

The Tourism Aspects of Artificial Reefs: The Nine Fundamental Lessons

Tex Enemark

Vice-President

Artificial Reef Society of British Columbia

BACKGROUND

When the Artificial Reef Society of British Columbia began to consider sinking a couple of ships in BC's waters 11 years ago, we gave no thought to where all this would lead. Nor, indeed, did we grasp what the tourism implications of our activity would be, in the broadest sense. We were just a group of divers with no commercial connection to diving, and we thought other divers would enjoy diving a sunken ship. It was a simple and naïve beginning.

The Provincial Government's tourism department had undertaken a study of the possible impacts of an artificial reef program on scuba diving tourism in BC¹ in 1989 and its conclusions, referred to later, were optimistic. However, because of this Report, when we acquired our first ship, the 185 foot long freighter *GB Church* in 1991, there was a modest amount of money--\$15,000--available from the Provincial government to help with the sinking, which was done, incidentally, inside a Provincial Marine Park.

The Province's Parks Department had previously sunk a World War II wooden mine--sweeper. It had not been properly prepared as an artificial reef and it was not anticipated that divers would inevitably penetrate the vessel. This led to a death and numerous other bad experiences. Needless to say, deaths are bad for the scuba dive tourism business. But this early and tragic experiment taught us a number of valuable lessons in the preparation of ships as artificial reefs.

EARLY FINANCIAL PROBLEMS

We sank the *Church* in August of 1991 and the next month acquired the first of five destroyers – *HMCS Chaudiere* – a sister ship to *HMCS Yukon*. The Provincial government of the day had assured us that they would help underwrite the costs of preparing the ship --CAN\$110,000 – but we didn't get this assurance in writing. And, just as we acquired the *Chaudiere*, there was a Provincial election, resulting in a change of government. The new government expressed no interest in what we were doing, and several of its members actively tried to prevent the creation of an artificial reef program in BC.

The lack of any financial support from the government was an enormous problem, but that we had no financial support to speak of from the scuba dive industry, or from the tourism industry, made it worse. There was great doubt in the dive industry that we could in fact succeed in preparing and sinking such a large ship. Ultimately, over 11 months, 110 volunteers—none of whom cared who got the credit--did the task of preparing the ship with a combination of ingenuity, scrounging, much very hard and dirty work, and enormous dedication.

We had originally planned to sink the ship near Nanaimo, on Vancouver Island and, while there was support from Nanaimo scuba divers, there was no help from the tourism community. Thus, when we were faced with unfair attacks in the media about our plans we had to look elsewhere for a site.

A small community of about 15,000 people on the mainland named Sechelt, approached us asking us to sink the *Chaudiere* near them and we indicated that we were in a critical need of funding. They raised nearly CAN \$30,000 in three weeks. Subsequently, people have asked me how such a small community managed to produce that kind of money in such a short period of time. It has been my little joke that the

fund--raiser carried a gun. This is an allusion to the fact that the person who did the fundraising, as well as being an avid scuba diver, was a constable in the Royal Canadian Mounted Police. But the fact is that the *Chaudiere* did become a sort of 'community project' for a few months.

The substantial media coverage of the ship's sinking very quickly generated broad curiosity amongst divers in the US Pacific Northwest. We began to see large numbers of divers from Washington, Oregon, and Idaho trekking up to Sechelt to dive the artificial reef. A year after the ship was sunk, and to our utter astonishment, the *Chaudiere* was listed in 'Rodale's Scuba Diving' magazine as one of the top twenty recreational wreck dives in the world. That brought more traffic. We began to see that the media attention could have a very positive effect on promoting scuba dive tourism in general in BC, and in helping us gain political support for our efforts.

THE BRITISH COLUMBIA TOURISM STUDY

I referred earlier to a study of the possible impacts of an artificial reef program on dive tourism. It was very helpful, despite there being virtually no quantitative data on the subject. It pointed out the demographics of divers and the overwhelming interest, as expressed in dive magazine studies, that divers had in wrecks. It projected increases in the business of dive industry interviewees of between 20 and 50 percent. The dive shops interviewed represented 7900 diver days, so this would represent a large number. And it pointed out that the benefits were broadly shared among retail sales, equipment manufacturing and distribution, diving services and hospitality services. It estimated that, of dive tourist expenditures, 38% went to the dive industry while 36% went to food, accommodation, and entertainment.

There was a projection of an increase of 9,780 room nights, and a total revenue increase of CAN\$ 1.03 million annually, from a single artificial reef. A separate 1986 tourism study estimated the value of dive tourism for the whole Province at CAN\$2.3 million, and 48,000 room nights, so you can see the high expectations the industry had of an artificial reef. The basic flaw in the study was that it failed to consider how the business opportunities created by an artificial reef would be realised. That is, a reef will only be a useful draw if the dive and tourism industries are out promoting it. This aspect of artificial reef stimulation of tourism was not addressed.

Keep in mind that, as compared with other places, BC and its communities are small. In 1989 there were about 25,000 active divers in the Province which, at that time, had a population of about 2.5 million. The dive industry was also small, with perhaps only five charter vessels operating, perhaps a dozen weekend day charters, and about 9 dive shops in the largest city, Vancouver, which had a regional population of less than 1.5 million. Most of the diving was done by residents—63%, with only 8% of dives being done by divers from the Pacific Northwest of the US, representing a population base about 3 times that of BC.

The Report offered good advice concerning diver safety, reef accessibility, and the structure of the dive tourism industry, but it totally ignored the tourism—dive industry interface and the need for on—going promotion of the industry.

EARLY RESULTS AND EARLY LESSONS

Prior to our sinking the *Chaudiere*, there was one dive charter operator in Sechelt —Kal Helyar of Porpoise Bay Charters---and his was a small operation as he had been in business only eighteen months. He guessed the value of the *Chaudiere* to his business and was extraordinarily generous with his support of this and our other projects in every way, before the sinking and after. However, with the sinking, very quickly about six full time charter operators went into business, with others operating only on weekends. None of these, as I recall, had helped finance the sinking or do volunteer work on the ship. Initially, at least, Helyar suffered a loss of business rather than a gain, because of the burst in competition in servicing the *Chaudiere* over the next year or two. Ultimately, however, most of the other operators dropped out because these operators seemed to believe that business would magically come without any sales activity.

Helyar kept marketing and today Porpoise Bay Charters has a near monopoly on servicing the *Chaudiere* and earns a good living off that ship. (See www.porpoisebaycharters.com)

However, we made an error in collecting pledges, rather than cash, from supporters in Sechelt. It is worth noting that the business that has probably made more off the *Chaudiere* than anybody else has never met its \$3000 pledge commitment. In fact, the Lighthouse Pub may well have made as much money selling food and liquor to divers as all the dive shops, motels and charter operators combined have earned selling dive-related services.

The Lighthouse Pub taught us our first two lessons in dealing with the tourism industry. First, they are often happy to accept the benefits from dive industry promotional activity, but reluctant to help cover the costs. Second, get the money up front.

A third lesson was that, when you sink a ship, it upsets the dive tourism status quo. Previous to the *Chaudiere* the community of Sechelt was not a dive destination. The major center north of Vancouver was Powell River, 90 minutes and one more ferry ride away. The *Chaudiere* did very serious harm to that community as a dive destination, although there were other factors in its decline.

DEVELOPING A PHILOSOPHY FOR ARTIFICIAL REEF CREATION

Over the next couple of years, the ARSBC re-thought its whole strategy. We concluded a number of things that have become the bedrock of our operating philosophy.

One, that our first priority at all times had to be diver safety. There could be no short cuts in the execution of that prime directive. There have now been tens of thousands of dives on our five ships and the vast majority of divers were not qualified wreck divers. With no deaths or even serious injuries, and with a much lower than expected incidence of decompression sickness, we have confidence that we have met that objective. As well, by opening up a ship with hundreds of access holes, we created something that was more interesting, more hospitable to marine life, and which would take many more dives to explore and photograph.

Two, we concluded that characterising artificial reef creation as “doing something for the environment”, was a non-starter and one self—styled “environmental organisation” took the position that an artificial reef was a hindrance and not a help to the environment. While we had lots of evidence to the contrary, we found ourselves dealing mostly with stupid and uninformed people who chose to ignore the science and common sense. In any event, we chose simply not to make a pro—environmental argument. Justifying artificial reefs as a stimulus to scuba dive tourism seemed to us a more fruitful course of action and we tried our best to articulate that vision with the saying, “sink it and they will come—the divers come, and the fish come”. However, it turned out not to be as simple and straightforward as we had thought, and my observations in this regard form the remainder of my remarks.

Three, we came to have the firm belief that we could no longer operate on a financial prayer. Rather, we set as a principle that there had to be a firm financial plan for every ship, and we had to be able to have “the money in the bank” before we started any individual project. This is where the interface with the tourism industry takes place.

Four, that the local community that was to benefit from an artificial reef had to take a lot of the financial and organisational responsibility for making it happen.

THE FINANCING OF ARTIFICIAL REEF CREATION IN BC---1994—2000

In the early 1990’s, we were blessed by the fact that the Government of Canada was retiring a whole class of ships in a very few years. In 1994, I was able to negotiate an option to buy four destroyers – the *Yukon* and her sister ships *Mackenzie*, *Columbia*, and *Saskatchewan* at something like market price for the ships—CAN\$200,000 for one and CAN\$150,000 for the others. Of course, the ARSBC is a non-profit

organisation that had no money, and no source of money. I was then able to negotiate a long term, interest-free loan from a Canadian Government organisation that had a mandate to broaden the regional economic base, Western Economic Diversification. This provided us with sufficient funds, along with a contribution from the local community, to purchase the *Mackenzie*. With the money from the scrap from that ship we were able to purchase the next ship, and so on. The idea was that, with the scrap from the final ship, we would pay back the loan, which we will do in 2001.

However, on the basis of the *Chaudiere* experience we knew that there were about 8,000 person-hours of work in the cleaning and preparation of one of these ships for sinking if we were going to meet Environment Canada requirements, scrap removal objectives, and our own safety standards. This called for an investment of about CAN\$300,000 in each ship for towing, tools, paid labour, supervision, and a host of other related costs. We were also very lucky at this time to benefit from a Federal Government training program that provided us with a certain amount of “free” labour, reducing our cash costs by about a quarter. As well, the government of British Columbia had changed its attitude and was prepared to provide us with substantial financial help.

We were thus able to sink the *Mackenzie*, near Sidney and to the *GB Church*, off Vancouver Island in September 1995. Nearby Victoria, with a population of about 200,000 people, has a vibrant diver community and had five dive shops in the area. The local supporters of the project were required to get signatures in blood from all of the politicians and other community leaders, and we held information meetings to answer questions about our plans. Because the artificial reef was going to bring significant financial benefits to the community, we asked the community to support it financially. With the *Mackenzie* project, the target was CAN\$40,000, much of it coming from one large tourism operator and two dive industry manufacturers. Very little came from the broader tourism community.

THE LACK OF FINANCIAL SUPPORT FROM THE TOURISM INDUSTRY

The surprise we had was that there was almost no financial support from the local hotels/motels and scuba shops and operators who would benefit most from an influx of divers interested in the *Mackenzie*, as they had benefited from the *GB Church* four years earlier. Two dive shops in the community contributed only CAN\$500 each, and the others, nothing. Only one charter operator, I believe—Kevin Vankleemput of Shallon Charters—made any contribution.

I say ‘surprise’ because the day we sank the *GB Church* four years earlier, I was given a cheque for \$1000 by the owner of a local bookstore—a bookstore, for heaven’s sake—Clive Tanner. I was astounded. Some months later I asked him why he had been such an enthusiastic supporter of the *Church* project. He told me that they got their money back in about four months: they started carrying books and maps relating to scuba diving, and kept track of their sales. He was a sufficiently astute business man to understand this up front, sufficiently insightful to understand that these projects do not happen by magic, and sufficiently generous to support it himself, understanding that these projects require the support of the broadest part of the community.

Thus, after 4 years of benefit from the *Church*, when we found that the hospitality industry, in particular, was so lacking in support, we were extremely disappointed.

It should be noted that the last three sinkings were major Canada-wide media events and large community celebrations. The *Mackenzie* sinking drew together the largest gathering of pleasure boats in one place in the history of our Province—about 1200 vessels—if you count the canoes and wind surfers. These huge events have filled every hotel and motel room in town, and most of the bars and restaurants. In most cases, most of the dive charter operators did very well that weekend, as well. In terms, then, of getting tourism industry support for the project, this creates a conundrum: almost anything the tourism industry contributes to the project during the sinking event comes right out of their pockets—as they see it—during a weekend that promises to be very good for business.

With the sinking of the *Mackenzie*, we received our fourth lesson in the matter of tourism and artificial reefs. By and large, we discovered, the dive stores and charter operators were not interested in working together to promote the artificial reef as a dive destination. The local dive community in Victoria – the charter operators – with a single exception – and the dive shops did not think of themselves of being part of the tourism industry. They were entirely oriented to serving the needs of resident divers. After the sinking, efforts were made by a couple of people to form a dive tourism association in the area to promote area diving to divers in Washington and Oregon, and on the British Columbia mainland. It received little support. To help out, the ARSBC thought it would be useful to produce its own pamphlet on the *Mackenzie* dealing with issues of current and penetration. We produced it on plain white paper and left a place for the local dive shop or charter operators to insert their own names and inexpensively expand their customer base. The idea was that we provided the art--work free and they would simply photocopy these pamphlets at low cost for their own customers. Within a couple of months the dive shops had lost the master copies we had sent them and I believe none of them ever entered into a program of distributing these pamphlets. (See Appendix A)

SUPPORT FROM THE DIVE EQUIPMENT MANUFACTURERS

The next lesson—number five--that we got in tourism, artificial reefs, and fund raising was salutary, because we always thought that the dive equipment manufacturers would be generous supporters of our cause. Indeed, with the *Mackenzie* that was the case. Unfortunately, the money that two contributors put into our project was then deducted from their advertising budgets that otherwise would have gone to Canada's national scuba dive magazine – “Diver”. We then had to reconsider what we were accomplishing if we had a successful artificial reef program but at the cost of the destruction of Canada's national dive magazine. Subsequently, we did not make any concentrated approach to the dive equipment manufacturers in Canada for cash contributions, although we have asked for equipment to raffle off and most of them have been generous.

THE NEED FOR SUSTAINED PROMOTIONAL COOPERATION

The ARSBC was, incidentally, able to obtain CAN\$125,000 from the Province to use to promote dive tourism generally. This was somewhat outside our bailiwick, but we set up an advisory committee from the dive charter operators and judiciously doled the money out, making it last about two years. Generally, it was an offer to the industry of “fifty—cent dollars”. That is, the fund would cost share advertising and promotional activity. Only a small proportion of the dive industry participated, however. It became very clear that a sustained promotional campaign was needed for diving as much as for skiing or any other tourism activity. Unfortunately, beyond the money the ARSBC pried out of the Government in 1995, very little more has been forthcoming.

Now, as with the *Chaudiere*, the *Mackenzie* generated an enormous amount of initial enthusiasm. There were other communities in the Province that wanted ships, and we were able to say to them, “Go and raise some local money, put together a local committee and start working, and by the time you have the money raised, we will have a ship ready for you”. On that basis, the next community – Campbell River – was able to raise the \$50,000 we targeted there in short order. We were able to access the federal and provincial tourism industry infrastructure funding programs before we took delivery of the ship. And, while the project to sink *HMCS Columbia* in Campbell River went very well, we were about to learn lesson six in scuba dive tourism and artificial reefs.

The community of Campbell River is also on Vancouver Island, about a two--hour ferry ride and a ninety-minute drive north of Vancouver, and has a population of about 25,000. For the 99% of you who have never heard of the place, it advertises itself as the world centre for the sport fishing of salmon, as indeed it is. It is a community that, more than most in our Province, understands the importance of the tourism industry. One reason we had for taking the *Columbia* to Campbell River—after our disappointment with

Victoria-- was our presumption that it was a community that would really get behind the project, would advertise it, would promote it, and would use it to best advantage. The diving there is truly spectacular because of some really huge tidal currents. This does, however, limit the amount of safe diving time to about half an hour of "slack tide" every six hours. We postulated that the dive tourism industry, therefore, had not reached its potential because most people do not want to sit around for six hours between dives. Thus, an artificial reef in Campbell River would be particularly useful because it would provide for a none tide—dependent dive.

There were two dive shops. One refused to participate in any way in the Columbia project. The other shop was owned by four partners with business interests extending far beyond diving. One owned a motel, and all of them understood tourism promotion. They planned to invest in a charter operation once the ship was down. They would therefore be able to offer an integrated service to divers--accommodation, food, liquor, and diving services. And, they planned on taking a lead in community promotion of the *Columbia*. Unfortunately, there was a serious falling out amongst the partners within a couple of months after the sinking of the *Columbia*, and the business folded. Since that time, no one has emerged from the community who has been prepared to take on the promoting of the artificial reef as a dive destination.

As a result of inadequate sales effort, the *Columbia* is an underused artificial reef. Rather than being dived by, as we expected, 5,000 divers a year, I would be surprised if it served more than 500 divers a year.

So lesson six is that a long term dive tourism promotion plan, and broad tourism community support, from more than the dive industry, is needed to maximise the return on the investment in an artificial reef.

Nothing could reinforce the importance of lesson six more than the sinking project of our fourth destroyer, and our fifth ship, *HMCS Saskatchewan*, which we planned to sink near Nanaimo in June 1997. Now, Nanaimo has the benefit of being the headquarters for many of BC's charter operators. Hence some of them understood the importance of tourism to their businesses, and were very keen to have an artificial reef. There is, also, excellent diving in the area. It is very central—halfway between Victoria and Campbell River--and is easily accessible by ferry and car, four hours from Seattle.

By this time, however, the Provincial government program that provided financial assistance for the *Columbia* and the *Mackenzie* had terminated. We had acquired the *Saskatchewan*, and made the commitment to Nanaimo, on the basis of our understanding that government funding would be available. In the absence of this funding, we found ourselves about \$130,000 short, plus we had expected \$50,000 from the community of Nanaimo. We made it clear that we were not prepared—indeed not financially able--to undertake the preparation of the ship until the people who wanted it – and who would benefit from it – were prepared to underwrite the funding for it. Three dive shops in Nanaimo co--signed a note for \$120,000. On top of that, funds that had been raised previously were committed. We sank the *Saskatchewan* in June of 1997.

THE TOURISM IMPACT OF THE BC ARTIFICIAL REEF PROGRAM

I want to review what we had accomplished at this point. We had sunk five large ships, three of them in a period of only twenty-one months. Four of the ships, at 366 feet long (110 meters), were as large as any artificial reefs created anywhere in the world, I believe, and there was a growing amount of media and international dive industry attention being paid to our activities. While only two reporters covered the sinking of the *GB Church*, the number of television crews, dive magazine writers, and photographers grew with each sinking. For the *Saskatchewan* we had to develop quite a sophisticated system of serving the needs of the media. We accredited 105 journalists including five television crews, one from Los Angeles and one from Sydney, Australia. It was a real zoo, I can tell you. All of them wanted personal tours, and all wanted to be up close for the sinking. To the great consternation of the explosives crew from the Royal Canadian Mounted Police, many wanted to be on the ship during the last few hours to witness the setting of the explosives. In the spider web of detonation cord, and in semi darkness, the last thing one needs is a

herd of TV cameramen crashing about. Obviously, if someone knocks something loose, and there is a detonation failure, there is a serious problem.

As a result of all this activity, the dive magazine writers came to see the sinkings, then stayed to dive the natural wonders in BC, and wrote enthusiastic stories. There has been an unprecedented amount of attention paid by the magazines to BC, and for this we are thankful. There were several TV programs about our activities. There has been, the numbers tell us, substantial growth in dive tourism, primarily from the US, we believe as a result. I also believe that the reef program, by publicising BC as a dive destination, and by attracting in divers prepared to pay more for a better experience, is moving the industry to upgrade its standards and its accommodation, the quality of live-aboard boats, and so on.

I cannot give you comprehensive numbers. However, the experience of one dive operation in Nanaimo that really works at promoting the business and the *Saskatchewan*, is indicative. Ocean Explorers, owned by Stu Austin and Ian Hall, took the community lead in the *Saskatchewan* project. (See oceanexplorersdiving.com) Their records show that divers now come from all over the world to dive the *Saskatchewan*, split evenly between BC, at 36% and US divers at 35%. Primarily, US divers come from Washington State, at 23%. Interestingly, there was more traffic from Michigan than from Oregon! About 35% of the dives their customers did was on the *Saskatchewan*. Ocean Explorers have seen their business increase, from 1996 (the year before the sinking) to 1999 by 320% and has increased by five employees in only two years.

Using some reasonable assumptions, this operator concluded that, from just their own customer base, the ship added up to CAN\$777,000 in dive tourism value to the community. This is *for just a single operator*. There are several operators in the area. Analysis by the local government suggests that the total tourism value of the *Saskatchewan* is now between CAN\$1.5 million and \$2.5 million annually.

Keep in mind this is a small city with a regional population of about 75,000, with 4 dive stores, up to 11 day—charter boats available, and 984 motel/hotel rooms. Not very big, by any standards. So the artificial reef is significant.

The three dive operators who underwrote the *Saskatchewan* are still working at fund raising to pay down the debt incurred in getting the ship down. The sad fact of the matter is that they took it upon themselves to see the ship placed, but receive little help from those other dive and tourist operators that are benefiting.

Incidentally, the sinking of the *Mackenzie* temporarily took business away from the *Chaudiere*, while the *Saskatchewan* hurt the *Mackenzie*, primarily because much of the dive industry servicing the *Saskatchewan* works hard at promoting it, while there is almost no promotion of the *Mackenzie*. Part of the success of the *Chaudiere* is that she is on her side rather than standing up, is more challenging, and therefore is the darling of the 'teckies'.

A COMMENT ON THE HMAS SWAN IN WESTERN AUSTRALIA

I want to digress momentarily to the HMAS Swan, sunk at the end of 1997 about 130 miles south of Perth, on Australia's west coast, where the numbers are equally encouraging. The ARSBC provided some advice on that project and I went there during ship preparation. The proponents predicted 6000 dives on the ship in the first year. They instituted a system of charging charter operators \$5 for each diver/day, and in fact counted 10,000 diver days in the first year. Perth, with a population of about 1.5 million has—I counted them myself—50 dive stores listed in the phone book. Unfortunately, the diver surcharge proved unmanageable and the owners of the *Swan* now charge charter operators a flat \$2000 per year to tie up to the mooring buoys. In Canada, and I believe in US waters, it is not possible to impose such a regime.

While local fund-raising and the sale of scrap covered some of the AUS\$335,000 cost of preparing the ship (there was no acquisition cost), the local government donated AUS\$100,000, and there is still a small debt.

THE YUKON PROJECT

After all the hard financial lessons we learned with the five previous ships, we broke our “funding in place” rule with respect to the *Yukon*. But because of the option arrangement, we had a very hard ‘buy it or lose it’ decision to make. We concluded that, if we could not use it ourselves, we could either sell it or scrap it. In either event we would do no worse than break even.

We had been talking to people from San Diego prior to the sinking of *Saskatchewan*, and several of them came to the sinking, and said they liked our product. We were then approached by the San Diego Oceans Foundation and asked if we would prepare the *Yukon* to Environment Canada specifications and sell her as a nearly finished artificial reef. We agreed to do this with no up front payment because we assumed that, for a community the size of San Diego, the financing of the *Yukon* would be easy. I cannot go into the details, because I do not know them. However, the tourism industry has apparently not adequately supported the *Yukon* project and this has resulted in a project that has been under-funded from day one.

Now, I am not criticising the SDOF or its people. I know they have worked unstintingly and, in at least a couple of cases, at great personal financial sacrifice to make this happen. I do not think any of us will ever truly appreciate what the *Yukon* project has cost Dick Long, who has worked far beyond reasonable expectation to make this project happen.

Where was the financial support from the people who are going to benefit from this artificial reef? If it were possible to collect just \$10 from every person who will be watching the sinking, the project could be paid for. I expect, given the diver traffic the *Yukon* will generate, that a fee of \$10 from each diver over just the first 2 years would easily cover the cost of the ship and its preparation. But, for some unfathomable reason, those who will derive benefit from these wonderful diving experiences are reluctant to work together to cover the modest costs of their creation, as noted above. In other words, your experience in San Diego is no better than ours in Canada in getting tourism industry support.

I think we all agree that the *Yukon* will have an enormous effect on diving in San Diego. In my view, at least 20,000 divers will visit that ship in the next year. And there may be 30,000 or more. Assuming 20,000 diver days, at US\$200 per day, that is a boost of US\$4 million per year, mostly to the local tourism industry here. That is more than ten times what the project cost! And that’s just year one.

However, I must offer a warning about safety. Given the seasonal nature of diving, I expect you may see 400 divers a day on the ship on summer weekends, creating some potentially dangerous boat traffic problems above the ship. It is important to remember that numerous varieties of boats will be tying up, or queuing for positions, on the mooring buoys. While dive charter vessels have US Coast Guard certified crews, which ostensibly know what they are doing, many divers will have their own boats and little experience in tight manoeuvring in the open ocean. The biggest limitation on using the *Yukon* may be the shortage of charter boats. This may, overnight, draw into the dive charter business a large number of uncertified, fly—by—night, charter operators. Unless steps are taken to police the charter industry, to educate individual boat owners, and to see that there is an adequate number of properly set up mooring buoys, there will be accidents and injuries. As I said earlier, accidents are bad for the dive tourism business.

THE PROBLEM OF “FREE RIDERS” IN DIVE TOURISM

By now, we can all safely assume that artificial reefs stimulate dive tourism. However, a dive tourism industry must exist in order to capitalise on it. And the dive tourism industry includes every single solitary person that encounters the diver when he/she enters the city limits of the community that “owns” the artificial reef. Indeed, ownership is the key issue because all that benefit from the artificial reef have a stake in its success. With this success however, goes the responsibility of shouldering the costs and work associated with the “4 P’s” of the artificial reef: Purchase, Preparation, Placement, and Promotion. In this respect, it is noteworthy that the diving shops and/or charter services receive approximately 40% of what a

dive tourist spends once they cross the city limits. Convincing the remaining beneficiaries of their responsibilities is therefore crucial to the financial feasibility of sinking large ships as artificial reefs.

All the evidence required to back up this statement sits approximately 2000 miles to the north, in British Columbia. That some BC artificial reefs have done as well as predicted in the 1989 British Columbia tourism study, is primarily due to the tourism and dive industries' inability to co-operate and contribute. In our minds, the potential for success demonstrably exists, but we have not yet solved the financial issues associated with the 4 P's of artificial reefs.

The ARSBC is now facing the financial problem of sinking the former *HMCS Cape Breton*, which we bought 15 months ago. She is the last of the World War Two freighters built in Canada of British "North Sands" design, which Americans call "Liberty Ships" and we Canadians refer to as "Park" ships. The hulls are 442 feet six inches long and they displace 10,000 tons—or about three times the size the *Yukon*. While we bought her cheap, she had no scrap to sell, either. Because we have been in a severe cash flow crunch caused by the *Yukon*, much has been necessarily done by volunteer labour. Over 200 diver—volunteers have invested over 2000 hours to date. The projected cash budget is about CAN\$300,000. Without, again, some government funding beyond the \$60,000 provided by the City of Nanaimo, it is not clear, as this is written, how the sinking of this ship is going to be financed. (See www.artificialreefs.bc.ca).

There is, however, a relatively easy way to pay for the sinking of a ship through community teamwork. That is, create an event, a festival, with full tourism—community support. Then sell 500 divers an entertainment, accommodation, and diving package at CAN \$500 each, (US\$350). This would include a barbecue on the Friday night, a front row seat at the sinking, a party Saturday night, the privilege of being one of the first 500 divers to dive the ship, some restaurant discounts, and a limited—edition celebratory T-shirt. This would gross CAN\$250,000. We have test-marketed the concept. It works. It would require the donation of 250 rooms by the accommodation industry, support from the food and beverage industry, and a lot of volunteer participation. It would require that the dive industry work free, and donate their boats to put divers on the ship in the afternoon and next day after the sinking. It requires nothing more than good organisation and a community sense of purpose.

Now, when this proposal was suggested to one un-named community, it was dismissed out of hand by the dive tourism people without careful assessment. It seems clear to me, however, that the problem is that of the "free rider". That is, many of the accommodation suppliers believe the event will happen anyway, they will have a big weekend with sales at bonus prices, and why sacrifice that benefit? Unfortunately, as we found with the other sinkings, too many of the dive shops and charter operators have a similar view. A charter operator with a 10 person boat can probably take out divers on 10 trips over the 2 days following a sinking, and put them on the newly sunk ship, and gross CAN\$6000. Why give that up? So, if an operator can get his hands on, say, five dive boats for those two days, with a near guarantee he can fill them up, five boats is \$30,000.

You can see the incentive to non-co-operation. Too many want - indeed expect - a "free ride". Near Nanaimo, one dive charter operator, Tom Upton of Hi-Test Charters, contributed nothing to the *Saskatchewan* - and he takes divers to it all the time - and has refused to help with the Cape Breton, as well. The owner of a charter boat, *Nautilus Seven*, (not to be confused with *Nautilus Explorer*) has been out selling "first dives" on the Cape Breton, which we had planned to sink September 30. He has refused to make a contribution, and we leave it to him to explain to his customers the postponement of the experience. Those trying to make the project work, and who put in many volunteer hours, can only resent such an ethical approach to community projects.

Lesson seven then, is that paying for an artificial reef is not necessarily difficult if all the beneficiaries work together, but the immediate incentive to not cooperate is such that, in the absence of public subsidy, it becomes nearly impossible to finance the purchase, preparation and placement of a ship.

This leads us to lesson number eight. When we had adequate government financing, we set sinking dates far in advance to facilitate the organising of the large sinking--day celebrations. We not only incurred extra costs in meeting deadlines but, as noted earlier, this created difficulty when we had to rely on community--based financial support for the project. That is, by promising this event, which will fill every motel room, restaurant, bar, and dive boat, on a pre-determined weekend, we completely undermine our leverage in trying to obtain support from the tourism industry. In other words, we facilitated the “free rider” problem. Thus, in the future, I think we will have to either not set a sinking date until the tourism industry in the community is fully supportive or until we have firm commitments of financial support from the ownership community. Sinkings will be later in the day so divers do not have to incur overnight accommodation costs, and charter operators lose a days diving. This may lead to less than optimal community benefits for the weekend of the sinking, but seems to be the only way of dealing with the free rider problem.

CONCLUSION

I think I can say without fear of contradiction that artificial reefs do stimulate dive tourism. This is lesson number nine. “Sink it and they will come.” The fish come and the divers come, but only—I emphasise “but only”--- if there is a dive tourism industry there to promote the reef and to take divers out to it. But the dive industry in a community, even if it works together, cannot—and should not-- alone cover all the costs of the preparation, sinking, and ongoing promotion of a reef because it benefits from less than 40% of what a dive tourist spends. Therefore, some way must be found to recruit other members of the benefiting tourism community to help with the capital and promotional costs.

That the BC artificial reefs may not have done as well as predicted in the 1989 BC study, in some cases, is primarily because the tourism industry has not worked with the dive industry to promote them, and often the dive industry has not worked together. There is also no doubt in my mind that the potential is demonstrably there, but we have not yet solved the financial issues associated with purchasing, preparing, placing, and promoting large ships as artificial reefs.

This gets us to the bottom line. The financial reality of sinking large ships as artificial reefs is as follows: some kind of public subsidy amounting to at least half the costs must be secured, given the inability of the beneficiaries to work together for the common good and finance the project, as they should. This is, of course, dependent on the size and complexity of the ship, and if the vessel is provided at nominal cost or not. Unless we can solve the problem of “free riders”, or the lack of a public subsidy program in most places, I am dubious about the sinking of many more large, complex ships as artificial reefs, if the high standards of environmental preparation and diver safety are to be met. Finally, artificial reefs can be enormous magnets for dive tourism, but the dive industry must promote them, and to do that the industry must draw in the support of the broader tourism community, for their mutual benefit.

SUMMARY

So, by way of summary, here are the nine lessons of tourism and artificial reefs:

First, the other tourism sectors are happy to accept the benefits from an artificial reef, but often reluctant to help cover the costs of purchasing and placing a reef.

Second, in fund-raising, get the money up front.

Third, that the sinking of a ship upsets the diving tourism status quo, creating resentments from those whose interests are harmed.

Fourth, many dive store and charter operators are not very supportive of promoting dive tourism in any event. They service the locals.

Fifth, the dive equipment manufacturers could be generous supporters. However, the money that they put into a reef project will likely be deducted from their advertising budget that otherwise goes to dive magazines, harming them and earning less support for artificial reefs from those influential bodies.

Sixth, a long term promotional plan, and broad tourism community support from more than the dive industry, is needed to maximise the return on an investment in an artificial reef.

Seventh, while paying for an artificial reef is not necessarily difficult if all the beneficiaries work together, the immediate incentive to not co-operate is such that, in the absence of a public subsidy, it is nearly impossible to finance the preparation and placement of a large, complex ship.

Eighth, by setting sinking dates long in advance without securing first the financial participation of the tourism industry in placing the reef, subsequent efforts to obtain their support are fatally undermined.

Finally, lesson nine, is that artificial reefs do work to enhance dive tourism. If we are persuaded of nothing else, we have proved that they do substantially stimulate dive tourism and interest in diving.

I have tried to give you what I think are the harsh tourism and financial truths so that all of you who want to sink a large ship realise that there is not a guaranteed tourism upside, and very real financial problems associated with doing the job properly. I hope these words of caution help all of you in the future.

ⁱ TOURISM POTENTIAL OF WRECK DIVING, prepared for Ministry of Regional Development, TOURISM DEVELOPMENT BRANCH, by PACIFIC NORTH CONSULTING in cooperation with BLISS INFORMATICS CONSULTING, April, 1989

Tex Enemark is Vice-President of the Artificial Reef Society of B.C., and was one of the founding Directors of that organisation. He is a lawyer by training but has spent his career doing public policy work in the private, non-profit and public sectors, and has been a senior government executive. Tex has been diving for 18 years, and his role in the ARSBC has been related to the government affairs, communications, and strategic planning aspects of the Society's work. He personally cleaned the bilge of the *Chaudiere* three times. He can be reached at (604) 275-5553 or by email at tenemark@istar.ca.