

The Salmon Resource

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improving environmental quality is by wearing better blinkers.

The theme of this issue is "The Use of Resources." The current wave in interest in the environmental crisis has made people aware of the dangers of pollution, but this is only one of the problems. In general we are ignorant of the relationship of pollution to wasteful and thoughtless resource use, and are still setting out to exploit untapped environments, such as the Arctic, with little thought for the future. Most people think of resources only in terms of their accumulated material, energy, and usefulness to man. There is little consideration of the environment's resilience, — its ability to bear extraction and the dangerous byproducts of technology. This resilience is an important resource in itself, and as Christian de Laet points out in "Resources and Population" the survival and well-being of our species depends on our ability to assess such capacities in the environment. Practical, immediate solutions to over-exploitation are difficult to find. To some extent we have to trust that new technological breakthroughs will provide some of the answers, though the longer we wait for these, the worse the situation becomes. More efficient methods of recycling are coming into use, and, as Barbara Corry's article shows, there are many recycling methods that the individual can immediately apply. Taxation on effluents has been tried, with short-term success. Economic incentives to developing anti-pollution techniques have been offered. But consistency in application, and sound ecological knowledge are needed to ensure the effectiveness of these methods over longer time spans. A legal solution which would bypass many of the problems of considering every case separately has been suggested by the Canadian economist John Dales. He proposes that disposal of effluents into air and water be made legal "rights" similar to mineral rights. The capacity of particular environments to recover from pollution and exploitation would be assessed, and units of these rights bid for competitively. To survive, industries would have to live within the limits that the environment could handle.

This issue has a more local flavour than the last. The articles of Roderick Haig-Brown and Gerry Burch discuss two of the major and sometimes conflicting resources of British Columbia, namely the salmon and the trees. David Palmer reviews a resource conflict which has been in all our minds lately, in "The Goldstream Drama," and the Water Commissioner, Mr. Upward took the time to write to us about the economic difficulties of providing water for all our needs.

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For thousands of years mankind struggled to make a bare living. Now for the last hundred years or so the struggle has been for abundance, and this has been achieved, even though the means of equitable distribution were not. We have continued with this search, along the same lines, and in the process we have developed the most rapacious and wasteful economy in the world's history. The true costs are at last becoming apparent. They are cumulative and they probably compound each other.

So somehow we have to find the proper balances, where the safe and sensible use ends and dangerous exploitation begins. We have to learn how to recognize and name new values, in terms of what we really need and want of the world, and we have to form these into a new theory of economics that measures more than profit and loss and more than dollars and cents. We cannot afford political or industrial secrecy and double-talk. There is no God-given right to secrecy, for either politics or profit. These are purely pragmatic coins that have been far too readily accepted, and it is time for an educated democracy to challenge them. What we need to be able to do is to see through the double-talk, and ask the right questions and insist on the right answers — from government and from industry.

One of the most important choices to be made is between extensive and intensive use of resources. Extensive use is "cut and get out" or, if you like, "get it now and leave others to worry later." Intensive resource use is "keep it sound and keep it coming." Now 90% of all pollution results from extensive resource use. Air, land, and water have a certain finite capacity for breaking down and absorbing waste. It is not nearly as great as we have assumed in the past, or as we continue to assume in the extensive philosophy. The best and tightest controls we can possibly hope to develop will still leave a certain minimum of waste. In the face of growing population and growing productivity, that minimum is all we can afford to leave. We have to insist that everybody gets their pollution down to absolute minimum.

In B.C. we practice extensive use in almost every field. We complain of power shortages, and the same agency that complains most urges us to use more power. In forestry we talk of sustained yield, then double-talk this into "allowable cut," which is often achieved by encroaching upon parks, headwater timbers, and second-growth stands that have not yet attained their maximum growth rate. Just watch the trucks on the Island highway; loads of toothpicks; stud logs from coast forest lands! We talk of "close utilization" in logging, then we feed it into pulp mills that spew out 60-65% of the log in waste and pollution. We have built an economy on the absurdities of packaging and planned obsolescence; from the ridiculous automobile body to the gift-wrapped pork chops.

I want to exemplify resource problems by talking about one resource with which I'm familiar and show you some of the conflicts with other resources. This is the B.C. salmon resource, one of our better managed and better understood resources. It's also one of this continent's last great natural abundances, and more than that we have a reasonable chance of hanging onto it. This is a resource that is dependent on the forested slope of the Pacific Northwest. It is dependent on lots of water coming down from glaciers and snowfields. This is the environment that produced the great salmon runs, and by digging into this environment we have created many problems. Pollution is an obvious one, both domestic and industrial, and one of the worst-hit areas is the lower Fraser. In my opinion this particular problem has been with us for a number of years, but nobody can prove it. We are going to have to act quickly, and we are going to have to prevent further pollution if we want to hang onto the salmon. Dams are another problem; they can be insuperable literally and metaphorically. But dams can be planned and staggered so as not to interfere with salmon runs. So far we have kept dams off the main, established sources of the Fraser; I hope we always will.

Irrigation and grazing also conflict by influencing runoff to rivers. Of course, logging is the greatest conflict use of all. Now all of these uses are capable of reasonable, economic control, that would allow the salmon to survive in its natural environment. The survival and productivity of the salmon resource depends mainly on two things: proper passage for migrating fish and good fresh water. The fish is itself a very valuable criterion for water quality. If we keep our fresh waters fit for salmon, then they're fit for most every other purpose.

The management of the salmon resource becomes increasingly sophisticated. We are more skillful at anticipating returns of salmon and at balancing catch against escapement, which is critical since you must have a certain escapement to keep up high yields. Excess of escapement, may damage the spawning areas as well as constituting a commercial loss. Another possible conflict is the convocation on the high seas fishery. We know little of its effects but we suspect that it has little effect on B.C. salmon. However it is perfectly clear that if you have high seas fisheries, you have the greatest of difficulty in managing the salmon resources. The fish are being

caught a great distance from their streams, and you cannot balance the catch against the escape for a particular river all the time from the competitive nature of the fishing industry, which leads to constant pressure from the fishermen, who are very often freed to catch for an increased catching time.

Another complication is the Indian food fishery. This is something that can be allowed for, something that can be handled perfectly well, as long as there is no bootlegging, i.e. taking fish in excess and selling them. These fish are not recorded and fish management people cannot record them. Then the balance between catch and escapement cannot be calculated. We could even afford to take our salmon commercially, up river; but we cannot afford not to know what is going on. And another complication is up-river losses that you get on occasion. Some developments, such as hatcheries for artificial rearing complicate matters by tending a little bit to push us towards fish farms. This domestication could be very harmful to the native resource. The fish-farm approach suggests that we could cut down on the quantity of native fish and encourage the people who want to use the watershed for other purposes, and who would then say, "Look, if you can farm the fish, we'll take the watershed and use it, and you keep the salmon off." Now the opposite picture is stream and lake improvement, and flow and temperature control on our rivers. This, in my opinion, is the best form of management; it can be supplemented by hatcheries; it is quite possible that they have a significant part to play. But we should never lose sight of the fact that this natural handling of the animal is the best handling, not only from the point of view of the animal itself but from the point of view of maintaining our fresh water lakes and streams in good condition.

Salmon are supposed to be a state-owned resource, state-manned, state-developed, and state-controlled. In practice this is not always true. The fishery is open to all, or was until very recently, though we have some licensing control now. Vessels may be state financed, yet processing and marketing are left entirely to private enterprise. It is interesting that we chose to use the industry this way. It is not necessarily the most efficient or economic way. Actually, small-boat fishing for salmon is largely an anachronism. We could have traps that would be just as efficient, and much better for conservation; they could even take the salmon in better condition most of the time. But the independence of the small boat operator is a desirable way of life, which we have decided to preserve. We have made a choice, not necessarily a final choice, but it is a choice based on a desirable way of life.

We have chosen to let processing and marketing be done by private enterprise and they probably do it more efficiently than the state. Resource law is quite clearly the state's responsibility. Research, management, development, and protection is done by the state. We are looking after the resource quite well; there are many conflicts but there are ways to handle them, and there are ways that we may keep this natural resource indefinitely, if we have freedom from further encroachments. But we may have to fight for that freedom.