transported him to the hospital, Bartlett and Whipple were treated by paramedics. "I felt like I was going to be sick," Bartlett said. "I felt light-headed. And we were unsure if the victim was going to live." Whipple said he was so exhausted from the rescue, he wasn't sure if he would make it back to shore.

The shock and adrenaline made his limbs numb, he said, and he had trouble breathing. He also vomited water. Whipple was taken to the hospital for observation and he was the wound on his foot was treated. "When they told me he didn't live, that's when I broke down," said Whipple, a father of two, who works at Dooly's at Prince Edward Square. "It's hard to sleep sometimes," he said, taking off his sunglasses to wipe his



eyes. "I just feel bad for the family. My condolences go to them, and my prayers are with them, too." Although Bartlett said he is proud of his decision to try to save the man, it's tough knowing he didn't survive. "It was just like, my whole world fell apart," said the District 8 teacher's assistant. "But we tried our best."

Police have confirmed the 39-year-old man was towing a young child when he lost strength and slipped below the surface. An autopsy is underway.

Insp. Bruce Connell of the Saint John Police Force commended Bartlett, Whipple and the other civilians who stepped in to help. "When someone's in the water and people can see, I think that's a natural reaction to try and help someone." A clinical psychologist at the University of New Brunswick Saint John agrees. "I think for some people, it's an immediate knee-jerk response," said Mary Ann Campbell, associate professor at UNBSJ. "You see someone else at risk and you feel compelled to do something - often without thinking about the risk to yourself." She said it points to people's natural instinct to help others survive when life is at risk.

Whipple said it will take a long time for the gruesome images to leave his mind. "It just makes you realize how precious life is."

Seven officers disciplined over bungled manhunt

<http://edinburghnews.scotsman.com/edinburgh/Seven-officers-disciplined-over-bungled.5529247.jp>

06 August 2009 By Alan McEwen

SEVEN police officers have been disciplined over the bungled ten-week hunt for missing man Alan Goulden and the Lothian force has been ordered to shake-up its search procedures. The body of Mr Goulden, 64, was eventually found in his own front garden by a pest exterminator despite a massive police operation involving dozens of officers.

The failure prompted an inquiry by Strathclyde Police into the handling of the manhunt, which found both procedural deficiencies and human error.

Its officers delivered a five-point list of recommendations for Lothian and Borders Police, including a review of the role of specialist search officers and the setting up of a new training programme for their team leaders.



HUNT: After ten weeks, Mr Goulden's body was found in his own garden

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It has also emerged that four of the officers involved were given formal warnings after disciplinary hearings were held, while another three received "counseling".

Police chiefs today said that all of the recommendations had been implemented after being "fully accepted" as improvements which should be made. The results of the confidential report were revealed to the Evening News under freedom of information laws, but the force withheld 41 of its 46 pages.

In the report, Strathclyde Police said its review "has established a number of shortcomings in terms of oversight by specialist search trained advisers, inappropriate search techniques, poor debriefing practices and consequential poor recording practices". The report added: "These have all contributed to the area around his home not being searched on more than one occasion, but in particular on the last day where 'thorough and systematic' searching should have taken place, and the failure to do so resulted in the search area being widened and no further searches of the immediate area taking place."

A team of 19 officers were tasked with finding Mr Goulden, the father of an

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inspector from Lothian and Borders Police, who disappeared from his home in South Maybury last 30 August. The inquiry made use of specialist units, including search teams, police dogs and handlers, a helicopter, an underwater diving team and mountain rescue.



The former RAF serviceman's body was finally found in bushes 15 feet from his front door by pest controller Andrew Burns on 7 November. A postmortem examination found no suspicious circumstances. Mr Burns speculated that officers may have been "put off" by the prickly bush, either believing Mr Goulden would be unable to reach that point, or unwilling to check for themselves.

A police spokesman said: "We fully accepted the recommendations from the review and all five have now been implemented." Councillor Iain Whyte, convener of the police board, said: "If the review by Strathclyde Police, an independent force looking at the matter, makes a list of recommendations then those have to be considered seriously. "I'm pleased to hear the force has taken these on board. I will be looking for more details on the

recommendations to be given to the police board by the chief constable to show the action taken."

Officers ran up an overtime bill of £15,000 on the case, according to a police source.

STRATHCLYDE'S SEARCH RECOMMENDATIONS

1. Wherever possible, consideration should be given to using a police dog to assist the search of the immediate environs of a high-risk missing person's home address.
2. The role of specialist search officers requires to be the subject of review to ensure that, in the future, all such critical searches are properly prepared, executed, debriefed, supervised and documented.
3. A training programme should be set up to ensure that search team leaders use approved procedures to ensure appropriate search techniques have been applied and areas searched "thoroughly and systematically".
4. A visit by a Missing Person Search Adviser should be carried out at the earliest opportunity to ensure that advice on search parameters is fully informed.
5. Correct search documentation for the type of search being undertaken should be adopted with immediate effect

Car floating in Weser river reveals murder-suicide drama

<http://www.thelocal.de/society/20090807-21091.html>

7 Aug 09 08:03 CET

Police believe that a car containing two corpses found in the Weser river was not an accident, but a murder-suicide, they said on Friday.

A bystander saw the roof of the small car floating in the river in the North Rhine-Westphalian city of Minden on Friday. Divers from the Bundeswehr recovered the car, which held the bodies of a 58-year-old man and a 44-year-old woman.

But the married couple did not die in the river, police said. The woman was found bound and gagged in the car trunk, while the man was in the driver's seat. An autopsy showed that the woman had been suffocated.

The evidence leads police to believe that the man killed his wife, put her in the trunk, and drove the car into the Weser River. The couple



had been living separately since 2007. The man was from the Lower Saxony city of Raddestorf. A murder commission is investigating the case.

Stolen Safe Recovered

<http://www.wjfw.com/stories.html?sku=20090807174708>

08/07/2009

RHINELANDER - Police recover a safe in the Wisconsin River on Friday and it turns out to be a key piece of evidence in a burglary case here in the Northwoods.



The Oneida County Sheriff Department's dive team began searching for the safe in the Wisconsin River just off of the Highway Eight bypass in Rhinelander.

Lieutenant Jim Wood says it was a successful mission for his team. He says the two divers located the safe within about twenty minutes of searching and brought it out of the water shortly after, "The diver located the safe underwater, gave us the signal that he located it. Then what we do is we send another diver down, we photograph it, we preserve the evidence, and bring that safe back up and give it to the detective that's working the case."

Wood tells us the safe was stolen during the August first burglary of a home in the Town of Pelican. Three people were arrested in connection with the burglary.



Two of the suspects Katie Knauf and Elliot Boyer appeared in Oneida County Court today for their preliminary hearings. Both have been charged with felony burglary of a building or dwelling in addition to several other charges. They've been bound over for further proceedings. The third suspect has yet to be formally charged.

Tonga searchers find sunken ferry

<http://news.bbc.co.uk/2/hi/asia-pacific/8199034.stm>

13 August 2009

Searchers in Tonga have found what they believe is the ferry that sank last week, drowning an estimated 93 people.

New Zealand navy sonar images show what is thought to be the Princess Ashika lying intact on the Pacific Ocean floor at a depth of 110 metres (360 feet).

Tongan officials say they will await the results of a more detailed survey before deciding whether to try to recover the victims' bodies.

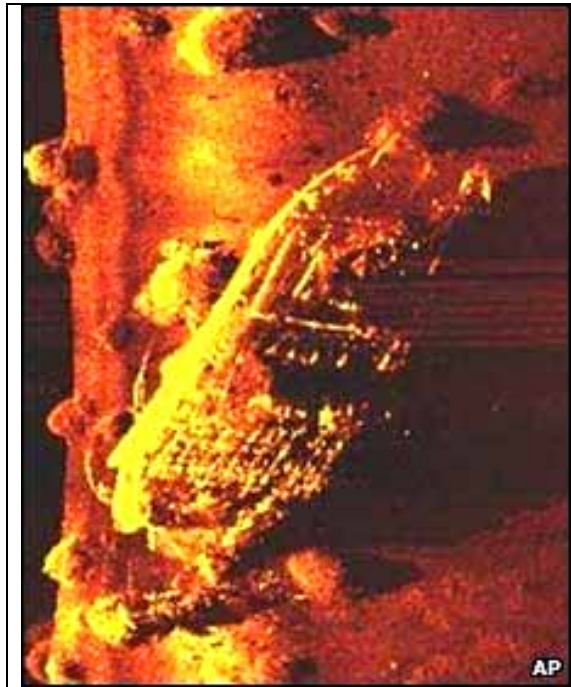
Dive experts say such an operation would cost millions of dollars.

Resting hulk

New Zealand Navy images captured on Wednesday by sonar show what is thought to be the Princess Ashika largely intact and lying upright on the deep ocean floor surrounded by giant boulders, Commander Kelley said. The navy is now waiting for the arrival at the weekend of HMNZS Manawanui before carrying out a more thorough search of the area.

The team commander says when the ship arrives it will provide a stable platform from which to deploy a remote operated device. A spokesman for Prime Minister Feleti Sevele said no decision would be made on trying to recover the victims until more survey work had been done at the site.

The deep-sea equipment needed to access the hulk to search for bodies and clues to the tragedy is only available overseas, and such an operation would cost millions of dollars, New Zealand deep sea recovery



New Zealand navy sonar caught this image of the sunken ferry

specialist Bill Day said. "That sort of stuff's done all day around the world, but you're talking about equipment that isn't in New Zealand and will have to be brought in to Tonga," he said.

"It's hundreds of thousands of dollars a day to run an operation like that," he told Radio New Zealand. The cost, the potential hazards to divers and the months such an operation would need meant it was unlikely to happen. "Very sad as it is, this may be one that's impossible to do", he added.

The identities of 37 of those missing and presumed drowned have been confirmed, police said, but some of the rest may never be known. The chief inspector of Tongan police, Sokopeti To'ia, said families are "slowly accepting the fact that their loved ones won't be returned alive".

Officials said 149 people were on board the Princess Ashika when it sank, 54 survivors were rescued and two bodies recovered. Clarifying who had died was difficult, police said, because names on the passenger manifest did not match other evidence about who was on board. Police Commander Chris Kelley told reporters: "The process will take some time. Realistically, it may never be 100% accurate".

Guilford scuba team trains for underwater crisis

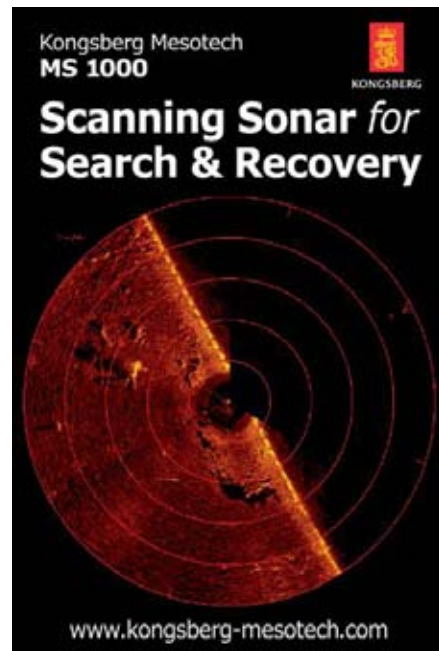
http://www.news-record.com/content/2009/08/12/article/guilford_scuba_team_trains_for_underwater_crisis

August 13, 2009 By Dioni L. Wise Staff Writer

GREENSBORO — Divers in the Guilford Association of Scuba Personnel often swim through murky waters to rescue someone who is drowning. But Wednesday evening, they needed an air rescue to save one of their own.

GASP, a volunteer water rescue unit, simulated a diving-related injury at Lake Townsend to train some of its 22 active members in helicopter transport. "In 20-something years, we've never been a situation where we had to call for one," GASP Chief David Albright said. "But we don't want to do it when it's an emergency."

Albright said his team needs to know how to set up a landing zone, approach a helicopter and load a patient onto it. After divers bring a person to shore, the person



During a training scenario members of the Guilford Association of Scuba Personnel and a Guilford County firefighter provide medical assistance to a diver portrayed by Guilford County firefighter Mike Tasman. Photo by Nelson Kepley

usually is taken in an ambulance. But in more extreme cases, rescuers need faster transportation. That's where the helicopter comes in. Divers say that they usually have 60 minutes to make a rescue. This "golden hour" starts when a person disappears in the water. In temperatures lower than 70 degrees, a person can sustain a weak — yet stable — heartbeat underwater. In a more remote place, maybe life flight would have been the best option there to get them out and save somebody's life," he said.

On Wednesday, the team of divers from the Guilford County Sheriff's Office, emergency services, volunteer fire departments and area police departments learned what to do in case they encounter a similar situation.

Three divers dove in 11- to 14-foot-deep waters of a dock and prepared for the drill. GASP training officer Damon Tobin yelled over his mask, "25 minutes till the bird's on the ground." Then, diver Mike Tasman began his role in the simulation, feigning decompression and unconsciousness.



Tobin and Keith Saunders dragged Tasman onto the dock and gave him oxygen to help him breathe. Firefighters then whisked Tasman away in a basket to a temporary landing zone on the old basketball court in the Bryan Park Soccer Complex. Tar Heel No. 1, a helicopter from UNC Hospitals, arrived and trained GASP members how to load a patient.

The divers normally train twice a month. Wednesday's session was the largest session so far this year. Albright said it's better for workers to train at their leisure, especially during hurricane season when water rescues might be more necessary.

Divers find nothing in drain after search

http://www.nzherald.co.nz/nz/news/article.cfm?c_id=1&objectid=10590826

Aug 14, 2009

The search for people who may have been trapped in an Auckland stormwater drain has been called off. Divers have completed a search of the 1.5 kilometre-long drain in Mt Albert and found nobody trapped inside.

Two police divers descended into the stormwater drain this afternoon to search after workmen earlier heard what they thought were cries for help. Emergency services, including four fire crews, attended.

The fire service was first called to the scene at Alberton Ave, Mt Albert, outside Mt Albert Grammar School, about 1.30pm but has yet to find any trace of anybody. "The workmen thought they heard voices, muffled voices of people crying for help," Fire Service northern communications shift manager Steve Smith told NZPA. "They assumed because it was next to the school that it was children."

Mr Smith said three crews were near the culvert at



the school and one was where the culvert meets the ocean at Point Chevalier looking for signs of anyone. "We are liaising with the Auckland Regional Council and we're waiting for the water level to drop." Mr Smith said the Fire Service asked Mt Albert Grammar and nearby Marist School to do roll calls and no students appeared to be missing.

Baby's body found at sewage works

<http://www.mirror.co.uk/news/top-stories/2009/08/14/baby-s-body-found-at-sewage-works-115875-21595801/>

By Lucy Thornton 14/08/2009

Body parts belonging to a baby have been found by horrified staff at a sewage plant. The grim discovery was made when workers cleared out a storage tank. Police said the tot was born five to 10 weeks premature. It is unclear whether the baby was dismembered before death or by machinery at the plant.

Divers were called in for the grisly task of searching the tank for more remains. It was not known if the child was a boy or girl. Police last night feared for the health of the



mother and appealed for her to come forward.

Superintendent Christine Kelk said: "I appreciate that you must be feeling very confused, upset and afraid. Please be assured that I want to make sure you are safe and well." The baby's remains were found on Wednesday at Saltend, Humberside.

Supt Kelk added: "We don't know if the baby was born alive or stillborn. We'll wait to see what the pathologist says." "It's most important that we try to trace the mother. If she has given birth recently, she may be in need of urgent medical attention."

Mysterious human skeleton found in national park

<http://www.ynetnews.com/articles/0,7340,L-3761897,00.html>

08.14.09 Israel News - Raanan Ben-Zur

Police and volunteer divers pulled human remains out of Alexander Stream. It is still unclear what the circumstances of the death were and how long the skeleton has been there. Police chief is on site.

Parts of a human skeleton were found Friday morning in the waters of Alexander Stream, a national park in the Sharon region. The remains were pulled out of the water by police and volunteer divers. Police forces on the site opened an investigation and are working to identify the body and the circumstances of its death. An initial estimate indicates that it is a female skeleton and has not

been at the site for a long time. The police noted that the stream has undergone intensive rehabilitation and cleaning in recent years.

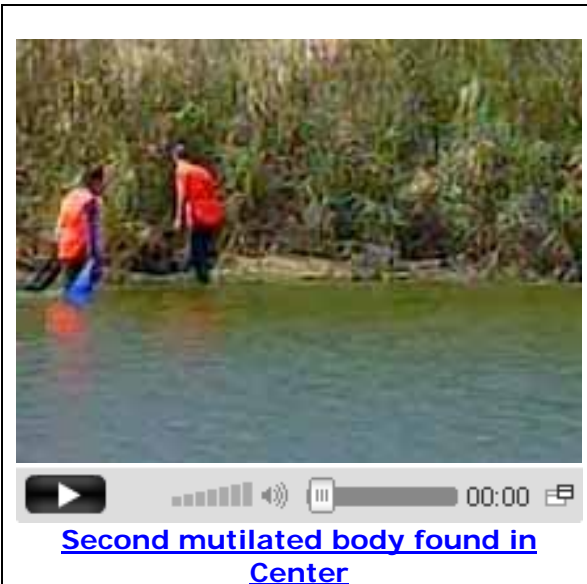
Police Commissioner Dudi Cohen arrived on the scene and he is being updated as to the details of the case. **Avi Cohen contributed to this report**

Second dismembered body found in river

<http://www.jpost.com/servlet/Satellite?cid=1249418607222&pagename=JPost%2FJPostArticle%2FShowFull>

Aug 14, 2009 By [YAAKOV LAPPIN](#)

The dismembered remains of a woman were found by police in the Alexander River, north of Netanya, on Friday, sparking fears that the discovery could be linked to the mutilated remains of another woman found in a garbage can in Ramat Gan on Wednesday. On Thursday, a



passer-by walking along the river spotted a human leg floating in the water. Fearing the leg could be linked to the human remains found in Ramat Gan, police launched a large-scale search of the stream.



Remains being pulled from Alexander Stream

Photo: Ido Erez

Police and Zaka divers, backed by ground-based search teams walking along the banks of the stream, and a police helicopter hovering above, converged on the site on Friday morning. The divers found more body parts, and eventually recovered the remains of a woman's body from the water. A special investigations team has been set up by Tel Aviv Police to handle the recovery of the body parts.

Meanwhile, the Lahav 433 special police unit has been tasked with leading the investigation on the national level, and to oversee the forensic identification process. A court-imposed media ban has been placed on all forensic findings from the body parts found in Ramat Gan and the Alexander stream.

Speaking from the scene of the grisly discovery on Friday, Tel Aviv Police chief Cmdr. Shazar Ayalon called for members of the public to "report missing persons." Police have not received reports on missing women in recent weeks.



Police Insp.-Gen. David Cohen arrived on the scene and called for calm, saying it was too early to know whether a serial killer was behind the murders. "We have turned our full attention and made available all the resources needed to investigate the acts of cruel murder and violence which have occurred in recent days," Cohen said on Saturday night. "We are looking at a series of incidents which have different circumstances and backgrounds. Police are working day and night in extended shifts to beef up our presence, while our investigators are working long hours."

Also on Friday morning, the body of a man in handcuffs was discovered in an empty structure not far from Beit Dagan, near Rishon LeZion. The Central Unit of the police's Central District has been tasked with leading that investigation, on which a media ban has also been imposed.

Woman in good condition after lake rescue

[HTTP://WWW.MADISON.COM/WSJ/HOME/LOCAL/462259](http://www.madison.com/wsj/home/local/462259)
AUG 17, 2009 Wisconsin State Journal

A Madison woman was in good condition at a local hospital after she was pulled, unresponsive, from Lake Monona on Sunday morning. The 38-year-old woman, whose identity has not been released, was swimming in the lake while training with other triathletes.

According to police, she experienced some difficulties and went underwater and did not resurface, just after 7:30 a.m. Two men on a fishing boat rescued the woman and took her to a nearby pier, where paramedics were waiting.

Rescue divers from the Madison Fire Department's Lake Rescue Team helped transfer the woman from the boat to an ambulance for transport to the hospital. The woman had a "good, strong pulse" when officers left the scene and she was in good condition at the hospital, Madison Police Lt. Wayne Strong said early Sunday afternoon. He could not say which hospital she was taken to.

Attorney successfully fishes for evidence

http://www.herald-mail.com/?cmd=displaystory&story_id=228854&format=html

AUGUST 17, 2009 By DAVE McMILLION

Hagerstown, Maryland— It's a story that could have made quite a television drama, with conflicting accounts of a discarded gun and the strange circumstances surrounding the weapon's recovery in Antietam Creek. And when it ended, an attorney's ingenuity resulted in a more lenient sentence for his client.

The tale began last year with a store robbery in Washington County, according to Assistant Public Defender Charles B. Bailey, who represented one of several people charged in the case.

Bailey's client and another man wanted to plead guilty in hopes of getting a reduction in jail time, Bailey said Monday. He declined to identify his client, citing attorney/client privacy privilege. The men gave conflicting reports about the location of the gun used in the robbery, Bailey said.

Assistant State's Attorney Viki Pauler wanted the weapon and said she would recommend a shorter jail term — 1 1/2 years instead of four years — for the man who could deliver the gun, Bailey said.

Pauler had the men submit to polygraph tests, and Bailey's client failed, prompting Pauler to declare the deal dead, Bailey said. Bailey argued that polygraph tests can

be unreliable and convinced Pauler to continue looking into the case. He asked for each man to be let out of jail with a police escort to show the location of the gun, and Pauler agreed.

Bailey's client said he threw the gun in Antietam Creek at Devil's Backbone Park, and the other man said the weapon was in an old truck parked on a farm off Sharpsburg Pike, Bailey said. Bailey, Pauler, and Sgt. Paul Kifer and Detective Tammy Jurado of the Hagerstown Police Department went to the farm off Sharpsburg Pike, but the gun was not in the truck, Bailey said. The same group went with Bailey's client to Devil's Backbone Park, where the man threw a rock in Antietam Creek where he claimed he threw the gun, Bailey said. Pauler said she would not pay for a diver to search that section of the creek, Bailey said.


After the case weighed on his mind for days, Bailey asked Pauler if she would recommend the lower jail sentence for his client if Bailey could find the gun. Pauler said she would, Bailey said.



On July 3, Deputy State's Attorney Joe Michael took his kayak to Devil's Backbone Park, and Jurado and Kifer joined him in case any evidence was found, Bailey said. Pauler was there, too. Using a magnet tied to a string provided by his client's father, Bailey searched in about 6 feet of water for about a half-hour before the magnet attached to the gun.

Pauler recommended a lenient jail term for Bailey's client and the man was sentenced to 1 1/2 years in jail, Bailey said. Bailey sent The Herald-Mail an e-mail describing the case as a "fish story" that put the public defender's office and the state's attorney's office in a good light. "It turned into a big, fun thing," Bailey said. On Monday, Pauler said she was glad the weapon was found. "Every handgun we get off the street is a good thing," she said.

Bailey said Monday he did not know what happened to anyone else charged in the case.

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INFORMATION YOU CAN USE FOUND ON THE WEB

CSI Myths: The Shaky Science Behind Forensics

Click the link below for the original story

http://www.popularmechanics.com/technology/military_law/4325774.html?page=1
August Issue 2009 By Brad Reagan

Forensic science was not developed by scientists. It was mostly created by cops, who were guided by little more than common sense. And as hundreds of criminal cases begin to unravel, many established forensic practices are coming under fire. PM takes an in-depth look at the shaky science that has put innocent people behind bars.

On Jan. 11, 1992, the jury in the murder trial of Roy Brown heard from a dentist named Edward Mofson. To establish his credentials, Dr. Mofson testified that he was certified in forensic odontology, belonged to six related professional organizations and did forensic consulting throughout New York State. He then explained that several months earlier he was called to the morgue in Cayuga County, New York, to analyze the body of 49-year-old Sabina Kulakowski.

ALSO SEE:

- [PLUS: The Truth About Four Common Forensics Methods](#)

Kulakowski's corpse was found by a volunteer firefighter on a dirt road some 300 yards from the farmhouse where she lived, which had burned to the ground in the night. She was severely beaten and stabbed, and there were multiple bite marks on her body. Brown was a natural suspect in the grisly murder. The week before the crime, the hard-drinking 31-year-old had been released from jail on charges of threatening to "wipe everybody out" at the social services office where Kulakowski worked; the agency had put his daughter into foster care. In addition to the motive, the district attorney at trial produced other circumstantial evidence, including testimony from Brown's two ex-wives that he had bitten them. But Mofson, now deceased, was the centerpiece of the prosecution.

Mofson testified that seven bite marks found on Kulakowski were "entirely consistent" with dental impressions taken from Brown. It was the only physical evidence tying Brown to the crime.

Although a defense expert disputed Mofson's findings, the jury convicted Brown of second-degree murder. He was sentenced to 25 years to life in prison.

As the years ticked by, few listened as Brown proclaimed his innocence from his cell in the Elmira Correctional

Facility. Then Brown got an unusual lucky break. His stepfather's house burned down, taking with it all of his records from the trial. To replace his documents, Brown submitted an open records request to the county. The sheriff who processed Brown's request mistakenly sent him the entire investigative file. It revealed another suspect: Barry Bench, the firefighter who discovered

Kulakowski's body. Bench's brother had dated Kulakowski up until two months before the murder and Bench was reportedly upset that she continued to live in the family farmhouse. On the day before Christmas in 2003, Brown sent a letter to Bench letting him know he was seeking DNA testing. "Juries can make mistakes," he wrote. But, "DNA is God's creation, and God makes no mistakes." Soon after receiving the message, Bench committed suicide by jumping in front of an Amtrak train. DNA tests confirmed that Bench was guilty of Kulakowski's murder, and Brown was set free.



(Photograph by Christopher Griffith; styling by Megan Caponetto)

Brown to prison for 15 years may seem like a rare glitch in the U.S. criminal justice system. It wasn't. As DNA testing has made it possible to re-examine biological evidence from past trials, more than 200 people have had their convictions overturned. In approximately 50 percent of those cases, bad forensic analysis contributed to their imprisonment.

On television and in the movies, forensic examiners unravel difficult cases with a combination of scientific acumen, cutting-edge technology and dogged persistence. The gee-whiz wonder of it all has spawned its own media-age legal phenomenon known as the “CSI effect.” Jurors routinely afford confident scientific experts an almost mythic infallibility because they evoke the bold characters from crime dramas. The real world of forensic science, however, is far different. America’s forensic labs are overburdened, understaffed and under intense pressure from prosecutors to produce results. According to a 2005 study by the Department of Justice, the average lab has a backlog of 401 requests for services. Plus, several state and city forensic departments have been racked by scandals involving mishandled evidence and outright fraud.

But criminal forensics has a deeper problem of basic validity. Bite marks, blood-splatter patterns, ballistics, and hair, fiber and handwriting analysis sound compelling in the courtroom, but much of the “science” behind forensic science rests on surprisingly shaky foundations. Many well-established forms of evidence are the product of highly subjective analysis by people with minimal credentials—according to the American Society of Crime Laboratory Directors, no advanced degree is required for a career in forensics. And even the most experienced and



Because of misleading forensic evidence, Roy Brown spent nearly a third of his life in jail for a murder he didn't commit. (Photograph by Tyler Hicks)

respected professionals can come to inaccurate conclusions, because the body of research behind the majority of the forensic sciences is incomplete, and the established methodologies are often inexact. “There is no scientific foundation for it,” says Arizona State University law professor Michael Saks. “As you begin to unpack it you find it’s a lot of loosey-goosey stuff.”

Not surprisingly, a movement to reform the way forensics is done in the U.S. is gaining momentum. The call for change has been fueled by some embarrassing failures, even at the highest levels of law enforcement. After the 2004 train bombings in Madrid, Spain, the FBI arrested Oregon lawyer Brandon Mayfield and kept him in jail for two weeks. His incarceration was based on a purported fingerprint match to a print found on a bag of

detonators discovered near the scene of the crime. As a later investigation by the Justice Department revealed, the FBI’s fingerprint-analysis software never actually matched Mayfield to the suspect fingerprint, but produced him as an “unusually close nonmatch.” Lacking any statistical context for how rare such similarities are, investigators quickly convinced themselves that Mayfield was the prime suspect.

The next year, 2005, Congress commissioned the National Academy of Sciences (NAS) to examine the state of forensics in U.S. law enforcement. The result was a

blistering report that came out this February, noting “serious deficiencies” in the nation’s forensic science system and advocating extensive reforms. It specifically noted that apart from DNA, there is not a single forensic discipline that has been proven “with a high degree of certainty” to be able to match a piece of evidence to a suspect. The obvious implication is the sobering possibility that more Roy Browns are currently locked up based on shoddy science. Then there’s the flip side: A lot of bad guys who should be in prison still roam free. A study by the Innocence Project of the prisoners exonerated by DNA found that the real perpetrators were identified in 103 cases—roughly half. In all but one, the perpetrator committed at least one serious crime after the innocent person was jailed.

The scientific method is instrumental to our understanding of the physical world. To scientists, the process is sacrosanct: Research your topic, generate a hypothesis, test the hypothesis, analyze your data and then publish the results for peer review. [Forensic science](#), however, was not developed by scientists. It was created by cops—often guided by little more than common sense—looking for reliable ways to match patterns from clues with evidence tied to suspects. What research has been done understandably focuses on finding new techniques for putting criminals in jail.



ALSO SEE:

- [PLUS: The Truth About Four Common Forensics Methods](#)

In the academic community the legal sciences get a comparative trickle of federal funding. In 2007, the National Institute of Justice awarded 21 grants for forensic research (excluding DNA) totaling \$6.6 million; the National Institutes of Health awarded 37,275 grants totaling \$15 billion. And without a wealth of statistically defensible research to back up their evidence, forensic examiners generally rely upon

their own intuition and the experience of their colleagues. “You can’t take a few case studies and say, ‘Oh, it worked on these people; it must be reliable,’” says Karen Kafadar, an Indiana University statistics professor and a member of the NAS committee. “That is hardly a placebo-controlled, double-blind randomized trial.”

The FBI’s errors in the Madrid bombing case were particularly surprising because they called into question one of the gold standards of evidence—fingerprints. In recent years, legal experts have become deeply concerned about the accuracy of the “friction ridge analysis” central to fingerprint identification. Fingerprints are believed to be unique, but the process of matching prints has no statistically valid model. And forensic examiners are often working in an imperfect world, where prints taken in a police station on an ink pad are

compared to prints left at a crime scene, which may be smudged or partially captured. Yet, as University of California–Los Angeles law professor Jennifer Mnookin has written, “fingerprint examiners typically testify in the language of absolute certainty.”

A 2006 study by the University of Southampton in England asked six veteran fingerprint examiners to study prints taken from actual criminal cases. The experts were not told that they had previously examined the same prints. The researchers’ goal was to determine if contextual information—for example, some prints included a notation that the suspect had already confessed—would affect the results. But the experiment revealed a far more serious problem: The analyses of fingerprint examiners were often inconsistent regardless of context. Only two of the six experts reached the same conclusions on second examination as they had on the first.

Ballistics has similar flaws. A subsection of tool-mark analysis, ballistics matching is predicated on the theory that when a bullet is fired, unique marks are left on the slug by the barrel of the gun. Consequently, two bullets fired from the same gun should bear the identical marks. Yet there are no accepted standards for what constitutes a match between bullets. Juries are left to trust expert witnesses. “‘I know it when I see it’ is often an acceptable response,” says Adina Schwartz, a law professor and ballistics expert with the John Jay College of [Criminal Justice](#).

Techniques that grew out of organic chemistry and microbiology have a strong scientific foundation. For example, chromatography, a method for separating complex mixtures, enables examiners to identify chemical substances in bodily fluids—evidence vital to many drug cases. The evolution of DNA analysis, in particular, has set a new scientific standard for forensic evidence. But it also demonstrates that good science takes time.

ALSO SEE:

- [PLUS: The Truth About Four Common Forensics Methods](#)

The double-helix structure of DNA was discovered in the 1950s, but it wasn’t until 30 years later that sample analysis became sophisticated enough for positive ID. In 1987, a serial rapist by the name of Tommie Lee Andrews was the first person convicted in the U.S. using DNA. Nevertheless, for several years scientists continued to research and debate what constitutes a satisfactory match. The resulting process is broadly accepted and quantifiable (when using the most advanced analysis, there is a one in more than a quadrillion chance of a random match of two strangers’ nuclear DNA).

But DNA constitutes less than 10 percent of the case load at U.S. crime labs. The goal going forward, everyone agrees, is to make the rest of forensics more rigorous and statistically grounded. Promising work is already being done: Sargur Srihari, a pattern-recognition expert with the State University of New York at Buffalo, is developing software to help quantify the certainty of fingerprint

matches. And, Nicholas Petraco, a chemist and mathematician at John Jay, is working on a database of microscopic tool marks to give statistical significance to the identification of burglars' tools.

The NAS report recommends the establishment of an independent entity—a National Institute of Forensic Science—which would be the central authority responsible for funding research as well as creating and promulgating the standards of evidence and certification for experts. If such a system worked properly, juries would only hear from experts who are certified in their fields and examiners who work in accredited laboratories.

It's likely that the microscope of serious scientific scrutiny will turn disciplines such as fingerprint and ballistics analysis, which have long histories and large sample sizes, into stronger standards of evidence. But many other forensic disciplines may be classified as far less sound. Bite marks, footprints, tire tracks, handwriting, bloodstain patterns and other forms of analysis that suffer from multiple confounding variables could end up being used as exclusionary evidence or as qualified supporting evidence only. Some types of evidence may be completely discredited. That's what happened with voiceprint analysis and lead analysis of bullets, which were popular forensic techniques until studies showed significant error rates.



Within the forensic community, the reaction to the mounting criticism is mixed. Some are offended and blame the “propaganda” of defense attorneys and the snobbery of academics. Dean Gialamas, president of the American Society of Crime Laboratory Directors, says most techniques have “a strong foundation in science” even if they have not been subject to the type of applied research needed to satisfy critics. And he notes that his organization has long advocated more standardization and stronger ethics rules, so hired guns can't pollute courtrooms with biased testimony. At the end of the day, Gialamas and most other forensic experts say they are confident their methods will ultimately be validated by further research. Even critics of the current system say

forensics should remain a critical part of law enforcement. “Let's just give it to people as completely and honestly as we possibly can,” Saks says.

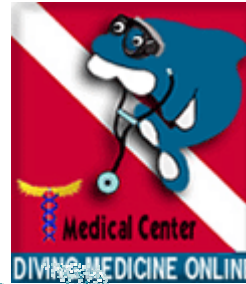
It will take years to fully reconcile the rigors of the scientific method with the needs and processes of the judicial system. But in the meantime, questionable forensic science will continue to tip the scales of justice.

And when bad decisions are made in the courtroom, an innocent person's entire life can be swept right out from under him. It happened to Steven Barnes 20 years ago. Then 23 years old, he was brought to trial

for the rape and murder of a 16-year-old girl. He had never been arrested before and was confident he'd be cleared. Yet he watched as forensics expert Elaine Pagliaro testified that two hairs found in Barnes's pickup were microscopically similar to the victim's. Pagliaro also noted that soil samples taken from the truck were consistent with dirt from the crime scene and even that a distinctive pattern from the victim's jeans was similar to an imprint left on the truck.

Due largely to her testimony, Barnes was sentenced to 25 years to life in prison. Last year, he was cleared by DNA and released. He'd never been on the Internet or used a cellular phone, and his girlfriend, who initially stuck by him after he went to prison, had long ago married another man. Barnes told Popular Mechanics that he works hard not to be overwhelmed by bitterness, even toward the jurors. "They must have thought, '[Pagliaro] knows what she is talking about.'"

Pagliaro, a veteran analyst with the Connecticut State Police, has recently co-authored a book called *The Real World of a Forensic Scientist*. "I think this scrutiny is actually good," she says. "It's important for the public to have a realistic expectation of what the science can do." As for the Barnes case, there is no suggestion of impropriety regarding her testimony, but none of the evidence she presented was based on statistically validated science. "You feel awful someone spent all that time in jail," she says. "All you can do is look back and say, 'Was that the best we could do?'"



Diving Medicine Online

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

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



Free Diving and Shallow Water Blackout

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

SHALLOW WATER BLACKOUT (Latent hypoxia)

Shallow water blackout (SWB) is the sudden loss of consciousness caused by oxygen starvation following a breath holding dive. This was first described by S. Miles as "latent hypoxia", shallow water blackout is the term he ascribed to unexplained loss of consciousness in divers using closed-circuit oxygen breathing apparatus at shallow depths. Unconsciousness strikes most commonly within 15 feet (five meters) of the surface, where expanding, oxygen-hungry lungs literally suck oxygen from the divers blood. Once you lose consciousness you are likely to drown. The blackout occurs quickly, insidiously and without warning. The victims of this condition die without any idea of their impending death.

There are about 7000 drownings in the U.S. annually - many of whom are good swimmers. Craig, in 1976

reported interviews of survivors of near drowning. All had hyperventilated prior to the swim, had the urge to breathe, and had no warning of the impending unconsciousness. Hyperventilation is used by free divers to reduce the concentration of CO₂ and extend the length of breath-holding.

Beginning breath-hold divers, because of their lack of adaptation, are not generally subject to this condition. It is the intermediate diver who is most at risk. He is in an accelerated phase of training, and his physical and mental adaptations allow him to dive deeper and longer with each new diving day- sometimes too deep or too long. Advanced divers are not immune.

Conditions that produce latent hypoxia (Shallow water blackout)

Hyperventilation

Hyperventilation is the practice of excessive breathing with an increase in the rate of respiration or an increase in the depth of respiration, or both. This will not store extra oxygen. On the contrary, if practiced too vigorously, it will actually rob the body of oxygen. The magical benefit of hyperventilation is what it does to carbon dioxide levels in the blood. Rapid or deep breathing reduces carbon dioxide levels rapidly. It is high levels of

carbon dioxide, not low levels of oxygen that stimulate the need to breathe.

The beginning diver is very sensitive to carbon dioxide levels. These levels build even with a breath-hold of 15 seconds, causing the lungs to feel on fire. The trained diver has blown off massive amounts of carbon dioxide with hyperventilation, thus outsmarting the brain's breathing center. Normally metabolizing body tissues, producing carbon dioxide at a regular rate, do not replace enough carbon dioxide to stimulate this breathing center until the body is seriously short of oxygen.

Hyperventilation causes some central nervous system changes as well. Practiced to excess, it causes decreased cerebral blood flow, dizziness and muscle cramping in the arms and legs. But moderate degrees of hyperventilation can cause a state of euphoria and well-being. This can lead to overconfidence and the dramatic consequence of a body performing too long without a breath: blackout.

Pressure changes in the freediver's descent-ascent cycle conspire to rob him of oxygen as he nears the surface by the mechanism of partial pressures. Gas levels, namely oxygen and carbon dioxide, are continuously balancing themselves in the body. Gases balance between the lungs and body tissues. The body draws oxygen from the lungs as it requires. The oxygen concentration in the lungs of a descending diver increases because of the increasing water pressure.

As the brain and tissues use oxygen, more oxygen is available from the lungs while he is still descending. This all works well as long as there is oxygen in the lungs and the diver remains at his descended level. The problem is in ascent. The re-expanding lungs of the ascending diver increase in volume as the water pressure decreases, and this results in a rapid decrease of oxygen in the lungs to critical levels. The balance that forced oxygen into the body is now reversed. It is most pronounced in the last 10 to 15 feet below the surface, where the greatest relative lung expansion occurs. This is where unconsciousness frequently happens. The blackout is instantaneous and without warning. It is the result of a critically low level of oxygen, which in effect, switches off the brain.

Dalton's Law of partial pressures applies. ($P_b = P_{O_2} + P_{N_2} + P_{\text{other gases}}$.)

As P_b decreases, the partial pressures of all component gases decrease in the same ratio. The hypoxia of pre-dive hyperventilation is corrected by an increased P_{O_2} during descent.

During descent, the lung volume decreases due to chest compression, resulting in increased lung P_{O_2} , P_{CO_2} and P_{N_2} .

- In the lung there is an increased breathing rate and a reduced P_{CO_2} . Lung volume is reduced to one-half, lung P_{O_2} is increased, lung P_{CO_2} increases initially, but is followed by lowered P_{CO_2} due to reversed gradient.
- The blood reacts by developing a respiratory alkalosis and a right shift of the HbO₂ (oxyhemoglobin) curve. The reaction is $CO_2 + H_2O \rightleftharpoons H^+ + HCO_3^-$.
- Carotid body chemoreceptors cause a slow-down of the heart and permit longer breath holding.
- There is vasodilatation of the brain vessels with hypoxia (low oxygen). There is rapid O₂ usage, the arterial P_{CO_2} is lowered so that respiration is not stimulated until P_{O_2} drops so low that the breath hold breakpoint is reached. The breakpoint (P_{CO_2}/P_{O_2}) in a trained person is less sensitive to increased P_{CO_2} or lowered O₂. The act of consuming oxygen rapidly (as in chasing a large fish), delays the breakpoint because of the higher P_{CO_2} and the exercise per se. The diver becomes lightheaded, dizzy, has tingling, air hunger, muscle rigidity and unconsciousness.
- While at depth, increased lung P_{O_2} provides a favorable gradient for O₂ transfer from the lung to blood, occurring more rapidly than if the diver were on the surface.
- Because alveolar P_{CO_2} increases with compression, CO₂ does not leave the blood to enter the lung. Arterial CO₂ rises rapidly (especially with exercise) initially, then the tissues store CO₂. Trained divers

use a timed bottom time (1.5 minute maximum) to avoid unconsciousness on return to the surface.

On Ascent to the Surface:

- The lung re-expands to normal, the PCO2 becomes elevated as more diffuses into the lung and the PO2 drops dramatically.
- In the blood the PCO2 elevates depending on the depth of the dive and the amount of exercise. Deep dives drive more CO2 from the lungs into the tissues and increases the problem. There is a right shift of the HgbO2 curve.
- When the break point is reached , the chemoreceptors are stimulated by CO2, thus stimulation of respiration. Low O2 also stimulates respiration.
- In the brain:
 - CO2 stimulates respirations
 - Vasodilation encourages O2 consumption
 - Latent hypoxia occurs
 - Unconsciousness ensues
- On ascent the lungs re-expand reducing the favorable diffusion gradient for oxygen. Shallower depths cause this gradient to approach zero, the diver reaching a critical state of hypoxia.
- Hypoxia causes unconsciousness, possibly before the diver reaches the surface.
- Signs and symptoms of latent hypoxia (Shallow water blackout)



- Extreme weakness, trembling, unconsciousness in the water, amnesia of the event, drowning.

THE PHYSIOLOGY OF SHALLOW-WATER BLACKOUT

In addition to the changes due to the Physics of Dalton's Law, there are other physiological changes that take effect during shallow water blackout and free diving.

Diving Reflex

The human body is capable of remarkable adaptations to the underwater environment. Even untrained divers will show a dramatic slowing of the heart when immersed. This is commonly referred to as the diving reflex. Immersion of the face in cold water causes the heart to slow automatically. Chest compression can also slow the heart. Untrained divers can experience up to a 40 percent drop in heart rate. Trained divers can produce an even lower heart rate some can slow to an incredible 20 beats per minute.

Spleen Effects

Trained free divers develop several other physiological adaptations that lead to deeper and longer dives. The spleen, acting as a blood reservoir, assists trained divers in increasing their performance. Apparently their spleen shrinks while diving, causing a release of extra blood cells.

According to William E. Hurford M.D., and co-authors writing in *The Journal of Applied Physiology*, the spleens of the Japanese Ama divers (professional women shellfish free divers) they studied decreased in size by 20 percent when they dove. At the same time their hemoglobin concentration increased by 10 percent (Volume 69, pages 932-936, 1990).

This adaptation, similar to one observed in marine mammals (the Weddell seals' blood cell concentration increases by up to 65 percent), could increase the divers ability to take up oxygen at the surface. It could also increase oxygen delivery to critical tissues during the dive.

Interestingly, the spleens contraction and the resultant release of red cells is not immediate- it starts taking effect after a quarter-hour of sustained diving. This spleen adaptation, as well as other physiologic changes, probably take a half-hour for full effect. This might account for the increased performance trained free divers notice after their first half-hour of diving, and also may be one of the causes of unexplained heart failure in the diver with a border line heart condition.

Other adaptations

There are other known adaptations: blood vessels in the skin contract under conditions of low oxygen in order to leave more blood available for important organs, namely the heart, brain and muscles. Changes in blood chemistry

allow the body to carry and use oxygen more efficiently. These changes, in effect, squeeze the last molecule of available oxygen from nonessential organs. Most importantly, the diver's mind adapts to longer periods of apnea (no breathing). He can ignore, for longer periods of time, his internal voice that requires him to breathe.

PREVENTION OF SHALLOW-WATER BLACKOUT

Shallow-water blackout was a hot research topic for diving physicians in the 1960s, when they worked out the basic physiology described above. They also studied the case histories of SWB victims, identifying several factors that can contribute to this condition. These include hyperventilation, exercise, a competitive personality, a focused mind-set and youth.

The use of hyperventilation in preparation for freediving is controversial. No one disagrees that prolonged hyperventilation, after minutes of vigorous breathing accompanied by dizziness and tingling in the arms and legs, is dangerous. Some diving physicians believe that any hyperventilation is deadly because of the variation in effects among individuals and on one person, from one time to another. Other physicians, studying professional freedivers such as the Ama divers of Japan, found that they routinely hyperventilated mildly and took a deep breath before descending. Their hyperventilation is very mild; they limit it by pursed lip breathing before a dive.



Probably the best approach can be found in the U.S. Navy Diving Manual (Volume 1, Air Diving), which states: Hyperventilation with air before a skindive is almost standard procedure and is reasonably safe if it is not carried too far. Hyperventilation with air should not be continued beyond three to four breaths, and the diver should start to surface as soon as he notices a definite urge to resume breathing.

Learn the deadly effects of exercise underwater and plan to deal with this situation.

Freedivers learn to prolong their dives by profoundly relaxing their muscles (see the section on deep diving). Most divers make minimal use of their muscles except when they fight a fish or free an anchor. A physician writing in an Australian medical journal found a common scenario for diving deaths in Australia is the experienced diver with weight belt on, speargun fired.

Medical researchers feel that many pool deaths, classified as drownings, are really the result of shallow-water blackout. Most occur in male adolescents and young adults attempting competitive endurance breath-holding, frequently on a dare. Drowning victims, especially children, have been resuscitated from long periods of immersion in cold water 30 minutes or more. The same is not true for victims blacking out in warm-water swimming pools. Warm water hastens death by allowing tissues, especially brain tissues, to continue metabolizing rapidly;

without oxygen, irreversible cell damage occurs in minutes.

SUMMARY

- Do not hyperventilate to excess no more than three or four breaths.
- Reduce exercise at depth.
- Recognize the danger of focusing.
- Don't hesitate to drop your weight belt.
- Avoid endurance dives.
- Adjust your weight belt so that you will float at 15 feet.
- Don't practice breath-holding in a swimming pool. Always have an observer standing by to assist.

Learn the basics of CPR and think about adapting them to your diving arena, whether diving from shore, board or boat.

References: Hong, SK. 1990. Breath-Hold Diving. In: Bove and Davis, Diving Medicine, 2nd ED., Philadelphia, PA: WB Saunders, pp 59-68.

[Taravana](#)

From a lecture by Paul Sheffield, PhD

EVENTS

Arizona SAR (AZSAR) 2009 Conference September 18 – 20

This year's Arizona SAR Conference will be held at the Salvation Army Camp Ponderosa in Heber, AZ. Classes include Man Tracking, K9, Mounted, ATV & UTV, helicopter safety, Wilderness First Aid, NASAR SARTECH Certification, CASIE (Computer Aided Search Information Exchange), Alzheimer's, and swift water rescue. Meals, rooms, RV and tent camping on the facility are available. An online registration form should be up and running soon, but in the meantime, contact James Langston at (620) 464-6220

Canadian Underwater Conference and Expo

<http://www.underwaterconference.ca>

September 13 to 15, 2009

Halifax, Nova Scotia, Canada

"Man & Machine Underwater: Operations and Initiatives".

The conference addresses commercial diving and remotely operated vehicles working in the offshore and inland waters.

For more information, contact jim@calvesbert.ca

2009 International Association of Women Police Conference September 20-24, 2009

The 47th Annual IAWP Training Conference will be held in Seattle, Washington on September 20-24, 2009. The conference, held at the Westin Seattle Hotel, will feature four days of classes covering a variety of subjects, plus pre- and post-conference events. Open to all law enforcement professionals. <http://www.iawp.us/>

October 2-3

Southern California Association of Fingerprint Officers (SCAFO) Annual Training Seminar

Burbank, CA

www.scafo.org

20TH INTERNATIONAL SYMPOSIUM ON HUMAN IDENTIFICATION THE REAL DEAL • OCT. 09

International Symposium on Human Identification

October 12-15, 2009

Las Vegas, NV

www.promega.com www.ishi20.com

SARCon 09

Oct. 15-18, 2009

<http://www.clackamas.us/sheriff/sarcon/z>

Northwest SARCon is a search and rescue conference developed for emergency responders and their supervisors, including: sheriff's deputies, SAR team members, SAR volunteers, police officers from state and municipal agencies, firefighters, military and national guard personnel and Emergency Medical Services crews.



At the conclusion of the conference, participants will have received hands-on training and participated in discussions on topics related directly to the conduct of search and rescue missions.



DAN Offers Training for PSDivers Diving First Aid for Professional Divers to be offered at select DUI events

DURHAM, NC – For the past few years, Divers Alert Network® ([DAN](#)®) has joined Diving Unlimited International (DUI) on the road for several DUI DOG Rally and Demo Days events. DAN hits the road with DUI once again in 2009, with a special offering added for Public Safety Divers.

At DUI events that include a special day for Public Safety Divers, DAN will offer training in its [Diving First Aid for Professional Divers](#) program. The course will be offered the day before the DUI event starts.

Designed for professionals who dive as part of their job description, Diving First Aid for Professional Divers includes the three required elements of the DEMP course (Oxygen First Aid for Scuba Diving Injuries, AEDs for Scuba Diving and First Aid for Hazardous Marine Life Injuries), along with workplace CPR and first aid (based on guidelines provided by the US Occupational Safety and Health Administration).

Participation in the Diving First Aid for Professional Divers course requires an affiliation with a public safety or scientific diving organization, commercial diving company

or an aquarium. As proof of affiliation, participants will also be asked to provide a letter from the qualifying entity, outlining their diving role. The cost to complete the course at the DAN-DUI Public Safety Day events is \$100, and registration is required.

“We’re looking forward to the chance to get together with Public Safety Divers,” says Eric Douglas, DAN Director of Training. “Not only to conduct training that can be of value to them, but also to tell them about all the resources they have available through DAN. We know a lot of these guys are funding themselves, and so comprehensive courses like the Professional Divers course and learning about resources like the [Oxygen Grant Program](#) can be a great opportunity for them.”

DAN will be offering the Diving First Aid for Professional Divers course at the following DUI Demo Days events:

- **Manatee Springs, FL November 12 (deadline: October 23)**

For information on Diving First Aid for Professional Divers, or to register for any of the DAN-DUI events, please visit www.diversalertnetwork.org or call (800) 446-2671 ext.555.



If you have an event or know of an event that might be of interest to PSDiver Monthly subscribers, send the information to <mailto:PSDiverMonthly@aol.com>

PSDiver Monthly Continuing Education

PSDM-CE-65

1. Who is most likely to be affected by shallow water blackout?

- A) Snorkeler who is spearfishing
- B) Freediver training for a dive
- C) Firefighter who falls in the water in full bunker gear and SCBA
- D) 12 year old boy seeing how far he can swim underwater

2. It is the lack of oxygen that triggers the body's need to breath

- A) True
- B) False

3. Signs and Symptoms of shallow water black out include

- A) Unconsciousness
- B) Trembling
- C) Amnesia
- D) All the above



4. Immersion of the face in cold water can

- A) Cause the heart to race
- B) Cause a release of extra blood cells from the spleen
- C) Cause hyperventilation
- D) cause the heart to slow

5. When located, skeletal remains should be

- A) Left in place and surrounding area protected
- B) Photographed and collected
- C) Tagged and any clothing removed
- D) Compared with missing person reports

6. When removing a vehicle from the water, it is important to document

- A) As much as possible
- B) Condition of the body panels
- C) Condition of the windows
- D) How many bodies are in the trunk

7. The safest way to determine the depth of unknown water you are searching is to

- A) Send a diver down with a depth gauge and a communications system
- B) Use a ROV
- C) Use a Side Scan Sonar
- D) Use a depth finder

8. In a mass water casualty incident the primary task of the dive team is to

- A) Determine what happened
- B) Rescue anyone left alive and in trouble
- C) Recover bodies
- D) Locate, id, document and recover the vessel/vehicle

9. A car driven into the water to be hidden can leave clues like

- A) Oil sheen on the surface
- B) Tire tracks leading to the water
- C) Bank or scrape marks
- D) All the above



10. Finger prints cannot be recovered from objects after they have been underwater for more than

- A) 1 day
- B) 30 days
- C) 60 days
- D) Depends on local conditions and how they are processed.

TEAM DISCUSSION TOPICS:

1. A child's inflatable toy is seen floating near a vehicle that is underwater. Could or should this be considered evidence?

Why? Or Why Not?

What other objects could be suspect?

2. Under what conditions would you expect to see a victim of shallow water blackout?

3. If there are any circumstances that would make shallow water blackout a possibility for any team member – discuss the issue and develop at least three ways to prevent it from happening.

These training agencies have recognized PSDiver Monthly as a valued addition to their programs and Continuing Education requirements.

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.

We welcome all training agencies and organizations to participate.

For details, email PSDiverMonthly@aol.com

Join our PSDiver and Water Rescue Discussion Group at:

(Just click the link or copy and paste the url into your browser.)

Public Safety Divers Forum

<http://groups.yahoo.com/group/PSDivers-PublicSafetyDiversForum>

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 12,000.

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

Assistant Editor: [Dominique Evans-Bye](#)

Continuing Education Editor: [Chuck Elgin](#)

For advertising and sponsor rates, please email: psdivermonthly@aol.com

SCUBA EQUIPMENT RECALLS AND SAFETY NOTICES 2009

U.S. Consumer Product Safety Commission

Recall Alerts

<http://www.cpsc.gov/cpsc/pub/prerel/prhtml09/09722.html>

Office of Information and Public Affairs
Washington, DC 20207

February 24, 2009 Alert #09-722

Silent Diving Systems Recalls Scuba Diving Hoses Due to Drowning Hazard

The following product safety recall was voluntarily conducted by the firm in cooperation with the CPSC.

Consumers should stop using the product immediately unless otherwise instructed.

Name of Product:
Crimped Low Pressure Diving Hoses

AP300/15	ADV Supply Hose
RB20/03	Oxygen Injection Hose
EV20/03	Oxygen Injection Hose
RB20/10	Buzzer Hose
EV11A/1	Vision Handset Hose
RB11A/1	Classic Handset Hose
RB11/B	Handset Hose
AP300/10	ADV Hose
AP300/38	ADV Hose



Units: About 820

Importer: Silent Diving Systems LLC, of Center Conway, N.H.

Manufacturer: Ambient Pressure Diving Ltd., of Helston, Cornwall, United Kingdom

Hazard: Diving hoses may have been made without crimps, which can allow gas to leak or water to enter into the re-breather unit of the scuba diving equipment, posing a drowning hazard to the user.

Incidents/Injuries: None reported.

Description: The crimped hoses are used to carry the air supply in the re-breathing diving system. The hoses were

sold on three re-breathing models: Inspiration, Evolution and Evolution Plus. Hoses with a smooth (uncrimped) collar and with the model numbers listed below are included in the recall:

Hoses with eight flats on the hose collar have been crimped and are not included in the recall.

Sold by: Silent Diving Systems nationwide from January 2007 through August 2008 for about \$60. Re-breathers were sold for about \$10,000.

Manufactured in: England

Remedy: Consumers with the recalled hoses should immediately stop using the hoses and contact Silent Diving Systems to receive a replacement hose. All known purchasers have been contacted directly by Silent Diving Systems regarding the recall.

Consumer Contact: For additional information, contact Silent Diving Systems toll-free at (877) 336-4077 between 9 a.m. and 5 p.m. ET Monday through Friday, or visit the firm's Web site at www.silentdiving.com

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 it by visiting <https://www.cpsc.gov/cgibin/incident.aspx>

U.S. Consumer Product Safety Commission

FOR IMMEDIATE RELEASE

June 23, 2009 **Release # 09-251**

Firm's Recall Hotline: (877) 673-4366

CPSC Recall Hotline: (800) 638-2772

CPSC Media Contact: (301) 504-7908

**Diving Wings With Defective Inner Bladders
Recalled by Poseidon Due to Drowning Hazard**

<http://www.cpsc.gov/cpsc/pub/prerel/prhtml09/09251.html>

WASHINGTON, D.C. - The U.S. Consumer Product Safety Commission, in cooperation with the firm named below, today announced a voluntary recall of the following consumer product. Consumers should stop using recalled products immediately unless otherwise instructed.

Name of Product: Besea W50 Diving Wings with Poseidon Inner Bladders

Units: About 300

Distributor: Poseidon West, of West Lake Village, Calif., Poseidon Central, of Conroe, Texas, and American Divers Division, of Alexandria Bay, N.Y.





Hazard: The inner bladder located inside the diving wing can break, causing the wing to fail to operate as a floating/buoyancy device. This poses a drowning hazard to divers.

Incidents/Injuries: Poseidon has received 15 reports of inner bladders breaking. No injuries have been reported.

Description: The recall involves the Poseidon inner bladders with batch number 5445 sold with the Poseidon Besea W50 wings. The inner bladder is located inside the outer cover of the wing. The batch number and "Poseidon" are molded on a tab located between the "legs" of the inner bladder.

Sold at: Poseidon dealers nationwide from September 2007 through June 2008 for about \$366.

Manufactured in: Sweden

Remedy: Consumers who have wings that contain the recalled inner bladders should stop using the wing immediately and contact Poseidon for a free replacement.

Consumer Contact: For additional information, contact Poseidon toll-free at (877) 673-4366 between 8 a.m. and 5 p.m. CT Monday through Friday or send an email to info@poseidoncentral.com

Inner Bladder Tab on the Inner Bladder Showing the "5445" batch number Besea W50 Wing



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 it by visiting :

<https://www.cpsc.gov/cgibin/incident.aspx>

Mares Diving Issues URGENT Safety Notice Involving Nemo Air Computer August 11, 2009

<http://www.diverwire.com/scuba-equipment-news/267-mares-scuba-diving-issues-urgent-safety-notice.html>

MARES DIVING URGENT SAFETY NOTICE NEMO AIR QUICK CONNECTOR O-RING

Please be informed that we have discovered a quality issue on the O-ring assembled on the Nemo Air quick connector.

Under certain circumstances, the O-ring can fail and consequently Nemo Air may start leaking through the Quick Connector. As a result, there is a continuous, albeit slow, loss of breathing gas and Mares has decided to

issue a voluntary product recall. After intense internal tests Mares has identified a new O-ring of different material, color and hardness that can be retrofitted onto the Quick Connector of any existing Nemo Air.

We take this matter very seriously, but we would also like to point out that this issue is covered by the EN250 norm, which requires a 0.3mm opening in the high- pressure hose fitting. As a result, the hose is designed to ensure a slow enough gas release; which should allow the diver to complete a safe emergency ascent.

NONETHELESS FOR THE PERSONAL SAFETY OF YOUR CUSTOMERS AND TO AVOID POSSIBLE DANGEROUS ACCIDENTS: STOP ANYONE FROM DIVING WITH A QUICK CONNECTOR SUBJECT TO THIS VOLUNTARY RECALL UNTIL THE EXISTING O-RING IS REMOVED AND SUBSTITUTED WITH THE NEW GREEN COLOR ONE.

THE CURRENT O-RING FROM THE NEMO AIR QUICK CONNECTOR (O-RING IS BLACK OR BROWN) MUST BE REPLACED ONLY WITH OUR NEW O-RING THAT IS A DIFFERENT MATERIAL, HARDNESS AND GREEN IN COLOR.

Affected products and codes are:

Finished goods

414158 – DIVE COMPUTER NEMO AIR

414159 - DIVE COMPUTER NEMO AIR W/COMPASS

Spare parts

44200771 – HP HOSE W/QUICK CONNECTOR NEMO AIR

44200770 – QUICK CONNECT ASSY. FEMALE NEMO AIR

Please contact an Authorized Mares dealer/Service Center in your area to schedule the retrofit of the O-Ring of your Nemo Air Quick Connector. If you do not want to perform the above service procedures, please contact our customer service department at 1-800-874-3236 for a return authorization number. You will need to provide the unit(s) serial number(s).

NEMO AIR QUICK CONNECTOR O-RING MUST BE REMOVED AND SUBSTITUTED WITH THE NEW O-RING.

For detailed information please go to: www.mares.com

SAFETY NOTICE

Compulsory service of wings

www.agir-brokk.com

We have decided on a compulsory service of wings. The cause of this is that one of the parts, the sealing ring, in both the OPRV and inflator, can be weak. The manufacturer of this part has suffered a defect in the plastic material used.

This fault affects seven batches:

NIORD 44 with serial number TV0607... and TV1107...

HABROK 38 with serial number TV0707... and TV0108...

BLACKBIRD 36 with serial number TV0607..., TV0907... and TV0108...

To explain the serial number e.g. "TV0607 123" 06 is the month 07 is the year 123 is the individual number. The

earliest of above mentioned batches went in to selling July 2007.

All our dealers have been informed.

As of now, we know neither how many nor which of the wings in these batches are affected. Due to safety reasons we want to switch parts in all wings manufactured during the "critical" period. Left unattended, in worst case, this weak part may crack.

Until the faulty parts has been exchanged for new ones, we strongly recommend you not to dive with these wings.

We will keep you informed and if you have any questions, please call us.

Apeks

<http://www.apeks.co.uk/>

Limited recall of Apeks TX, ATX and XTX 2nd Stages

This is limited to those 2nd stages/octopus purchased before July 2008 that have not undergone an authorized annual service.

It has come to our attention that an incorrectly assembled 2nd stage has been purchased. If you have an Apeks regulator or octopus that has never had an authorized annual service, regardless of how recently purchased, please take the regulator/octopus to your Apeks dealer to be visually inspected.

All Apeks dealers and distributors have been made aware of this issue. Do not dive with the regulator until it has been visually inspected. If it is not possible for you to return the regulator for inspection then please contact Apeks' Customer Service Department for assistance. Apeks apologises for any inconvenience this may cause. We are dedicated to making the world's best diving products and ensuring diver safety at all costs.

Recall - Apeks Yoke Screw

Recall - Apeks Yoke Screw potential fault

"RECALL To all Apeks Customers. There maybe a potential problem with the yoke clamp screw on any yoke clamp type regulator with the serial number starting from 7010001 – 7053528. All Apeks dealers and distributors have been made aware of this issue. Please return your yoke clamp screw to your nearest Apeks dealer for inspection, do not dive with the regulator until it has been inspected. If it is not possible for you to return the yoke clamp screw for inspection, then please contact Apeks' Customer Service Department for assistance. Apeks apologizes for any inconvenience this recall might cause. We are dedicated to making the world's best diving products and to ensuring diver safety at all costs. This solution is the only reasonable course of action."

Be Safe Out There