



PSDiver Monthly 94

Volume 7 * Issue 94

June 2012

Dive Team PPE is NOT a Choice

Words that WILL KILL YOU!

Panic Attacks and the Blue Orb Syndrome

**NEWS & EVENTS
CONTINUING ED.**

Greetings,

Since the last issue I have been very busy. I taught two annual weekend training programs. I conduct these every year in June. I conducted multiple days of PSD training for our local fire department and taught three OW Scuba classes.

On top of that I had to replace my laptop AND my desktop PC. Since I am a dinosaur and hate change, my old computers all ran Windows XP. Now I have to convert all I know how to do to fit Windows 7. Both computers came with books that are supposed to teach me something about the computers but I hate to read those things.

I admit it seems like Windows 7 has more features that I may use and even seems to run a little faster. I have to admit that I might like some of the changes. But it still bothers me to have to relearn the basics of how to use a computer again. It is equally frustrating to have to add all the old programs, find newer versions of some programs etc. But mostly I get frustrated trying to find my own documents and pictures when I want them. On the other **computers I had a system... similar to my desk. The stack on the left has stuff I think is important. The pile to my right is stuff I need to deal with but keep putting off...** the rest is prioritized in the layers they are stacked in. My computers were almost as bad; but I knew where everything was. When it is all through, it appears that I will have a better system that will allow me to do more and be more productive, I just have to submit and learn how to better use what I have.

At least I learned my lesson in the past and had all of my files backed up. If you have been a subscriber for a while you may remember the two or three

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episodes where we had major system failures and lost some of our documents. This is **your** reminder to back up your files.

Last year, in our [PSDiver Standards Discussion Group](#) we developed a "Bridge" program of skills to challenge those entering into the PSD world from the recreational scuba community.

The last skill in the Top Water skill set is:

On a single breath of air, in 10' – 15' of clear water using Mask, Fins, Snorkel and at least a 5 lb weight belt, the participant will submerge at least 5' and clear a fully flooded mask no less than 4 times (5 is preferable) and ascend. At the surface the participant will clear their snorkel without lifting their head out of the water.

When I tell students that this is what we are going to do there is an immediate look of dismay from most. You want me to flood my mask and clear it **how many times on one breath??** And then we go try. With very few exceptions, I have not found those claiming to be PSDs to have the basic scuba skill sets to perform this task.

One of the other skills that we perform is treading water. Depending on the location and available time, we do this for 25-45 minutes. When they hear the time, again I see the look of anxiety.

Here is the rational. Clearing a mask and snorkel is a basic scuba skill. It should not be an issue to any trained scuba diver, especially those who dive in such hazardous conditions as PSDs. But to pass the test, it takes technique and breath control. If the diver has decent technique, he or she should be



able to clear their mask at least twice and still clear a snorkel at the surface. If they have MASTERED the skill, then clearing a mask at least 4 times on one breath should not be a problem.

Consider your diver is entangled and is not using a gas switch block and he runs out of air for whatever reason. He will have to remove his FFM, find his pony regulator and then breathe off of it until he is able to get clear or be freed. What if he ran out as he was starting to inhale? What if he fumbles with the pony regulator? What if his pony is not turned on? (I know, that would **never happen ...**). **If that** diver is air starved, trapped and cannot immediately find another source of air, it will be his ability to control the ensuing panic, use breath control, and think through the problem that will keep him alive.

That air starved sensation is taught during the multiple mask clearing skills. Older divers were taught in their OW classes what it feels like when you run out of air. In the old days, we were allowed to turn off students air cylinders to teach students what it felt like and what to do. Now days, we are not allowed to turn off **an air supply**. That **"taste of aluminum"** **some** of us are familiar with forced us to learn how to recognize and prepare for an out of air emergency.

The mask clearing drill does that too. When I teach new OW divers, they learn how to snorkel before I allow them into scuba gear. They are asked to clear a fully flooded mask at least twice, surface and clear their snorkel before completing the drill. When I tell them that some of my NEW students have done it up to 6 times, they often try to see how many times they can do it. They usually manage on average to clear a fully flooded mask three or four times. This is after **one day of introduction training**. **And you can't do it... why?**

Tread water for 45 minutes? NO WAY! We never respond at night to a water operation do we? If we do, we always have

enough light to make it look like daytime ... right? The reality is we DO respond in darkness and never have adequate light. If it is moving water and we are hoping for a rescue we may not have a boat in play. No one ever forgets to wear a life jacket when they go down to the water. That would **never happen... right?**

In the heat of the moment one of your divers rushes to help rescue a victim and accidentally falls into moving water. How long will he be able to stay afloat while you complete the rescue of your victim? How long will it take for you to find **him? Wouldn't you like to know** –to KNOW – he has the skills to stay afloat long enough for you to rescue him?

Typically I see PSDs manage 7 to 10 minutes of treading water with whatever skills they have. Those who are in better shape are at a disadvantage and struggle more. Those of us with body fat tend to work a little less. So your most fit people, those who may be the strongest and most physically capable will be working much harder to stay afloat and their stamina may be challenged because of poor technique.

Between 7 and 10 minutes I always see a few students who are struggling. They are usually in an upright position, heads are starting to bob because their hands are doing more downward dogpaddling and their legs are starting to bicycle kick. In my annual top water rescue class, it is **that same body position** we recognize **as a precursor to drowning...**

How long will it take for them to find YOU in the water, at night, during a flood? And you can tread water for how long?

If you think you have the skills, go prove it. Prove it to yourself. If you find you are unable, you will at least have a realistic idea of your own limits. Basic skills are an absolute necessity and mastery of those skills could keep you alive.

Take time to learn how to do better. Never be above learning or perfecting different techniques.

Once, in all the years I have been teaching, I had an older gentleman leave my class after completing just the first day. He was a much older officer and after being allowed the opportunity for self-evaluation, he decided that night that the job was more than he wanted. We talked and he was appreciative of the opportunity we had offered and when he returned to work the next week, he gracefully resigned from his team. This may seem unusual to you but I often see or hear about some of the older participants in my classes removing themselves from either their teams or moving to a mentoring position within their team. WE do not overexert participants but we DO provide a means of self-examination that is sometimes lacking on teams. If you do not have annual skills criteria to meet, how can you provide your team members the opportunity to KNOW what they are capable of and where their limits are?

During a more recent 3 day weekend class, I had two divers leave the class before completing PART the first day. After talking with them, I am still unsure what exactly their issue was. They claimed to be beyond the level of training of the class and thought it was a complete waste of their time. Their departure was not taken well by the rest of the class. They had their reasons and even if I do not agree with them I believe they have a right to be wrong. But it got me to thinking about what we do as a dive discipline and how we sometimes approach training opportunities.

Much like my aversion to learning how to use the new computer's programs, it seems like a good many of the PSD teams who have attended a PSD class in the past believe that they are now beyond learning anything that involves basic training; so much at times that they become arrogant about their abilities. The skills we perform as part of our water evaluation are very telling and faking is impossible.

Because I find certain attitudes to be arrogant, I looked up the word in my Word Thesaurus. The 6th choice is overconfidence. This is preceded by *pride, superiority and egotism*.

When we discuss attitudes of our respective dive teams we often use these very words to describe particular members on our own teams or another team who has been worthy of our conversations. These are also the words we use to describe attitudes that will get us killed.

There is no room – ever – in our discipline of diving for arrogance. We all have team members or know of people on teams who have ego issues. We deal with them and move on. But what we do not do is accept them at their word that their skills are as good as their attitudes. They have to prove that before we will use them on a dive or trust them with our lives.

After over 30 years as a fire fighter and Public Safety Diver, doing what I do in the PSD community, I have met, know and am friends or acquaintances with most everyone in the PSD training world. Compared to recreational scuba, it is a very small world. Amazingly enough we do not always agree on how training should be conducted, which technique or procedure is better, etc. That said, I have learned something from most everyone I encounter and have always found something new at every class or conference I attended. I would certainly hope that ANY program will offer anyone something of value that will improve or help them with the job.

But - you have to be willing to learn and you have to stay for the class.

Dive Safe,
Mark Phillips

If you would like to discuss this topic or any other, join our discussion group:
[CLICK HERE TO JOIN](#)

Special To PSDiver

Dive Team PPE is **NOT** a Choice

Mark Phillips

Personal Protective Equipment is not a choice. It is a requirement for your job. If you are the lawn maintenance guy you wear hearing and eye protectors when you are using a blower or weed eater. If you are a chemist, you use eye shields and protective clothing when pouring chemicals. If you are the steel worker who works with molten material, you have clothing and equipment that will protect you from the heat, fumes and hopefully minor splash.

PPE is not a voluntary option. It is a requirement for every job. OSHA requirements for PPE mandate what is appropriate and unlike NFPA, compliance is mandatory. Simply put, [OSHA says](#) "When engineering, work practice and administrative controls are not feasible or do not provide sufficient protection, employers must provide personal protective equipment (PPE) to their employees and ensure its use. Personal protective equipment, commonly referred to as "PPE", is equipment worn to minimize exposure to a variety of hazards. Examples of PPE include such items as gloves, foot and eye protection, protective hearing devices (earplugs, muffs) hard hats, respirators and full body suits. "

In an OSHA hazard assessment, categories to be aware of include Penetration, Chemical, Heat or Cold and Biologic. Proper PPE is required as well as training on its use. [Employers are required to train employees to know at least the following:](#)

- ❖ When PPE is necessary.

- ❖ WHAT PPE is necessary?
- ❖ How to properly put on, take off, adjust and wear PPE.
- ❖ The limitations of the PPE
- ❖ Proper care, maintenance, useful life and disposal of PPE.

There are hundreds of sites on the Internet that concern standards for or about Personal Protective Equipment. Some you may not have seen include these.

- [Guidelines for Use of Personal Protective Equipment by Law Enforcement Personnel During A Terrorist Chemical Agent Incident](#)
- [Recommendations Specific to Hazards Associated with Public Safety \(Law Enforcement and Emergency Medical Services\)](#)
- [Hazardous Waste Operations and Emergency Response \(HAZWOPER\)](#)
- [Deep-Water Work/Boating Operations](#)
- [Diving and Diver-Support Operations](#)
- [EPA safety and standard operating procedures for polluted water diving](#)
- [NOAA Diving Program – Contaminated Water Diving Reports](#)

Most PSDivers are involved with some part of Emergency Services; Fire, LE, ALS or BLS. In ALL regards, those who are volunteers working with a volunteer team MUST be working for or under the auspices of a local LE or Fire

service. When working for emergency services, we use Personal Protective Equipment or PPE on every call we make. Those of us who respond to medical calls or have the potential to do so usually keep a box of latex gloves handy. If we see a person sitting on a floor who is having an unknown medical problem, we think nothing about putting on a pair of gloves before we touch them.

As firefighters when we need to enter a structure that is on fire, we automatically don our bunker gear and SCBA. A police officer puts on a bullet proof vest with the same casualness he puts on a t-shirt. Each of them use PPE everyday with no thought or effort and it is not only expected, it is required.

When we move to special teams within our departments we generally think of the Haz-Mat team first. We are trained as First Responders to identify a potential hazardous materials scene. We are trained to keep away and secure a safe zone for civilians while waiting on a specially trained team to respond and mitigate the hazard. When they arrive and there is a need, they don encapsulation suits and self-contained breathing apparatus before they approach the actual site. No one questions their need to do this and in fact call them

because they have the training, equipment and ability to do the job.

As PSDivers we face an unfair and biased prejudice. Because we start as recreational divers and train in

swimming pools and clear (sometimes) lakes or ponds, we seem to be looked upon as a nuisance until we are needed. With a few exceptions, PSD Teams are underfunded, understaffed and definitely unappreciated for what they do. That being the case, it is sometimes difficult to obtain necessary funding for items that the team needs in order to be safer at their job.

One of the main items we need but rarely seem to obtain is exposure protective suits. In the South we tend to be more oriented to lightweight wetsuits or dive skins and in the North, teams are more likely to have dry suits available to them for cold weather diving.

Dry suits tend to be looked upon as a protective tool against cold. They were originally intended to offer



Photo courtesy of OSHA.
This picture shows actual disaster site work conditions and may not illustrate proper safety and health procedures.

thermal protection and are used by the recreational and PSD diving communities for that reason.

Recreational divers using dry suits typically dive in cold water environments up to and including ice conditions. As a practice and objective of diving, they almost always stay within the borders in the water column. Public Safety Divers as a rule, **do not.**

Public Safety Divers are in the water to locate something. If that something was floating, we would not need divers. Public Safety Divers tend to dive ON the bottom, not within the water column. On the bottom is **sediment.**

Sediment is naturally occurring and consists of a variety of most everything that water touches or is touched by water. It is a vast mixture of organic material that is broken down by processes of weathering and erosion, and is subsequently transported by the action of water. Sediment contains chemicals, minerals and metals that are not naturally occurring and are a result of runoff, spillage or pollution. These are not usually water soluble and have a specific gravity greater than water. In general, they sink and come to rest in sediment. Dioxins are much heavier than water and not water-soluble. Agent Orange is not water soluble. Minerals and

The concept of *water column* is quite important, since many aquatic phenomena are explained by the incomplete vertical mixing of chemical, physical or biological parameters. For example, when studying the metabolism of benthic organisms, it is the specific bottom layer concentration of available chemicals in the water column that is meaningful, rather than the average value of those chemicals throughout the water column.

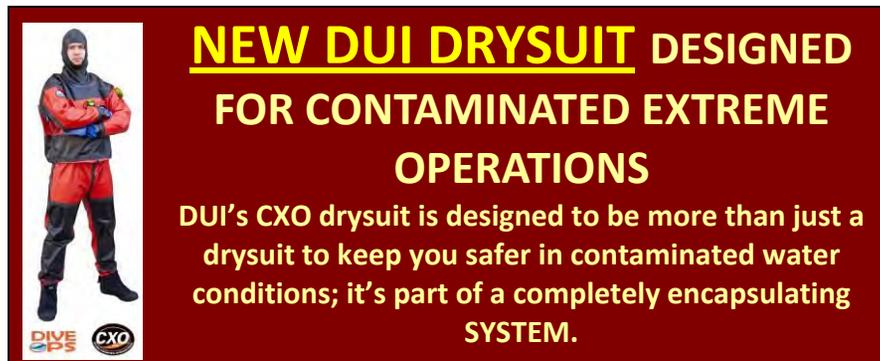
http://en.wikipedia.org/wiki/Water_column

metals are heavier than water and are not water soluble. Mercury sinks. Chlorobenzenes are not water soluble and the amount of chlorobenzene in sediment may be 1000 times higher than that of the surrounding water. Which would you want to rub into unprotected?

It does not matter what chemical, mineral or metal we name as a contaminate. If it is in the sediment, it is where PSDs dive. Those contaminants can be carcinogenic, cause skin burns, blood poisoning, or any number of other medical disorders. Divers can be exposed by direct contact, oral and / or dermal absorption and even inhalation if not properly decontaminated.

If your team works in areas that are prone to floods or hurricane flooding, your potential to exposure can be even greater. In normal conditions, heavier than water particles sink to the bottom and become part of the sediment layer. In flood conditions, those same sediment

layers will be disturbed and even mixed back into the water column. In those instances, divers are at risk in the water column as well as in the sediment layer on the bottom. Likewise, water rescue teams working on the surface or in wading depth waters are exposed as well.



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We are not chemists. We do not analyze water or sediment samples. Even if we were, analyzing for all the chemicals that might harm us in sediment would take weeks and costs thousands of dollars. We DO, however, have common sense that would keep us away from exposures that would harm or kill us. If we looked at a list of non-water soluble chemicals that were definitively harmful or lethal and if ANY of those chemicals were spilled on dry land, is there ANY Emergency First Response department that would allow ANY of their employees to mitigate the hazard or work in the environment WITHOUT PROPER PPE?

But WE do it almost every time we dive. IF we are dealing with zero visibility as well, we are doing it completely blind. Is there any haz-mat team or EMS system that would allow their employees to work in a hazardous environment with no ability to see and no or little PPE? Is there a police officer still alive who would enter a gunfight wearing nothing more than a SWAT t-shirt and a blindfold? Just how ludicrous do we need to make these comparisons or illustrations to understand what PPE means to a Dive Team?

If your dive team is using dry suits for thermal protection only or your team does not see the need for dry suits, then you are lacking the proper awareness of PPE for the job. You may argue that you request them in your budgets but never get them or that there are other items more important to get first. And you probably ask for Dry Suits in your budget requests.

We concern ourselves with contaminated water and never consider that the work and diving we do is not *in* the water but rather in the sediment layer under the water. Until we do, until we recognize the potential hazards and

likely exposures to ourselves and our team members, we are accepting the ridiculous idea that firefighters do not need bunker gear, police officers do not need Kevlar vests and Paramedics do not need latex gloves.

Drysuits = Personal Protective Equipment.

It is time we accept that and work towards better protecting ourselves and our teams. When you put in your budgets or make equipment

requests, DO NOT ask for dry suits. Instead, ask for APROPRIATE PPE for your divers.

Consider, too, that if you are successful, there will be training requirements that will accompany the PPE. And if you are able to purchase new PPE and are using it for protection from chemical and biological exposure, then the rest of your equipment needs to be integrated as well.

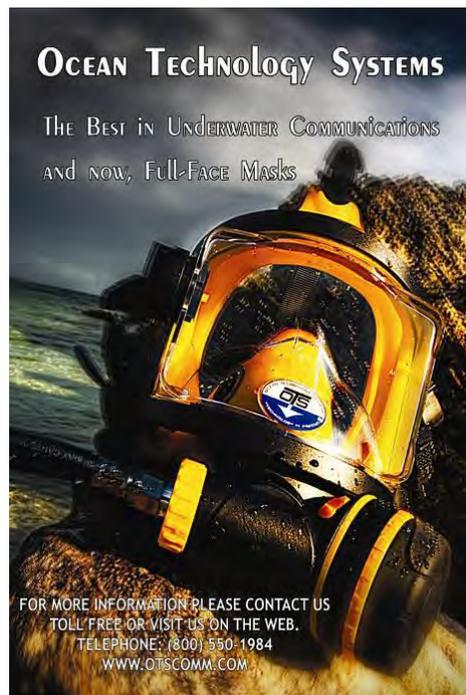
To be effective, dry suits must have an integrated dry hood and dry gloves and be decontamination compatible (e.g. not made of neoprene which will absorb everything it contacts). At a minimum, a full face mask must be worn—better if positive pressure. Air supplies must be integrated into the air delivery system so that the diver never needs to remove the full face mask. This is usually accomplished using a gas switch block.



Consider the dive from beginning to end. If you are preventing your divers from being exposed to potentially harmful contact with contaminated water or sediment, then they will need to be decontaminated at the surface before removing their equipment. Your equipment inventory may not have the necessary supplies and equipment. But if you have a local haz-mat team – they do. Unless or until your team is able to be completely self-sufficient, use the available resources you have.

We use the term Risk/Benefit in our decision process when assessing a dive scene. Use it now to determine if your team is able to justify diving in the sediment layers your waterways.

One realistic outcome is that you will consider that. You will get fired up a bit about getting or replacing your dry suits and will likely get shot down because of budgetary issues. If you give up the fight and lose sight of the goal, you will never be able to make the step. Your team will never get the recognition it deserves or the respect it has earned. You will always be the dive team who goes to the swimming pool or lake and calls it training. And one day

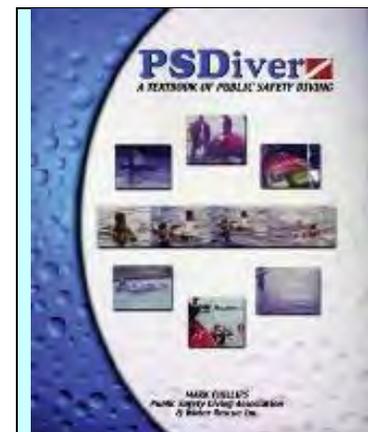


in the distant future, one of your divers may be diagnosed with cancer that can be traced back to a dive event exposure. They will die a hero and your team mates will get tested and may find some similar issues. Then your team may get some extra funding.

The realistic outcome *we would rather see* is that you get fired up about PPE and fight until you get it. It may take a few years but the fight is worth it. As our society continues to grow and pollute, as new chemicals are created and new hazards develop, the physical health of your team may be in the balance. There is NO valid argument against providing adequate or necessary PPE. Divers can and have been debilitated by contaminated waters and sediments. There is no reasonable excuse for anyone to be injured or killed because of an accidental exposure. Waiting until it happens and dealing with the issue as a reactive solution means we hurt or killed someone. That is simply not acceptable.

PPE is not an option. PPE is a necessity.

Mark Phillips is the Editor / Publisher of PSDiver Monthly. A 34 year career firefighter and Master Scuba Instructor.



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NEWS

The real CSI: what happens at a crime scene?

<http://www.guardian.co.uk/science/2012/apr/27/craig-taylor-real-csi?newsfeed=true>

From the diver who finds the body parts, to the forensic specialist who identifies flecks of paint on the victim and the handwriting expert who examines the killer's notes... What happens behind the yellow tape of one crime scene?

Friday 27 April 2012 Craig Taylor

On 19 February 2001, a bag was found in London's Regent's Canal, containing the dismembered corpse of a 31-year-old woman. Paula Fields was a mother of three who had become involved in drugs and prostitution

Police eventually linked the crime to John Sweeney, who was captured in March 2001, after seven years on the run for trying to kill a former girlfriend, Delia Balmer. Thanks to new DNA evidence, Sweeney was linked to another crime: the 1990 murder of an American woman named Melissa Halstead, whose body was found in the Westersingel canal in Rotterdam. On 4 April 2011, Sweeney was given a "whole life" sentence for the murders of Fields and Halstead.

The anticipation kicks in as soon as I get the call. I get in the car, put on some classical music and start thinking. Every crime scene is different. It's nowhere near what you expect.



John Cockram crime scene manager 'Blood saliva little bits and pieces – I'm not going to miss it.' Photograph: Andy Hall

When I arrive, I get a briefing from whoever's at the scene. You listen but you don't necessarily agree. I call it ABC. Assume nothing. Believe nobody.

Check everything.

Maybe it's the first time a police officer has seen a body. They'll give a fantastic description of a decomposing corpse, but I can see that with my own eyes. I'll ask: did you smell anything? Was there a window open? How did you kick the door in? Was there a key? Did the key come flying out? I'm trying to get them to see further than the body on the floor.

When I arrive at a scene, it's my thinking time. It's now sterile. The circus hasn't arrived, so I get suited up and go in with my notepad.

What am I seeing? What am I hearing? I have a quirk: I tend to follow the left-hand wall around a room. If you go to Hampton Court maze and follow the left-hand wall, you get to the middle. It's a good technique. Blood distribution, saliva, little bits and pieces – I'm not going to miss it. If the kettle's warm, if the window's open. Has the central heating kicked in? Which lights are on? Which are off? Has the toilet been flushed? Is the seat up or down? You may not know the relevance, but take in the details – a ring of dust, an open drawer.



I can remember virtually every job I've done – about 400 murder scenes and 200 suspicious deaths. When it comes to cordons, I always think big. Think meningitis and hope it's a cold. A cordon can always shrink afterwards. But people have to get on with their lives, so you can't cordon off a whole estate. How am I going to manage the situation without compromising the evidence?

With the Paula Fields case, you've got five bags in a canal, two entry points. Questions arise: who's going to carry five bags? How many people? It turns out it was one person. How heavy are the bags? Has he brought a

car here? In this case, the bags were weighed down with brick and tiles.

I noticed a skip nearby. Perhaps that should be part of my scene. Most importantly, I asked myself, how am I going to deal with these body parts? I've got people from nearby offices gawping out the window at what I'm doing. All these things run through your head. It's all moving in real time.

You have to make a decision as to what you're going to get out of a scene, how much of the detail you're going to look at when you're at the mortuary or the laboratory. You need to be able to effectively reconstruct the crime scene at the court afterwards.

Maybe 70% of what you retrieve is not relevant. That doesn't stop you from finishing with a fingertip search, looking for that last piece of detail. You retrieve and work out the relevance later.



Dave Clifford - 'You don't want to think about something going wrong.' Photograph: Andy Hall



John Birkett, forensic specialist 'There's a lot of nightmare potential.' Photograph: Andy Hall

I'm the conductor of an orchestra. I don't need to know how to play the violin, but I need to know what sound they make and, more importantly, when to bring them in; to recognise when I need a blood pattern analysis expert, a forensic archaeologist, a pathologist, biologist or palynologist, which are pollen experts, an environmental scientist, a person to construct immersive, 360-degree images of the scene – say, if you want to see where the petrol was splashed at a fire scene. I have to bring them to the scene at the right time and usually deal with egos. They're experts: they come to a scene and think they've got answers to everything. They haven't. They're just a cog in the machine.

On the canal bank, I asked myself: what am I going to do with these bags? Can I get a pathologist to the scene now? When is the post-mortem going to happen? If you take a limb out of an anaerobic situation – where there's

no air, so it won't decompose – you can see the flesh going blue in front of your eyes. These things all add up in your mind. We should do something here, now, I decided. We got a big-scene tent in and got started.

We look for finger marks, hairs, fibres, obviously, but in this case we also looked at the plastic bin liners that held the remains. If you find a roll of plastic bags at a suspect's address, you can prove where the bag has come from. You need to know this sort of thing. You've only got one chance. If you seize the wrong things to start with – no matter how well you manage the people, the budget, the egos – then you're lost.

You're underwater, and inside your mask the sweat is dripping into your eyes, but you're thinking: got to keep on. No matter how cold or uncomfortable you are, you must get the problem solved. We have certain skills, certain equipment, but it still takes a special sort of person to look for a body in nil visibility.

We normally work for about an hour and then concentration begins to wane. If it's really cold, you do a shorter dive. When you're underwater, you're working hard drawing in air. You don't want to think about

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Steve Smith, detective inspector - 'The head, hands and feet have never been found.' Photograph: Andy Hall

something going wrong. So you have faith in the team and in your equipment, even when you're gasping. It can become quite claustrophobic.

In water, the biggest danger is drowning. Then there's the barbed wire, the razor wire, the sharp knives, the obstructions. There's an area in the London docks that's got shopping trolleys piled on top of each other. If you're at the bottom, you've got eight or nine metres of shopping trolleys teetering above you. You're aware of the metal, aware of the danger.

If you're the guy who finds the body, then you've succeeded. Sometimes, one diver has come up and the next diver's gone down and found it on the first sweep. We all want to be the diver who finds it. We call them "Gucci dives".

Divers aren't just used for work in water; we're brought into anywhere breathing apparatus might be necessary – drains, sewers, even the tube train after the 7/7 bombs. It was a small gap and very hot work. They were still looking for body parts.

In another situation, a knife had been thrown in at high water. At low water, we were confronted with a lot of mud, probably 2-3ft deep. We were all in line, searching for this knife with our fingertips. It was the worst sort of mud – exhausting to move through because you can't get a proper grip. We found the knife, but I had a week off afterwards. I was exhausted, but I'd taken in a bit of sewage as well.

You'd be surprised what we talk about at times like that – recipes, the best way to look after chickens. Some of the lads are really into self-sufficiency, so we have great conversations about edible mushrooms. We don't talk about football very often. It's a small team, but we're close, almost like a family.

In the Paula Fields case, two boys went fishing and when they fished out a bag, they didn't understand what they had. A member of the public walked past and understood. The boys thought they'd found a piece of pork. What they had



actually found was the pubic area of a female.

That was a Monday night. It was getting dark by that stage, so we returned the next day and for some reason the canal had gone absolutely clear. Usually it's silty and muddy-coloured, but on that day you could see the bottom. There were five other bags in the canal that the crime scene manager was interested in.

The canal is about 8ft deep. We used what we call a floating jackstay – a rope tethered at each end that we lay out to guide us. It floats on the surface, so the diver can go all the way along it, holding it in one hand while looking. Then we did a fingertip search along the bottom. Your fingertips become so important. You touch something and you know it's worth more investigation. It's almost like a sixth sense.

We were looking for more bags. We didn't know if there were more parts missing. There are a lot of heads around in London just waiting to be found.

If you are searching for human remains, you've got to be respectful, especially if you're in a public area. We have a body tray with a cover on it, so, once we've located the body or body part, we'll strap it on out of sight. In a best-



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case scenario, the most anyone will see would be an orange stretcher with a white cover. The worst case would be a body bag.

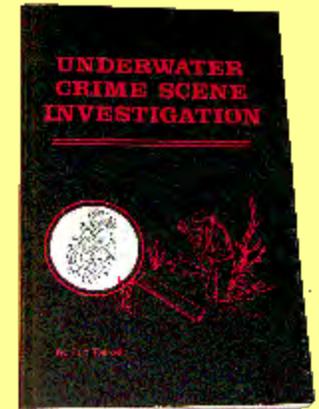
In the case of Paula Fields, the bags were taken into the forensic tent. We didn't look in them. We just handed them over.

Paula Fields was murdered in 2001; Melissa Halstead's remains didn't come to us until 2009, even though she was killed earlier. I got involved to see if I could link what happened to Halstead to the marks from Paula Fields.

We wanted to see if there were links: was the same type of saw used? Had the bones been sawn up in the same way? Sometimes a person will cut through the radius and ulna together. Sometimes it's clear they've cut through one and then cut through the other.

We receive bones from the pathologist. They usually remove most of the flesh. One end is cut by the pathologist, one end by the offender. How we proceed depends on fitting in with the wishes of the family.

**“Underwater
Crime Scene
Investigation”
By Eric Tackett**



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Nicola Musgrove, documents examiner - So much can be seen... It's like magic.' Photograph: Andy Hall

To some extent you've got to detach yourself from the fact that this is a piece of human body. You've always got that in mind, and the sensitivities behind it. But if you really started thinking about it, after 30-odd years in the job, you'd realise you've looked at lots of pieces and there's a lot of nightmare potential.

In this job you need to have good visual awareness, pattern recognition. It's the ability to put together what's been going on.

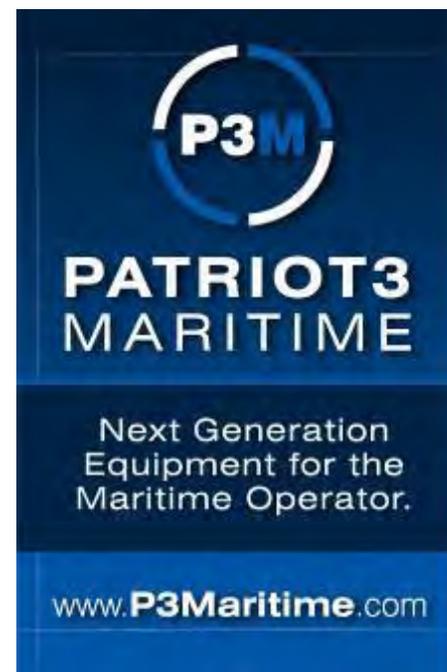
When a person saws through bone, the blade will go through at different angles. Usually, someone is sawing through flesh as well as bone. It's moving. It's going to grab at the saw and pull it at all sorts of angles. And, of course, how is a person holding it down? It's not like they

have it secured in a vice. I suppose some people might hold it in a Workmate, but most of the time it's on a table or on the floor or in the bath. They're not going to be cutting through smoothly and evenly.

Usually you get a whole series of lines going across the ends of the cut, from all sorts of angles. One of the first examinations is to look for paint or other material in the cut. We've got a lot of hacksaw blades here to consult. Blades of the same type, or from the same firm, will have a colour. Often we are able to confirm the paint on a saw or eliminate another. In this case, we had a yellow-painted hacksaw blade, but when my predecessor examined Paula Fields, there was blue paint on the ends of some of the cuts.

We're using microscopes that go to 40 times magnification. It's not just paint flakes; the paint actually smears on to the ends of the bone. You'll also see partial saw marks where they've given up.

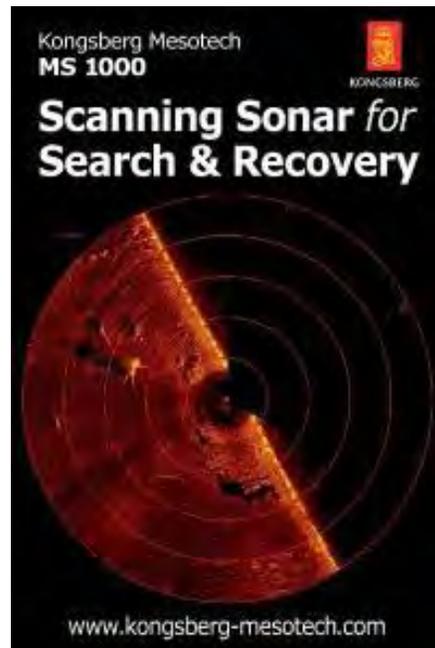
In this case, there were two different saws used on both bodies: a hacksaw and something more like a panel or tenon saw. A heavier-duty saw leaves a fairly wide mark, a hacksaw leaves a narrow mark, so we look at tooth



spacing. You may see little indentations at the bottom of the cut. In this case, on one of them there were 24 teeth per inch – a hacksaw; and on the other were 10 teeth per inch – a wood saw.

When the edge of a tool moves across the surface of bone, you get microscopic imperfections, even from a new tool. All tools will be slightly different. As it gets worn and damaged, it will leave more and more detail: more hints, more clues.

I joined the investigation team in 2005. Not long after, the phone rang. It was a Dutch officer from Rotterdam. He said, "I need to speak to someone because we've had a DNA hit on a body and it concerns one of your cases." Paula Fields had come down from Liverpool in about 1999 or 2000, and met Sweeney around September or October 2000. He lived at an address in north London, and she happened to be walking the streets in that area. It's accepted they had an affinity because they were both from Liverpool. She began a relationship with Sweeney and, with her drug habit and her lifestyle of choice, it attracted a bit of attention to where Sweeney was staying. Clearly he wasn't comfortable with that, because he was on the run from the police for a



near murderous assault on a previous girlfriend, Delia Balmer, in 1994. Sweeney enjoyed Paula's company – this is only my interpretation – but it all got a bit too much for him. She'd steal from him, presumably to buy drugs. The dealers were coming round and Sweeney was having to fork out money, which would have annoyed him greatly. This is primarily what we consider to be the motive for the murder of Paula.

In December 2000 – the exact date was never established – she disappeared. In February 2001, some lads fishing in Regent's Canal noticed a bag. It contained what we now know to be body parts of a female. Divers found five further bags containing body parts, which we know belonged to the same female, minus the head, hands and feet, which have never been found. DNA analysis was carried out which revealed that the body parts belonged to Paula. Inquiries led them eventually to Sweeney's address.

John Sweeney was arrested in March, up in the City, on a building site, a stone's throw from the Old Bailey. He was found in possession of firearms, one of which was in his tool chest at work. He had a couple of shotguns at home. At that time, the inquiry team went back to see Delia. She'd told police in her statement that Sweeney had confessed to her, earlier in 1994, to killing his girlfriend Melissa in Holland. Delia's information said that he'd killed her, chopped her up and thrown her in the canal network in Amsterdam. The Amsterdam police did in fact have a missing female, found in a canal in 1992. The investigators had a suspicion it was Melissa, but when they obtained DNA samples from Melissa's family, these did not match with DNA from the body parts. That body has never been identified, and this is where the investigation stalled.



Sweeney was arrested for the murder of Paula, and arrested and charged for the firearms offences, and also for the attack on Delia. But the Crown Prosecution

Service decided there was insufficient evidence to charge him for Paula's murder. He was given a life term, but that meant he would have been released in around April of this year.

But in 2005, a Dutch cold case team had picked up an unsolved case from 1990, when a dismembered female body minus head and hands had been recovered from a canal in Rotterdam. They rang the historic forensic samples lab and said, "Do you have any samples from the postmortem of this unidentified female?" As luck would have it, almost at the back of a drawer, they found what I believe to be a vial of blood. The lab constructed a full profile, loaded it on to a missing persons database and discovered a full DNA hit with Melissa's family.

They exhumed the remains of the 1990 body in early 2008, took the relevant DNA samples and it was confirmed to be Melissa Halstead. Sweeney had confessed to dumping her body in Amsterdam, not Rotterdam, but that could easily have been Delia in her stress not remembering. Or else Sweeney was playing a game.

Sweeney was in prison. There wasn't an intense pressure of time. There wasn't a serial killer on the loose, but there was a possibility he could come out of prison. He was the prime suspect. We just had to make a solid forensic case.

There's a lot of printed stuff nowadays from computers, which is difficult to track down, but people do still write things down. In this job, there are handwriting comparisons, signature comparisons, questionable cheques, altered documents. Maybe ballpoint ink has been scrubbed or obliterated. Maybe the documents have been shredded. We might have to sit there and painstakingly put documents together.

The handwriting on a specific document could come into question. Or police would gather handwriting from a specific time and I would go through and methodically look at each letter, how they're linked together, how they've been formed, upper and lower case, punctuation, spelling mistakes. You see if someone's become lazier and started scrawling, the pen they're using, what kind of mood they're in, the surface they're writing on, influence of alcohol, illness. So much can be seen.

There are also indents and impressions. We might get a notebook and see that a page has been torn off. We can still see what's been written through four or five pages. There is the Electrostatic Detection Apparatus – you put a document on it and it produces a vacuum, drawing the document down. We put what I would liken to cling film over the top and run an electric bar over it, which charges it – the indented impressions will be a different charge. Over this we pour glass beads with a carbon-based powder on them. The powder sticks and reveals the indented impression: words appear, images appear. It's like magic. What you then see is often some sort of

malicious communication – perhaps a threat sent to the prime minister. Something has emerged out of nothing.

In this particular case, there were about 50 very elaborate drawings in pencil and coloured pencil with bits of writing on them which had been obliterated with correction fluid. It was pretty disturbing. There was obviously a purpose for having obliterated those entries.

I was specifically asked to look for women's names, but I wrote down everything I saw: Melissa Halstead's name, Paula Fields' name. I found what I was looking for.

'Southwest Pollen' Linked to 1979 NY Cold Case

http://www.forensicmag.com/news/forensics-solving-mystery-submerged-murder-victim?utm_source=feedburner&utm_medium=feed&utm_campaign=Feed%3A+ForensicMagazine+%28Forensic+Magazine%29

May 1, 2012

Police are hoping that traces of pollen found only in the Southwest will finally help them identify a woman whose body was found in 1979 on an upstate New York farm.

After the pollen was found on the victim's pants using new technology, the Livingston County Sheriff's Office in Geneseo, N.Y., enlisted Albuquerque police in trying to identify the woman who also wore replica American Indian jewelry typically sold in New Mexico, Utah, Colorado and Arizona.

"We're not any closer to solving this crime than we were when it happened years ago, but we think this new information might help," said Livingston County sheriff's investigator Tom Dougherty, whose rural department

rarely has to investigate even one homicide a year. "We'd love to just identify the girl then maybe find her killer."

Palynologists, or pollen experts, now have the ability to compare microscopic pollen samples to determine where the material originated. Among other things, they have identified pollen grains trapped in illegal drug shipments to help federal authorities against drug traffickers.

The victim found in New York was believed to be 13 to 19 years old when she was shot, pulled into a cornfield, shot again, and stripped of any identification. A farmer discovered her body in November 1979 while checking his fields off Route 20 in Caledonia, N.Y., about 20 miles south of Rochester.

The woman was described as 5 feet 3 inches tall, weighing about 120 pounds with brown eyes and brown frosted hair. She also had a bikini tan line and was



This photo from the Livingston County Sheriff's Office in Geneseo, N.Y., shows American Indian replica jewelry found on unidentified female found murdered in 1979 on an upstate New York farm. Authorities said new forensics have found traces of pollen from the American Southwest on her pants after her body was recently exhumed to pull DNA evidence. New York authorities have enlisted the help of Albuquerque police and hope the pollen could help identify the female, who was between 13 to 19, after more than 30 years. Courtesy of AP Photo/Livingston County Sheriff's Office

wearing a red nylon-lined wind breaker made by Auto Sports Inc.

Authorities have received hundreds of tips and tracked more than 10,000 leads across the U.S., Europe, Mexico and elsewhere. But no arrests have been made.

John York, the first investigator on the scene in 1979 who is now the Livingston County sheriff, reopened the case and believes the new discovery might yield clues to help solve the case.

Dougherty said the body was recently exhumed to pull DNA evidence and send the information to a new national database. That's when the pollen was discovered thanks to a forensic study by Texas A&M Univ., he said.

Soon after the pollen discovery, authorities contacted Rich Lewis, a detective with the cold case unit of the Albuquerque Police Department. Lewis visited American Indian jewelers who told him that, according to photos, the jewelry found on the woman was likely replicas of Native American turquoise and silver jewelry.

"So this stuff could have been purchased anywhere, even made from a kit," said Lewis. "Or it could have been made by hippies in northern New Mexico, which was very common at the time. We just don't know."

Still, Lewis said investigators have an obligation to re-examine the case, especially because of the new evidence that points to the Southwest.

Lewis said he doesn't believe the woman was homeless or forgotten based on the new evidence.

"She was somebody who had a life," he said. "And someone is missing her."

Source: The Associated Press, Russell Contreras

At least 5 dead in Italy bus crash

http://articles.boston.com/2012-05-05/news/31588251_1_bus-police-officers-carabinieri

May 05, 2012|Associated Press

A bus bringing retired police officers to a national convention veered off a highway in northern Italy on Saturday and plunged into a canal, killing at least five people, officials said.

More than a dozen others were injured, some of them seriously, when the bus broke through the barricades of the A13 highway near Padua and ended up partially submerged in water, firefighters and news reports said.

Rescue crews recovered five bodies and extracted several other injured passengers from the bus, Padua firefighter Mauro Bacelle told Sky TG24 television.

Toby Mitchell to cry 'financial hardship' in court

<http://www.heraldsun.com.au/news/more-news/police-to-search-lake-in-parkville-in-relation-to-shooting-of-bikie-toby-mitchell/story-fn7x8me2-1226350929630>

May 09, 2012 by: *Mark Dunn* From: [Herald Sun](http://www.heraldsun.com.au)

FORMER Bandidos sergeant-at-arms Toby Mitchell is expected to claim a financial hardship defence to prevent police from seizing his car.

How the shooting unfolded:



Toby Mitchell outside the Melbourne Magistrate's Court in April. Picture: Dane Beesley Source: Herald Sun

Mr Mitchell, 37, who was the victim of a shooting last November in Brunswick and now walks with the aid of a walking stick, is understood to have a significant outstanding loan on the \$60,000 Holden vehicle.

He has pleaded guilty to charges of driving while disqualified and with prior convictions for the offence police have applied to Melbourne Magistrates' Court for permission to impound the vehicle.

The matter returns to court on July 18.

Police have not yet found anything in relation to the shooting after they searched an inner-city waterway for two days.



A police diver searches a lake in Parkville in connection with the shooting of bikie Toby Mitchell. Picture: Trevor Pinder Source: Herald Sun



Police divers search a lake in Parkville in connection with the shooting of bikie Toby Mitchell. Picture: Trevor Pinder Source: Herald Sun

Divers searched the Moonee Ponds Creek near Macaulay Rd, Kensington earlier this week.



Watch Hunt for clues in bikie shooting
The Investigator Charlie Bezzina explains how police are following new leads in the case of the Toby Mitchell shooting

The search and rescue squad failed to find two guns used in the attempted murder when divers searched a lake in Parkville.

The lake in Galada Ave, is just metres from where a stolen car allegedly used in the shooting was dumped and burned.

Police divers had hoped to find two handguns and clothing believed to have been used in the near-fatal shooting of Mitchell in a Brunswick street in November. They spent two hours searching the lake yesterday.

Det Acting Insp Shaun Bingham from the Purana Taskforce said the search would continue.

"Our investigations led us here. The stolen car that we believe was actually used in the offence was dumped and

burnt out in the vicinity and we're here to search the lake today in the hope of finding evidence," he said.

"There are a number of other locations we have as part of our investigations where we will conduct searches in coming weeks."

Police do not yet have a suspect in the attempted murder investigation. "There are also a number of people that we believe are yet to come forward that have information

that's relevant to the offence and, in fact, could be vital to our investigation," he said.

"It's always a concern when we are yet to find people that are capable of committing crimes of this nature, so that's why we throw as many resources as we can at it."



THE BURNT-OUT FORD TERRITORY THAT WAS FOUND ABANDONED AFTER MITCHELL WAS GUNNED DOWN. PICTURE: MIKE KEATING

Police searched the surrounds of the lake when the car was found last year. Acting Insp Bingham said Mitchell

provided his version of events to police but they were confident they could solve the case without his full co-operation

Mitchell was shot while walking to his car near the Barkly Square Shopping Centre about 4.30pm on Monday 28 November last year.

Police have appealed for anyone with information, even if it seems insignificant, to contact [Crime Stoppers](#) on 1800 333 000.



19-year-old critical after crashing through Bayshore wall

<http://www2.tbo.com/news/news/2012/may/12/7/19-year-old-critical-after-crashing-through-baysho-ar-402970/>

May 12, 2012 By TBO.com

Man, 19, critical after being pulled from water

(Added:)

A 19-year-old man is in critical condition after being pulled from a submerged vehicle that crashed through a wall on Bayshore Boulevard and plunging into the water on Friday night.

A diver from the Tampa Police Department pulled Michael Agana from the water after he had been submerged for

several minutes, police said. Emergency personnel performed CPR and were able to revive him, police said. According to his Facebook page, Agana is a University of South Florida student and a Plant High School graduate.

Agana, of 3213 Knights Ave., was driving his 2001 Toyota Camry south on South Boulevard at a high rate of speed

and crossed the north and south lanes of Bayshore Boulevard before crashing through the wall, police said. His vehicle traveled about 25 yards into the bay before completely submerging, police said. Several witnesses jumped into the water to help, but they were not able to free Agana, police said. Minutes later, the diver arrived and pulled Agana from the water.

Rescuers were able to get a pulse and blood pressure, officials said.

The man needed assistance with breathing as he was transported by ambulance to Tampa General Hospital, Tampa Fire Rescue said.

The fire department and the city's Department Of Public Works secured the walkway along Bayshore with rescue ropes.

The incident remains under investigation.

ROV fundraising efforts succeed

<http://www.jamestownsun.com/event/article/id/160886/>

May 15, 2012, 07:03 By: **Ben Rodgers**, The Jamestown Sun

The Jamestown Dive and Rescue team will be getting a new tool after help from a local woman, her family and friends and the community.

The Jamestown Dive and Rescue team will be getting a new tool after help from a local woman, her family and friends and the community.

As of last week enough funds have been acquired for the purchase of a remote operated vehicle. This piece of

equipment is an improved model from the one used to find a Jamestown man after he fell through the ice in December.



Leanne Buckley lost her long-time partner Darrin Ackerman and endured an eight-day search at Jamestown Reservoir. It was an ROV from Duluth, Minn., equipped with cameras and SONAR that finally found Ackerman's body. It was not ideal dive conditions during the search, said Jim Reuther, chief of the Jamestown Fire Department. Divers could only stay under water for a limited time and the water was dark and murky.

Jagged ice underneath a pressure ridge was tangling up the divers' tethers. Now with a ROV, divers may not even be needed during a rescue.

"It'll be water-ready as soon as we receive the training," Reuther said.

Buckley put together a fundraiser at the end of April. The one-day event, plus donations from the community, raised about \$24,000.

Reuther had funds from a \$25,000 state department of emergency services grant reallocated to be used for the ROV. He saved \$12,000 on a previous grant and another

state grant comprised the final \$27,000 for the total of roughly \$87,000. That includes \$6,000 for training.

"After the incident we wanted to figure out a way to get enough funding," Reuther said. "Leanne, her family and friends I believe are the ones who made this happen in a short amount of time."

The unit, which is about the size of a 12-pack of soda, will also be used elsewhere around the state by other dive and rescue teams as needed.

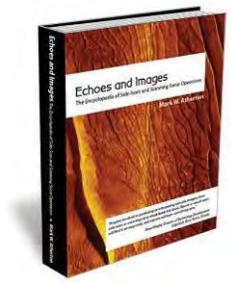
"I'm really happy. We got it, we accomplished something, that's for sure," Buckley said.

She said she was originally disappointed with the fundraiser turnout, but that feeling didn't last for long.

"I was a little disappointed that day, but then I sat and thought about and we did excellent," Buckley said. "We couldn't have done better."

Stutsman County Sheriff Chad Kaiser said the fundraiser was vital in obtaining the ROV.

"We got to give 100 percent credit to the family of Darrin for doing the fundraiser and getting it out there," Kaiser said of the campaign.



The long-awaited text from Mark Atherton.

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

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

Kaiser, who will be one-third of a team that will operate the ROV, said safety is key. He also said this is some of the best technology for this region.

"From what I've seen, it's nice we got to see this thing work and we know it'll work," he said.

It'll be at least three months as the city has to bid out the purchase. The ROV will be a brand-new machine with newer technology compared to the one used in December's search.

"They did a lot of work and to have it go to an ROV is an awesome thing," Kaiser said of Buckley and her friends and family.

No additional human remains found by police divers after fisherman hooks boot with skeletal foot inside at Round Valley Reservoir

http://www.nj.com/hunterdon-county-democrat/index.ssf/2012/05/no_human_remains_found_by_poli.html

May 15, 2012 By **Hunterdon County Democrat**

CLINTON TWP. — State Police divers conducted a search for human remains in part of Round Valley Reservoir on Saturday, May 12, after a fisherman hooked a boot with a skeletal foot inside at about 10:45 a.m. the same day.

The State Police diving unit went to the area where the fisherman snagged the foot and searched in water to a depth of about 85 feet below the surface, according to State Police at the Perryville station.

No additional human remains were recovered during the dive, but the exact location was documented for a later search utilizing equipment called side-scan sonar, State Police said.

The fisherman, who State Police did not identify, was fishing at the Round Valley Recreational Area from his personal watercraft, when he accidentally hooked a boot from the floor of the lake, authorities said.

Upon reeling in the boot he found that it contained the skeletal remains of a human foot. He took the boot back to the boat launch area, where he called State Park Police.

The Hunterdon County Medical Examiner's Office was scheduled to perform a post mortem on the remains of the foot on Monday, May 14, according to State Police.



Hunterdon County Prosecutor Anthony P. Kearns III, speaking by phone on May 14, said that the bodies of six people who were reported missing over the years are thought to be in the reservoir.



"That's not to say that this foot belongs to one of them," Kearns said. Assisting in the investigation are members of the New Jersey Park Police, State Police Major Crimes Unit, Clinton Township Police and the Prosecutor's Office Major Crimes Unit.

First responders get crash course in water rescue

<http://www.wvlv.com/news/First-responders-get-crash-course-in-water-rescue-152369025.html>

VIDEO ON SITE

May 21, 2012 Dennis Woltering / Eyewitness New

WESTWEGO, La. -- When the levees failed after Hurricane Katrina, one of the greatest challenges first responders faced and victims dealt with was water rescue.

In too many cases first responders had little or no experience using a boat to rescue people in a flood, but



an exercise on the water Monday was all about changing that.

Calls for help that stirred up memories of Hurricane Katrina filled the air on a section of Lake Pontchartrain off of West End. It was a residential flood rescue exercise.

The rescuers had to decide who needed rescue immediately and who could wait for the next boat with first responders.

Fifteen agencies, ranging from the New Orleans, Jefferson Parish and St. Tammany fire departments to the Louisiana SPCA and the Coast Guard, took part in training that these first responders hardly ever get a chance to participate in.

“Since Hurricane Katrina we learned we were just not prepared for this type of flooding,” said Paul Fraser of the Gulf States Dive & Rescue.

And these first responders had to make a lot of decisions about who needs most immediate attention.

Participants called the training valuable, potentially life-saving. **“In an incident we're all going to have to work together, so we need know each other now before the incident actually happen,”** said New Orleans Fire Department Charles Parent.

Organizers say they are making this an annual event to ensure local first responders have the training they need when flooding strikes.

And in this area with so many waterways, the Westwego fire chief said this exercise offered valuable training for emergencies that could happen any day of the week.



Court hears police divers took two hours to find gun that killed Maynard

<http://www.theherald.com.au/news/local/news/general/court-hears-police-divers-took-two-hours-to-find-gun-that-killed-maynard/2565142.aspx>

22 May, 2012 STEPHEN RYAN

IT took police divers about two hours to find the shotgun Chad Shedden used to kill Joshua Maynard after John Shedden showed police where the gun was dumped, Newcastle Supreme Court heard today.

Detective Senior Constable Tony Crameri said he travelled with another officer and John Shedden to Irrawang Bridge near Raymond Terrace a week after Mr Maynard was shot in Links Drive at about midnight on June 30, 2010. Detective Crameri said John Shedden pointed to a spot in the water where the gun was dumped.

Police divers arrived the next morning and took about two hours to find the gun, the jury heard.

Chad Shedden, 34, has pleaded not guilty to murder, but guilty to manslaughter.

His barrister, Carolyn Davenport SC, previously told the jury that Mr Shedden was acting in defence of himself and his brother when he fired the gun in Links Drive, Raymond Terrace.

John Shedden will not give evidence at the trial, but Chad Shedden will, the jury was told.

The trial continues.

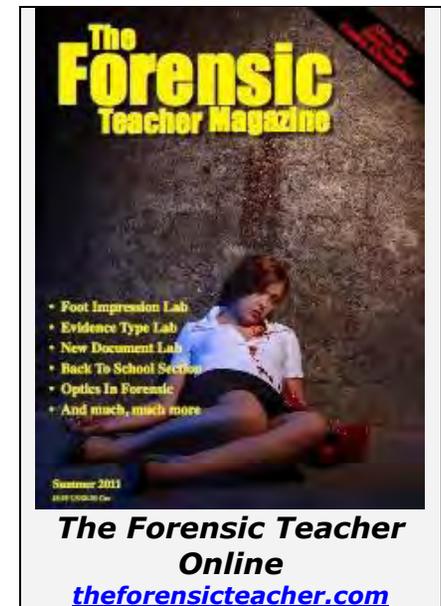
FOUND ON THE WEB

Issue 94 – found on Web – Fingerprint Kit Assembling a Fingerprint Kit

<http://www.forensicmag.com/print/5822>

From: [Crime Scene Kits](#) by Dick Warrington in [Who Says You Can't Do That?](#)

Let's take a look at what you need for basic fingerprint kit. This kit should include different types of powders and brushes to identify prints on different surfaces. For basic prints, you need black powder and a fingerprinting brush. Light color powders provide contrast, so they can be useful when prints appear on dark surfaces. If you do use different color powders, you need a dedicated brush for each color powder to avoid contamination. You also need magnetic powder and a magnetic powder applicator. Magnetic powders are sometimes more effective on rough, grained, or porous surfaces, which could become heavily coated with regular powder. You should also include fluorescent powder and a feather brush. This type of powder is used on multicolored surfaces, like soda and beer cans which can present a contrast problem. Note that you also need an alternate light source or a UV light when you use fluorescent powder. When working with any of the powders, you need disposable dust masks and





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nitrile or latex gloves. You also need a small hand-held magnifier to view the prints.

Once you have the prints, you need to lift them. For **smooth surfaces like glass, you need 2" and 4" lifting tape**. For multi-contoured surfaces, such as light bulbs and door knobs, you also need 1½" polyethylene tape.

After you have lifted the prints, you need to store them on backing cards. For black powder, use white backing cards. For light colored and fluorescent powder, use black backing cards. Magnetic powdered lifts are placed on contrasting colored backing cards.

SPONSOR NEWS

HOW IT'S MADE

<http://www.youtube.com/watch?v=O2W0vUpAqBQ&feature=youtu.be>



Did you know that **ONLY DUI HAS CRUSHED NEOPRENE?** DUI is the innovator, designer and manufacturer of CF200 material - the toughest

drysuit on the planet!

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shows you how DUI makes a CF200 drysuit and where the idea came from over 25 years ago.

EdgeTech

May 29, 2012
Press Release



EdgeTech welcomes Garry Kozak. Garry joins EdgeTech with over 35 years of experience in the underwater technology field. Respected worldwide for his knowledge in side scan sonars, Garry has extensive hands-on experience with numerous sonar platforms and has traveled the globe performing underwater surveys and educating clients. Please join us in welcoming Garry to the EdgeTech team.

**Klein Associates, Inc
Improved Long
Range Sonar
Delivered and Tested
Jun 6, 2012**



Klein Associates, Inc.

L-3 Klein is pleased to announce the success of NOAA's initiative to conduct studies to identify the essential habitats of the eastern Bearing Sea species. The collaborative effort between L-3 Klein and NOAA to improve the Klein 7180, Long-Range Side Scan Sonar for this mission was truly a team effort, allowing us to successfully upgrade the Klein 7180 for fish-habitat research. L-3 Klein thanks NOAA for the opportunity to take part in this Integrated Ocean and Coastal Mapping project.

With the changes taking place in the arctic regions and new sea channels becoming navigable for longer periods, it is Klein's view that the Klein 7180 is a broad swath coverage tool that can be utilized for hydrographic reconnaissance in the arctic. The 7180 side scan system can be operated at a max speed of 12 knots and with a swath coverage of 1.0 km allows for survey efficiency to be greatly increased, thereby reducing costs and time required to complete arctic missions. The 1.0 km swath coverage makes the L-3 Klein 7180 a safer alternative for surveying near shore areas.



The following summary of events is reported by NOAA:

<http://www.afsc.noaa.gov/Quarterly/jfm2012/divrptsRACE4.htm>

To learn more about L-3 Klein or our product offerings, please feel free to check out our web site at www.L3Klein.com

FOUND ON THE WEB

Human error is cause of most dive accidents

<http://www.compasscayman.com/caycompass/2012/05/02/Human-error-is-cause-of-most-dive-accidents/>

02 May, 2012 By: Natasha Were

In the overwhelming majority of dive accidents and dive fatalities, human error was the primary cause, said Dan Orr, president of Divers Alert Network, during a presentation he gave on dive safety while in the Cayman Islands last week.

During the seminar, which was aimed at dive professionals, Mr. Orr presented the results of his **organisation's analysis of available statistics on divers and dive related accidents and fatalities**, and examined ways in which these could be prevented.

DAN is an international dive safety organisation that researches medical issues affecting divers in order to develop diving safety guidelines, as well as operating an emergency hotline, dive evacuation service and offering dive insurance.

Although the organisation does not have access to data concerning every dive related injury or fatality that occurs worldwide, it has analysed almost 1,000 files on dive fatalities to determine the root causes of these incidents, and therefore re-examine how such incidents could be prevented.

This analysis revealed some significant trends: Fifty per cent of all dive fatalities were in the 40 to 59 age group. "The dive community is ageing," said Mr. Orr. "Twenty

**Public Release:
30-Apr-2012**

■ **Analytical and Bioanalytical
Chemistry**

[Researchers develop rapid test strips for bacterial contamination in swimming water](#)

Researchers at McMaster University have developed a rapid testing method using a simple paper strip that can detect E. coli in recreational water within minutes. The new tool can close the gap between outbreak and detection, improving public safety.

★ Natural Sciences and Engineering
Research Council of Canada

Contact: Wade Hemsworth
hemswor@mcmaster.ca

905-525-9140 x27988 [McMaster
University](#)

See also:

■ [Diving In Polluted Waters](#)
www.scuba-doc.com > [Marine Life
Hazards](#)

It has been estimated that there are on the order of 15000 chemical spills that enter our **water** areas each year in the U.S. alone. The **contaminated** areas are ...

two years ago, the average age of a DAN member was 38. Now it's 45."

Twenty eight per cent of all fatalities analysed were cardiac related – meaning that they experienced some kind of cardiac event that ultimately lead to death. As the dive community continues to age, this figure is expected to increase, Mr. Orr said. What is of greater concern, he added, is that of those who died from cardiac causes, 60 per cent had signs or symptoms that they, or those who were with them, recognised as **cardiac related**. "If you have symptoms then **you shouldn't be diving,**" Mr. Orr

said. "If you recognise symptoms in somebody else try, to convince them not to dive. Those people could have not had those cardiac issues underwater and could be alive today."

Of the total number of dive fatalities analysed, 88 per cent were on the first dive of their vacation or trip. Looking beyond these profiles, the research examined the **root cause or "trigger" that set off a series of events that resulted in a dive turning bad, and in these cases ending in death.** Other than cardiac incidents, other triggers the research identified were: Running out of air or breathing gas (41per cent), entrapment (15 per cent), equipment problems (11 per cent), trauma (4 per cent), buoyancy problems (3 per cent) and inappropriate gas mixtures (2 per cent) in technical diving.

In the majority of cases, these triggers came down to human error – it was not the sea or body of water that divers were in that caused a problem, it was their own poor decisions, lack of training, experience or skills that resulted in an incident.

Therefore, in addressing how accidents can be prevented, the onus is on the individual diver to ensure their training and skills are kept up to date and practiced regularly. Their equipment should be serviced by professionals and divers should ensure they are familiar **with their own and their buddy's gear configuration,** Mr. Orr said. Divers need to be aware of their personal level of experience and ability and not task-load or dive beyond their abilities. The statistics clearly demonstrate that the older, overweight and obese divers are at greater risk of injury or death. Although there are no international requirements for it, DAN recommends all divers aged over



Insurance Management Services Introduces First-Ever Payment Program

Released on: 6/1/2012

Insurance Management Services, Inc listens and responds to Dive Professionals' Insurance Needs - During the current economy all of us are affected. In the past Dive Professionals have requested an option to make payments on their insurance – and the requests are coming more frequently. Carol Christini stated “We hear you loud and clear, and effective immediately we are responding to your need.” Insurance Management Services, Inc. now offers a two payment option, either check or credit card payments, for Dive Professional insureds and new insureds.

“We listen and respond. It is what sets us apart from the rest – it always has and always will,” explained Carol Christini. Over the past 28 years, Insurance Management Services, Inc. has introduced many firsts to the diving industry and this is an opportunity to be the first to address Dive Professionals' needs.

Insurance Management Services maintains excellent rates for Dive Professionals:

Instructor Professional Liability Insurance as low as \$515.00
Divemaster/Divecon Professional Liability Insurance as low as \$341.00

Insurance Management Services, Inc. offers insurance coverage to dive businesses and dive professionals regardless of training agency affiliation

Coverages available include dive business general liability and professional liability, individual professional liability, property coverage, dive charter hull and P&I, on-site swim programs, equipment manufacturers' product liability, and Recreational Dive Industry Employers Liability. IMS continues to offer solid coverage, provide stable insurance rates from financially sound US carriers. In addition, Insurance Management Services, Inc offers risk guidance for all aspects of the diving industry.

Contact IMS today! Call IMS at 800-467-7282, visit the IMS website at www.divesecure.com or send Carol an email to carol@divesecure.com. **You'll be glad you did**

35 undergo regular medical examinations with a physician who is knowledgeable in dive medicine before diving.

Based on the available statistics, the number of dive-related fatalities per year has remained fairly constant for the past 20 to 30 years, said Mr. Orr. Nonetheless, many of the accidents that do occur, occur as a result of human error. If that human error could be eliminated, he said, accidents and fatalities could be significantly reduced among divers.

PSDiver CLASSIFIEDS

Full Face Masks For Sale

2 - EXO26 Full Face Mask - without com system; Great Cond - Sells New \$989.00 - My Price \$150.00 * 1 - OTS Mantis Full Face Mask - with buddy phone system & surface valve; Excellent Cond - Sells New \$1055.00 - My Price \$500.00 * 1 - Neptune Reef Full Face Mask - with comm. system; Good Cond - Sells New \$595.00 - My Price \$400.00 All masks are as is and the buyer pays shipping. For more information, email divewithidt@comcast.net or call 925-462-7234

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diving and undersea medicine for the
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physician and the specialist**

Panic Attacks and the Blue Orb Syndrome

Recent studies are beginning to suggest that episodes of panic or near-panic may explain many recreational diving accidents and possibly throw light on the cause of some diving fatalities.

Most think of scuba diving as taking place in a serene paradise surrounded by beauty and the thrill of weightlessness, but in a recent national survey, more than half of divers reported experiencing at least one panic or near-panic episode, according to William Morgan, director of Sport Psychology Laboratory at the University of Wisconsin-Madison and the principal author of the study.

The panic attack was often spurred by something that a non-diver would deem serious -- entanglement, an equipment malfunction or the sight of a shark. But the attacks don't make things better, instead, they can lead

to irrational and dangerous behavior. If divers and instructors knew more about the phenomenon, Morgan adds, they could screen out people who might be susceptible to life-threatening panic attacks.

The primary cause of diving fatalities is listed as drowning, 60% of all deaths usually caused by specific problems such as lack of air, entanglement (in fishing nets, rope or kelp), air embolism, narcosis and panic. **In Morgan's study, over half of the scuba divers reported that they had experienced panic or near-panic episodes on one or more occasions. Panic was significantly higher in women (64%) than in men (50%), but more men(48%) perceived the events as being life-threatening than women (35%).**

The panic attacks are not restricted to beginning divers; sometimes experienced scuba divers with hundreds of logged dives experience panic for no apparent reason. It is thought that in such cases the panic occurs because divers lose sight of familiar objects, become disoriented and experience a form of sensory deprivation. This problem has been labeled the "blue orb syndrome." However, among inexperienced divers, there is usually an objective basis (e.g., loss of air or a shark) behind the panic response.

Panic response is when a diver behaves irrationally. There is usually an observable stimulus responsible for this behavior, such as the sudden appearance of a shark, loss of visibility, loss of air, entrapment in fishing line, or any unexpected occurrence perceived by the diver as a threat.

The diver's attention narrows and he loses the ability to sort out his options. If, for example, a problem develops with the air regulator, the restricted air flow could prompt the diver to ascend rapidly enough to cause an air embolism (bubble) in the bloodstream, which can be fatal. This would be considered a panic response if the diver had other safe options, such as access to a pony bottle (an emergency air supply), or was diving with other divers who could share their air supply, allowing a gradual ascent.

There are some obvious diving activities which tend to lead to panic episodes, such as the stresses of equipment malfunctioning, dangerous marine life (e.g., sharks), loss of orientation during a cave, ice or wreck dive, and so on. Diving with faulty or inappropriate equipment or performing high-risk dives has greater potential for panic episodes; these problems can be prevented or minimized with appropriate training and cautionary actions.

There is a psychological concept known as "trait anxiety" that is regarded as a stable or enduring feature of personality, whereas state anxiety is situational or transitory. In this regard, it can be accurately predicted that individuals who score high on trait anxiety are more likely to have increased state anxiety and panic during scuba activities and are at potentially greater risk than those scoring in the normal range. However, David Colvard of Raleigh NC has found that trait anxiety only predicts panic or near panic in student divers, not in

certified divers. He feels that this may be self-selecting after initial training.

Some feel that these people probably should not dive because it has been found that interventions such as biofeedback, hypnosis, imagery and relaxation have not been effective in reducing the anxiety responses associated with the panic attacks.

Psychological research has shown that hypnosis is effective in relaxing scuba divers, but it can also have the undesired effect of increasing heat loss in divers. Relaxation can lead to increased anxiety and panic

attacks in some "high anxious" individuals (this phenomenon is known as relaxation-induced-anxiety, or RIA). Individuals with a history of high anxiety and panic episodes should probably be identified and counseled during scuba training classes about the potential risks.

The risks and dangers of scuba diving are not well known among recreational scuba divers. Since 1970, the number of annual U.S. scuba diving fatalities has varied from a low of 66 to a high of 147. The real severity of the problem is masked by several unknown variables, having to do with the total number of divers.

First, the total number of active scuba divers is unknown. Estimates range from 1.5 to 3.5 million in the United States alone and therefore, valid estimates of risk using traditional methods are not possible. Fatality estimates



A Coffee Mug for Public Safety Divers

You did not know you needed one of these did you? Just imagine how cool you will look in the morning drinking your coffee from this awesome mug. Hard to contain your excitement isn't it? Limited supply – Don't wait until they are gone and live with regret for the rest of your life![Order Yours Here!](#)

range from a low of 2-3 per 100,000 to 6-9 per 100,000, depending on the number of fatalities and estimations of the number of active divers in a given year.

Second, most studies of diver fatalities define a diver as someone certified as a diver. This is problematic because some individuals (a) scuba dive, but have not been certified, (b) are certified and never dive, and (c) may hold as many as 25 advanced level certifications with the result that such a diver would be treated statistically as 25 divers.

Third, risk estimates in this activity have not considered the fact that someone who dives once in a given year is treated statistically in the same way as a diver who makes several hundred dives.

The risk of scuba diving causing non-fatal accidents is **also difficult to answer because we don't have valid data** on the number of active divers or an estimate of degree of involvement or exposure. We do know that approximately 600-900 divers are treated for decompression illness (DCI) in the United States each year. This category includes decompression sickness (DCS) and arterial gas embolism (AGE).

Nine hundred and fifty-eight cases of DCI were treated in the U.S. during 1993. However, this figure includes neither divers who experienced DCI but did not seek treatment, nor does it include those who sought treatment but may have been treated for other problems. Furthermore, a wide variety of additional problems such as cardiopulmonary difficulties, near-drowning episodes and musculoskeletal injuries occur each year. It is unknown what proportion of these problems go unreported.

Anxiety and panic are not discussed in commonly used instructional materials of the national certifying bodies involved in scuba training. Panic, along with the problems that can occur in scuba diving as a consequence of panic, isn't even addressed in these training manuals.

Here are some excellent presentations about panic by a diving psychiatrist, David Colvard, MD. These are Powerpoint Presentations that may be downloaded, **author's permission.**

- ["Understanding Stress, Anxiety & Panic in Divers"](#)
- ["Identifying Anxiety & Panic Risk in Divers"](#)
- ["Prevention Strategies for Anxiety & Panic in Divers"](#)
- ["Anxiety, Panic and Psychiatric Problems in Divers"](#)

EVENTS*



DUI Offers Special Training Workshop for Public Safety Dive Teams

Diving in CONTAMINATED WATER is a vast and complex topic. DUI's program is based on our 49 years of industry experience keeping divers protected in some of the **world's harshest environments.**

DUI's Dive Ops program is conducted as part of the annual DUI Drysuit Demo Tour. The workshop gives Dive Teams access to equipment and training to keep them safer, tips on grant writing, the ability to network with

other teams, as well as the opportunity to TEST DIVE the equipment.

Aug 10 Mukilteo, WA Lighthouse Park
Sept 7 Ottawa, OH Gilboa Quarry
Sept 21 Metropolis, IL Mermet Springs
Oct 19 Rawlings, VA Lake Rawlings
Nov 2 Chiefland, FL Manatee Springs
Nov 9 Terrell, TX Clear Springs Scuba Park

June 12, 2012 - June 14, 2012
LA-IAI 67th Annual Educational Conference

The goal of the annual conference is to provide reasonably priced training in current techniques and practices over a broad spectrum of fingerprint and forensic fields. The Conference lasts three days and will be held at the wonderful Clarion Hotel located in Shreveport, Louisiana. Training will cover a wide range of investigative and fingerprint topics led by leading experts in the state. Each participant by the end of the conference will be awarded a certificate of attendance for 24 hours of training credit.

Shreveport, LA www.laii.org

June 14, 2012 - June 16, 2012
46th International Conference of the Audio Engineering Society
Audio Forensics: Recording, Recovery, Analysis, and Interpretation

The AES 46th International Conference is dedicated to exploring advances in the field of Audio Forensics by providing a platform for research related to the forensic application of speech/signal processing, acoustical analyses, audio authentication, and the examination of methodologies and best practices. A special focus will be

made on the practice of audio forensics as a whole of its parts: the recording, recovery, analysis, and interpretation of audio evidence.

Denver, CO

www.aes.org/conferences/46

June 17, 2012 - June 22, 2012
IHIA Annual Symposium

The mission is to provide active support to law enforcement death professionals through leadership, training, networking, and provision of resources and expertise to resolve cases.

New Orleans, LA www.ihia.org

June 18, 2012 - June 20, 2012
NIJ 2012 Conference

For more than a decade, NIJ's annual conference has brought together criminal justice scholars, policymakers, and practitioners at the local, state, and federal levels to share the most recent findings from research and technology.

Arlington, VA www.nij.gov/events

June 28, 2012 - June 29, 2012
AFDAA Summer Meeting

The Association of Forensic DNA Analysts and Administrators (AFDAA) is a nonprofit organization composed of professionals engaged in the forensic aspects of DNA analysis for the judicial system. Members include forensic DNA analysts, supervisors, and administrators. AFDAA provides a forum for the exchange of ideas and information among forensic DNA scientists to keep current on the methods, techniques, and procedures

presently used in the field of forensic science, to promote the dissemination of information on research and developments of new techniques within the field, discuss the latest legislative issues concerning DNA analysis, network with other DNA crime laboratories and personnel, obtain formal training and attend guest lectures, and share and troubleshoot forensic DNA data and/or issues.

San Antonio, TX www.afdaa.org

June 30, 2012 - July 6, 2012

SOFT

The Society of Forensic Toxicologists, Inc. is an organization composed of practicing forensic toxicologists and those interested in the discipline for the purpose of promoting and developing forensic toxicology. Through its annual meetings, the Society provides a forum for the exchange of information and ideas among toxicology professionals in a friendly, relaxed atmosphere.

Boston, MA www.soft-tox.org

July 9, 2012 - July 13, 2012

Inter/Micro: 63rd Annual Applied Microscopy Conference

Inter/Micro is an internationally recognized conference that attracts the world's top light and electron microscopists. Inter/Micro is held every year in Chicago and is sponsored and hosted by McCrone Research Institute.

Chicago, IL www.mcri.org

July 22, 2012 - July 28, 2012

IAI International Educational Conference

Education is one of the IAI's primary missions. The IAI strives to be the main professional association for those

engaged in forensic identification, investigation, and scientific examination of physical evidence. At the Annual IAI International Educational Conference world-renowned professionals present the most current scientific educational sessions, utilizing the most efficient methodologies and technical products and advances in the identification field. The Conference offers general sessions, poster presentations, hands-on workshops, field trips, and vendor exhibits.

Phoenix, AZ www.theiai.org

August 4-5, 2012 <http://campcde.com/>



Located in Houston, TX

September 12, 2012 - September 14, 2012

Ohio Identification Officers Division Annual Conference

The Ohio Identification Officers Association strives to be a professional association for those engaged in investigation, forensic identification, and scientific examination of physical evidence.

Cincinnati, OH www.oioa.org

September 17, 2012 - September 20, 2012

Canadian Identification Society 2012 Conference

Each year, the Canadian Identification Society provides a venue which brings together persons who are employed,

studying, or otherwise actively involved in the field of forensic identification. The Annual Educational CIS Conference is hosted, in partnership with the Society, by a police department or some other agency or professional group with a direct involvement and vested interest in the field of forensic identification.

Calgary, Alberta, Canada www.cis-sci.ca

September 18, 2012 - September 21, 2012 AFQAM Annual Training Conference

The Association of Forensic Quality Assurance Managers (AFQAM) promotes standardized practices and professionalism in quality assurance management for the forensic community.

Minneapolis, MN
www.afqam.org



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UNDERWATER POST-BLAST INVESTIGATIONS COURSE

(UWPBIC - 40 Hrs) September 24-28, 2012 - Salt Lake City, Utah

COURSE DESCRIPTION: This 40 hour program of dive instruction is designed for all public safety and military dive teams who will be, or are currently conducting explosive related dive missions. Teams will be trained to properly respond to, and search for underwater hazardous device's (UHD's) and conduct underwater post blast investigations.
(THIS IS NOT AN "EOD CERTIFICATION" COURSE)

COURSE TOPICS:

- Introduction to explosives
- Introduction to Underwater Hazardous Devices
- Post blast fragmentation analysis
- IED component identification
- Maritime terror, tactics, and targets brief
- Conducting underwater explosive search operations
- Hull Searching
- Post blast evidence recovery and analysis
- Familiarization with bomb disposal dive operations
- **YES, you will be diving throughout this course**



COURSE LENGTH: 40 hours (SEPT 24 TO SEPT 28, 2012)

TARGET AUDIENCE: This course of instruction (COI) was developed for Public Safety Dive Teams, Military EOD & Special Operations Divers, and Federal Law Enforcement Dive Teams tasked with explosive related dive operations & response.

INSTRUCTORS: Our instructors are highly trained and experienced former and active duty / reserve Military EOD, US Naval Special Warfare Operators, and public safety bomb disposal technician divers with real world anti and counter-terrorism maritime diving experience.

COURSE CERTIFICATE: Yes

REGISTRATION: GEverett@CTWATCH.us

COST: \$1095.00 per Diver



COURSE DATES / LOCATION: (SEPT 24 TO SEPT 28, 2012) Salt Lake City, Utah

September 23, 2012 - September 28, 2012 MAFS Fall Meeting

The purpose of MAFS is to encourage the exchange of ideas and information within the forensic sciences by improving contacts between people and laboratories engaged in forensic science. MAFS supports and stimulates research and development of new and/or improved techniques, and works to promote the improvement of professional expertise of persons working in the field of forensic science through education, scientific seminars, and research grants.

Milwaukee, WI
www.mafs.net

September 23, 2012 - September 28, 2012 NWAFS 2012 Meeting

The Northwest Association of Forensic Scientists is a nonprofit

organization that was formed to encourage the dissemination of information within the fields of forensic science and discuss problems of common interest, to foster friendship and cooperation among forensic scientists and to stimulate research and development of new techniques within the field.

Missoula, MT www.nwafs.org

September 23 & 24 – [Colorado Dive Show](#)

Denver, Colorado.

**September 29, 2012 - October 3, 2012
IACP Annual Conference**

The International Association of Chiefs of Police has long had a reputation for providing top-notch education on the most pressing law enforcement topics. With renowned keynote speakers, forums and technical workshops, and the largest exhibit hall of products and services for the law enforcement community, this must attend event should be on your calendar.

San Diego, CA www.theiacp.org

**September 30, 2012 - October 4, 2012
SAFS Annual Fall Meeting**

The objectives of the Southern Association of Forensic Scientist are to encourage dissemination of information within the field of forensic sciences and to discuss problems of common interest; to stimulate research and development of new techniques within the field; to promote the use of standardized methodology and presentation of conclusions; to encourage compilation of statistical data of value in the field; to assist in maintaining a high level of professional competence among practicing forensic scientists; to foster friendship

and cooperation among forensic scientists, and to lend assistance to colleges and universities in the development of forensic science and related curricula and to law enforcement planning agencies.

Pensacola, FL www.southernforensic.org

**October 1, 2012 - October 3, 2012
WCMEA Fall Conference**

The Wisconsin Coroners and Medical Examiners Association aims to establish and promote standardized professional practice among coroners, medical examiners, and their staff as set forth by accepted operational guidelines.

Madison, WI www.wcmea.com

**October 5, 2012 - October 10, 2012
NAME Annual Meeting**

The 2012 Annual Meeting will be held at the Hyatt Regency Baltimore on the Inner Harbor. Dr. David Fowler is the Program Chairperson and he is planning on a very rich educational experience for all NAME members. Additional scientific sessions will be held on Sunday, including a field trip (with CME) to the new Baltimore Medical Examiner facility.

Baltimore, MD www.thename.org

**October 10, 2012 - October 12, 2012
MN IAI Educational Conference**

The 2012 MN IAI conference will highlight a presentation by two individuals that worked on the Scott Peterson/Laci Peterson case; Christine Funk, a criminal defense attorney, will be giving a presentation on how she prepares to cross examine witnesses; and nationally renowned latent print examiners, Glenn Langenburg and

John Vanderkolk, will be discussing statistical models and the philosophy associated with the comparative sciences, respectively. **Duluth, MN** www.mniai.org

October 19-21 Divescapes, Edmonton, Alberta
[Alberta Underwater Council - News & Events - 2012](#)
[Divescapes Conference & Exhibition](#)

October 15-18, 2012 - October 18, 2012
23rd International Symposium on Human
Identification

For more than 20 years the annual human identification symposium has been a place to learn, share, and network with colleagues in the field of DNA forensics.

Nashville, TN www.ishi22.com

October 21, 2012 - October 25, 2012
FD IAI Annual Forensic Training Conference

The Florida Division of the International Association for Identification is a non-profit professional association for forensic scientists, crime scene technicians, evidence technicians, latent print examiners, and all other law enforcement employees who are interested in the scientific investigation of crime.

St Petersburg, FL www.fdiai.org

If you have an event to share, send the information to: PSDiverMonthly@aol.com



October 22-24, 2012 VIPS 2012 – Key Largo Bay
Marriott, Key Largo, Florida

VIPS is **the** industry-leading MicroROV conference, hands down. No other venue gives you such a focused combination of presentations from industry experts, hands-on training, technology insights and camaraderie with underwater robotics professionals.

This year will mark the 11th VIPS event and it will be held at the **[Key Largo Bay Marriott Beach Resort](#)** October 22-24, 2012 in Key Largo, Florida, USA. **[Registration and pricing information](#)** is now available so be sure to register early to take advantage of discount pricing. If you have any questions about VIPS, please contact us at vips@videoray.com or +1 610 458 3000 for further information.

October 22, 2012 - October 26, 2012
SWAFS 2012 Conference

The Southwestern Association of Forensic Scientists (SWAFS) is a not for profit association of persons actively engaged in the profession of scientific examination of physical evidence in an organized body so that the profession in all of its disciplines may be effectively and scientifically practiced. **Scottsdale, AZ** www.swafs.us

October 22, 2012 - October 26, 2012
SWAFS 2012 Conference

The Southwestern Association of Forensic Scientists (SWAFS) is a not for profit association of persons actively engaged in the profession of scientific examination of physical evidence in an organized body so that the profession in all of its disciplines may be effectively and scientifically practiced.

Scottsdale, AZ www.swafs.us

November 5, 2012 - November 9, 2012
California Association of Criminalists Fall Seminar

The California Association of Criminalists works to foster an exchange of ideas and information within the field of criminalistics and promote wide recognition of the practice of criminalistics as an important phase of jurisprudence.

San Jose, CA www.cacnews.org

November 12, 2012 - November 17, 2012
NEAFS Annual Meeting

The Northeastern Association of Forensic Scientists, Inc. (NEAFS) is a professional organization for people employed within the forensic sciences. Our goals are to exchange ideas and information within the field of forensic science and to foster friendship and cooperation among the various laboratory personnel. We also aim to stimulate increased implementation of existing techniques, along with research and development of new techniques within the field, and to encourage financial support for these efforts.

Saratoga Springs, NY www.neafs.org

November 14-17 DEMA, Las Vegas, NV
<http://www.demashow.com>

November 14, 2012 - November 17, 2012
NED IAI Educational Conference

Founded as a regional division of the International Association for Identification (IAI), the NEDIAI is a professional organization of law enforcement officers, identification specialists, forensic scientists, crime scene investigators and students, all of whom share a desire to pursue knowledge and excellence in the scientific endeavor of criminal identification.

Nashua, NH www.nediai.org

November 28, 2012 - November 30, 2012
Forensics@NIST 2012

This three-day symposium will showcase cutting edge forensic science research being performed at NIST. Attendees will learn how NIST's world-class laboratories and staff support many forensic science disciplines. See how material scientists, metrologists, analytical chemists, biological scientists, computer scientists, and forensic science practitioners work together to address the challenges facing the forensic science community and where NIST is going next.

January 15-17, 2013 Underwater Intervention 2013
<http://www.underwaterintervention.com/>
New Orleans, LA

Continuing Education

PSDM-CE-94

- 1) Contamination in lake water is more commonly found.
 - a. At the bottom
 - b. Midlevel
 - c. Surface
 - d. Lakes are not contaminated water.
 - e. All of the above

- 2) If specific chemical contaminants are known or suspected on a site, a hazard analysis should be included in the dive plan to address potential exposure pathways and identify specific equipment or procedures necessary to minimize risk factors.
 - a. True
 - b. False

- 3) Dry suits must contain _____ to be effective PPE.
 - a. Dry Gloves
 - b. Dry Hood
 - c. Dry Boots
 - d. Neck, wrist and foot seals
 - e. All of the above

- 4) Pre diver team candidates should be assessed in both knowledge and physical abilities and experience using written tests, observation of skills demonstration and general attitude.
 - a. True
 - b. False

- 5) What is a Palynologists:
 - a. A water quality expert
 - b. An air quality expert
 - c. A pollen expert
 - d. I have no idea

- 6) You should backup your computer files:
 - a. Every Day
 - b. Once a week
 - c. Monthly
 - d. Yearly
 - e. Any of the above as long as you have a current copy of your important files.

- 7) A problem ocuring underwater and leading to a more serious issue is _____. This problem is not often addressed in any training program.
 - a. Out of air
 - b. Dive plans
 - c. Bad air fills
 - d. Panic
 - e. Any of the above

- 8) The "blue orb syndrome" is a result of ?
- Attitude
 - Complacency
 - Panic
 - All of the above
- 9) Personal Protective Equipment is not a choice it is a requirement of the job.
- True
 - False
- 10) Dry Suits are for thermal protection and do not offer any other PPE protection.
- True
 - False
- 11) To safely dive in chemically or biologically polluted water, divers must receive proper training to recognize and mitigate hazards.
- True
 - False
- 12) Personal Protective Equipment is not voluntary.
- True
 - False
- 13) PPE stands for
- Public Person Equipment
 - Probably Protecting Equipment
 - Personal Protective Equipment
 - Prompt Public Evaluation
- 14) PPEs are required by
- Common sense
 - SOPs
 - OSHA
 - All of the above
- 15) PPEs exist for
- Only public safety dive teams
 - Many industries
 - Only children under the age of 10
 - Public Safety Personnel
- 16) Standards for or about Personal Protective Equipment
- Do not exist
 - Are hard to find
 - Are easily accessible through many internet sites
 - Do not apply to public safety diving
- 17) PPEs
- Are not necessary for volunteer teams
 - Are only needed for Firefighters
 - Are only needed by LE divers
 - Are necessary for all PSDs

- 18) Dry suits are considered to be
- PPE
 - Not necessary
 - Important for cold water diving only
 - For wimpy divers
- 19) Sediments can
- Harbor toxic chemicals
 - Be easily disturbed and distributed through the water column
 - Be present in aged wines
 - All of the above
- 20) Dive teams that are not prepared with proper PPE
- Can subject their divers to injury
 - Can incur fatalities
 - Open themselves to liability
 - All of the above
- 21) PPEs are a
- Nicety
 - Necessity
 - Non-priority
 - Non-existent item

Team Discussion:

- Discuss with your team the need for personal protective equipment as it relates to your local dive sites.
- As a team, review your team policies as it pertains to PPE.
- Contact your local water supply department and see if they have water samples from local bodies of water. If you have a University, check to see if they have any groups performing studies in your local waterways. As a team, begin a documentation study of local waters with sediment contamination as your focus.
- As a team, consider the necessity for decontamination, build a team policy and then test the policy.
- As a team, conduct a class on PPE and decontamination procedures. Combine efforts with your local Haz-Mat team if necessary.
- As a team, conduct an inspection of ALL dive team PPE. Repair or replace any equipment that is no longer able to offer diver protection.

PSDiver Monthly

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.

Life Saving Resources

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



Lifeguard Systems – TEAM LGS

We welcome all training agencies and organizations to participate. For details, email <mailto:PSDiverMonthly@aol.com>

IMPORTANT NUMBERS:

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

DAN Medical Information Line at 1-919-684-2948

DAN operates a 24-hour emergency hotline (1-919-684-9111) to help divers in need of medical emergency assistance for diving or non-diving incidents.

PSDM 94 CE Answers

1	2	3	4	5	6	7	8	9	10	11	12
A	A	E	A	C	E	D	C	A	B	A	A
13	14	15	16	17	18	19	20	21			
C	D	B	C	D	A	D	D	B			

On May 24, 1844, the original text message was born. Samuel F.B. Morse dispatched the first successful telegraph over a line from Washington, D.C. to Baltimore. Morse (1791-1872) sent a phrase taken from the Bible, "What hath God Wrought?"

DRAFT - PSDiver Recreational Scuba to PSD Bridge Specialty (Part 1)

TOP WATER MASTERY SKILLS

To be performed continuously until complete.

_____ - 800 yard Mask, Fins and Snorkel swim.
Completed in under 17 minutes*

_____ - 300 yard inert Victim Tow (Life Jacket) using Mask, Fins and Snorkel. Victim should be face up and able to breath at all times. Completed in under 12 minutes*

_____ - 500 yard continuous forward stroke swim – no swim aids. Completed in under 16 minutes*

_____ - **45 minute** survival tread. Participant will maintain their head above water at all times.

_____ - On a single breath of air, in 8' – 15' of clear water using Mask, Fins, Snorkel and at least a 5 lb weight belt, the participant will tread water, release and hold the weight belt out to the side with arm extended. When participant is at roughly a 45 degree angle, they will drop their weight belt. The participant will free dive to the bottom, recover and don the weight belt, fully flood their mask, clear it (twice is preferred) and ascend and at the surface the participant will clear their snorkel without lifting their head out of the water.

_____ - On a single breath of air, in 10' – 15' of clear water using Mask, Fins, Snorkel and at least a 5 lb weight belt, the participant will submerge at least 5' and clear a fully flooded mask no less than 4 times (5 is

preferable) and ascend. At the surface the participant will clear their snorkel without lifting their head out of the water.

For now, none of the above is intended to be a pass / fail. It is intended to set a mark of achievement that can measure mastery of those particular skills. If the individual cannot, then the team will have to decide if that member is "response ready" for an operation. Those individuals entering into PSDiving or maintaining skills should be able to demonstrate this minimal level of basic skills mastery as both an entry level and for annually evaluation.

***These times are intended to be a target goal to achieve.**

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

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