

The artwork is a vertical composition. At the top, two fishing spears with wooden shafts and metal heads are crossed, with fishing nets and chains draped over them. Below this, the title 'JUST FISH ETHICS AND CANADIAN MARINE FISHERIES' is centered in white, bold, sans-serif font. Underneath the title is a bright red fishing jacket, laid flat. The background is a dark map with contour lines and depth markings. At the bottom, another pair of fishing spears is shown, also with fishing gear draped over them. The entire piece is framed by four vertical wooden shafts, two on each side, which have U-shaped cutouts at the top and bottom.

JUST FISH
ETHICS
AND
CANADIAN MARINE FISHERIES

ROSEMARY OMMER
ART WORK BY PAM HALL

Just Fish

Ethics and Canadian Marine Fisheries

Rosemary E. Ommer

Artwork by Pam Hall



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Contents

Preface	5
Artist's Acknowledgements	7
Introduction	9
How We Got Here	13
Where We Are Now	15
Two Case Studies	19
How Ethical Are the Canadian Fisheries?	21
What Can Be Done?	23
Conclusion	27

Preface

This booklet is an abbreviated version of the volume, *Just Fish: Ethics and Canadian Marine Fisheries*, edited by Harold Coward, Rosemary Ommer, and Tony Pitcher. It summarizes the work of an interdisciplinary team of researchers drawn from the humanities, social sciences, and natural sciences. The project was co-sponsored by the Centre for Studies in Religion and Society at the University of Victoria, the Institute of Social and Economic Research at Memorial University of Newfoundland, and the Fisheries Centre at the University of British Columbia.

The research would not have been possible without a major grant from the Social Sciences and Humanities Research Council of Canada. In addition, timely donations were received from the Unitarian Church of Vancouver, the Canadian Council of Catholic Bishops, the Archdiocese of Vancouver, the Atlantic Episcopal Assembly, the Roman Catholic Diocese of Vancouver Island, the United Church of Canada, Tony and Darlene Southwell, and Bill and Joan Paterson, whose constant encouragement was greatly appreciated.

The idea for this project came into being on a transatlantic flight when Tony Pitcher was seated next to me on the plane, and in the course of the eight-hour Vancouver to London flight, we discovered a common interest in fisheries ethics. Shortly after, Rosemary Ommer joined us as a co-director of the project. Without the expertise and connections of the three of us, the breadth of this research team (scientists, social scientists, humanists, an artist, and community partners) would not have been possible. Rosemary Ommer was the catalyst in bringing the east and west coasts together and made this a richer and more important study than it would otherwise have been. Her careful editing of draft chapters greatly improved the quality of the book. Pam Hall's art work added a dimension that many academic books lack. In addition, her critique of our work throughout the writing process proved invaluable. Conrad Brunk provided

ethics teaching to all of us on the research team. Colleagues who helpfully commented on various sections of the manuscript included Trevor Hutton, Robert Brown, Ed Passerini, Bob Cecill, and Blair Powell. We are also grateful to Bob Cecill for editing this booklet.

Throughout our research and writing, we were aided by community partners on both coasts, including: Reg Kingsley (Department of Fisheries, Newfoundland); Earl Johnson (Inshore Fisherman's Improvement Committee, Newfoundland); Caleb Tucker (inshore east coast fisher); Canning and Pitt Associates (east coast research consultants); Canadian Mental Health Association (Newfoundland); Captain R. Gibbons (deepsea fisher, Newfoundland); Jamie Alley (B.C. Department of Fisheries); Gerald Kristianson (Sports Fisherman's Association of B.C.); Eric Tamm (Coastal Community Network); and Arthur Vickers (Gitksan artist, former commercial fisher). The final meeting of our research team was held on Haida Gwaii. Several elders, including Paul Pearson, Guujaaw, John Williams, and Charlie Bellis, joined us around the table, sharing their knowledge of the fishery and their wisdom as to the issues of justice involved. Thanks are given to all in the Skidegate community who shared with us their hospitality, time, and personal experiences.

Administrative support for the research team was provided by Eleanor Fitzpatrick at the Institute of Social and Economic Research, Memorial University of Newfoundland, and Ludgard De Decker and Moira Hill at the Centre for Studies in Religion and Society, University of Victoria. Moira Hill also prepared the manuscript for publication. We wish to acknowledge the careful copy-editing of Richard and Laurna Tallman, the unusually helpful advice from anonymous assessors, and the publication skills of Jeanette Gleeson of ISER Books.

Finally, this book would not have been possible without the willingness of all members of the research team to learn from each other (new technical terms and new methodologies) in areas we would not normally read, to hear the wisdom contained in the voices of our community partners, and to trust each other in the team authorship process throughout the three years of the project. We have all been enriched in ways we did not imagine at the outset. Our hope is that we have been able to pass on our growth in individual and collective wisdom to you, the reader, in this, a jubilee year.

Harold Coward
Director, Centre for Studies in Religion and Society
University of Victoria

Artist's Acknowledgements

The original art created for this book was informed not only by the research process of this interdisciplinary study, but by continuing conversations the artist has had with fishers since her introduction to the inshore fishery of Newfoundland in 1988. Participation in this study allowed her to stretch her dialogue with fishers to the Queen Charlotte Islands in 1998, and for that opportunity, she is grateful. While none of the texts in these images are direct quotations, they *are* informed and enriched by the information, history, and practices shared by those fishers who generously gave her their time, answered her questions, and told her their stories. The artist wishes to thank and acknowledge these individuals for sharing their voices and enriching her understanding of their work on the water.

In Quidi Vidi and Bonavista, Newfoundland: Caleb Tucker, Eli Tucker, Wilson Hayward, John O'Connell, Gerry Hussey, and Fred Tremblett.

In Queen Charlotte City, Masset, and Skidegate, Haida Gwaii (Queen Charlotte Islands, B.C.): Charlie Bellis, Roy Jones Jr., Roberta Olson, Carol Kalusha, Carl Coffee, Glenn and Linda Davies, George Wesley, and Russ Jones for introducing me.

Pam Hall
St. John's

Just Fish

"The highest function of ecology is the understanding of consequences."

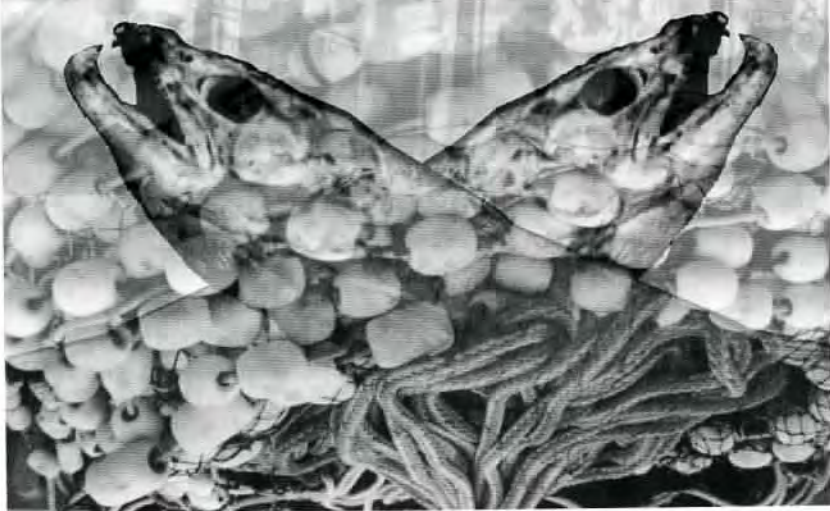
Herbert, 1977

Introduction

At the end of the eighteenth century, the Reverend Thomas Malthus warned that human population growth was in danger of outrunning the earth's capacity to produce food, and the time was rapidly approaching when humankind would have to control birth rates voluntarily, or numbers would be reduced involuntarily through the evils of "war, vice and famine." The Agricultural and Industrial Revolutions, following hard on the heels of his warning, seemed to prove him wrong. So did the subsequent 200 years of increasing improvements in agricultural productivity, technological development, and the ability to move people and goods from areas of scarcity to areas of plenty. Fertilizers, new harvesting, transportation and preservation technologies, and (particularly recently) new understanding of biological factors and the ability to intervene to manipulate those all have combined to make it appear that we have escaped from the dangers of a "Malthusian Precipice." The problems we face in feeding human populations are argued often to be issues of distribution rather than of the productive capacity of the earth. There are, of course, good reasons why we should worry about the ways in which we distribute food (and also wealth) among the people of the world, but we need to worry also about the state of the world's ocean resources. At least in terms of marine fisheries, we appear to be on the verge of very serious resource depletion, as major world fish stocks (such as cod in the North Sea and North Atlantic) col-



**Everyone has a right
to catch their own dignity...
We may have had that right
for centuries, but now it has
become an inconvenient right.**

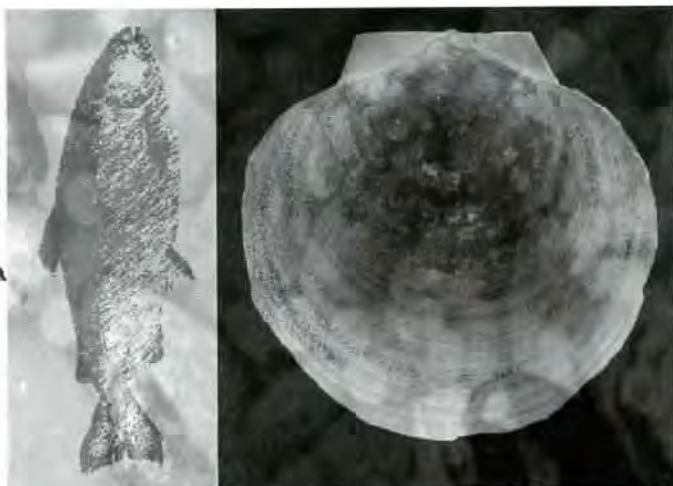


lapse, Pacific salmon become increasingly scarce, and scientists warn that all our oceans are facing serious threat from overfishing.

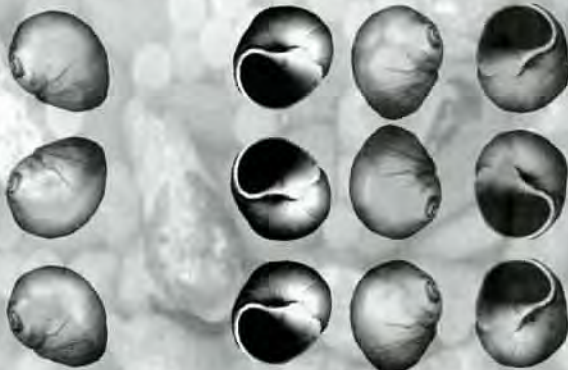
Nothing raises issues of justice and fairness more quickly and directly than do conditions of food scarcity. Survival on a personal, familial, and community basis is threatened when the resource base is lost. Communities on Canada's east and west coasts (as well as many others around the globe) are not comforted by the argument that coastal inhabitants can move elsewhere. They see not just their livelihood, but their whole culture and way of life, as well as the assets that they can pass on from one generation to the next, being threatened. Moreover, state policy-makers in Canada do not seem to be sufficiently concerned about the human situation. They have been focusing almost exclusively on the threat to the stocks of fish, and on the need to maintain an economically viable fishery, which they see as operated most effectively by a few large, highly capitalized firms that are relatively easy to manage.

Convinced that there are fundamental issues of fairness and ethics to be considered here, and hopeful that an ethical analysis of the Canadian fisheries might provide a new and more fruitful way to think about the problem, the Centre for Studies in Religion and Society at the University of Victoria, in partnership with the Institute of Social and Economic Research at Memorial University of Newfoundland and the Fisheries Centre at the University of British Columbia, put together a team of scholars to look at ethics in the Canadian fisheries. Their goal was to identify the ethical and other value components of the scientific, economic, and political decisions that affect the marine ecosystem, and to identify the value judgements that lie beneath such decisions. Once made explicit, it would become possible to analyse these *as value judgements*, and therefore to make an ethical assessment of these values. This brochure presents an abbreviated version of the findings of the team, published as *Just Fish: Ethics and Canadian Marine Fisheries*.

Five kinds of justice are central to the analysis: ecosystem, distributive, productive, restorative, and creative justice. *Ecosystem* justice entails the idea that an ecosystem represents in some significant sense a "community" of interdependent members, including all those with some dependency on, or legitimate interest in, the functioning of the system. It is possible, then, to examine the legitimate "claims" that can be made on behalf of all the components of the ecosystem and seek an ethically acceptable relationship among all the competing and complementary interests in the Canadian marine fisheries.



Everyone is taught very young how to deal with fish properly. It's our survival, our culture, our history... It is a spiritual connection from the sea to our table. When the elders said, "don't play with your food", they meant it.

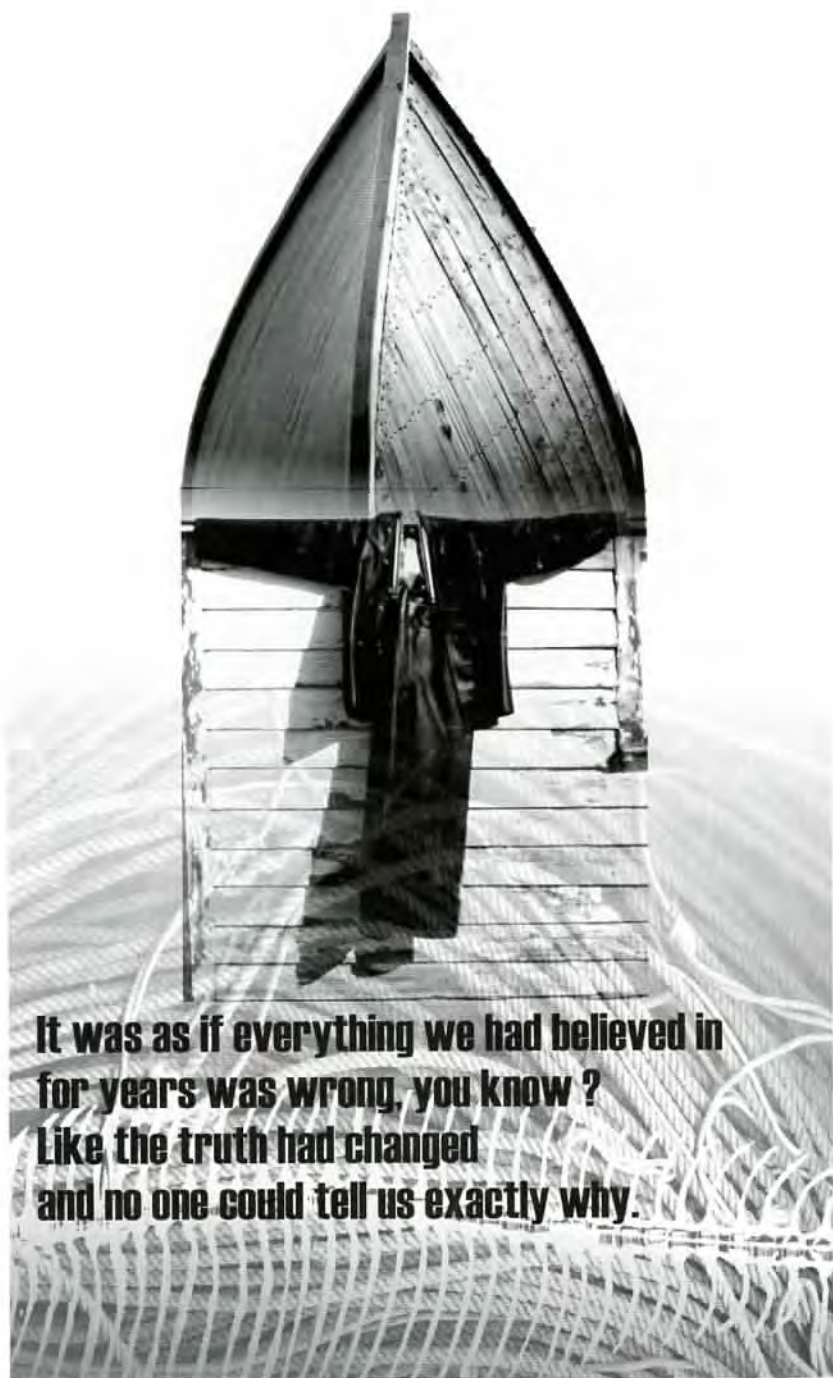


There are always those who believe they enjoy less of the resource than they are entitled to enjoy, and there are almost always those who enjoy less than the minimum they need. These concerns are matters of *distributive* justice. *Productive* justice deals with questions of how to manage or husband the ecosystem so that it continues to produce the resource in the desired quantities. *Restorative* justice centres on repairing environmental damage and restoring it to earlier, often forgotten, conditions of health and diversity, since we cannot assume that the ecosystem can continue producing the desired resources regardless of the impacts of human exploitation. Finally, *creative* justice is brought about when people with different values and knowledge share their understanding of ecosystems and thus enrich human ability to function non-destructively in the environment.

How We Got Here

How did we, in Canada, get to the point where our cod and salmon stocks, and our fishing communities on the east and the west coasts, are endangered? Fishing began long before archival documentation of our past, with the First Nations peoples who inhabited both coasts. Their oral traditions tell us that these Aboriginal societies combined community rights of access to fish with a spiritually nuanced understanding of the interdependency of humans and the non-human world. The arrival of white settlers undermined the traditional resource use practices of First Nations, as well as other interrelated aspects of their world. In the capitalist world of the European fish merchant, shore access to fish belonged to the firm and guaranteed it "ownership" of the fish. This is where we can first raise questions of distributive justice in regard to our fisheries. The merchant's goal of making a profit for the firm emphasized taking as much fish as the technology of the day allowed. Here we first see failures in productive justice.

As industrialization progressed on both coasts, regulation of fish by the state (which took control of the fishery on behalf of Canadians and handled it as state property) increasingly followed a policy of expanding high technology. This meant more capital-intensive fishing, which resulted in a rejection of the old, labour-intensive fishing methods of coastal communities. Throughout the second half of the twentieth century, policy-makers sought further industrialization of the fishery. They downgraded local, low-technology fisheries to the status of a "social" (i.e., welfare substitute) fishery, which was held to be manifestly uneconomic. Fishing communities responded wherever possible by upgrading their own technology, aided by gov-



**It was as if everything we had believed in
for years was wrong, you know ?
Like the truth had changed
and no one could tell us exactly why.**

ernment loans. As fish stocks became depleted under this increasingly intense and destructive predation, fisheries managers held the "uneconomic" local fishers responsible for overfishing, maintaining that there were "too many fishers chasing too few fish." By the 1980s, bureaucrats were recommending that the fishery be restructured into a much smaller fleet of high technology vessels. They also suggested that many small coastal fisheries (and hence communities) be effectively phased out or find other ways to support their existence. Such policies deepened the existing problems of distributive, restorative, and productive justice.

At the same time, state scientists were finding that they could not quantify fish biomass (the numbers of fish in a given area) as accurately as had been thought. Local fishers were not surprised – they had been warning for some time of stock problems, based on their detailed understanding of local ecosystems. However, scientists continued to reject their evidence as "anecdotal," that is, formed without scientific investigation and therefore not of value. The result of these failures of restorative and creative justice was a steady worsening of the ecological damage that was occurring.

Where We Are Now

In the current post-industrial period, state policy has virtually erased local fisheries in favour of footloose multinational companies that deal with fish merely as a product in global markets. They thus dispense with much of the territorial loyalty and detailed knowledge of local ecosystems of coastal inhabitants, both of which are important for accountability. In effect, current state management arrangements for the east and west coast fisheries, developed at the centre (Ottawa) for the purposes of achieving a modern, industrial fishery for Canada, are directing the flows of wealth earned in the fisheries of Canada *out of* local, resource-based communities and *into* urban cores and multinational enterprises, in the name of efficient management. We are not alone here: this is also the global pattern today.

The combined effects of global overfishing, the associated displacement of fishing families, and the increasing demand for fish in the global marketplace are now coming together to produce serious competition between the right to survival of communities of fish and fishers and the production of fish by large non-local corporations for profit. In short, under the logic of current management regimes, ecosystem, productive, distributive, restorative, and creative justice requirements are not being met, either in Canada or abroad.

Government fishery management explains current regulations as being designed to avert disaster, to prevent what they refer to as the "tragedy of the commons": the idea that communally shared resources are lost because individual self-interest will not work to restrict overfishing in a situation where there is no central authority with the power to regulate resource access and extraction. Unfortunately, this idea is seriously flawed. Under open access conditions, and in a free market situation, ecosystem justice cannot function, since the market cannot be relied upon to internalize the concept of ecosystem justice – which sees the fishery as something more than just an industry whose function is to mine fish from the ocean in response to market demand. The ecosystem concept implies interdependency among its various constituent parts, as many local, common-property, resource co-management schemes (such as those of First Nations) have always recognized. This interdependency has logical and ethical, as well as natural biological, consequences. It cannot be assumed, as current state fishery policy does, that the value of a particular species or physical habitat in a fishery is determined solely, or even primarily, by its economic value as a commodity.

State policy also fails to recognize that non-commercial species and habitats have a place in the ecosystem, even in the simplistic sense of being essential to its health, and hence to the flourishing of the commercial species. By focusing only on the catching of commercial species and the limited logic of market economics, fisheries policies for both coasts have led to gradual depletion of high commercial value species *and* to changes in other parts of the ecosystem as a result. At the same time, these policies have led to a marginalization of small-scale fishers, an issue of distributive justice. Worse still, overfishing is rampant globally because the international community has been unable to create an enforceable structure to ensure that the law of the sea is obeyed. When this is combined with our national inability to monitor adequately large-scale fishing operations whose technology is destructive of both the fish and their marine environment, we must face the real possibility that the productive capacity of the *world's* marine ecosystems may be lost.

We have concluded, therefore, that the market *per se* cannot be relied upon to produce just outcomes in the fishery. At the same time, numerous issues are combining to present a very serious threat to our global marine environments. These include food and wealth distribution, scientific uncertainty, depletion of high-value species, and overfishing now while not calculating the future cost (even to the industry, let alone to local people or to the ecosystem),

along with technological improvements in finding and catching fish. We are in real danger of turning our oceans into a sea of plankton soup. The message is clear: fish need to be managed as part of an ecosystem, and the relative effects of fishing on the health of the total system must be entered into state policy calculations. This means that our scientific understanding of the systems has to improve - and that, in turn, has implications for all five categories of justice.

Two Case Studies

Work on two fisheries - herring on the west coast and capelin on the east - provided us with some details that illustrate our concerns very clearly. **Capelin** are probably the most important forage fish in northwest Atlantic ecosystems, and the commercial fishery for roe-bearing capelin provided an important source of income to many coastal fishers and small-scale processors from the mid-1970s until 1990. Since 1990, however, income from the capelin fishery, and from other important commercial fisheries, has been much reduced. Also since 1990, scientists have been unable to generate reliable estimates of capelin abundance, which is particularly worrying since there is other evidence of ecosystem disturbance, too: seabird and groundfish diets have changed in some areas.

There are values embedded in the science and management of Newfoundland's inshore capelin fisheries and in the dynamics of the fisheries themselves. In terms of *creative* justice, the scientists and managers of the Department of Fisheries and Oceans (DFO) were pioneers in the development of abundance indices that incorporated information and input from inshore fishers. However, there are important differences between fishers' and scientific knowledge about capelin and the capelin fisheries, and it is clear that more work is needed if we are to achieve creative justice in this fishery.

In terms of *ecosystem* justice, because capelin are the base of some food webs in the northwest Atlantic, and because those food webs are affected by changes in capelin abundance and behaviour, scientists and fishers share concerns about the commercial capelin fisheries. Their joint information could help us here. In terms of *distributive* justice, while the inshore roe-bearing capelin fishery has generated significant wealth for some coastal fishers and fish processors, it has given significantly less to some other fishers and fish-processing workers. High levels of waste, potential problems with bycatch data, changes in capelin behaviour, and reduced abundance in the 1990s all combine to suggest this fishery may not be sustainable. This means that on this coast the ability to transfer



**We used to make almost everything we used,
boats, twine, and all that. When the women
did all the splitting and drying and salting
we even called that, making fish...**

**There wasn't much we couldn't make,
and didn't...
to fish, you had to be handy.**



wealth from one generation to the next may be at risk. Given the rich understanding of local ecosystems in these endangered fishing communities, a system of ecological co-management likely would have the best chance of alleviating the situation and creating a more ethical, biologically sustainable basis for the capelin fishery.

The Haida Gwaii (Queen Charlotte Islands) **herring** fishery has also had difficulties that involve the well-being of the herring, other species, and human communities. The coastwide collapse of the herring reduction fishery in the mid-1960s led to a dramatic shift towards more cautious management of herring. However, the modern roe fishery is still frequently criticized both for overfishing and for ignoring the impact of this on small stocks and dependent species. Herring populations in Skidegate Inlet – an important location for the traditional Haida *k'aaw* (herring spawn-on-kelp) fishery – were depleted in the reduction fishery and have never recovered to former levels.

Current *policies* in the roe herring fishery involve a 20 per cent harvest rate and a cutoff level below which fishing is not allowed, but current *practices* involve an undetermined level of risk to herring and dependent species and implicitly favour economic over ecological and social values. A new management goal of rebuilding Haida Gwaii herring stocks and a more conservative harvesting policy are needed, especially in light of the inadequate level of skill that we currently possess in stock assessment. We now know how much the uncertainty in fisheries management can put herring, dependent species, and fishing communities at risk.

On both coasts, local communities – whose fishers have in the past been blamed for overfishing – are now finding themselves displaced and without their traditional foodstuffs as well as livelihood. In the fishing communities on both the east and the west coasts, issues of food security and justice have arisen. Except when forced through court action to document and recognize use-rights of access to fish (this has been done on occasion for First Nations), Canadian fisheries regulations have been directed almost exclusively to the preservation of large-scale commercial fisheries and recreational fisheries, which federal accountants know to be lucrative. In Canadian fisheries policy, economic efficiency and market values clearly are paramount. Ethics do not appear to be taken into consideration.

How Ethical Are the Canadian Fisheries?

Whether or not our fisheries do operate ethically has never been quantified. To remedy this situation, we carried out a quantitative



**Almost everything I ever
learned about fish was
from the old man...
from father to son, you know.
Though I never called him Dad...
Just Skipper.**

ethical analysis of fisheries on Canada's east and west coasts. We analysed nine ethical attributes, encompassing aspects of distributive, restorative, creative, and productive justice, and rated 42 fisheries: 24 on the west coast and 18 on the east coast. We compared the results with similar analyses that have been done for other fisheries and found that Canadian west coast fisheries as a group scored significantly worse ethically than those on the east coast. Fixed-gear herring fisheries on the east and west coasts achieve the highest ethical scores. Among British Columbia's salmon fisheries, troll gear and sockeye fisheries score highest and seine boats score lowest. Among the east coast cod fisheries, inshore, handline, and trap gears score high, while the offshore trawl fishery has a low ethical status. The British Columbia groundfish trawl fishery, with the lowest status in this analysis, raises serious ethical concerns that question Canada's conformity with the United Nations Food and Agriculture Organization (FAO) Code of Conduct for Responsible Fishing. Given these results and their implications for Canada's international reputation, as well as for our national self-respect, we suggest that this kind of analysis should be developed to be used alongside stock assessment, quota setting, and allocation issues. This would let policy-makers analyse regularly updated data (time series) from a fishery, and explore the ethical consequences of policy initiatives as these arise.

What Can Be Done?

We looked first at the spiritual values of major world religions (Judaism, Islam, Hinduism, Buddhism, Taoism, and Christianity) in terms of their ecological perspectives and the critical implications these values could have on public policy when applied to the Canadian fisheries. We found, in particular, that one potential approach to the fisheries crisis is embedded in the Judeo-Christian concepts of sabbath and jubilee. These were first developed in Israel as ways of building rest and rejuvenation into the rhythm of society and nature. The sabbath created the opportunity for a rest every seven years that would restore a depleted resource; the jubilee provided a basis for restorative justice every 50 years for those resources that became overused and those people who became overly indebted. The idea of marine protected areas, now being developed for Canadian waters, fits the idea of jubilee very nicely. This stress on the justice of relationships between humans and with the natural world provides Christians with a strong self-critical tool to measure the success of their allegiance to their original vision. Concepts of jubilee and sabbath also offer concrete principles of action for working on behalf of



**The water was free
for everybody...
there's no law
says you own the water,
the same thing with a berth,
whoever was there first,
would get it.**



those who experience injustice in the fisheries (both human and non-human) at local and public policy levels.

We also sought to evaluate the idea of *stewardship* (defined as hands-on daily care), which is often suggested as a basis for ecosystem justice in the Canadian fisheries. We asked whether the idea would actually support and advance the goal of ethical fisheries practice. We looked at the stewardship model's history and context (what does it mean? from where does it come?); analysed its usefulness and strengths (how does it help us act justly in Canadian fishery-exploited ecosystems?); and identified its limitations (in what ways does it fail as a model and in practice?). We concluded that self-restraint, local involvement, and a long-term time frame need to become basic principles of stewardship. It has the advantage of appealing to widespread views of the place of humans in nature and to ethical values of caring in a sustainable manner for the earth and all its inhabitants. The danger, however, is that it leaves unchallenged our assumption that, as humans, we are entitled to see ourselves in a position of power and dominion over natural resources without reminding us forcefully that such rights also carry reciprocal responsibilities for the well-being of those same resources.

Haida Gwaii elders and representatives to whom we spoke offered their traditions as a good example of a respectful approach to fisheries. The Haida world view is based on beliefs about Haida origins, their relationship to the natural world, and the intrinsic spiritual value of the natural world and all its elements, including fish, sea mammals, birds, land animals, forests, streams, and the sea itself. "Justice," as understood in modern law, is presently redefining the relationship between First Nations and Canada. The ongoing process of treaty development could be used as an opportunity to rethink the relationships between *all* peoples in Canada, the fishery, and the broader ecosystem. Just because the Haida world view incorporates many elements of a broader ecosystem justice approach, its underlying ethics would be useful in modern fisheries management. Co-management and place-based management systems that develop stewardship principles, which have become part of modern-day treaties (such as the Gwaii Haanas-Parks Canada agreement), could provide a model for Canadian fisheries management across the country.

At present, however, if we think of justice as an orderly relationship between different elements of society, it is conspicuously lacking in Canada's east coast and west coast fisheries. *Creative* justice, in the form of communication and information-sharing be-



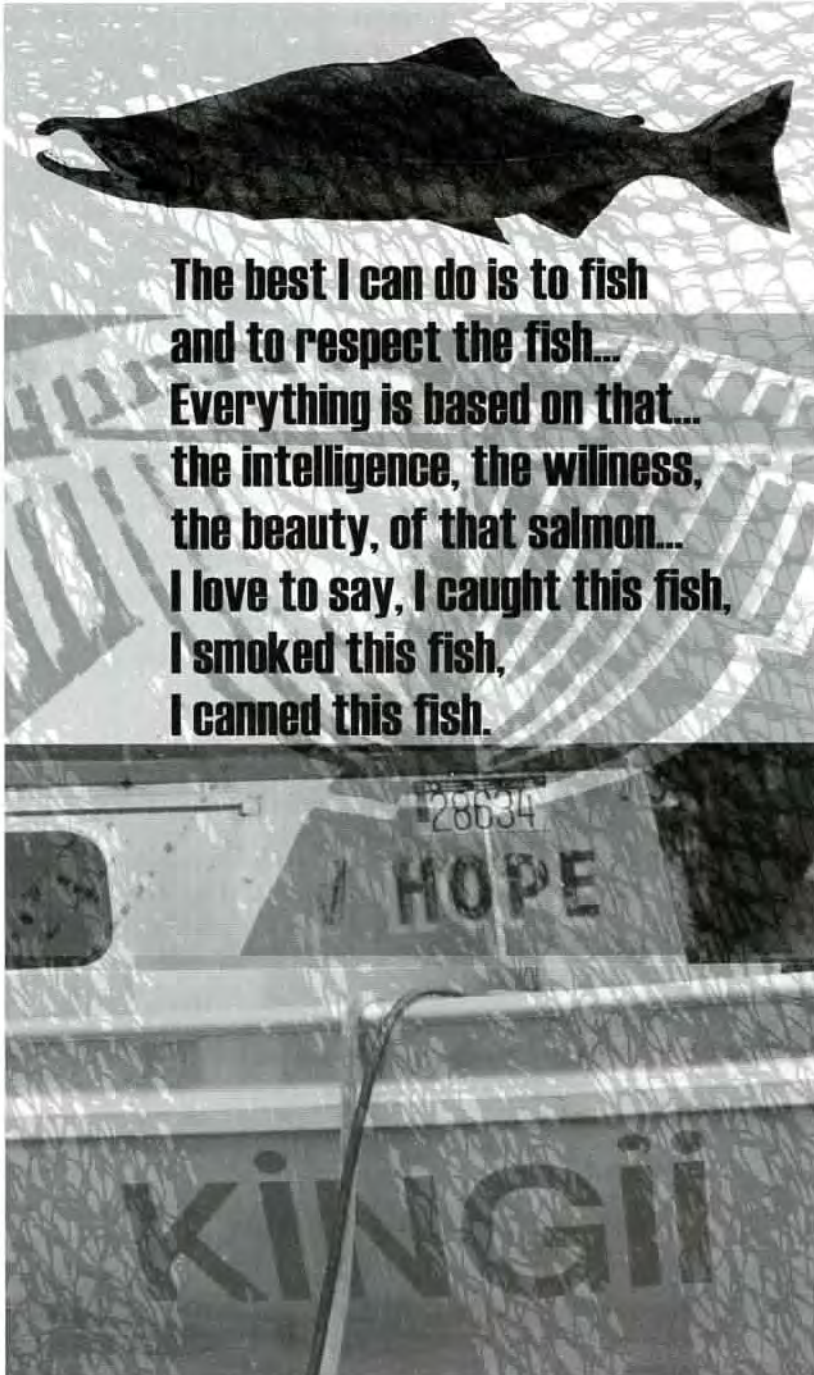
**I can still remember the feeling,
alone, with my line in the water
hunting that wild codfish.
Seems like a long time ago now.**

tween different knowledge systems (such as the traditional knowledge of Aboriginal peoples or of long-standing fishing communities such as east coast outports) is not well developed. *Distributive* justice, manifested as genuine partnerships in stewardship and fairness in allocation of quotas, is not yet close to being achieved. Our changing pattern of resource ownership is echoed in our changing relationship with the sea. We now have to come to terms with a depleted ocean (a matter of *productive*, *restorative*, and *ecosystem* justice) and the fact that fishers and other interests, although not natural enemies, have been forced into an adversarial relationship. There is wisdom from the past and the present that we could draw on in the future, combining science, the traditional knowledge of Aboriginal peoples, information from commercial fishers, history, and archaeology to reconstruct ecosystems as they might have been prior to depletion by modern industrial fishing (*restorative* and *creative* justice). This would provide us with a basis from which to assess the degree of *ecosystem* justice in operation at any given time. Identifying the ecological, social, and economic benefits of restoration to some level of this "forgotten abundance" would then serve as a strong incentive to adopt restoration rather than sustainability as the goal and replace old hierarchies with a new, collaborative relationship among fishers, scientists, and government.

Conclusion

We live at the planetary level in what is ultimately a closed system. While it is true that we do not have our global distribution systems in hand and could do a much better job of moving foodstuffs from areas of plenty to areas of scarcity, it is also the case that we are running down our oceanic food sources. The further we have moved away from the old, direct, pre-industrial system of using *adjacent* resources to sustain local societies, the further we have moved from contact with a direct warning system for over-exploitation. This is not to argue for a return to everything in the past - one cannot go back - but it is to say that we may have thrown the baby out with the pre-industrial bathwater! The more we have relied on technology, the more we have been able (in the short term) to lull ourselves into a false sense of security.

There are warning signs everywhere, examples of environmental degradation and destruction, if we have the eyes to see them. If we live in the city we may not notice some of them. This is a "downside" of the move away from the land to wage employment that began with the Industrial Revolution. For all the undoubted improvements that industrial progress bestowed on society, we nonetheless began to



**The best I can do is to fish
and to respect the fish...
Everything is based on that...
the intelligence, the wiliness,
the beauty, of that salmon...
I love to say, I caught this fish,
I smoked this fish,
I canned this fish.**

lose touch with our roots. Our reliance on the environment for our daily bread, for example, became increasingly indirect. Bread (and other foods) became something we buy off the shelf in a store, without much (or any) thought of where or how it is produced. This in turn means that we have increased our reliance on wage employment to provide us with the cash that lets us purchase foodstuffs and other necessities.

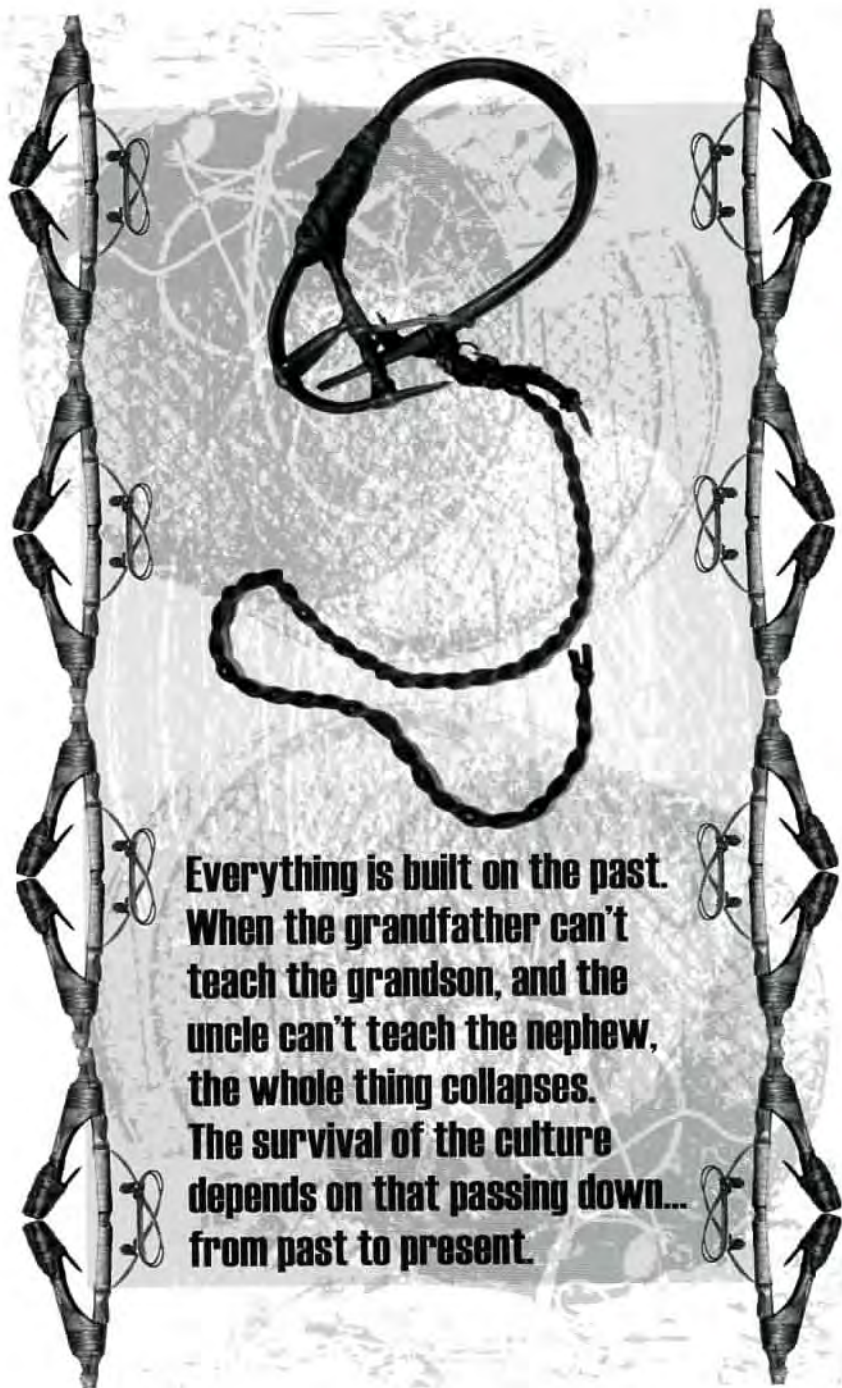
Now, in resource production regions, there is often serious conflict between resource workers and environmentalists. This is because, in moving away from dependence on local resources, we have created an artificial division between protecting the environment – so that it will still provide us with food or other resources – and keeping resource production up and successful – so that we will have jobs, which allow us to pay for these necessities. The conflicts between fishers or loggers and environmentalists in Canada is a national manifestation of what is becoming a global dilemma. Modern industrial and post-industrial management techniques and computer and mechanical technological developments have combined to make matters worse, because it is now possible for resource extraction firms to be footloose. That is, they no longer need to be tied to the place where the resource is found. They can move to whatever regulatory climate gives them the best deal. That means that in coastal communities jobs will be lost if the firm moves away, and so local environmental sensitivities have to be abandoned to keep communities economically viable.

In other words, the Industrial Revolution (which is so often thought of as the breakthrough that saved society from the Malthusian Precipice) may ultimately have to be regarded as a fatal wrong turning ... *unless we learn to handle technology with wisdom*. This has now become a matter of good policy, good ethics, and sheer common sense. First Nations and local fishers are important voices in society: they remain close to the land and the sea, adjacent and therefore sensitive to both the need for wages and the need to preserve our ecosystems. Until we can *listen* to local voices, until we can *re-integrate people and the ecosystems* on which they depend, until we can adopt real and responsible *adjacency and stewardship principles* in our fisheries and *put them into action*, we are in grave danger of destroying the very environment on which we all ultimately depend. Such a policy would be neither intelligent nor ethical.



**You were always fishing...
That was what abundance meant...
Certain things at certain places
at certain times of the year,
and there was always a possibility
of failure.**





**Everything is built on the past.
When the grandfather can't
teach the grandson, and the
uncle can't teach the nephew,
the whole thing collapses.
The survival of the culture
depends on that passing down...
from past to present.**



Charles Darwin, reflecting on the world as he saw it during the voyage of the *Beagle*, wrote that "if the misery of our poor be caused, not by the laws of nature but by our institutions, great is our sin." Today in Canada, the fish stocks of both the east and west coasts are in serious trouble. The once-great cod stocks have collapsed; the Fraser River salmon stocks seem to have done likewise. Coastal communities that evolved, and revolved, around the fishery for generations, even centuries, are in crisis. Were this a single-species or single-region phenomenon, some kind of natural cause might be suspected, but the majority of the great world fisheries are seriously over-exploited, and some bodies of water are effectively dead. The problem has to lie with the manner in which we run our fisheries. Charles Darwin would find us culpable.

The issue, then, is ethical as well as social and environmental. That is why a team of humanists, natural scientists, and social scientists came together to examine the question of justice in the Canadian fisheries and to seek an ethical foundation upon which to base guidelines for fisheries policies and decision-making in the future. *Just Fish: Ethics and Canadian Marine Fisheries*, the result of their work, argues that Canada could - and must - become a world leader in developing fisheries management institutions that can protect the legitimate interests of both fish and the fishers who depend upon them.



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