ForesTalk

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ForesTalk

Summer — 1973

THE GOVERNMENT OF
THE PROVINCE OF BRITISH COLUMBIA

DEPARTMENT OF LANDS, FORESTS AND WATER RESOURCES

THE HONOURABLE ROBERT ARTHUR WILLIAMS
MINISTER

JOHN S. STOKES
DEPUTY MINISTER OF FORESTS

IAN T. CAMERON
CHIEF FORESTER

A. G. DAGG
EDITOR

POLICY STATEMENT

The objective of the British Columbia Forest Service, as the forest administrative agency for the government of British Columbia, is to develop and enforce policies which will ensure for all time the proper balance of timber production, forest recreation, wildlife protection and environmental preservation on the Crown forest lands of the province.

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COVER PHOTO

May leaf (also known as vanilla leaf or sweet-after-death) is among the many flowers growing in profusion on the forest floor.

Editorial

In these times of so much freedom there are many organizations and individuals who are openly and often emotionally critical of government, business and the establishment in general. This is their right.

In many cases their criticism is fully or at least partially justified but too often it is made without the full facts or understanding. This in turn may be because the critics have not troubled to obtain all the information, or they chose to ignore some of it to create their case, or because the body under fire has not effectively spread its full story for public consumption.

With so many media now available for conveying a message, there is no excuse for failing to communicate. In the case of the British Columbia Forest Service, it has endeavoured for many years to communicate with the people of our province by radio, television, newspapers, journals, brochures, films and slide shows. It has in fact enjoyed a very satisfactory relationship with most segments of the public.

Despite this there are still some who are not yet conversant with the policies and practices of the service as they apply to the care and management of our Crown forest lands. Toward correcting this deficiency, it has been decided to publish a quarterly journal containing stories and explanations of Forest Service activities and associated matters of general interest. The material will be prepared for the average reader, not the professional forester, so technical terminology will be avoided wherever possible.

This then is our first issue of ForesTalk. It is being distributed free of charge to all schools in B.C. and to other organizations and individuals expected to find most interest in it. If you enjoy ForesTalk, let us know. If you don't, tell us why.

Message from the Minister

The Honourable Robert Williams.
Minister of Lands, Forests and Water Resources.

For nearly a century the forests of British Columbia have been exploited almost entirely for the extraction of timber. Much has been removed from them but more of us might have gained. However, most of our provincial forests grow on Crown lands and, subject to a few simple rules, we are all entitled to wider use and increased dividends from them.

Since coming to this office less than a year ago, I have initiated a number of studies to determine the best use of several forested regions. These were long overdue and no doubt more will follow. Among those currently underway is the critical examination of the various tenures by which the forest industry holds vast expanses of our lands. Another is the review of rates and taxes paid for timber and in this regard my aim is to ensure the fair and proper realization from the forest resources for the province as a whole.

My sympathy is with those seeking greater access to Crown lands and I would be pleased to review any cases of unreasonable denial of that access. I will continue to promote close co-operation between the Forest Service and other resource departments and although it may be necessary to single out a few areas for just one specific use, I am essentially a supporter of the integrated resource management philosophy.

So, while I am fully aware that our complex forest industry is a vital part of our provincial economy and must be sustained, I do believe there is more in the forests for us all and I intend to work for a more equitably shared use of this great resource.

Government take-over brings new life to...

Ocean Falls

Purchase and revival of Ocean Falls with all its contents by the British Columbia government has given the community an enormous lift and created a fresh wave of enthusiasm in the surrounding mid-coast region.

For nearly a year prior to the government take-over in March of this year, Ocean Falls appeared destined to join the list of B.C. ghost towns. Crown Zellerbach Ltd., the owners of the company community, wanted out at almost any price. The old pulp and paper mill was the sole reason for the town's existence and it was considered to be obsolete and uneconomical. Parties interested in buying were hard to find.

People who had worked and made their homes there for 20 to 30 years were faced with the spectre of complete upheaval, job hunting and financial loss. Many left but others held on hoping for a miracle—which did in fact occur.

Government purchase and re-opening of the plant has been like a successful blood transfusion for a dying man. Those who stayed during the company's closing down period are back on the job. Many who left have returned and some new faces have been added. All are now smiling.

And why not? They have re-found the financial security of a steady job and there's the personal satisfaction of helping produce 300 tons of newsprint per day seven times a week.

Ocean Falls is located 325 miles north of Vancouver at the head of Cousins Inlet. No roads lead to it from anywhere and it receives 175 inches of rainfall each year. But the reasons for building the pulp and paper mill there in 1914 are still very valid.

The 169-foot drop of 800 million gallons of water per day from nearby Link Lake to sea level produce ample cheap electric power for the plant and the entire community. Also, the region is generously

covered with hemlock, spruce and other species ideal for pulping and although much of the area was logged 40 to 60 years ago, second growth trees are already nearing maturity.

So the natural renewable resources are there in abundance. And now the people so essential to process and utilize them have been re-assembled under new management and under the new name of Ocean Falls Corporation.

Heading the team is 42 year-old general manager E. F. (Ted) Vesak. He lived in Ocean Falls for nearly 20 years, worked in most parts of the mill and knew its strengths and weaknesses.

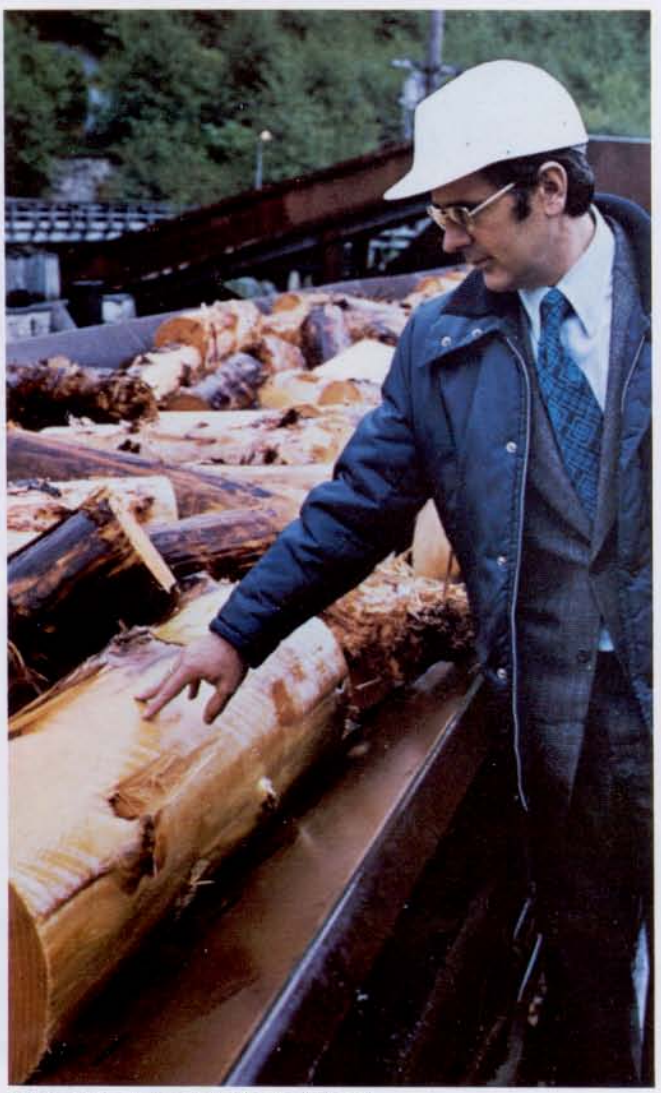
For three years preceding his new appointment, he was planning manager for the company's pulp and paper division in Vancouver. Among his tasks was the disposal of the Ocean Falls plant and its adjoining community.

So well did he present his case to Resources Minister Robert Williams that a condition of the government takeover was that Mr. Vesak manage the new operation.

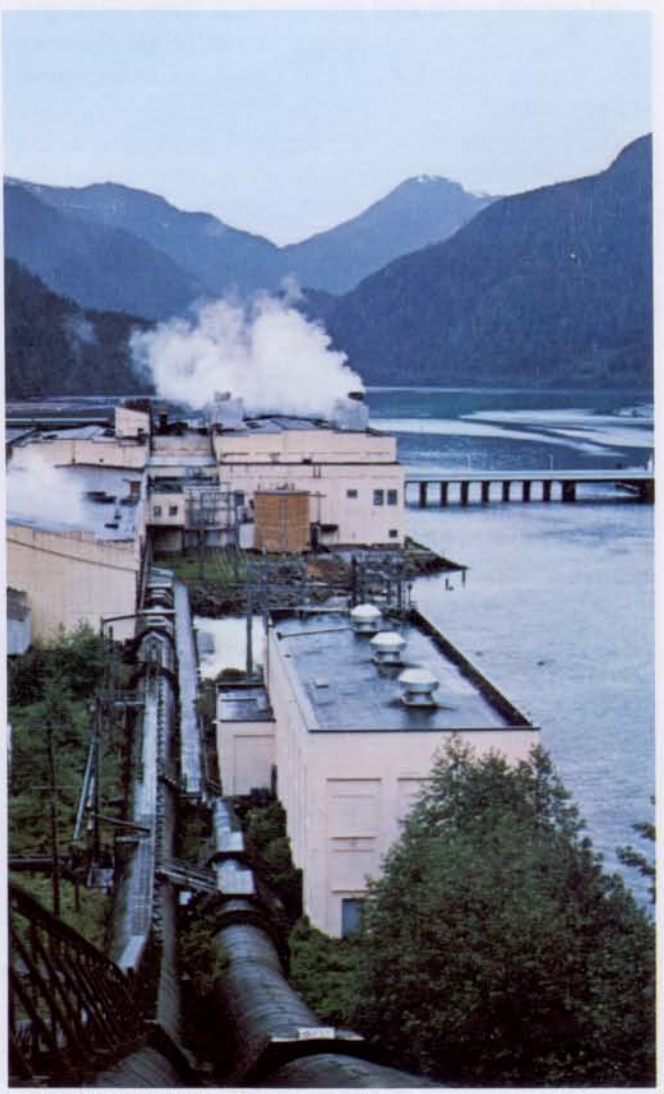
"It is the kind of a challenge I always wanted", he says, "and although we have had many tough problems to overcome in getting back into production, I have had great support from the entire staff and the union local. I'm delighted with my new job."

Under the former ownership, the plant produced a variety of products including specialty papers and, until 1965, kraft (chemical) pulp. Now, under the new management and on the recommendation of Ted Vesak, the only product is newsprint.

In comparison with other products, newsprint is relatively simple to make, requires less manpower and creates much less pollution. Eighty percent of the pulp in it is groundwood which is produced on site. The remaining 20 percent is kraft which is pur-



New general manager is Ted Vesak.



Power plant and mill from top of dam.

Ocean Falls *(con't)*

chased and brought in from the Crown Zellerbach mill near Campbell River.

Annual newsprint production at Ocean Falls is expected to exceed 100,000 tons and will bring about $16 million on the B.C. export market. Outlook is for continued strong demand and higher prices.

Several of the new employees brought in since start-up in early May have come to better jobs from other B.C. pulp mills. Nearly a dozen are experienced paper makers from New Brunswick. Others are students on summer employment. By mid-June the required complement of 250 was nearly filled though there was some shortage of heavy duty mechanics.

All appear to be well pleased with their work and the community which offers virtually all the recreational, entertainment and social facilities found in the average city.

The new high school is fully modern and contains a fine library and a gymnasium which would be the envy of all but the most fortunate. The indoor swimming pool is always a busy place and has seen the development of several champion swimmers over past years.

Cars are few indeed but a high proportion of residents have pleasure craft and often own a cottage on the lake-shore. Hunting, fishing, hiking, skiing and water-skiing are all popular.

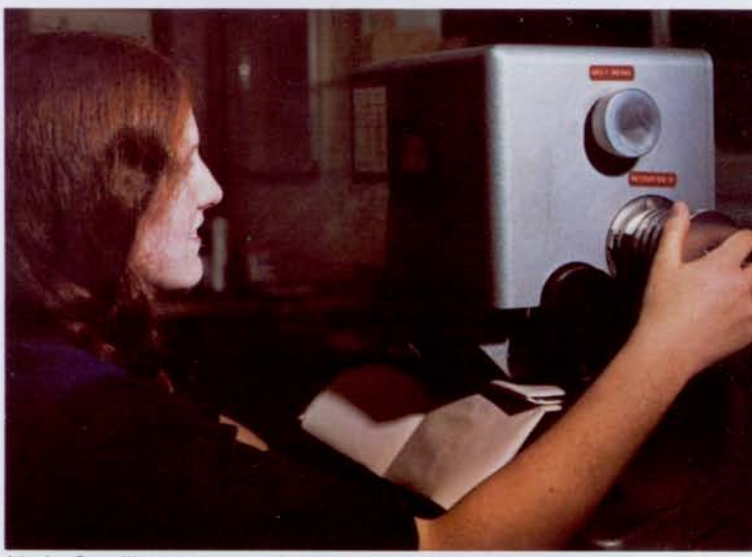
Perhaps the weak spot in the community has been its total dependence on the pulp mill for lifeblood. Now even this may change. Diversification seems probable.

Under government direction, a study is to be conducted on the feasibility of developing a sawmill. Another consideration is construction of a nine-mile road westward to Roscoe Inlet. It would lead to fresh timber resources, a likely site for an airstrip, additional water recreation and possibly a marina. Certainly the adjoining area contains a network of sheltered waterways which are an unspoiled haven for pleasure craft.

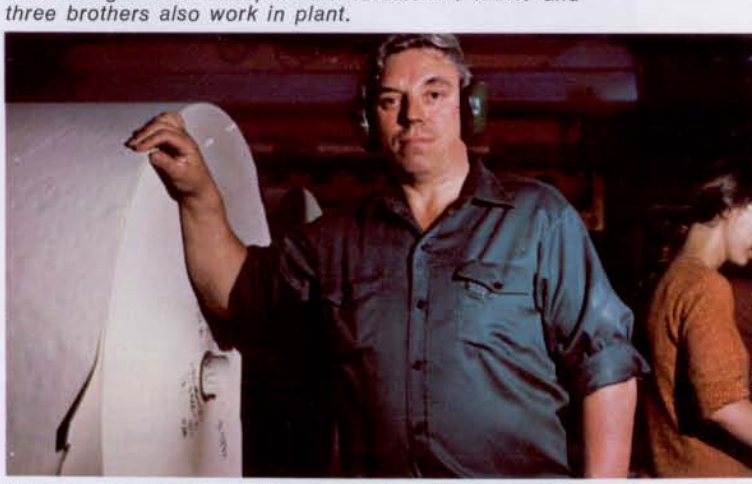
Any one of these or other such developments would create more employment and a need for more supporting facilities. The whole community could literally snowball.

In any case optimism is already running high and there appear to be opportunities in the offing for industrious and imaginative people.

Nick Danashin, iron worker, welder and commodore of yacht club.



Linda Cargill tests newsprint for colour. Her father and three brothers also work in plant.



Shift foreman Tommy McKenzie was born in Ocean Falls and like so many others is happy to stay.

For many, the marine craft replaces the car.

Toddlers soon graduate to the big pool.

New hospital is well equipped.

Forest recreation for the entire family.

Logging—mainstay of B.C.'s economy.

Beautiful Mohun Lake surrounded by thriving plantation.

Sayward Forest

In one respect, maybe the Big Fire was a good thing. After all, it did set the stage for a "people program" which was to come years later.

During the hot summer of 1938 Vancouver Island experienced its largest and most devastating forest fire on record. It raged through the Sayward Forest in the Campbell Lakes region of mid-Vancouuver Island, swept over a 40-mile stretch and reduced to ashes some 75,000 acres of fine timber and slash. At the height of the inferno, smoke and ashes darkened the sky as far south as Portland, Oregon; and some spots were still smouldering one year after the fire started.

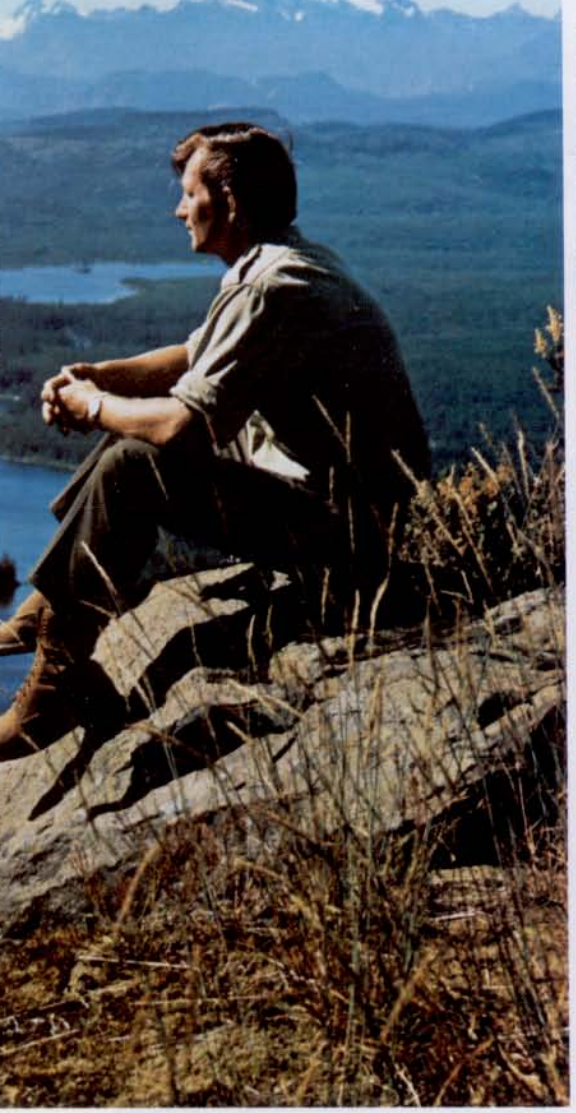
The Sayward Provincial Forest actually covers 227,154 acres (354 square miles) and is one of nearly 100 such forest reserves established throughout British Columbia to assure a perpetual supply of timber.

Even before the ashes of the big fire had cooled, plans were being formulated to re-stock the burned-over region, and during succeeding years millions of Douglas fir seedlings were planted to create a new forest.

And through the years this provincial forest has been planned and managed in keeping with a policy of "balanced use." It is a significant

This, in essence, is the Saywa

FOR MA



Logging roads provide access to many remote parts of Sawyard Forest.

McIvor Lake . . . haven for boaters.

An escape from it all at Stella Lake.

Menzies lookout tower.

. Land of Many Uses

watershed area containing many beautiful lakes. Elk Falls, located in the south-east corner of the area is the site of the vast John Hart hydro-electric development . . . the falls being harnessed late in 1947 to become the first major hydro-electric project in British Columbia. As it matures, timber of the forest will be harvested on a sustained yield basis, and with a constant view to maintaining the ecological balance of the region.

Small patches of the forest are being used for growth experiments by Forest Service research experts; an 80-acre nursery in the area produced some 15,000,000 seedlings last year, mostly Douglas fir; and the entire Sayward Forest is rich in fish and wildlife.

This region has always been a popular get-away-from-it-all haven for the camper, boater, the hunter and the fisherman, and all others with a love for the great outdoors. And with their numbers increasing year by year, a heavier emphasis is now being placed on increased access and essential amenities. Campsites—not elaborate, but sufficient—are being established close to the shores of picturesque lakes and streams, and lakes are being cleared of water-soaked logs and other debris.

orest . . . a land of many uses.
PEOPLE.

Timber Harvest to Yield More Revenue

Everyone knows — or should — that the forest industry contributes substantially to British Columbia's economy. Last fiscal year, for instance, direct revenue from the wood industry resource was more than $134,000,000.

Is this enough? Resources Minister Robert Williams isn't convinced, and neither is the Forest Service. It is now introducing modifications to the present appraisal system making it more equitable to all concerned.

Ninety-five percent of the province's forests are on Crown land. This timber belongs to the people of B.C. and they justifiably expect a fair return from that resource.

The major portion of this "return" is provided through a complex stumpage and royalty appraisal system in which rates of payment to the government are related to the cost of logging and milling, prevailing market prices (domestic and foreign), and various other factors.

Let's look back to a time when determining timber value was quite haphazard and casual. Among the B.C. statutes of 1884, for instance, there was "An Act Relating to the Cutting of Timber Upon Provincial Lands, and for the Purpose of Deriving an Income Therefrom." It provided for the issuance of timber leases, and the licensee had to keep "an account in writing of the number of trees felled."

At six-month intervals each logger had to produce a sworn statement "and forthwith pay in respect of each tree felled the sum of 15 cents."

Fifteen cents a tree! No matter what the species, diameter, height or condition. Only prime timber was harvested . . . for it appeared there was no end to the tall timber.

If there was any doubt about the number of trees felled, and the amount due the government for them, it was simple to make a check by merely counting the stumps on the logged-over area. And that's the origin of the term "stumpage" as it now applies to the purchase or sale of timber.

For obvious reasons, that system of timber "measurement" didn't last too long. By 1895 logging was becoming big business in B.C., and with it a need for a more accurate and versatile form of timber appraisal. That year the B.C. Board Foot Log Scale was instituted as the official measurement. This method had its shortcomings—but was a vast improvement over the stump-counting procedure.

The board foot scale provided fairly consistent, although somewhat inaccurate, results when applied to logs of approximately the same size and length, and when only the finest species were of main concern. And when there was only one destination for the logs — the sawmill.

The time came when many logs went

In bygone days only the biggest and best were felled . . . and revenue was just 15 cents a tree!

to other forms of processing — to pulp, shingle and plywood mills. Others were used for a variety of other products. The board foot measurement (designed almost entirely for lumber) became impractical. An even greater accuracy in quality and comparative log value was needed.

In the early 1950's the Forest Service started measuring timber in terms of cubic feet. At first this applied only to various regions, but by 1972 it became mandatory throughout B.C. for all commercially harvested timber.

Because of differing species, methods of harvesting, transportation costs and other factors, the province was "divided" into two regions for purposes of stumpage appraisals — coast and interior.

Today the Forest Service is taking a closer look at its wood resource appraisal system. A far greater use is being made of our timber. Much which used to be left behind or othewise wasted is now being utilized.

Are the people of British Columbia getting an acceptable return in terms of revenue from this resource?

In many areas of production the answer is "no", and in an effort to attain a more equitable level, a more comprehensive appraisals system has been developed. It's expected to become effective in September this year, and will apply initially to the interior region . . . with further studies of the Coast situation prior to changes there.

Under the existing system, appraisals are based only on lumber. The new system will project to, and include, lumber, pulp, chips, pulp logs, and many other products.

The statement reflects the obvious thinking of the province's new resources minister Robert Williams who earlier observed the present system "isn't always equitable to either the Crown or the operator."

The proposed revisions for the interior region appraisals are lengthy and detailed. Here are some of the highlights:

1. With the advent of the closer utilization of logs (harvesting smaller trees, greater use of resulting wood, etc.) in 1968, operators were given a flat stumpage rate of 55 cents per 100 cubic feet for wood which had formerly been left and wasted. This "55-cent wood" concept is to be abolished, and such wood will be included in regular stumpage appraisals.
2. At present there are minimum and maximum stumpage rates, relating to values of end products, operating costs, species, terrain conditions, and other factors. These maxima and minima rates will be relaxed. Which means, in essence, some operators will pay higher stumpage while others will pay less.
3. How do you determine the value of a log? The answer is provided by determining the value of the products to be obtained from that log. That value is now based on lumber content only. The new appraisals system will also include chips produced for pulp and paper mills. At present the lumber recovery factor is based on averages from timber in specified provincial zones. The new system will see this factor determined on a basis of individual stands and species.
4. Currently, some species are not appraised separately, but are related to other species. The new system will appraise all major species on their own merits.
5. The building of logging roads is an expensive business, and the operator foots the bill. Such costs, however, are recoverable through lower stumpage rates payable to the government. Today, for a variety of reasons, many operators are not always able to recover such costs within a prescribed time. Proposed revisions are designed to hasten such road cost recovery.

Today, trees formerly left behind or otherwise wasted are used and revenue has been increased considerably.

A great deal of study and research has gone into the formulation of this new appraisals system, but there are still some kinks to be ironed out.

The key words of the whole new program are "more equitable".

Resources Minister Williams has put it another way: "It's clear there wasn't any sophisticated method to determine a fair return to the Crown for its own resources. There seemed to be an attitude we had a bunch of gumdrops in a bag, and the boys hung around waiting for the candies.

"That kind of attitude is over."

New Rules and
A New Technique
for...

Slash Burning

On a fine afternoon in mid-September last year, 430 acres of medium to heavy logging slash was burned within 15 miles of downtown Vancouver and very few residents were aware of it.

Most of the smoke was vented into the upper air levels as though it were enclosed in an enormous invisible chimney. Once up there, a northwest wind carried it away from the city and dispersed it.

This first attempt at controlling slash fire smoke was a co-operative venture undertaken by the B.C. Forest Service and the Atmospheric Environment Service and was an unqualified success. Later experiments were equally effective and the technique will be more widely used this fall.

Controversial Issue

Slash burning is one of the most controversial aspects of forest management in B.C. It has been termed "autumn madness" on one hand and "a necessary evil" on the other. One forester says there is "no alternative to it", a second is "totally opposed", and a third calls it a case of "damned if you do and damned if you don't".

It is true there are disadvantages to the annual forest clean-up. Slash fires occasionally escape into standing timber. Slash smoke frequently accumulates around population centres and temporarily pollutes the lower atmosphere.

There have been cases of damage to the soil where fires have been too hot, and on steep slopes burning has contributed to soil erosion. On the other hand, when carefully planned and properly conducted, prescribed burns have achieved the desired forestry objective.

Many Advantages

There are many advantages to a good burn, but the B.C. Forest Service prescribes slash burning for three basic reasons. Historically, the prime reason has been the reduction of fire hazard inherent in the piles of wood debris which result from logging overmature forests.

Another reason is to eliminate or control insects and diseases which thrive in the decaying slash. And thirdly, and perhaps most important, is the need to prepare logged forest land for the rapid re-establishment of a new crop of trees so vital in sustained yield forest mangement.

As most of the logging in our province will continue to be in old growth stands for a number of years, some slash burning will remain necessary. It is still the most practical and economic way to dispose of the boughs, tops and other unusable residue which remains on the ground after the timber harvest.

In a concerted effort to make the autumn clean-ups more acceptable, foresters are taking several steps. They are being more selective in determining which areas really require burning. There is increasing consideration for soil preservation, particularly on steep slopes and at high elevations where there may only be a thin layer of it. And rules governing the setting, control and mop-up of slash fires are being made more stringent. Never again it will be permissible to throw a match into tinder dry slash at the bottom of a hill and "let her burn".

New Technique

Of particular interest is the development of the new smoke management technique which was first tested and found so effective last fall.

When there are brisk winds blowing from ground level up and atmospheric conditions are favourable for the natural dispersal of smoke, there is no great objection to slash burning — unless the winds are too strong. Unfortunately, good burning conditions often occur when a high pressure system is passing slowly through our region or becomes stationary over it.

In this situation there is little or no wind or mixing of air in the lower atmosphere. It becomes stable and stagnant. Smoke haze from a variety of sources accumulates in it and slash burning can aggravate an already unsatisfactory condition unless conducted under the newly prescribed guidelines.

Essentially, they are designed to limit burning to occasions when the convection current created by the heat of the slash fire will lift most of the resultant smoke up through the layer of stable air and into the upper atmosphere where winds will carry it clear of populated areas and other regions sensitive to air pollution.

Critical Factors

It sounds simple but there are several critical factors based on a combination of three components.

First requirement is to get the smoke into the upper air for mixing and dispersal. Punching the necessary hole or vent through the heavy and stagnant lower air is dependent on the heat of the fire, the depth of the lower layer of air and the altitude of the burning site.

If the stable air extends to 4000 feet above sea level and the slash is burned at the 3000 foot level, then the convection column must carry the smoke a minimum of 1000 feet up and through the top of the stagnant air (see diagram).

If the spread between the burning level and the top of the layer is too great, the heat will dissipate before entering the clear upper air. Then the slash smoke will be trapped in the lower levels where it will increase the pollution density which may be high already from industrial smoke and automobile exhaust.

Proper Wind Needed

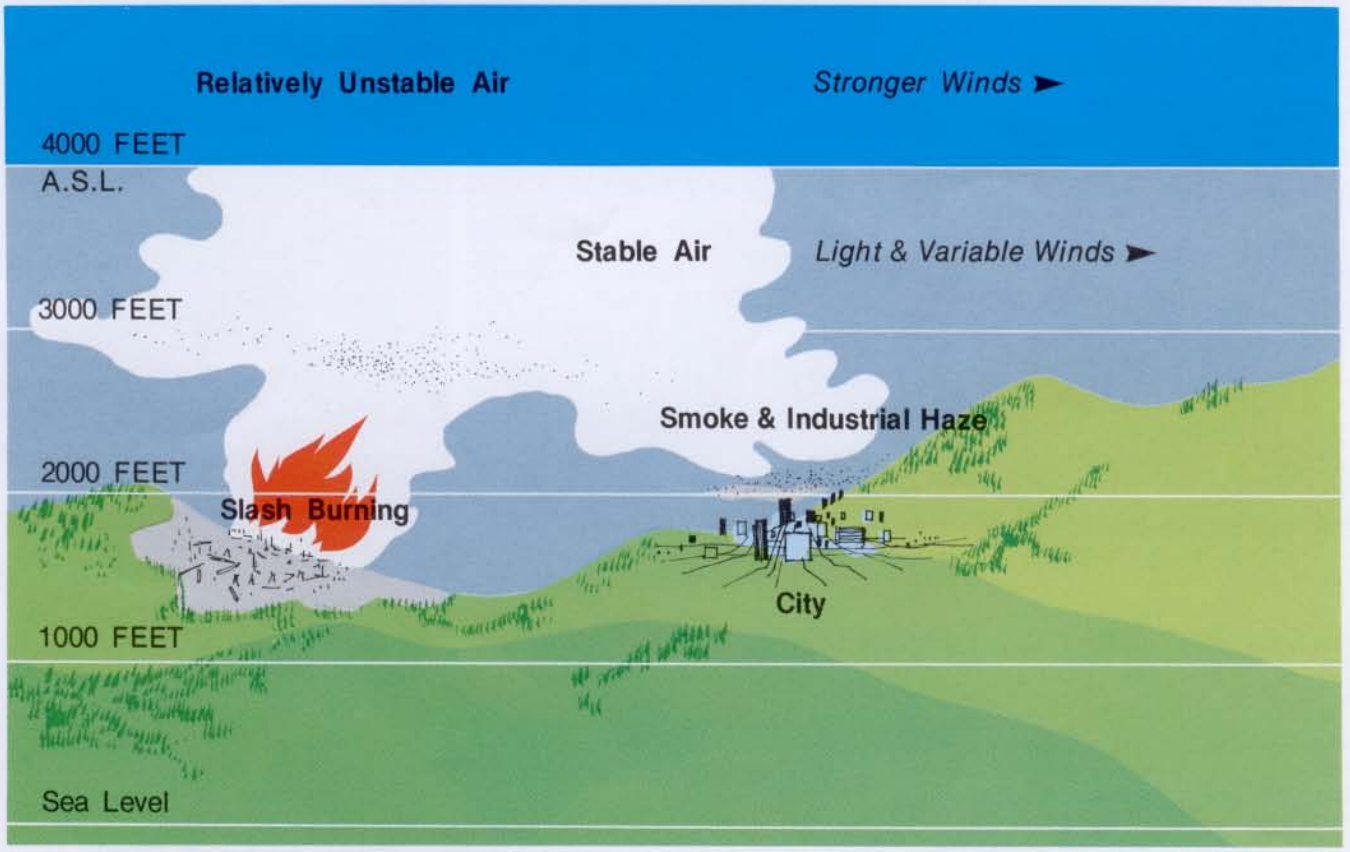
Once the smoke has been vented into the unstable air (in this case above 4000 feet), there must be sufficient wind blowing in the desired direction to carry it away from the areas being protected.

Of course there are numerous variations in terrain, weather and air mass conditions to be considered. Accurate weather forecasting and reporting are most important. Knowledge of local weather vagaries is essential. So the decision to burn or not to burn is dependent on many factors.

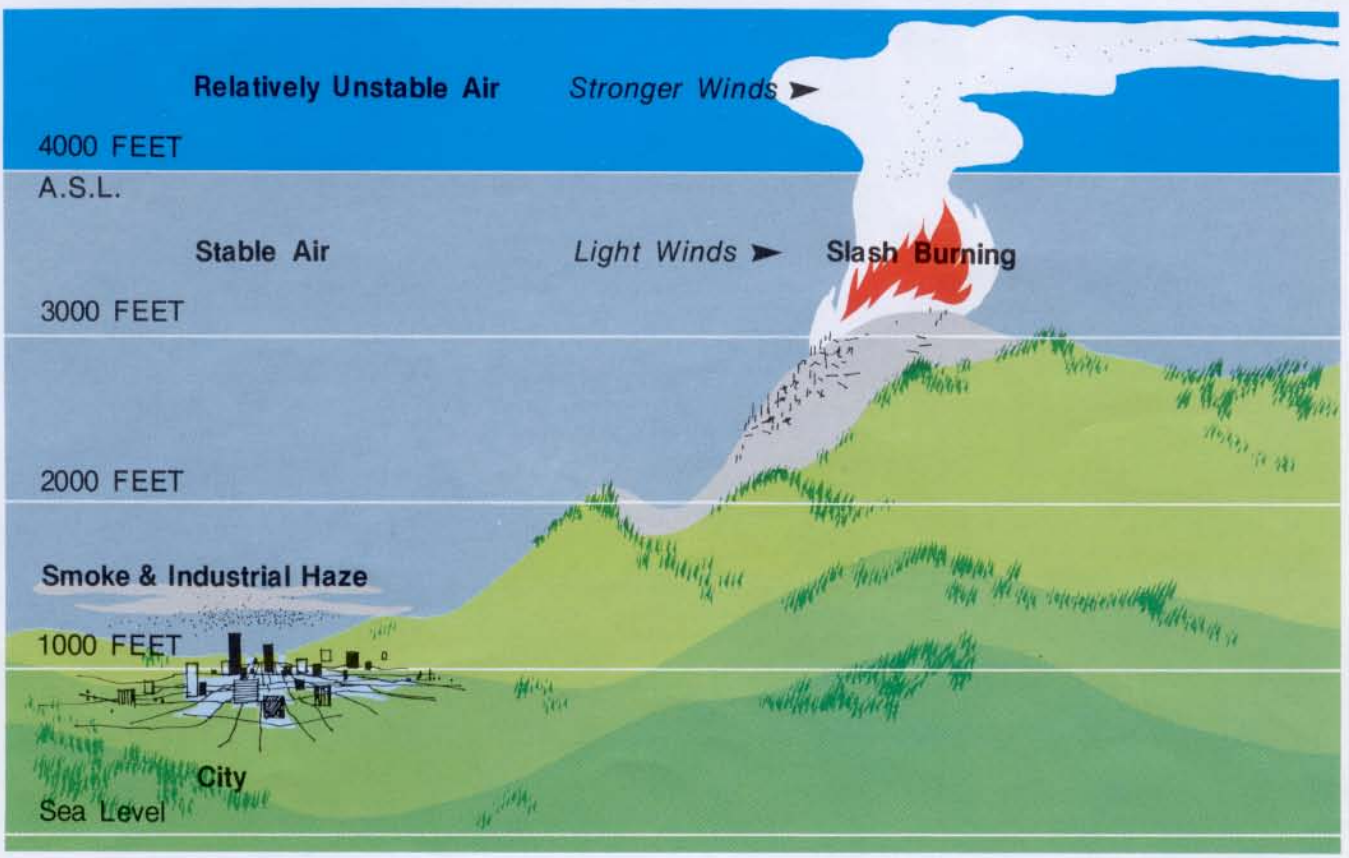
There still remain the problems of accurately forecasting the sometimes unpredictable weather and the possibility of error in human judgement. But until most of our logging is conducted in new growth timber which can be more fully utilized, some slash burning will undoubtedly be both necessary and practical.

It will, however, be more acceptable through carefully planned smoke management.

UNFAVOURABLE BURNING CONDITIONS

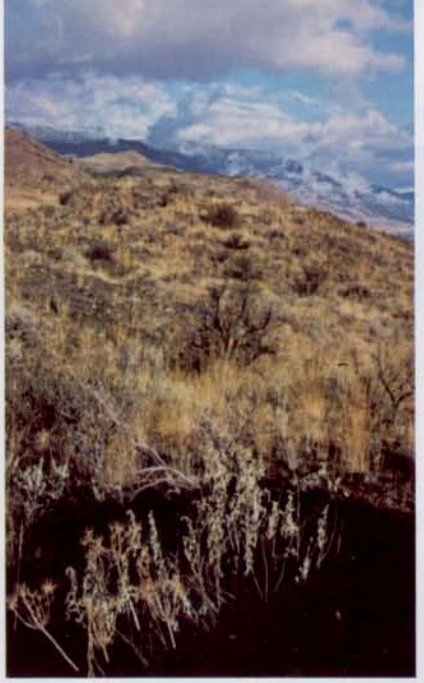


FAVOURABLE BURNING CONDITIONS

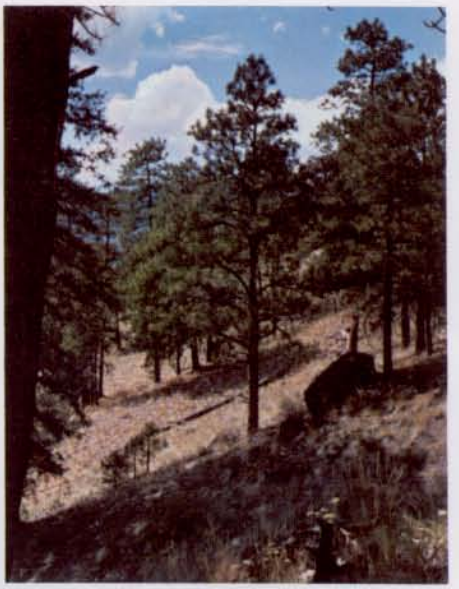


Ecological Reserves...

Indigenous rhododendrons are protected by law.



Semi-arid plant communities near Osoyoos.



Ponderosa pine parkland near Summerland.

What are they and where are they?

Over 40 ecological reserves have been created in British Columbia during the past two years and by 1975 there will be 100. Some are just a few acres in size, a number are relatively inaccessible and none are intended as recreation areas, parks, or campsites.

What then is their purpose and why has B.C. become the first province in Canada to recognize and give permanent status to ecological reserves?

Ecology is the science of the interactions between animals or plants and their environment. We are all familiar with the changes man, an animal, makes to his natural environment. But what we are less familiar with, because of the widespread changes man has made is the pattern in those areas which have escaped human alteration. A selection of 100 such valuable little communities is being made and the natural process established within them will be allowed to proceed undisturbed.

This very important project got its start in 1964 when Canada joined the International Biological Programme designed to alert nations to the importance of preserving a cross section of truly natural environments which have yet to show significant signs of man's influence. Provincial membership in the national programme led to the establishment of a B.C. Provincial Ecological Committee in 1969 and to the legislature's approval of the Ecological Reserves Act in 1971.

Ecological sampling is particularly important in B.C. because it has the greatest range of climate, soils, geology and vegetation of all provinces in Canada.It also enjoys a wide selection of wildlife.

The ecological reserve program in British Columbia is under the administration of the Lands Service of the Department of Lands, Forests and Water Resources, and the Deputy Minister of Lands is chairman of the Ecological Reserves Committee. The government does not buy or expropriate private lands for this purpose, hence all reserves are created on Crown lands.

Basically, the ecological reserves will include areas containing unique and rare examples of botanical, zoological and geological phenomena and areas in which rare or endangered plants or animals may be preserved in their natural habitat. Some will be representative of natural ecosystems and a few will serve as examples of ecosystems which have already been modified by man and now offer the opportunity for study of their recovery from earlier intrusions. Still others are being selected for scientific research and educational purposes associated with studies and other aspects of the natural environment.

Among the more than 40 reserves already established are two in the Skagit River valley about 100 miles east of Vancouver in the heart of the Cascades. One of these covers 180 acres and is designed to protect an unusual stand of yellow pine. The other is intended to preserve some fine examples of native rhododendron on an area of 150 acres.

Reserve Number 38 extends over 650 acres on the western shore of Takla Lake in north-central B.C. It contains the most northerly known colony of Douglas Fir in the province and was proposed by the Forest Service because of the opportunity it offers to study an outpost of this species as it competes with other vegetation and its environment for continuation of its existence.

Several coastal islands and islets have been set aside as ecological reserves because of the rare seabird colonies and other marine wildlife they harbour. Another, on the west side of Saltspring Island is the site of a very fine stand of Garry Oaks, the only oak native to B.C.

Yet another very interesting reserve has been established on 10.48 acres of semi-desert country near Osoyoos in the southern interior. It is located near the northern extremity of the arid Upper Sonoran zone which extends south all the way to Mexico. It was established to preserve some of the special features of topography, flora and fauna which it contains.

Long term benefits from ecological reserves may not be expressed in terms of dollars and cents. Undisturbed ecosystems will, however, yield a wealth of knowledge as living outdoor laboratories and classrooms, and as refuges for rare and endangered plants and animals. As time passes, their value and rarity will grow.

People and organizations to benefit from these reserves will include natural history societies, resource managers, educators, and environmentalists. Biologists, zoologists, botanists, soil scientists, foresters, biochemists, micro-climatologists and geologists are just some of the specialists whose research will serve the dual purpose of pure science and resource management.

Protected stand of Garry oaks on Saltspring Island.

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Bulk third class
En nombre troisième classe
1692
Vancouver, B.C.

Return to:
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British Columbia Forest Service
Legislative Buildings
Victoria, B.C.

British Columbia Forest Service