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No Clearcutting in My Backyard! Competing Visions of the Forest in Northern Newfoundland

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No Clearcutting in My Backyard! Competing Visions of the Forest in Northern Newfoundland

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Abstract

Since the cod and salmon fisheries were closed in 1992, Newfoundlanders have turned increasingly to the forest for subsistence and commercial purposes. The provincial and federal forest managers consider the residents' use to be a threat to the economic viability of the forest. The residents consider the government's management to be mercenary, political, and destructive. This collaboration of an ethnographer and professional forester working on the Great Northern Peninsula analyses these arguments and attempts to determine, who's right? What is happening to the forest, and what will be the impact on rural Newfoundlanders?

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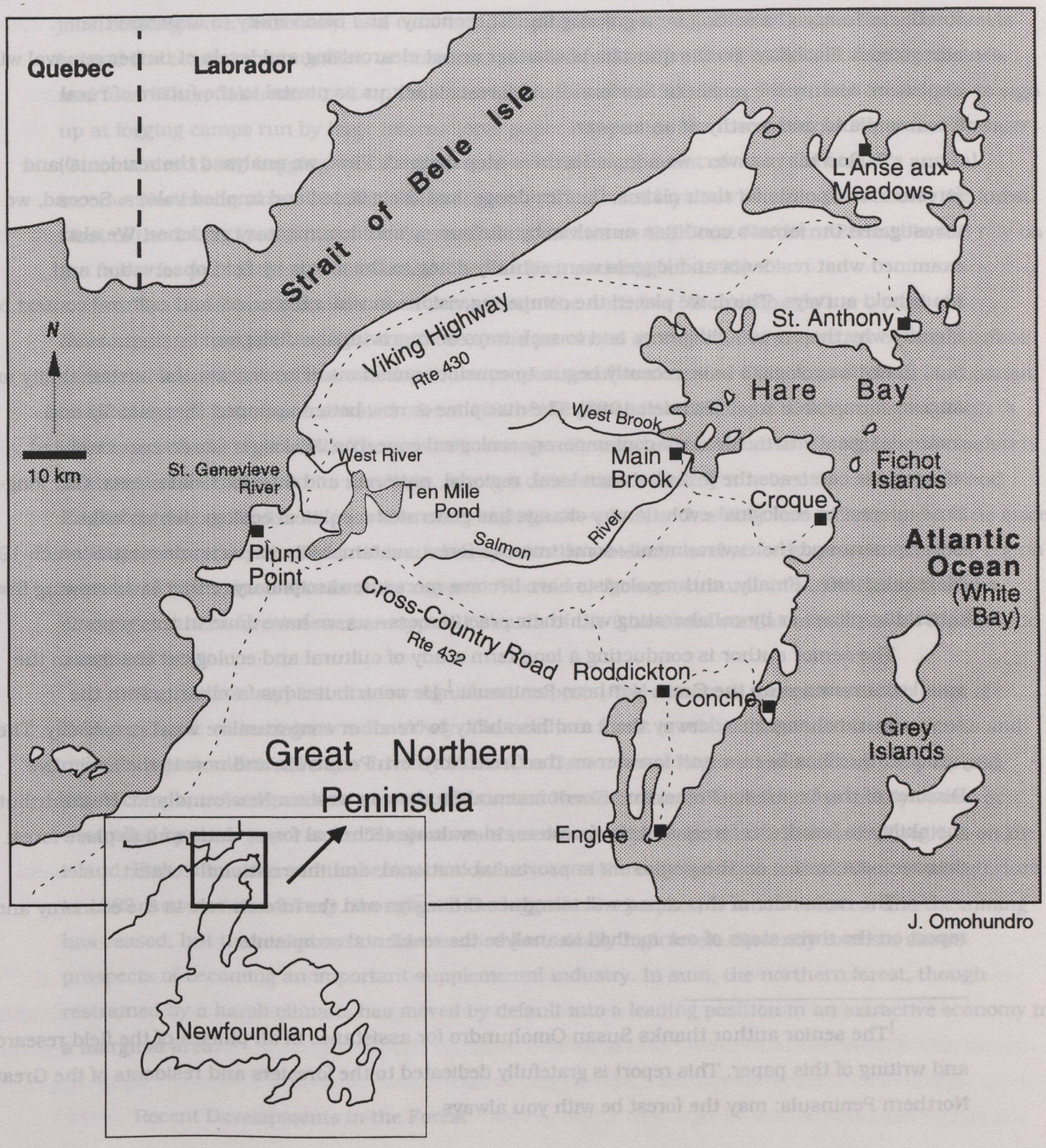
"They're gonna destroy the forest...just like they did the fish." This view is widely held among residents of Northern Newfoundland in the 1990s. "They" refers to the commercial loggers and the provincial foresters, who work in the spruce and fir forests that cover about half the Great Northern Peninsula (see map). The residents, except for some loggers and sawyers, have repeatedly expressed alarm that clearcutting and current levels of timber harvest ("overcutting") will destroy the forest, curtailing employment and interrupting their many subsistence uses of the forest. They fear that bad management and excessive harvest of the timber will lead to the same kind of resource depletion and harvest ban that has crippled the northern cod fishery.

The senior author recalls that when he began conducting ethnographic fieldwork in the north, residents expressed similar worries that the then-current fishing techniques and catch levels would lead to the destruction of the cod stocks. Field notes from seven visits between 1980 and 1992 are filled with residents' concerns about otter trawl fleets and TAC (total allowable catch) levels. The residents' dire predictions were justified: in 1992 the Canadian government declared a five-year moratorium on the northern cod fishery, and two years later the ban was extended to the Gulf cod fishery. More than thirty thousand Newfoundlanders were directly affected. In 1997, the last year of the five-year moratorium, there are still few indications of recovery.

If residents' worries about their fish stocks were justified, perhaps their apprehension about their timber supply is also justified. Do northern Newfoundlanders have sufficient experience in the woods, or enough education or traditional ecological knowledge to be right again? If residents are right, and their data are accurate, then why aren't government officials doing the right thing? Perhaps the government's forest data are inadequate, or the government is under the sway of interested parties, or the government vision of the forest leads to different outcomes. If the residents are wrong, and clearcutting and the current levels of cutting are not in fact leading to forest destruction, then do they

Map 1

Great Northern Peninsula, Newfoundland



J. Omohundro

have too little information, wrong information, or different goals and values? What could be done to find some common basis for dialogue?

The future of the forest on the Great Northern Peninsula, and in Newfoundland in general, is of immense importance to residents. It provides fuel, shelter, and food, raw material for the pulp and lumber industry, the setting for a growing tourist economy, and biodiversity to maintain the ecosystem's flexibility. So the question of whether or not clearcutting and levels of timber removal will deplete or destroy the northern Newfoundland forest struck us as pivotal to the future of rural Newfoundland and worthy of an answer.

To find that answer, we adopted a three-step method. First, we analysed the residents' and foresters' viewpoints for their claims, their evidence, and their stated and implied values. Second, we investigated the forest's condition ourselves by site survey and documentary evidence. We also examined what residents and loggers were actually doing in the woods by field observation and household surveys. Third, we placed the competing visions in wider historical and cultural context to identify why there was a difference and to seek ways of improving the dialogue.

Anthropologists have recently begun to consider questions of environmental sustainability an important research topic (Bennett 1993). The discipline is now better equipped theoretically and methodologically to tackle such contemporary ecological concerns. No longer observers of isolated villages, we can trace the links between local, regional, national, and international events. Our long-time interest in ecological-evolutionary change has generated a political ecology, which links development and the environment—sometimes, to forest sustainability in particular (e.g. Stonich 1993, Marchak 1990) . Finally, anthropologists have become more interdisciplinary, either by borrowing from other disciplines or by collaborating with their practitioners—as we have done in this report.

The senior author is conducting a long term study of cultural and ecological changes in the small communities on the Great Northern Peninsula.[1] He contributes his familiarity with the sociocultural changes underway there and his ability to "read" or contextualize what people say. The junior author has been a unit forester on the Great Northern Peninsula and now is the Executive Director of the Centre for Forest and Envrionmental Studies, in western Newfoundland. He contributes the ability to "read" the forest and the foresters, to evaluate technical forest data, and to place forest management issues on the peninsula in provincial, national, and international context.

The remainder of this report will introduce the region and the forest's role in the economy and report on the three steps of our method to analyse the residents' complaints.

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[1]The senior author thanks Susan Omohundro for assistance in all phases of the field research and writing of this paper. This report is gratefully dedicated to the foresters and residents of the Great Northern Peninsula; may the forest be with you always.

The Great Northern Peninsula Forest

Until the late twentieth century, rural Newfoundlanders made ends meet by holding a variety of jobs, shifting work seasonally, and combining employment with subsistence production. The forests behind the coastal communities, or outports, provided fuel and building materials, food, medicines, and furs. When fishermen took up their gear and boats in the fall, many "went into the woods" to sign up at logging camps run by large international paper companies like International Paper and Bowater (Omohundro 1994). Logging was a regular and valuable component of many fishermen's annual income. Northerners may be called fisher-loggers, with divided loyalties between the sea and the forest. Most of the 24,000 residents of the 60 small communities on the Great Northern Peninsula still rely on the forest for part of their subsistence or income (Felt and Sinclair 1995).

The Great Northern Peninsula (henceforth "the north" or "the peninsula") is typical of Newfoundland in some respects. It is close to the provincial average in the proportion of land surface with productive forest (about one third), the proportion of unalienated Crown (provincial) land (about one third), and in timber harvested (about 10% of the provincial total, for 2 of 20 provincial districts (Gibbons 1991; O'Neill 1992). The province manages the northern forest districts in the same fashion as the other districts, and its residents, who are descendants of early nineteenth century Irish and English immigrants, live as people in other regions do—albeit with a little less income and a little more subsistence production. The criticism which peninsula residents level at forest practices in their region appears to be common also in other regions. Therefore, the sociocultural and managerial systems shaping northern forest issues are typical of much of the island and similar to parts of all the Atlantic provinces.

The north is atypical in a few significant respects. The climate is more severe than most of Newfoundland, so trees grow more slowly. The northern forest is relatively isolated from markets and mills, being an additional day's drive by truck. The Crown has a larger presence than the pulp and paper companies compared to western and central Newfoundland, where forest is mostly owned or controlled by three paper mills. The peninsula's economy is perhaps the least diverse of regions on the island. Fish, minerals, and timber extraction have been the only industries. Since the cod moratorium in 1992, however, the fishery, though still the biggest moneymaker, is much reduced, and the mining has ceased, but timber extraction has reached historically high levels. Recently tourism shows prospects of becoming an important supplemental industry. In sum, the northern forest, though restrained by a harsh climate, has moved by default into a leading position in an extractive economy in a marginal area.

Recent Developments in the Forest

Commercial logging has been conducted on the peninsula since the 1920s, for lumber, pit props, timbers, and pulpwood, but the volume of extraction has varied widely in irregular boom and bust cycles. Logging technology, however, has changed irreversibly from horse and bucksaw to large diesel skidders, articulated forwarders, and roadside slashers, which delimb and chunk the logs and load them onto "b-train" (double trailer) trucks. Feller-bunchers, also called mechanical harvesters, have recently been tried in western Newfoundland and might further increase yield but will reduce employment.

After its heyday in the 1950s and 1960s, pulpwood extraction declined on the peninsula to a complete halt in 1992 because transport costs were high and mills were using more recycled material. It has since recovered modestly. In 1995, a modernized paper plant opened in Stephenville, in southwest Newfoundland. The new plant possesses insufficient licenses for timber land to operate efficiently, so it has been placing large orders for pulpwood from the peninsula Crown land, keeping numerous small independent contractors and trucking companies busy.

Production of lumber and chips for fuel has also expanded in the 1990s, further increasing demands for local timber. The cod moratorium led to an upsurge in local house starts and domestic construction projects, because fishermen and plant workers found themselves with discretionary time and a guaranteed income for a few years. Sawmills of all sizes, from small domestic pushbenches to large commercial operations, proliferated. Prime trees for sawlogs—never numerous and becoming scarcer— were in great demand. The U.S. import market for Newfoundland lumber opened as other Canadian provinces reached their import quota limits. From 1991 to 1996, chips for fuel became a profitable business when a large electricity generating plant operated in Roddickton. The plant purchased byproducts from sawmills and cutovers for chipping into fuel, but its capacity was great enough that it also commissioned loggers to chip some of the region's standing timber.

This increase in logging and lumber production doubled employment in the peninsula's woods industry between 1980 and 1996, but employment is still lower than in the days of the fisher-logger. Mechanization and unionization since 1960 have reduced the workforce. The employment increase is mostly in the small local logging firms and sawmills , which are not unionized. These workers sometimes have difficulty finding enough weeks of work a year to become eligible for unemployment insurance.

While extraction was increasing dramatically, changes were also underway in forest management. The Newfoundland Forest Service (henceforth, "Forestry" or "foresters"), currently a branch of the provincial Ministry of Forest Resources and Agrifoods, developed a twenty-year planning cycle using improved inventory data to assess the timber supply (Flight and Peters 1992). The inventory determined that Newfoundland's timber supply is under heavy demand, that demand for sawlogs on

Crown land would exceed supply for the next twenty years, and that two of the three big mills would encounter pulpwood supply problems as well.

To summarize, logging on the peninsula is operating at historically high levels, for more purposes, and with more sophisticated machinery. Employment in the woods industry is higher than it was twenty years ago, but not as widespread as fifty years ago. Forestry has determined that the peninsula is at the limits of its production and forecasts a leaner time coming. Within this historical context we may now examine residents' criticism of current practices.

The Residents' Complaints

In 1990, 1992, 1994, and 1996 the senior author conducted scores of KAP (knowledge, attitudes, and practices) interviews with residents in five communities on the peninsula. The interview sample was a cross-section by age, occupation, socioeconomic standing, and gender. It included experienced forest users, both commercial and domestic, as well as the inexperienced. Three of the five communities represented in this study were begun by international pulp and paper corporations (henceforth, "the company") and a fourth was a company depot for a time. But all were populated mostly by immigrants from nearby fishing communities and two have since shifted economic emphasis or diversified, so none are still company towns nor do they manifest a distinct loggers' culture.

Those interviewed made unprompted remarks about the forest in conversation, but each was also asked:

- What is the condition of the forest these days?
- What do you see when you go into the country? What do you do there?
- What is the future of the woods around here?
- How is Forestry doing?

Formal EFR (ethnographic futures research) interviews were also conducted in 1990 and 1996 with eighteen leaders in the five communities, prompting them for worst-case, best-case, and most-likely-case scenarios for their community five years hence. The future of the forest and its associated industries was volunteered or elicited in most interviews.

The opinions of our respondents sort fairly clearly into two views of the condition of the northern forest: the residents not affiliated with the woods industry fear a crisis, and those who are in the industry hope for a perpetuation if not an increase in current extraction.

The two predominant concerns among residents holding the first, more widespread view, were that too much timber was being removed annually ("overcutting") and that clearcutting was an unsatisfactory method of removal. The evidence which residents offered for the existence of an overcut included (1) Forestry documents themselves, stating that overcuts were done and warning of a coming shortfall in sawlogs; (2) oral reports from foresters at public meetings; (3) oral reports from loggers and

other woodsworkers; (4) direct observation of cutovers, logging, and logging trucks; and (5) direct observation of sawmill activity and biomass collection.

Residents attributed the overcut to several factors.

(1) Inadequate supervision of loggers and fuelwood cutters by Forestry. "Firewood cutters take too much," said one person. "They cut right to the water's edge, over there across the harbour. It looks awful. There should be more control of them." A logger reported, "The company overcuts. You can go into the woods and see the trees. I've rubbed shoulders with every stick, I know. The company was cutting double the AAC {annual allowable cut} for awhile, and also highgrading {removing only the best trees}. If they are not monitored better they could cut all the wood out of here."

(2) Excessive demand by the pulpmills, the large local sawmills, and the electricity generating plant's biomass burner. "The big mills in Roddickton are overcutting the woods; there should only be one mill. There isn't enough timber for both of them, " a resident told us.

(3) Forestry officials set the annual allowable cut too high. Said one man, "Forestry is aware that it can't sustain the AAC it has set lately. They are looking for more timber stands...We'll slide into cutting everything out, right down to our doors." Another asserted,

> If you fly over the country, from here to Gander, most of the way all you see is clearcut. It's a bit better in the north here, but the cutovers behind Hawkes Bay and elsewhere on the peninsula are big...Forestry is saying there's thousands {of trees} out there, and I'm saying it's getting cut out.

(4) Political pressure on Forestry to create opportunities for employment and to find resources to promote the region's industrial development. "{The forester} gets overridden, he's not in control. {The company} has government connections, it goes over his head, then the rules don't get followed, and overcutting occurs," said a woman. A man said, "The forest is overcut as government responds to pressures to keep making jobs so people can get UI {unemployment insurance.} Politicians override the professional foresters."

(5) Waste of the resource by harmful logging practices. A logger reported,

> Until recently, when I cut company wood I might have to push roads through immature stands to get at the mature trees. Then, in dropping and dragging logs, I destroyed many of the young ones. We've been wasting trees like the draggers wasted fish, bringing up a net of 50 thousand pounds, perhaps most of which is immature, and throwing them away dead.

In fact, most residents drew parallels between the current logging regime and the fishery crisis. "We trusted Fisheries and Oceans to manage the resource, but they didn't listen to the fishermen and they lost it. So we shouldn't trust Forestry and they should listen to us more," said one ex-logger. A man who logged in his youth said,

> Big machinery is a big mistake. Look at the draggers: demanding a bigger quota so they can buy a bigger boat and gear and acquire a bigger debt so they can demand a bigger quota. Man will destroy himself for quick money. We should learn a lesson from the fishery.

"The same attitude destroyed the fishery, " a community leader said. "Each one going at it for all he could get and not cooperating with his fellow to establish some guidelines and limits."

Residents anticipate that the consequences of this overcut will be a reduction in the sustainability of the forest, the closing of some local woods operations and sawmills, a decline in employment leading to community decline, a slowdown in the tourist industry, a reduction of wildlife habitat, and increased restrictions on their own many uses of the forest.

The second predominant criticism is against clearcutting with big machinery as a method of timber removal. Residents say that although clearcutting may be the least expensive logging method, the gains are short term and go to a few, namely the contractor or company, while the costs are long term and fall upon the many.

One woman fumed,

> The country is all tore up by timberjacks. They are using the wrong equipment. You can't even walk in the woods because the ruts are so deep. A young tree can't grow under those conditions. When you drive in there, all you see is big cutovers. If you see a moose he has a backpack on, looking for someplace to go.

A man told us,

> Spring Pond {a pseudonym} is a good example of a wasted region. That was beat flat, with tire tracks and big clearcuts. When we raised the cry, {the logging companies} said we were trying to take away their jobs, but we were really trying to make sure they had a job down the road.

The outcry against clearcutting was raised at forestry management meetings and also in a series of letters to the editor in the local newspaper. A businessman wrote,

> Everything is being clearcut right up to the edge of ponds and the main road. One only has to drive around the area to see that. It looks like it has been hit by an A-bomb. (Northern Pen 1991)

Critics were particularly horrified when Forestry allowed outfits to chip whole green trees which would have been suitable sawlog material and hence more valuable (this practice ended in 1996 when the chip-burning plant closed). They also think that Forestry does not perform enough re-planting or pre-commercial thinning soon enough after clearcutting to hasten regeneration. In sum, the accusations of overcutting and clearcutting express a fear of a permanently degraded forest and a reduced woods industry.

Residents' sentiment against clearcutting comes from information gained from television coverage of clearcutting in western Canada and the U.S., the local newspaper, their travels into the country to hunt, gather, fish, log, trap, picnic, and snowmobile, the reactions of their tourist clients, and publicity by environmentalist groups in Newfoundland. A recent syndicated column in the local newspaper stated,

> According to the provincial government's recently released forestry plan, forests are nothing more than a tool to enhance the profitability of large corporations...We let our natural resources be wrecked so that a few shareholders can get even richer...Just ask the thousands of fishing people made idle by the rape of the cod resource (Hanrahan 1997:A7).

An eastern Newfoundland environmental group sent a letter stating,

> ...it's becoming painfully obvious to most Newfoundlanders that the pathetic state of our forest has already reached a crisis level comparable to that existing in our fishery" (Northern Pen 1994b:4A)

Residents claim that clearcutting has these drawbacks: (1) it dries out and heats up the soil, increasing fire risk and reducing regeneration of seedlings; (2) it eliminates wildlife habitat; (3) it tears up the soil, leading to erosion of topsoil and siltation of fishing waters; (4) it looks unattractive to residents and tourists; (5) it destroys nonmerchantable trees useful for fruit, animal browse, and firewood; and (6) it increases windfall damage in surrounding timber stands. The effects of clearcutting, residents say, will be to slow regeneration, reduce ground coverage, diminish tree species diversity, and shrink wildlife populations and diversity.

Residents holding the second view argue that there is no overcutting, or at least no crisis is pending, and that clearcutting is not harmful. Most loggers, sawyers, small independent contractors, some silviculture workers and local elected officials, who are all supporting an active woods industry, claim that there is sufficient timber locally for current levels of logging and that loggers are more closely supervised than ever. Loggers have defended their current methods in letters to the editor of the local newspaper. "Clearcutting is one of the best things to come to this area," one wrote. He noted that he efficiently utilizes all material from the cutover for sawlogs, pulp, and biomass, and that the clearcut generates jobs in planting and thinning. "Every cutover I've seen over the years has come back." (Northern Pen 1992). While most residents are deeply suspicious of current logging methods and volumes, those in the woods industry lobby for more forest access roads, new areas to be opened, assistance to purchase more machinery, and increased quotas for timber removal. Nevertheless, in private some loggers express reservations about the extent of cutovers or the techniques and machinery used. Loggers too are critical of Forestry, but for different reasons than other residents give. They say

that Forestry is not cracking down on domestic users' abuses or is zealously enforcing unreasonable environmental restrictions.

The Foresters' Reply

In 1996 we interviewed seventeen foresters, technicians, and silviculture specialists in the Canadian Forestry Service or the Newfoundland Forest Service, all but one of whom has worked on or supervised the Great Northern Peninsula (forestry management districts 17 and 18). We presented them with the residents' criticisms of forestry management and invited their rebuttal.

For their part, provincial foresters are critical of residents' use of the forest. Like the residents, they varied among themselves in ranking the problems and the intensity of their criticism.[2] But there was consensus on this list of problems in residents' forest use: (1) they log selectively ("highgrade," or remove the best trees); (2) they log or saw inefficiently, wasting large tops and slabs, dropping merchantable timber to rot, and leaving long stumps during winter cutting; (3) they log the wrong timber, either by cutting sawlogs into firewood, cutting in the wrong area, or poaching from company land; (4) they remove more than their permit allows or than they need, and then let it rot or sell it (a complaint many residents share, also); and (5) they remove (and sometimes sell on the black market) so much timber from Crown land as to be in competition with commercial sawmillers. These criticisms express fears that residents' use will degrade stand genetics, weaken the local woods industry, and reduce the annual harvestable volume of timber.

Putting aside the criticism of residents' practices, which deserve separate treatment, we look now at the responses which foresters give to residents' complaints. These responses are given at public meetings, in the local press, in forestry documents created or distributed on the peninsula, in conversation with residents, and in interviews with us.

Foresters agree that there has been overcutting. In the last ten years the AAC has been set above the maximum sustainable yield (MSY) to remove "overmature" and "bug-killed" timber from lands which have recently come under Crown control and whose value on the stump will otherwise drop quickly from rot and blowdown. The overcut is short-lived, however; the most recent five-year management plans (1997-2002) for northern Newfoundland districts call for reductions in AAC of 20%

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[2] One topic on which there is variation among foresters is the concern about the volume of Crown land timber logged for domestic firewood. Canadian Forestry personnel express greatest concern. They note that Newfoundlanders are by far the heaviest firewood users in the nation, consuming 1.2 m3 per person per year, nearly six times the Canadian average (Trelawny n.d. [1995]). It is frequently remarked by residents and foresters that domestic firewood cutters consume over 200,000 m3 of timber in a year—enough to support a fourth paper plant in the province. Western foresters are less concerned than Eastern ones about domestic firewood demands because western supplies are greater and the population smaller. Foresters on the Great Northern Peninsula (except the St. Anthony subdistrict) are are even less concerned, for the same reason.

or more. The St. Anthony subdistrict, on the barren tip of the peninsula, is overcutting for domestic firewood by about 35%, but foresters are developing plans with resident advisory committees to reduce that overcut each year by stricter regulations, lower permit limits, and trucking in fuelwood from nearby areas to sell.

Foresters defend their setting of the AAC by saying that they usually set it below the MSY, and that the figure is based on good inventory data collected using modern technology and supplemented by foot surveys. "Unlike the fish, you can count the trees," they say. "Trees can't swim away." Their university training engrained in them an aversion to unsustainable cutting, so they set their district's AAC conservatively. They say also that they are required by law not to overcut. They leave as much as 20% of the good timber standing now, they note, in the new environmental buffer zones around steams and ponds.

Foresters steadfastly defend logging as a good industry for the peninsula. "{Of all the industries in Canada} the forest industry is best suited to sustainable development... and this point has to be made clear to the public," wrote one district forester (Gibbons 1990:27).

In defending their enforcement of regulations, foresters point out that recent events have had a mixed effect on their effectiveness. New forestry legislation gives foresters ticketing authority, so infractions can be responded to immediately and swiftly instead of taking every miscreant to court. On the other hand, cutbacks in provincial and federal funding will limit their efforts at public education and enforcement. Though Forestry is one of the largest agencies of the provincial government and has the most field representatives, it is arguably still too small. As one ex-forester observed, "in Europe a forester may be responsible for 250 hectares; in Newfoundland it's more like 100,000 hectares."

Foresters defend clearcutting; they acknowledge that a cutover is not pretty but it is the cheapest way to remove timber and the best way to assure regeneration of healthy stands. "Clearcutting can be an environmentally sound harvesting practice" one wrote in a local newspaper column (Pilgrim 1994). The north's boreal forest of mostly balsam fir functions differently from the temperate zone forests of ancient Douglas fir in western Canada or even the Acadian zone forests in New Brunswick: it regenerates reliably as a nearly pure stand of fir. Newfoundland fir does not live as long as western Canadian fir: stands succumb to insect damage or rot after about one hundred years, blowing down and opening the land in a natural equivalent of clearcut. Clearcut lands re-seed themselves, unless slash is removed for chip fuel or skidders' tires tear up much ground. Foresters' policy is that after six years, if spontaneous regeneration has not progressed sufficiently, a re-planting is done; they do not have the funds to immediately re-plant all cutovers. Alternatives to clearcutting would require more forest access roads, degrade the genetics of the stands, slow regeneration, and cost more. After 1992, responding to residents' protests of clearcutting and its own policy shift from "timber supply management" to "sustainable forest management," northern foresters began to modify the clearcut practices. Clearcuts in 1996 are smaller and retain wildlife corridors. Stands of immature

pulpwood and hardwoods are left uncut. Foresters refer to these new procedures as "modified" clearcuts. Loggers say they prefer the new procedures because less effort is spent removing nonmerchantable timber.

A Third View

In this section we examine the basis for the residents' and foresters' views and provide our own interpretation of the condition and future of the region's forest.

A holistic examination of residents' complaints about overcutting and clearcutting reveals many reasons why they are upset. One is aesthetic. As even the foresters admit, large cutovers are distressing to look at. Residents consider them ugly and as evidence of forest "destruction." In Newfoundland, settlers clung to the coast and hunted fish, fur, and seals (Story 1969). They conducted little farming—less in the north than anywhere else (Omohundro 1994). The native forest was useful rather than an obstacle to progress, so the land was best that was covered with trees. By contrast, in much of North America the European settlers feared the untrammeled forest and looked upon cleared land as more civilized and beautiful (Nash 1983; Terrie 1993).

Some residents hope to compensate for the declining fishery by expanding tourism, but they have firsthand experience of mainland or European tourists expressing shock and disgust at the sight of clearcuts. Typical of such expressions was this letter from a visitor to the editor of a St. John's newspaper: "It is terrible to see...that the horizon is marked and destroyed by bulldozers, D8s, and feller bunchers." (Evening Telegram 1997)

Second, residents view the forest as a congeries of resources historically set aside for their use. Clearcuts impair their snaring, trapping, sightseeing, fishing, camping, and other recreational and subsistence uses (but hunting large game and some berrypicking is improved at cutovers). Commercial logging on Crown land competes with their collection of firewood and building materials. From the seventeenth century coastal residents had charters and legislation assuring them rights to free access to timber within three miles of the high tide (Munro 1978). This policy of an open-access "fisherman's commons" was formalized in the Crown Lands Act of 1930 when large commercial sawlog operations began to encroach upon residents' needs. The Newfoundland Forest Service, established in the 1960s, took over the fisherman's commons to arrest devastation from fires and overuse in many areas. However, the traditional right to enter the woods anywhere and cut a stick of wood for one's wharf or woodstove lives on in the rhetoric of many residents when they complain of Forestry regulations. "It's getting to the point where local citizens have to ask to go into the woods," lamented one resident. Foresters, who believe that without their management the Crown Lands would be destroyed in a short time, wryly label residents who operate by the old rules as "drive-by cutters."

Third, besides being an extractable resource for anyone, the woods are also the "home" or backyard of residents. Many locales in the region carry names evoking historical events or people and even religious and aesthetic significance (Firestone 1967; Humber Environment Action Group n.d. {1996}; Pocius 1991). That someone from outside the community could enter these locales with government encouragement and remove the timber for his profit seems akin to theft or desecration. Should some of the woods companies be owned by foreigners (or Ontarians, or urban business interests) then the sense of being exploited is even greater.

Forestry is one of several federal and provincial government agencies, such as Crown Lands, Wildlife, or Fisheries and Oceans, whose regulation and stewardship of what was commons has intensified in the last few decades. As a result, residents' concepts of land tenure and use-rights in the forest have been threatened. Forestry management districts consolidated many communities' traditional user-right territories; two districts make up the entire Great Northern Peninsula north of Gros Morne National Park. These units are much larger than the old environs in which residents, or even the paper companies, operated. Residents may speak of "our forest," and resent people from "over there" entering it to cut firewood, but foresters try not to recognize any community's historical link to any part of the forest as grounds for special treatment. They intend to manage all parts of the unit with a single management plan. In principle, foresters could assign loggers or silviculture crews from one area of the unit to work in another area, though for practical reasons this is not common.

The decoupling of settlements from their surrounding forest and the denial of traditional use-rights have prompted northerners to assert repeatedly their nonstatutory claims to the forest, as they have in their outcry against overcutting and clearcutting. Non-statutory claims refer to claims of the moral right to influence the future of their adjacent forest, even if they do not own it (Fortmann and Starrs 1990:191). Northern Newfoundlanders do not claim that they ever owned the forest, as do some native North Americans, but base their claim instead on their history of residence and economic dependence on the forest.

A fourth and fifth reason residents are alarmed is because the timber harvest has increased quickly and recently and is more visible than in the past. Commercial and domestic extraction levels were higher in 1995 than they have been since Bowater Newfoundland conducted extensive pulpwood operations on the peninsula in the 1960s. The volume of timber harvested increased ten-fold between 1980 and 1992. As harvest rates were accelerating, the network of forest access roads was also spreading, permitting residents to drive into many more regions of the backcountry and see the effects of logging more easily than when most travel was on foot or dogteam. The cod moratorium has given the fisher-logger more discretionary time, which is often spent in the woods. More families are in the forest at cabins, trout ponds, moose watching drives, and scenic picnic spots. Cable television, arriving in the 1980s, brings nature programs and conservation views and news into northern homes regularly.

In sum, residents are spending more time in more regions of the woods, with a consciousness influenced by national attention to forest conservation.

Sixth, peninsula communities have as much as seventy years experience working with "the company." They have seen the companies come, cut as they will, and leave with little notice, causing booms and busts. They do not trust the companies to place a high priority on sustainability. Rather than maximize timber production, residents wish to maximize jobs, but contemporary logging methods have reduced seasonal woods work five-fold since the 1950s (Omohundro 1994). They think that foresters, in trying to maximize timber harvest, serve the companies' interest. Foresters are believed to be under lobbying pressures from the companies to include more timber in the resource pool.

Forestry had little presence in the north until the mid-1970s, so its role and legitimacy are still in the process of formation. Furthermore, until the forest management plans of the 1990s called for more local citizen input through committees, residents had little voice in what was done with the forests on the Crown land surrounding their communities. They still have little voice except through their loggers' unions in what is done on company land.

From their position of little authority, residents frequently raise the accusation of unfairness. "It sounds to me that there are two sets of laws: Harsh laws for the common Joe and lenient laws for those who engage in {logging}," a letterwriter observed (Northern Pen 1994a). The two themes of favoritism toward business and restrictions on locals are combined in this complaint. The most popular contrast pair in the unfairness argument is that residents are prohibited from driving their all-terrain vehicles on bogs but the loggers' skidders are allowed in the woods (and, allegedly, get into the streams and bogs). A popular song during our 1996 field season satirized the contrast:

I was up pickin' berries when the law came out,
Sayin' that ridin' on trikes is not allowed.
When a pickup drove in, full of government men,
I t'ink 'twas the Environment crowd...
...Then I looked: there was a trike on the mesh {bog}.
There they was, running down through the young spruce,
As fast as their stiff legs could go,
When a big timberjack starts crossin' their path
With two cords of long timber in tow.
She was smashing down trees over twelve feet tall,
Cuttin' a trench three feet deep as she passed.
"Hurry up, driver, scram! We got to arrest that man:
He's on the bog with his trike in the grass."
..."Pretty smart is that government brass,
'Seems a company is free to destroy every tree,

But you got to be careful with grass." (Coles 1996)

Finally, residents' complaints of overcutting and clearcutting appear to be influenced by two processes we'll call the lag-time effect and the salience effect. By the lag-time effect we mean that the public's shared understanding of what is wrong in the forest lags a couple of years behind actual developments. Even though the peninsula's grapevine can be surprisingly fast and accurate about some items of news, the accumulation of bits of evidence into a consensus that trends are changing takes time. As we entered the field in 1996, much about the forest was in flux. Biomass harvest for the power plant had ended, the AAC had just been lowered for the next five year management plan, clearcuts had become smaller and "modified," and environmental regulations were in place to protect waterbodies and wildlife habitat. However, most residents' criticism of forest management was the same as that we collected in 1992 and 1994. Only some of the most active in the woods—loggers, sawyers, and silviculture workers, for example— were aware of the changes in progress or considered the new evidence to signal a permanent change in trend.

The salience effect refers to the tendency of most people to statistically weight individual cases in proportion to their dramatic impact (Slovic, et al. 1974). When residents see a particularly disturbing clearcut on their drives in the forest they weight it heavily as evidence that the forest is being cut down. Limited in education and living close to the land, most northerners depend upon direct observation of a phenomenon for validation. Statistical reasoning, sampling, aerial surveys, GIS and modeling procedures are all suspect, especially after federal fishery scientists using similar methods failed for years to support locals' claims that the northern cod were "getting scarce." Badly shaken by the collapse of the northern cod stocks after thirty years of heavy fishing, residents vow not to lose any more critical natural resources.

As foresters will also point out, the salience effect is increased when residents take their drives on forest access roads, which were built specifically to get loggers to stands to be clearcut. In these drives residents also witness many cutover areas in the process of regeneration, either naturally or after re-planting. However, they know that trees grow very slowly in the north, taking sixty or more years to reach sawlog proportions, and so a clearcut represents two generations of waiting. On a drive with us among some weakly regenerating cutovers, a retired forestry employee said, "It will take a hundred years for the trees to come back here. These areas we cut with skidders in the 1970s have small patchy fir, only eight feet tall. Even my grandchildren aren't going to see this come back."

Residents' critique of northern forest management depends much on "representative" thinking. They emphasize the similarity between the northern forest and those elsewhere in Newfoundland and Canada. Their objections to clearcutting draw upon knowledge of the objections to clearcutting of old-growth forests in western Canada. (The differences and similarities between northern Newfoundlanders and their counterparts in British Columbia deserve analysis, but are beyond the scope of this paper. We

have already mentioned a few significant differences between the north's boreal fir forests and the west's Douglas fir forests). Also, residents fear that the cutovers won't regenerate because they are aware of a serious regeneration problem in central Newfoundland, where the invasion of sheep laurel (*Kalmia)* and red maple (*Acer rubrum*) hinder recovery of cutovers. On the peninsula, however, we observe that regeneration is slow but little troubled by invading species.

The foresters, on the other hand, are "exceptionists." They emphasize the differences between the peninsula's forest and the rest of Newfoundland and Canada, and their management decisions reflect these differences. They point out, for example, that more silviculture is conducted in the north than in other areas, that the proportion of fir is higher, that the regeneration rates are slower but more sure, that the Crown rather than the company manages more of the forest, that fires are less likely, that more of the extraction is converted to lumber, and that domestic users' timber supply is (in most subdistricts) more secure.

Residents often refer to logging, especially clearcutting, as "deforestation"—erroneously, probably, but indicative of their values. Foresters refer to logging as "harvesting." also an inappropriate term for extraction of undomesticated and uncultivated trees, but indicative of their values. The foresters' views are strongly influenced by their training, and many were trained at the same few universities, so they share a worldview and values. The University of New Brunswick, which graduates the largest share of Newfoundland's foresters, places highest priority on a sustainable timber supply, and UNB graduates speak a language of tree farming. Their goal has been to create even-aged stands of a few species which grow to maximum diameter at breast height in the shortest time, when they are to be removed and the ground plowed ("scarified") and replanted. Like a crop, the stand may be thinned and treated with fertilizer, pesticides, and herbicides. Graduates of universities where integrated resource management has been stressed are still likely to mix language codes, combining the language of timber supply with that of ecosystem management. For example, in an article defending clearcutting, one forester uses the terms "harvesting" and "forest crop" when speaking of logging stands of timber. Systematic rotation of even-aged stands of middle-aged fir and spruce is his goal. In the same column, however, he uses the language of ecosystem with terms like "renewable resource," and "habitat, water quality, carbon storage, ecosystem function, and biodiversity" (Pilgrim 1994).

Foresters appear confident in their data from remote sensing and computer modeling of forest resources, and they do not question the assumptions made in calculating the AAC. These assumptions include the definition of any tree over 80 years old as "overmature," (Meades n.d.) the development of even-aged stands, and the goal of accelerated 60-year cycles of "harvest." Their AAC calculations do set aside the category of "class two" lands, which are forested lands excluded from the base of harvestable timber for alternative uses—preserves, cabins, wildlife, power lines, industrial development, etc.—but foresters resist placing land in that category because it becomes "unproductive." Thus, though they are now obliged to be multiple-use managers, their predilection remains to maximize the merchantable,

accessible timber. This is unobjectionable if one shares the goal of a developed local woods industry with good employment, but problematic when competing demands on the forest arise.

There are differences among foresters in values and management styles. These come from variations in experience on the job and in the provincial bureaucracy. Personality differences, and whether or not the forester is native to his district, also count (Richardson, et al. 1996). Forestry management policy has changed in recent years, with the latest perspective being "forest ecosystem management" (Northern Pen 1995). Newfoundland is a signatory to progressive agreements such as Canada's National Forest Strategy (Canadian Council of Forest Ministers 1995), but practicing foresters in the field find it difficult to change. "I have a job getting my mind around that," one forester confided to us about the new approach. Foresters thus also operate in a time lag, between what is presented by television and government documents and what they try to achieve in the woods.

One change which has complicated the foresters' job is the obligation to include more public input in preparation of forest management plans. Many more public meetings are held and advisory committees are formed than ten years ago. These events may be poorly attended or quite dramatic large affairs, depending on whether some forest issue has recently achieved crisis status. "Working with local groups was certainly a challenge," one forester reported, "...members found it hard to stay on topic...changes suggested were outside the mandate of the committee..." (Gibbons 1996:13). It appears that the structure of public input to forest management planning still leaves much to be desired from all parties' perspectives. The Newfoundland Forest Service recognizes that foresters were not trained in public relations and "becoming more sensitive to the needs of non-timber users" will be "a formidable challenge...requiring help from other experts and some training (Flight and Peters 1992:95). Budgetary restrictions have severely limited district foresters' public education efforts. Another complication in the foresters' job now is the legal requirement to collect and respond to input from other natural resource managers such as Canadian Fish and Wildlife, Canadian Fisheries and Oceans, and provincial offices of Crown Lands, Environmental Affairs, Municipal Affairs, and others. "I'd rather deal with the public than the bureaucrats," a forester grumbled.

Conclusions

Our independent investigation of the residents' concern that overcutting will destroy the forest suggests that the forest is not in imminent danger of destruction. The period of "overcutting," by Forestry's standards, at least, is over. Regeneration from clearcuts is uneven, but, supplemented by silviculture in the last fifteen years, it is better in the north than in most areas of Newfoundland. Though dedicated to generating work in the woods for a depressed region during a depressed time, the foresters are nevertheless trying to shift from a "timber supply management" policy which cares for the

woods as a vital raw material to a "sustainable forest management" policy which cares for the woods as an ecosystem with multiple uses.

The forest will not disappear, but if present trends continue, it will certainly change—with attendant changes in wildlife and resident use. The forest which regenerates is not the same forest which was logged. Black spruce does not regenerate well. Balsam fir stands are often replanted with white spruce or non-native species like Japanese larch, because the growing moose population eats the young fir. Stands of so-called overmature timber are being removed, and even-aged, younger, thinned stands, which support less wildlife, are replacing them. The northern forest is being changed irreversibly also by forest access roads, which permit resident access to the most remote areas, increasing hunting and fishing pressure, litter, and logging—legal and illegal—and thus altering the pristine spots that individual users have held dear.

Less often mentioned but perhaps more threatening to northerners than the destruction of the forest is the weakness of its woods industry. Newfoundland in general, and the north in specific, is at a disadvantage in the national and international timber markets. The trees are small and they grow slowly. Another insect epidemic such as struck in the late 1970s could again destroy several years' worth of the province's already hard-pressed timber supply. The forest is far from markets, which are volatile in price and demand. More than half the lumber in the province is imported from elsewhere in Canada. Big machinery, controversial as it is, could lower labor costs of extraction but may not be economical in some regions. All the sawmills are small and inefficient by North American standards. Newfoundland trees are rarely made into wood products with a high margin of return. Local species, for example, are not suitable for pressure treatment. A productive furniture factory in Stephenville recently went under. The school notebooks are manufactured in China. Newfoundlanders, including some northerners, are addressing these problems creatively, but they face many obstacles. The socionatural system of which they are a small part has marginalized them (cf. Adams 1974).

The root of the conflict between residents and foresters is differing visions of what the forest is for. In the socionatural system perspective, nature reflects human choices and desires (Bennett 1993). People define nature and then act upon that definition. The definition is itself a product of the actors' sociocultural system and reflects its themes. That is, "people treat nature as they treat each other" (Bennett 1976). The northern Newfoundland rural communities, only recently emerging from isolation and self-sufficiency through subsistence production and self-regulation in an open-access forest, envision a forest that serves multiple purposes as scenery, subsistence, recreation, and employment. The foresters, their presence on the Great Northern Peninsula a recent manifestation of provincial modernization, envision a managed forest for increased and improved timber supply, directed by a regulatory scientific bureaucracy with authority located far from the field and adapted to a distant market. Even more fundamentally, the controversy about the forest is a disagreement about the future of rural communities in Newfoundland— but it is a divergence of degrees, not of polar opposites. Both

groups want a forest, but residents envision the forest as a multi-use commons in a plural economy, while the foresters envision a managed natural resource in a commercial timber industry.

With time, the two visions will converge somewhat. The lag-time effect described earlier will weaken as resident understanding of the current management plans increases. The "timber supply" agenda of the provincial forestry will evolve toward one emphasizing multiple use and better resident input to management plans.

More management and more regulations—of both domestic and commercial forest users—seem inevitable. We make two suggestions to improve the dialogue between residents and foresters as they adapt to the changes. The first is to alter the public participation format, and the second is to assist foresters in public relations. Experiments in public participation in forest management are now underway in western Newfoundland (O'Keefe 1996; Bath 1995; Freeman 1994; see also Roddan 1994). Led by trained conveners, these experiments bring foresters, firewood cutters, loggers, plant operators, community leaders and environmentalists together to identify the crucial decisions needed, examine their differences, review the evidence, and arrive at wide-ranging policy recommendations. This form of public involvement is frustrating and slow, but it offers more opportunity to introduce alternate goals, examine why people think the way they do, and empower all participants.

Our second suggestion is to give foresters in the field greater support and training in public relations, as the *20 Year Forestry Development Plan* proposes. Like the shared management experiments mentioned above, the intent of improved public relations is to expand public understanding of current forestry practices, to exchange reliable data, and to open dialogue about alternative visions of the forest. What we have written here is offered as a briefing paper to enrich that dialogue by laying out for study the residents' alarms, the foresters' responses, the key differences in values and information between them, and the broader historical and cultural context which colors their visions.

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