

Interview

We Did It Our Way: Desmond I. Crossley

A Prominent Canadian Forester

Interviewed by
Peter J. Murphy | James M. Parker



Part of the Forest History Program Interview Series

1983–1984

Original transcripts available at the University of Alberta Archives
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Informing Land & Resource Management



About the Forest History Program at fRI Research

fRI Research, originally the Foothills Model Forest, has been conducting research in sustainable land and forest management in Alberta since 1992. The positive impacts from the application of this research (e.g. Grizzly bears, watershed, forest history) to improving forest management and resource sustainability can be seen across Western Canada and beyond. The Forest History Program began in 1996 when Pete Murphy, Bob Stevenson and Bob Udell began a project to record the natural and management history of its Hinton Forest. This project soon expanded to add more reports and to encompass the entire model-forest land base. The program has produced a series of seven books and e-books including an Ecotour, an Ecotour App for west central Alberta, one DVD project and a series of reports about the evolution of adaptive forest management in the West Central region of Alberta.

Learn more at fhp.fRIresearch.ca

The Forest History Program Interview Series

Between 1997 and 2000, the Forest History Program conducted 33 interviews with various people who played important roles in, or were connected otherwise with the development of the remarkable forest management operation at the Hinton Forest of Weldwood of Canada. These were background information that would be used in a series of books and reports that would follow, all initiated by one book project linked to Weldwood's 40th anniversary celebrations in Hinton in 1997. Some of these interviews are posted to fRI's website for general reading, others are available only with permission for research purposes. All interviews were professionally edited to retain content but improve clarity but preserve content.

However, Dr. Peter Murphy had previously conducted interviews with Des Crossley and Reg Loomis, the two prominent foresters whose influence permeated the Weldwood history. These interviews are included with the Forest History Program Interview Series, with permission from Dr. Murphy and the University of Alberta, because they are too important to be left out.

Dr. Peter Murphy—Interviewer

Interviewer Dr. Peter Murphy is Professor Emeritus in Forestry at the University of Alberta, where he taught and conducted research in forest policy and forest fire management from 1973 to 1995, during which time he also held positions of Chair of Forest Science and Associate Dean for Forestry in the Faculty of Agriculture & Forestry. During his time at the University he was active in promoting the study of forest history and its importance as guidance for the advancement of forest science today. As part of this he initiated and conducted a number of important interviews with key players in Alberta's forest history, most notably Des Crossley—Hinton's first Chief Forester—and his counterpart in the Alberta Forest Service, Reg Loomis who together established the foundation of Alberta's forest management agreement system. Dr. Murphy is the Chair of the Forest History Association of Alberta, and has been a member of the Forest History Program team at Foothills Research Institute since the program began in 1996, where he has authored and co-authored a number of books and reports.

James M. Parker—Interviewer

James M. Parker worked as a high-school teacher and principal for three years in Fort Chipewyan, St. Albert, and Edmonton. During this time Parker pursued his interest in history. He completed a Master's thesis concerning the fur trade in Fort Chipewyan. In 1986 he became the first University Archivist for the University of Alberta. Parker also taught a course titled "Writing Your Community History." Parker retired from University of Alberta in 1990. He took on a new career in the provincial government as Northern Area Manager, Alberta Historic Sites Service, based in Fort McMurray.

During his professional career Parker maintained an interest in the history of oil sands development and the history of Alberta's North. He served with a variety of historical research efforts and published articles on Northern history and the development of the oil sands. He served as President of the Historical Society of Alberta, 1972–74, President of the St. Albert Historical Society, 1974–76, and Treasurer of the Canadian Archivists' Association.

Interview Date: 1983–1984



*Desmond I. Crossley
CFS Researcher
1952*



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*Des Crossley, 1966
Weldwood Photo Collection*



Forward

Desmond I. Crossley played a prominent role in the development and application of silvicultural and forest management practices in Alberta—His Alberta career began as a research scientist with the Canadian Forestry Service investigating problems in forest ecology and silviculture, especially of lodgepole pine. It culminated with his acceptance of work as Chief Forester for St. Regis (Alberta) Ltd., formerly North Western Pulp and Power Ltd. In this position he was able to put into operational practice the many techniques he had studied and developed. In the process he was in the vanguard of implementing a new forest management policy designed to ensure prompt forest renewal and sustained yield through industry commitment under a co-operative agreement with the provincial government in the first forest management agreement in Alberta. The location of their operations in the region east of Jasper with its inherent values of wildlife, fishing and recreation, also mandated refinement of integrated-use policies, the application of which also led to many innovative co-operative approaches. All the while, Mr. Crossley believed in a strong professional contribution. He rose to national prominence through his work with the Canadian Institute of Forestry, first through the Rocky Mountain Section, and later as chairman or active member of various national committees, and a term as President of the national organization.

On his retirement from St. Regis in 1975 Des kindly offered to donate his personal papers to the Archives of the University of Alberta in recognition of the close ties which had been formed. It was an offer which we were delighted to accept. In addition, through the kind permission of Kenneth Hall, vice-president and resident manager, Des was given full access to the corporate files and permission to have copies made of the material contained in them. Over a period of several months he was able to put together a virtually full set of all correspondence and reports from the St. Regis files covering forest management developments through the entire span of his 20-year career with this company from 1955-1975. Collating, notating, and filing these by subject category kept Des quite occupied for some time. These excellent collections of papers are now safely ensconced in the University of Alberta Archives.

In the fall of 1984 Des and Isobel decided to move to their new home in Sidney, British Columbia. This prompted a series of interviews to give some verbal summaries, to link the various subject files, and to provide some perspective from which to study the archival material. This volume is the result of those interviews. Following a verbatim transcription, the text was edited by Mr. Crossley to clarify some of his responses. The original tapes are stored in the Archives along with his papers.

The topics of the interview sessions spanned Mr. Crossley's career including boyhood recollections on his Barr Colony home in Saskatchewan, through his university education, initial work with the federal Indian Head Forest Nursery in Saskatchewan, wartime service in the R.C.A.F., and upon discharge, relocating in Alberta as a forest research scientist, Federal Forestry Branch.

The table of contents serves as a guide to the periods in question. The final chapter is a biographical sketch. The Table of Contents serves as a guide to the major points discussed. Since the interviews were only loosely structured and this volume is not indexed, the Table of Contents has been expanded to indicate the greater range of topics reviewed. Although unorthodox, we believe it will be useful.

The initial interview was arranged by James M. Parker, Archivist for University of Alberta, who used his substantial talent to get the series off to a good start. Subsequent interviews were continued between Peter J. Murphy, Associate Dean (Forestry) at the University of Alberta, and Mr. Crossley. The first series were conducted at the Crossley home in Hinton, and the completing sessions at the new Crossley residence in Sidney. A final short review interview was held at the Murphy home in St. Albert.



The tapes were transcribed by Linda Ehrler, Department Secretary for Forest Science at the University. We acknowledge a great debt of gratitude for her willing and cheerful typing, editing and formatting of this substantial work.

The story is an interesting one, and revealing for the lessons of what can be achieved by people of vision and good faith working in an environment of co-operative activity between industry and government—an atmosphere in which the inevitable disputes could be worked out rationally through vigorous but good-hearted discussions.

Peter J. Murphy

30 September 1985



1. INTRODUCTORY DISCUSSION

Exploratory remarks, initiating the Forest Management Agreement in Alberta 1954–55, the agreement and allocation of the first Forest Management License.

Tape 1: 20 October 1983

Peter J. Murphy It was just great to be able to drive out here this morning. We always forget about the mountains until we see them again and realize just how impressive a sight they are.

To set the scene for this historical review, I might comment that I am completing a rather long history of fire control policy in Alberta, starting in time before the arrival of the Hudson’s Bay Company. I asked Eric Huestis to review the sections with which he was involved to see if he disagreed. And he really didn't. There were some minor things that he picked up on. But in the course of discussion it came out that the East Slope development after 1948 was really a very sore point with him for a variety of reasons. We can talk about it later—it's too long a story and I can feel myself warming up and getting carried away here. In any event, one of the things that he really homed in on was the fact that the Board, getting a \$6 million capital grant, chose to spend such a large proportion of it—the majority of it—on that forestry trunk road and he talked about how he argued with them at length figuring that they should instead put access in from the east and spend the money on other things he felt were of greater importance.

So when I met Ted Fellows down in Sault Ste. Marie I commented on this to him. He heard me out with a little smile on his face and he said “You know I have had a lot of disagreements with Eric Huestis over the years, but that wasn't one of them”. He said he had felt exactly the same, and he also argued with the Board but the Engineers prevailed, for a variety of reasons. One of the things was the challenge of putting this long road in and having the highest engineered road in Canada. So I was able to pass that back to Eric Huestis and he was delighted to hear it. He didn't know that he'd had an ally in Fellows. It was kind of fun and lots of interesting sidelights came out.

Des Crossley Have you written this up yet?

P.J. Murphy The History?

Des Crossley Yes, the History.

P.J. Murphy Yes, I have a draft down and I am just going through it again. The actual History is about 250 pages in length and I have a lot or editing to do.



Des Crossley Do you have the history of the CIF's Fire Brief?

P.J. Murphy Yes, I have mentioned that too.

Jim Parker **(Introduction)**

I am with Prof. Peter Murphy from Forest Science at the University of Alberta. I am Jim Parker, University Archivist at the University of Alberta and it is October 20 and we are seated in the home of Dr. and Mrs. Des Crossley and we are talking about how some of the interviewing with Des might be placed. Pete Murphy is going to initiate some of the specific questions. One of the things we have been interested in hearing him describe is some of this pre-history and the how and why it got started and who were some of the prime movers, and how you came here. I know we mentioned the Ruben family. Let's kick off with what we have been discussing in getting the program set up. I should turn it over to Pete.

1.1 Introduction to the St. Regis Project—First Alberta Forest Management Agreement

P.J. Murphy Thank you, Jim. I might add a preamble too, that we appreciate very much the tremendous work that Des has done in putting this all together. It's been great. Not only your own notes but the diligent searching you have done through the St. Regis files. You have an outline of 10 major points which is logical and will give us a great framework with which to work as we go along through the interview but it would be interesting to find out, as Jim mentioned, some of the setting or environmental factors—physical and political—that led to this to start with. We could paraphrase in the beginning—what was it like, how did it come to be and what was your own role in it. I think Jim's comment about your involvement with the Rubens too, to begin with—might be a good place to start since that was probably the first introduction to the old North Western Pulp and Power or what became the St. Regis project.

D.I. Crossley First of all I would like to comment on the fact that the two of you have been so interested in allowing me to record some of the history of the forest management program in the first Forest Management Area in Alberta. It has been a pleasure to work with you both, and to have this opportunity to make this information available to whoever in the future might require it. I think the pre-history can be broken up into two rather major avenues. First of all I would like to discuss the Alberta Forest Service program, and their preparing for forest management in Alberta, which is not of general knowledge.

P.J. Murphy That's good.



1.2 First Alberta Inventory—Role of Reg Loomis

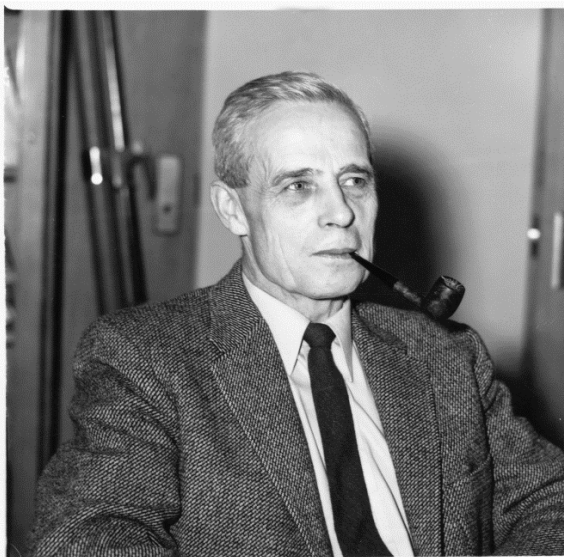
D.I. Crossley To the best of my knowledge, which was from fairly intimate contacts on this subject, the Forest Service became interested at the time it undertook its forest inventory by photogrammetric methods, which I believe was in 1949.

P.J. Murphy 1948—1949.

D.I. Crossley In order to accomplish this program the Forest Service apparently thought it necessary to acquire a professional forester with some skill in this area, and as a result acquired the services of Reg Loomis, a professional forester who graduated from the University of New Brunswick and worked in eastern Canada for a considerable part of his early career. He built himself quite a name as a photogrammetrist and therefore I presume that is the reason why he was selected. He accepted the challenge and came out west and completed the inventory over a number of years.

During that time, and again I am making the assumption, the Alberta Forest Service, perhaps through the Minister, perhaps being made aware by the Deputy Minister or the Director of Forestry or all three, they decided to proceed from this basic information on the inventory of the timber resources in Alberta to some type of more significant management than had been practiced anywhere in Canada prior to this point of time.

When the inventory program was completed Loomis was placed in the position of Superintendent of Forest Management, and I think that was when his influence started to become evident, and if they were going to go this route he had plenty of ideas of how it should be developed.



*Reg Loomis, 1982
Alberta Forest Protection Collection*

He was also very much aware that forest harvesting and forest renewal was in a very, very backward state in the whole of eastern Canada, and was determined that if he were to have much input on how this program should be developed, he would insist that a lot of changes be made and the government be prepared to back up the program that was designed.

To co-ordinate to that end he worked closely with his Director in establishing what should be done. Because it took several years to arrive at the point of making final decisions and final commitments, I am making the assumption that his recommendations were not always immediately accepted. His feeling of urgency was not necessarily listened to, to the degree perhaps Loomis thought it should be. But, over the passage of those years, it became clear in their minds what they wanted to do and they were steered by this man of conscience.

Just at this same time, during this interval of 4 or 5 years, two industrial entrepreneurs, father and son (the Rubens) appeared on the scene. They owned North Canadian Oils Ltd.



P.J. Murphy Is this the second avenue then to which we referred?

1.3 Frank Ruben's Enterprise—Finding a Joint Venture Partner—St. Regis

D.I. Crossley Yes. This history of their involvement in what we are going to discuss today during this interview revolves around the fact that they had a coal operation in Robb, which is south of Edson. This had apparently been quite a lucrative operation, but during the war its market for coal disappeared and they were concerned as entrepreneurs that this resource was lying unused and what could be done about it. During a visit to the mine they looked around and became more conscious of the surrounding timber resource. Couldn't some enterprise be put together using both coal and timber, with their coal supplying power to a forest industry? In the magnitude that they were considering this would probably be in the field of pulp and paper, or a completely integrated forest products industry.

They approached the Alberta government with the idea that they be provided with the rights to a reserve of timber surrounding the mine sufficient to utilize its annual production of coal. Apparently this fell on receptive ears, probably because of the planning underway for better forest management in the province. In any event, they were instructed to go ahead and prepare a comprehensive brief using available consultants and incorporating what they had in mind in the way of timber supplies, the market they proposed to tap, production facilities and so on, to be submitted to the government for review. This was done. They retained a consulting firm, plus some additional specialists familiar with the area.

This is when I came into the picture. I was contracted as a forest research scientist with a background in silviculture and asked to prepare the section in the proposed brief on the silvicultural problems in the forested areas that would be involved. I was able to do this on a moonlighting basis. (I will return to my involvement in more detail later.) In any event the government was apparently satisfied with the eventual brief, with certain revisions and additional information.

As a result, Alberta's first Forest Management Agreement was prepared and a license was allocated. North Canadian Oils then proceeded to interest some forest industry that had finances to build a pulp mill, and with the knowledge to operate it, and using coal as the energy source that would be required. A number of forest industrialists from across Canada and the U.S. accepted the invitation and came out to inspect the proposed timber lease, the available infrastructure, etc. with one after the other turning the opportunity down, principally, I believe, on the excessive distances to the major pulp and paper markets. The St. Regis Company from New York was the exception. It sent in its own forestry crew to do the field reconnaissance work necessary to ground-proof what had been presented in the brief. To make a long story short, it accepted the challenge and acquired a 50% share in the operation with North Canadian Oils Ltd., but with full management rights. The Agreement with the Crown was signed in September of 1954, with the initial Woodlands staff taking up residence in May of 1955.



- P.J. Murphy** That's interesting and fills in a lot of the background picture. When you say they had full management rights, I suppose the details are in much of the material you have been able to put together. Is North Canadian Oils Ltd a more or less silent partner—it was a financial partner—in the venture?
- D.I. Crossley** Up until the time they were bought out by St. Regis, which was many years later.
- P.J. Murphy** Yes. So they combined as North Western Pulp and Power.
- D.I. Crossley** One of the interesting side-lights that I would like to mention at this time is the fact that when St. Regis became involved and started planning, one of the first decisions it made as to produce the very best and whitest pulp possible. Only by so doing could it hope to compete in the distant markets. This meant that coal could not be tolerated as an energy source. Fortunately, this did not faze North Canadian Oils for long. They dashed off to the Wabamun gas fields to the east, acquired gas rights and prepared to build a gas transmission line to the mill site at Hinton.
- P.J. Murphy** What was the concern with coal then? I think the answer is obvious. I suppose it's potential dust contamination.
- D.I. Crossley** Little black flakes in the sheet down-grade it too fast. Coal dust would get into everything and such a probability could not be accepted.

1.4 Chief Forester Selection—Definition of Parameters for Authority

- P.J. Murphy** Having established the mill they needed somebody to take charge of their forest management program and that's where you came in.
- D.I. Crossley** I think that this should be clarified. North Canadian Oils, during its initial survey had asked the Deputy Minister for the services of Reg Loomis to prepare a report on the wood inventory. Permission was granted on a moonlighting basis. St. Regis was pleased with his work and professionalism during subsequent discussions, and when the time came he was offered the position of Chief Forester with the new Company, North Western Pulp and Power. The offer was very tempting and Loomis mulled it over carefully before making a decision. He approached his Director who expressed concern that Loomis would even consider such an offer just when the Department needed him the most to set up this management program. As a result the offer was turned down.
- Apparently St. Regis had been impressed by my silvicultural report and approached me re my interest in the position. It so happened that I was becoming disenchanted with my research position, the lack of effective leadership from the head office in Ottawa, and also the fact that no one in the province, including the Forest



Service, was showing much interest in our research results, and this seemed an excellent opportunity for me to put some of them to the ultimate test in industry.

I therefore indicated my interest, provided that St. Regis would be approaching its management commitments seriously. I was assured that I would be given full authority to prepare and administer such a program.

P.J. Murphy Did you find that assurance was forthcoming? Did they perform on the assurance? Did they live up to expectations?

D.I. Crossley I'm following you. I'm just framing my answer. My support from the New York office was never in doubt, which of course was the critical thing. We did have problems internally as time went on with certain reservations, particularly from the Woodlands Department which was unable to recognize that the program that the Forestry Department was promoting was of that much value to the Company, and appeared to stand in its way, particularly in the area of timber extraction programs.

P.J. Murphy Yes, perhaps we could talk about that as we go along.

Jim Parker One question that I wanted to raise is that you mentioned the use of “power” and that ties back to a name that has disappeared now. Would you explain why North West Pulp and Power Limited was often thought of as North Western Pulp and Paper?

D.I. Crossley This was a public misconception. It has been customary to think of this phase of forest industry as producing both pulp and paper. In our case, paper production was not entertained in the original plans, but power was. First to supply the mill with the energy required, and secondly, any surplus power generated could be sold to other nearby consumers. St. Regis eventually acquired the whole lease and changed the name to St. Regis (Alberta) Ltd.

P.J. Murphy Des, when you describe the early events I would imagine those took place in the early 50's. I don't know if you can recall when the Rubens first began exploring the idea of a lease.

D.I. Crossley I would have to make an intelligent guess. I think I could eventually dig it up, but my guess would be in the early 50's .

P.J. Murphy Yes, and that culminated in a forest management agreement.



D.I. Crossley Yes.

P.J. Murphy Were you a party to negotiating the terms of that agreement?

D.I. Crossley No. The agreement was prepared and signed in September of 1954. I did not come on staff until the operation started in Hinton on the 1st of May 1955. My first reaction upon reading this document was one of satisfaction, remembering that provisions for amendments were contained, should they become necessary.

P.J. Murphy It was a remarkable document for the time.

D.I. Crossley It really was.

P.J. Murphy It certainly had your mark on it, or appears to have your mark on it. It was reflective of your own philosophy. How would you react to that?

2. Management Planning

2.1 Developing First Management Plan—Data Collection, Management System

D.I. Crossley Both Loomis and I were very concerned over the doleful status of professional forest management as it was being “practiced” in the Canadian provinces to the east, and were anxious to accept the challenge that had not been faced in the past. As fellow professionals, we had discussed this challenge in previous years and I have no doubt that we influenced one another as our philosophies matured.

P.J. Murphy Yes, Loomis would have certainly been a party to its preparation.

D.I. Crossley There can be no doubt that “Loomis” was written all over it.

P.J. Murphy Yes. O.K. Well your views are so similar. Then you were involved in the subsequent development of operating ground rules and specific regulations that applied to it.



D.I. Crossley The initial writing of regulations and ground rules, as well as the original management plan outlines were all undertaken by us for subsequent Department approval.

P.J. Murphy Des, I would like to put more of a broadside question to you which you might find uncomfortable, but I would like to try it regardless. I would like to get a perception from you of how you felt when you arrived. I gather you got here in the spring of 1955 and things were just getting underway and I suppose you would be analogous in a way to the fellow that shot the elephant and then said “now what”? You must have been facing a gargantuan task with many things to do and get underway all at once. I wonder if you could comment on how you saw the job—you could not do everything at once, but you must have seen some things that you could do and others that you would have to get underway. How did you see things?

D.I. Crossley I think it apropos to your question that I recall my first reconnaissance flight over the 2,000,000 acres of choice timberland below that I was committed to manage. I was not so much overwhelmed, although that certainly gave me pause, as awed of its magnitude, the fact that it was relatively unspoiled and that I had been lucky enough to have been approached to become involved. The successful meeting of the challenges involved would depend a great deal on the calibre of the staff yet to be acquired and my ability to create the enthusiasm to fashion a successful program. I cannot deny the concern over what I had got myself into, but that was transient. There was too much to do to waste time dwelling on it. The Woodlands senior staff arrived early in May and with a year's lead over the initiation of mill construction, a timber inventory had to be initiated and preliminary management plans written. Roads had to be located and built, initial harvesting areas selected. The initial wood furnish for the mill had to be ready for mill start up.

[END OF TAPE 1, side A]

—in other words any significant infrastructure was not available. We were starting completely from scratch in developing the whole area. One of the initial tasks of course was to get in touch with the various authorities in the Alberta government, and particularly Reg Loomis in the Forestry Department, in order to discuss with him how we were going to attack the problems involved. We needed to know what information on the area was available. For instance, was the Forest Service's forest inventory of any value to us, what about the efficiency of the forest protection program, and so on. We needed to get a handle on how far the Forest Service had gone on its planning, and what information was available for our immediate use. I can't say that it was to our horror, because I guess that I must have expected it, but soon we realized how little information there was. We would have to gather much of it ourselves, and as fast as possible. We would have to decide on the initial areas to commence harvesting, the extraction roads necessary and a start made on locating and building them.

We did learn however that Loomis was quite prepared to work closely with us, thrashing out our problems together, with each accepting different responsibilities in order to get things underway. From the Company's



point of view staff acquisition was most urgent. Staff accommodation was at a minimum during the first two years and this didn't help in attracting some of the candidates. We were determined to search out qualified people who recognized the importance of spending as much time as possible in the forest. We required a basic staff or professionals who could learn to manage with growing confidence, backed by an intimate knowledge of the lease area that could only be gained through familiarity. The original technical staff was raised from the Maritime Forest Ranger School in New Brunswick, but we also found men who had acquired the fundamental skills in Alberta.

It was with some concern that we learned that the Forest Service's inventory was not up to an acceptable standard for our use, and boundary alterations would have to be made in order to eliminate large areas of brushland and replace them with established forests.

P.J. Murphy If I could interject Des, had the original boundaries been defined at the time you had come in?

D.I. Crossley Yes, but we had permission to submit boundary changes for government approval. We therefore hired an experienced photogrammetrist and undertook our own forest inventory, aerially photographing the complete lease and setting about timber-typing and age-classing. We had already decided that the age-classing would be of fundamental importance in our management planning, and an effective method of age classing within fire boundaries recognisable on the aerial photos was devised. Using these maps enabled us to quickly and accurately establish the location of all our over-mature and decadent timber stands.

P.J. Murphy Why did you want to home in on that?

D.I. Crossley Principally from a forest sanitation point of view. While I have never been directly involved in any serious insect epidemics or disease infestations such as they have experienced in the Maritimes and eastern Canada, I have always contended that such disasters should not be permitted to occur under proper forest management. Over-mature and decadent stands are the focal points for disaster and must be removed for two reasons. One, for sanitation and the other simply because such static acres are not producing a thing in the way of wood.

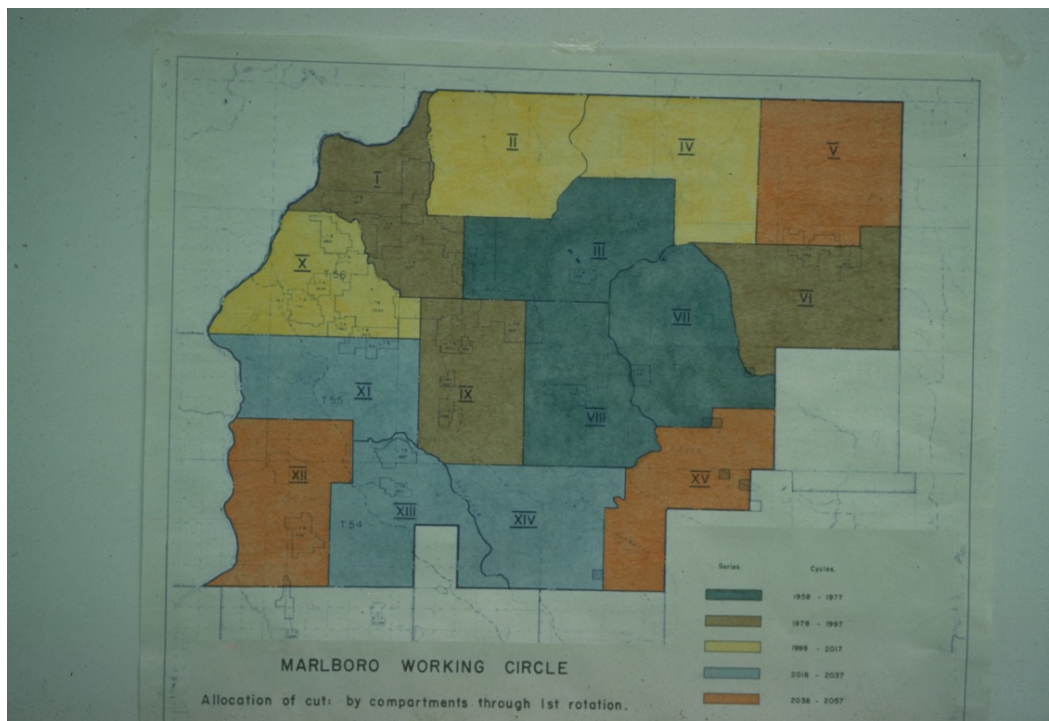
P.J. Murphy No net increase?

D.I. Crossley No net increase. Such goals appear to be completely foreign to most Canadian companies who claim to be practising forest management. Once we had that information we were able to make decisions on how we wanted to manage the whole operation. Since the lease was so big, it became apparent that it must be subdivided into more manageable units. The decision was made to create 4 units or working circles, each of approximately half a million acres, each to be managed separately with its own allowable annual cut, and each to come on stream progressively. Each working circle was subdivided into compartments, each designed to support a cut to be spread over a 20-year period. Those compartments containing the most over-mature and decadent timber were allocated to the first 20-year cutting cycle. Obviously, these initial compartments



were scattered haphazardly throughout the working circles and this meant that haul roads would have to be built to each. This meant a major decision had to be made.

How was our New York office going to react to the capital costs of such a massive road building program during the early years of development? With some selling on our part, sympathetic ears were reached and the capital was made available. One of the telling arguments was that this approach to road planning would result in almost constant average hauling distances throughout the whole rotation. This subsequently proved to be attractive to the Company's shareholders.



Marlboro Working Circle Cutting Cycle Map, 1960 (five cutting cycles, 100 year rotation [r])

P.J. Murphy

Des, as you were talking about how things began one of your fundamental, or I should say basic, decisions was in the nature of management and you referred to the even-aged nature of your stands, both pine and spruce. I think it is generally accepted that lodgepole pine is a fire origin species and that any of today's management schemes would be logical for pine, but there is some dispute still, I think, over whether or not the same would apply to spruce. I wonder if you could comment on how your reasoning went with respect to even-age management in the spruce stands.

D.I. Crossley

Yes, I know that there is still some concern. However, spruce can be considered a fire type also, even though it differs in seeding habits from lodgepole pine which has serotinous cones that are always present to supply seed following the passage of fire.

P.J. Murphy

Yes, your work at Strachan was a classic.



D.I. Crossley Spruce does not bear serotinous cones. Its cones open up each year as they mature, and the seeds are cast into the wind. Both cones and their contained seed are destroyed by the passage of fire. Consequently there must be some other explanation to consider spruce as a fire type. Where does the seed come from? has to be a fair question. My observations through many years indicate that it comes from bordering spruce stands that escaped the fire. The question then arises on how far can they shed their seeds. The answer is that we don't really care. When the cones ripen in the surrounding stands and the winged seeds escape from the opening cones they are carried down-wind, much of it on the crusted snow during the late fall and early winter. When in the woods during the winter, when sun and wind are favourable, I have watched seed drifting down-wind on the crusted snow, in small quantities it is true, but this continues periodically throughout the winter.

2.2 Selecting First Harvest Areas and Harvest System

P.J. Murphy In your preliminary work, you were probably faced with two immediate needs—one was to develop the management plan which was required by the Agreement—but more immediately you must have been under pressure to identify areas where the Operations people could immediately start bringing in the initial furnish of wood to which you referred. How did you resolve that question?

D.I. Crossley That is a fair question that had to be resolved. A large timber area west of the mill site and bordering Jasper National Park became our initial spruce camp. This was an over-mature stand, some 200-300 years old. It had not been previously harvested, in spite of its accessibility, because fine, airborne silt of glacial origin had embedded in the bark on the tree trunks, thus making it very hard on saw blades and therefore very expensive to harvest. Since the area was close to the mill, it suited our initial requirements for spruce furnish, and the cutters were subsidised with free chains for their saws. Just south of Hinton pine stands that had passed maturity were given immediate attention. In both instances little additional roading was required.

P.J. Murphy The government agreed absolutely?

D.I. Crossley There was no question.

P.J. Murphy Then those, of course, were the foci for initial visits, that you were commencing operations then, and it was certainly a point of interest. It was the largest timber harvesting operation that the province had seen to that date. You would have had to decide at that time too on the block layout on how your cuts were going to be laid out to satisfy regeneration needs, wildlife needs and the requirements of the Alberta government. But I would expect at that point you would begin running into differences of points of view internally, too. I would see on one hand, you would have to sort out operations with the Alberta government, which was monitoring the overall responsibility to see that the conditions of the agreement were met. But then I would perceive that the objectives of you and your forestry group responsible for essentially the forest land management and reforestation needs in the management planning, that those responsibilities would not necessarily be entirely in accord with the mandate given to the operations group who would have to supply the wood at least cost to the mill, in balance, of course, with your legal requirements. I wonder if you could comment on how you and



the Operations people perceived your roles and how you worked towards what would probably have had to have been compromise solutions in some cases.

- D.I. Crossley** Yes, it is a fair question. We went through that. I won't call it a trauma because it wasn't that difficult. We had been able to convince the Forest Service that the type of timber stands on the limits were all even-aged, that clearcutting was therefore obligatory in spite of the fact that what had been used in the past throughout the province was a diameter-limit system with 50% volume removal, or a marking system to the same end. Such harvesting systems resulted in the removal of all the genetically superior trees, leaving the smaller, but inferior trees to form the next harvest.
- P.J. Murphy** Not necessarily just young trees?
- D.I. Crossley** They weren't younger trees. The stands were even-aged. Having got that recognition from the Forest Service, we would be allowed to patch-log or strip-cut in any fashion that it appeared reasonable to explore. In addition, the Forest Service suggested that we include some selective logging for comparison purposes for future final decisions on how we would be allowed to proceed, and what extraction systems would be finally adopted. This raised questions between our Operations and Forestry departments. The one being charged with harvesting the timber as effectively and cheaply as possible, and the other being responsible for the long range management that carries on throughout the rotation. As far as the laying out of the cut was concerned, patterning was new to all of us.
- There wasn't much to go by in the literature. I had done some research while with the Canadian Forest Service on the subject of seed flight, and some strip logging in both spruce and pine which gave us some leads, but many questions remained unanswered. We had to explore them and also to get the Forest Service to concur with what we would like to try. It was the responsibility of our Forestry department to select the harvesting patterns and complete the layout on the ground. Once this was accomplished the Operations department would move in and extract the wood from the areas designated. During the initial planning, problems were discussed with Operations that might be relevant to these patterns. In order to minimize the possibility of blowdown in the residual strips they were to be run at right angles to the prevailing winds. One of the major concerns, particularly in spruce, was seed flight distance. It could neither be ignored nor over-emphasized. In spite of our awareness of winter seed scudding it was decided that the cutting strips should be kept fairly narrow so that we could be assured of enough seed to regenerate adequately in a short time.
- Operations would be faced with the difficulty of short turn-arounds during harvesting, but agreed to test the system. The patch logging in lodgepole pine wasn't so serious because of the independence of seed flight distance. We could experiment with boundary configurations suitable to the terrain and Operations requirements. We weren't presented with any real opposition from the Forest Service over this trial and error approach.
- P.J. Murphy** The initial logging at Camp 1 as I recall was largely with horses. It was great to see how well horses and manpower worked together.



- D.I. Crossley** Horse logging was in use for many years, until 1967 as I remember.
- P.J. Murphy** And then the organization began to mechanize increasingly. What impact did that have on your block layout and planning constraints?
- D.I. Crossley** Quite a bit. We had not been too concerned with any short distances that wood had to be skidded when using horses during strip harvesting, but, with mechanical equipment the short turn-arounds, especially on sloping land, were more difficult, and introduced problems that had to be resolved.
- P.J. Murphy** You were able to adapt and maintain your—
- D.I. Crossley** Operations and Forestry both had to adapt, eventually arriving at mutually acceptable solutions.
- P.J. Murphy** Were these changes generally agreed to by the government people with whom you had to deal?
- D.I. Crossley** The major issue wasn't how our clear cutting and the concomitant harvesting patterns were affecting the management of our wild forest lands, but rather how they might affect other users of the land. They became more and more vociferous as time went by, particularly in the case of those involved in Fish and Wildlife. In the strip or patch harvesting system the residual stands were to be left unharvested until the clearcuts had been satisfactorily regenerated—usually a matter of ten years. During this interval, the re-invading vegetation provided excellent forage for ungulates particularly, but they did not like to move far from the protection of the surrounding forest residuals, so the larger clearcuts reduced the acreage that they would utilize. This was of some concern to those charged with wildlife management.

TAPE 2—20 October 1983 in Hinton

3. The Forest Management Agreement

3.1 Comparison with tenure systems in other provinces

- P.J. Murphy** Des, we have gone through a number of points already in the rather preliminary discussions we have had. Perhaps we could talk about some of the more specific aspects related to the ten different categories of suggestions that you made. The first one was administrative, and we might ask about the significance of the



Agreement itself and the ground rules that later became developed under it. We know how they were formed in an absolute sense, but how would you assess them relative to other Agreements that had already been negotiated in other areas of Canada?

D.I. Crossley It is interesting when reading these Agreements to find that they are all very much of a pattern. It becomes obvious that the lack of any significant progress, even under Agreements with clauses very similar to our own, was because the companies themselves had no intention of accommodating them, and their governments never enforced them. This appeared to be particularly true in Quebec and Ontario.

The most significant difference between these Agreements and Alberta's was that none of the former provided for significant tenure. The industries in Ontario, and I'm pretty sure in Quebec, were provided with far more timber land than they required, and consequently far greater allowable cuts than they could utilize (on an average probably more than 3 times as much), so they really did not have any incentive to do forest management. There was always more timber over the next hill. The Alberta government's Agreement contained this essential tenure clause and took care of this very blatant omission by providing tenure on a 20-year renewable basis. It therefore, in effect, protected both parties. Industry would have its lease renewed automatically for the next 20-year period provided it had lived up to the terms of its Agreement.

P.J. Murphy Was the government making it quite clear that it intended to enforce the provisions in the Agreement?

D.I. Crossley That's right. The lack of tenure in the eastern provinces provided industry with the excuse that regeneration was not its responsibility simply because it had no rights to second growth timber. The government expected them to operate on a sustained yield basis as set down in their Agreements and should have insisted on adequate regeneration programs, but industry obviously thought otherwise and the backlog of unregenerated acres accumulated to an alarming degree. The government in Ontario eventually decided that it would assume all regeneration responsibilities but soon became aware that the task was overwhelming. It couldn't even catch up to the backlog, let alone keep abreast of current programs. However, it is gratifying to record that it is presently seriously reviewing its management programming. It will take some time before it becomes known how successful it will be. Quebec is also awakening to its responsibilities. Industry has lost its management rights and the government is undertaking to assure all management responsibilities and will be selling timber to industry. Unfortunately there are already some indications suggesting that the task may be too big for it.

P.J. Murphy It may be done on a co-operative basis analogous to the Forest Protective Association.

D.I. Crossley Is that so?



P.J. Murphy Yes, but it is still very much unresolved. Des, in your dealings with the government we often tend to generalize—when we talk about government we can mean either elected representatives, the Premier, Cabinet and Ministers particularly, on one hand and the bureaucracy or civil service on the other hand, particularly in your case, the Forest Service. Did you perceive differences in approach in these dealings with these different groups?

D.I. Crossley Most of the discussions at the top level were undertaken by our Resident Manager and the company's Comptroller. They were more directly involved with day-to-day problems that fell under the jurisdiction of the civil service. I did become very involved at the Ministerial level with amendments and revisions to the Agreement.

P.J. Murphy What you were mainly doing was in accord with the senior staff?

D.I. Crossley In co-operation with, I would like to use the word “bureaucrat” as more convenient, although I dislike it.

3.2 Internal Organization and Integration of Forest Management and Timber Extraction

P.J. Murphy Yes it is—it's a generic term and not necessarily a good one. You noted earlier that when your operations began, that your forestry group was a part of the Woodlands Division. The Woodlands manager would have been responsible for both operations and Forestry, but that later there was a division of the two under which you as head of Forestry and the Woodlands manager reported directly and independently to the Resident Manager. Could you comment on how this came about?

D.I. Crossley I would like to fall back a bit and return to Ontario, simply because it sets the stage for my answer. One of the main reasons for lack of forest management success in Ontario was the fact that initially, in the depression years when I attended University in that province, there was no possibility for summer employment, or a job after graduation with forest industry unless it was directly involved with the extraction and processing of wood. Forest management in the total sense was never entertained. Those lucky enough to find employment during those difficult years accepted this fact, and their success and movement up the promotional ladder depended almost entirely on their ability to produce cheap wood. This excluded any temptation they might have had to broaden the field of responsibility. Most of the professional foresters worked their way up to woodlands vice-presidents by recognizing this fact. St. Regis hired its first Woodlands manager from Ontario, and his experience had been confined to timber extraction. He was initially content to concentrate on preparing for the extraction program.



P.J. Murphy That was Provencher?

D.I. Crossley No, that was Gordon McNab. I didn't find him too difficult to work under. He admitted that he knew nothing about forest management and charged me to undertake full responsibility in this area and he would learn as we progressed. This was a comforting way for me to proceed, but as he became more familiar with the work he became less co-operative and fortunately soon left the Company for other reasons. The new man who took his place was another easterner whose experience was similarly confined to wood extraction. He too admitted to knowing nothing about forestry and did not wish to interfere with our program. There was a steady turnover in Woodlands managers for various reasons and as time went on, men appeared that were not so sympathetic to our approach to forest management; I therefore found myself in the position of continually having to defend it in order to prevent the losing of the ground we had already won, and to satisfy our commitments to the Crown. The outcome of the resulting confrontations was a meeting of the Woodlands manager and myself with the Resident Manager. His ultimate solution was to remove the Forestry department from the Woodlands Division and having each of us report directly and independently to his office.

P.J. Murphy In retrospect, was that the right way to have gone?

D.I. Crossley Yes, definitely. The program would have ended in disaster if we hadn't done that.

P.J. Murphy But it still meant that you and the Woodlands people would have had to sort things out as much as possible, at least.

D.I. Crossley That's right. The Resident Manager made it very clear "you've got to work together. Although you don't report to one another, you can plan together."

P.J. Murphy The Resident Manager made that comment?

D.I. Crossley That's right. While it was what I wanted, it certainly wasn't the way the Woodlands manager wanted it. He was not acquiring the authority he felt should have been his.

P.J. Murphy Did it remain that way during your tenure then?



D.I. Crossley Yes it did.

4. Forest Management Planning

A.A.C., rotation age, allowable cut effect, expensing silvicultural costs, site preparation and slash disposal, natural regeneration, shouldering all forestry department expenses, intensification of management, silviculture by incentive.

4.1 Preliminary Allowable Cut and Rotation Ages

P.J. Murphy The next general area of interest is the one dealing with that general forest management theme. Fundamental to that is calculation of annual allowable cut, which is rather critical. Did you have difficulty arriving at a decision on how that was to be determined or what it should be?

D.I. Crossley In the early stages, both the Forest Service and ourselves worked out separate allowable cuts based on our own individual inventories. We submitted ours before learning what its results were, using a formula that we had devised as being most applicable to our age classes of timber. The Forest Service was quite upset because our figure was considerably different than theirs, as a matter of fact, quite a bit lower. However, we were eventually able to defend it successfully. The Forest Service sent out two of its staff to review our data in our office. They were able to question our staff anytime they ran into something that they couldn't initially agree to or understand. As a result they finally agreed that ours stood up much better than theirs and it was finally accepted. I neglected to mention that prior to these allowable-cut calculations we had agreed on an estimated rotation age of 100 years for both spruce and pine.

P.J. Murphy The best estimate of the time.

D.I. Crossley As a matter of fact, the Forest Service initially suggested using an interim figure of 120 years. We suggested 80 years, and we settled on 100 years. More data eventually became available from our continuous forest inventory, which provided the information that we needed, both to establish the rotation age and then arrive at the most defensible allowable annual cut. In the calculations of the allowable annual cut (AAC) the Forest Service used Von Mantel's formula. This formula in our estimation becomes inapplicable when the inventory contains much over-mature timber. The formula we developed was designed to accommodate this. In spite of the disagreement over the formula to be used, the Forest Service eventually accepted our calculations, particularly because we had been able to support ours with our figures on the amount of over-mature timber on the lease, and the impressive amount of data on growth and yield that arose from our continuous Forest Inventory plots. The rotation age eventually agreed to for both species was 77 years. This was rounded out to 80 years, allowing for a short regeneration period.



P.J. Murphy And Von Mantel is gradually yielding to area volume.

D.I. Crossley That's right.

P.J. Murphy What effect did the change in rotation age have, as determined from your data from the continuous forest inventory plots?

D.I. Crossley I'm not sure I follow you.

P.J. Murphy It would have increased your allowable-cut figures certainly.

D.I. Crossley Yes. The original figures were in the neighbourhood of 300,000 cords per year and once the data started to improve through the years and our utilization standards were refined it gradually rose to 375,000 cords.

P.J. Murphy How significant was that increase in AAC? Were you approaching the allowable cut in your harvest?

D.I. Crossley At what point in time?

P.J. Murphy When you were Chief Forester—during your tenure.

D.I. Crossley When it was originally 300,000 cords?

P.J. Murphy Yes.

D.I. Crossley No. During the early years following start-up the bugs were being worked out of the newly constructed mill. The mill's demand for wood furnish increased slowly until it reached the allowable-cut level.

P.J. Murphy The mill, as I understand it, was designed for a production of approximately 400—450 tons a day.



- D.I. Crossley** The initial figure provided to us was 425 tons. That was the original estimated production capacity, but we were advised that it was usual for new mills to eventually produce more than the original estimate.
- P.J. Murphy** Through renovation and improvement, productive capacity of the mill was increased up to 600 tons or more.
- D.I. Crossley** It did reach as high as 656 tons per day, but 600 would probably be closer to the average.
- P.J. Murphy** So that would increase the demand for wood.
- D.I. Crossley** Yes.
- P.J. Murphy** How did the harvest to meet that demand relate to your original allowable cut figure?
- D.I. Crossley** It would have come up short.
- P.J. Murphy** So you needed additional AAC?
- D.I. Crossley** Right.
- P.J. Murphy** The mill was using that.
- D.I. Crossley** The mill manager told us that they would eventually. These were the goals set at the time. The average daily production settled in the general area of 600 tons per day.
- P.J. Murphy** One of the other ways of increasing the allowable cut would be through the allowable-cut effect. Did you have plans for other actions?
- D.I. Crossley** No. Quite frankly, allowable cut affect hadn't come into our consciousness at that early date. I had not been aware of this new approach to an apparently justifiable method of increasing the cut, and recall searching the



literature in an attempt to find an explanation of how it worked. It appeared to depend upon the commitment to produce more wood in the future by intensifying the management today, with this backed up by a plethora of over-mature wood today. This appeared to fall within our situation and intent, but we had no need for extra wood at this time.

4.2 Silviculture Responsibility, Systems and Cost

P.J. Murphy O.K. One of the points, Des, made in connection with silviculture, was that regeneration costs were to be considered as operational costs rather than capital costs. Was that the right way to go?

D.I. Crossley We reasoned so during early discussions on management planning and financing. Forest management success across Canada had been seriously hampered, or jeopardized, by the rigid convention that regeneration costs, for example, should be capitalized. Over a rotation period of 80 years following harvesting, capital costs of regeneration can go out of sight and such an eventuality could not be countenanced. Even forest economists had missed the point that since the stand of mature timber being harvested was put in place by natural means its harvesting must generate the source of funds to finance its replacement. We kicked the idea around amongst ourselves of expensing these regeneration costs before approaching our Comptroller, he agreed that we had a viable argument, and next time the tax officers appeared they agreed to it.

[END OF TAPE 2, Side A]

P.J. Murphy One of the often-stated advantages of having industry being responsible for regeneration is that there can be a closer liaison between the two elements of harvesting and renewal. I wonder if you were able to work with the Operations people so that sites and conditions were left after harvesting which were more amenable to the renewal process.

D.I. Crossley It didn't become a problem. The Operations group was initially faced with the problem of lopping the slash as a government requirement. This operation, done by hand by the fallers, proved to be an increasingly expensive operation as union rates increased. Our Forestry Department was eventually able to come up with a practical solution that would entirely eliminate such costs. Following harvesting it was using heavy mechanical scarification equipment to prepare a suitable seedbed for subsequent regeneration. It soon became evident that such an operation was effectively reducing the slash hazard by crushing. The Forest Service was approached and eventually agreed to remove the conventional lopping requirement.

P.J. Murphy Did the Operations people do the scarification?

D.I. Crossley No. It was done by our protection group and at our own cost.



- P.J. Murphy** So the equipment used for scarifying wasn't necessarily that used in the extraction process?
- D.I. Crossley** No. We found that the available equipment wasn't adequate to do the job satisfactorily. It needed D9 cats or their equivalent and they had to operate all season, and often well into the winter. Each season's program amounted to some 10,000 acres and required a fleet of 3 machines. In order to avoid the large capital outlay that such equipment required, each season's work was contracted out.
- P.J. Murphy** Going to the next step then, I gather that the main thrust of your regeneration program was to obtain natural regeneration. You'd be using seed source available on site or adjacent to it. Had you seriously considered using improved tree seed or trees with seed from faster growing trees through genetic selection and improvement?
- D.I. Crossley** The idea was considered but soon discarded on the grounds of keeping our costs to a minimum during the early stages of management development. We had agreed within our Department to cut every possible expense corner. Shortly after we had arrived on the site we prepared a broad outline of the program we were proposing for the approval of our New York office. Once this was accepted we then requested some guidance on the magnitude of the Forestry Department's annual budget that might be acceptable. After considerable discussion it was agreed that it should be tailored to the Operations Department's costs of annual harvesting and the laying down of the wood furnish, at the mill gate. Ten percent of that figure would be the limit of the Forestry Department's Budget for each ensuing year. Over the first 20-year cutting cycle this figure was never exceed. It was not a munificent sum but the staff was aware of its restraining effect, and with imagination and innovative approaches it was made to suffice. To return to your original question, a serious genetic program had to be put on the back burner.
- P.J. Murphy** The word "intensification" has been talked of, probably to a greater extent in present times --- intensification of management for increasing the yield. Had you contemplated how that might fit into the scheme of things?
- D.I. Crossley** In order to answer that question I will fall back for a moment. Our initial goal was to sustain the wood yield that the lease was naturally producing before we appeared on the scene. The size of the annual harvest must not exceed this figure, else you will cut into the wood capital, and fail to sustain the yield.
- Unfortunately and unwisely, most foresters tend to ignore this and prefer to rush into the exciting things like fertilization, thinning, spacing, etc. rather than concentrating on the fundamental task of keeping abreast of the regeneration responsibilities. Our decision was to concentrate on sustaining the yield rather than attempting intensification. Our Agreement called for sustaining if we anticipated tenure renewal. In the meantime, the research specialists in the Canadian Forestry Service were encouraged to explore yield



intensification on our limits. This would ensure some guidance when the time came for intensification of management sometime down the road.

P.J. Murphy Certainly at the time, I suppose it would be fair to say, that the principle of sustaining the yield hadn't yet been demonstrated in Alberta.

D.I. Crossley That's right, and nowhere else in Canada either, nowhere. This is still true in most provinces.

P.J. Murphy You have used in many of your talks, the term "silviculture by incentive"; could you comment on that and how it related to your operation?

D.I. Crossley Well it falls right back to what I just said. That really means that you have to find the incentive—the incentive in most cases is money—to do silviculture, so start using your imagination. That is really all that means. Get imaginative. Start using your brains and everywhere you look there are ways of saving money, but most people just don't recognize opportunity when they see it.

P.J. Murphy But does the term not mean more than that, because you have to have an incentive to spend that money, even in base sum in the first place.

D.I. Crossley Well you have the incentive there to satisfy the government.

P.J. Murphy Yes, it's a question of survival.

4.3 Use of Aerial Photography to Increase Efficiency

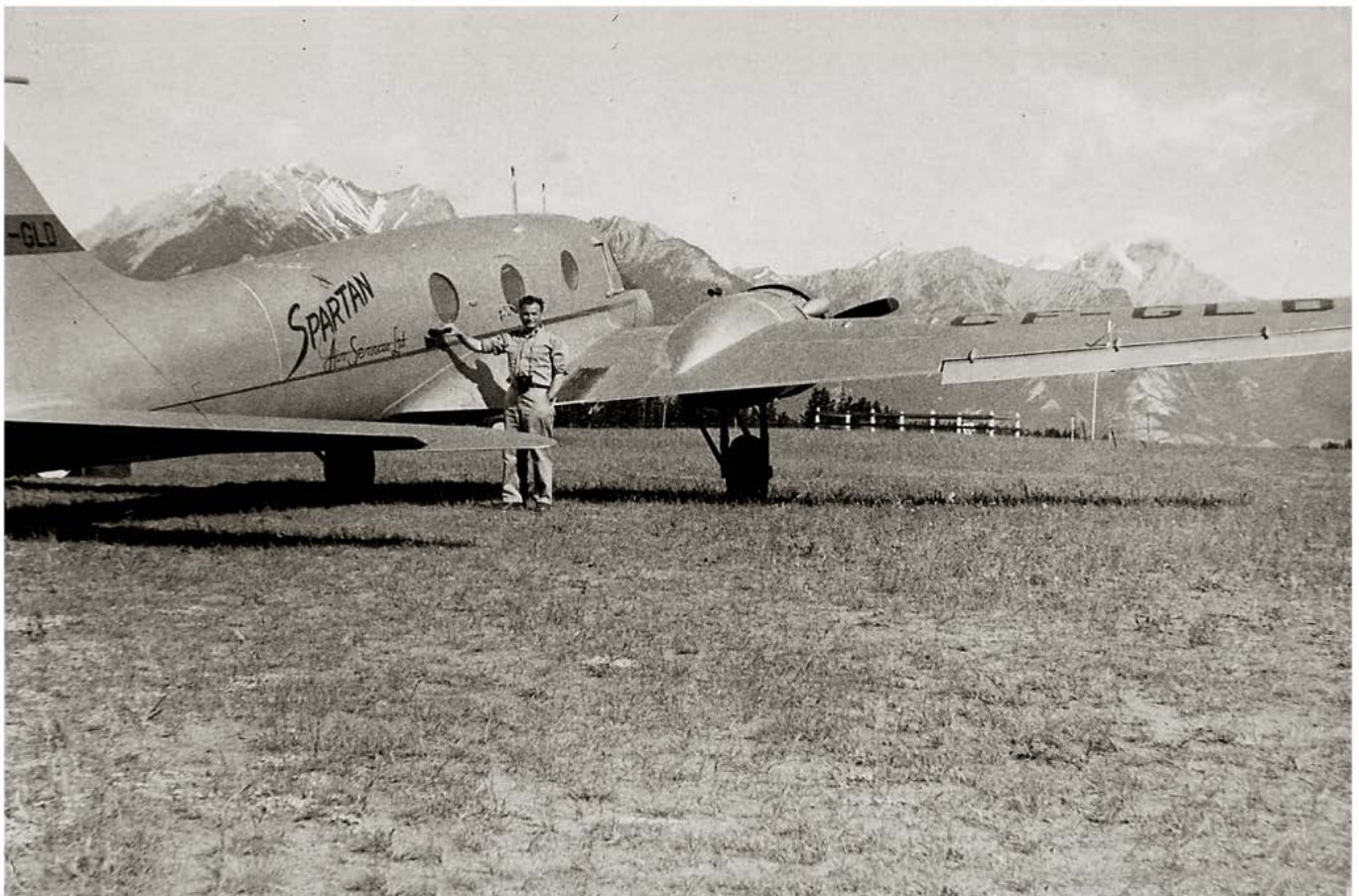
D.I. Crossley That's right. A question of survival. You don't just sit back and moan. You seek out ways of finding the funds you need. Such opportunities are usually all around us if we would only seek them out. Let me illustrate by describing one of our adaptations to corner cutting. We saved ourselves many thousands of dollars, to be used elsewhere, by adaptations that could be made through the use of aerial photography. We acquired a good photogrammetrist who set about training our staff as photo-interpreters, and purchased from war assets a suitable aerial camera, and built and equipped dark-room facilities. Whenever air photos were needed we contracted an aircraft, mounted our own camera, and got underway. With these facilities we eventually were able to replace expensive ground cruising of timber, to complete annual spring cut-over photography, to initiate a site classification study, and so on. With our own dark-room facilities we were able



to cheaply produce prints for the use of our field staff. At our cost of 10 cents a print, the staff was encouraged to use them in place of maps, and not to be concerned about waste—to write on them, fold them, etc. More were there for the asking. They thus became adept in their use.

P.J. Murphy So the outside incentive is the fact that you had to meet those standards which were stipulated and the internal incentive then was to do that as economically as possible.

D.I. Crossley Right.



Photogrammetrist Philip Gimbarzevsky with Contract Aerial Photography Plane at Jasper Airport, Late 1950s



5. Forest Protection

- P.J. Murphy** Des, you mentioned earlier that protection of the forest base was one of the concerns you recognized early in the game. Could you comment on what the major problems in that area were in your perception?
- D.I. Crossley** Yes, I would like to back up a bit and emphasize my strong feeling that it is pointless to commence a forest management program until adequate protection of the timber can be provided. The system must be good enough to justify spending subsequent time, energy and money on meaningful forest management.
- During its original reconnaissance studies, St. Regis questioned the Director of Forestry on the forest protection picture. He apparently advised them that they had nothing to worry about, that this was an “asbestos” forest. He couldn’t have meant that literally, but concern was relaxed. I only learned of this statement after I arrived on the job.
- P.J. Murphy** When you said relaxed, you're thinking of the Forest Service?
- D.I. Crossley** No. St. Regis relaxed its concern after being assured that fire wasn’t a problem. The Director may have been moved to make the statement that he did because subsequent study of our fire history revealed that, during his term of office at least, fire had not been a problem in the Edson forest. However, if you knew anything about fire origin stands such as lodepole pine you knew that they were there as a result of wild fires. That really concerned us of course, but the matter came to a head during the year following our arrival on the scene. That was in 1956 when many serious conflagrations broke out. Most turned out into campaign fires and some 200,000 acres of timber were destroyed.
- P.J. Murphy** That's on the lease and reserve area.
- D.I. Crossley** No, on the lease, but the reserved area was equally affected. Everybody, including our New York office, was upset over this unexpected situation and the Alberta Minister was made aware of this concern, which he apparently shared. It was his suggestion that our concern be documented and sent to his office in order that the situation could be assessed. I was assigned to the task of reviewing the situation in the field and preparing a brief. Two months spent in the field eventually resulted in the requested report and eventually the Minister arranged a meeting with us and his senior staff to discuss it. Unfortunately, he never did advise his staff that the brief had been prepared at his request! It was a devastating report and subsequent relations with the Forest Service were clouded for some time.



Our Resident Manager, following the mutual discussions, made the point very strongly that our management program could not proceed unless our Company could be assured that the situation would be rectified. It was our proposal that the Forest Service commit itself to an acceptable annual average fire loss figure that we could use in the establishment of our annual cut. The idea was agreed to by both parties, and in subsequent meetings we struggled with the task of arriving at an acceptable fire loss figure. The literature was examined in detail and offered little or no help until we unearthed a report made by Herb Beale at the Petawawa Forest Experiment Station in Ontario which offered some guidance. We eventually accepted his figure of one-tenth of one percent and agreed to adopt it as an average goal over 20 years, with the figure kept current in a moving average basis. If the average acreage loss exceeded this figure at any time the Forest Service was committed to make the necessary improvements. In the meantime it would bring its protection system up to the necessary standards, and to its everlasting credit, average annual losses during the following 20 years have inched down to an almost insignificant figure.

P.J. Murphy My understanding too, when the Agreement was first signed, was that the Forest Service assumed full protection responsibilities and there was not a great deal of a role for North Western Pulp and Power to play in fire control. That may not be the correct conception.

D.I. Crossley No, that is not correct.

P.J. Murphy Did you have a role from the outset?

D.I. Crossley No, not from the outset, although we were supposed to co-operate in very vague terms. However, after the 1956 experience it was agreed that the Company would accept more responsibility and would be quite prepared to assist. Working closely with the Forest Service protection staff in its Edson office, we agreed to the procuring and maintenance of such equipment as pumps, hose, pulaskis, etc. Information would be provided to the Forest Service on the location of our own mechanical equipment in the field at all times so that it could be acquired rapidly in the event of a fire. The training and certification of our field staff would be the responsibility of the Forest Service. We pressed for the obtaining of fire simulator, and once it was acquired our protection staff underwent training.

P.J. Murphy Is it fair to say that after the trauma of the 1956 season that there were changes made in the cooperative spirit which had prevailed in the development of the management part?



D.I. Crossley Yes, but it changed too with personnel in Edson —most of the staff we could work with, but others were less co-operative. This of course was to be expected but, in general, the mutual relations became quite acceptable.

6. Innovation Management

P.J. Murphy I might start off by saying, by way of backing up, that your group, you and your group, have developed quite a reputation for innovation which applied both in research, equipment design, and so on. We were talking about the problem of aerial photography which is an interesting story in itself.

D.I. Crossley Well it seems to come right back to silviculture by incentive. It comes to "dropping your bucket where you are". Does that mean anything to you?

P.J. Murphy No, that's a new one to me.

6.1 Development of Helicopter Photography System

D.I. Crossley I won't go into it here but the fact is I had advised the staff originally that I wanted it to use its imagination. The answers to improved performance were all around us if we would only look. Our budget would have to accommodate all the things that we wanted to do. A good example, that the staff in photogrammetry and drafting came up with, illustrates the principle. In spite of all advice from so-called experts it created a camera mount on a helicopter that damped out all vibrations and broadened the use of this machine throughout our whole program.

P.J. Murphy So you were able to use a local helicopter.

D.I. Crossley That's right. A commercial machine was stationed in Hinton and was available to our Company under contract.

P.J. Murphy As needed, without modifications?

J. Parker What was it, a cushion device or floatation or something?

D.I. Crossley No, it was a tubular device that fastened onto the landing legs of the helicopter and vibrations were damped out using rubber mountings. It sounds simple now but a lot of experimentation was involved before the



results were considered satisfactory. A further use proposed for this innovation was in the area of regeneration surveying. The Canadian Forestry Service research staff was approached to investigate the feasibility of very low level colour photography in regeneration surveying. Using camouflage detection film during the fall of the year when the herbaceous cover had turned brown, the conifers appeared as magenta spots that were readily located on the film.

P.J. Murphy What would be the minimum size for seedling resolution?

D.I. Crossley As I recall, 6 inches.

P.J. Murphy So at least you could identify areas that were definitely restocked, and then you could concentrate your field work on those areas that were questionable.

D.I. Crossley That's right. The research officers were a little disappointed since they weren't able to get 100% identification but this would result in a little cushion. We could almost depend on there being more on the ground than was recognized on the photograph. While the approach appeared to hold out promise, I don't believe that the Forest Service has yet accepted it.

6.2 Development of Scarification for Natural Regeneration

P.J. Murphy Your scarification equipment was another area in which you did innovative work.

D.I. Crossley I undertook the first scarification research while at the Kananaskis Forest Experiment Station so we were able to call on those results to assist us in applying them to a large scale industrial operation. This program would amount to some 10,000 acres a year. We fundamentally knew that if we could disturb the soil on the cut-over areas and mix it with the humus layer and the overlying slash then we were in business. The trick in preparing such a seedbed would be in acquiring the heavy mechanical equipment necessary to tear up and shove aside large stumps, particularly when frozen into the ground. Such abuse was punishing but the D9 with a locally designed blade fitted with heavy flared teeth proved up to the task. It also had to drag behind it an 11-foot steel yoke fitted with a series of flexible anchor chains designed to level off the debris to some extent and to scatter loose pine cones around.

P.J. Murphy It's interesting you came to this operation with a forest research background. You were a forest scientist, and yet when you came you saw, as I see it, a fairly clear distinction about who was going to do what. You did not bring with you a personal mandate to conduct research, although you evidently saw that research was done.



Could you comment on your philosophy of who was to do what, involving the CFS and your own role in the whole research picture?

[TAPE 3, October 20, 1983—Hinton, Alberta]

7. Forest Research

7.1 Cooperative Research—Canadian Forest Service and Others

P.J. Murphy It was interesting that you came to this job with a background as a research scientist, and yet when you came to get things done you refrained from getting personally involved as a research scientist, which must have taken a lot of self-restraint in itself. But you saw the need for research to be done and you had some pretty clear ideas of who should be doing it and what the roles of the different players should be. Could you comment on how you saw it?

D.I. Crossley It was obvious of course when we came here and started a new management program that had never been really successfully accomplished anywhere across the whole nation, that we would have to resolve many problems that would crop up as we progressed. We should be able to think ahead and decide what some of them might be. Research would of course become necessary, and having been previously employed by the Research Branch of the Canadian Forestry Service I knew that the main concerns in undertaking forest research were obtaining input from both government and industry on the local problems needing answers, the establishment of priorities, as well as the protection of selected studies after establishing them in the field. The research scientist has to have assurance that his programs will be properly protected from damage. Otherwise his time may be wasted. Nothing irritates these specialists more when working on long range research than to find --- suddenly find --- that his field plots have been destroyed.

With these things in mind the C.F.S. was approached. As it turned out, our timing was fortunate because a staff cut was in the offing, due, in great part, to lack of interest in forest research in the province. Our immediate problems were discussed, and the field protection that we were prepared to provide. The response was not only favourable but enthusiastic, and immediate plans were laid for a semi-permanent field station on the St. Regis limits. The Alberta Forest Service provided the land for this facility and a research program was soon underway. In order to provide maximum protection for the field plots we requested that we be provided with exactly described field locations. These were always prominently posted in both Forestry and Operations field-staff offices.

As time went on, other sources of research assistance were tapped. These included the Alberta Research Council, the Universities of Alberta, Calgary and British Columbia, as well as research facilities later provided by the Alberta Forest Service.



7.2 Staff Research—The “Sore Thumb” Program

Returning to your question Pete, you suggested that perhaps with my past interest in research that I would want to build up my own little research organization. We had too many other things to do, so that was seldom considered. However, the Company's Forestry staff was encouraged to initiate what we termed "sore-thumb" research so that we might get an early feel for a particular problem prior to contacting an appropriate research organization to expand the study. I personally undertook a study on the ingress of lodgepole pine regeneration following scarification, and another on the physiological age of trees rather than the chronological.

7.3 Research into Developing a Container Planting Program

P.J. Murphy You were involved in greenhouse studies too, on your nursery operations.

D.I. Crossley Yes. Our Agreement provided for free transplants from the government nursery at Oliver. We initially took advantage of that. However, we were not planning on planting as the main method of regenerating our cut-overs. Rather, we were prepared to accept their regeneration by natural means. However, we did a few sore-thumb planting experiments with government stock, and were not at all happy with the transplants that we were receiving.

P.J. Murphy Physiologically or genetically?

D.I. Crossley Morphologically. Bob Carmen came with us as a specialist in silviculture. He had been closely involved in nursery work in Ontario and when he visited the nursery at Oliver he was very disturbed at what he saw. The seedlings in the nursery beds presented a dished appearance. That is, the seedlings on the edges of the beds were much taller and healthy looking than those in the centre. This is usually the result of an incorrect or an inadequate fertilizer regime. Consequently we were forced to entertain other plans for transplant stock which we would need to refill fail areas encountered during our regeneration surveys.

About this time we became interested in research going on in both Ontario and British Columbia in what became known as container planting. This involved the growing of seedlings in individual plastic containers, and eventually transplanting each into the ground, container and all. Since the seedlings were not seriously disturbed this would permit planting throughout the frost-free season. The advantages would be evident, and the idea sounded attractive. We therefore contacted the research forester at U.B.C.—Jack Walters—suggesting that we would like to become involved in his study in the field trials he was contemplating. This was accepted. He was promoting the growing of seedlings in moulded plastic bullets. Each would be planted by a spring-loaded planting gun that he had designed.

Our tests eventually indicated that the plastic container, which had to withstand the pressure of the spring-loaded gun during planting, was too heavy for the seedling's roots to break out of, and we turned to a



plastic container of our own design, abandoning the gun, and planting with a simple dibble. We initially attempted to locate some material for our container that would disintegrate in the ground following planting, or that would fracture with the first winter frosts. We went as far as the National Research Council but without success.

Fortunately a simple solution was suggested by a staff member¹. This amounted to the abandonment of the idea of planting the seedling in the ground with its container, designing a container in the form of a booklet that contained several seedlings. When opened up in the field, individual seedlings could be removed in the form of a plug, and dibble planted as before. We prepared to build our own nursery to satisfy our needs. The manufacturing of the booklet containers was undertaken by a plastics firm in Edmonton and it is now being sold and used throughout the world in the millions. That's the kind of development program that we went through.

8. Public Relations

Interpretive trails, conducted tours, political reaction to company performance.

P.J. Murphy Yes. I think it's quite indicative of the sorts of things that you were doing. We had two other categories of subjects to go through. One was in public relations where it appears evident that you had to convince other Company employees of the effectiveness of your program, and also to try to explain to the public what was going on. Again you were quite innovative in both areas.

D.I. Crossley We were aware of the fact that new approaches would be criticized, and no matter what we said, this criticism would continue until the new crop of seedlings became evident. First of all, the clear cuttings were criticized on several grounds. Many farmers, passing through from the prairies, were shocked at the extremely rough appearance of the harvested blocks, so different from the harvested areas and summer fallowing on their farms. The fact that we had planned it this way so that the rough surface debris of upturned stumps and slash would serve to prevent water erosion on our steeper slopes, and could provide a multitude of micro-sites favourable to seedling establishment and subsequent growth completely escaped most of them. We accepted all invitations from service clubs and other interested groups to present the picture with appropriate colour slides, but found that many minds remained unconvinced. As a matter of fact our most severe critics were our own mill employees. This was particularly damaging to our cause when they agreed with outsiders that we appeared to be raping the land.

P.J. Murphy They loved the outdoors.

¹ Steve Ferdinand worked with Spencer Lemaire Industries to develop this system



D.I. Crossley In order to overcome this attitude, a couple of management trails, one a thirty mile loop to the north, and the other to the south were selected. These encompassed much of the work we were doing. Explanatory signs were erected at the roadside, descriptive pamphlets were made available so that interested parties could walk over the project that was being described. As it happened, not much attention was paid to these demonstrations by our mill people so we decided to lay on weekly bus tours. At 4 p.m. every Thursday afternoon a tour bus rolled into the mill yard, accompanied by Forestry staff guides. Anybody in the Company, their families, and friends could participate and a picnic supper was laid on at the top of the travel loop. At the completion of each tour, criticism had disappeared, and congratulations and apologies were usual.

J. Parker Public relations to the public; and with resistance too from the old type of logger, who would go in and take the very best timber, young or old, and the concept was to leave a standing forest behind. Did you receive resistance from a political level or what was the attitude of public relations to the government? What avenues were explored?

D.I. Crossley The government was concerned, of course. Certain problems that we both knew we had, we were mutually trying to resolve, but generally speaking the government appeared content with our performance. The Minister did, however, receive many critical letters and irate phone calls complaining about the program and the inadequate results we were getting. S.T.O.P. (Save Tomorrow, Oppose Pollution), a group of environmentally conscious University of Alberta students, showed its concern by financing one of its members to conduct a pictorial study of our regeneration achievements, or lack thereof. His eventual report landed on the desk of the Minister. It was extremely critical, accusing us of complete failure in our attempt to regenerate the cut-overs, and headlines shortly appeared in the Edmonton Journal accusing us of creating some 200 square miles of desert! The Minister was taken aback with this report and instructed his staff to check the photographic authenticity that he had been given. The subsequent field check completely discredited the S.T.O.P. report².

9. Multiple Use of Renewable Resources

Hunting, water yield and run-off erosion, fishing and stream-side residuals, optimum approach to multiple use, maintenance of forest landbase, recreational use.

P.J. Murphy But it was a sign of the times that it could have been given so much credence. The final point in these discussion categories Des, is a large one that relates to multiple land use and the integration of forest uses. It is interesting that when you began your operations there I understand it was stipulated specifically in the Agreement, as I recall, that timber production was to be the prime use of the land, but it was to be done in a multiple use spirit of endeavour. The multiple use philosophy at that time, that was back in the early 50s, was

² Editors' note: this controversy was reviewed 35 years later in a Foothills Model Forest report: *The Resilient Forest: Looking beyond the Stumps (2007)* by Robert Stevenson, Steve Ferdinand and Robert Udell.



patterned after the U.S. Forest Service, which recognized multiple uses of wood, water, wildlife, forage and recreation essentially. I'd like to hear your comments on how you perceived these multiple uses and how you integrated them into your operations. Following that, of course, there have been subsequent uses of the land which didn't fall precisely into these categories which are causing some concern now.

D.I. Crossley

Around mid-century professional foresters were slowly becoming aware of the multiple use philosophy, and I was asked to prepare a paper on the subject for presentation at the Rocky Mountain Section of the Canadian Institute of Forestry meeting to be held in 1952 at Kananaskis. Reading everything I could unearth on the subject I became convinced that we, as professionals, in all conscience, could no longer disregard it. We must become aware of the fact that we were not just guardians of wood productivity of forest lands under our care and would have to recognize that the land itself was public property and therefore they had the right to expect that they would not be excluded from it and it would be managed on renewable basis, the same as the timber.

I attended the World Forestry Congress in Seattle in 1962 where the multiple use of wild lands was the theme. People from all over the world participated and were in full agreement that wood, water, forage, wildlife, and recreation must be taken into account in the management of wild lands.

9.1 Wildlife and Fish

When we were undertaking our initial management planning at Hinton we were prepared to accept this approach to our responsibilities. With some trepidation to be sure, we so proceeded, hoping that we might find it less difficult than we were imagining, and it so happened that this generally turned out to be the case. As an example, the clear-cut harvesting patterns that we had selected left 50% of the timber stands untouched. These were what we termed "residuals". These awaited harvesting until cut-overs were adequately regenerated, or a period of 10 years. Obviously, this created many miles of residual stand edges and resulted in what wildlife managers call "edge effect."

The increasing volumes of grasses, herbs and shrubs that invaded the harvested areas provided an attractive source of forage, particularly for the ungulates, while the residual stands provided the protection they required from their predators. The wildlife habitat as a result was vastly improved on the harvested areas and as a result there was a gross increase in ungulate populations. This was supported by studies initiated by the Fish and Wildlife officers. However, local hunters were loath to recognize any increase and in fact claimed that game was becoming more difficult to get, but failed to recognize the amount of poaching that was going on. The roading created by the advent of industry in the area provided easy access, particularly to those so-called "hunters" with pick-up trucks who cruise the roads and shoot from the windows. They can be recognized by the guns slung across the back window. Poaching rapidly became a way-of-life that the authorities were unable to control. The result of our contribution to ungulate management was a definite gross increase in populations, but a standstill or less in the net increase. This was a situation beyond our control.



9.2 Water Yield and Management

Let us next discuss water yield. Research in both the United States and Canada has proven that clear-cutting in strips or patches definitely results in increases in water yield. In uncut stands, some of the precipitation never reaches the ground and evaporates back into the atmosphere. This is particularly evident with snow when a great deal is hung up in the foliage, particularly when it is coniferous. Clear-cuts of course do not offer any obstruction, and increase in snow-pack does result in an increase in run-off during the spring melt, which, in turn of course, increases the possibility for soil erosion. Fortunately this can be controlled by the scarification program. Close observation of our cut-overs during the initial years revealed no serious erosion anywhere on the lease. This can be credited to the rough and untidy nature of the surface debris. As the melt progresses and water starts moving down the slope, it is continually encountering soil ridges, upturned stumps and broken chunks of slash. During each interruption it drops its silt load. This leaves little pans of silt of varying sizes and depths that result in excellent micro-sites for the establishment of subsequent regeneration. Haul roads through the cutting areas however, could seriously effect erosion and stream siltation. This was a bone of contention between Operations and the Forest Service, but could be avoided by putting the roads "to sleep" during the scarification process.

Fishing and stream-side residuals will be discussed. The government insisted that we leave a permanent strip of timber on both sides of every permanent stream. This would remove many acres as a source of wood supply and therefore reduce the AAC. We were not in favour of this restriction but Fish and Wildlife officers were concerned with the effect on fish. Apparently the fishing fraternity think that overhanging trees provide the shade that is necessary to keep the water cool for good fish habitat. This is probably true in most of our country but our streams were generally of glacial origin and at this elevation in the foothills of the Rockies the waters are too cold to result in the best habitat.

P.J. Murphy They have quite cool water.

D.I. Crossley Too cold. Fish never grow to much size as a consequence. The habitat could be improved by allowing more sun to reach the stream's surface. The residual strips that we were forced to leave, if not harvested, are going to blow down eventually, many falling into and across the stream and destroying the fishing potential. Nevertheless our concerns were not accepted.

At the time of accepting the original Agreement we had no quarrel with the idea of multiple use, on the assumption that when a conflict arose between ourselves and another user, both parties would be prepared to give a bit. In other words, to work on the principle of "optimum" use for each rather than "maximum" use for either. While the Agreement did specify that the production of wood was to be the primary use, not once did we insist that this be adhered to. Unfortunately, most other users seldom seemed aware that their use could not be so regarded, and the Forest Service did little to correct this misconception. As a matter of fact, other government departments were the chief offenders.



10. Impact of Non-Renewable Resource Industries

Exploding program in gas and oil exploration and extraction, introduction of surface mining for coal.

D.I. Crossley The Agreement also included a clause that would permit the government to remove land up to a maximum of one half of one percent of the lease for industrial purposes. Once this maximum was reached, any additional removal would be replaced from timber land bordering the lease. This appeared to provide the Company with the land base protection that it needed.

10.1 Oil and Gas

Shortly after start-up, exploration for oil and gas deposits as permitted within our boundaries. These of course were wasting resources and, as far as we were concerned, didn't fall into the category of multiple use. Rather, they could be considered an incompatible industrial use. We were assured by the government that the exploratory seismic lines being run through the timber would quickly establish the presence or absence of the petroleum resources and exploration would cease, or at least be minimal, and that abandoned lines would naturally regenerate with minimum losses to the Company. We were not unduly concerned, mainly because of the land replacement clause in the Agreement. Unfortunately, from our point of view, interesting gas and oil deposits were revealed and the program exploded, not only in further exploration, but also in petroleum extraction. Roads, well sites, power lines and pipelines proliferated rapidly, and we watched the acreage deductions from our lease climb above the one half of one percent figure, even without seismic line deductions. The government attempted to placate our concern in this latter area with the assurance that the abandoned lines would regenerate naturally and there was no need to replace the acreages involved—in spite of the fact that the companies involved continue to freshen-up and re-use one another's lines, and apparently will continue to do so as deeper drilling becomes feasible and lower deposits are tapped. To date a very insignificant number of established lines have been cancelled out of the many thousands of miles run. The fact that the government stubbornly resists the Company's request for the replacement acreages, can only be explained by the knowledge that the bordering replacement acreages have already been allocated to other users, apparently without other reserves to protect the commitment. Our protestations did not result in any satisfaction and one can only assume that the government has no intention of honouring the commitment.

10.2 Coal

As if this invasion of our land base was not serious enough, a more recent intrusion has been surface strip-mining for coal—another wasting resource. That such a use could be superimposed on an active forest management program by the government is almost incomprehensible. The Eastern Slope of the Rockies has long been recognized for its many coal deposits, and subterranean mines have harvested millions of tons in the past. However, with the advent of gigantic drag-lines, much of the surface extraction of coal depends upon their use in the removal and returning of the overburden. What such extraction methods would do to renewable resource management must have been obvious, but the government's defence of its decision to permit such programs apparently rested on the commitment that a coal operator must agree to: after the removal of the coal to the returning of the overburden, every disturbed acre must be returned to its original



levels of timber production, in both quantity and quality. This has never been accomplished under Alberta conditions at these elevations. This fact was brushed aside, as was the wasted time interval between coal extraction and the initiation of new stands.

Assuming that the government saw an overpowering need to provide another source of energy to take the place of its rapidly depleting oil and gas reserves, and/or a need to fatten its already burgeoning Heritage Fund, it could have accomplished the same ends by locating new mines on known coal deposits elsewhere than on existing, successful forest management programs. Instead, it is apparent that the coal companies were allowed to seek out locations with existing, established infrastructures. The St. Regis lease is the prime example.

J. Parker Do you think in the area of non-renewable resources that coal and oil could be compatible if there were some required government regulation.

D.I. Crossley The Rocky Mountain Section of the Canadian Institute of Forestry showed its professional concern over the imposition of coal extraction on forest management licenses by organizing a 2-day program involving the Alberta Coal Association, the forest industry, the Forest Service, as well as the Edson MLA. This took place in the fall of 1982 and included other interested parties. Papers discussing various points of view were presented for discussion, and concluded with the suggestion by the forest industry that the approach that should be explored was to time the coal extraction period on a forest management area to coincide with the timber harvest. It was hoped that the challenge would be accepted by the government, and details would be ironed out. In fact it was not accepted and the only alternative offered by the government was that both industries should settle the matter between themselves. So much for leadership! I think this was sad.

Alberta's hard-won reputation in the designing and subsequent administration of a successful, sustained yield management program is at stake, not because of any weakness in the original concept, but because of the introduction of wasting resource management on top of the multiple use of renewable resources.

P.J. Murphy That covers it very well. The solution to these problems is an open-ended question at the moment.

[TAPE 1, 16 APRIL 1984—SIDNEY, B.C.]



11. Distinctive Achievements and Regrets

P.J. Murphy This is Peter Murphy visiting with Des Crossley at his new home in Sidney, British Columbia. We are pursuing some further aspects of Des's career and professional activities. In our last taping session at Hinton, we talked about several of the details of Des's work with North Western Pulp and Power Ltd., now St. Regis (Alberta). At this point it would be interesting to take a retrospective look at those times in a more general way. Des, we have been discussing some of the highlights of what happened over the St. Regis stage of your career; it is evident that there were many excellent events that have emerged and a lot of fine things have happened during your time there, and some things about which you were somewhat disappointed and thought could have been better or could have been better handled. Could you comment for us on some of the points you felt were really positive—things that stand out in your mind as quite distinctive achievements?

D.I. Crossley Keeping in mind that this was the first forest management program introduced into the province of Alberta, it must be obvious that there was a lot of feeling-of-way encountered in the early years, both from North Western's point of view and from the government's, in order to get the program off on the right foot.

P.J. Murphy So breaking ground, you really had no precedent with which to go.

11.1 Aerial Photography and Age Classing

D.I. Crossley Right. So having said that, I would like to run through several of the things that were perhaps original to the situation we were in and what was done about them. First of all I will discuss the positive things, and deal with the negative things later on. We can mention them as we come to them. One of the first programs we initiated was the rephotographing of our lease area of 2 million acres. We needed up-to-date quality photographs, and to acquire trained photo-interpreters. Following the interpretation of forest types on the photographs the age classes were delineated. To the best of my knowledge this had never been done before, at least in this magnitude. The task was approached with the knowledge that our stands of spruce and pine were all the result of previous fires and therefore even-aged.

Consequently the stand borders that were delineated on the air photos represented fire boundaries, and the date of each fire could be established by observing the bordering fire scars and the adjoining timber that survived the fire. The reason for this immediate age-classing program was to establish the location of the overmature and the decadent timber. It was our considered opinion that it was vital to harvest these as rapidly as possible in order to avoid the possibility of future insect infestations and disease epidemics, and to get such static areas back into wood production again. This justified a very concerted effort to establish this information so that it would be available as we proceeded with preliminary management planning.



11.2 Continuous Forest Inventory—Permanent Sample Plots

The next major program to be undertaken was to establish a comprehensive series of permanent sample plots under the continuous forest inventory system. Plots that would represent the area and the timber as completely as we could without a great deal of work, but comprehensive to the extent that we ended up with something over 3,000 permanent 5th-acre tallied sample plots which would be followed by repeated remeasurements in roughly 10-year intervals. This would provide us with an initial inventory of the timber of the lease, as well as a record of subsequent increases or decreases in volume, as the case may be, through the subsequent years, all for the purpose of providing the basic data with ever-increasing accuracy necessary for an acceptable forest management program, and to document progress and initial revisions necessary to improve it.

- P.J. Murphy** Des, before you go on to the next one, the two steps that you have just described, as you indicate, were relatively unique or distinctive at that time. There has not previously, to my knowledge, been a major focus on age-class distributions to identify those stands which might be most susceptible. I recall that the permanent sampling plot decision of yours was, if not controversial, at least raised some eyebrows because it was unconventional in the sense that most inventories proceeded on the basis of rather conventional sample plots, strip cruises, random sampling and so on. Under the terms of your lease agreement, what you did in that respect was entirely up to yourselves since you were responsible for inventory, so I don't suppose you had much question on procedure from the Forest Service. But, did you have difficulty, because of the departure, in convincing the company to go along with you?
- D.I. Crossley** As a matter of fact, the original idea was put to us by our seniors in our New York office.
- P.J. Murphy** That's interesting.
- D.I. Crossley** We knew very little about the continuous forest inventory system at that time, so after digging for information on it, it became obvious that it would be a good program, and was worth the initial investment. With New York's blessing and no resistance from the Forest Service we proceeded with the program and arranged for the necessary senior staff training.
- P.J. Murphy** Did you get any serious questioning from your professional colleagues, or others?
- D.I. Crossley** Yes, particularly from eastern Canada. Some people down there felt that we were wasting our time, that such a program was not suited to even-aged timber. However, we proceeded with our own program, adapting it to even-aged stands. We have had no cause to regret this decision. The information it provides is invaluable, and as a matter of fact has been much sought after by one or two universities.



P.J. Murphy Very reassuring then. Great!

11.3 Innovative Management—Harvest Priority by Age Class

D.I. Crossley Following these two initial programs of gathering basic data we were able then to delineate the overmature areas that, on the basis of forest sanitation, should be harvested first. Such decadent stands can become the focal point for insects to establish in large numbers ready to burst forth in epidemic proportions and become established in neighbouring healthy stands. The next program then was to plan the management approach to remove these dangerous focal points as rapidly as possible. Because of the very nature of the wildfires that had caused the haphazard distribution of different age classes over the centuries, we were presented with a very random distribution of the overmature stands that we wished to initially harvest. Since this would be most effectively accomplished by concentrating on those occupying the large areas, these were selected for immediate harvesting.

This was contrary to the usual approach up to that time in the rest of Canada, where the custom has been to assign to initial harvesting those stands nearest to the manufacturing plant, regardless of vigour, and to proceed in ever-increasing distances from the plant to obtain the annual timber furnish. This, of course, bears no relationship to the overmature and decadent stands and therefore ignores stand sanitation.

We completely divorced ourselves from that approach and sought out for initial harvesting the overmature timber blocks wherever they might be found. The lease was subdivided into compartments approximating 30,000-40,000 acres, sufficient in size to support a 20-year cut. Those that included the greatest areas of overmature timber were designated for the initial harvest, and, since they were haphazardly scattered over the lease this meant greater average initial hauling distances than the conventional method of logging close to the mill, and of course, initially a greater road construction mileage.

11.4 Balancing the Haul Distance Across the First Rotation

Because this meant a huge, immediate capital investment, such a decision had to be resolved between our own local operation and our New York office. To its everlasting credit the New York office saw the wisdom of prioritizing the harvesting of this material. Not only was it good forest sanitation practice, and would maximize growth and yield and thus AAC, but continued through the rotation period it would minimize the fluctuations in hauling distances. We were able to demonstrate on our maps that hauling distances to the point of consumption at the mill would average 27-28 straight-line miles over the first 20-year cutting cycle. In terms of timber extraction this was not an oppressive distance.

As we progressed in our planning through the remaining 3 cycles in the 80-year rotation, we were then able to demonstrate that as subsequent harvesting compartments were assigned to their 20-year cycles, that the average hauling distances would not alter by more than \pm 4-5 miles. This approach gained unexpected allies amongst Company investors who have become accustomed to seeing wood transportation costs increase out of all reason with annually increased hauling distances. Minimizing average hauling distance becomes a very essential component in sound long-range forest management.



P.J. Murphy The mill was located at Hinton, but that wasn't the original site selected as I understand. I believe the first one was to be in Edson with a plant site on the McLeod River somewhere. Was the change in that plant location related at all to forest management and roading, or was that decision made for other reasons?

D.I. Crossley That decision was made because the consultants working on the initial plans for the mill had decided to place it on the McLeod River just south of Edson, and it wasn't many months after investing several thousands of dollars in the preparation of the mill site that somebody smartened up and realized that there wasn't enough water in that river to satisfy a mill of the planned size. Of course, everybody was nonplussed that it had ever been selected in the first place, and the urgency was obvious to find a better location. So what they did (the people in the authority at that time, on the New York staff) was to proceed west along the main highway looking for a convergence of the highway, the railway and a bigger river. They travelled west from Edson until they came to Hinton and that was the first acceptable location encountered—plenty of water, good rail and road service and it was therefore selected and the plans changed. This had nothing to do with forest management.

P.J. Murphy A common industrial strategy where large investment sums are involved suggests that it's preferable to get as quick a return from operations as possible to pay back the investment. It would appear on the face of it that New York would rather have had a greater emphasis on easy roading and close-in logging so that they could quickly capitalize on their investment. Were there implications of that in the road design at all? Certainly the earlier cuts were near Hinton, but then something had to be done to get an immediate supply of wood.

D.I. Crossley Yes. When we started out of course, several years would elapse until we were cutting our full allowable cut. The mill had to be built, and in operation with the bugs ironed out of it, falling back and regrouping and trying again to arrive at the proper pulping techniques. So it was quite a number of years, before the mill arrived at its planned rate of production. In other words, to the consumption of the maximum amount of wood furnish it would require annually. The initial compartment selected for harvesting was close to the Jasper Park east gate and also close to the mill. It supported seriously overmature spruce—200-300 years old. The second one would be the next closest to the mill and so on.

To answer your question, no, surprisingly enough, there wasn't any great concern expressed in New York. I think this points out something that became evident to us through the years. If solid reasons can be presented why you want to introduce an innovation, even if it is going to exceed cost expectations, you can initially expect a sympathetic hearing. The decision will depend on the defense you present, both in sense and in the force of your convictions. Many of the forestry operations that I have been familiar with in eastern Canada were failing because the foresters in charge of the wood production and extraction were not pounding the management table and resisting the obvious pitfalls. They simply took their instructions from the senior management group which called for the cheapest wood possible. Instead, the admonishment of "God help



you for what's going to happen 10 or 20 years down the road" appears never to have been made. Integrity was in short supply.

11.5 Funding Stability for Forest Management Program—the 10% Rule

Probably the next thing we should discuss, a positive thing, is the budget with which we had to work. From time to time in subsequent years it seemed to outsiders that the success we were enjoying could be credited to the fact that our parent Company provided us with limitless funds. This couldn't have been farther from the truth. We recognized this early on and went directly to the senior people from our New York office with the question "what budget can we expect to have approved in the forestry department—what do we have to work with to accomplish the things we committed ourselves to in our agreement?" It was agreed that if we could keep our costs to 10% of the Company cost of laying the wood down in the wood yard then that would be quite satisfactory. That isn't a lot of money but we knew at least where we stood. We emphasized to our forestry staff that if we were to undertake the programs we had in mind we would have to cut every possible cost corner. We must plan very carefully how we were to undertake each operation at a minimum cost. Over the first 20-year cutting cycle in which I was involved never once did we pass that 10% figure. The average would have been somewhere between 7 and 8%. We were therefore able to proceed with our plans without undue interruptions, and rapidly gained the reputation of staying within our budget. It can be admitted that we went for a few years with our fingers crossed wondering if we might not be faced with huge cuts in the event of strikes and/or fall-out in the market and so on, but we were never restrained below the 10% level.

P.J. Murphy For what purpose was that budget, Des. Was that just for forest management as such—the planning part—or did that include the whole forest renewal and silvicultural program as well?

D.I. Crossley That includes the whole forest renewal program, all the responsibilities assumed by the Forestry Department, which varied a little through the years. For instance, we originally were responsible for the design and location of roads, but this responsibility was later transferred to the Operations Department, and we assumed the responsibility for forest protection. There were a few other changes, but we still retained the same budget approach.

P.J. Murphy Could I throw another conjectural one to you? I don't know whether or not you can talk about actual dollar amount but it seems that there may be a parallel here with provincial governments who, by and large, are falling behind in the renewal process. What kind of guidelines might we be able to come up with based on your experience, to guide required provincial expenditures just to break even. Could you equate that 7 to 8% average or the 10% guideline to equivalent terms of royalties or provincial revenues?

D.I. Crossley It would be very difficult for bureaucratic management to get firm long-term commitments from its political overseers. Bureaucrat management, and I am not using the word "bureaucrat" in the derogatory sense, is



fundamentally unable to conduct such long-range programs as ours as cheaply as we can, simply because it is subject to short-term political interference. The politicians are dominated by their uncertain and relatively limited term of office. I can list you numbers of things we did cheaper—much cheaper—than the government was ever able to do. Using available funds more efficiently by finding corners to cut, getting rid of staff who couldn't or wouldn't adapt to this approach or were wasting money through poor planning or unnecessary breakdown of equipment, avoiding costly repairs and so on, demonstrate what we are talking about. Get rid of those kinds of people and keep everything on a tight schedule. Under bureaucratic rather than industrial management, the forestry staff is subject to periodic and rather rapid turn-over. This is planned this way in order to provide experience in the various forest regions throughout the province in preparation for eventual movement into administrative responsibilities in Head Office in Edmonton. As a consequence, field officers seldom are permitted to remain in one forest long enough to gain the detailed knowledge that is necessary for its efficient management. On the other hand, a forest industrialist is located in the forest region which becomes his natural home, and the forester rapidly moves toward the European concept of the “seat of the pants” approach, and this is where cost efficiency becomes evident.

P.J. Murphy You have identified two things that I hear you saying are important—one is the spirit and the continuity of the staff, the other one is the fact that you had to adhere fairly strictly to an imposed budget, to which you had agreed. Your management was evidently not inclined to go along with cost-overruns if you ran into them. Did you come up with a dollar figure that you used as a guideline for what it cost to manage your area in any one year? Did you have a dollar per unit area for management planning and renewal?

D.I. Crossley In answer to your question, I would rather not attempt to provide you with a figure at a moment's notice because it varied through the years and to pin down the most recent one when I retired in 1975 would be difficult for me to provide out of my head, but the information is all there in a case study written for the Reed Report, “Forest Management in Canada.” When I get my hands on another copy I will run through it and provide you with the figures. (Case Studies, Volume II, Table 27, page 3-23, Forestry Department costs in 1976 aggregated at \$1.1 million, about 1/3 of which was spent on forest renewal.)

P.J. Murphy That will be great Des. Thanks. We're just about at the end of the tape. We'll stop here and turn it over.

D.I. Crossley A graph has been included in the archives that presents the allowable cuts as they changed through the years for various utilization standards, and the volumes cut in any particular year related to the amount spent in that year. That will give you the year-to-year picture of what was being spent on forest management operations.

P.J. Murphy That's good. We'll make a point of searching that one out.



Management Plan Results During the Period of Crossley's Leadership. Timber Supply Analysis, Contributing Landbase and Productivity 1956 to 1977³

Plan Year	Timber Supply Analysis	Gross Area	Net Productive Area (hectares)	% Landbase in AAC	AAC (m ³)	AAC per productive hectare (m ³ /ha)	Rotation (years)
1958	Preliminary Plan. No inventory, no G&Y information AAC estimated	777,422	682,340	87.8%	842,430		100
1961	Adaptation of Judeich Stand Method. Current volumes projected to time of harvest using growth factors from empirical volume/age curve. 100 year "R" 0.32% average annual burn reduced AAC by 140,330 m ³	777,422	682,340	87.8%	730,810		80
1966	As above. 80 year "R" increased AAC. 0.32% average annual burn reduced AAC by 132,040 m ³	774,672	657,710	84.9%	899,530	1.37	80
1977	As above. Undercuts in first 20 years, combined with a fixed end to the first rotation increased AAC. 1956 burns no longer in 20-yr average annual burn, reduced AAC by 23,455 m ³ /yr.	786,006	612,970	78.0%	1,052,400	1.72	80

³ Adapted From: The Hinton Forest 1955–2000—A Case Study in Adaptive Forest Management. Foothills Research Institute, 2002.



11.6 Cooperative Planning with the AFS

- D.I. Crossley** One of the initial pluses in the approach to management programming, was the very close cooperation between ourselves and the government forestry management staff. It is very interesting and pleasant to reflect back and report on it. The association was so close that when we faced new problems we sat down and discussed them together. In many instances it was quite simple to arrive at a resolution. Occasionally it was difficult, but in all cases they were always settled amicably.
- P.J. Murphy** That's the Department of Lands and Forests to which you are referring.
- D.I. Crossley** Right. Somewhat in the same area, it was most gratifying to realize slowly that we were not being severely monitored by our New York office, in spite of the fact that this was a very new operation for St. Regis in Alberta, and its first such operation in Canada, consequently things were not always approached in Alberta as they would be in the United States. Also during the whole period of my involvement, there was no suggestion of criticism. We however had periodic visits from the most senior forestry people in the New York office, probably about once a year. They were very interested in what was being done and helpful if we expressed the need, and always leaving with a comforting feeling amongst our Department staff that things were going on as they would like them. It might be of interest to you to learn that the man with whom we had greatest contact was Paul Dunn, former Dean of Forestry at Oregon State. He was a man of stature, well recognized throughout the United States as a competent forester. He made periodic visits to our office, and was always welcomed because of his quiet nature and interest in what we were doing, and his willingness to recognize that we had certain problems that he had never had to face before in much different forest regions. He was quite willing to listen and was always helpful in offering advice when it was pertinent.
- P.J. Murphy** So that would have created a fine atmosphere in which to work then.
- D.I. Crossley** One of the apparent pluses from my particular background was my 10 years of research in forestry in Alberta with the Canadian Forestry Service. This enabled me to understand problems that we would be encountering in Alberta, and know intimately the people involved in forest research, not only with the Canadian Forestry Service but with the other research organizations such as the Department of Forest Science, University of Alberta, the Department of Botany at the University of Alberta, and the Alberta Research Council. This enabled us to draw on their past knowledge, and also to approach them for assistance in research projects. With my own experience in forest research before coming to North Western Pulp and Power I was fully aware that the major concern that haunts the forest scientist involved in a long range forest research is the protection of his field plots throughout the life of his programs. The simplest things can destroy years of effort that have gone into creating the project in the field and gathering information until the project is complete. Anyone who can guarantee that the plots will be protected from damage is bound to gain attention. Also, in



Alberta at least, industry in the past has not been interested in forest research. Almost to the same extent, the foresters with the Alberta Forest Service hadn't either.

Therefore, in order to keep occupied as research foresters in the Alberta office of the Canadian Forestry Service where I worked, it was necessary for us to conjure up our own projects. If someone walked into our office with a problem he wished resolved, we could sit down with him and talk it out, but very seldom did we experience such an approach. Recognizing this I knew that we at North Western would get favourable hearings from all these people involved in research if we were not only able to provide them with problems needing resolution in their various disciplines, but the assurance that we would provide the necessary protection for their field plots. We could promise that if they would identify their plot locations accurately in the field we would spot them on our maps and see that they were not destroyed by some agency, either internal or external. Also we would do our best to provide an appropriate location on our lease for a research station. No such assurances were forthcoming elsewhere and I believe that these were the main reasons for the ultimate co-operation success we experienced. It may be of interest to note that this didn't always result in the best possible situation as far as outside observers were concerned. The Canadian Forestry Service later advised us that it was being criticized for doing too much of its research on our limits, even though a great deal of the results were broadly applicable throughout the province. Nevertheless it suited our purpose to be able to approach these scientists and get a good hearing. As the help materialized we supplied what field help we could if it was needed, as well as transportation and things of that nature. Also we ourselves undertook what we called "sore thumb" research simply to get an initial handle on something that was bothering us. This provided some immediate results that would identify the problem and indicate how it might best be resolved. We could then turn it over to the appropriate research facility to initiate it properly and take it through to its final conclusion.

11.7 Recruiting Highly Qualified Staff

I would like to discuss at this time the question of staffing our Forestry department. We decided that we would have a mixture of graduate foresters and graduate forest technicians to do our work. One of the first and most fundamental requirements of anybody working in the Department, other than the office staff, like draftsmen and photographers and so on, was that they must exhibit a great love for the outdoors and want to be out in the field. They must recognize that is their laboratory and that's the only place you learn anything. Generally speaking we were able to build up that kind of a staff.

There was some coming and going of people who just did not live up to what we wanted. We weren't satisfied with them or they were disgruntled with us, but we stuck with our approach and this resulted in a staff that was loyal to what we wanted to do. The senior staff—the graduate forester staff (Section heads)—met monthly in a joint meeting to discuss progress in previously assigned programs and the assignments for the next month, with everybody having an input in how they were to be approached and what would be needed to get the job done properly so that everybody was familiar to that extent with everybody else's work. The work often overlapped and each one had to know what the other was doing and what staff each was going to need so that it could be allocated effectively. Through that kind of cooperation I believe they all felt, and I certainly did, that we had an effective team effort to make our program work. I believe that this resulted in a satisfied group who liked the challenges involved. As an unexpected bonus, almost invariably, they loved the



mountain atmosphere, the splendid outdoor playground that they could enjoy, and which in many other forestry areas in Canada wasn't available.

P.J. Murphy As I recall too, you searched for academic excellence as well in your recruitment. Looking for people in the top of the class.

D.I. Crossley That's right. We went after the best we could get in the graduating classes. We did have two gold medalists but we didn't always confine ourselves to that high level. We wanted people preferably in the top third of the class.

P.J. Murphy Or where they had proven themselves otherwise.

D.I. Crossley Yes, although in the initial period we wanted to go with men with some experience and not just those right out of college. They couldn't all start off green. But as the years went by we were able to turn to immediate graduates who hadn't been spoiled by somebody else. However, the results were sometimes unexpected. The universities from which they graduated had usually failed to make them aware that what they had been taught in the way of good forest management was seldom if ever practised in Canada, and, if the summer's work experience was of a nature that did not make them aware of this situation, then they were caught completely off guard as a graduate.

In one instance one of our recent graduate employees decided to leave us and return to work in his province of origin, which was Ontario. He had done a good job for us and left on good terms, but it wasn't two years before he expressed the desire to return. In the interval he had learned that we were really conducting a much better forest management program than anything he encountered in Ontario, and he wanted to return to the challenge we offered. The other one decided to leave, because he had expected greater things. He found other work that attracted him in the consulting field, but he had the graciousness to say to us on one or two later occasions that he never regretted working with North Western Pulp and Power and the years that he was with us because it gave him a solid background that he found valuable in his new field. In conclusion, the kind of challenges we put before them were well rewarded by the diligence of their work. We managed to weed out everybody that was not interested in being out in the bush, and if we had any complaints in this area at all it was that we might have gone a little too far, in that it was sometimes difficult to get them to stay in the office long enough to complete some of their reports on time.



Des Crossley and his Senior Forestry Staff, Early 1960s. Back Row L–R Steve Ferdinand, Bill Hanington, Ray Ranger, Jack Wright, Des Crossley; Front Row L–R Eric Marison, Phil Appleby, Hank Somers.

11.8 Establishing Incentives for Intensive Management

D.I. Crossley

Our forest management agreement dictated that we were to operate on a sustained yield basis, no more and no less. The commitment to sustain the natural yield was never taken lightly, but there was no compulsion to increase the yield by more intensive management, except our own desire to do so when the time was ripe. As foresters we were aware that natural yields could be increased in many ways, but not without additional expense and in some cases a considerable amount. With this in mind we approached the government with a proposition that once we arrived at the sustaining of yield as laid down in the Agreement, we would move forward in the intensification of management to increase the yield, provided we were given an incentive so to do. Fertilizing, tree breeding, spacing, etc. can be expensive operations, and their financing would involve an extra burden upon our Company.

Our approach was to have the government agree to provide us with the additional wood that would result from intensified management, stumpage free. That is, the increase in the allowable cut above and beyond the sustained yield level that was originally set. The argument in making such an innovative and unusual



proposition was that no one would be unduly penalized if we could make the land produce more wood. This would result in a bigger mill to consume the increased volume, and more people to staff it. An increased local infra-structure would naturally follow to support the influx of staff through a bigger mill; more people on staff, more supporting people in the business world—all of whom would be paying local, provincial and federal taxes and swelling coffers without any additional expenses on their side. Such a program would probably cost the Company more money than would be saved from the free stumpage but we were prepared to absorb the increase if the government was prepared to prime the pump. We were very gratified with the reception this proposal got from the Department. After some discussion it was finally agreed that it made sense, and it was incorporated into the revised 1968 agreement, ready to be acted upon when we were able to prove that we had reached the harvesting of our sustained yield allowable cut.

- P.J. Murphy** That is a unique clause in Alberta legislation. It has not been used, but it has been inserted in the FMA Agreements of the other lease holders as well. Why, in your point of view, has that option never been taken up. What has been the restraining factor?
- D.I. Crossley** The main restraining factor to its adoption by the Company was the difficulty it was experiencing in reaching the basic goal of the utilization of the sustained yield allowable cut. This resulted from the Department's persistence in insisting that North Western should be purchasing more of its chip furnish from neighboring quota holders. This of course reduced the amount of wood that was needed from the FMA and created layoffs in its own Woodlands work force.
- P.J. Murphy** From a provincial standpoint, though, it would seem reasonable to encourage utilization of otherwise waste material before cutting green material.
- D.I. Crossley** Not necessarily so. You've got a lease that is producing timber, it is under proper and effective management, as the Agreement requires. You are rapidly approaching the allowable cut. If you don't harvest the planned amount of annual growth because chips are coming in from other sources, you will be allowing your own standing over-mature timber to remain and approach decadence, and therefore are ignoring the commitment to improve sanitation. You are also not improving the yield of wood by allowing static acres to remain unharvested. As far as I was concerned, as Chief Forester, I considered this demand by government agents as irresponsible. It hindered the Company from reaching its goal of effective forest management, rendered it vulnerable to the effects of Quota Holder mismanagement, fires, floods and strikes, and delayed our entrance into the field of intensive management. In fear of unnamed retribution our Resident Manager considered it undiplomatic to resist such demands from the government. I was surprised that the local branch of the IWA raised no objection.



P.J. Murphy Would the company look at intensive management as an investment in future wood production, looking at the possibility of later diversifying products or increasing volume manufacture from the fixed or decreased land base?

D.I. Crossley That brings up a whole new point of view which comes from other problems in our forest management which will come up later.

P.J. Murphy We can come back to them later.

11.9 Regret—Failure of Province to Protect Integrity of Landbase

D.I. Crossley No, it's alright. Let's cover it now we're here. Because of continued deletions from our lease to other land users, it is getting smaller and smaller. It is our contention that if the Company were forced to intensify its natural yields simply to replace the loss of land to other users, the incentive would be destroyed to move into the field of intensive management, which is not only very expensive, but not required in its Agreement. The reason it may be forced into it is because the government has failed to live up to its commitment to maintain the original land base, and thus removes the Company's right to increase the scale of management practised at its own volition, thus leaving it with no room to grow. The whole foundation of a professional forest manager's career is to introduce approaches that will result in improvements to the allowable cut. There-in lies his challenge.

I think throughout the history of industrial forestry, if not around the world then probably on this continent, and certainly in Canada, it is the custom to separate the management program into a woodlands department and a mill department to handle the obvious responsibilities those two names or terms implied. In the woodlands department it has been customary in the past for the forester to work under the aegis of wood management, and we commenced this way at North Western Pulp and Power. I reported to the Woodlands manager. This worked fine for a number of years, particularly in the early years. Woodlands managers who were hired were men who had little or no experience in forest management, were not graduate foresters and were only familiar with the wood extraction end of the forest operation. Therefore, they were prepared to allow the Forestry department to do its own planning with a minimum of interference. The forest management necessary to satisfy the demands in our Agreement remained as my responsibility. This was understood in the New York office and had been clarified during my acceptance of the position of Chief Forester. As the several Woodlands managers came and went, there were those who were concerned over such a division in authority and attempted to regain it by interfering with our plans.

P.J. Murphy Des, we're just about out of tape on this side. So just hold on and we'll commence on the next tape.

[END OF TAPE 1 in Sidney, B.C. on April 16, 1984]



P.J. Murphy Des, you were commenting on the organizational structure of the woodlands and the forestry units at NWP&P.

D.I. Crossley It was becoming more and more apparent that the forestry department was losing some of its authority to plan our program so that the annual yield could be sustained—which of course had had the support of the New York office and also the acceptance of the Alberta Forest Service. In order to overcome the distinct possibility of losing a lot of hard won ground, I as Chief Forester approached the Resident Manager and explained the situation to him, that the success of our program was in jeopardy and that the only way I could see to prevent such an eventuality was to be allowed to report directly to him, while working of course closely with the Woodlands Manager, but not under his direction. In the final analysis the Resident Manager agreed to this approach, and it has continued that way to this day, that the Chief Forester is directly responsible, at the same level as the Woodlands Manager, to the Resident Manager.

P.J. Murphy You mentioned also that there were some disappointments along the way, as well, and not everything worked out quite the way you had hoped. What were some of the difficulties that arose?

11.10 Regret—Lost Opportunity for Bush Chipping and Transport Project

D.I. Crossley The first thing that comes to mind, this really wasn't a difficulty, but it was certainly a disappointing failure of what we considered to be a new approach to the extraction of wood from the field and into the mill yard. That was a question of chipping in the woods. That is the felling and delimiting of the trees on each harvesting site, and then running the stems through field-powered chippers and moving them by pneumatic pipeline to waiting transportation trucks stationed on nearby all-weather haul roads. It appeared feasible to blow chips up to 1/2 mile and this would cut down the cost of road building tremendously. Chip debarking might also be undertaken in the field. If this proved to be feasible it would result in greater wood loads arriving at the mill. This was worked out by our forestry staff as a new approach to the movement of wood. We were able to gain the ear of the Research Branch of the Canadian Pulp and Paper Association in Montreal under Dr. Thiesmeyer, where this approach was presented. It was thoroughly discussed and questioned by his staff of experts whose enthusiastic reaction resulted in the decision to proceed further.

Manufacturers of readily transportable power units, as well as specialists in the pneumatic movement of products were invited in for discussions. The initial outcome was a joint agreement to proceed with a research study. The Research Branch of the CPPA would provide the staff to plan and conduct the study, a manufacturer of portable power units in Montreal would provide the chipper and portable power for the study, a Vancouver pneumatic products manufacturer would provide and supervise the locating of portable pipelines. North Western Pulp and Power would provide the field site and undertake the harvesting operation. The equipment people agreed to absorb all the costs involved in equipment adaptation and operation, with the promise that should the results prove to be operational, they would expect to hold exclusive rights to the manufacture and sale of equipment. The Research Branch involved did not consider this



unreasonable, nor did I. However, when I presented the proposed study program to our Resident Manager it was turned down, mainly on the basis that the Company didn't want to commit itself to procuring equipment from any particular sources. Consequently, the whole idea was forgotten. To us this was a big disappointment. Nobody seemed to be able to criticize it effectively. Everybody thought it had a great chance to be successful and we would have liked to have seen it attempted. A lot of effort went into something that never came to fruition.

P.J. Murphy Yes, a reflection of innovative thinking again. Perhaps going a step further, and correct me if I'm wrong, I understand that there were proposals at one time to go to pipelining of chips in a fluid from woodlands wood processing sites to the mill. In fact I had heard it suggested that if you were going to do that you might go a step further and start the digestion process in the pipeline as well.

D.I. Crossley Such proposals, I believe, all emanated from our original presentation. Other innovative people were interested in it and were proposing other or additional approaches.

P.J. Murphy I see.

D.I. Crossley Actually we were initially interested in the movement of chips in a slurry.

P.J. Murphy Oh, yes.

D.I. Crossley But the pneumatic people came up with the suggestion that chips could be blown up to 1/2 mile a lot easier than gathering water. In fact pneumatic lines already move chips up to a mile around mill yards, even when corners are involved.

To return to subsequent proposals, they apparently originated in Ontario where industrial foresters were getting desperate over the increasing long and expensive river drives, or the alternate costs of building roads.

P.J. Murphy Yes, the long wood hauling distances.

D.I. Crossley Therefore it would have been more feasible down there for them to overcome their wood moving difficulties than it would be for us.



P.J. Murphy The arguments I've heard against the pipelining project—the fluid pipelining—were the costs of the double handling of getting the wood to the processing point in the field, and then handling it again getting it into the pipeline, and then handling it again at the mill. With those plus the pipelining costs, it seemed to be largely an economic argument.

D.I. Crossley Going back to the discussions we had on this subject 20-30 years ago—20 years ago anyway, I'm sure those things all came up. I can assure you that Thiesmeyer and his research staff were quite behind it. They were really ready to go, and were disappointed that we didn't pick up the ball again as they thought we would. I am sure that if it had ever got started there would have been all sorts of different proposals that might have resulted in improved concepts. All we were trying to do was to report on something that we considered feasible. We struggled with the idea of a method of debarking chips in the woods, and contacted a professor at the University of Washington who was interested and came up to see us. He had been debarking chips on an experimental basis in the lab for some time, taking advantage of the line of weakness that must exist between the layer of bark and the cambium layer below. Flexing such chips up and down should fracture the bond at this line of weakness. He was putting his chips through banks of rollers much like those on old washing machine ringers. The separated bark could be removed with a blast of air. He was really gung ho to go too, and was sitting waiting for something to happen.

P.J. Murphy So there may have been technological advances in response to this proposition.

D.I. Crossley Oh yes, I'm sure, like everything else, all sorts of improvements would emanate. At least it was simply a method we thought was a practical way of wood movement without building so many roads.

P.J. Murphy Maybe it will come again.

11.11 Regret—Loss of Provisional Reserve Area for Expansion

D.I. Crossley I hope it does. One of the other disappointments we experienced was the fact that the option of an additional two million acres being held by the Forest Service for North Western as a reserve timber supply for expansion was never exercised. This is due to a lot of reasons. Certainly we did quite a bit of work in the Forestry Department on air photographing and age-classing this timber and also compartmentalizing it on air photos and planning our roads, etc. in an effort to be prepared for the time when the option was exercised.

P.J. Murphy Des, I just might interject. My recollection is that you had a two million acre lease which was yours on which to do your initial work and then there was an additional two million acres called a “provisional reserve” which



in essence surrounded the original lease, and that was reserved for you through negotiation should you increase mill capacity.

D.I. Crossley Yes, that's right. That's putting it more clearly. We had some 14 years to exercise this option, or until 1968.

P.J. Murphy So you focused on the lease area first and got it going as you described. You did do work on the provisional reserve?

D.I. Crossley Just as we had the time. If we had any time to spare, any air photography going on, for example we would do a bit more reserve area so we would be ready when we did pick it up. It never crossed our minds that we would not do so. This seemed like too good an additional supply of adjacent timber for us to ignore. But through a lot of machinations that were difficult to understand between our company and the government, the whole idea was eventually abandoned.

P.J. Murphy Could you elaborate on some of those. It does seem difficult to imagine.

D.I. Crossley As I have said, the Company had no intention to losing the right to acquire this reserved area, nor had we any reason to believe that the government might be planning to withdraw the option. It is true that as the year 1968 approached, the economic situation did not favour immediate expansion, but the government recognized this and assured us of accommodating extensions. However, we were slowly becoming aware of a cooling off between our two parties, which appeared to emanate from the office of the Minister involved. Accusations were made that the Company was in default, but no satisfactory explanation was ever obtained. At this point in time a new Minister took office. It was my opinion that he never clearly understood what this was all about, but probably felt obliged to proceed with his predecessor's apparent desire to withdraw the option. Much correspondence flew back and forth in an attempt on the Company's part to clarify the issue, but our protests that we had done nothing to justify option withdrawal fell on deaf ears and the final result was an Order in Council which documented the withdrawal of the option. Since I was not privy to some of the more confidential correspondence between our Resident Manager, our New York office, and the office of the Minister, this is as far as I care to go, other than to say that I was never able to understand why a stronger action to defend our rights was not undertaken.

P.J. Murphy My impression from the outside is that there seemed to be a feeling that St. Regis was just not willing to commit itself to further mill expansion, but it's difficult for me to judge from outside because I am not aware



of market conditions which prevailed at that time or market projections or internal financing within the company.

11.12 Regret—Deterioration of Cooperative Management Spirit—AFS

D.I. Crossley All I can comment further is that we were probably just as mystified at that time as you are now. Another of the discouraging events that crept up on us rather slowly was the deterioration in management planning co-operation that originally was so evident between the Forest Service and North Western Pulp and Power. Unfortunately it slowly became apparent that the Forest Service was becoming less cooperative than it had been in the early stages. The reasons are nebulous. It's my feeling that it was becoming jealous of the success that the company was enjoying, and the fact that we were not prepared to accept criticism from junior Forest Service staff in the field of how we did our day to day work, and thought that the Forest Service should confine its concern to the results as laid down in the ground rules, without becoming involved in the programs that we initiated in order to reach our goals. The Forest Service perhaps wanted to regain the authority that it felt should never have been relinquished in the first place. This deterioration in mutual confidence we found difficult to accept. It detracted from our efficiency, and caused a certain increase in the work of the Forest Service which we thought it would be reluctant to assume. The overall responsibility it had over the whole province was load enough to be carrying. The lessening of routine assignments would have saved a lot of field officer time that could have well been put toward more important things.

P.J. Murphy Did the Forest Service appear to be more concerned with process rather than results in your operation. Originally in the very beginning as I recall there were many disputes over the process. For example, John Currat shut down Camp 10 because of what he perceived to be inadequacies in slash disposal in some of the overmature pine. There were problems in Camp 1 with slash burning in the first trials—things of that sort. But it seemed to me that as you progressed and developed your rapport that the Forest Service began looking more at the bottom line which was regenerated cutovers, rather than what went on in between. I don't know if that's a fair—

D.I. Crossley No. That's completely unfair and contrary to what we have noted. In the early years these various objections did crop up; that was expected and no offence was taken. Supervision and policing were the responsibility of the Forest Service. Once these early requirements had been made known it was not necessary to be reminded. The regeneration of cut-overs which you use as an example is a good choice. Satisfactorily stocked acres are the bottom line, not the techniques that we developed to reach that state. That is the Company's responsibility. It has trained field staff whose responsibility it is to supervise seed bed preparation that will regenerate to the standards that we must meet, and at a satisfactory cost. Now imagine a Forest Service field officer appearing on the scene just as scarification had been completed to the satisfaction of our field supervisor. The Forest Service officer is not satisfied with the resulting seed bed and instructs that the scarification be done over again.



- P.J. Murphy** What recourse did you have?
- D.I. Crossley** The obvious recourse was to remind our field staff that such interferences were not bottom line and the instruction was to be ignored. Such situations do not contribute to the type of relationship we had originally grown to expect.
- P.J. Murphy** The point I was referring to, as far as the bottom line of regeneration is concerned, is that after you got the details sorted out, that the line the Forest Service was looking at, was whether or not you were regenerating and meeting that commitment.
- D.I. Crossley** That was their job, in the 7th year following harvest, to go out in the field and check the performance. That's the bottom line but by interfering before the 7th year they weren't confining themselves to it and here-in lies the grounds for complaint.
- P.J. Murphy** I'm not making myself clear. I agree with you. You developed a rapport with the Forest Service and the bottom line was that regeneration survey—and there wasn't too much concern about what happened in between.
- D.I. Crossley** Yes. In the early years both parties had much to learn. We worked hard at it and of course, were able to give it all our attention. With all its other duties throughout the province, the Forest Service wasn't able to keep abreast of the work load and I would have supposed that this would be a matter of some concern. As time went on it attempted to regain what it thought was lost authority, and our staff reacted to the resulting, uncalled for interference and unnecessary expense.
- P.J. Murphy** Uncalled for under the terms of your lease and operating ground rules?
- D.I. Crossley** Yes. The ground rules had to be policed and this caused us no concern. They were bottom line. We are talking about the procedural steps necessary to satisfy the ground rules.
- P.J. Murphy** Just continuing this discussion. What I was trying to distinguish was between process and results, and I think we've probably come pretty close to agreement. If we are looking at results such as an adequate standard of regeneration, the means by which you achieved those results, so long as they were environmentally reasonable, aren't that important, it's the results that count. Just like the analogy I had mentioned earlier that



if you had wanted to get to the top of a mountain, there are many ways you can get up there and the route isn't all that important. If your objective is to get to the top, that's the objective point you look at. I think you had similar thoughts in your own professional career.

D.I. Crossley I appreciate your analogy, but it isn't quite close enough in that it's hard to imagine differences in costs in getting to the top of that mountain. But in the things we did we had to be extremely conscious of the costs. We demanded the right to approach a task in our own way and costs are a paramount consideration. The Forest Service couldn't care less about our costs, provided desired results are realized. As a professional forester charged with this responsibility I demand the right "to do it my way" . At least until it has been demonstrated that my way is not producing the desired results, and one of those results is an acceptable cost. The goal of controlled costs was not for the purpose of increasing Company dividends, but to stretch our budget to its limits.

P.J. Murphy So you see a double challenge, not only to do a good job but to do the job in the most cost-effective way.

D.I. Crossley That is correct.

11.13 Increasing Peer and Public Support for Hinton's Approach to Management

P.J. Murphy Des, thanks for that multifaceted overview summary. It sheds a great deal of excellent perspective on the whole story. Among your pluses I would suggest there is one that could be added, and that is the recognition which you and your group have achieved in bringing about an effective scheme of management. The recognition I'm thinking of was your invitation to give the MacMillan Lecture at UBC, the lectures at the University of Alberta, of course, the Weyerhaeuser Lectures at the University of Toronto, and finally your honorary doctorate at the University of Toronto, which are all pretty sterling commendations to you. But during the earlier part of your talk you used the term "bell weather" as an adjective to describe the fact that you were ploughing new ground in Alberta—trying to work things out as you went, to do forestry and effect the forest renewal process. I understand that you were consulted by others, that is other forest industry representatives who were exploring the possibilities of developing other of Alberta's timber reserves. We recognize that Alberta is one of the few provinces left in which there is a surplus of AAC in coniferous timber. It's perplexing in some respects that Alberta hasn't had more industries take up the opportunities of this available timber supply. Do you have any thoughts on why that might be?

D.I. Crossley Yes, there are several reasons. To comment first on the "bell-weather", leadership it followed simply because North Western was the first company to pick up the initial forest management option in Alberta. It was therefore obvious that harvesting and management of this renewable resource would be closely watched by



concerned people. It also brought to the attention of other forest industrialists from outside the province who were searching for timber supplies for rather large scale manufacturing processes. The Forest Service was initially approached on its plans to continue its FMA allocations and in several instances we were asked by the Minister or his Deputy to accept visitations from interested parties to demonstrate our program, the costs involved, etc.

One of the major concerns expressed was the long distance Alberta's forests were from the market. Most of these groups had not been used to much in the way of forest management and had operated on the cut and get-out policy. They considered that the renewal of the harvested resource was not their responsibility. So they were really taken aback when they learned how rigid the Alberta Department of Lands and Forests was in its management requirements, and that we were prepared to accept them. We explained that we didn't have unlimited funds and had to be very careful with what we did have, to cut our cloth to fit, and the government seemed to be satisfied with what we were accomplishing. We ourselves were satisfied with our progress up to this point in time. We saw no reason why anyone else couldn't come out and accomplish the same thing.

As it happened, most of these groups were still frightened off. They probably decided that it was going to be too expensive and they were too far from the market. We did have visits from groups who didn't have any background in forestry but were anxious to get some of this wood supply nailed down so that they could finance plants and learn as they went along. They got short shift from us because they wouldn't have understood the problems involved. They would have to get their answers from the Forest Service. I recall that one or two options were given out to such applicants but nothing materialized. No doubt it suddenly became obvious that they lacked both funds and knowledge for such an undertaking. That was the decision of the government and had nothing to do with us.

P.J. Murphy

At the time St. Regis began its operation in the mid-50's there were two factors that contributed to the shock among the general public. One is that they had never before seen harvesting operations of that magnitude, and secondly many of those harvesting operations were along Highway 16 where they were readily visible to people travelling to Jasper and back. The initial harvesting operation was in full public view and as a consequence there was a period of time when there was rather sustained criticism over what was seen as a destruction of our forest in that area. That was a concern to you, I know, and you took action to try to get around it.

D.I. Crossley

It was a very real problem. One of the ones we really hadn't expected to be as difficult as it turned out. It was based mostly on ignorance of what forest management was all about, even what a little tree looked like. The majority of the criticism appeared to come from people living on the prairies with a farming background. They had never seen clearcutting of timber before.

They assumed that the proper way of handling timber was to go in and take out the big trees and let the rest keep on growing so that there would always be a stand of timber remaining. This assumption can be explained by the fact that this was the way that timber was harvested in Alberta before our Company appeared on the scene. From a forest management point of view with even age timber you don't harvest it that way. You



remove it in its entirety and start a new crop all over again. The public's concern was also aggravated when it got a closer look at the cut-over areas and saw the rough conditions that were left behind after harvesting. The branches and small tops, and roots that had been up-rooted resulted in an untidy mess.

It was our plan to clear-cut small patches—patches the size the government approved—and to go in immediately after harvesting and scarify, which means taking heavy, powered mechanical equipment and tearing up the surface with large teeth mounted on the front of big Caterpillar tractors. The resulting rough surface was smoothed down a bit by dragging heavy anchor chains behind. This provided the exact environment that we sought. We wanted to create what we called “microsites”—small little hand sized sites scattered in their thousands over these harvested acres. These provided suitable seed beds—on which regeneration could get established. Each was protected from severe climatic conditions with the partial shade offered by the debris, and pockets of snow for winter protection during the early life of the seedling. The debris left exposed provided dams to moving water, and little deposits of silt, all resulting in the desired seed bed. Unfortunately, from a public relations point of view all we could do was sit back and wait until the resulting seedlings grew big enough to be recognized as trees.

P.J. Murphy

Well I can agree with what you say, having taken people out to the Camp 1 area to be shown—they showing me—the devastation that resulted and being able to demonstrate to them if they looked closely they could see, in fact, spruce regeneration coming along very well. It was just not clearly evident to the untrained eye.

D.I. Crossley

When we conducted tours out on the site it was satisfying to hear the squeals of delight and interest when you showed them what a little tree looks like, and they started looking for them themselves and finding them everywhere. But it took a long time, and of course there are new groups of uninitiated people always appearing, and it was difficult to keep abreast. So really you aren't out of trouble with the public until regeneration reaches small Christmas-tree height. Only then will many accept that there is something there. It initially took 10-12 years before we got out of that kind of trouble.

But up until that time there were letters to the editor, and all sorts of complaints to the Minister in the form of phone calls and letters piled high on his desk, accusing the Company of raping thousands of acres, even hundreds of thousands of acres, creating huge deserts and so on. This, of course, he found upsetting. He instructed his staff to see if we were doing the job we were supposed to. He was assured that we were. But it was a long hard fight. Of course we also filmed our results and had professional people come out and film the whole regeneration process. We also spent a lot of energy and time in finding better ways to regenerate. We eventually included a planting program to regenerate any failed areas that we encountered during our field surveying. Through the years it has worked out to our satisfaction and today if you go over St. Regis' limits I believe it would gratify you to see the thousands and thousands of acres of beautiful second growth stands, many of which suggest that they will out-perform the original stand that they have replaced.

P.J. Murphy

Well thank you very much Des. That's enough for today. It was a good afternoon.



[END OF TAPE 2, APRIL 16, 1984—SIDNEY, B.C.]

[TAPE 1, APRIL 17, 1984—SIDNEY, B.C.]

12. PERSPECTIVES ON FOREST MANAGEMENT IN ONTARIO

P.J. Murphy We're back together again on Tuesday, 17 April in Sidney, B.C. Des Crossley and I were discussing yesterday the forest management agreement particular as exemplified by St. Regis agreement and how it evolved. I had intended to ask you yesterday, Des, about the forest management agreements in Ontario. An Agreement by the same name, but Ontario was coming from a different historical setting; the FMA's as I understand in Ontario were not quite the same as ours. What I would like you to do, if you would, would be to give some historical perspectives and comparisons between the two systems. If you would care to, at the end, give your opinion as to whether or not you think Ontario is heading in the right direction. Those are a multi-facetted questions, if you want to start with some of the historical antecedents first ----

D.I. Crossley Yes, first of all it's important to establish some reason for my considering I have some valid opinions about another province. I was born on the prairies, took my initial education on the prairies, and went to the University of Toronto to study forestry and became involved in what was going on in that province. Unfortunately, during those years of training there was not much if any opportunity to work in forestry during the summer vacations, so I obtained very little knowledge of the conditions in the field, and my original impressions were all from hearsay. At that time, it was during the first depression, it was made very plain to us by our professors that there was not going to be any employment in forest management in Ontario for some time to come. The only work would be in wood extraction, and the emphasis would be in getting wood out as cheaply as possible. This didn't sound like a very challenging future for those of us who were really interested in the broader European type of forest management which we were being taught. Nevertheless, it was a fact of life. My original employment upon graduation was in Ontario but only for a matter of 2 or 3 months when I accepted work in the prairie provinces in field shelter-belt work.

Throughout my subsequent career I have had many opportunities to observe forest management programs in Ontario and also in other parts of Canada, and have always been very distressed of the fact that Ontario, the leading industrial province in Canada, has been so backward in the management of its forest. This has no doubt resulted from its early history as a province, its original settlement and the clearing of land for agriculture. Timber stands appeared to be limitless and an obstacle to the early settler. As timber values became more evident, forest industry was encouraged, and rapidly became of paramount importance, and its administration as a renewable resource was assumed by the Department of Lands and Forests.

The allocation of timber to industry, and the regulations pertaining to its management emanated from this Department, and here-in lies its initial mistakes. The first was in the provision of huge tracts of land from which to harvest the timber necessary to provide the furnish for their mills. Looking back over the records of



the amount of land that each of these companies was assigned is a flabbergasting experience. As a matter of fact, such information came to my attention away back in 1963, when I had the opportunity to view what was regarded as a confidential Lands and Forests document, but leaked to me for my reactions. In essence, it boils down to the fact that all the large industrial concerns, that is the timber harvesting licensees in Ontario, were assigned tracts of land that amounted to allowable cuts averaging three times greater than their mills could possibly utilize. This, of course, left thousands and thousands of acres of timber that might better have been allocated to other operators and thus resulting in increased employment and provincial revenues.

It was the custom to commence timber harvesting as close to the point of consumption as possible, and to proceed in ever-increasing circles annually. This resulted in a cheap supply of timber during the initial years, but at ever-increasing costs as transportation distances increased. At the same time the Agreements that these licensees had signed with the government required that they operate on a sustained yield basis, but no provision was made for adequate tenure. This was the second mistake. With no assurance of the right to harvest the second crop, the licensee saw no reason to spend anything on regenerating the cut-overs.

This state of affairs continued until the forests were in such a state that the Department of Lands and Forests eventually had to assume the responsibility for forest renewal. Its approach was to contract regeneration programs out to the timber operators, on a cost plus basis, but it soon became evident that this was not proving a success. The Department next assumed the complete regeneration program itself, but eventually found the task enormous and beyond its capability, and the whole system of timber management would have to be reassessed. It was becoming evident that time was in short supply, and the accumulation of NSR acres staggering. This was aggravated by the fact that huge forest fires had destroyed the thin mantle of soil on much of the Canadian Shield. It was evident that a re-evaluation of the whole situation would have to be undertaken.

Fortunately at this time one personality appears who had considerable background of experience in the broad fields of forestry throughout the province. He was Ken Armson, a professor of silviculture and forest soils at the University of Toronto. Ken had been doing consulting work for the Ontario government on their varying forestry problems, and many times expressed his concern and suggested approaches that should be initiated. Eventually he was invited to move his base of operation from the University to the Government, with the authority to review the problems and present a full scale report. As part of this assignment Ken toured the other provinces and discussed mutual problems with other professional foresters. This was the time we became more involved with him because he was interested in what was happening in Alberta. He spent considerable time talking with the management foresters in the Department of Lands and Forests in Edmonton and discussing the new management agreements that had been formalized in this province and the results that were emanating therefrom. At the same time he was always welcome on the St. Regis (Alberta)'s limits to discuss its program as it had developed through the years at Hinton.

Having increased his exposure right across Canada, he engaged himself in drafting new agreement approaches which more closely resemble those of others more successful. One of the more interesting and effective inclusions was "evergreen tenure". This is somewhat different to the tenure system in Alberta, which is a 20-year renewable-term. Evergreen tenure provides similar long-term tenure based on renewal after the first 15 years of acceptable performance, and every 5 years thereafter. I understand that the old leases are being re-negotiated and that 20 ----



P.J. Murphy There are about 20 leases, I should say 20 agreements that have been signed and that covers just under half of the total area under lease in the province.

D.I. Crossley This would amount to about half of the older leases and this figure is increasing from day to day. So, perhaps, it won't be too long before the whole province has adapted to this new approach and should then be making progress toward effective forest management.

P.J. Murphy I think you're right in the fact that if these agreements work the way they are intended there will be increased attention to the renewal process. It won't really address the NSR backlog, but that's another story. The general agreement as I understand it, I am not aware of the details perhaps you are, is that the government in essence is contracting the companies to do the renewal work after the companies have done the harvesting. I don't know the package of costs and benefits the company has received in terms of stumpage, land rental and renewal cost but it would seem on the surface that the companies in Ontario are getting a better deal than the Alberta companies who are required under terms of their agreements to do the renewal at no additional cost. You were speaking of the relative cost for the package of benefits that are involved.

D.I. Crossley I am not too familiar with the details, but as a result of your remark I'm reminded of the fact that it isn't always the best thing for the government to contract this work back to the companies, with the government assuming all the costs. Such a situation is similar to that practised in B.C. This is much against my philosophy of effective forest management. The company should assume all such responsibilities in its own budget. If you have the government supporting you financially, you'll only be paying for it in increased stumpage anyway. In accepting such funding assistance you are opening the door to day-to-day interference from the government staff, which is something to be avoided. Industry is far more conscious of costs if the money is coming out of its own budget, and money saved here can be better spent elsewhere.

13. Forestry Education and Early Career

P.J. Murphy These are points which will certainly bear watching and it will be interesting to see what emerges. You mentioned in your earlier remarks our experiences at the University of Toronto and I wonder if we might take you back in time to your University of Toronto days which really got you launched in your forestry career. I'm wondering retrospectively whether you felt for example the nature of your education at that time prepared



you adequately. I would suggest that it probably did but you undoubtedly learned a great deal on the job and during your graduate education. Can you recall retrospectively how?

D.I. Crossley Yes, the experience of being a depression period class.

P.J. Murphy That was the graduating class of?

D.I. Crossley 1935. We were right in the heart of the depression. As I mentioned a few minutes ago there was absolutely no employment in the summer time in forestry to obtain the experience which was called for in the University calendar. That is three summers of employment in the professional field. The lack of field experience resulted in our inability to discuss the relevancy of our curriculum. It was certainly dominated with the European approach. Dr. Fernow, the first Dean of the University of Toronto school of Forestry was a European forester, highly respected, and of course he brought with him the European philosophies of forest education. It certainly dominated the approach that our professors took towards teaching us. We were warned when we started that employment would be scarce and that only half the class would be allowed to graduate. There was actually only one in our graduating class that had a confirmed job to go to.

P.J. Murphy I was noticing on your class picture which you have on your wall here the names of your other classmates, and with few exceptions, they are not names which I recognize. I would have thought that they would have been more prominent.

D.I. Crossley Part of that is due to the lack of initial employment in our graduating year and for a time thereafter. There's a man in that picture that was a good student and a good friend of mine, but the only job he could find was with the Coca-Cola Company. He remained there throughout his career and eventually became a Vice-President. Several got into teaching, not in forestry, but at the high school level, and others simply disappeared. There's one that's down in Louisiana as a forest entomologist. He built a good reputation for himself down there. Just looking over at the picture, there's probably no more than 8 or 10 out of the 16 graduates that remained in the profession. One man obtained his doctorate in forest pathology and found employment with the federal government in Ottawa. But the one man who found immediate employment at the Lakehead worked many years with a fairly good-sized company, and was an excellent forester but he got so frustrated with what was going on in Ontario, or lack therefore, that he quit quite late in life and went teaching high school. Another graduate eventually saw the hand writing on the wall and went into business operating his own sawmill.



P.J. Murphy During your senior year I understand you won an essay prize for a paper you wrote on forestry and wildlife. Would you be willing, for the record, to read it in to have it typed up. It was quite prophetic in its observations.

D.I. Crossley Certainly. I think you must be referring to a piece that I prepared as a student, and was eventually published in the news bulletin of the Canadian Society of Forest Engineers:

“You have no doubt noticed the growing interest in wildlife management, especially in the United States, as is manifested by the increasing number of articles being published in the Journal of Forestry on this subject. I have had no opportunity to make a study of this question and so may be going off half-cocked. However, one or two points struck me rather forcibly and I would like to have your opinion on them. I realize that the question is not one of immediate importance in this country but sooner or later wildlife conservationists will be clamouring here as they are at present in the States. The more or less new era being introduced into forestry on this continent, namely that of managing the forest so as to produce its maximum of timber, of game and in recreational values, superficially sounds most praiseworthy, but I believe that, when examined more carefully, it augurs ill for the future welfare of forestry. A good game cover must consist of a mixture of conifers and broad-leaves. Neither one alone is suitable. The tract must contain open glades, coverts, windfalls, insects, saprophytic and parasitic fungi, etc., all of which may be inconsistent with intensive forestry.

It would not be difficult to evolve a silvicultural system that would favour the production of maximum game of one or two species and still produce a fairly heavy stand of forest timbers suitable for game protection and marketing all at the same time. However, knowing human nature for what it is, we must realize that as one species of game was protected and multiplied, the demand would soon commence for the protection of another and so on, until eventually the demand would be for the forester to have his tract harbouring at least all the game that it did in its wild state. Thus, a forester might be called upon to manage his forest so that it would produce, besides timber, the maximum in deer and moose, bear, beaver, grouse, rabbits, song birds and birds of prey, etc. To favour the bigger game animals he would have to have a mixed stand containing many transition types, windfalls, etc. To quote from a recent writer on the subject “the white-tailed deer is quite content over the period from early spring until deep snow comes on a hill-top over-grown with briers, wild herbaceous growth and occasional clumps of conifers under which beds can be made during storms.” The beaver must have areas of poplar, (silvicultural weeds) for his well-being, handy to his home in the water. The bear demands old rotten windfalls which he can overturn in his search for food, and open berry patches where he can fill himself at his leisure. The grouse wants many of the species of wild fruit bearing shrubs most of which would be removed or shaded out in intensive silvicultural management. The birds want an abundance of forest insects which, in turn, need fire hazards of slash and windfalls which would not be tolerated in a well-managed forest.

We could go on naming additional requirements a forest would have to supply with every species that the public wanted protected, and most of them would be provided only at the expense of timber production. Eventually, in producing this biotic balance between fauna and flora, we would arrive back at a natural forest, having done no better than old mother nature herself could do. A forester would then have nothing to do other than to conduct fire detection and suppression. We cannot have our cake and eat it too. We must either



practice intensive forestry or we must revert back to nature where maximum timber and wildlife have been produced for countless generations.

Possibly one way out of this dilemma would be to practice forestry on special tracts and game management on others. This is done to a certain extent now when we consider our game preserves, but the order could be reversed. That is, small tracts could be set aside on which to practice intensive forestry, leaving the remaining timber land for wildlife, cutting only the over-mature timber, and in such a way as to disturb as little as possible the natural conditions. We can produce all the timber that we are now growing, on very much smaller areas if we practiced forestry as it should be. These special timber-producing units could be suitably located so as to keep operating costs at a minimum, and so as not to encroach on our recreational areas where pure stands and logging operations would spoil the scenic values. Thus it would be possible to satisfy the demands for timber, for wildlife and for recreational areas without having the first hampered by either of the others”.

P J. Murphy

Thank you Des. We're just about at the end of the tape on this side. I'll just run it ahead and turn it over. Des, following your graduation in 1935, I understand your first job was with the PFRA, (Prairie Farm Rehabilitation Authority), out of the Indian Head, Saskatchewan nursery which was involved with tree planting on the prairies. From an historical standpoint, which reflects my own current interests, it's a neat bridge because the mandate of the old Dominion Forestry Branch as set up in 1899 seemed to be twofold as far as the Canadian west was concerned. One was to get trees growing on the prairies and the other one was to establish some order of fire control. So your work evidently tied in with a continuation of the tree planting program. That's a long preamble to asking you how you saw the nature of the work and the objectives of the organization and how effective you thought it was.

13.1. Early Career with the Prairie Farm Rehabilitation Association

D.I. Crossley

First of all, I should correct you on a minor point. My first job after graduation was not with the PFRA on the prairies, it was with the Newago Timber Company out of Port Arthur where I had gone in search of employment. I was offered free accommodation in Port Arthur by a friend, and it was a good place to start looking for work. I eventually found it as a scaler with Newago Timber Company and remained with it for about 2 months until an offer arrived from the Federal Government, under the Prairie Farm Rehabilitation Act, of a job that I considered more challenging and which I immediately accepted. Having said that, I also should tell you that the tree planting work on the prairies was being conducted through the Department of Agriculture not through the Canadian Forestry Service. Therefore it fell within the mandate of the Prairie Farm Rehabilitation Act that had just come into force to discover methods of amelioration of the drought conditions and soil erosion that was occurring throughout the three prairie provinces.

The position I was offered was as a tree planting supervisor. The forest nursery in Indian Head was the main source of supply for trees for farm home shelterbelts. Indian Head became my headquarters, but my work for fully half the year was to be outside the office and in the field. For years, prairie home shelterbelts had been, and were being established by interested farmers from free planting-stock from Indian Head, and served the purpose of providing protection from winds and shelter for gardens. Up to this time very little interest had



been taken in field planting. Field shelterbelts held promise of becoming a practical way to minimize the effects of drought and soil drifting, and to hold extra snow on the lee side of each belt rather than having it drift into the gullies and be lost to the cropped land.

In order to get this program underway, the Prairie Farm Rehabilitation Office decided to initiate some exploratory programs with special groups of farmers, each agreeing to form an Association to establish field shelterbelts under supervision, and with financial help from the federal government. Each Association would consist of a compact group of farmers so that the shelterbelts on each farm would complement those of its neighbors. Four areas were selected—two in Saskatchewan, one in Alberta and one in Manitoba. I was placed in charge of the one at Lyleton in south western Manitoba, and the other at Aneroid, south of Swift Current in Saskatchewan.

My initial task was to initiate the program, interview the farmers who had already indicated an interest in discussing the idea of a community shelterbelt project, and explain to them the financial help the government would provide, and my services in an advisory capacity to oversee the whole operation. So my time was spent between those two projects. When there was any time in between I did visit farm homes in southwestern Manitoba and southern Saskatchewan to contact people who had written into the Indian Head office requesting someone to show them how to establish a suitable shelterbelt around their dwellings. But the major part of my time was spent on the field shelterbelt projects.

The one that became the most active and showed the most enthusiasm was the one in Lyleton, Manitoba. The farmers were almost exclusively of Ontario origin, certainly a better class of farmer than one would normally expect to see collected in one group. As far as I was concerned, it was a delightful community in which to work. What they received from the government to support them in this program was the presence and the advice of a field officer, an overall plan of field shelterbelt layout for each farm and assistance in laying it in the field. These proposed strip locations had to be summer-fallowed a year prior to planting in order to store moisture and get rid of excessive weed competition. Since this was in the heart of the depression the farmers were all very hard up and crops were very, very minimal. While most of the members were sincere in their interest, there were a few whose main interest was in the government money they would be getting for their labours and which they desperately needed. They were supplied free trees and were paid \$2.00 per thousand to plant them. Initially, the belts were single-rowed and the trees mostly caragana which is a drought resistant heavy-limbed bushy tree that originated in Russia, and was easy to plant. Some of the farmers showed an innovative approach to planting and built a mechanical planter. The main financial assistance was the \$20.00 a mile they received per season, and for the next 5 years, to cultivate these rows so as to conserve as much moisture as possible. This was a major importance for transplant survival through the years of drought.

My job was to see that all this was done properly, and payments made at the conclusion of each season. During the first year or two blister beetles moved in from the alfalfa fields onto the caragana. Their control required a lot of dusting. This cost was born by the government to counter this unexpected threat to success, and the decision was made to introduce unsusceptible trees along with the caragana. One or even two rows of broad-leaf trees were added. These included ash, elm and maple, with willows used in the low wet spots. Through the years these have developed tremendously and have attracted much attention particularly from Americans from the bordering states. Bus tours are common, with presentations by Association members on



the many benefits the shelterbelts have provided. The local people are very proud of what has been accomplished.

P.J. Murphy How long were you there with PFRA, Des?

D.I. Crossley I started in the summer of 1935 and was with them until fall of 1940 when resigned from my position with the PFRA and joined the Royal Canadian Air Force. During that time, you may be interested in the fact that I took some time off during two winters to go down to the University of Minnesota to undertake graduate work in an area which I felt would be advantageous if I was to remain in this prairie silviculture program. I chose this University because of its reputation in soil science. The Dean of the Soils Department was a Canadian and was highly respected throughout the whole profession. To make a long story short, my wife and I took two winters and went down and worked on my Master's degree. My thesis dealt with prairie soils and their relation to the rooting habits of several species of trees.

13.2 The War Years—RCAF Training Command

P.J. Murphy You did your Master's then during that time when you were with PFRA and did you have it in hand then, completed, when you joined the Air Force?

D.I. Crossley Yes. I wanted to get into the Services as fast as I could but continued my studies to completion, before enlisting in the Air Force in the fall of 1940.

P.J. Murphy Your Air Force career, if I could put it that way, interrupted your progression in forestry, but it was certainly an important facet of your own personal experiences. Could you bridge the years with the Air Force to give us some background on what you did and how it affected your later outlooks.

D.I. Crossley Yes. I wanted to get into air crew and when I made my application my educational background was reviewed and I was told that I would likely be trained as a navigator, but in particular in the navigation instructional field. At this time the Commonwealth Air Training planning was getting underway and it was terrifically important to enlist the basic staff to prepare to teach. Anybody with a graduate degree in science was automatically assigned to navigation instruction. Those selected were assured that the plan was to seek out those recruits with advanced scientific training and could rapidly adapt to the initiation of the training programs, and could handle the heavy load of instructional responsibilities. We were advised that as the war progressed and navigators returned to Canada after completing their operational tours in Europe, they would be introduced into the instructional system, and those of us who had been assigned to the initial training program would be relieved and would move into operations.



Returning to the initial enlistment, we were posted to Rivers, which was the Number 1 navigational school, located in Manitoba, to take this special course designed for us. I don't mind admitting this was the toughest course I ever went through in my life. The demand for instructors was urgent and they threw it at us. The competition in our class of 16 was awesome since it included astronomers, math and physics professors and Ph.D.'s in several other fields. Those of us without such backgrounds had to work like dogs to keep up. To make a long story short, upon graduating we were posted to various training schools and I was posted first to number 6 Air Observer School in Prince Albert and took part in the initial work preparing classes for graduation. I was there for several months when I was transferred to number 4 Initial Training School in Edmonton, where air crews were given initial instruction and testing to decide in which aircrew category each student was best suited, i.e. pilot, navigator, wireless operator, or air-bomber.

While most aircrew candidates expected to become pilots, their graduating assignments were incontestable. As a matter of fact, those whose records indicated mental proficiency were almost automatically assigned to navigation. Outstanding physical co-ordination as demonstrated in synthetic trainers could make one a prime candidate for pilot training. Classes were big and a lot of initial work had to go into the preparation of instructional manuals. I remained there for several months and was then posted to No. 2 Air Observer School as a navigation instructor where we took our assigned classes through the complete course, from which the graduates who had won their wings were posted overseas. I would never have thought that I could become a teacher, a conventional teacher, but the task was challenging because of the life or death commitments our students were making. They were the pick of the enlistees, and deadly serious. You, as an instructor, gave it your best because they were giving it their best. It was very challenging and very interesting. Our students were not only from Canada but from all over the Commonwealth.

As the years went by I was approaching the age that would make me too old to get into operations. I should mention that the navigators who had completed their tours, and were returning from overseas had been under such stress during their tours that most were unable to adjust to instructional work, as had been originally intended. An operational tour consisted of some 30 trips over Europe. Several returners had volunteered for 2nd, 3rd, or occasionally 4 tours and had become too highly strung to settle into comparatively sedentary assignments. It was therefore impossible to rotate us. I remained at No. 2 A.O.S., as Chief Instructor and eventually as its Commanding Officer, until I was posted to No. 4 Training Command in Calgary as Training Navigator, (or T Nav.) in charge of all navigation training throughout the Command.

During this period an opportunity arose for me to go overseas, not on operations, but to attend a five-month special course being offered to senior officers at No. 1 Central Flying School in England, which was the top flying school in the Commonwealth. The five-month course was composed of senior pilots and navigators and, along with class-work, and cross-country flying we visited operational stations to see if any deficiencies in preliminary training in Canada were becoming apparent, and how they could be overcome. It was a very interesting period. There were some 50 of us on the course. Some of the pilots had participated in the Battle of Britain, and pilots and navigators in Pathfinder Squadrons. We were in the company of people with terrific operational backgrounds and we learned a lot by simple osmosis, and of the pressures that operational crews must endure.

After the completion of this course I returned to Canada for redeployment. By this time it was the spring of '45 and we had been told as we left London that we Canadians would probably be posted from Ottawa to the



far east on operations there. This opportunity never materialized. I reported in to Air Force headquarters in Ottawa, only to learn that a mistake had been made and I had been slated to remain at the school in England, as assistant to the navigational instructor. Since this was the eventual famous world pilot-navigator, who was knighted as Sir Francis Chichester upon the completion of the first solo around the world sailing trip, I had missed an interesting assignment. By this time it was too late to send me back so I was posted to No. 1 Navigation Training School at Rivers, Manitoba as Chief of Ground Instruction. I remained there until the fall of '45 when I received my discharge.

13.3 Post-War—Ten Years as a Forest Research Scientist

History of the establishment of a federal Forest Research Branch in Alberta, classification of forest soils and the ecology of white spruce and lodgepole pine, Newfoundland junket during its confederation year, disappointments about the validity of a viable and dynamic federal approach to forest research, the paucity of local interest in study results, lodgepole pine harvest and renewal study at Strachan—and a growing interest in dirt forestry, advent of A.F.S. interest in the introduction of an effective forest management program and first FMA in 1954, retirement from the C.F.S. as a research scientist, commissioned as a forest consultant in 1975 to review the validity of surviving research projects on the Kananaskis Forest Experiment Station.

P.J. Murphy

And then what? At that point then you were looking to resume your forestry career.

D.I. Crossley

At that time when I took my discharge I was concerned that Prairie Silviculture didn't hold any real future for me. At the time of enlistment we were assured that the jobs we were leaving would be available upon discharge from the Services and, in addition, any promotions we would have had if we had not enlisted would be honoured. One of the reasons for undertaking pre-war graduate work was to prepare myself for promotion. Norman Ross, the Superintendent at the Indian Head Forest Nursery, was approaching the age of retirement and I was the only one on his staff that had the qualifications to take his place. He had retired during the war and been replaced by an outsider. I decided I would take my discharge in Ottawa and, at the same time see what the Department of Agriculture had in mind for me, but before accepting anything I would travel west, making contacts across the country until I arrived in British Columbia. After completing my discharge in Ottawa I made an appointment with Dr. Archibald, the Deputy Minister of Agriculture and his assistant who was in charge of Experimental Farms. During what turned out to be a less than warm reception I was advised that I could return to the job I had left, but I had no right to assume any other consideration. After a rather heated exchange, I declined their offer.

P.J. Murphy

Not very encouraging at all.

D.I. Crossley

No. I had been contacted during my final posting to Rivers by Jim Smart, Head of the Parks Branch in Ottawa to see if I would be interested in a position as forester in one of the National Parks. He requested that I



contact him upon receiving my discharge for further discussions. This then was my next port of call and it turned out that there was a position in the Territories at Fort Smith as Forest Superintendent available to me but the catch was that it had to be filled immediately. I explained that I had planned a nation-wide survey of job opportunities before making a final commitment. He then questioned my interest in the previously mentioned position of forester in the National Parks. This would be the first such position in the Parks, and when Mr. Smart had originally raised my interest while at Rivers I had decided that I had better improve my qualifications. Since the management of game would probably be one of my responsibilities I had better get some training in that area. I therefore signed up for and completed a correspondence course in game management with Dr. MacTaggart Cowan, Professor of Zoology at U.B.C. This subsequently pleased Mr. Smart, and the outcome was that I was offered the position and I could choose the National Park to which I would like to be assigned. Banff was my choice. Discussing salaries was something else. He advised that this had yet to be decided, and he might have difficulty in getting the amount that we both considered was warranted, but agreed that I should carry out my original intention to review the job situation across the country. In the meantime he would pursue the salary situation. As it turned out he was unable to obtain concurrence.

P.J. Murphy That was the deciding factor?

D.I. Crossley Yes, but not before I had completed my survey. In Toronto, the Department of Lands and Forests offered me the position of Superintendent of Quetico Provincial Park, in Western Ontario, but again the salary offer was not attractive. It seems that pre-war depression salaries still dominated bureaucratic thinking. I stopped in Winnipeg, Regina, and Calgary with much the same results. Interesting positions were available, but salaries were discouraging. I continued on to B.C. with the likelihood of remaining there.

P.J. Murphy Des, I'll have to interrupt you. We'll continue this on the next tape.

[END OF TAPE 1, APRIL 17, 1984—SIDNEY, B.C.]

[TAPE 2, APRIL 17, 1984—SIDNEY, B.C.]

P.J. Murphy It's still the 17th of April. Des, you were just describing your approaches to finding work after demobilization, looking across Canada. Looking first of all at Park work which is an interesting field of conjecture to wonder what would have happened if you had gone that way. In any event, I think we left off with you in British Columbia.

D.I. Crossley Yes, heading to British Columbia. As an interesting side light here I met several foresters in the Air Force as navigation instructors. I got to know them quite well and since we had a common interest in Forestry we discussed the future for all of us. They had all left employment with the B.C. Forest Service and planned to



return to it, but I was uncertain as to where I was going and what I was going to do. They talked me into the idea that B.C. was the best place to be in forestry and that I should approach the Forest Service there. They were sure that it would need men as soon as the war was over and an opportunity should be very bright for me. I had made an appointment to meet Dr. Orchard, the head of the B.C. Forest Service in Victoria. Unfortunately, the day I arrived there to keep the appointment, he had been called out to some emergency in the Queen Charlotte Islands and wouldn't be back for several days. He therefore wouldn't be able to see me, but I was to see his assistant, F.S. McKinnon. McKinnon showed little interest in me as soon as he found out that I didn't know much about Douglas Fir, the principle species on the west coast.

P.J. Murphy Rather parochial?

D.I. Crossley Yes. So rather deflated, I returned to my family in Calgary, and went back to the Canadian Forestry Research Branch Office and learned that there was an interesting opening as a Research Scientist in Alberta that I might like to apply for. They were interested in my credentials, including my graduate degree, and emphasized the challenge that awaited. This was an area of employment I hadn't seriously considered, but the more I thought about it the more attractive it sounded. I was impressed by the man heading the department, Harry Holman; he seemed a very intelligent, aggressive sort of a forester that I thought I'd like to work under. I therefore submitted my application which was accepted, and Calgary became my headquarters.

P.J. Murphy So that was in 1945?

D.I. Crossley Yes, the fall of 1945.

P.J. Murphy That began the 10 years of forest research to which you referred yesterday.

D.I. Crossley Right.

P.J. Murphy We should talk about that a little bit because that was certainly a notable stage in your career. Your subsequent 10 years of work with the CFS covers a decade of time and a lot of different activities, so it's difficult to know how to approach the subject, but I would be interested in knowing how, once you got started in your research activities. As you mentioned, Holman was an intelligent man and seemed to know what he was doing, but once you became a part of the organization, how did you see the forest research function fitting into the Alberta scene at that time. My understanding is that the only research, virtually the only research, being done in Alberta, and in many of the other provinces, was by the Canadian Forestry Service. Did



you see the relevance, was the work well directed, was it filling the needs, were there good ties with industry and with the provincial government to provide the support that you needed? How about your own research which contributed so much, was it directed or were you responding individually to needs you perceived? We'll have to go back and tackle those one at a time.

D.I. Crossley Perhaps I should approach these questions by talking about my original conception of what the CFS role was in the Alberta District. The Canadian Forestry Service research organization in Alberta was the result of the natural resources being transferred from federal responsibility to the provinces in 1930. Until that time, the forests had been administered from Ottawa, and all the staff involved in both administration and in field work were on the federal payroll. Following the transfer, the superfluous staff accepted employment with the Alberta Forest Service. However, a nucleus remained with the federal government in its Alberta office until the decision could be made what the future role of the federal government would be in Alberta.

For some time it had been toying with the idea of moving into research. The transfer of resources raised the question of the need for such a program here in Alberta. If the need could be justified, should a research station be established, and where? Harry Holman was in charge of the remnant staff in the Alberta District Office, and he of course was questioned on these subjects. Apparently it was his opinion that a need for a research program was evident.

As an aside, I don't think from what I subsequently learned that there was any crying demand for it from anybody in Alberta, but it was a national decision that this field of forestry should be embraced by the federal government, and plans proceeded to that end, which included the establishment of a Research Station. The next question therefore was its location. The Chief Forester in Ottawa at that time was a man named Finlayson. He used to come out once a year to visit the Districts, one at Riding Mountain in Manitoba and one in Alberta.

P.J. Murphy Des, let me just back off from all of this for a moment. What you're describing is a commentary you heard from Holman but not during your particular time?

D.I. Crossley Yes.

P.J. Murphy What time, or should I ask instead about what year this was?

D.I. Crossley It was a result of 1930 change of authority. This is all early history before I arrived there in 1945. No, this information was all garnered from Holman and other people, and from reading reports in the office library. Finlayson came out every year and was never satisfied with the proposed research station locations that Holman suggested. By chance they were both ardent fishermen and Harry arranged to introduce Finlayson to



a new fishing stream each time he visited the Alberta District. This time Holman decided to take him out on the Kananaskis River in the mountains west of Calgary. Apparently the fall colors were out in all their splendour and the fishing was exceptionally good. Harry took the opportunity to introduce the idea that the Kananaskis valley would make a fine location for the proposed research centre and it was instantly approved! Obviously no thought was given to site suitability, its very high elevation, its prime use as a source of water for prairie irrigation, the lack of interest as an industrial source of timber, and so on.

The Alberta Forest Service, upon request, reserved the necessary acreage and a great deal of money was spent developing the station to accommodate the necessary research facilities. Of course, it was never intended that research should be confined to this location although, in the early years, most of it was. It was convenient to the Calgary office and was a delightful place to spend the field season with your family, but it eventually became obvious that a location in the heart of the forest utilization areas in the province would have been much more practical. I had appeared on the scene in early November of 1945 and of course there was nothing for me to do in my own right until the spring of '46. I put in the early winter assisting one of the scientists out at Kananaskis to remeasure some of his field plots, and the office compilation of the data collected.

P.J. Murphy Who was that, Des?

D.I. Crossley Parker.

D.J. Murphy Oh yes, Harry Parker

D.I. Crossley Since this didn't occupy my time completely, I suggested to Holman that the office library appeared to need an overhauling, that I would like to tidy it up and introduce a better system of indexing. This was approved and provided me with the opportunity to learn what research literature was available and to read all the project reports that had been completed by the research staff since the station started. It soon became obvious that the calibre of much of the work was questionable, and showed no concerted pattern of approach to the resolution of provincial problems. Harry Holman had apparently permitted each research forester to select his own field of research and to undertake his own choices of projects.

This came as a bit of a shock to me. I was therefore given the same freedom to pick out what I wanted to study. I didn't have much forestry field experience, either as an undergraduate or after graduation, and my experience in prairie silviculture with the PFRA really didn't fit me for a program in forest research. I had a lot to learn and wanted to get right into the fundamentals and start working back up, reading all I could find, becoming familiar with the field conditions and forest types in Alberta. I wanted to get around as much as I could and meet the people involved in forestry, learn of their problems and adapt my research career to them.



I quickly learned that while the Kananaskis experimental station was supposed to be our main study centre, it was obviously not the ideal place to initiate the studies that would be necessary to resolve many of Alberta's problems as I perceived them. It served as a crew training centre, an equipment over-haul and supply centre, and a base to return to in the fall, but seldom a location for meaningful research. Much to our surprise it soon became evident that emphasis was being given to the building up of the station, which the station superintendent apparently regarded as his fiefdom. The accommodation of the needs of the research foresters was secondary. They found themselves playing second fiddle to carpenters and mechanics whose needs enjoyed top priority.

P.J. Murphy It's a strange turn to running a research organization.

D.I. Crossley Sad, it was very sad actually that it should have been so. It was a disappointment to me that Holman didn't exercise control over that sort of thing. He allowed the system to gradually get out of hand and lacked the leadership to rectify it. In any event I initiated several fundamental projects on the station which had little or nothing to do with the elevation, or the timber types. I was primarily interested in finding ways to initiate a new crop of timber following harvesting. I didn't think that the economy in Alberta was ready for the expense of planting its cut-over areas, and ways should be found to regenerate the crop by mechanical site preparation and natural seeding. So that's where my emphasis went, specializing throughout in lodgepole pine and with white spruce. My soils background acquired during my pre-war graduate studies had been originally intended to support a career in prairie silviculture.

This knowledge of soils now suggested that I could accept the responsibilities of a forest soil scientist and undertake the first forest soil survey in Canada. The Kananaskis Forest Experiment Station was not the best location for such a study but it would do as a convenient base to develop the techniques for the classification of the soils encountered and the surveying techniques to be developed. The publications available on soils related only to Agriculture, with no consideration for timber crops. So it was a learning experience and I was very fortunate to have a lot of very helpful assistance from Earl Bowser, a Soil Scientist at the University of Alberta. This introduced him to a new specific field and he became quite interested in the problems we both faced. It became a combined effort and I learned a great deal from him.

The study resulted in good fundamental knowledge that eventually became more important as the years went by. My work concentration was therefore in that area plus the silviculture of the two species of spruce and pine. Lodgepole pine became quite fascinating to me as a species which, up to that time, had been regarded as a "weed" species of little industrial value. The existing stands throughout the province were of fire origin, and usually too dense to provide bole sizes of interest to the round wood and lumber industries. As I learned more about the silvics of this species its potential for the forest manager became obvious, particularly as small wood became more acceptable. This became to me, as a research scientist, my area of most concern.

As the years went by I became, in fact if not in name, the Senior Research Officer in the Alberta District. After Harry Holman retired I took the junior scientists under my wing and found or approved suitable projects for



them, monitoring their reports, and approving the results prior to submitting them to our Ottawa office for publication. During that time an interesting event occurred, when Newfoundland came into Confederation.

P.J. Murphy 1949?

D.I. Crossley 1949. This was the year that Newfoundland entered Confederation. I had a phone call from our Chief Forester in Ottawa, Dr. McDonald, to the affect that he wanted someone to go down to Newfoundland almost immediately to review the forestry situation, and with the idea of reporting back to him with the possibility of setting up a new forest research district in Newfoundland.

As a result of this I went down during the month of November, stopping off in Ottawa to get my instructions from Dr. McDonald, and going on to undertake the exploratory review. Before leaving Calgary I managed to contact a couple of Calgary Power engineers who had worked in Newfoundland, out of the Montreal office apparently, and both of them warned me that I would find the cost of living very high. This could be of some concern because McDonald had suggested that if my report was favourable to the establishment of a new District, I would be put in charge of it. I stopped off in Ottawa and got my instructions from him, and, with this in mind, I also remarked that I had heard that it was very expensive to live down there. He assured me that this was not so. He'd just returned from there himself and it was no more expensive than to live in Ottawa. I knew the expenses in Ottawa were not that much out of line with Calgary so that relieved my mind.

I went down with introductions to the Newfoundland Minister of Natural Resources and various members of his staff. The Minister provided a forest ranger as my guide who knew the province like the back of his hand, and all the important people that I would have to meet, the various forest industry programs underway, and socially to introduce me to a few of the old Newfoundland characters, such as fishermen, sea captains, lighthouse keepers and so on who were such an interesting part of that province's history. We spent the whole month travelling over the province and gathering all the information possible. In retrospect I must admit that I didn't like the island weather or the shockingly poor timber, but I was very taken with the people.

P.J. Murphy Fine people.

D.I. Crossley Fine people. Tremendous people. I was really attracted to them. During any spare time I busied myself gathering information on the cost of living. After completing the tour I reported back to the provincial Minister before returning to Ottawa. The Minister, had been very kind to me and very helpful, and I was able to advise him that I would be recommending a federal district office in Newfoundland and in all likelihood would be returning to supervise it, but was quite concerned over the cost of living. I told him I'd been to several bankers, and in and out of the stores just jotting down prices and found them very disturbing. The bankers had advised that "for goodness sake don't come down here without at least a \$1,000 a year cost-of-living bonus. That is what we have to do for our staff transfers from the mainland." The Minister's



advice was that I would be wise to insist on getting this kind of assistance because I'd be going down the drain financially if I didn't, and that I could quote him. I tucked this away in the back of my mind.

When I get back to Ottawa to make my report, an office was made available for me for a few days to sit down and put my notes in order and prepare a report for Dr. McDonald. Eventually, I took it into him and he advised that he would take it home that night and read it and I was to meet him the next morning to discuss it. He appeared the following morning to be quite satisfied with my report and concurred with my recommendation that there appeared to be a need for a new District Office. But when he came to the addendum that I had attached to the back-end of my report about the cost of living and that I would expect a significant cost-of-living bonus, he was very annoyed. He hadn't asked for nor did he expect such a report and that my facts were completely wrong anyway. It is interesting to report that when I told him that the Newfoundland Minister had supported me, his remark was "God damn him. He knows I want that office there and he's throwing obstacles in my way" which to me is the epitome of all that was wrong with head office administration.

I left with his admonition to reconsider. He would be in touch with me as soon as he had made the decision to expand into Newfoundland. The following March (1950) I received a phone call from him advising of his decision to set this District up and wanted to know when I would be ready to go. I requested his decision on the cost of living bonus, and the only answer I got was the slamming down of the receiver of the telephone! Since I had made my position clear in my report that I would not entertain such a move without a bonus it was evident that I would henceforth be in poor repute as far as the Chief in Ottawa was concerned.

P.J. Murphy Des, we'll continue on the other side...well Des, it's evident that you didn't exactly endear yourself to your boss in 1950 over the Newfoundland thing, but you had another 5 years to go as it turned out with the CFS. So you didn't despair entirely.

D.I. Crossley No, but it was becoming more evident as the time went on that the Ottawa staff in the Canadian Forestry Service was not research oriented. None of the senior administrators had ever done any research, yet they were planning and controlling it. Consequently, the research being conducted in the Districts was being controlled by inadequate and misguided leadership in Ottawa.

P.J. Murphy What was the background of the people who were in charge then?

D.I. Crossley Their background was the previous involvement in the administration of the lands under CFS control, including fire protection, timber sales, grazing, and the usual routine things involved in forest administration.



- P.J. Murphy** Up to 1930 and the transfer of resources...so those were the ones that remained and had to then make a transition somehow.
- D.I. Crossley** And these sort of people of course were high up in the organization at that time so they're the ones that weren't offered, or did not accept, employment elsewhere. Obviously, if they were to remain with the Canadian Forest Service, they would have to come up with practical employment alternatives. It seems obvious that they must have decided that an interesting vacant field could be forest research. It could justifiably be regarded as a federal responsibility, and they jumped at it. Unfortunately, none of them had training or experience to justify such a responsibility to guide the approaches to research in the dependent Districts.
- P.J. Murphy** That point of view is substantiated by comments in Interior Department annual reports from about 1925 on. There seemed to be a growing interest in research. I think, or suspect, that it was a substitute activity as much as anything. Well in any event, I disrupted your train of thought.
- D.I. Crossley** At the same time I was becoming more and more discouraged over the fact that there was very little demand for the type of investigative work we in Alberta were prepared to do from either the Alberta Forest Service or certainly not from industry. Therefore we were trying to keep occupied doing the research we thought should be pertinent. It was beginning to look like another dead end to my career. It would take a while to make any move because I was locked into my own research projects and I wanted to see them completed. I couldn't just up and leave, but had to wait for an appropriate time. In the meantime I could look around for other outlets for my energies and my interests. It seemed to me that I was getting enough background in my first years of research that qualified me to approach industry in more aggressive locations, such as I thought British Columbia would be, who would be becoming aware of the need for silviculturalists on their staffs.
- As it turned out this idea was rather naive, but nevertheless I thought it should be there, and B.C. being forest industry dominated, and our next door neighbour, and some of the timber types were exactly the same as I'd been working in, should provide a place for a silviculturist. I therefore made discreet approaches to several companies, but soon found that in most instances, they had no interest in what I was offering, but in others they were intrigued and quite interested. However, in discussing the opportunities with those who showed interest, I became conscious of the distinct possibility that the silviculturist on the staff would be one of the first to let go at the first signs of a depression or company difficulty in remaining afloat. I had to put the idea on the shelf to await the time when a company who really needed a career silviculturist might appear.
- As my research career progressed, it was becoming more and more evident that my interests were as a dirt forester. I wanted to know what was going on in the industrial field. Why wasn't industry interested in forest management, and in better and cheaper methods of doing things. But the years slowly went by and I satisfied myself by continuing to gather the background material that I might sometime have the opportunity to use. In the meantime I initiated a project in lodgepole pine management that included various possibilities of changing the harvesting system that was in practice in Alberta at that time to something more suited to the



species and would become a practical way of managing it. It was obvious that I would have to locate a tract of land of sufficient size to accommodate various experimental cutting systems, all on the same site. In discussions with the Alberta Forest Service a quarter section of mature lodgepole pine was set aside for me at Strachan, which is very close to Rocky Mountain House. This became my prime interest and it attracted the co-operation of the forest entomologist and pathologist research office in Calgary. A field station was set up at Strachan to accommodate the various disciplines. It was adequate to our needs, but the living accommodations provided by our office would be ridiculed by today's scientists. However, we were content to have a semi-permanent shelter over our heads, and to live a semi-primitive life. After completing an inventory of the timber stands the various harvesting systems were delineated on the ground with permanent sample plots established for future study. Various harvesting systems were undertaken, with some strip clear cutting included and scarified, in order to induce natural regeneration. It was designed as a long term project that is still underway.

P.J. Murphy The lease has since been transferred to the University of Alberta where the Forestry Program is looking after it now.

D.I. Crossley Much to my pleasure.

P.J. Murphy Great.

D.I. Crossley During the latter part of my ten year career with the Canadian Forestry Service I was becoming increasingly aware that there wasn't the demand in Alberta for the information we were gathering, and this feeling was intensified by the lack of industrial interest in the Strachan project. I didn't plan to spend my career solving problems that only I was interested in. I wanted them to have practical application. The Strachan project was a step in that direction but the best results arising from it would need to be field tested on a large scale. This could only be accomplished with the co-operation of local industry and no one appeared to be interested.

During this period in my career, I was ignorant of the fact that the Alberta Forest Service was becoming more interested and concerned about better forest management in Alberta. Some of its staff were very much aware of the sad state of forestry in eastern Canada, and following the recent completion of a province-wide forest survey, were convinced that Alberta's forests, if properly managed, had the potential to add to the industrial development of the province.

One of the Forest Service leaders in this field was a forester called Reg Loomis. He was a UNB graduate, and in the heart of the depression had gone through the ups and downs of trying to earn a living in forestry in the east and finding that the work that was available was scarcely beyond the abilities of a forest ranger. The professional background that he had acquired was redundant, and he was particularly concerned over the huge backlog of unregenerated areas that were accumulating throughout the provinces. After the war he was



employed by the Alberta Forest Service and charged with the responsibility of completing an aerial survey of the forest resources throughout Alberta.

After this was completed he was moved into the management field with the opportunity to participate in the development of an effective forest management program. This, of course, had the support of his immediate superior, Eric Huestis, the Department Director, who, while not a graduate forester, was aware of the need to overhaul his Department's approach to the husbandry of its renewable forest resources, and was prepared to support improvements recommended by his staff. Loomis, in his new position as head of the forest management section, proceeded immediately to exercise his mandate.

All this was simmering and boiling away in the Department without my awareness, but it became public knowledge, with the request of a group of coal industrialists in Calgary who were concerned over the lack of solid market for their coal in their mine in the forested area south of Edson. They approached the government with the idea of supplying coal-generated power to a pulp mill or a saw mill that could be located nearby and of sufficient size to consume coal in large quantities. At this time the Department was at the stage of management planning when such a proposal was very apropos and the coal company was instructed to proceed with the preparation of an initial brief outlining what would be required in the way of timber, the water supply that would be needed, the markets for the mill products that would be tapped, and so on. Consultants were hired to prepare this brief and were able to provide a satisfactory submission that convinced the government of the promoters' sincerity, and it in turn set aside temporarily, tracts of timber close to the mine, to await further developments.

During this time an Agreement was prepared by the government that included its revised approach to forest management. To make a long story short the first Forest Management Agreement was signed in the fall of 1954. Shortly after, I was approached with the offer of the position as Chief Forester with the new Company, North Western Pulp and Power Ltd. Since this was the kind of work that I had hungered for, and after I had been given the assurance of the new company that it was sincere in its commitment to the government to undertake a sustained yield program, I submitted my resignation to the Canadian Forestry Service and spent the next 20 years with North Western Pulp and Power.

P.J. Murphy

Thank you Des. That brings us up to where we started yesterday. Recently and interestingly too after you retired from North Western Pulp and Power (St. Regis) in 1975, Joe Soos, who was then head of the Forest Research Branch of the Alberta Forest Service, commissioned you to take a look at some of the research projects that had been undertaken at Kananaskis since the area was being absorbed within the Kananaskis Country, asking for your recommendations on which projects if any should be maintained, and just generally to take a retrospective view of what had gone on. How, without going into details, did you see that retrospective analysis of some of that early work...was it on track really?

D.I. Crossley

That study, I accepted with enthusiasm because I had spent many years there and was one of its oldest surviving research scientists. To go back in history and locate and review all these project outline files, and to locate and observe their progress in the field was a very interesting assignment, but I must admit to some



disappointment. For reasons that I have already mentioned, much of the research that had been undertaken by various members of the staff was fundamentally ineffective. It was improperly perceived, organized or established in the field. Too often it was not accurately located on the map, or had been allowed to lapse, and records weren't properly kept, and so on.

What I had undertaken to do in this assignment was to sift out all the surviving projects in the field and recommend for retention those that were properly conceived and held promise of making any further contribution to scientific knowledge, or be of value to those engaged in public relations. The location of those considered to be worth saving I accurately mapped, and suggestions were recorded as to fencing repairs needed, corner posts replacing, and so on, all needing immediate action. Those administering the newly established Kananaskis Country that now embraced the former Forest Experiment Station, had agreed to place reserves around the field locations of all the studies so recommended.

The paucity of effective experimentation and the minimal results of over 40 years of scientific endeavour on this station can, in large part, be credited to its ill-advised location, and subsequently to ineffective control from both local and head offices.

P.J. Murphy Too bad. I remember one spectacular one which was always noticed by the public. They were probably more to remind people of research than anything else. This was the little stand of lodgepole pine where the lateral branches were debudded every year so you had stems that looked very much like cactus shape. I believe the objective was to try to see if clear knot-free logs could be produced to maintain growth rates.

D.I. Crossley That was my own project so I can discuss it with some authority. You are partly right, the objective of any debudding programs in other parts of the world had been undertaken to attempt to end up with a tree bole that was free of knots and therefore of top value in subsequent utilization. But that wasn't the only reason that we initiated this study. You did mention that it was right along the highway and the study location was so planned. The public knew so little about what we were attempting to do on the Kananaskis Research Station and probably cared less. This got to me after a while and we decided that we should have something to attract attention and arouse its curiosity. As one approach, this stand of young lodgepole pine was selected, bordering the trunk road that passed through the Experiment Station.

P.J. Murphy I think it was a result of a 1936 burn.

D.I. Crossley That's right, it was a 1936 burn. This dense fire-origin 15-year old stand was thinned out to a more suitable density, and then we proceeded to remove the buds from all but the terminal leader so that each tree would develop without branches at the lower levels, and this should result in tree boles free of any knots. The idea was to continue annual debudding until each tree reached a height of 16 to 18 feet. At this point, debudding was discontinued and the tree allowed to resume its natural lateral branch growth beyond that level. Since this was mainly initiated as an eye catcher, we placed signs on the edge of the road to attract the public, and



to explain the scientific purpose of the study, as well as its history of establishment, and the results to that point in time.

It attracted the most attention of any project that we had ever established on that Station, but many were still at a loss as to its purpose. Actually, the study yielded the knowledge that debudding in lodgepole resulted in adventitious budding on the main stem and was therefore unsuccessful in providing knot-free boles, and the project was discontinued.

P.J. Murphy It required too much maintenance.

D.I. Crossley It required too much maintenance. You have to keep going back year after year to pick these buds off the boles so they don't start putting branches on again.

P.J. Murphy Well, thank you very much Des. We'll wrap up the CFS portion there and go on with something else on the next tape.

(END OF TAPE 2, 17 APRIL 1984—SIDNEY, B.C.)

(TAPE 3, 17 APRIL 1984—SIDNEY, B.C.)

14. Involvement with the Canadian Institute of Forestry

Formation of the Rocky Mountain Section, Fire Brief, Land Use Brief, National C.I.F. committee involvement, National President 1966-67, federal cancellation of shared-cost provisions in the Canada Forestry Act and presentation to the Prime Minister, the Montebello Conference in 1966, leadership or the lack thereof by professional practitioners, educators and federal and provincial politicians.

14.1 The Rocky Mountain Section

P.J. Murphy Continuing discussions with Des Crossley at his home in Sidney, B.C., April 17, 1984.

Des, when I first appeared on the scene in Alberta in 1954 it was evident that the Canadian Institute of Forestry, Rocky Mountain Section, was the place to be for foresters. It was an active group and it provided an



opportunity for the two forestry camps, one in Calgary generally and one generally in Edmonton, to meet halfway in Red Deer. I don't recall the frequency but I think they were generally monthly meetings in the winter time. It was evident that the Section had a great deal of spirit and the commitment and dedication which has been sustained to the present. As far as I understand, you were one of the founding members of the Rocky Mountain Section. Could you comment on how that came to be and who was involved and what you thought the role and mission to be.

D.I. Crossley

Yes, I would be happy to. It was an auspicious period in my life; association with my professional peers in the province. Before coming to work in Alberta I was a member of the national body of the Canadian Society of Forest Engineers and its Prairie Section, which of course embraced Manitoba, Saskatchewan and Alberta, and held annual meetings either in Winnipeg or Regina. These meeting places involved such inordinate travel distances that seldom did they attract any Alberta members nor the interest by our superiors to approve any expense account. Consequently it soon became obvious that Alberta members should divorce ourselves from the Prairie Section; a feasibility study was undertaken. The Forest Research Station in Calgary employed a number of foresters. There was the Alberta Forest Service in Edmonton with a number of graduate foresters. At that time there was absolutely nobody in forestry in industry in the province, but from those other two sources—federally and provincially—and the Calgary group of course included the Forest Biology research staff of the Federal Department of Agriculture which included both entomologists and pathologists.

It was concluded that there were enough members to start thinking about going it alone. The idea of proceeding in this direction was enthusiastically supported and the wheels were set in motion to accomplish this goal. The Prairie Section executive was initially approached, and expressed the opinion that such action would deplete its membership and it wasn't prepared to agree. But we persisted and went over its head and presented the request to the National Executive that we be allowed to withdraw from the Prairie Section and to form a new Section in Alberta. This was eventually approved and we proceeded from there to canvas for membership and to meet to form the first executive body.

Wanting a more imaginative name than simply "the Alberta Section", the decision was made to make use of our most obvious geographic feature and settled on "The Rocky Mountain Section". Because of the distribution of our members over so large a territory, the choice of a regular meeting centre required an early decision. This turned out eventually to be Red Deer, which is midway between Calgary and Edmonton. Other than this, the first year was confined to organizational problems, but we soon become involved in searching for a meaningful program. It was recognized that we had a certain responsibility to the public, that it had every right to turn to us as professionals involved in the management of its forest resource for unbiased advice on how it was being administered. On the other hand, we should be ready at any time to use our collective professional knowledge to assist the government agencies if so called upon. The media should be able to approach us and get satisfactory answers to their questions. Our job was to quickly find out what the main areas of concern might be.

One of the most obvious was forest fire control. Was it adequate and if not what improvements were warranted? As foresters, our members were all aware of the many huge fires that had destroyed much of Alberta's timber stands. We also knew that in the northern part of the province the Forest Service didn't



intend to fight any fire more than 10 miles beyond a recognized travel route. We knew that the reason for such apparent negligence was not simple indifference, but this cried out for documentation. I believe it was early in 1951 that we initiated this initial program. That was the year that I was selected as Chairman of the Section. The first was George Hopping, followed by Ted Fellows, and I was the third one. At the annual meeting of the Board of Directors the decision was made to undertake the preparation of a report on the fire situation in the province. It would require a lot of digging for reliable information. We might step on a lot of toes, but nevertheless we felt it was our responsibility to go after this information as discreetly as possible without hurting anybody but to get the facts, and report them to the Minister of Lands and Forests, to the MLA's and also to the public through the media.

My immediate concern as Chairman of the Section, was what this was going to do to our relationship with the Director of Forestry, Mr. Huestis in Edmonton. We might unearth a hornets nest. There were certain indications that we might, so I made it my job to arrange a meeting with Mr. Huestis in his office in Edmonton to discuss it with him. He was a member of our Section but was not on the Board of Directors so hadn't participated in nor had any knowledge of this. The Board of Directors had instructed the executive to expedite this study as fast as possible. I advised him of my concern over the affect it might have on him and his protection staff. The reaction I got was somewhat different from what I had expected. He said he had to approach his Minister from time to time for funds for jobs he knew should be undertaken and often lacked the support he needed. If he could accompany his request with a brief from the Rocky Mountain Section of professional foresters that contained reliable information and recommendations that supported his request, his chances of increased funding would be greatly enhanced. He added that, as a member of the Section he would be pleased to write the sections in the report on the effects of fire on fish and on fur. The Committee's idea was to spread the preparatory work amongst various members who were most familiar with the topic to be covered, so his offer was accepted and duly completed. Since we had no other further obstacles to overcome, the task commenced. Ted Fellows, Dr. Vidar Nordin, Dr. George Hopping and I assumed the task of organizing and completing the project.

P.J. Murphy At that time, Ted Fellows was Chief Forester for Eastern Rocky Conservation Board.

D.I. Crossley That's right. A knowledgeable forester. A very well educated and well-trained forester and a man I have always had a lot of respect for. Part of our mandate was to report, as the brief started to develop, to the periodic meetings in Red Deer during the winter months, on how the project was progressing and what we were coming up with. After a couple of these reports were made it became evident that it was going to be more critical than had been expected. I as Chairman of the Section was approached by a member of Mr. Huestis' staff in Edmonton with the concern that it was getting out of hand and that we would be well advised to drop it. I explained to this person that it was my responsibility as the Chairman to see that it was completed but I would report this complaint to the Executive and the Board of Directors and that's as far as I could go. The decision by the Board was that such a request could not be entertained, to do so would be an abrogation of our responsibilities. When the next interim report was presented to the members, the request that it be discontinued was ignored.



Calgary Power had agreed to finance publication, and it was completed and published in March of 1953. Quoting from a subsequent History of Forest Management "the business at hand during 1952-53 was the completion of the fire brief (which) gave rise to one of the more serious controversies in this Section. The brief turned out to be highly critical of the situation in Alberta, particular in that portion known as the Northern Alberta Forest District. Resentment had already been manifested in some quarters and the danger lay in destroying the amicable relationship between the Rocky Mountain Section and the provincial government. The brief was not presented in the most diplomatic way".

P.J. Murphy That was from the Rocky Mountain Section History by Wm. McCardell.

D.I. Crossley Yes. One has only to read the covering letter to the Hon. Ivan Casey, Minister of Lands and Forests, that accompanied the brief, written by Victor Heath, the Section Chairman, to see that it was most carefully presented. The Chairman subsequently asked the Minister to present the after-dinner address at our Annual Fall Meeting in Jasper on the subject of our submission. He accepted the assignment and his address proved to be highly complimentary. He assured us that it was well prepared and documented and that he had enjoyed reading it. He assured us that a lot could be learned from it. He added that he would invite similar submissions from the Rocky Mountain Section on matters of mutual interest. This of course took the pressure off the Section, but resentment was still evident in some quarters for sometime to come.

P.J. Murphy It's sad because it's clearly evident from the Annual Reports that the Forest Service had been trying for years since 1932 to build up its resources to tackle the fire control problems, and it had been consistently turned down by the government in power. I think it was a credit to those in the Forest Service that they were able to do what they did with the resources at hand. I would have thought that the Brief was a good positive thing that implied no criticism for what they had been able to do, but it criticized the government for its grossly inadequate levels of support.

D.I. Crossley Yes, it came as rather a shock to us to get that initial reaction from the Protection staff when its Director had been supportive and had written two chapters of the report. My subsequent experiences with this particular person indicated that he was not an easy man to deal with. He had a very positive approach, and of course in some of my own dealings I have a positive approach, and there were times through the years that we clashed. Perhaps the fault lies with both of us.

P.J. Murphy The result of the Brief though was a tremendous improvement in levels of support for forestry. Blessed with the success of your Fire Brief, the Rocky Mountain Section launched fearlessly into other briefs of which land use was one. There was a Regeneration Brief. There was a Research Brief. By the time I assumed the Chairmanship of the Section in 1956, I think it was about then, the membership made it quite clear that they wanted no more briefs for a while! So we shifted energies in the Section at that time to try to bring in outside



speakers, which was an interesting departure, but that's another story. I mentioned the spate of briefs. The next major one was the Land Use Brief which, as you mentioned, was of particular concern to Reg Loomis and I think in part because he was completing the forest inventory at that time and recognized that the boundary interface between forest land and agricultural land was certainly in a state of flux. Could you comment on how you saw that Brief emerging, issues that were of concern at the time and some of the projections that it made.

D.I. Crossley

Yes. Part of the concern, to carry on from what Prof. Murphy just said, is the fact that we had on more than one occasion had the pleasure of hearing Dr. V. Wood, the Director of Lands in the Department speak to us at our dinner meetings. He left us with the impression that the forestry boundaries were far from sacrosanct. His Department was being faced with demands, particularly from farm families in southern Alberta, concerned with the future for their sons as farmers, that land would have to be made available to them, and the problem was just where this land was going to come from. From the soil surveys that were being completed it was becoming evident that much of the timbered land in the northern part of Alberta was potentially arable, and could produce either grazing or cereal crops. Because they don't enjoy a lot of rainfall our forested soils are not leached out and therefore are not lacking in fertility. However, most of the forested areas do not enjoy a sufficient number of frost-free days to warrant attempting to grow these agricultural crops.

Dr. Wood was issuing the warning that forested land that enjoyed the proper growing period for cereal crops would likely be lost in the quite foreseeable future. To illustrate what we are talking about, the whole Whitecourt area north to Grande Prairie supports timber at the present time. It has been very heavily burnt over. It has always supported good forest growth and been quite a source of forest materials for manufacture, but because of adequate frost-free periods the soils fall into the category of potentially arable. Therefore, it would be very foolish to anticipate issuing a forest management licence on a long term sustained yield basis in that kind of a situation. We could therefore expect that it would soon be allocated to cereal crop production. So this is the kind of thing that emerged in our investigative study in preparing the information for the Brief, and that care must be taken to establish a boundary that can have an acceptable degree of permanency before the land base involved in long range forest management can be assured.

14.2 National Role—Canadian Institute of Forestry

P.J. Murphy

Des, having got the Rocky Mountain Section off to a good start, it seems to me that you changed, or directed your energies, to the National Canadian Institute of Forestry scene. My first recollection of your National involvement was your series of articles—The Devil's Advocate—which you used effectively to get things stirred up to develop some national debate. That, I understand, was in connection with the silviculture committee. Was that your first real venture in the National scene, or had you been previously involved?

D.I. Crossley

I think that we must approach that question with the understanding that any member actively concerned with the Section would almost automatically be concerned with the parent body and its involvement in the wider



sphere. Of course, being a past-president of the Rocky Mountain Section I did have the obligation to serve as its representative on the Board of Directors of the National Institute.

For some time I had been interested in this expansion of my interest for several reasons. One being it would provide me with the opportunity to meet with my peers from all across Canada, and also more opportunity to travel and to keep abreast with what was going on in the various provinces. My first real responsibility, I suppose, was the National Chairmanship of the Silvicultural Committee. This was a rather challenging assignment, and it would be apropos at this point to mention the fact that I had watched a lot of these committees in action, and served as a member on several of them, and had always been somewhat distressed by the fact that the committee members had been selected by the President and his executive.

When I was asked to chair this section on silviculture I accepted only after gaining consent that I could ignore this approach and be allowed to name my own members. If I was going to accomplish anything worthwhile I had to have members who had shown interest and concern in this important area of forest management and not just somebody who wanted his name on a Committee as a passport to Annual Meetings, with its expense account implications. Having said that, it was a very challenging committee to serve on. Silviculture was becoming more and more important across Canada, particularly in relation to the regeneration program which was not being adequately tackled. I took good care to pick good foresters from across the continent—spread out as much as possible so we would have reports from various regions. Each was warned that he would be expected to resign if he found no interest in the assignment, or if I suspected a lack of interest he would find himself off the committee anyway.

With that understanding we started off. We did have a few losses. I don't think there were any hard feelings when a member was asked to resign. Losses were replaced by others who proved adequate to my demands. What I wanted to do was to keep in close touch with my members, and to that end initiated "The Devils Advocate". This title was chosen for obvious reasons. As its editor I would take a negative approach to current silvicultural practices for the purposes of seeing if they could be defended, and if not, what should replace them. The resulting dialogue with my members would provide the material for the subsequent issue. There was no particular schedule, but we probably averaged one issue of the Advocate every two or three months. These went out initially to all the committee members. Fortunately, it caught their imagination, and inter-committee correspondence was gratifying and often exciting. Surprisingly, requests to be put onto the mailing list were received from other people who had seen members' copies. These were satisfied, as there was no secret over what we were attempting to do. At the conclusion of the assignment the Committee's report was presented at the Annual Convention, and expressed the need for innovative approaches to improved management practices.

Subsequently I was asked to chair the Forest Management Committee and at that time the Devil's Advocate approach was revived, again with the proviso that I name my own committee. I took this Committee as far as I could until I was given more responsible jobs in the Executive. The Chairmanship was passed on to Dr. Pat Duffy who had been on the original committee. The use of the Devil's Advocate continued until as long as that committee was serving.



P.J. Murphy Des, we'll continue this on the other side. Your National committee work, Des, was in essence an introduction, a prelude to the time when you became National President of the CIF. I understand that you assumed that position in the fall of 1966 when the National meeting was held in Banff, for the second time. I recall that meeting quite vividly. I was on the planning committee, but it was a delightful meeting and I recall the jovial interplay between you and Vidar Nordin who were able to get together again in the good Rocky Mountain Section spirit. But in any event, you assumed the Presidency at that time and had an opportunity to try to head the CIF in the direction you thought appropriate, but you had other difficulties as well.

D.I. Crossley Yes, the Banff meeting coincided with the announcement of the cancellation of the shared-cost provisions of the Canada Forestry Act. This aid program had been in force for some time and was widely accepted throughout the provinces. It was quite a shock to learn that this would be summarily discontinued. The outcome at the National meeting in Banff was that the Executive was charged to take the initiative in the resurrection of these grants in one form or another. My Executive and I had a very important mandate to satisfy during our term in office. It turned out to be a bigger task than we had anticipated. In any event, we put the wheels in motion by getting in contact with the Prime Minister, Lester Pearson, to start some sort of a dialogue and get some information of why this had happened.

We requested a meeting with him to this end. We received replies from the Office of the Prime Minister but certainly nothing positive. Obviously it was his intent to put us off, but we weren't in the mood to be put off. We kept repeating our request in various forms and under various excuses until finally he passed it on to his Minister of Forestry, Maurice Sauve. He also attempted to put us off but eventually gave in and agreed to set up a meeting with us. We formed a special committee for this meeting, which included Bernie Sisam, Dean of Forestry at the University of Toronto; and Ted Fellows, Consulting Forester from the Maritimes; Vidar Nordin, First Vice-President of the CIF, and myself. That committee prepared the information it needed and eventually the meeting was brought about.

It turned out to be very interesting. The Minister gave us a very good hearing. We reminded him of the promises that he had made at the Montebello Conference, in 1966, to the effect that he would provide the leadership that the federal government should assume to move forestry along the way to more effective management, and of the fact that since he had made that commitment, nothing had been done. We suggested that he activate the Committee that he had formed to assist him in the actions that he planned to initiate. He agreed to do this and we left his office feeling that he had been sincere with us. Unfortunately absolutely nothing materialized. We had apparently failed to accomplish anything constructive.

P.J. Murphy Those grants were never put back into place.

D.I. Crossley Certainly not in the original form. It was obvious that the federal government was trying to shuck off any responsibilities for becoming involved in the improvement of forest management in Canada. The excuse was used that this was a provincial responsibility which it hesitated to interfere with. So that was the outcome of a year of really hard work trying to accomplish something. Although in the long run I suppose it could be



interpreted that it had a bearing on the future relationships which eventually started to improve several years later.

P.J. Murphy It well may have laid the ground work for the changes that came about sometime later. Did that task consume most of your energies during the term as President or were you able to get other things done?

D.I. Crossley We got other things underway, but nothing of that magnitude. The National Executive usually finds a lot of housekeeping that needs to be done. We had a transfer from one office manager to a new one which turned out to be much more difficult than we had anticipated. We spent quite a bit of time trying to create the necessary arrangements in our head office in Macdonald College with this new man who we had selected to take to replace the original manager.

P.J. Murphy Is that Jim Dosne?

D.I. Crossley No, it wasn't Jim Dosne.

P.J. Murphy So the individual for whom you were seeking a replacement, was Irwin, Dave Irwin.

D.I. Crossley Yes, he was replaced by Art Racey.

P.J. Murphy You have given a lot of energy and continued support to the CIF yourself. Do you despair of the organization at times? Or do you really think it's heading in the right direction?

D.I. Crossley You soon get out of touch with what is going on at head office, but of course I had a year after my Chairmanship to serve as the Retiring Chairman, which is customary, so I didn't lose contact immediately, but there certainly have been periods when we wondered about the success of the organization. Getting membership up to more significant levels so we could finance projects which we knew had to be undertaken was a perpetual concern, also more adequate financing from other sources. Those were always hanging over our heads. One of the other problems was the office location. Whether we shouldn't move out of Montreal to Ottawa and be closer to what was going on nationally. All these things took a lot of investigative study and reporting back and forth amongst various members of our committees to see what was the best way to go. It's amazing the amount of time you use up. Just as an off-shoot of this sort of situation, it became obvious to me that a one-year term is not long enough as President of the Institute. It should be a two-year mandate so when you get something started you have sufficient time to follow it through and bring it to culmination.



- P. J. Murphy** That's an interesting observation. The Society of American Foresters has evidently done that, with two-year terms.
- D.I. Crossley** Certainly one-year is not long enough. I've heard other Chairman, other Presidents, that followed me, say the same thing. In retrospect, though it may look like you haven't accomplished much in your year, but it's amazing how much work does get done despite the distances involved, and the slow communication back and forth because of our postal system and so on.
- P.J. Murphy** During your last comment you referred to the Montebello Conference which is really a landmark conference. When we think of the change in attitude towards forestry we commonly look at the 1979 Reforestation Regeneration Conference in Quebec City organized by the Canadian Forestry Association which led in turn to the 1980 Forest Congress, and Banff Agenda for Action, and the activities of the CCREM. But really the Montebello Conference in which you were involved seems to be one of the first serious recognitions of what was emerging in Canadian forestry as shortfalls in timber. There were projections made at that time which were astounding and rather disturbing to a lot of people. I think there was a lot of rationalizing done afterwards, and not a great deal of action emerged, but there were some significant points made at that time which I'm sure conditioned people to think. I wasn't involved in that one myself; I was still in a fairly junior position. I wonder if you have any immediate recollections of that one that you could comment on.
- D.I. Crossley** Yes. I was fortunate to be invited to attend it as a delegation participant and was charged with the Chairmanship of the silvicultural section which would, with all other committees, report at the Plenary Session at the conclusion of the Conference. The meeting was certainly well planned. The papers that were presented seemed to have been prepared with authority and provided adequate material upon which to make decisions and sum up the progress or lack of progress being made in forest management across the country. Also what the world markets were like was very embracive and usually, I thought well done. When it came to reporting at the plenary session it was little bit of a fiasco, particularly in my silvicultural area. The thing that stands out in my mind was the lack of time allotted to prepare and to polish up the report before presenting it to the session. During prior committee meetings we worked very hard to get everything ship-shape to make this presentation, but unfortunately insufficient time was made available to get everything typed up. Committee members' notes that they had written down and were submitted to the stenographers to type up and turn over to me as Chairman...finished or not, these notes were shoved into my hand at the last minute before I was due to present them. Some weren't typed at all, but still in the rough stages when I received them. It was a rather difficult position to be in to make a report to a group of that authority and size to flounder around and read notes upside down and backwards and not even knowing whether I agreed with what appeared before me.
- But having said that, we did, I think, accomplish what we were after and got our points across. One thing sticks out very prominently in my mind from that presentation. Our Committee had made the point that



silvicultural costs of regeneration should be expensed rather than capitalized. During the question period that followed this was challenged by R.M. Fowler, President of the Canadian Pulp and Paper Association—a man with a lot of stature and respect. Such an idea was apparently beyond his comprehension and he wasn't prepared to accept it. I defended it strongly, but I never knew if he was convinced. Certainly, the idea was foreign to most forest economists at that time.

P.J. Murphy That's right. Good for you for doing that.

D.I. Crossley Of course the most important thing in our minds was what would happen to these resolutions after they were turned over to the federal Minister who had initiated the meeting. He had welcomed us all to this convention and then of course provided the summation address. He thanked everybody for what had been accomplished, the time that had put into it, and the wide range of opinions that had been expressed. He recognized the need for leadership and announced that he would accept such a mandate to lead. That concluded the convention and most, I believe, went away satisfied that things would start to happen. Apparently, the Minister did select an outside advisory committee to assist him, but it was never assembled and nothing was done.

P.J. Murphy That's sad. I recall the news releases from that Congress and using them for reference in courses I was teaching at the time. It was excellent stuff and I was keen in anticipation that things would start happening. It was very disappointing when nothing emerged what-so-ever.

D.I. Crossley It was a complete shock to most of us to see the thing just fall on its face. Even if the Minister had just concluded by telling us that he would be looking into this, we could have anticipated that nothing was going to happen. But when he had assured us it would, then that was a little hard to take.

P. J. Murphy It's perplexing too, on the other hand, that the forestry community didn't rise in anger, or in protest over the lack of any action. It's not a credit to ourselves in the forestry field that this was allowed to take place. I like to think that we're a little different by nature now and certainly the initiative through the Canadian Forestry Association of the 1979 meeting in Quebec City was encouraging. It'll remain to be seen whether the forestry community can be kept stirred up to keep pushing for the changes that are needed.

D.I. Crossley In retrospect, over my whole career, there have been lots of ups and downs in the way of expectations, and the disappointments when nothing happened. I have come to the conclusion that the forester as a professional is seldom prepared to stand up and fight hard for what he believes in. Some will fight a bit and lie down and bleed awhile, and get up and fight some more. Most of them won't do anything, they'll just sit on their hands and complain. This, I think, is an indictment on our profession.



P. J. Murphy I'm inclined to encourage our students to think differently.

D.I. Crossley It's amazing that through all the years, nobody in the Toronto Faculty of Forestry, and nobody in the Association of Professional Foresters in Ontario has, to my knowledge, ever gotten up and fought in the public square in an attempt to get across to the public that forestry was in a dismal situation in the province of Ontario.

P.J. Murphy I think there were some flashes of public protest in the early 1980's. I believe there was some letters in the Globe and Mail but I would agree with you, up until that time.

D.I. Crossley Yes, I would like to qualify what I just said. I'm talking about my period. Certainly up until the 1975, when I retired, that was the case. Since that time I've been out of touch. I do know that things are beginning to happen down there now. I also know that people like McAlpine have got up and fought, and ...

P. J. Murphy George Marek.

D.I. Crossley Yes, George Marek. With dismal results, unfortunately for them, but they were men that would fight. They are few and far between.

14.3 Observations on Politicians

P. J. Murphy The other side of the coin is the political leadership, and we do look to our politicians traditionally for leadership. We don't always get it or get leadership in the direction which we think things ought to go. I've been impressed in my dealings with the Ministers, both federal and provincial, of the differences which take place depending on the personalities and interests of the individual Minister. I wonder if you would care to comment, since we're talking on the National scene, comment about Ministers with whom you've had involvement, or seen on the federal scene. Some must stand out in your own mind that are better than others or stronger contributors to advancing the forestry profession.

D. I. Crossley The only involvement I had with the federal Ministers was in the instance of the Montebello Conference, and also our executive meeting with Maurice Sauve. He was in charge both times. So he's the only man I have had direct contact with and, as I've already mentioned, with rather dismal final results. So that's the only exposure I've had at that level federally. It's always been a disappointment to me that they would hide behind the



excuse that the resources had been handed over to the provinces, and that they would not welcome any interference. They ignored the fact that the federal government gets huge taxes from forest industries from across the country and puts very, very little back with the minor exception of research programs. The federal government has the responsibility of becoming more involved. If properly approached, the provinces would not consider that their authority was being challenged. They would be far more interested in receiving funds that would assist in doing the job that they know has to be done.

P. J. Murphy There's certainly room for cooperative activities.

D.I. Crossley Oh, yes.

P. J. Murphy I would share your general views about federal Ministers. They don't stand out generally, and none are particularly outstanding, perhaps with the exception of John Fleming, who was first Minister of the Department of Forestry. Maurice Sauve had other interests and that department gradually evolved into Fisheries and Environment. I think the greatest disaster in my point of view was Jack Davis who presided over the demise of the CFS. I'm giving you my views and I really should be interviewing you, but I'm worked up. I was impressed with what I saw in Len Marchand, who was a Liberal Minister towards the end of the first Trudeau regime. He was a junior Minister but he had a degree in Range Management. He had an understanding of range and was well intentioned, but as a junior Minister he was very effectively bottled up by the Deputy Ministers. He was the one that stands out in my mind, other than Mme. Sauve, who was well meaning but wasn't in there long enough to really do a good job. The outstanding one I thought was John Fraser who was Joe Clark's Minister of Environment. He was very interested in forestry but the Conservatives were unfortunately not around long enough to really get things going. He too was boxed in by his Deputy Minister. What will happen now remains to be seen.

D.I. Crossley As I had mentioned in previous tapings, my own involvement at this level was a result of the Conservative Party becoming dominant in our political scene and that the Prime Minister Joe Clark was from the Yellowhead riding, which is my home riding. He is a man that I got to know very well and had every hope from the concerns he expressed that something would be accomplished. I think that he was quite sincerely concerned about forestry, and was anxious to get at it, but he had a lot of problems and of course, as you said, he didn't last very long. So therefore, nothing was done, but I would like to think that if he had had a longer time we would have seen more progress.

P. J. Murphy I believe we would have. How about on the provincial scene, Des. This might be an area of some sensitivity but I, again from experience, our own experiences from different aspects, I'm sure we've seen some Ministers more effective and providing more leadership and direction in forestry than others. Who, in your point of view and your experience, would you single out as a particularly effective Minister?



D.I. Crossley I think the Minister that would stand out in my mind in Alberta who certainly helped with the original agreements and the contracts that went out to companies was Norman Willmore, a man that determined to pull off this new forest management approach that had presumably been suggested to him by his bureaucratic staff. He was broad minded enough and intelligent enough to pick it up and to recognize that this would be a good move. Of course, he represented a heavily timbered riding and he was brought up in a timber atmosphere, so he was sympathetic in what was happening to the forest and the funds that were emanating from its use. Certainly, he turned out to be a positive Minister. Unfortunately he was killed in a highway accident in the prime of his career. He was taken from us. But certainly he supported what his staff wanted to do. Unfortunately I didn't feel as positive about other Ministers. No one provided us with the support that Norman Willmore did. In some instances we experienced resistance that made things very difficult for us. I think the most important example in that category was Dr. Donovan Ross. He was eventually freed of his responsibilities and was no longer able to control our company's destiny.

P.J. Murphy I've always been concerned about Dr. Donovan Ross as Minister. My impression was that he was quite, I don't know if "arrogant" is too strong a word, but it might be a general way of describing my impressions. He was too quick to form judgements on his own without actual knowledge. He was reluctant to change his mind in the light of subsequent knowledge. I don't know if we share the same View.

D.I. Crossley I think we do. Probably I can enlarge on it a bit by explaining how this hurt us. He came from a prominent lumbering family in the province and because of that, apparently thought that he knew all there was to know about the management of timber. He closed his mind to work that his professionals were doing to reasonably promote this new management program and was always throwing obstacles in our way because he thought that he knew far better than we did.

P.J. Murphy Des, we're nearing the end of this tape. The last question I was going to ask you concerned the ECA hearings, the panel of which you were a member, and wondered if you could comment on your own expectations and realization of that committee. Des, I'll put your response on the next tape because we're just about out.

[END OF TAPE 3, 17 APRIL 1984—SIDNEY, B.C.]

[TAPE 4, 17 APRIL 1984—SIDNEY, B.C.]



15. Environment Council of Alberta Expert Panel

P.J. Murphy We're starting a fresh tape but we're running out of time, but not to inhibit your response, Des, I was wondering about your impressions about the forestry hearings. It was a first in Alberta and was great to have you a member of it. Do you have particular impressions you could pass on?

D.I. Crossley Yes, one was my disappointment in the purpose of the hearings. What I thought we were undertaking was hearings directly related to forestry and what effects other environmental objectives would have on it. Somehow it got turned around to the effect that forest management was having on the environment and as a result quite a number of the presentations made were really irrelevant to what we thought we had a mandate to discuss and report on. Having said that, the hearings were excellent. The turnouts were very good, representative I believe, and certainly we ended up with masses of information in the reports that were concerning the public and usually quite adequately expressed.

Our panel subsequently had, on occasion, to work in camera with certain groups in order to pin down what was bothering them. We also found it necessary to charter a helicopter to undertake field observations of some of the areas of complaint. These were undertaken quite satisfactorily and clarified the picture. In the writing of the report we came up with some 140 recommendations emanating from concerns that had been expressed. These were of course turned over to the Minister of the Environment and then to other appropriate Ministers who were involved with both renewable and non-renewable natural resources. Almost all of the recommendations fell within the jurisdiction of the Department of Lands and Forests. The encouraging part of the whole exercise was the fact that the vast majority, I think it was something like 80% of the recommendations, were accepted in one form or another and action taken.

P.J. Murphy In reflection do you think that the public hearing process is an effective way of gathering public opinion and taking recommendations to government?

D.I. Crossley I have no quarrel with the idea of allowing the public an input into the administration of its resources, provided that the process is adequately initiated. The Department of Environment had a series of reports or papers prepared by professional people to hand out prior to the hearings. They were supposed to provide the interested public with the background information needed in the preparation of its submissions. Some of these position papers were inadequately prepared. Some were written by unqualified people and often weren't worth the paper they were written on. Others, of course, were excellent. Every attempt must be made to avoid misconceptions. I think it fair to say that most of the papers presented were as responsible as the background of their authors allowed, but a lack of background was apparent in papers that had no relevance to the subject. When the Panel's report was published, many of those whose recommendations had not been recognized were loud in their complaints.



P.J. Murphy How about as an exercise in public education for those who attended it? Is it illuminating.

D.I. Crossley Well, of course, they then have to be able to separate the wheat from the chaff. But that's part of the job of the Panel to be attentive to the reports presented, and through its questioning should be making the audience aware of the relevance of the concerns being expressed. These were long drawn-out hearings in that they usually lasted from about 9 o'clock in the morning to 11 or 12 o'clock at night. There are not very many people that will sit that long and absorb what they are hearing, or can afford that amount of time. The public has the right to be heard but the exercise must be planned to insure that the audience gets the full story.

P.J. Murphy Well, our time has run out. Thank you very much Des. It's been a very interesting couple of days. I appreciate you taking the time to review all this material in such a short period of time.

D.I. Crossley It's been a pleasure for me to review this with you and to be interrogated in such a concise manner on those things that you considered important.

P.J. Murphy I tried not to make it an interrogation, just to ask questions.

D.I. Crossley My choice of words was careless, "interviewed" would have been more appropriate.

[END OF TAPE 4, 17 APRIL 1984 IN SIDNEY, B.C.]

[TAPE 1, ST. ALBERT, ALBERTA—12 NOVEMBER 1984]

16. Reflections on the North Western Pulp & Power Years

St. Regis (Alberta) as a responsible corporate citizen, internal financing of its forest management program, cost-effective philosophy and examples, staff morale, continuing education.

P.J. Murphy Monday, 12 November 1984. We are visiting again with Des Crossley, this time in St. Albert where he is visiting his son and daughter-in-law.



Good afternoon Des. Welcome back to St. Albert. We've both spent quite a bit of time the last, I was going to say few weeks, but it probably spread over several months since our interviews. We spent time looking over the transcripts which Linda has so enthusiastically been typing for us. The transcripts of our previous interviews are full of excellent material, but in the review process it is evident that in some cases some of the points made haven't been quite pulled together and in other cases there are other points which should be made. Des, I know you particularly had made a comment that you wanted to undertake this. Perhaps I'll just give the mike to you and let you proceed.

- D.I. Crossley** Thank you, Pete. Before we finalize this presentation on the historical development of the St. Regis forest management program, I would like to comment on the company's behaviour as a corporate citizen. The subject has not been raised but I feel it could be of significance to those who at some future time may be interested. Since I only have the right to discuss this subject as it has affected the forestry department, I will confine myself to it. From the original concept of our program the decision was made never to accept financial assistance from any outside source and, with one minor exception, this was never violated. The exception was the Alberta government's commitment in its original Agreement to supply the Company with seedlings from its nursery free of charge. Such assistance was the general procedure throughout the provinces, and the Agreement was finalized before our Forestry Department came on the scene. This never amounted to a lot of money, simply because our regeneration program concentrated around natural regeneration, and planting stock was only needed for fail areas. We eventually established our own nursery in order to grow the quality of stock that we considered necessary. As it happened, this decision to stay away from the public trough has paid unexpected dividends in that it provided us with the power to resist bureaucratic interference in day-to-day management.
- P.J. Murphy** Des, that philosophy of doing things on your own was a notable characteristic of your operation. In your last comment you mentioned unexpected dividends from it. Were the dividends entirely unexpected or did you have something along these advantages in mind right from the beginning?
- D.I. Crossley** Yes, I suppose we did, because the Agreement with the Crown specified that we must sustain the yield. There was no suggestion made that we would be told how to do it. That was our responsibility which we were quite prepared to accept, and probably wouldn't have gone into the Agreement otherwise. We wanted full freedom to meet the obligations as laid down in our Agreement but no interference on how this should be done, particularly in the day-to-day interference we might get from some junior staff member in the Forest Service who didn't have our experience and wanted to live strictly by the rules in the book and was not able to adapt to improvements that became obvious as we went along.
- P.J. Murphy** Des, one of the corollaries of doing your own thing without outside support would be to tackle whatever you did with a cost-effective philosophy. At various times during the earlier interviews you referred to some of the cost-cutting measures that you employed. It would be helpful here if you could summarize some of these, or



most of these, under one section for ease in reference. There is no question that you and your group did some very innovative thinking and startled a lot of people by what you did.

D.I. Crossley

When we commenced operations in Alberta it was agreed internally that the forestry department must attempt to keep its annual budget confined to 10% of the woodlands costs of laying down wood furnish at the mill. The list that follows records some of the ways we selected to save the money we needed to stay within this budget and still get an effective program underway.

One that was initiated very early in our program was the age classing from aerial photographs. We found age classing of our timber stands to be a very vital part of our fundamental knowledge and we devised ways of doing it efficiently, fast and cheaply from aerial photographs. It was initially decided to effect forest sanitation by establishing the location of the over-mature and decadent stands of timber, since they are the focal points from which insect epidemics and diseases spread. They were then designated for early harvest, and this will continue until they are all destroyed and an effective balance of immature to maturing age-classes results. It is impossible to place a concrete monetary value on such a program, but it is sufficient to report that no outbreaks have occurred during the first 30 years of operation, and therefore nothing has had to be spent on their control.

Original ground cruising was turning out to be a very expensive and inaccurate approach to establishing the timber volumes necessary for each year's cut allocation. Using information emanating from our Continuous Forest Inventory program, we were able to develop aerial stand volume tables, and by photo-point sampling were able to undertake these cruises from air photos. The results were more accurate than those obtained from ground cruising and were obtained at much less cost.

Another use of the aerial photographs was the annual laying out of cuts initially on that base. The topography is right there in front of you, and a cheaper and a more effective job is possible. The government required that annual spring photography had to be undertaken to establish the actual cutover boundaries of each harvested unit area. These photographs were also used to identify the location of cord-wood ricks that had been inadvertently left in the woods and had to be picked up.

We found that if we could overcome the vibration inherent in helicopters that we could use them to advantage as platform mounts in obtaining our own aerial photographs. We set about developing something to absorb these vibrations to permit us to do this. We were advised that vibration elimination was not possible, but the staff accepted the challenge to find ways around the problem. Having done so we were then able to adapt to the many advantages of helicopter photography.

Air photos in colour for regeneration surveying became a challenge: flying at low levels (600 feet). Research officers in the Canadian Forest Service were approached to survey the feasibility of this method. After much experimenting it became evident that, with the use of camouflage detection film, the location of coniferous stock on the ground could be identified on the transparencies in the office at a later date, thus keeping the cost significantly below conventional ground surveying.

We used the stereo pairs from our own photography for the development of efficient physiographic site classifications. Another important approach to the saving of significant amounts of money was in eliminating



the hand lopping of slash, in order to reduce fire hazards, following our harvesting operations. This was accomplished by scarification programs that were designed to prepare seedbeds for the regeneration of our cutovers. The government became convinced that this type of equipment would effectively crush the slash and reduce the hazard to an acceptable level, and hand lopping could be discontinued.

The universally accepted method of confining annual timber harvesting to ever-increasing circles around the point of wood consumption, i.e. the mill, was unacceptable to us since it would run counter to our determination to improve forest sanitation practices, which would involve a much larger network of permanent roads whose costs would have to be capitalized.

Obviously, this decision over-ran the general approach to the saving of funds, but by the inclusion of existing roads and the careful planning of the whole network we were able to keep the average annual hauling distance during the first cutting cycle to 27 straight-line miles, and better still, to maintain this within ± 4 to 5 miles for the remainder of the 80-year rotation. This restrained hauling distance would become increasingly important with the passage of time.

We were able to abandon expensive government regeneration surveying regulations by using more pragmatic approaches of our own, which resulted from increasing familiarity with the land under management and its varying degrees of receptivity to regeneration. Average costs were reduced by at least 75%.

A more efficient way of tallying information on our permanent sample plots was the field adaptation to tape recording. This eliminated the need for one staff member throughout the whole C.F.I. (continuous forest inventory) program. It will be obvious that some of these cost-saving innovations can only be applied once. However, it is expected that it will be an on-going process, and new innovations will be incorporated as new technologies can be adapted.

P.J. Murphy That's an impressive list of innovations. One can't help wondering how the staff was brought to participate so actively. Did St. Regis, or North Western at that time, have an employee bonus program for encouraging suggestions within the organization?

D.I. Crossley No, certainly not in the forestry program. We approached this task by careful selection of our staff, hiring people we felt could become interested in an effective forest management program, and becoming part of that program, and that it would be something to be proud of if we were successful. The challenge was in the direction that if we all worked together we could come up with a program that would accomplish what we were seeking, without having to ask for additional help financially, either from our own company or from outside sources.

P.J. Murphy Thanks, Des. That explains a great deal. There was always a spirit evident among the staff that probably emanated from that sort of approach.



During our earlier interviews, we also talked about the Rocky Mountain Section of the Canadian Institute of Forestry and how keenly you felt about it, and how active you were in it when St. Regis established here in the mid 50's. One of the notable features of the CIF meetings in the Rocky Mountain Section was that there were invariably representatives there from your company. There was no question that your group contributed actively and assisted a great deal in the continuity of projects. Was that something you encouraged in the process of management?

D.I. Crossley Yes, that suggests that I return to the previous question. That was an indirect reward in encouraging staff members to attend C.I.F. Section meetings and in some instances Annual Conventions of the parent organization at company expense. This was intended to have them meet with their peers, to keep them abreast of what was going on throughout the country, as well as a reward for the good work they were doing.

P.J. Murphy That's interesting, Des. It achieved two ends then or maybe more. It provided a reward, it certainly provided support to the CIF itself and it meant that your staff was involved in a process of continuing education through the technical sessions. Was education a concern to you? Education of your own staff?

D.I. Crossley Yes, education was a major concern. When any staff member expressed the desire to hone skills that would promote our progress, arrangements were made to provide time and expenses, while on salary, at a university, research centre, or whatever, either in Canada or the States, provided of course that we approved the direction that this kind of knowledge would take us.

P.J. Murphy From my recollection of visiting with your people while I lived at Hinton, there were several instances that come to my mind which impressed me at the time, of staff being sent away for specific purposes or to acquire particular skills. It might be interesting for the record if you could comment on some of the ones that you arranged.

D.I. Crossley Yes. First of all I should probably mention Jack Wright, who was head of the inventory and management section, and his assistant Ray Ranger. They were sent off on two occasions to the States to study the new field of computer programming. The masses of data we were collecting warranted the use of more modern methods of compilation. Such a course was given in Wisconsin under the U.S. Forest Service specialist, Cal Stock. It included the relatively new subject of continuous forest inventorying and the converting of CFI programs from unit record equipment to high speed data processing. Their second journey into the States was to Lansing, Michigan, to the Forestry Centre where they studied data processing changes, pros and cons of fixed radius vs. plotless cruising for inventory and for growth and yield.



Then there was Philip Gimbarzevski, our photogrammetrist, and head of the photogrammetric and drafting section. He undertook special training in photogrammetry and landform recognition from Dr. Mallon at the University of Regina, one of Canada's top landform specialists, and from George Brown, who came on-site as a consultant to work with Philip. Brown was a forest soil scientist from the Spartan Air Services in Ottawa. He and Gimbarzevski worked jointly on establishing a geomorphic site classification system from landforms.

Bob Udell, Head of Forest Protection, later replaced by Brent Simmons, both attended the annual Fire Review Conventions held in Parksville on Vancouver Island under the auspices of the B.C. Forest Service. These provided valuable opportunities to meet with protection people from all over the west, review new programs, and study faults in old programs and how corrections should be made.

Bob Carmen was our Head Silviculturalist and he spent some time with Weyerhaeuser at its research laboratories in Centralia, Washington, studying its program in silviculture research which was one of the best on the continent.

John Hicky became head of the photogrammetry and drafting section after Gimbarzevsky left us. Hickey attended the Northern Alberta Institute of Technology to take a special course arranged just for us in photo lab organization and in the development and use of color film. Since we were acquiring our own photo lab, it had to be properly equipped. We also wanted to acquire skills in color photography so we could take advantage of its use in the study of forest vegetation, and particularly in regeneration surveying.

Finally Ray Ranger, as head of our land use section, was provided the opportunity to attend special courses throughout several years, provided by the land-use specialists in Alberta. He became a registered Alberta Land Appraiser. This stood us in very good stead when we became involved with other users of our land in the form of gas, oil and coal operations on the lease.

P.J. Murphy Thank you Des. That includes the ones with which I was familiar and more beside. It sounds, in summary, as if you looked for the best people you could get when you were staffing up, and made them better and more skillful as the occasions arose.

D.I. Crossley I think I mentioned previously in some of the reporting done in the recording of this operation that we sought out the best men we could get. We did acquire two gold medalist graduate foresters, but we didn't normally search that high or confine ourselves to such a high standing, but practically every graduate we hired stood in the top third of his class. We wanted people who were intelligent, could grasp the programs and could accept challenges with imagination. We tried to make it so that they could become professionally satisfied with their employment with us.

P.J. Murphy Well thank you very much Des. It has been enjoyable visiting with you again.

[END OF TAPE 1 IN ST. ALBERT, ALBERTA—12 NOVEMBER 1984]



Biography

Desmond Ivan Crossley was born at Lloydminster, Saskatchewan in 1910. He is married, has a son and daughter, and five grandchildren.

Following graduation, with honours, from the Faculty of Forestry, University of Toronto in 1935, and a short stint as a scaler with Newago Timber Co., Mr. Crossley was employed by the federal Department of Agriculture at Indian Head, Saskatchewan, as a tree planting supervisor in extensive field shelterbelt projects administered under the Prairie Farm Rehabilitation Act. During five years in this position he continued his studies and was awarded a Master of Science degree in 1940 by the University of Minnesota.

Between 1940 and 1945 the Royal Canadian Air Force derived the benefit of Mr. Crossley's considerable energy and competence, in navigational training in Canada and England. Following demobilization in 1945, with the rank of Squadron Leader, Mr. Crossley accepted a position as Forest Research Officer with the Forestry Branch of the Canada Department of Resources and Development in Calgary, Alberta. For the next ten years he engaged in a most rewarding program of forest research in the ecology and silviculture of lodgepole pine and white spruce. The start of Alberta's first pulp mill in 1955 provided an opportunity to practice what he had learned and preached so convincingly during his research career. The challenge was irresistible and Mr. Crossley joined North Western Pulp & Power Ltd. as Chief Forester, the position he held until his retirement in 1975.

Mr. Crossley was a most active member of the Canadian Institute of Forestry, at both the regional and national levels, since 1936. He served as Chairman of the Rocky Mountain Section, and its representative on the National Board of Directors, two terms on the Editorial Board and as an active member or chairman of many local and national committees. His service to forestry in this regard culminated, but by no means ended, in his Presidency in 1966–67. During 1968–69 he was Chairman of the very effective Forest Management Committee and continued in 1969–70. In 1969 he was awarded the Canadian Institute of Forestry Achievement Award, and was made a Fellow of the Institute in 1979. Mr. Crossley was also a senior member of the Society of American Foresters, served as a Director of the Alberta Branch of the Canadian Forestry Association, and a member of the Canadian Pulp and Paper Association, member of the Alberta-Territories Regional Advisory Committee of the Canadian Forestry Service 1967–71, member of the Advisory Committee, Environmental Conservation Authority 1970, the Arctic Land Use Research Advisory Council, Department of Indian and Northern Affairs 1971–78, and the Alberta Forest Service Research Advisory Council 1974–75.

He authored over 40 papers and articles on silviculture and forest management in professional and trade journals and Federal Forestry Branch research papers. He presented an invited paper "Application of Scientific Discoveries and Modern Technologies in Silviculture" at the 6th World Forestry Congress in Madrid, and delivered the H.R. MacMillan Lectureship at the University of British Columbia in March 1976.

Post-retirement Activities

- Guest Lecturer, Universities of Toronto, Alberta and British Columbia.
- Panel Member, Alberta Environmental Council—1978-80.
- Engagements as a Consulting Forester.



Publications Post-Retirement

"A tenth-year review of stand renewal under the Quota System of Timber Management in Alberta." E.N.R. report No. 34, June 1977. Alberta Forest Service.

"Forest Management in Canada." F.L.C. Reed and Associates Information Report prepared for Forest Management Institute Canadian Forestry Service, Environment Canada, January 1978.

"The Environmental Effects of Forestry Operations in Alberta." Report and Recommendations. Environment Council of Alberta, February 1979.

"Toward a Vitalization of Canadian Forests." Alberta Forestry Association, 1985.

Awards

- Canadian Institute of Forestry, Forestry Achievement Award, 1969.
- Award-winning paper, Woodlands Section, CPPA Annual Convention, 1975.
- Government of the Province of Alberta, Achievement Award, 1975.
- LLD (honorary) University of Toronto, 1982
- Crossley Forest Established—Weldwood FMA 1997

Perhaps the most important contribution was Mr. Crossley's impact in the field of education—not education in the formal sense but as measured by the tremendous influence his dedication and enthusiasm had on those with whom he associated. Where forest management is more philosophy than fact it is unavoidable that the profession will tend to lose heart and drive. Throughout his career, Des Crossley demonstrated that progress can and should be made and in no small way he helped to maintain that heart and drive.

Des Crossley died on November 30, 1986.

In a 1997 ceremony to mark the 40th anniversary of the beginning of pulp production at Hinton, the south half of the Forest Management Area at Hinton was renamed the Crossley Forest. The north half was named the Loomis Forest in honour of Reg Loomis, another Alberta forestry pioneer who contributed much to the advancement of forest management in Alberta generally and who played an important role in the development of the management program at Hinton.

