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IN-FLIGHT REVIEW

## GET WRECKED!

B.C.'S ARTIFICIAL REEFS

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# G WRE

B.C.'S  
BOTH



*Above: Diver Chris Schmidt cruises above the forward deck guns of the Saskatchewan, a former Canadian Navy destroyer escort sunk in June 1997 off Snake Island near Nanaimo.*

# et ECKED!

## ARTIFICIAL REEFS SERVE MAN AND NATURE.

STORY BY JEANNE DININNI & GARTH EICHEL  
PHOTOS BY SCOTT STEVENSON

**SHIPWRECKS CAN BE CREEPY THINGS.** Especially at night. For that reason I talked my long-suffering girlfriend and dive buddy, Heather Lawson, into doing a Hallowe'en dive with me on the wreck of the *G.B. Church*, a 175-foot freighter lying in 70 feet of water just southeast of Portland Island, near Sidney.

Heather finds wrecks unsettling at the best of times: their ghostly silhouettes are barely visible in the green ocean gloom and all sorts of creatures hide in their darkened nooks and crannies. As far as she is concerned, a submerged ship is little more than an underwater haunted house.

Still, haunted houses can be fun, and the creepy crawlies who live and thrive in artificial reefs are more fascinating than terrifying.

Motoring through the night to the wreck site aboard the dive boat *Cape Able*, we readied our tanks and donned dry suits. A mixture of excitement and anxiety steadily spread through our group of divers, intensified by the clang of tanks and the periodic hiss of air valves being opened.

Once on top of the dive site Heather and I did a final safety check of each other's gear before rolling in to the inky black water and grabbing hold of the anchor line. Though our bodies remain dry, there is an instant flash of cold water on our faces that makes us catch our breath.

Our breathing soon settles to deep steady hisses and we flash the okay sign to one another in the glare of our underwater lights. We signal to descend and Heather follows me down the algae-covered line into the abyss. At a depth of about 40 feet a mysterious pattern emerges in the glow of my dive light: it is the forecandle of the *G.B. Church*, covered in brilliant white plumose anemones. My initial reaction is surprise. The last time I dove on this artificial

reef was in 2001. At that time there was some visible life growing on the ship and a few fish swimming around, but nothing compared to what has taken hold since: the hull and superstructure are carpeted with all sorts of anemones, sponges and soft corals; schools of rockfish dart overhead; and enormous lingcod lurk all over the ship's deck. Further down the port side of the ship, just beneath the keel, we spy a Giant Pacific Octopus curled up in his man-made den. Without question, a lot of marine creatures have adopted this artificial reef as home in a relatively short span of time.

### Ultimate Recycling

"Artificial reefs are not a new idea," says Howard Robins, president of the Artificial Reef Society of British Columbia

(ARSBC). "They've been used for thousands of years in many cultures, starting with a pile of rocks.

"What we do with our 'Ships-to-Reef' program is provide a habitat for marine life, and whether a ship goes down on purpose, or by accident, we see the physical evidence of marine habitation all over and inside many vessels. Ships are a good long-term and stable platform for that."

What's more, any site that attracts sea creatures is sure to lure scuba divers, many of whom are all too happy to spend their travel and recreation dollars in communities that host artificial reefs.

There is more to artificial reefs than fostering marine life and attracting divers though. Federal, provincial and municipal governments, as well as some First Nations, have a vested interest in sinking old and unwanted ships for the purpose of marine habitat restoration.

With no purpose-built ship breaking yards in Canada, the economic cost — not to mention environmental and human rights concerns — of sending outdated ships overseas to be scrapped makes it impractical to send ships beyond Canada's shores. The result is that more and more ships end up tied alongside B.C.'s coastal communities where they become eyesores and environmental nuisances — a problem compounded by the steady arrival of vessels involved in illegal human smuggling.

Cleaning up a ship and sinking it to make an artificial reef is an expedient solution to the problem, with the added benefit of creating marine habitat and an attraction for divers. At the same time, artificial reefs help take pressure off a number of fragile historical shipwrecks. For these reasons the

B.C. government initiated an artificial reef program in the 1970s, which was subsequently augmented by the Artificial Reef Society.

"The ARSBC modeled itself after the successful program run by the Province of B.C. in the mid-seventies to sink ships as artificial reefs and to act as a stimulus for scuba dive tourism," says Deirdre McCracken, ARSBC director of public relations. "The Society went further by acquiring the use of large navy vessels and thus became an extension of the province's program."

The *G.B. Church* was the first ship sunk by ARSBC in 1991. Since then the all-volunteer non-profit Society has donated hundreds of thousands of hours of labour towards the creation of artificial reefs. As a result of its efforts, the organization has successfully scuttled six ships and one Boeing 737 airliner for the purpose of creating ecologically sound marine habitats that attract and sustain a range of sea life. At the same time, the Society is committed to supporting local economies by promoting eco-dive tourism. Thanks in part to their efforts, B.C. has become one of the world's more popular scuba diving destinations.

### Dumping vs. Recycling

While Heather and I are both avid divers, we disagree about the value of artificial reefs.

"It's like finding a refrigerator in the forest," she says. "It doesn't belong there."

"Perhaps, but it's like a fridge full of cool creatures who call it home," I retort.

Robins takes exception with both notions: "You can't throw a refrigerator in the ocean and call it an artificial reef just because a barnacle is growing in it. That's just dumping. Artificial reefs are about preparing recycled material specifically



Above: Diver Gord Murphy inspects a plaque laid by the Artificial Reef Society of B.C. on the wreck of the S.S. Del Norte.



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## ARTIFICIAL REEFS OF B.C.

There are numerous accidental shipwrecks to be found on the seafloor of B.C.'s West Coast, but only seven ships and one aircraft have been intentionally put on the bottom for the purpose of creating marine habitat:

### *G.B. Church*

This 175-foot (53-metre) coastal freighter was sunk by ARSBC in August, 1991, off Portland Island, near Sidney. It was the first artificial reef put down by the Society, and it remains one of the most popular dive sites on the West Coast.

### *Chaudiere*

Sunk in December, 1992, off Kunechin Point, in Porpoise Bay, Sechelt, this 366-foot (111-metre) 2,900-ton naval destroyer escort was the first Canadian navy vessel sunk by ARSBC.

### *MacKenzie*

This 366-foot (111-metre) 2,900-ton Canadian naval destroyer escort was sunk off Gooch Island, near Sidney, in September, 1995. It provides an excellent opportunity for divers to explore the rich variety of marine life native to the Gulf Islands.

### *Columbia*

Sunk in June, 1996, off Maude Island, near Campbell River, this 366-foot (111-metre) 2,900-ton naval destroyer escort now provides a haven for marine life unique to northern Vancouver Island.

### *Saskatchewan*

Sunk in June, 1997, off Snake Island, near Nanaimo, this 366-foot (111-metre) 2,900-ton naval destroyer escort was the first of three ships sunk off Nanaimo.

### *Cape Breton*

Sunk in October, 2001, near Nanaimo, the *Cape Breton* rests on the bottom just a few hundred feet from her sister ship, *Saskatchewan*.

### *Rivtow Lion*

Sunk in February, 2005, by the Nanaimo Dive Association, this 157-foot (57-metre) deep-sea rescue tug is one of three artificial reefs on the sea bottom near Nanaimo, along with the *Saskatchewan* and the *Cape Breton*.

### *Xihwu*

The 111-foot-long *Xihwu* is a Boeing 737 — the first and only airplane artificial reef put down by ARSBC. Flown by Canadian Airlines for many years, it was lowered into the waters off Chemainus, Vancouver Island, in January, 2006.

for habitat creation. That's recycling through the re-use of a material, not disposal." He adds, "From a pollution standpoint, the ARSBC has always operated on the premise that anything going into the water must be environmentally dealt with in advance. That's just common sense."

Underscoring his point, Robins notes that the Society is subject to rigorous Environment Canada standards, which they meet — and often exceed — prior to sinking a ship as an artificial reef in Canadian waters:

"These are standards that have been developed through Environment Canada with the Society, and based on the protocols set by the United Nations London Convention Protocol, which deals with what is considered acceptable materials for disposal in the marine environment. Airplanes, ships and oilrigs are all considered acceptable materials for disposal, so long as they are prepared to a specific and detailed standard of environmental cleanliness. That means removing any type of oils, fluids and other nasty things like lead, mercury and PCBs."

Still, there are those who object to artificial reefs as potential hazards to marine environments.

"Fact is, no ship gets a government permit for sinking unless it passes a detailed environmental inspection by an independent, recognised inspector," says Robins. "Every ship that goes down has to be compliant with Transport Canada and Environment Canada, as well as the Department of Fisheries and Oceans."

Nevertheless, Robins says the ARSBC has encountered a measure of resistance on every artificial reef project the Society has undertaken since 1991. That's the case now with a decommissioned Canadian

navy destroyer escort, formerly *HMCS Annapolis*, that the Society plans to sink next year in Halkett Bay Provincial Marine Park in Howe Sound. Some environmentalists and residents of Halkett Bay object to the proposed sinking, arguing that a ship can never be completely clean and free of toxins. They are calling for further study and public consultation into the long-term environmental effects of artificial reefs.

Robins says any possible long-term environmental consequences of artificial reefs has been thoroughly studied and addressed on previous projects, and extensive public consultation on each is well documented. He says opposition to sinking ships has more to do with perceived environmental fears and a NIMBY (not in my back yard) mindset: "We run into this kind of reaction on every project. It's emotion-based, not fact-based. The bar is set very high with environmental standards, yet we continue to get permits to sink ships because we meet those standards. No one has been able to marshal any kind of serious evidence that artificial reefs have a net negative effect on marine environments." To that, he adds, "We do this for the good of the marine environment and eco-tourism. We don't do it for profit."

Just the opposite, he says: "We put ships down in areas that have flat and relatively featureless bottoms where there isn't much marine life. The currents in our waters are rich in nutrients and embryonic material; we know that material gets trapped in these vessels and nature will fill a void given the opportunity.

"Populations of several species of rockfish in Howe Sound are in decline due in part to overfishing. several

species of rockfish make these man-made reefs their long term homes. The *Annapolis* will serve as a place for rockfish to survive, thrive and breed."

### Clean-Up Costs

Swimming through the wheelhouse of the *G.B. Church*. I can't help noticing how completely stripped of equipment it is. Only the naked structure of the ship remains, but that seems to give corals, anemones and sponges plenty of purchase.

Stripping a ship prior to sinking it serves several purposes. First, it removes anything that might cause environmental damage, while also making the ship safer for divers to enter. Recycling the various metals also helps underwrite the considerable costs associated with sinking a ship, which include the initial pur-

chase of the vessel, a marine contractor, and skilled workers to oversee projects and manage volunteers. Also included is the cost of researching and surveying potential reef sites, administrative duties, ship cleanup, and, of course, the cost of actually sinking a ship.

"The Society is a non-profit organization that doesn't have a lot of financial backing or a big bank account," says Larry Reeves, ASRBC's director of projects. "We do these projects on a shoestring budget. Compared to projects in the U.S., where they've got multi-million-dollar budgets, we operate in the few-hundred-thousand-dollar range."

What the ARSBC lacks in money it makes up for in volunteers. A small army of helpers donate thousands of hours preparing each ship for sinking. In addition to eliminating



Above: Diver Deb Snowden hovers above the plumose anemone covered radar platform and main mast of the *Saskatchewan*, a Canadian navy destroyer escort sunk off Nanaimo in 1997.

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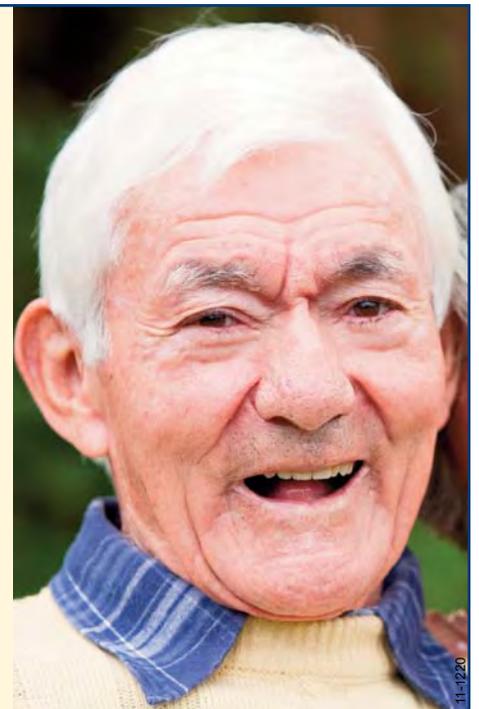
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*Destined for Halkett Bay Provincial Marine Park in Howe Sound, the Annapolis, is a 371-foot (111 metre), 3,000 ton helicopter-carrying destroyer escort. It is the sixth ship in the ARSBC's destroyer program to be prepared for sinking as an artificial reef. ARSBC PHOTO*

hazards, volunteers remove scrap materials for resale, such as brass, steel, copper, aluminum and other high-grade metals. Other items, such as doors and machinery, are sold for reuse on other ships.

Additional financial support for reefing projects comes from private donations and those communities that directly benefit from the dive tourism artificial reefs generate.

### Beyond Shipwrecks

After circumnavigating the hull of the *G.B. Church* in the dark for the better part of an hour, Heather and I signal each other that it's time to ascend to the surface.

To avoid decompression sickness, a.k.a. "the bends", we allow for a five-minute safety stop in shallow water just above the ship's forecandle. This is a special time for me on any dive. With nothing to do, I use the time to reflect on what I've just experienced, and I try to imprint a few memories.

On this dive I'm amazed to see how much life has taken hold in the span of a decade. What was a relatively barren hulk 20 years ago is now teeming with life. The power of nature is truly humbling at such times as this, and I wonder what the wreck will look like in another 20 years.

While scuttling ships to create marine habitat is the main-

stay of what ARSBC does, there is scope to broaden the definition of what constitutes an artificial reef. In keeping with that, the Society successfully sank a Boeing 737 airliner off Chemainus in January, 2006, and is keeping the door open to other extraordinary projects.

"We're now mature enough in our processes and understanding of artificial reefs — what they produce and how they work — that a different challenge for us would be to grow in new directions," says Robins. "Perhaps a different type of artificial reef, or moving into materials or opportunities other than ships. Or perhaps taking our knowledge and using it on a consulting basis for others elsewhere in the world, which we've done."

Whatever the case may be, Robins says he and other volunteers at ARSBC derive satisfaction from the long-term benefits of their work: "The end result is a legacy of something good for the marine environment and for the enjoyment of so many scuba divers. Those ships will live on for 150 years, providing habitat and shelter for many species that need it."

*For further information about the Artificial Reef Society and its work visit the ARSBC website at [www.artificialreef.bc.ca](http://www.artificialreef.bc.ca).*

## 2011 multi media fine ART exhibition

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