



GLOBAL EDITION  
May 2012  
Number 48

Argentina  
**Orcas of Valdes**

Sharks  
**French Polynesia**

Portugal  
**Madeira**

Bali  
**Liberty Wreck**

Rebreathers  
**Why Switch?**

Andorra  
**High Diving**

**Komodo**  
I N D O N E S I A

# DIRECTORY

X-RAY MAG is published by AquaScope Media ApS  
Frederiksberg, Denmark

[www.xray-mag.com](http://www.xray-mag.com)

**PUBLISHER  
& EDITOR-IN-CHIEF**  
Peter Symes  
[Editor@xray-mag.com](mailto:Editor@xray-mag.com)

**SENIOR EDITOR**  
Michael Symes, PhD  
[science@xray-mag.com](mailto:science@xray-mag.com)

**PUBLISHER, MANAGING EDITOR  
& CREATIVE DIRECTOR**  
Gunild Symes  
[Gunild@xray-mag.com](mailto:Gunild@xray-mag.com)

**SECTION EDITORS**  
Michael Arvedlund, PhD - *Ecology*  
Scott Bennett - *Photo & Travel*  
Andrey Bizyukin, PhD - *Features*  
Mathias Carvalho - *Wrecks*  
Wayne Fenior - *Equipment*  
Simon Kong - *News, Books*  
Kelly LaClaire - *Whale Tales*  
Catherine Lim - *News, Books*  
Bonnie McKenna - *Turtle Tales*  
Cindy Ross - *GirlDiver*  
Arnold Weisz - *News, Features*

**ASSOCIATE EDITORS  
& REPRESENTATIVES**  
**Americas & Europe**  
Arnold Weisz  
[Arnold@xray-mag.com](mailto:Arnold@xray-mag.com)

**CORRESPONDENTS**  
Robert Aston - CA, USA  
Enrico Cappeletti - Italy  
John Collins - Ireland  
Marcelo Mammana - Argentina  
Nonoy Tan - The Philippines

**Russia**  
Andrey Bizyukin, PhD, Moscow  
[Andrey@xray-mag.com](mailto:Andrey@xray-mag.com)

Svetlana Murashkina, PhD, Moscow  
[Svetlana@xray-mag.com](mailto:Svetlana@xray-mag.com)

**CONTRIBUTORS THIS ISSUE**  
Scott Bennett  
Andrey Bizyukin, PhD  
Martyn Farr  
Kelly LaClaire  
Catherine GS Lim  
Rosemary 'Roz' Lunn  
Michael Menduno  
Abigail Smigel Mullens  
Svetlana Murashkina, PhD  
Andy Murch  
Robert Osborne  
Mark Powell  
Alan Purcell  
Nuno Sá  
Don Silcock  
Gunild Symes  
Peter Symes  
Lawson Wood  
Frank Worth

**South East Asia**  
Catherine GS Lim, Singapore  
[Cat@xray-mag.com](mailto:Cat@xray-mag.com)

**ASSISTANT EDITORS  
& REPRESENTATIVES**  
**UNITED KINGDOM**  
Roz Lunn, London  
[Roz@xray-mag.com](mailto:Roz@xray-mag.com)

**USA East Coast**  
Millis Keegan, Fort Lauderdale  
[Millis@xray-mag.com](mailto:Millis@xray-mag.com)  
Wayne Fenior, Orlando  
[Wayne@xray-mag.com](mailto:Wayne@xray-mag.com)

**USA Pacific Northwest/Canada**  
Barb Roy, Vancouver  
[Barb@xray-mag.com](mailto:Barb@xray-mag.com)  
Kelly LaClaire, Oregon  
[Kelly@xray-mag.com](mailto:Kelly@xray-mag.com)

**USA West Coast**  
Matthew Meier, San Diego  
[Matt@xray-mag.com](mailto:Matt@xray-mag.com)

**Contacts page:**  
[Xray-Mag.com](http://Xray-Mag.com)

**ADVERTISING**  
**UNITED KINGDOM**  
Rosemary E Lunn, London  
[Roz@xray-mag.com](mailto:Roz@xray-mag.com)

**International Sales Rep**  
Arnold Weisz  
[Sales@xray-mag.com](mailto:Sales@xray-mag.com)

**USA**  
Matthew Meier, San Diego  
[Matt@xray-mag.com](mailto:Matt@xray-mag.com)

**French speaking territories**  
Mathias Carvalho  
[Mathias@xray-mag.com](mailto:Mathias@xray-mag.com)

## SUBSCRIPTION

X-RAY MAG International Edition in English is FREE  
To subscribe, go to: [www.xray-mag.com](http://www.xray-mag.com)

COVER PHOTO: *Pair of Ornate Ghost Pipefish, Indonesia*  
by Don Silcock

# contents

Manta rays, Komodo Island, Indonesia. Photo by Andrey Bizyukin



**9**  
REPORT:  
SHIPWRECKS 2012  
BY ROBERT OSORNE

**12**  
KOMODO ISLAND:  
INDONESIA'S DRAGON ISLE  
BY ABIGAIL SMIGEL MULLENS

**20**  
KOMODO ISLAND  
INDONESIA  
BY ANDREY BIZYUKIIN

**34**  
MADEIRA  
OCEANIC ARCHIPELAGO  
BY NUNO SÁ

**42**  
ISLAND  
BIOGEOGRAPHY  
BY PETER SYMES

**plus...**  
EDITORIAL 3  
NEWS 4  
WRECK RAP 9  
TRAVEL NEWS 12  
EQUIPMENT NEWS 31  
MARINE MAMMALS 52  
BOOKS & MEDIA 64  
SHARK TALES 78  
PHOTO NEWS 87

**47**  
ORCAS OF VALDES  
PATAGONIA  
BY FRANK WORTH

**55**  
LIBERTY WRECK  
BALI  
BY DON SILCOCK

**66**  
CAVERN  
TRAINING  
BY ALAN PURCELL

**71**  
IT'S RAINING SHARKS  
FRENCH POLYNESIA  
BY ANDY MURCH

## columns...

**79**  
TECH TALK: REBREATHERS  
WHY SWITCH?  
BY MARK POWELL

**83**  
UNDERWATER  
NIGHT PHOTOGRAPHY  
BY LAWSON WOOD

**89**  
UNIQUE DIVE SITE:  
ANDORRA SKI & DIVE:  
BY SVETLANA MURASHKINA

Not yet subscribed to  
X-RAY MAG? Sign up now!  
It's FREE! QUICK! EASY!  
[click here...](#)

# THE 7<sup>TH</sup> MALAYSIA INTERNATIONAL DIVE EXPO 2012



**6 - 8 July 2012**  
**Tun Razak Hall 3**  
**Putra World Trade Centre**  
**Kuala Lumpur, Malaysia**

www.mide.com.my



Photo: SDAAMIDE TTL Photo Competition 2011  
 Masly Reza Mohd (Malaysia) Honorable Mention Portrait

## An Exhibition For Diving, Water Sports And Travel Adventure

Exhibition Organizer <b>AEE</b>	A Member Of <b>DEMA</b> <b>be a diver</b>	Official Publication (International) <b>PADI SCUBADIVER</b>	Official Venue <b>PUTRA WORLD TRADE CENTRE</b>	Preferred Airline <b>Malaysia</b>	Official Hotel <b>SUNWAY PUTRA HOTEL</b>	Official Radio Station <b>red fm</b>	Official Contractor <b>pico</b>	Event Flight Forwarder <b>Agility</b>	Official Dinner Venue <b>MODESTO'S</b>
Supported by <b>Malaysia Truly Asia</b>	<b>Visit KL</b>	<b>MATRAK</b>	<b>ERAMAN</b>	<b>SABAH</b>	<b>KTM</b>	<b>Beyond Ocean network</b>	In Association with		
Official Association Partners <b>PADI</b>	<b>NAUI</b>	<b>SSI</b>	<b>NDAN</b>	<b>BSAC</b>	<b>PEARLED</b>	<b>SCUBA DIVING</b>	<b>UNDERWATER</b>	<b>UNDERWATER</b>	<b>UNDERWATER</b>
Official Media Partners <b>Passport</b>	<b>Action Asia</b>	<b>DIVING</b>	<b>DIVELOGI</b>	<b>DIVE</b>	<b>ASWAQ</b>	<b>CEAN GEOGRAPHIC</b>	<b>Let's Travel</b>	<b>KUNANY</b>	<b>EZ</b>

For Information Contact: **ASIAEVENTS EXSIC SDN BHD**  
 Tel: +603 7980 9902 / +603 7981 9909 Email: info@mide.com.my Website: www.mide.com.my

*Watching the recreational rebreather revolution unfold*

# Rebreathers for everybody?

'Recreational' rebreathers seem to be all the hype these days with every other manufacturer developing their own take on such a gadget. The technology seems to be finally coming of age, but is it really a game changer just yet?

I am all for technology that makes our lives easier. If we can now do away with the proverbial degree in engineering one needs to have in order to learn to dive these units safely out of the box, I'd say good riddance to the technical manuals. Diving is about adventure and experiences, not about nuts and bolts.

And just as we are able to take our car and go for a pleasant picnic in the countryside without having to be concerned about the engine's compression ratios or other technicalities, the ultimate rebreather should also just start and function steadily and securely within safe limits without the user having to constantly worry.

Modern cars now come with ABS, traction control, airbags and highly sophisticated electronics monitoring a long list of functions, and they are safer than ever before.

While undergoing a somewhat comparable technological evolution in terms of safety and user-friendliness, rebreathers are, however, not like cars. Big strides have indeed been taken towards higher levels of automation and 'fool-proofing' them, but some quite

important differences remain, which I am not convinced will ever be completely overcome or whether they even should be overcome.

First of all, if a car breaks down, you can pull over and fix it or call for assistance. Having a rebreather malfunction could kill you. Unless, that is, you are vigilant and instantly able to take appropriate corrective measures, which still requires intricate knowledge of how it functions. However, humans are inherently complacent creatures, and with the increasing levels of automation, I see a risk that many divers will drift into the trap of growing comfortable with diving their unit on 'autopilot' and forgetting to think.

How to handle various what-if scenarios are surely covered in user manuals and during the courses, as I am confident that it has all the attention of the training agencies. But let's think again—how many of us drivers ever went back to driving school and did the closed training circuit where one is first taught about aquaplaning with a car and how to recover from a skid? That beckons the question of whether or not frequent retraining for rebreathers will be recommended or required?

Secondly, closed circuit rebreathers (CCRs) are, by definition, coupled directly to our physiology, which is a complex biological sys-

tem that can be modelled only with so much accuracy and certainty. We also differ as individuals and from day to day.

Speaking of which, probably the most prominent key technology still missing in rebreathers is suitable CO<sub>2</sub> sensors—CO<sub>2</sub> remains one of the biggest hazards with CCRs, but the present technology does not actually measure CO<sub>2</sub>. Instead, a temperature gauge traces how the scrubber gets progressively spent. For most purposes, this may be quite a good safeguard, but you are still left in the dark in regards to the actual CO<sub>2</sub> levels.

However, the biggest hurdle facing the recreational rebreather revolution is probably not of a technical nature but a matter of plain household economy. For the average diver, the price tag is still quite a mouthful. While the price has come down over the years, CCRs are still twice as expensive as a kit of open circuit gear, or equivalent to buying a small car in some countries.

All that being said, the latest developments are definitely pointing in the right direction. Learning about the latest developments and exactly how far we have come at Rebreather Forum 3 in Florida later this month is going to be quite exciting.

Stay tuned for more info...

—The X-RAY MAG Team



from the deep  
**NEWS**

*Shark-dive tourism in Fiji worth US\$42.2 million a year*

# Will tourism save the sharks?



*"This study clearly shows the role sharks and tourism play in the economy of Fiji."*

—Matt Rand, director of global shark conservation at the Pew Environment Group

Line Arrow Necklace  
a stylish statement about your  
passion for Cave Diving.  
- Szilvia Gogh

www.GoghJewelryDesign.com

**WORLDWIDE DIVE AND SAIL**

## Siren Fleet

Six luxury liveaboards for diving across Asia and the Pacific.

Diving: Thailand · Philippines  
India · Timor-Leste · Malaysia  
Indonesia · Maldives · Palau

**Make Siren your No.1 choice**

info@worldwidediveandsail.com  
www.worldwidediveandsail.com

CALL TOLL FREE ON : +1-866-258-6398

**This global over-exploitation of sharks highlights the need for convincing economic arguments that can halt or reduce declines and assist the implementation of more effective conservation strategies.**

In 2010, shark-related diving contributed US\$42.2 million (\$73 million Fijian) to the economy of Fiji according to a report by the Australian Institute of Marine Science and the University of Western Australia. That year, shark-diving operations generated \$4 million for Fijian communities through salaries and local levies.

The study, *The socio-economic value of the shark-diving industry in Fiji*, found that overall tourism activities in 2010 generated US\$558 million, approximately 18 percent of the country's gross domestic product (GDP), and that one in ten tourists engaged in diving activities. It is estimated that 49,000 divers were engaged in shark-diving activities in Fiji accounting

for 78 percent of the 63,000 divers visiting the country. Dedicated and casual shark-divers accounted for 24 percent and 54 percent of all divers interviewed respectively.

The dive operations at Pacific Harbour in Beqa Lagoon were a major contributor to the revenues from shark-diving to Fiji. Beqa Lagoon has gained increasing attention of the international diving community as a world-class destination for shark-diving, due to the size, diversity and abundance of sharks and the reliability with which they can be observed. Its easily accessible location on the southern coast of the main island of Viti Levu close to international airports makes Pacific Harbour a



CHRISTOPHE JURDAN

popular destination for divers that travel to Fiji specifically to see sharks. In 2010, a total of 8,600 visitors were involved in shark-diving at this locality providing approximately US\$5.3 million in revenue. This economic contribution is likely to increase in the future given the rapid increase in tourism to this locality and the growing international reputation of the experience among divers.

### Growing popularity

Diving with sharks in particular has become more popular over the past several years, and shark-diving is a growing business worldwide, with established operations found in at least 83 locations in 29 countries. Although places

such as South Africa, the United States and Australia have typically dominated this industry, shark-diving is becoming an economic driver across the Indo-Pacific. In Palau, a recent study found that US\$18 million a year (or eight percent of its GDP) is generated by this activity. In French Polynesia, diving with lemon sharks off Moorea Island brings in about US\$5.4 million annually.

Worldwide concern over the ecological and economic impacts of the loss of sharks

as apex predators in marine ecosystems has led a number of small island nations to grant greater protection to shark populations. Since the Republic of Palau created a nationwide shark sanctuary in 2009, other Pacific island states such as the Republic of the Marshall Islands and the territories of Tokelau, Guam and the Northern Marianas have followed suit by banning commercial shark fishing and the trade of shark parts, including fins, within their waters.

These bans are not restricted to the Pacific

Ocean. The Republic of the Maldives recently implemented the first nationwide shark sanctuary in the Indian Ocean, and the Honduras and the Bahamas have also created sanctuaries extending bans on commercial shark fishing to Atlantic waters. Protection measures have also been adopted by the American states of Hawaii, Oregon, Washington and the more recently California, which effectively banned commercial shark fishing and the shark fin trade off the west coast of the United States. ■



## GRAND BAHAMA ISLAND Bahamas



*The only island for sharks  
Dolphins  
BIG Wrecks  
Awesome Reef  
The warmest hospitality*

*Great Hotels  
Group Rates*



**UNDERWATER EXPLORERS SOCIETY**

**U N E X S O**

Grand Bahama Island  
www.unexso.com

**1-242-373-1244  
1-800-992-DIVE**

*Duke research team wins NASA award*

# Preventing decompression sickness in astronauts

Text by Rosemary E Lunn  
Photos courtesy of Duke University Hyperbaric Center

A research team at the Duke University Hyperbaric Centre, (North Carolina, USA) has won a Johnson Space Center (JSC) Group Achievement Award from NASA. The Durham-based team comprising Dr Neal W Pollock, Dr Richard Vann, Mike Natoli and Dr Richard Moon developed an in-suit light exercise pre-breathe regiment to prevent decompression sickness developing in astronauts.

Although it might not seem immediately obvious, there is a strong link between astronauts, rebreathers, diving physiology and physics. A space suit is effectively an oxygen rebreather with the contents of the suit recirculated through a CO<sub>2</sub> scrubber. However, the helmet doesn't suffer the same CO<sub>2</sub> retention problems that some diving helmets can, mainly because the gas is far less dense, therefore it circulates easily around the system.

"When an astronaut transitions from Space Station pressure (1 bar) and dons a space suit (0.29 bar), the pressure on them drops by 0.71 bar," stated Pollock. "It's the same effect as instantly going from ground level to a 1,000 feet above Everest.

"Consequently, one of the dangers of



Dr Neal W Pollock (left) and Dr Richard D Vann

*A space suit is effectively an oxygen rebreather*

space walking is that decompression sickness will result if there is no intervention or treatment. Although the astronaut hasn't been diving, he does have nitrogen in his tissues—in equilibrium with the content at ground level pressure. With an immediate drop in pressure the gas comes out of solution forming bubbles, and the astronaut can possibly experience symptoms of decompression sickness, just like a

diver. We needed to wash out nitrogen from the astronauts' tissues by having them breathe pure oxygen—an old trick used since World War II by bomber and fighter crews.

"The standard protocol was to breathe O<sub>2</sub> for four hours prior to decompression (pre-breathe) to reduce nitrogen to a much lower level. This protocol was problematic, however, in that it made the length of space walking days longer than allowed by NASA, and consumed limited high pressure oxygen stores. Hence, our goal was to develop new protocols to speed nitrogen elimination during pre-breathe by combining oxygen breathing with controlled exercise. (Adding exercise into the equation increases

the blood flow, which results in a faster nitrogen washout, but too much or too aggressive exercise can promote bubble formation and increase risk—this is the dualism of exercise).

"The same principle regarding blood flow actually applies to divers as well, but again

careful thought must be applied. If a diver exercises whilst descending or at depth, the inert gas absorption will be accelerated, effectively increasing the decompression obligation. A diver who does light exercise during decompression will accelerate inert gas elimination from his or her tissues, just like an astronaut who breathes oxygen. Too much exercise during decompression, however, can increase bubble formation and the risk of decompression insult, so caution must be employed. This

is definitely not a case of 'if a little is good, more is better'—'more' can get you into trouble, and there is no simple way to opti-

*Although the astronaut hasn't been diving, he does have nitrogen in his tissues.*



Grand Cayman's Hotel For Divers By Divers

SUNSET HOUSE



See Why More Divers Choose Sunset House For Their Dive Holiday!

Special Discounts for X-Ray Magazine Readers!

Follow URL Below!

[www.sunsethouse.com/xray](http://www.sunsethouse.com/xray)  
[reservations@sunsethouse.com](mailto:reservations@sunsethouse.com)

800-854-5767 345 949 7111

*One of the dangers of space walking is that decompression sickness will result if there is no intervention or treatment.*

mize strategies."

A multi-center team developed and tested four protocols initially, resulting in the first protocol approved for flight (and a previous NASA award). The team included research groups from NASA Johnson Space Center, Duke University, University of Texas at Houston and the Defence and Civil Institute of Environmental Medicine [DCIEM] in Canada, and consultants from the U.S. Air Force. Duke subsequently took the lead in testing five



more protocols, with one of these also approved for flight.

"We were all delighted that the new prebreathe protocol, known as 'ISLE' (in-suit light exercise) worked successfully when it was tested in orbit during the STS-134 / ULF6 mission." It was this success that resulted in the current award. "This has very much been a team effort, and it's been a long project," stated Vann. "The genesis of this concept came about in the 1980s.

"I agree that exercising in space sounds quite straight forward to most people, but it does come with its own set of special challenges. The first operational trials by NASA took place during the shuttle missions when astronauts used exercise equipment whilst breathing oxygen. The equipment was complicated since it had to be built to avoid transmitting vibrations into the spacecraft during use. Ultimately, a simple cycle ergometer became a very complicated 'CEVIS' (cycle ergometer vibration isolation system). The complexity proved to be logistically cumbersome, failing several times on orbit. Therefore, our next task was to develop a protocol that didn't involve extra equipment. The logical step was for the astronauts to exercise whilst breathing oxygen in the space suit.

"The effect of gravity on Earth is our normal reference standard for exercise. After we lift a leg up, it falls back naturally. In space in zero gravity, when we lift a leg it keeps on moving. So, exercise in microgravity is different. The astronaut must be anchored to the wall, and then work to initiate limb movement, to stop it at the end of the movement range, and to initiate movement in a new direction."

Pollock and Vann also work at DAN Headquarters in Durham, respectively as Research Director and Consultant. They are two members of the team behind Rebreather Forum 3. ■



Bones of early Americans disappear from underwater cave. File photo by Kurt Amsler

## Bones of early Americans stolen from underwater cave

The missing bones belong to a skeleton dubbed Young Hol Chan II, discovered in 2010. The cenote in which it was found had previously yielded another 10,000-year-old skeleton—the Young Man of Chan Hol, discovered in 2006.

Both skeletons were laid to rest at a time when sea level was much lower than it is today, and the cenote, now about eight metres below the water, was dry. Archaeologists have also found the remains of elephants, giant sloths and other animals in the caves, giving an indi-

cation of what the ancient humans ate. Researchers from the National Institute of Anthropology and History (INAH) in Mexico City have been aware of creeping theft of specimens from cenotes, but they lack the resources to guard the hundreds of sites that dot the peninsula. ■

THIS PAGE: Scenes from the Johnson Space Center Research Chamber and laboratory

## Ambient Pressure Diving built the life support system for James Cameron's record dive

Ambient Pressure Diving, the manufacturer of the Inspiration and Evolution range of closed circuit rebreathers, designed and manufactured the life-support system for the submarine in which James Cameron conducted his record to 10,898m (36,070ft)—the ocean's deepest point—Challenger Deep in the Mariana Trench in March 2012. The APD system, responsible for keeping the pilot alive for up to 60 hours, was developed and the first units delivered within four months from the award of contract, APD informed.

This was achieved by utilizing many standard APD rebreather components within the new design, including their patented dual controller—automatic oxygen control system. The system APD developed is essentially a twin rebreather, a pri-

mary and a back-up unit, each capable of 30 hours life support.

The primary is open circuit (to the sub) in which CO<sub>2</sub> is removed by blowing air through the scrubber by electric fan, powered by the sub's own triple redundant power supply.

The independent dual oxygen controllers (primary and backup) each have their own power supply independent of each other and of the sub. Oxygen pressure within the sphere is measured and oxygen added automatically to main-

tain predetermined levels—just as it is in their production CCRs.

The emergency secondary system is closed circuit with breathing hoses to a full-face mask. In this system, the sub pilot uses his breath power to push the air through the scrubber filter. The closed circuit system will keep the pilot alive even if all submarine power is lost and gives the pilot a safe haven should the pilot have to deal with a fire, when smoke, carbon monoxide and fire extinguisher gases would make the cabin air unbreathable. ■



## GPS RADIO FOR DIVERS



Changing dive safety forever.

info@nautiluslifeline.com  
Skype: nautiluslifeline  
Ph: 001-604-241-1918

WIN A FREE LIFELINE  
www.nautiluslifeline.com



From the left: Martin Parker (Managing Director), Alex Wall (R&D Manager), Darren Culme (Toolroom Manager), Terry Fisher (Chief Engineer)



# Shipwrecks 2012

Reported by Robert Osborne

April 10, 2012 — It may not be the sort of place you associate with a major symposium on shipwrecks. Welland is a small town in the heart of southern Ontario that's seen better days. But there's still one marquis event that takes place here every year: the Symposium on Shipwrecks put on by the Niagara Divers Association. It was started 18 years ago as a way for a few locals to gather and discuss shipwrecks on the Great Lakes and raise money for establishing mooring blocks on wrecks. Today, the event has grown into something much bigger. It draws people from around the northeastern United States and eastern Canada. This year the attendance topped out at nearly 550 people.

The symposium, which took place on March 31, offered an impressive slate of speakers throughout the day. Jack Papes from the Maritime Archeological Survey Team presented a compelling look at a series of dives made to wrecks dating between the mid-1800s and the mid-1900s along Lake Michigan's western shore. Robert Osborne, CTV Producer and underwater film maker gave a multimedia presentation on the World War Two story about the Battle of Bell Island in Conception Bay Newfoundland (see X-RAY MAG issue #47.)

But the star attraction of the symposium

was Jill Heinerth, world renowned cave diver and cinematographer. She gave two presentations during the day—the first a talk on tips on underwater photography. Among the highlights of her first talk, a demonstration on the photography technique known as “painting”. Find a pitch black location, take a camera on a tripod and lock it off. Then open up the aperture and run around the area with strobe flashing it on the elements in the scene you want to paint. The result is surreal almost impressionistic photo.

Heinerth's second talk of the day was about a pair of documentaries she's currently working on: Ben's Vortex, a story about a missing cave diver, Ben McDaniel, that plays out with more twists and turns than a John Le Carre novel. The story is full of hints of murder and mobsters and backwoods characters that could have been drawn from the movie, *Deliverance*. Jill and her husband, Robert McClellan, are both involved in getting that piece ready during the next few months. Heinerth also spoke about her upcoming documentary project, *We Are Water*—a film that looks at the close affiliation between



world renowned diver and TV star, Mike Fletcher. He talked about his history as a commercial diver as well as both of his TV series, *Dive Detectives* and *Sea Hunters*.

The afternoon was capped off by another pair of speakers who both described their searches for previously undiscovered wrecks. David VanZandt, chief archeologist for the Cleveland

humans and their water supply and the devastating results that occur because of our lack of concern about this resource.

The other marquis presenter of the day was

Underwater Explorers talked about his group's successful hunt for the shipwreck of the *Sultan*—a two-masted brigantine that went down in 1864. Georgann and Mike Wachter gave a compelling talk on their discovery of a wreck that they believe dates back to the War of 1812. They're still working on a positive identification.

For shipwreck junkies, the week-end was pure pleasure. In between talks, participants could also wander around the many booths that had been set up in the hall. They offered a range of activities from a chance to talk with members of Paul Watson's environmental group, The Sea Shepherd Society, to an opportunity to get close and personal with an number of old brass diving helmets.

All in all a successful day. It may not be DEMA or Beneath the Sea, but this



symposium is rapidly becoming a must attend for serious wreck explorers in Canada and the United States. The Niagara Divers Association is already planning next year's conference. ■





*After 70 years on the seabed the Luftwaffe aircraft in Hafrsfjord will be returning to base, which in the meantime has become a museum.*

## WWII German seaplane to be salvaged in Norway

The unique aircraft was found right outside the Museum of Aviation History in Sola.

On 26 December 1942 when Norway was occupied by German forces, a Heinkel 115B seaplane from the Küstenfliegergruppe 906 based at Sola, set down on Hafrsfjord when one of the floats tore off, capsizing the plane. The crew was rescued and so was one of the engines, but the plane sank to the seabed where it lay forgotten for almost seven decades, until it was accidentally rediscovered, as the Norwegian Charting Authorities were testing new sonar equipment.

Ironically, the plane—which is very rare, as no other specimens have survived—has been laying there for so many years less than three kilometers from the Museum of Aviation History.

### Little corrosion

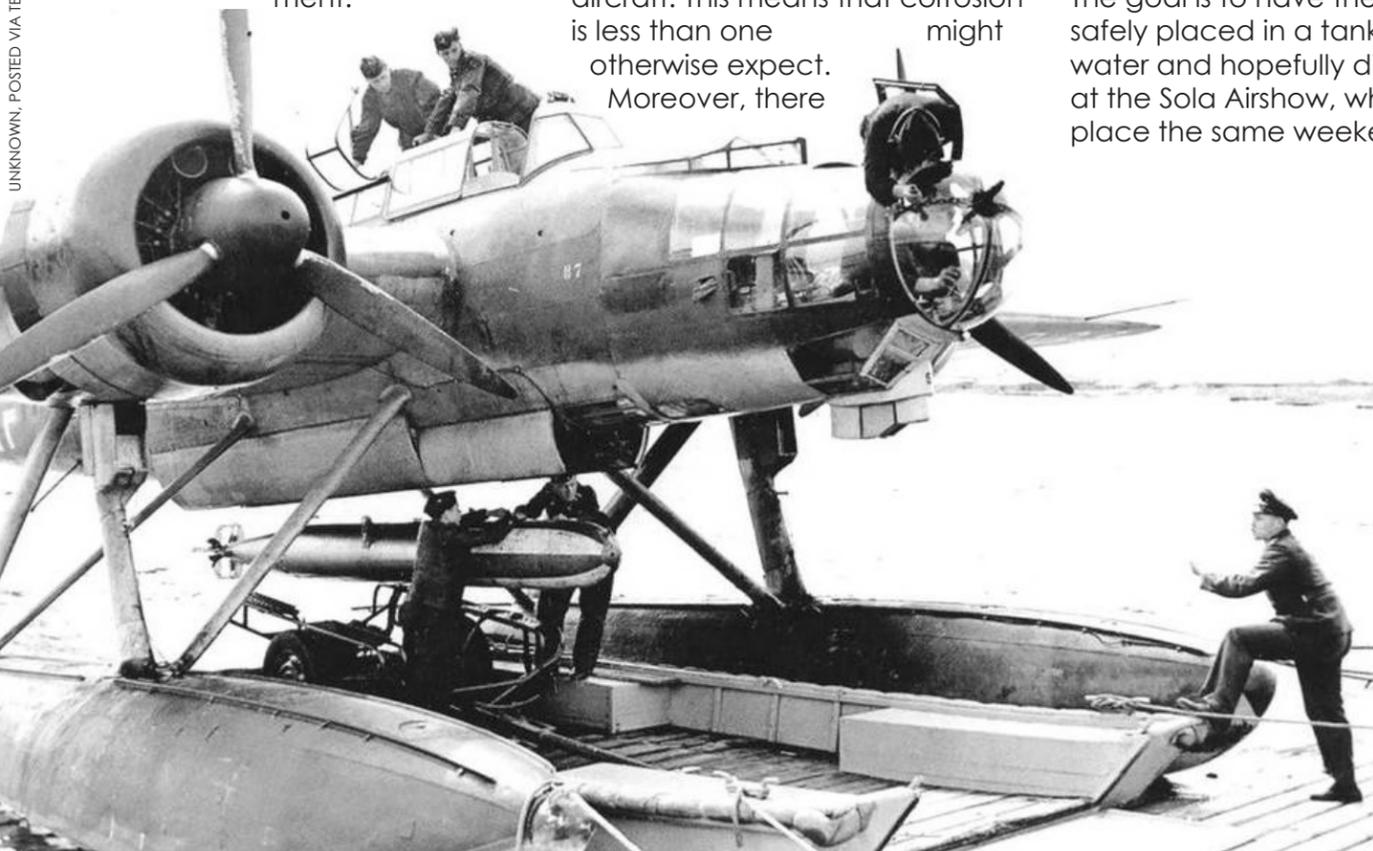
Hafrsfjord is a threshold fjord. The inner part of the fjord, where the wreck is located, has low oxygen values. From an environmental standpoint, this is not desirable, but it was beneficial to the conservation of the 70-year-old aircraft. This means that corrosion is less than one might otherwise expect. Moreover, there

is little movement in the bottom water, so that the wreck has remained stationary. The plane is upside down on the bottom and seems to have suffered very little damage.

However, it is still salty water, so when the plane is raised, it must be immediately removed and rinsed, said Helge Nyhus who sits on the museum board.

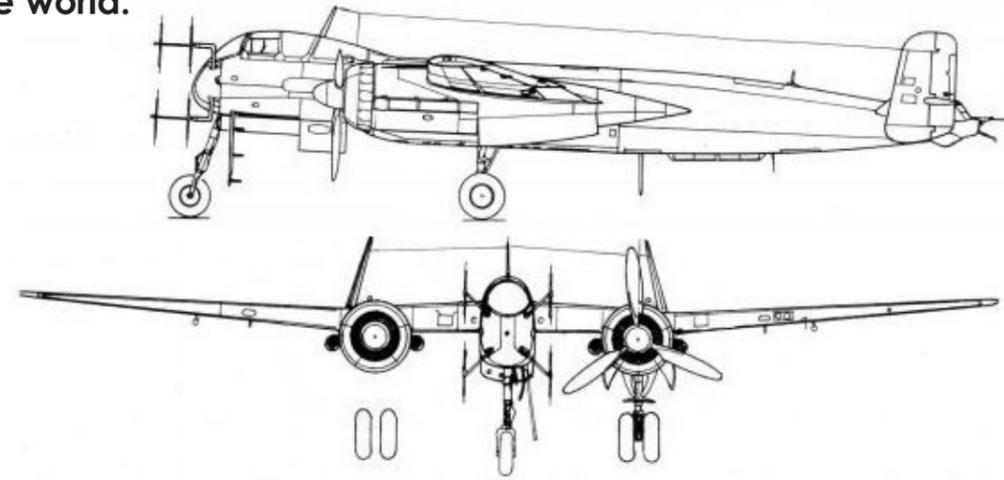
### Salvage on June 2

According to plans, the old warbird will be raised on June 2. The goal is to have the aircraft safely placed in a tank of fresh water and hopefully displayed at the Sola Airshow, which takes place the same weekend. ■



## Rare WWII German nightfighter found in the North Sea

The remains of a very rare German night fighter from WWII has been salvaged in the North Sea off the Danish fishing port Hirtshals. Only one other specimen exists in the world.



*Not only is the German night fighter, which was retrieved from the seabed off Hirtshals, a sensational discovery, but it was also a very surprising one. So much in fact that some regard it a 'ghost plane', as there is no record as to why it crash-landed at sea and sank to the bottom some time during WWII.*

As chairman of the Danish Air Historical Society, Ib Lødsen, examined parts of the landing gear from the German fighter, he quickly realized that he was looking at something out of the ordinary.

### Surprise discovery

"I had to go around the table a few times," he told Danish daily Jyllands-Posten. "Because I could see that I stood with the remains of a German night fighter of which there only exists one other preserved copy, and it is in the

U.S." This was a Heinkel HE-219th.

### Highly advanced

At that time, highly advanced aircraft were designed specifically for night combat patrols. For example, the exhaust was hidden in a long tube, so the flames from the exhaust could not be spotted by the enemy. Furthermore, the aircraft were equipped with ejection seats.

The remains of the aircraft were picked up from the sea last Monday by the salvage firm JD-Contractor. The wreckage

has been taken to the Defence and Garrison Museum in Aalborg where it will be cleaned and restored and eventually displayed.

### Depth: 2.5 meters

The wreck was laying in only 2.5 meters of water about 100 meters off the coast of Hirtshals in Northern Jutland since the Second World War. The plane was already spotted by local scuba divers many years ago, but at that point, nobody realised what a rarity it was. ■

## Michigan Shipwreck Research Association finds historic wreck

MSRA directors, Jack and Valerie van Heest and Craig Rich, discovered the wreck of a schooner while working with side scan operator David Trotter last summer. It rests in utter blackness 350 feet beneath the surface of Lake Michigan about 20 miles off the coast of Grand Haven. It is a remnant of the Age of Sail on the Great Lakes when schooners

provided the primary means of transportation.

This shipwreck ranks as the deepest schooner yet found in Lake Michigan. MSRA divers waited until a calm day in October to make the dangerous dive because the water is warmest that time of year. They could only spend 15 minutes on the bottom but had to spend two hours

decompressing.

The diver's video revealed an intact two-masted schooner about ninety feet long. A substance below deck may represent the cargo, possibly grain. The vessel has a unique scroll bow seen only on schooners built in the early to mid-19th century, making this a very old schooner.

**Michiganshipwrecks.org** ■

Edited by  
Scott Bennett



## New airport scanners could end European liquid ban

Although the 100ml carry-on liquid restriction may cease, there are concerns that false alarms may worsen delays.

Having passed the U.K. Department of Transport's trials, the new devices, which can detect explosive properties in liquids, will be installed in all British airports and across Europe by 29 April 2013. While passengers will still have to remove liquids for inspection, they will no longer have to comply with the 100ml restriction. At London's Stansted airport, up to 20 household bins of confiscated items are thrown away daily, with seized items ranging from bottled water to champagne and expensive perfumes.

"I am pleased to see that the Department of Transport has approved a new generation of airport scanners that will allow passengers to carry containers of fluid larger than 100ml," said Sam Shead, reporter at U.K. technology magazine *The Engineer*. "It's frustrating when you have to buy expensive drinks in the departure lounge or throw away toiletries that you had forgotten to remove."

The new scanners have already been tested at a number of airports, including London Heathrow. The results have exceeded expectations of European Civil Aviation Conference's (ECAC) with an almost perfect detection capability.

Although the makers are confident the new scanners will enhance airport

security and improve passenger's experiences, Shead remains sceptical. "I do not think it will alleviate queues in airports, as passengers will still have to go through the process of removing liquid containers from their bags."

The ban on carrying liquids measuring more than 100ml was first introduced in 2006 and has been seen as a huge inconvenience to passengers. ■



File photo of airport scanner. It is not known to us what this type of scanner actually detects

## iPads on planes



### Pilots can now use iPads at all stages of flights, but not the passengers?

The U.S. Federal Aviation Administration (FAA) have stated that pilots on American Airlines flights would be allowed to use iPads instead of paper flight manuals in the cockpit even during take-off and landing. The elimination of paper charts and reports from airplanes could save upwards of \$1.2 million in fuel per year, although it isn't specific as to whether that's industry-wide or just per airline. Both the iPad I and the iPad II have been approved for use. Other airlines such as United, Alaska and UPS are also reviewing this potential, but none have been approved to conduct flight operations in all phases of flight except American.

In 2006, the FAA request the Radio Technical Commission for Aeronautics to test the effects of cell phones, Wi-fi and other devices on planes. They found no evidence to support the idea that such devices can interfere with the function of airplanes, and they found no evidence that they can affect flight safety. So, why can't passengers use Kindles and iPads during take off or landing? When put in airplane mode, they do not emit any signals. ■



### Malaysia Airlines creates a no-child zone

First, it banned babies in first class. Now, Malaysia Airlines has declared a child-free zone on its upcoming Airbus A380s. The child ban applies to the upper deck economy section of its jets, restricting children to the lower deck, Australian Business Traveller reports. The move was revealed in an advisory issued to travel agents, which stated that children under 12 would be banned from the section on its new super jumbo, which is set to make its debut on July 1. ■

# DIVE

with the best!

**Mike Ball Dive Expeditions AUSTRALIA**

Australia's best diving on Australia's most awarded liveboard 'Spoilsport'.






codhole  
CORAL SEA  
3, 4 & 7 Nights

www.mikeball.com

t: +61 7 4053 0500 e: resv@mikeball.com