



**FRAMING THE FISH FARMERS:
The Impact of Activists on Media and Public
Opinion about the Aquaculture Industry**

JEFF CHATTERTON

How to Farm the Seas (Paper #3)

Brian Lee Crowley, Gerry Johnson

Series Editors

June 2004

The **Atlantic Institute for Market Studies (AIMS)** is Atlantic Canada's public policy think tank. Our goal is to help Canadians, both regionally and nationally, to imagine new and creative solutions to the public policy challenges that we face, whether in education, health care, equalization, oil and gas, or the host of other policy fields where AIMS is active.

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ABOUT THE AUTHOR

Jeff Chatterton got his start in risk and crisis communications as a journalist, winning several awards for his coverage of a number of “crisis-oriented” events. He hung up his microphone in 1996 to work for the Ontario government, handling a wide array of communications challenges in the resources arena — spending time at the Ministries of Natural Resources, Health, Agriculture, and Environment.

Leaving public service in 2000 to consult in environmental risk communications, Mr. Chatterton’s first client was the Town of Walkerton, Ontario, during the “Walkerton Water Crisis”, when more than 2,000 people fell ill and seven died after drinking contaminated tap water. Other clients included the Canadian Vinyl Council, when it had to fight a regressive environmental policy sponsored by activist groups in the Toronto 2008 Olympic bid; the City of Barrie, Ontario, when it discovered trichloroethylene in its municipal water supply; the U.S. Army; and Environment Canada.

Recognizing that the fear and misunderstanding behind “junk science” was costing Canadians millions of dollars annually, Mr. Chatterton began Canada’s first communications firm dedicated to “Defending Good Science”, Checkmate Public Affairs, in January 2002. Current clients include the Council for Biotechnology Information and the Packaging Association of Canada.

Mr. Chatterton is also the author of the online newsletter *Defending Good Science*, and his work on communicating trust and credibility has appeared in a number of trade publications.

He is married and spends most of his time in Kitchener, Ontario.

EXECUTIVE SUMMARY

The rapid growth of aquaculture has brought with it increased focus on the industry, by both the media and environmental activists. Part of the problem is that, unlike farmers, aquaculturists are essentially unable to limit the effects of their operations to their own property. As a result, environmental activists, through their skilled use of the media, have assailed fish farmers about the supposed evils of their industry. Stories in the mainstream media detail the loss of native fish species or the invasion of non-native species, when such evidence is either easily explainable or anecdotal at best. Other headlines discuss the use of “harmful” colorants, when scientific opinion on artificial colorants is hardly decisive. A study proving that farmed salmon have six times as many pollutants in their system as wild salmon receives widespread media coverage. Greenpeace activists storm fish-production facilities lamenting the arrival of “Frankenfish”, even though genetically modified fish have yet to arrive on the marketplace.

The mainstream media are, in and of themselves, a neutral party, and would leave aquaculture alone provided environmental impacts are minimal and there are no adverse reactions to human health or marine life. Unfortunately, rather than simply report the news on the basis of facts, journalists are often handcuffed by the bounds of deadlines, and are forced to report storied narratives about the potential effects of scientific developments. Time constraints also mean that journalists tend to rely on environmental advocacy groups for information about aquaculture and its impact.

As with any industry, aquaculture must operate under appropriate regulations and with regard to due diligence. Yet, as is often the case when science and opinion collide, the result is too much passion and too little reason. Although many of its critics are properly concerned and well meaning, the battle against aquaculture has turned into an unwarranted campaign of vilification. Activists garner media attention through a wide array of publicity stunts. They then use that publicity and subsequent name recognition to obtain money for the cause.

Politicians and key decisionmakers are, in many ways, innocent bystanders to this spectacle. However, the activists promise to make life miserable for any politician who disagrees with their opinions. Faced with what they see as no real choice, politicians are quick to pass legislation and burdensome regulations overseeing the aquaculture industry.

The industry, facing outspoken opposition, has attempted to address the concerns of advocacy groups that genuinely want to work to ensure that aquaculturists operate in environmentally sensitive ways. Other groups, however, merely wish to destroy the industry. Against such groups, the industry must learn to defend itself.

An important part of any defence is to develop a science-based communications strategy consisting of: training in risk communication — that is, knowing when and how to respond to critics as problems arise; making industry representatives available to the media on a timely basis; being aware of the nature of the industry’s adversaries; and thinking creatively, not only about how to present the industry favourably but also about how to “counterpunch” against the often spurious agendas of its adversaries.

It is important to understand that the industry’s enemies will continue to attack no matter what aquaculturists do to become exemplary environmental citizens. But by understanding the motives of the attackers and preparing a defence in advance and in depth, the industry can gain control of the situation. When activist groups no longer control the message, it becomes increasingly difficult for them to attack the industry; when the industry no longer has an apparent need to be saddled with an excessive regulatory burden, the politicians and bureaucrats will find it difficult to justify adding to that burden. To achieve long-term business growth in Canada, the aquaculture industry must become not a target for its adversaries, but the source of answers and solutions to legitimate concerns.

WHY SCIENCE AND NEWS DO NOT MIX

A common complaint in the scientific community is: Why can't the media just report the news? Why is a routine event portrayed as a breakthrough, or a benign development treated as evil? What is it about science stories that seems to put them at a disadvantage?

The Journalists

To begin with, most journalists are not scientists. Most have a liberal arts background, with talents in writing and communication, rather than scientific process. Just as most students with mechanical ability end up in professions that require mechanical skills, so most students with communication ability end up in professions that require communication skills. For the most part, this does not mean professions of typical scientific interest.

Clearly, if you need someone to understand the implications of a tax policy for the theatre community, someone in the journalistic community will have it covered. But if you need someone to understand the difference between a genome and a protein, there are inherent difficulties. It is a simplistic concept, but a powerful one — journalists usually do not understand the science involved.

This is far from suggesting that journalists are intellectually deficient. Indeed, many are experts on a wide array of subjects. It is simply that, for the most part, scientific concepts are not one of those areas. Journalists are often forced by the economies of efficiency or time to be a “jack of all trades”, knowing a little bit about everything. (As a practical word of warning, never play Trivial Pursuit with a journalist.)

If a media outlet is so expansive as to have a “science reporter” on staff, there is no guarantee that the reporter’s science background education is in a scientific area of relevance to the story. Just as one would not expect a family physician to perform a complicated quadruple bypass, one should not expect a person with a background in chemistry to understand the finer nuances of marine biology.

The News Industry

Journalists are also burdened with the 800-pound gorilla of science journalism — in order for a story to receive coverage, it has to be “news”.

A valid news story has several requirements. First, *something has to be new*. This may be patently obvious at first glance, but it does make it difficult for a proper scientific discovery to garner “above

the fold” coverage in a daily newspaper. By the time a mainstream reporter becomes aware of an item of scientific interest, it is already old news in the technical community.

Second, *the story should contain an element of conflict*. For the most part, unless the absence of conflict is both new and in the public interest (for example, a peace settlement), a story requires conflict — activist versus industry, drug versus disease, fire versus building — in order to make the news. What determines the story’s order in the newscast is the degree of conflict. That is why one does not often read stories about the opening of a new big-box retail outlet; instead, one reads about how the big-box retail store will damage existing local businesses. Unfortunately, what passes for balance, in the eyes and mind of a journalist, is quite often the very element that makes it a story — the presence of conflict. That is also why politics, where conflict is always present, dominates the news.

Third, *the story must contain an element of public interest*. Whether an item is new, has a unique process, or contains a unique characteristic, it has to affect a potential reader’s life in some way. This explains why a three-vehicle accident that closes a major highway merits more journalistic interest than a five-vehicle accident in a parking lot. It also explains why an allegation that aquaculture is poisoning the water supply merits more coverage than the announcement of a scientific process that will lower maintenance costs in the aquaculture industry by 14 percent. While the latter may indeed affect the average consumer down the road in the form of lower food costs, the public impact of supposedly poisoned water is decidedly greater than the mere potential of cheaper fish sticks.

Unfortunately, the ongoing scientific process does not traditionally lend itself to any of these three story elements. Moreover, even if the science story contains an element of news interest, it is likely to be exceedingly difficult to explain in the context of a sound bite that lasts just 30 seconds or much less. On a typical day, a news editor will make more than a hundred decisions about the stories that merit coverage. From political scandals to criminal acts, from labour strife to government funding initiatives, the news editor has to sort out how these will affect the average citizen. In the meantime, public relations consultants are calling the newsroom to encourage or cajole individual reporters to cover a particular story about a new plant expansion, an upcoming community festival, or a new product launch. Obviously, a good-news environmental story from the aquaculture industry can easily be lost in the confusion.

One has only to look at the journalists’ term for a development of interest: a “story”. In the interest of expediency and simplicity, “stories” are templated. Rather than explore the myriad angles and concepts of a development, the journalist will break it down into an easily explained, and thus easily told, template of a story. A story involving activist concerns over industrial practices will not focus on environmental implications versus long-term economic benefits at both the macro- and micro-economic levels — such a tale is far too complex to deliver to end consumers. Besides, the reporter who is interviewing an industry representative may already be 15 minutes late for a news conference at City Hall and may be scheduled to cover an important town meeting that evening. Time constraints alone make a detailed analysis impossible.

Furthermore, the stories the reporter is juggling will also have to be dealt with simultaneously by a news producer who is facing the daily onerous challenge of compacting, say, 14 local stories, three national stories, and two international developments into a single 30-minute newscast. In the print medium, any particular story may, for reasons of production, be forced to fit into 12 column inches.

Such a story will not get the treatment it deserves — and to be fair, it may not get the treatment it deserves from both sides. But in an effort to break down a complex scientific development, amid all its controversy, detriments, and associated benefits, the journalist will resort to a story template. In the most common scenario, what will emerge is a “David versus Goliath” story. And it is a *story*. It is not a detailed analysis of costs and benefits, but a narrative. The reporter produces a tale to maintain viewership or readership, while providing an interesting source of news — a story.

The Science Industry

To be sure, there are always exceptions, but the very nature of the scientific process does not lend itself to splashy headlines or enchanting stories. In an era where so-called experts are often at odds with one another about scientific outcomes, it is increasingly difficult for a reporter to discern newsworthiness. Indeed, physics professor Robert Park (2003, B20) highlights seven indicators that a scientific claim lies well outside the bounds of rational scientific discourse.

- 1. The discoverer pitches the claim directly to the media.** The integrity of science rests on the willingness of scientists to expose new ideas and findings to the scrutiny of other scientists. Thus, scientists expect their colleagues to reveal new findings to them initially. An attempt to bypass peer review by taking a new result directly to the media, and thence to the public, suggests that the work is unlikely to stand up to close examination by other scientists.
- 2. The discoverer says that a powerful establishment is trying to suppress his or her work.** The idea is that the establishment will presumably stop at nothing to suppress discoveries that might shift the balance of wealth and power in society. Often, the discoverer describes mainstream science as part of a larger conspiracy that includes industry and government. Claims that the oil companies are frustrating the invention of an automobile that runs on water, for instance, are a sure sign that the idea of such a car is baloney.
- 3. The scientific effect involved is always at the very limit of detection.** Alas, there is never a clear photograph of a flying saucer, or the Loch Ness monster. All scientific measurements must contend with some level of background noise or statistical fluctuation. But if the signal-to-noise ratio cannot be improved, even in principle, the effect is probably not real and the work is not science.
- 4. Evidence for a discovery is anecdotal.** If modern science has learned anything in the past century, it is to distrust anecdotal evidence. Because anecdotes have a very strong emotional impact, they serve to keep superstitious beliefs alive in an age of science. The most important discovery of modern medicine is not vaccines or antibiotics, it is the randomized double-blind test, by means of which we know what works and what doesn't. Contrary to the saying, “data” is not the plural of “anecdote.”

5. The discoverer says a belief is credible because it has endured for centuries. There is a persistent myth that hundreds or even thousands of years ago, long before anyone knew that blood circulates throughout the body, or that germs cause disease, our ancestors possessed miraculous remedies that modern science cannot understand. Much of what is termed “alternative medicine” is part of that myth.

6. The discoverer has worked in isolation. The image of a lone genius who struggles in secrecy in an attic laboratory and ends up making a revolutionary breakthrough is a staple of Hollywood’s science-fiction films, but it is hard to find examples in real life. Scientific breakthroughs nowadays are almost always syntheses of the work of many scientists.

7. The discoverer must propose new laws of nature to explain an observation. A new law of nature, invoked to explain some extraordinary result, must not conflict with what is already known. If we must change existing laws of nature or propose new laws to account for an observation, it is almost certainly wrong.

Of course, these are only warning signs — even a claim with several of the signs could be legitimate. Unfortunately, “junk science” does make for an entertaining story. Whether it is the discovery of cold fusion or the claims of human cloning by a scientific firm associated with the Raelian cult, “junk science” tends to make headlines. Why?

The scientific process is a careful, laborious one, dominated by baby step after baby step. Fraught with trial and error, all in the name of progress, it is easy to get lost in the confusion. If a scientist manages to increase the nutritional value of salmon by 4 percent, a journalist is likely to ask how that “story” differs from the one of five months ago announcing that the nutritional value of salmon was increased by 4 percent. Ten stories, each announcing percentage increases in the nutritional value of salmon, go nowhere. One story announcing a 50 percent increase in the nutritional content of salmon will make the newspaper. But that 50 percent increase did not happen overnight.

Quite often, those baby steps may not even be in the direction of the end product. Similar stories abound in the world of biotechnology, where the consumer may truly believe that plant-based biotechnology is about inserting salmon genes into tomatoes. Is there a scientist somewhere working at transplanting a fish into a tomato plant? Probably. But that is not what is being presented to consumers today, and it is difficult for the biotechnology industry to refute the claim when, indeed, somewhere there may be salmon genes inside a tomato.

Why should someone want to put a fish gene in a tomato in the first place? Perhaps it has something to do with increasing resistance to pests. Perhaps the resultant tomato will need less water or will pack easier in transport. Perhaps a curious scientist merely wishes to see if any positive benefits can be derived from cross-breeding the two species. Such is the nature of the scientific process — a long and meandering series of baby steps, inching ever closer to the goal of a common good. Not all processes achieve this goal, but until the theory has been tested, the world will never know. Unfortunately, “Science working toward the goal of common good” makes a lousy headline or sound bite. Greenpeace activists yelling “Stop creating Frankenfoods — stop putting salmon in my tomatoes” through a bullhorn at the front gate of an aquaculture site makes a great sound bite.

THE CHALLENGES FACING AQUACULTURE

“If [Stolt Sea Farms] can’t contain them in benign conditions, they have no business being in the ocean,” says Alexandra Morton, head of the Rain Coast Research Institute. (*Globe and Mail*, November 18, 1999.)

According to Otto Langer, 56, a biologist who worked 30 years for Canada’s Department of Fisheries, a large salmon farm may pour as much liquid waste into the sea as a small city. Add to that the plagues of destructive sea lice that thrive in densely packed salmon pens and the schools of farm-grown fish that inevitably escape to the open sea, where they spread diseases and compete for food and breeding grounds with wild stocks. (McCarthy 2002, from *Time*.)

It was vaccinated as a small fry to survive the diseases that race through these oceanic feedlots, acres of net-covered pens tethered offshore. It was likely dosed with antibiotics to ward off infection or fed pesticides to shed a beard of bloodsucking sea lice. For that rich, pink hue, the fish was given a steady diet of synthetic pigment. Without it, the flesh of these caged salmon would be an unappetizing, pale gray. (Weiss 2002, from *The Los Angeles Times*.)

Stories such as these in mainstream North American media indicate the seriousness of the communications challenge the aquaculture industry faces. It is, of course, a challenge that is hardly unique to aquaculture. Any industry that deals with “foreign” bodies in a natural environment — for example, a chemical manufacturer releasing airborne emissions or a pork producer facing legal challenges over ground and water contamination — will face a communications challenge. Yet, as *The Economist* noted,

[a]ll farming alters, and sometimes damages, the environment. Modern aquaculture has arrived at a time when environmental knowledge and concern has rarely been higher, and when it must compete with tourism and home-owners as well as environmentalists for access to the coast. Agriculture had the luxury of being able to pollute and alter the landscape first and worry about the consequences later. Not so aquaculture. (“A New Way to Feed the World”, August 7, 2003.)

The aquaculture industry itself is growing rapidly — according to PriceWaterhouseCoopers (2002) by 23 percent just between 2000 and 2001, with production of farmed salmon alone increasing by 25 percent in Canada, a rate of growth that outstripped both the domestic pork and cattle industries. Moreover, this was not a one-time surge. The same source reports that annual Canadian aquaculture finfish production increased from 35,000 metric tonnes in 1992 to more than 110,000 metric tones, worth \$700 million, in 2001, while exports increased from \$150 million to more than \$560 million over the same period — an increase of more than 300 percent in less than a decade. What was once virtually a cottage industry is now coming into its own.

Such explosive growth was bound to make the aquaculture industry more visible. Much of the attention of activists and regulators is occurring in British Columbia and New Brunswick, since most of Canada's aquaculture operations take place in those two provinces. Yet, as the industry grows in both national and international prominence, the increased scrutiny will be felt nationwide. This scrutiny can be divided into two separate groups of challenges: open water issues, and issues related to the fish themselves.

"Healthy" Fish and Aquaculture

The aquaculture industry's overriding communication challenge is its proximity to the natural environment. This problem, while simple on the surface, in turn poses several unique challenges that make it difficult to draw useful lessons from industries that have already overcome similar challenges.

Pigs do not run wild across the great Prairie plains. Cattle do not live in Canada's pristine arctic tundra or in the forests of New Brunswick. Simply put, most of Canada's diet-based production animals are found in just one place — the farm environment where they were born and raised and where they ultimately will be slaughtered. It is, therefore, fairly easy to find a communications consultant or industry representative who can provide the experience and expertise to overcome specific challenges relating that sector.

One cannot, however, say the same thing about fish. There is no multi-million-dollar industry devoted exclusively to sport pig-farmers, as there is for sport-anglers. One does not see militant protests against a federal government decision to end the wild cattle season. Simply put, people expect to see fish in the wild. To many people, a healthy, happy fish is a free fish, if mainstream Hollywood productions such as *Free Willy*, about releasing a killer whale into its natural habitat, are any evidence. (Admittedly, Willy is technically not a fish, but the point remains the same; see, however, Box 1 for Willy's ultimate, curious end.)

Large aquaculture operations are conducted in or around ocean habitats. This characteristic becomes problematic, however, when oceans are perceived as the lifeblood of economic prosperity for a particular geographic region. Whether it is eco-tourism in Cape Breton, the natural cod fishery in Newfoundland and Labrador, or the whale-watching industry in the Bay of Fundy, a healthy, "natural" ocean is often considered a prerequisite to economic prosperity. As a result, it is easy to see why media coverage of aquaculture tends to focus on the industry's effects on the surrounding environment, rather than on its benefits to the consumer.

This focus on the environmental aspect, rather than on economic or cultural aspects, means that, for the media, the aquaculture story "defaults" to the environmental template. Unfortunately, like any other industry, aquaculture cannot claim a position of righteous environmental purity. Aquaculture does, in some ways, cause pollution. But so does driving a vehicle to work or printing off a paper copy of this publication. Pollution is not necessarily always the cost of progress, but in many ways

Box 1: *The Humane Society and Dead Killer Whales*

The Free Willy/Keiko Foundation raised millions of dollars in an effort to free a killer whale named Keiko, the inspiration for the movie *Free Willy*, to allow him to live out his days off the coast of Norway. Unfortunately, toward the end of 2003, Keiko died.

In an interview with the BBC the day after Keiko's death, Foundation director David Phillips acknowledged that he was having trouble deciding where to bury the deceased whale: "My preference would be to bury him on land....If you bury him on land we could still recover his skeleton and that might have some value in a museum or something, but that is still being worked out".^a

The Foundation no doubt was upset over the news that its reason for being had passed, but it managed to get over this setback. It certainly did not hesitate to continue fundraising — the Foundation continues to operate and to collect donations so that the public can, as its website urges, "Support Keiko's Legacy Today!".^b

Interestingly, one of the main partners of the Free Willy/Keiko Foundation is the Humane Society of the United States (HSUS), which, despite its name, operates no animal shelters and provides no homes for mistreated or abused animals. It still manages to convince people to donate to the cause, however, either through mistaken name recognition or through active fundraising. The HSUS recently had more than US\$85 million in assets.^c

Less than two days after Keiko's death — in the middle of the night — the Free Willy/Keiko Foundation dug a giant hole in a "secret location" in Norway, slid the killer whale's carcass across a snowy field, and, using heavy machinery, buried it in the presence of just seven people. The Foundation claims this was to prevent the ceremony from becoming a media circus. It also avoided the need to answer embarrassing questions, such as: "Shouldn't Keiko have been buried at sea, where he belongs?".

^a "Keiko, the 'Free Willy' whale dies", *BBC Online*, December 13, 2003.

^b See website <<http://www.keiko.com>>.

^c See website <<http://www.activistcash.com>>.

it appears so. What is relevant is the amount of pollution incurred, whether or not such pollution is in proportion to the greater good and whether or not the situation will then, thusly, improve. To quote *The Economist* once again:

Certainly, plenty of fish farming makes a nasty mess. Shrimp and salmon aquaculture, which have shown astounding double-digit growth in the past decade, present particularly worrying environmental challenges. But the salmon was first domesticated in the 1970s. Early industrialists made a nasty mess too. However, whereas it took a century to begin to clean up the filth of the Industrial Revolution, improvements in technology are already cleaning up fish farming, at least where the industry is well regulated....For example, the release of waste nitrogen from farming salmon in Norway is now one-sixth of its level 30 years ago; and the amount of feed required is less than half. Indeed, organic farmed salmon is now available to consumers who are worried about marine pollution and antibiotics. Such progress is all the more remarkable given how quickly it has been achieved. ("A New Way to Feed the World", August 7, 2003.)

One of the inescapable conclusions of progress is that it comes at a price, which often is temporarily higher levels of known pollutants. But this price can also be considered an investment. As technol-

ogy improves, the pollution associated with that technology decreases, while the benefits of that progress remain.

Despite many examples of benefits from technological change (most notably the aforementioned Industrial Revolution), for many activist organizations, any amount of “pollution” is unacceptable. Yet, rather than weigh the balance between progress and precaution, they invariably vote in favour of precaution. Consider the stance adopted by the David Suzuki Foundation, one of the most outspoken critics of the aquaculture industry:

Instead of net cages, the David Suzuki Foundation believes that around the world, including on Canada’s Pacific and Atlantic coasts, the salmon farming industry must be transformed to use safe, fully enclosed systems that trap wastes. Farmed salmon feed often contains antibiotics, other drugs and pesticides, and excess feed and feces smother the ocean floor beneath and around the net cages, causing significant habitat damage. Fish escapement and the transfer of disease from farms to the marine environment are other serious concerns. In British Columbia on Canada’s west coast, it is estimated that well over one million fish have escaped from net cages since the early 1980s.¹

If governments were to adopt the regulations suggested by such a statement, the economic and structural consequences for the aquaculture industry would be harsh. Certainly, fish are given a variety of health supplements, including antibiotics and drugs, to help fight disease. Such practice is a standard part of agriculture animal production in any sector, whether one raises fish, cows, chickens, or emus. Yet, again, the David Suzuki Foundation says:

A variety of chemicals, including antibiotics, pesticides and fungicides are used on salmon farms to treat disease outbreaks. These drugs are often administered to the fish through their feed. Since salmon are mostly raised in open marine net cages, most of the drug, or its metabolic byproducts, end up in the marine environment through uneaten feed or the salmon’s excrements. The distribution and environmental impact of these chemicals is a cause of great concern.²

Another activist group charges that “[a]ntibiotics in fish-farming and other animal food production is widely believed to contribute to the dramatic increase in numbers of antibiotic-resistant bacterial strains now threatening human health”.³

Environmentalists have other concerns about aquaculture, too. One is hybridization of the aquatic environment in the wake of fish escapes. As one report put it, the use of nonstandard fish strains is “an issue because of the fear that farmed fish can escape, breed with wild fish and make it harder to save Maine’s endangered Atlantic salmon” (Richardson 2003). Confining farmed fish to fully

1 See website <http://www.davidsuzuki.org/Oceans/Fish_Farming/Salmon>.

2 Ibid.

3 See website <http://www.factoryfarm.org/docs/Antibiotics_and_Fish_Farming1.pdf>.

enclosed pens, the activists say, would avoid this issue. Another concern of activists is the use of habitat-exclusion devices — so-called acoustic harassment devices — that send sound waves through the water in an effort to deter the population of natural predators. Numerous studies suggest that such devices are harmless to the environment, yet they remain on the activist community’s radar screen.

As concerns over the environmental effects of aquaculture increase, so does the regulatory burden imposed on the industry. Perversely, however, activists point to what they see as a conspicuous lack of government regulations or enforcement. Greenpeace Canada, for example, demands that “[t]he Federal government...fulfill its mandated role to protect and preserve wild salmon”.⁴

Once again, given the opportunity to balance progress and precaution, environmental activists inevitably choose precaution. Yet one can quite easily argue that making such a choice dooms future generations in the developing world. To quote *The Economist*:

Aquaculture’s promise is that, within the next three decades, it could produce most of the world’s marine produce. At the same time it could help to alleviate poverty and food shortages in some of the world’s poorest countries. And if it is done well, it could help to safeguard marine resources for future generations. That, surely, is something to nurture. (“A New Way to Feed the World”, August 7, 2003.)

It is clear that the communications challenges aquaculture faces stem largely from the fact that aquaculture operations take place in or around open water. That does not mean, however, that “closing” the water around the aquaculture industry would be sufficient to remove all such challenges. It is not enough to ensure that the average consumer will not be harmed by the food he or she eats — the consumer must believe it, too. Yet the media’s apparent anti-aquaculture bias again poses a serious challenge to the industry.

Take, for example, a recent study in the journal *Science* (Hites et al. 2004) that reported that farmed salmon have six times as much PCB in their bodies as wild salmon. Although those PCB levels are well within Canadian and international food standards, the study received widespread coverage in the mainstream media, many of which suggested that farmed salmon was unsafe to eat. Supermarkets and restaurants reacted by pulling farmed salmon off their shelves and menus. The negative media stories also failed to mention that the *Science* study was funded by the Pew Charitable Trust — an organization that has donated tens of millions of dollars to groups dedicated to fighting aquaculture. (See Box 2.)

The mainstream media have also commented negatively on the aquaculture industry’s practice of using dye to give farmed salmon flesh a “natural” pink colour. Typical of media comments are such statements as “Farmed salmon don’t eat krill. They eat pellets containing canthaxanthin or astaxanthin, synthetic additives that give them the ‘right’ color. Canthaxanthin? Astaxanthin? Sounds like biological weapons. In a way, they are” (Huang 2003).

4 See website <http://www.greenpeace.ca/e/campaign/forest/depth/fish_farms.php>.

Box 2: *The Farmed Salmon Scare of 2004*

In early 2004, a paper in the journal *Science* (Hites et al. 2004) reported that PCB levels in meat harvested from farmed salmon were six times higher than those in wild salmon. The study was funded by the Pew Charitable Trust, an organization that, over the past six years, has given tens of millions of dollars to groups dedicated to fighting aquaculture. Its authors pointed out, however, that farmed salmon were still safe to eat, since their PCB levels were only a hundredth of Health Canada and US Food and Drug Administration (FDA) safety limits.

Panic nevertheless reigned for several days, and media reports speculated on the long-term effect the report would have on salmon sales. One of the co-authors, David O. Carpenter, was quoted in the media as saying: “Just because the contaminants we found do not exceed FDA levels, that doesn’t mean they are safe for consumers to eat them” (Weiss 2004).

In fact, although the media did not mention it, at least two of the report’s authors, David Carpenter and Jeffrey Foran, are environmental activists who have campaigned long and hard against PCBs. Similarly, the media failed to note that the organization behind the study, the Environmental Working Group (EWG), is a substantial beneficiary of the Pew Charitable Trust.

THE ROLE OF ACTIVISTS

That activist groups generally regard aquaculture as a “bad thing” is evident from the following selection of quotations taken from the groups’ websites.

Aquafarms discharge waste, pesticides, and other chemicals directly into ecologically fragile coastal waters, destroying local ecosystems. And aquaculture farms that raise fish directly in fenced-in areas of natural waters kill off thriving natural habitats by overloading them far beyond their capacity. Waste from the fish can cause huge blankets of green slime on the water’s surface, depleting oxygen and killing much of the life in the waters below. (People for the Ethical Treatment of Animals, PETA.)⁵

Greenpeace has opposed open net cage fish farms for over a decade...Greenpeace in British Columbia issued warnings throughout the 1990s. (Greenpeace Canada.)⁶

Imagine the raw sewage that half a million people would create in one day. It is probably too much to imagine. Now imagine if it were pumped directly into the ocean without having been treated. (The Coastal Alliance for Aquaculture Reform.)⁷

Why do advocacy groups hate aquaculture?

There are a number of possibilities. In many ways, it depends on the motives behind the groups’ rationalization. For example, one could argue that PETA dislikes aquaculture because of the inhumane conditions in which a farmed salmon must live before its slaughter. Greenpeace dislikes aquaculture because of the “serious ecological dangers posed to wild salmon stocks and ocean ecosystems by the fish farm industry”.⁸

Certainly, many members of advocacy groups honestly believe in the positions they take. Indeed, thousands of legitimate nongovernment organizations exist, many of which are filled with pragmatic idealists. But it is the “attackers” among the activists who tend to attract media interest. Moreover, many of these groups are not just collections of like-minded individuals, but large and profitable businesses. As Knudson (2001) notes:

Salaries for environmental leaders have never been higher. In 1999 — the most recent year for which comparable figures are available — chief executives at nine of the [United States’] 10 largest environmental groups earned \$200,000 and up, and one topped \$300,000. In 1997, one group fired its president and awarded him a severance payment of \$760,335....Comfortable

5 See website <<http://www.fishinghurts.com/aquaculture.html>>.

6 See website <http://www.greenpeace.ca/e/campaign/forest/depth/fish_farms.php>.

7 See website <<http://www.farmedanddangerous.org>>.

8 See website <http://www.greenpeace.ca/e/campaign/forest/depth/fish_farms.php>.

office digs and sumptuous fund-raising banquets are another drain on donor dollars. The Sierra Club spends \$59,473 a month for its office lease in San Francisco. In Washington, Greenpeace pays around \$45,000 a month.

In addition, a large percentage of the huge sums of money that flow into advocacy groups through constant public appeals goes to the groups' overhead and further fundraising efforts, much of which is effectively hidden through "public education" accounting loopholes (ibid.). In 1999, for example, the United States Postal Service calculated that 160 million pieces of fundraising literature from environmental advocacy groups were distributed via direct mail solicitation (Knudson 2001b). Assuming an average response rate of between 1 and 2 percent, that amount of solicitation generates perhaps as much as 4 million kilograms of tossed-out junk mail every year. That is a great deal of waste for groups that purport to care passionately about the environment.

The irony is, of course, that those who know the environment best — the scientists who devote their careers to it — often accuse environmental groups of twisting the facts to serve their agendas. Knudson (2001b) cites a typical example:

Consider a recent mailer from the Natural Resources Defense Council, which calls itself "America's hardest-hitting environmental group." The letter, decrying a proposed solar salt evaporation plant at a remote Baja California lagoon where gray whales give birth, [claims that] "Giant diesel engines will pump six thousand gallons of water out of the lagoon EVERY SECOND, risking changes to the precious salinity that is so vital to newborn whales." Clinton Winant, a professor at Scripps Institution of Oceanography who helped prepare an environmental assessment of the project, said the statement is false. "There is not a single iota of scientific evidence that suggests pumping would have any effect on gray whales or their babies," he said.

The American Institute of Philanthropy, which describes itself as a "nationally prominent charity watchdog service whose purpose is to help donors make informed giving decisions",⁹ gives low grades to prominent environmental organizations such as The Sierra Club (C-) and Greenpeace (D). So why do they have such a good track record of getting their messages across in the mainstream media?

There are two main reasons. First, environmental activists are not worried about image. Whether it is staging an elaborate stunt such as scaling the CN Tower, draping a fish-processing plant with a "Frankenfoods" banner, or being arrested on the steps of Parliament Hill, environmental advocacy groups have no problem sacrificing the appearance of character and integrity for the sake of media exposure and a platform. This freedom from the shackles of decorum means advocacy groups have one huge tactical advantage when it comes to garnering media attention — quite simply, they can be attention seekers, not receivers.

In the cocktail party of life, advocacy groups are like jugglers standing naked on a table in the middle of the room. They do not care what people think of them, as long as they are noticed. While such

9 See website < <http://www.charitywatch.org> >.

a strategy is easy to discredit as “undignified” or lacking credibility, the fact is that people do pay attention to the naked jugglers of this world. Moreover, it is extremely difficult to carry on a genuine conversation with someone in a corner when facing that kind of competition.

For example, although admitting that the profits from the famous “running of the bulls” through Pamplona, Spain, went to worthy charities, including the homeless, PETA nevertheless decided that the event was harmful to the bulls. Proving that fact is, indeed, stranger than fiction, PETA now hosts a co-ed “running of the nudes” through the streets of Pamplona each year for two days prior to the actual bullfights. PETA also seems to revel in shocking its audience through clever manipulation of photographs showing, for example, a family dog at the end of a fish hook in its anti-fishing campaign or using a twist on the popular milk slogan by asking the reader, “Got Pus?” for its anti-milk-drinking campaign.

The second reason the mainstream media pay attention to advocacy groups is that they are very good at the public relations game. To give credit where it is due, advocacy groups do understand the media and how to get coverage.

Greenpeace Canada’s website, for example, reveals that more than 250 news releases have been issued to the general media since February 1999 — an average of one every 3.5 business days. While firing out news releases is no measure of media reach or effectiveness, it is worth noting that, in a two-week period from May 10, 2003, to May 24, 2003, the word “Greenpeace” was mentioned in the international media 1164 times.¹⁰ Certainly, Greenpeace, as an example, is building up strong brand recognition.

For industry, including aquaculture, the problem lies in the area of competing priorities. Most large companies have a public relations person on hand. But their main goal is to produce profit through manufacturing a particular product or offering a particular service. For groups such as Greenpeace, however, getting in the media is their industry — it is a goal that everyone in the group works toward accomplishing. (See Box 3.) When Greenpeace activists climb the CN Tower, they do it with cell-phone in hand in order to conduct live interviews with local and nationwide media. And increased public awareness leads to increased donations.

Furthermore, environmental activists are always ready and willing to give busy reporters a “juicy” sound bite in order to provide “balance” to a corporate version of events. The hard-pressed news editor then gets two differing viewpoints — on the one hand, likely a taped telephone conversation with an industry spokesperson bearing the sober message that scientific studies conclude that farmed salmon are safe to eat and safe for the environment and, on the other hand, a live interview, plus photos, with an activist who uses charged language to condemn fish farming as unhealthy to eat and dangerous to the environment. Under the circumstances, it is easy to see which side is likely to get the preponderance of airtime.

10 Checkmate Cyberalert Internet Monitoring service; see website < <http://www.checkmatepublicaffairs.com>>.

Box 3: *Greenpeace's "Image" versus Rational Thoughts on Biotechnology*

On March 27, 2001, employees of A/F Protein discovered that they could not get to work — Greenpeace had blockaded their factory. A/F Protein was in the process of developing a genetically engineered (GE) salmon, which Greenpeace claimed had “the potential to cause irreversible damage to wild fish stocks and to the wider marine environment. Leading marine biologists have expressed grave reservations and warned that even a small number of GE fishes released into the wild can have potentially devastating effects”.^a

Greenpeace is not alone in its zealous anti-biotechnology stand but is certainly one of the most vocal. One would like to think it wishes to promote a balanced, scientific analysis of all the risks involved. It does not. Greenpeace co-founder Dr. Patrick Moore, who is no longer with the organization, believes in examining the issues surrounding biotechnology and making an informed decision. Such heresy is not, however, well received by his former colleagues. As Moore himself reported:

On October 15, 2001 I found myself sitting in my office in Vancouver after Greenpeace activists in Paris successfully prevented me from speaking via videoconference to 400 delegates of the European Seed Association. The Greenpeaceers chained themselves to the seats in the Ciné Cité Bercy auditorium and threatened to shout down the speakers. The venue was hastily shifted elsewhere, but the videoconferencing equipment couldn't be set up at the new location, leading to the cancellation of my keynote presentation....I would have told the assembled that the accusations of “Frankenstein food” and “killer tomatoes” are as much a fantasy as the Hollywood movies they are borrowed from. I would have argued that, if adding a daffodil gene to rice in order to produce a genetically modified strain of rice can prevent half a million children from going blind each year, then we should move forward carefully to develop it. I would have told them that Greenpeace policy on genetics lacks any respect for logic or science. (Moore 2004.)

Is there respect for “logic or science” in Greenpeace’s world? Rather than cries of “Caution” or “Logic”, Greenpeace urges viewers of its website to “Create your own Frankenfish” and send an action alert to other “concerned citizens”.

^a“Greenpeace Blockades Frankenfish Facility in Canada”, News Release, March 27, 2001; see website <<http://www.organicconsumers.org/patent/fishapproval.cfm>>.

THE EFFECT ON THE LEGISLATIVE PROCESS

Environmental activists have had a significant impact not only on the media but also on the legislative process. To see how that impact has occurred, one needs to understand the legislative process, which, in turn, requires an understanding of the basic elements of any political decision.

Put simply, in making any decision, a politician must consider three main factors in varying degrees — time, money, and votes. It is the rare decision that will gain the politician all three elements in equal measure, so the decisionmaker must carefully balance among them. For example, absenting oneself from a fundraising dinner for a colleague may gain time, but perhaps at the cost of networking opportunities or potential political support. Similarly, extending special favours to a particular industry sector may be rewarded by money in the form of increased opportunities for corporate fundraising, but at the cost of time that could have been spent with representatives of a different, and perhaps more beneficial or useful, industry. If the spurned industry is one that appears to be unpopular with the public, the decision to avoid it reduces the risk of losing votes. Campaign ads charging that “candidate X is in bed with the tobacco industry” or that “candidate Y received money from industrial polluters” are evidence of the pitfalls of being seen to associate with unpopular industries.

Therefore, any legislative process is fraught with the ultimate in variables — the human spirit. As laws are written, bureaucracy is extended, and rules are enforced, the creation and application of those laws are ultimately defined by human discretion.

Put another way, to political decisionmakers, the scientific process means nothing. Perception is reality. Human actions are based on inferences drawn from things we see or extrapolated from what we experience. Very rarely, if ever, do human beings act from single facts or raw data. The key element is “judgment”, which is really just the different sorts of strategies humans use in order to evaluate evidence and experience.

Daniel Reisberg (1997, 443–44), in studying cognition and human behaviour, discusses what he calls the “availability heuristic”. As a simple example, Reisberg asked, “Are there are more words in the dictionary beginning with the letter ‘r’ (rose, rabbit, rock) or are there more with the ‘r’ in the third position (tarp, bare, throw)?”. Most people who answered believed the former was correct; in fact, however, the reverse is true. The reason most people got it wrong was that they were using their “availability heuristic” — that is, they simply ran through their memory and “guesstimated” how many words have “r” at the beginning. This, however, is hardly a scientific process. Alternative

strategies, such as going through a dictionary and checking before answering, would have taken far too much effort. Thus, *ease of quick reflection is often the mode of judgment*.

Moreover, Reisberg found that even when people were told that their assumptions were incorrect, they did not change their judgment. This denial is a tendency called “anchoring” (ibid., 447). Given the answer to a question, subjects seemed to use it as a reference point, and selected their judgment only by making adjustments to the “anchor”. In other words, even when we know something to be untrustworthy, we tend to believe it anyway because we have already been exposed to it. More to the point, the success of environmental advocacy groups hinges to a considerable degree on the tendency of people to believe certain things if they have heard them often enough, even if they are not true.

In this psychology is reflected the ultimate sad reality about the state of aquaculture in this country. Many of Canada’s politicians and regulatory authorities are *anchored* to the notion that aquaculture causes serious harm to the environment and the natural food chain. They are not required to think for themselves about the impact that aquaculture has on the environment or the economy, since the activist groups have already done that for them. In short, the thought process is anchored before a decision is even made.

For bureaucrats, the approach is similar, but with some slight differences. Bureaucrats have a vested interest in “thinking *inside* the box”. The reality of compartmentalized, bureaucratic management means that individuals will own responsibility for only their compartment. The bureaucrat’s job thus becomes one of producing results with a minimum of conflict. As a result, bureaucratic structure tends to focus on the management of process, rather than on the “big picture” goal of managing results. Every decision is scrutinized by multiple forms of approval, all of which have a particularly different self-interest in the decision.

Thus, the focus of government bureaucrats who deal with the aquaculture industry becomes that of minimizing harm, rather than assisting the industry or helping to create new aquaculture-oriented jobs. It is far simpler — and, in a very short-sighted sense, far “cheaper” — to impose regulatory initiatives than to remove them. Imposing new requirements keeps the environmental bureaucrats happy; creating more paperwork keeps the taxation bureaucrats happy. Consider the legislative burden that Canada’s aquaculture industry faces. Neil and Rogers (2002) report that the list of regulatory bodies to which the aquaculture industry must respond in some way or another runs to more than two full pages, and each of them has its own sets of regulatory requirements, with additions, amendments, and revisions made on an ad hoc basis.

How best to clean up Canada’s regulatory mess is not the focus of this paper, but it is not difficult to connect the dots between the actions of the activist community and the resulting impact on the regulatory environment. Through a protracted campaign of arguing the evils of farmed fish, the activist community has succeeded in persuading government to place serious constraints on Canada’s aquaculture industry through overregulation. And even if the industry were to seek allies among key government decisionmakers, politicians concerned about losing time, money, or votes will be reluctant to pick fights with activists in order to assist such a relatively small and vulnerable sector.

HOW AQUACULTURE SHOULD RESPOND

It is a bleak picture — the aquaculture industry, weakened by a heavy regulatory burden and charged with being responsible for a “dirty” product, is under attack by a well-funded, well-organized opposition whose goal is to drive the industry into bankruptcy.

How should the industry respond? Should it just roll over, cut losses, and look for alternatives? Should it try to find areas of common ground with the activist community in an effort to “turn down the heat”, so to speak? No. In fact, cooperating with the environmental activist community would be a good way to assure the demise of one’s business. As Winston Churchill once said, an appeaser is “one who continues to feed the alligator others in the hope he will be the last one eaten”. The activists will not go away that easily. And while the main activist organizations seem to be primarily concerned with other issues at the moment — such as genetically modified food or forestry practices or natural gas drilling — the aquaculture industry should be under no illusions that it will again be the focus of activists’ attention. Accordingly, the industry should be squaring itself for the blows to come.

One important way to gird for the coming battle is to develop a successful, ongoing, science-based communications initiative. Certainly, no such initiative is without risk, but the industry could avail itself of a number of professional consultancies that specialize in strategic risk communications. A successful strategy would have several elements:

- *Risk communication training.* The science of defending an industry against a skeptical or hostile community is called “risk communication”. Understanding the principles and objectives of effective risk communication is something effective communicators have acquired, either (in extremely rare cases) intuitively or through proper risk communication training. Knowing why, or perhaps when, to say something is as critical as knowing what to say. For evidence of this, consider the public fallout after the Exxon Valdez disaster. Many public relations professionals argue that a key failure on Exxon’s part was simply timing — the company did not send Chief Executive Officer Lawrence Rawl to the scene until two weeks after the spill. This lack of apparent concern, by some accounts, cost Exxon more than \$7 billion in punitive damages.¹¹
- *Responsiveness.* An old adage in both politics and adversarial communications is “never let an attack go unanswered”. Good communicators take the time to develop relationships beforehand with journalists who are likely to cover their industry. They ensure that reporters can find them

¹¹ See website <<http://faculty.buffalostate.edu/smithrd/PR/Exxon.htm>>.

to comment on a particular story, in order to avoid the dreaded “industry spokesperson X was unavailable to address the allegations”. Building up a bank account of credibility in advance with those who are likely to communicate your story means the industry will not have to go into “credibility withdrawal”, or, even worse, “credibility debt”. A case in point is the “Hunting for Bambi” story. A Las Vegas entrepreneur was reported as offering men the opportunity to use paintball guns at his facility with which to hunt nude women for the sheer sport of it.¹² The story turned out to be a hoax. Nevertheless, paintball supplier Brass Eagle, rather than waiting passively for an industry association or activist group to generate comment, forestalled negative fallout by quickly issuing a statement saying, “We condemn this irresponsible activity and do not endorse or condone the use of paintball products for such activities”.¹³

- *Awareness.* Knowing as much as possible about a particular enemy remains key to long-term victory. Former IBM president Jack Kuehler once said, “It is a dangerous thing to think we know everything”.¹⁴ Whether it is an ongoing Internet monitoring service, a consulting firm specializing in issues management, or some other tactic, the strategic goal is to know where the next attack is coming from.
- *Creativity.* On occasion, it is possible to turn the tables on corporate attackers by shining the spotlight of media inquiry on them instead. Such a countermove not only gives industry an opportunity to regroup and reorganize, but it also allows the public to find out about the often spurious agendas of activist attackers. Examples of counteroffensives include exploiting conflicts of interest in funding sources or pointing out inconsistencies in methods or doctrines. Whichever strategy is used, the goal should be to put activist groups on the defensive and force them to go after easier targets. (See Box 4.)

Another way the aquaculture industry could help its own cause is by thinking “outside the box”. Why not, for example, extend a hand to those groups or individuals who are its adversaries in the first place? After all, a fundamental tenet in the principles of risk communication is the establishment of effective two-way dialogue. Of course, one must caution that is not the act of effective dialogue *per se* that is important, but the choice of groups or individuals with whom to talk. When Ford Motor Company was facing activist pressure concerning its manufacture of environmentally unfriendly sport utility vehicles, it sat down with representatives of the activist community, established committees, and had what was coined a “working dialogue” with them. Unfortunately for Ford, one of the members of the activist community with whom it attempted to have a working dialogue was the Sierra Club, which promptly thanked the automaker for the access and dialogue by awarding it the “Exxon Valdez” award for environmental destruction (Hakim 2002).

It is all too easy to think that sitting down with those who scream loudest will accomplish the most good. Unfortunately, those who scream loudest tend to be those with the greatest propensity to con-

12 “Nude safari operator pleads innocent”, Associated Press, August 28, 2003.

13 “Brass Eagle Responds to Hunting for Bambi”, July 15, 2003; see website <<http://www.brasseagle.com>>.

14 See website <http://www.cyber-nation.com/victory/quotations/authors/quotes_kuehler_jack.html>.

Box 4: *Another Industry's Use of Creativity*

In March 2001, the Vinyl Council of Canada learned that the Toronto Olympic Bid Environment Committee was preparing an environmental policy to ban a number of substances, including PVC (polyvinyl chloride, or vinyl). The vinyl industry is accustomed to dealing with activist attacks on everything from chlorine by-products to manufacturing practices. Among the committee's members were representatives from Greenpeace, former Greenpeace staffers, and a number of well-known anti-vinyl activists. After several months of traditional negotiations to persuade the committee to change its policy, the Vinyl Council decided to get creative.

Two days before the environment committee was due to meet to finalize its report, an article entitled "No bronze medals at green Olympics", commissioned by the Vinyl Council, appeared in the editorial section of the *National Post* (Moore 2001). Apparently, in the committee's haste to "green" the Olympics, it had also suggested banning tin. Unfortunately, bronze is an amalgam of brass and tin. By highlighting irrational decisions based on emotion, rather than on common sense, the Vinyl Council was able to leverage enough pressure to convince the committee to change its report, and avoid a drawn-out debate on the merits and uses of vinyl.

sider themselves victims, rather than bystanders. Before sitting down with any activist group, a company should think carefully about what actions would prevent it from becoming a target.

In short, the aquaculture industry should be considering legitimate discussions about environmental stewardship and best-management practices with those who have legitimate concerns. Proactive organizations practice the best form of issues management available, by putting out fires before they start.

On any particular issue, the audience can be split into five groups:

- supporters, perhaps 2 percent of the population, who back a particular product or industry all the way;
- sympathizers, about 8 percent of the population, who are with the industry most of the time but who may have occasional concerns;
- straddlers, a solid 80 percent of the population, who simply do not care one way or the other;
- skeptics, about 8 percent of the population, who do not like the industry but may support it occasionally; and
- splenetics, about 2 percent of the population, who hate the industry and everything connected to it no matter what happens.

The aquaculture industry seems to spend most of its time and energy dealing with the supporters and splenetics. After all, supporters are friendly and easy to deal with, while splenetics demand the time. But the key groups are the sympathizers and skeptics — the pragmatic idealists; they are the ones who are most important to win over to the industry's cause. An interesting phenomenon occurs when a skeptic is converted. The converted skeptic does not simply move up one category and become a straddler but instead becomes a sympathizer. The skeptic is already engaged on the issue, and is far more likely to come to its defence than the straddler who does not care.

CONCLUSION

The aquaculture industry in Canada is under attack. The attackers are not well-meaning, concerned citizens, but well-financed, corporate-sized advocacy groups operating under the guise of a concerned citizenry.

Even if the aquaculture industry tries to make itself a less attractive target, the professional fundraisers, the crisis seekers, and media stuntmen will continue to attack. The attackers may back off for a time, focusing on a new environmental crisis in order to maintain donor interest, but they will inevitably renew their offensive, if only to maintain their internal budgets.

Currently, control of the situation is in the hands of activist groups, with their hold on public opinion, and bureaucratic fiefdoms, with their power over the regulatory environment in which the aquaculture industry must operate. But by understanding the motives of the attackers and preparing a defence in advance and in depth, the industry can gain control and turn the situation to its own advantage. When activist groups no longer control the message, it becomes increasingly difficult for them to attack the industry; when the industry no longer has an apparent need to be saddled with an excessive regulatory burden, the politicians and bureaucrats will find it difficult to justify adding to that burden.

For the aquaculture industry, however, the difficulty will be in convincing others to yield the control they now possess. To that end, the industry would do well to work with those groups and individuals who have legitimate concerns about how the industry operates, and to address those concerns in a meaningful, honest manner. At the same time, the industry must learn how to respond to those whose concerns are illegitimate, to marginalize them and deprive them of their natural constituency. To achieve long-term business growth in Canada, the aquaculture industry must become, not a target for its adversaries, but the source of answers and solutions to legitimate concerns.

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