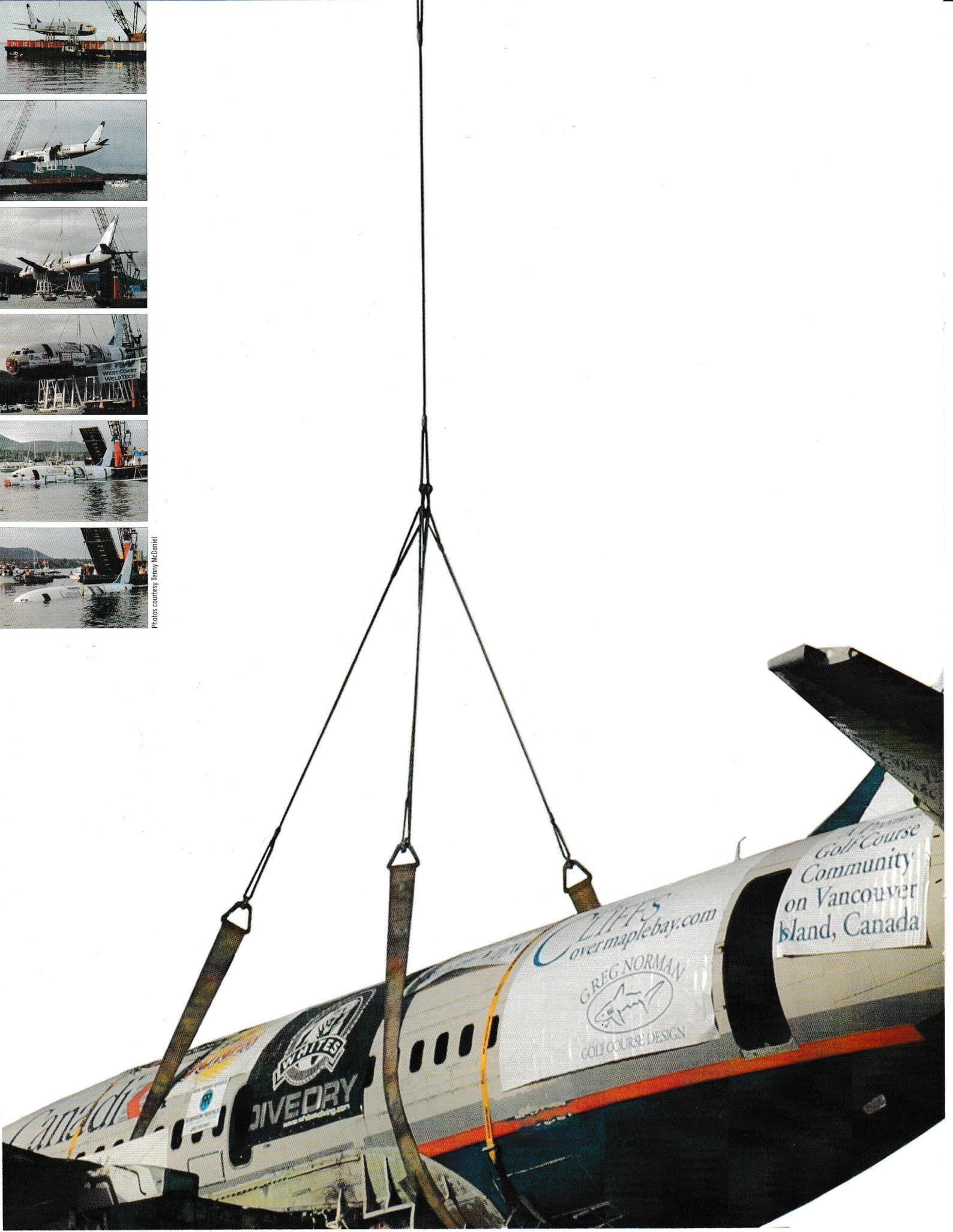
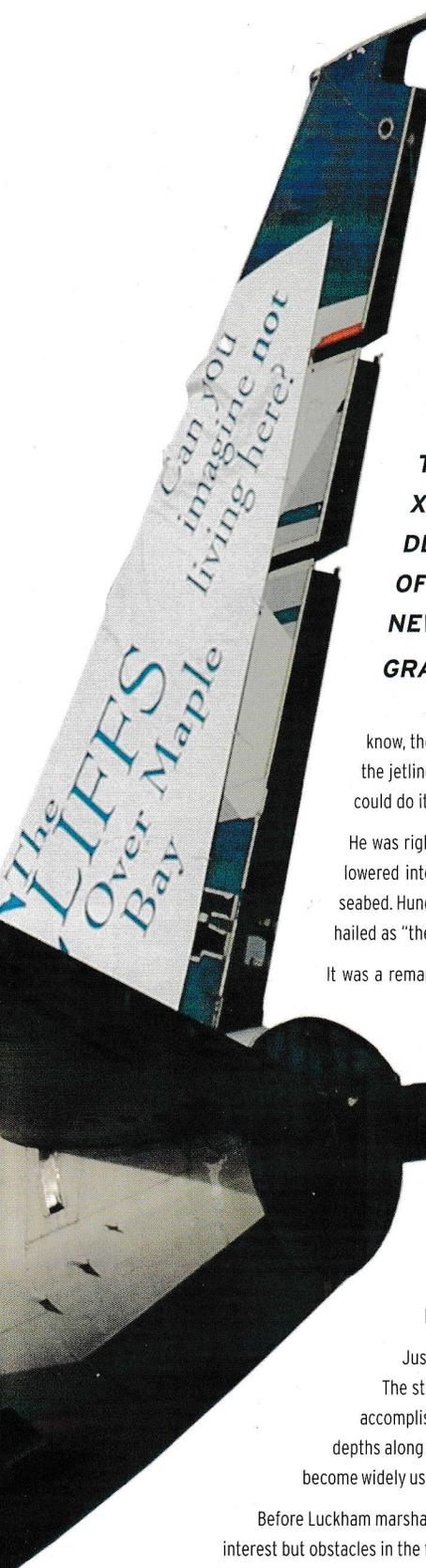




Photos courtesy Terry McDaniel





XIHWU REEF

BY PETER GOLDING

THERE'S SOMETHING NEW ON THE WEST COAST. IT'S A BOEING 737 CALLED XIHWU REEF - THAT'S KEY'QUOT - AND IT MEANS RED SEA URCHIN. IN THE DEEP OF THE 'SALISH SEA' THIS UNUSUAL JET-TO-REEF IS A MEETING PLACE OF TRADITIONAL CULTURE AND MODERN TECHNOLOGY AND IT'S A RIPPIN' NEW DIVE SITE WAITING FOR YOU TO EXPLORE OFF VANCOUVER ISLAND. GRAB YOUR GEAR AND HEAD FOR CHEMAINUS!

I'd been talking with Peter Luckham about the picture perfect 'sink' of a 737-200 the Saturday before when he paused and said: "You know, there were two really joyous moments for me that weekend." The first had come in the pre-dawn of the big day as a 200-ton crane lifted the jetliner from its Thetis Island staging area onto a barge floated in on the high tide. "In the moment she winged over our heads I knew we could do it," he said, "that our plan would succeed."

He was right. The rest of the day went off without a hitch. Organizers cheered and breathed a well-deserved sigh of relief as the airframe was lowered into Stuart Channel in what they believe is the first controlled sink of a jetliner fitted with custom-built pedestal to cradle it off the seabed. Hundreds of spectators on shore and aboard a flotilla of 180 boats or more were delighted by the spectacle that a local newspaper headline hailed as "the event of the century for Chemainus."

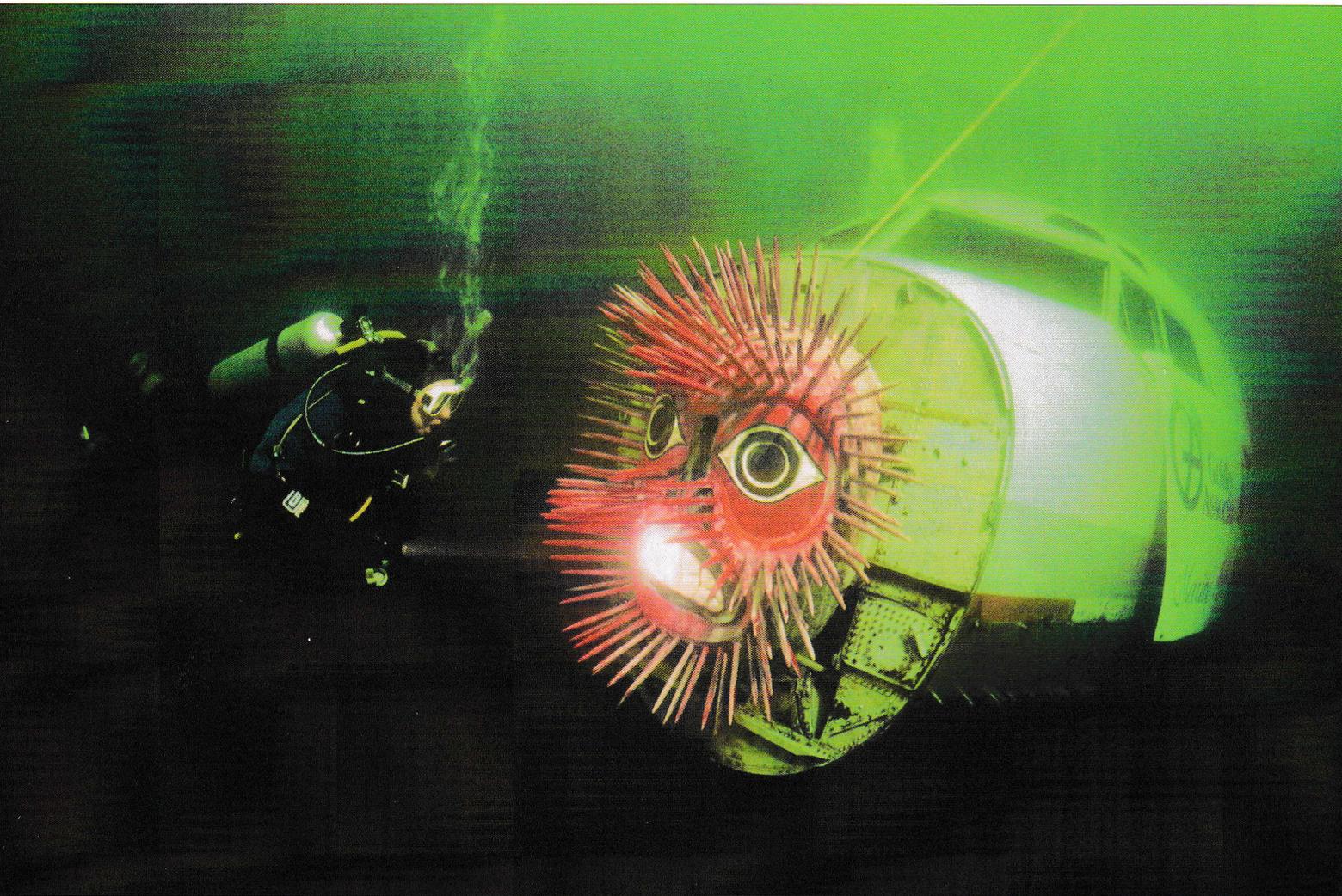
It was a remarkable day to be sure. For the Artificial Reef Society of British Columbia (ARSBC) it marked successful completion of their seventh

project. Luckham shares in the success as project sponsor and principal fundraiser. A Vancouver Island resident and diver, he says of his Chemainus area neighbourhood, "the community completely embraced this project." Partnered with the Society his grassroots effectiveness proved pivotal to the sinking of the aircraft and not the project, whose flight path up to that point had been buffeted with more than its share of turbulence.

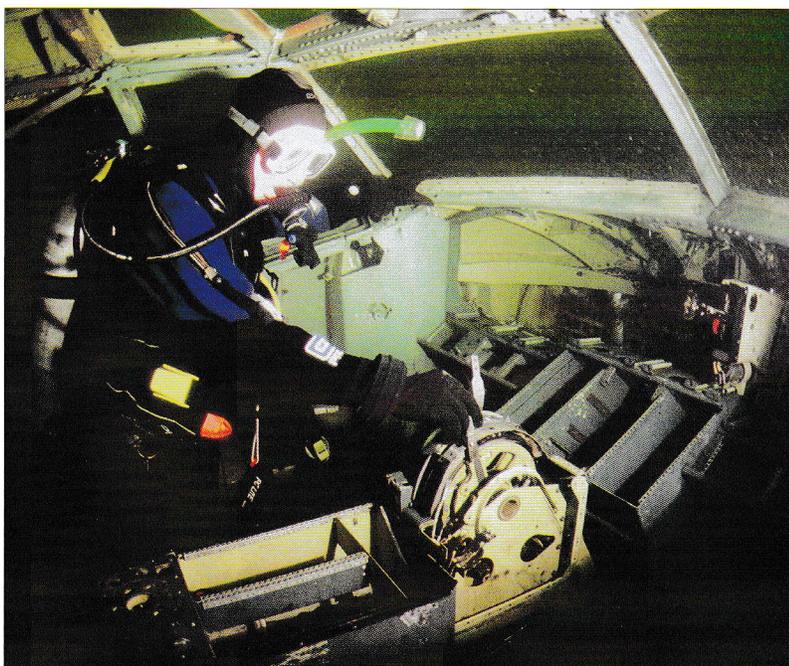
Just over three years earlier, in the fall of 2002, the ARSBC was offered the 737, sold by Air Canada to Memphis-based Qwest Air Parts. The stripped down airframe, minus landing gear, engines - most anything saleable - presented a low cost opportunity and challenge to the accomplished organization. By that time, the volunteer group had, in its 12-year history, consigned six sizeable merchant and naval ships to diveable depths along the B.C. coast. In the process it had been credited by many with writing the 'how to' book on wrecks to reefs. Their Canadian model has become widely used by artificial reef organizations the world over. Against this background the Society embraced the challenge of sinking its first airship.

Before Luckham marshaled the support of the Chemainus region, three well-meaning groups - in Vancouver, Sechelt and Comox - in that order, had expressed interest but obstacles in the form of disagreements, funding shortfalls, (unfounded) environmental concerns and disapproving regional authorities, thwarted their efforts. By 2004 the 737 was losing altitude fast.

"We had to ask ourselves if we had the energy to continue," Society President Howie Robins said. "It would have been easy for us to scrap the project" and it might have come to that



■ ABOVE: Ken Sharp checks out the new artificial reef and its striking sea urchin mask. BELOW LEFT: Inside the passenger cabin area of the fuselage. BELOW RIGHT: The cockpit without controls and avionics is still an interesting area to explore. Photos: Courtesy Neil McDaniel. OPPOSITE PAGE: Peter Luckham, a Chemainus area diver partnered with the Artificial Reef Society of British Columbia to make the 737 project a reality. Photo: Courtesy Peter Golding



had Luckham not entered the picture. "He approached us with assurances that he could effectively communicate the benefits of the project to the First Nations people in his area and raise the money from the community."

Luckham lived up to the promise. An information systems analyst, he works for the Cowichan Tribes and had to solicit support from the five member nations of the Hul'qumi'num Treaty group in the region. That's pronounced (hulk-a-me-num). He said while the project was for them a low priority in the overall scheme of things it still had to be considered in the broad context of their treaty negotiations, especially (in this case) as they apply to water-related activities such as fishing rights. Despite his inside track at Cowichan, working with the Elders, Chiefs and Councils and individual band members proved a challenge and an invaluable learning experience for Luckham who said the good faith negotiations resulted in a "landmark agreement."

ARSBC President Robins acknowledges this saying "it's the first time we've actually had First Nations signatories endorsing a reef project."

The Hul'qumi'num treaty group is comprised of the Lyackson, Halat, Chemainus and Penelekut First Nations and the Cowichan Tribes. Luckham said he is grateful to all these groups whose support was essential to the success of the project.

In a gesture of respect, the aircraft has been named Xihwu Reef (pronounced key'quot), meaning Red Sea Urchin and, well, a dive here is revealing. This marine animal is a traditional delicacy and one of the many inhabitants of the natural world that figure prominently in the spiritual beliefs and legends of First Nations people living on the B.C. coast. Over the years this food source has become scarce due to over fishing and pollution. The artificial reef is now part of the habitat rehabilitation effort, a symbol of renewal and respect.

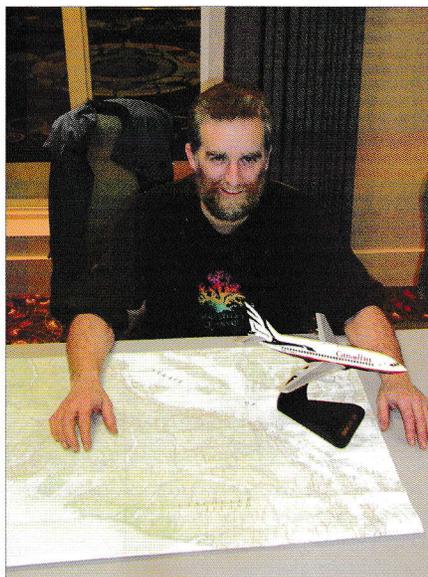
A welcoming plaque on the reef, inscribed in Hul'qumi'num and English says: "Thank you, ancestors, that were here on this land and you that are here."

If a dive on Xihwu Reef is not unusual enough because sunken jetliners are relatively new, then the striking red sea urchin mask in place of the aircraft's nosecone is sure to delight. Measuring almost three feet (about 1m) across and four feet (1.2m) high, it was created by Cowichan artist Doug August and no matter how you see it, this face gets in your face with the familiar big eyes motif of First Nations artwork and spines that leave no room to misunderstand the imagery. Penelekut artist Gus Modeste has also contributed to Xihwu Reef, carving a transformation mask of sea urchin to human, that has a killer whale emerging from its mouth. This carving sits atop a marker buoy - a floating totem - greeting divers at the site.

Just shy of 90 feet (27m) below the aircraft sits level on her alloy cradle about 10 feet (3m) off a flat, silty bottom.

The airframe was carefully prepared by ARSBC volunteers to allow easy penetration by divers through several passenger and cargo doorways. Inside, a hole in the main deck allows divers to swim between the cargo hold and the passenger cabin. Depth here is about 70 to 80 feet (21 to 24m). The fuselage is 100 feet (30m) in length and with all its windows, fairly bright inside. At opposite ends, the cockpit and aft galley area are accessible. Luckham notes the reef is great for overhead training. Wingspan of this early model 737 is 93 feet (28m). Boeing rolled out the first 100 and 200 models of this popular short to medium range jet in 1965. Latest generation is the 737-900ER (extended range).

Although sporting the livery of Canadian Airlines International (CAI), the old 737 in its final years served in the Air Canada fleet, CAI having been swallowed up by Maplelot some years before. That it was incapable of flight was obvious, the absence of engines being one of the more prominent clues. Still, waiting its day



on the shore of Gwen and Don Hunter's Thetis Island property, it managed to catch some people off guard. As island postmistress Gwen heard it all. One boater told her "some guy had his giant jet parked on the beach." Another complained of the opulent 'Lifestyles of the Rich and Famous' being imposed by wealthy Americans buying up the B.C. coast!

When Chemainus resident Charles Ayers got wind of the project he took an immediate interest. A retired airline pilot who began flying jetliners for Canadian Pacific Airlines in 1968, he had only to check his log books to confirm a hunch that he had, in fact, flown this 737 - registration C-GBPW - on a couple of occasions dating back to the late 1980s. Captain Ayers immediately got involved, donating \$500, which led to one of Luckham's innovative fund-raising efforts called 'The Captain's Challenge,' in which small businesses matched Ayers contribution. Net

result: close to 14 grand. The amount is just shy of the \$15,000 target. (There's room for two more challengers on the plaque to be placed on the panel!) Ayers, whose home overlooks the reef site, recalls looking out his window after first light on sink day - January 14 - to see the aircraft already on location. There it commanded attention in the unexpected morning sunlight, drawing an ever expanding crowd to witness the midday liftoff and later, at depth, to welcome its first passengers. Call it karma; the little aircraft that spent three decades flying people to places had become the destination.

The site was chosen for its depth, minimal current and because it will support the ecosystem. "Our other projects are the evidence, the proof that artificial reefs are beneficial," Robins said. "We've documented the changes that show wreck habitat life cycles mimic those of natural reefs." To port of the sunken airframe is a small reef that's home to a variety of fish and invertebrates. The starboard wing reaches out over the edge of a drop-off that descends about 200 feet (61m), a cloud sponge experience for technical divers who can enjoy the wreck during the same dive. On the opposite side of Stuart Channel an old fish boat wreck is "completely covered in marine life" five years after her sinking, Luckham says. "We're hopeful significant growth will take hold on the airframe in three to five years."

But no one is waiting around for that to happen. Within hours of her touchdown on the seabed a boarding announcement welcomed the first wave of divers to explore Xihwu Reef, which extends underwater the artistic spirit of Chemainus, a town known for its many open-air murals and live theatre. After these dives, Luckham said, "there were lots of wide eyes and even wider grins." It's a good sign and residents are hopeful this enthusiasm will spread and their community will become a regular stop for scuba divers living on Vancouver Island and for those visiting.

The entire region supported the reef project, Luckham said, "and the community effort really paid off." When the sold out fund-raising dinner and dance wrapped up the final day, the \$66,000 cost had been met. Government grants and private donations, big and small, added up over more than a year of effort put in by Luckham, the ARSBC and many others to make this new dive attraction a success, financially and otherwise, even before the first full day of diving got underway on Sunday morning.

That knowledge was especially comforting to Peter and his wife, Simone, allowing them a restful sleep after the long day. They were guests in a nearby 'Chemainus Bay' bed and breakfast overlooking the reef site and it was there the next day, Peter said, that he experienced his second moment of joy that weekend: "We lingered over a sumptuous champagne breakfast watching dive boats come and go from the site all morning. That's what it's all about," he said, "that makes it all worthwhile." ♦

IF YOU GO

Chemainus is just south of the mid Vancouver Island city of Nanaimo and about a half hour by road from the B.C. ferry terminal in that city.

There are many bed and breakfast facilities in and around Chemainus. Off-season for these accommodations is during winter when B.C. water visibility is best and divers are on the move.

Chemainus is home to the new Festival Chemainus Best Western, a 75-room hotel featuring rooms equipped with kitchenettes and living room areas.

www.divemaster.ca/boeing/placestostay.htm

TOURISM VANCOUVER ISLAND

www.islands.bc.ca

TOURISM COWICHAN

1-888-303-3337 www.visit.cowichan.net

CHEMAINUS TOURISM OFFICE

www.chemainus.bc.ca 1-250-246-3944

DIVING OPERATIONS

49th Parallel Dive Charters - www.divemaster.ca

Gulf Island Explorers - www.gulfislandexplorers.com/diving_charters.htm

Island Dive - www.divemaster.ca/islanddive.htm

SINKING WINGS ON TV



Amid the ups and downs of landing its first airplane reef off the west coast, the Artificial Reef Society of B.C. (ARSBC) caught the attention of Christine Nielsen, a former CTV *W5* correspondent hired as series producer of the Discovery Channel's hit series *Mega Builders*. A B.C. native and diver, Nielsen knew the work of the Society, had dived on the *Mackenzie* and *Chaudiere* and was intrigued by the new project and its unique challenges.

"I'm always asking myself 'what haven't people seen before,'" she said. "We look for a story with solid science and the people who are willing to give us access." The 737 project offered both so they - Toronto-based Barna-Alper Productions Inc. - dived in to document the story, now in post production as *Sinking Wings*. The company produces documentary and dramatic content for Discovery Channel.

Mega Builders evolved out of another Discovery Channel series called *Frontiers of Construction*. "It had a wonderfully long run," Nielsen said of the forerunner that paved the way for *Mega Builders* to become a hit after only one season.

"I think what appeals to viewers is that we get right into a project and the lives of the people who are making it happen, recording the drama, the highs and lows, the trials and tribulations so that viewers see the real thing and get a payoff." In today's TV world, she stressed, "we must give the viewer a payoff."

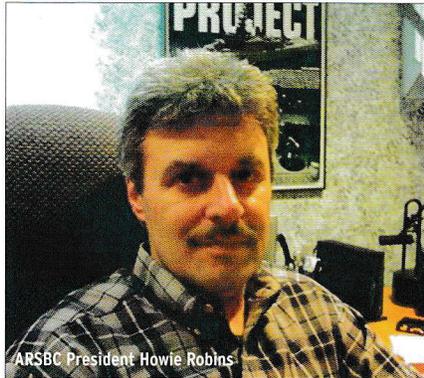
Sinking Wings Director Adrian Callender agrees: "The story must have drama and the people must be interesting." He said Howard (Robins), Tex (Enemark) and Peter (Luckham) were all smart, interesting guys engaged in a "unique experiment" that makes a compelling episode of *Mega Builders*, one that has captured the interest of media and the public. Nielsen adds, "the guys who made this a reality are pretty persistent." Howard Robins is President of the ARSBC, Tex Enemark is Past President and Government

Liaison and Chemainus, B.C., area resident Peter Luckham partnered with the Society to sink the airframe in that locale. All of the principals acknowledge project success was a team effort involving many volunteers and countless hours of work.

Callender said shooting this story posed challenges. "Generally there's one director of photography but sink day demanded multiple cameras to capture all the action." Shot in high definition video, the day's events were recorded from an airborne camera aboard a helicopter, from a camera on the barge from which the aircraft was hoisted, another roving camera and an underwater camera in the hands of Neil McDaniel of B.C.-based Wet Film Productions. Also recording were several cameras fixed in and on the aircraft. Two inside, one wing-mounted and there was even a camera-equipped remotely operated vehicle (ROV) courtesy of Roper Resources in Victoria, diving alongside as eyes to help project coordinators accurately 'land' the aircraft on the target site.

Over 30 hours of images will be edited to less than one for the finished production that will air on Discovery Channel in its new season beginning in September. *Sinking Wings* is the show's working title, one that might change before it's 'in the can.' Nielsen said it would most likely be broadcast before December. Currently *Mega Builders* is broadcast Thursday's at 9 p.m. Discovery Channel programming is regularly rebroadcast. Further information: www.discoverychannel.ca 🍀

WINGIN' IT



How long will it take the sea to consume an aluminum aircraft? All their experience sinking steel ships wasn't going to answer that question. So, the Artificial Reef Society of British Columbia (ARSBC) found itself writing a new chapter in their wrecks to reefs handbook.

"Sinking an aircraft presented an entirely new dynamic, we had to develop a completely new set of questions," Society President Howie Robins told me. He's a founding member and along with his colleagues they've been up to their bollocks sinking ships on the west coast for the past 15 years. But airships, that's another story.

"We had one shot at this and it was important to get it right the first time," Robins said. Logically, their research began with people who know something about aluminum - Alcan Inc. Turns out there are different types of aluminum, each with a code that identifies its unique mix of alloys. To understand how each reacts in saltwater over time, the company had, conveniently for the ARSBC, conducted a decade long study in which their products had been submerged in the waters of the Atlantic, Pacific and Arctic oceans. Bottom line answer to the big question: the airframe would experience little more than minor pitting in its first decade off the B.C. coast.

"By then we're expecting it will be covered with marine growth," Robins said, also noting that many submerged WWII aircraft with less resistant alloy frames, remain structurally intact today.

Other considerations were location and depth. In concert with project sponsor Peter Luckham, who operates 49th Parallel

Dive Charters in the Chemainus region, the sink site was chosen because the 90-foot depth distanced it from surface surge and current is negligible in that location. Lessons learned from the Spirit of Miami project (the sinking of a jetliner off Florida) were significant in site location and anchoring method.

Fixing the airframe on a cradle is a "uniquely Canadian idea," according to Robins who says the inspiration came from childhood airplane models that were typically mounted on a pedestal. Without its landing gear a support structure was deemed necessary: metal was ruled out to avoid electrolysis with the alloy airframe and mating the aircraft with a heavier (e.g. concrete) base placed on the bottom was too problematic. An attached cradle made of the same aluminum as the airframe emerged as the solution. In fact, the 15-ton structure sits on four pedestals or legs, two under the main fuselage and one each beneath either wing. They are all within 50 feet (12m) of each other, providing maximum stability and raising the airframe about 10 feet (3m) off the ocean floor.

"The cradle offers big benefits," Robins said. Environmental impact is negligible because its footprint is small on the ocean floor, significantly reducing any smothering. As well, he says, divers are able to swim beneath (all around) the new reef, allowing for a more enjoyable experience and the pedestal system frees up more surface area on which marine life can grow over time. 🍀

IN MEMORIUM



The 737 aircraft sunk off Chemainus is a memorial. It is officially called Xihwu Reef (see main story) in respect of local First Nations and their support of the project. A plaque on the new artificial reef pays tribute to their ancestors. The site also honours Harold and Leslie Rae, young Chemainus men who gave their lives flying Lancaster bombers during WWII. Prior to the sinking on January 14, a remembrance service was held on the water aboard BC Ferry *MV Kahloke*. An honour guard comprised of WWII veterans (members of the local Legion), RCMP officers, Air Cadets and a pipe band marched aboard and paid tribute to the lost pilots in a ceremony that culminated with a wreath being tossed into the sea by family member Jim Curtis. A plaque on the sunken aircraft also remembers the Rae brothers. Photos Top: Peter Golding. Bottom: Peter Luckham. 🍀