





# Environmental Policy

Canadian Pacific Forest Products Limited is committed to protecting the environment. The Company has been entrusted with the stewardship of extensive renewable natural resources and accepts the responsibility of managing these resources on a sustainable basis to ensure their productive use and enjoyment by future generations.

The Company will:

## **Forest Management**

Plan and conduct our forest management activities in a manner which respects the value of the forest and recognizes the principles of biodiversity, sustainability and multiple use of forest lands.

## **Operations**

Design and manage our manufacturing and forestry operations in a manner which incorporates good environmental practices and ensures compliance with government regulations.

Take prompt corrective action in the event of any accidental discharge.

Support research and development to ensure that our processes and products are environmentally acceptable and of a quality which meets customer requirements.

## **Communication**

Continually inform and encourage meaningful input from employees, customers, governments and the public about our operations and their impact on the natural environment.

## **Audits**

Conduct operational audits on a regular basis and initiate action plans, where required, to ensure compliance with Company policies and standards and government regulations.

Ensure the audit programs and methods are periodically reviewed by independent experts.

*We recognize that the long-term viability of our operations and the well-being of our employees and their communities are dependent upon a healthy, natural environment.*

## **Table of Contents**

1	The Environmental Commitment
3	Facilities Report
4	Usk – Newsprint
5	Gold River – Pulp and Newsprint
6	Dryden – Pulp and White Paper
7	Thunder Bay – Pulp and Newsprint
8	Gatineau – Newsprint
9	La Tuque – Pulp and Paperboard
10	Matane – Corrugating Medium
10	Dalhousie – Newsprint
11	Canexel – Wood Products
12	Chlorinated Organics (AOX)
13	Dioxins and Furans
14	Forest Management
15	Harvesting Practices
16	Protection of Habitats
18	Public Consultation, Multiple Use of Forests
20	Research
21	Forest Renewal
22	Recycling
23	Environmental Audits
24	Glossary
25	The Environmental Challenge



## The Environmental Commitment

Canadian Pacific Forest Products' commitment to environmental protection is an integral part of our business. We share the public's concern that manufacturing should not harm the environment and we integrate environmental protection into our daily decision-making process.

As indicated in this second Environmental Annual Report, we are making substantial progress in environmental awareness and protection. We are committed to seeking out and applying the best available, cost-effective processes and equipment for pollution prevention and treatment based on proven technology while taking customer requirements into account.

CP Forest has responded effectively to recycling concerns in the United States and Canada by implementing technologies to remove old newspapers and magazines from the waste stream. With its deinking plants in Thunder Bay, Ontario, and Gatineau, Quebec fully operational, the Company is now North America's largest manufacturer of post-consumer recycled-content newsprint.

In 1992, the Company maintained its record of achieving non-measurable levels of dioxins and furans at three kraft mill locations by using high levels of chlorine dioxide substitution in the pulp bleaching process. Furan levels, however, were periodically above non-measurable levels at the Gold River mill in British Columbia due to the burning of salt laden bark. The bleaching process did not contribute to this exceedance and research is being conducted to find solutions to this problem.

The Company completed the construction of secondary effluent treatment installations at the Thunder Bay and Gold River mills in 1992. It also substantially reduced air emissions at the Gatineau and Gold River mills.

CP Forest is directing its efforts on environmental issues at many levels. A committee of the Board of Directors was established to oversee the Company's policy and performance in the area of environment, health and safety; qualified managers are responsible for environmental quality at every facility; and employees are being informed as to how they can contribute to environmental protection. We are also developing communication programs to ensure that all of our stakeholders are kept informed of our environmental achievements and challenges. These programs include articles in the Company newsletter; *Environmentally Speaking*, a bulletin for customers and opinion leaders; and this Environmental Annual Report.

Last year, CP Forest developed and distributed a new environmental policy and implementation guidelines, and initiated environmental audits to promote sound environmental management and operating practices. Environmental audits





will be conducted on a regular basis at all facilities to ensure compliance with government regulations and corporate policies. Audits were conducted at five facilities in 1992.

As the Company relies on the long-term sustainability of the forest and water resources for its livelihood, it has long been a leader in the sustainable harvesting of Canada's forests, recognizing their commercial, recreational and ecological importance. With extensive public consultation and forest management planning, the Company ensures that the forests are available for the benefit of its various users, now and in the future.

This extends to managing the forest in a way that conserves its aesthetic value. In British Columbia, the Company uses landscape harvesting techniques to reduce the visual impact of operations near recreational areas and around communities. The Company ensures the long-term sustainability of forest resources through silvicultural research and extensive reforestation; 27 million trees were planted in 1992. CP Forest is also working to extract the maximum value from the forest by making extensive use of sawmill residue.

Despite continuing difficult financial and market conditions, the Company confirmed its environmental commitment with 1992 expenditures of \$43 million for projects related to the environment. This does not include expenditures related to the management and renewal of forests. The Company also plans to devote \$166 million over the next three years to continue to improve environmental performance in order to meet new provincial and federal pulp and paper regulations.

CP Forest's efforts and investments to date and its activities planned for the future are consistent with the principles of sustainable development and environmental protection.

The following pages report on the progress and challenges of Canadian Pacific Forest Products as it fulfills its commitment to environmental protection. We hope you will find it informative.



Paul E. Gagné  
President and Chief Executive Officer





## Facilities Report

Environmental management continued to be a priority in 1992 as CP Forest worked to improve performance at all operations.

Along with major investments in technologies, modifications to operating procedures, and implementation of the Company's new environmental policy, CP Forest also instituted a program to optimize the use of water and reduce waste materials.

CP Forest continued to seek workable solutions to minimize impacts on the environment at all operating facilities and placed renewed emphasis on communicating this commitment to employees.

New pulp and paper effluent regulations were released by the federal government and the province of Quebec in May and October, 1992, respectively. The federal effluent requirements came into effect on December 1, 1992, and Quebec's requirements are scheduled for September 1995. In this report, the effluent data for 1992 is compared to present provincial requirements. Capital expenditures for effluent treatment are being undertaken in order to meet the requirements in the new regulations.

Biological reactor, secondary effluent treatment facility – Thunder Bay mill





## Usk - Newsprint

With the exception of one minor pH variance, the Ponderay Newsprint Company in Usk in the State of Washington, in which CP Forest has a 40% interest, operated throughout 1992 in full compliance with the very stringent standards applied to the operation. Total suspended solids (TSS) and biochemical oxygen demand (BOD) were both less than 500 pounds a day, well below the regulatory levels of 6,353 and 3,500 pounds, respectively.

Loading sludge for soil application -  
Ponderay Newsprint Company mill



Effluent clarifier -  
Ponderay Newsprint Company mill



Improvements were made in 1992 at the mill for the handling of sludges from the primary and secondary treatment systems. Rather than collecting sludges in aerated settling ponds with the potential for nuisance odors, the system was modified to dewater the sludges and spread the fully treated materials on agricultural land as nutrients.

The state-of-the-art mill met all air quality requirements.

A small amount of solid waste, consisting primarily of wood residue, was used off-site as a waste-derived fuel.



## Gold River – Pulp and Newsprint

In 1992, the Gold River mill in British Columbia met all current provincial effluent requirements. Improved operating techniques, spill reductions and a 30% reduction in water use helped ensure full compliance.

The installation of a \$50-million secondary treatment facility was completed in late 1992. It began operation in January 1993. The new treatment system will further reduce BOD and adsorbable organic halogens (AOX) from the kraft mill effluent by 90% and 30% respectively, and the total mill effluent will be non-toxic.

The mill will meet the new federal pulp and paper regulations by the second quarter of 1993.

Since 1989, the mill has continued to reduce dioxins and furans in effluent. Although dioxins are presently below measurable levels, measurable peaks of furans still occur. These occurrences have been related to the burning of salt laden bark in the power boiler and are not related to the bleaching operation. A research project with the Pulp and Paper Research Institute of Canada (PAPRICAN) and other B.C. coastal mills is presently addressing alternative solutions for this issue.

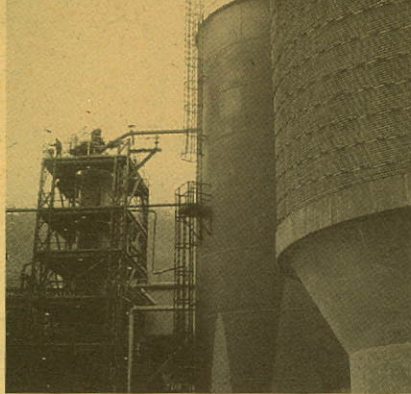
Following the reduction of dioxins and furans in effluent, the monitoring program in Muchalat Inlet, where the mill is located, has shown significantly lower concentrations of these compounds in crabs and prawns over the

past two years. The inlet has been subject to a fishery closure since November 1989.

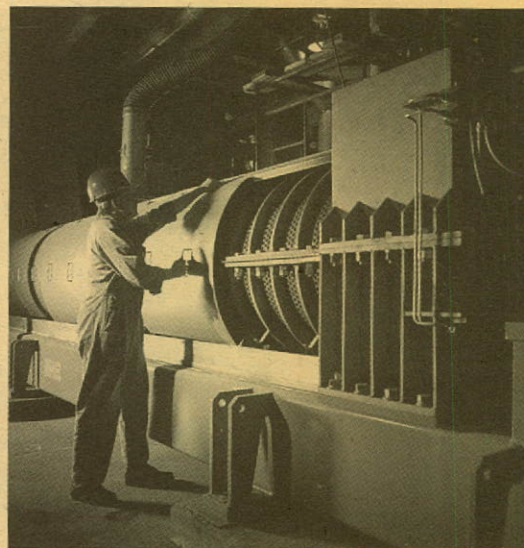
Utilization of precipitator and scrubber technologies for air emission control resulted in full compliance for particulate discharge requirements in 1992. Additional monitoring and new operating procedures were implemented to substantially lower the levels of total reduced sulphur (TRS) in an effort to consistently meet the mill standard of 20 ppm. The frequency of TRS exceedances was substantially reduced in 1992.

The amount of imposed fines for charges of BOD and TSS exceedances in 1990 and 1991, under the Waste Management Act, and for which the Company entered a guilty plea, remained the subject of appeals in 1992.

Solid wastes, disposed of at the Company's approved site, were reduced by 10% in 1992 and are 50% below the permitted discharge rate.



Diffuser washer –  
Gold River mill



Sludge dewatering press – secondary treatment –  
Gold River mill



### Dryden – Pulp and White Paper

The Dryden, Ontario mill operated throughout 1992 in full compliance with all government effluent regulations.

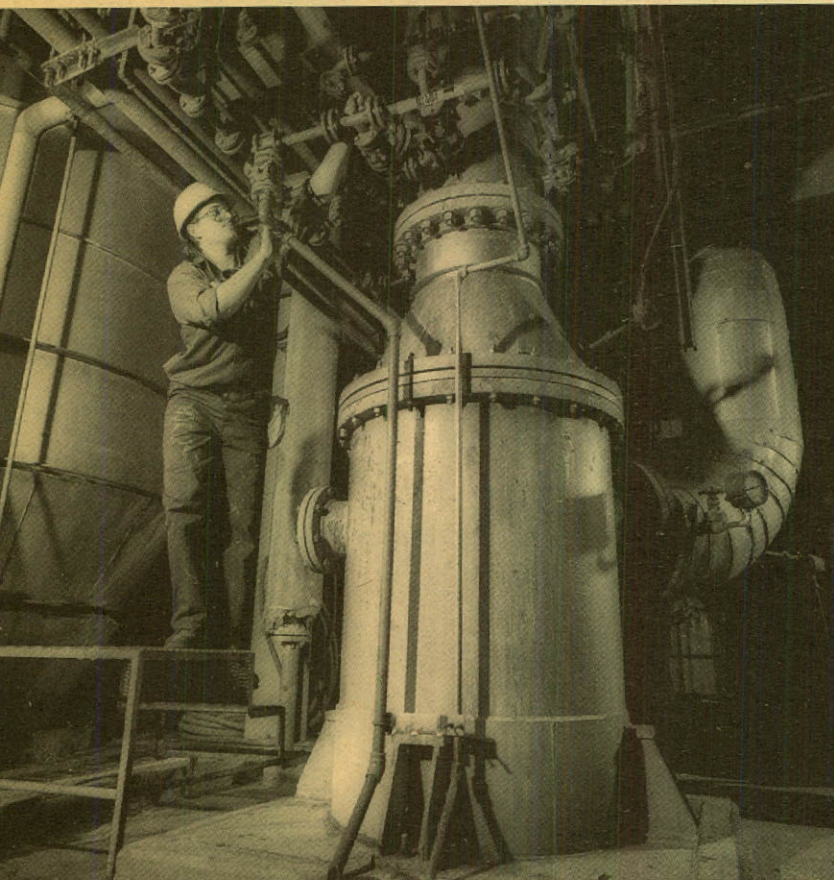
Working with researchers at the University of Toronto's Pulp and Paper Centre, modifications were completed to the aerated lagoon for improved AOX and toxicity removal. In addition, process changes were implemented in the digester operation to reduce the formation of AOX. With these improvements, the effluent was non-toxic throughout 1992 and will

fully comply with new federal pulp regulations by the fall of 1993. Dioxins and furans were non-measurable.

Emphasis on employee communication and training ensures that there will be no recurrence of an incident that took place in 1991 in which black liquor was accidentally discharged into the river during a shutdown of the treatment system. The Company paid a fine of \$30,000 in 1992 as a result of that incident.

The Dryden mill met all government requirements in 1992 for air quality with the exception of three minor TRS excursions.

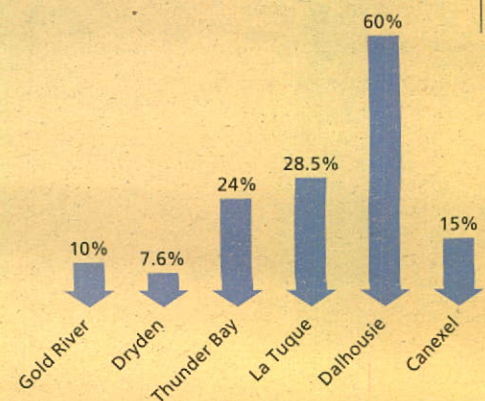
Solid wastes were reduced by 8% during 1992 for a total reduction of 29% since 1989, and were disposed of at CP Forest's approved site.



Chlorine dioxide generator – Dryden mill

### Solid Waste Reduction 1992

Refer to appropriate text





## Thunder Bay – Pulp and Newsprint

The mill at Thunder Bay, Ontario, which produces pulp and post-consumer recycled-content newsprint, operated throughout 1992 in full compliance with provincial requirements for BOD and AOX. TSS levels occasionally exceeded requirements due to additional biosolids produced in the secondary treatment facility. The present levels will meet the requirements of the federal pulp and paper regulations in 1993.

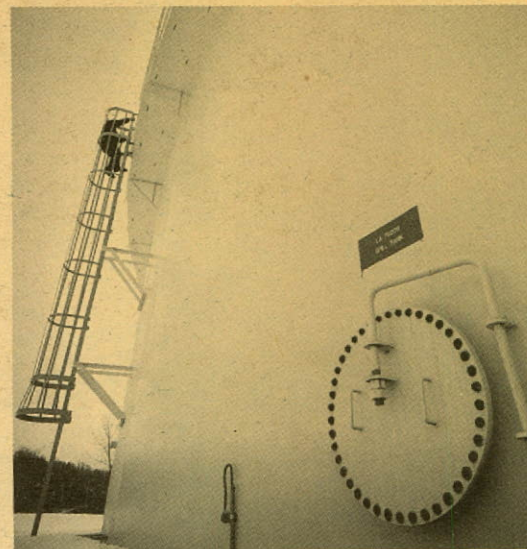
The new \$36-million secondary treatment facility for the kraft mill effluent reduced BOD and AOX significantly below the regulatory requirements. With an innovative aerobic/anaerobic system, the secondary treatment facility also outperformed the design specifications. Dioxins and furans were below measurable levels in the mill effluent.

The mill requested a transitional authorization from the federal government under the new pulp and paper

regulations until 1995 in order to complete a secondary treatment system for the newsprint mill effluent.

An evaluation is being undertaken of all particulate emissions from the complex and the mill continues to seek solutions for nuisance odours (TRS). To further assess air quality, the Thunder Bay mill established a direct link with provincial government monitoring stations so that any change in ambient air quality is instantly reported to the mill.

In response to concerns from neighboring landowners regarding leachate runoff from the Company's provincially approved landfill site, the Company enhanced the ground water monitoring program and established a liaison committee to study options and solutions. Solid wastes from the Thunder Bay mill were reduced by 24% during 1992.



Emergency spill tank – Thunder Bay mill

Receiving water and raw water source – Thunder Bay mill





### Gatineau – Newsprint

The newsprint mill at Gatineau, Quebec, which produces post-consumer recycled-content newsprint, operated for most of 1992 within regulatory requirements. Infrequent instances of non-compliance for BOD were due to operating inefficiencies of the existing processes which are being replaced.

Suspended solids were reduced by more than 40% with the startup in 1992 of a new deinking plant for the

production of post-consumer recycled-content newsprint, and with the subsequent closure of the groundwood plant.

The startup of the new thermomechanical pulp (TMP) mill in 1993 will allow the Gatineau mill to meet all interim federal and provincial regulations. A secondary treatment system, to be completed in 1995, will allow the mill to meet the new federal and provincial government effluent quality standards.

The completion in 1992 of a new power boiler, which burns waste bark and sludge as well as natural gas, resulted in full compliance with air quality standards. An electrostatic precipitator was included to remove suspended particulates from the boiler stack.

Solid wastes, primarily non-hazardous ash and wood residue, were disposed of by a certified contractor at a privately-owned authorized site.

Power boiler – Gatineau mill





**La Tuque – Pulp and Paperboard**

In 1992, the mill at La Tuque, Quebec continued to experience difficulties in consistently meeting provincial government requirements for BOD and TSS. The higher levels of BOD and TSS were due to excessive water use, black liquor discharge, and lack of adequate spill control. An on-going program for BOD and water reduction was implemented with significant decreases achieved late in 1992.

With respect to air emissions, one of the three recovery boilers met government requirements but the remaining two were unable to comply with

TRS and particulate limits. Using an electrostatic precipitator, the lime kilns met all provincial requirements.

Solid wastes from the La Tuque mill, consisting of non-hazardous wood residues, were reduced by 28% and disposed of at an approved CP Forest landfill.

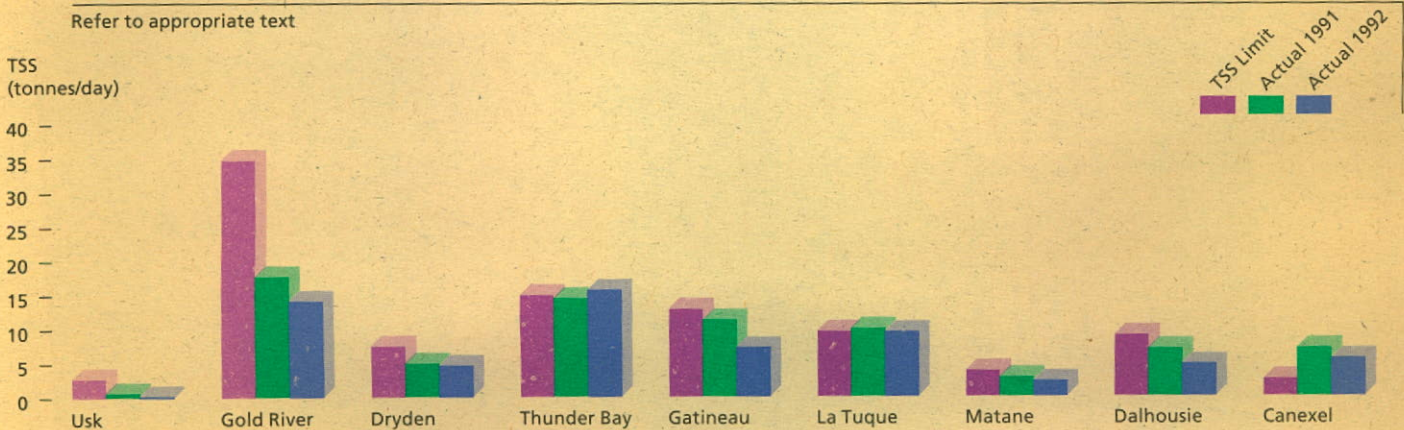
Due to the age and design of the mill, the La Tuque complex poses the greatest challenge for the Company in meeting environmental requirements. The future mission of the La Tuque mill is presently under review and alternatives for the modernization of the mill, including environmental treatment, are being evaluated in order to respond to the 1995 federal and provincial requirements.



Solid waste disposal site – La Tuque mill

**Effluent Quality – TSS**

Refer to appropriate text





### Matane – Corrugating Medium

The Matane, Quebec mill complied fully with TSS requirements in 1992 and continued to operate under an agreement with the provincial government allowing an elevated level of BOD while new process equipment is being installed.

The installation of equipment to recycle up to 50% old corrugated containers was completed in January 1993 and will reduce BOD by 35%. The

installation of additional equipment to recycle 100% old corrugated containers by April 1993 will further reduce BOD levels to meet interim government standards.

A secondary treatment system will be required to meet new provincial and federal regulations by 1995.

The Matane mill was in full compliance with air quality requirements in 1992.

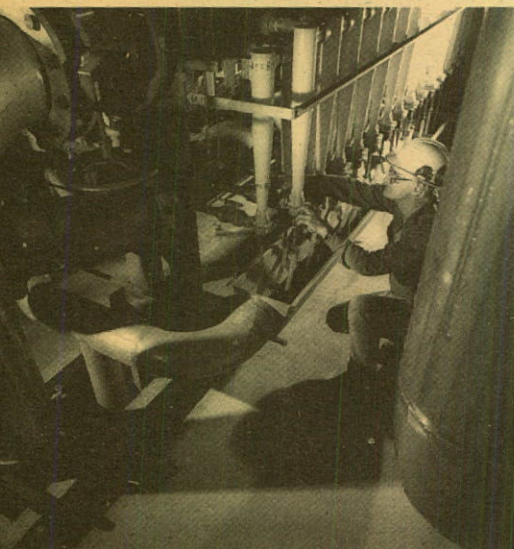
Solid wastes, disposed of at an approved CP Forest site, will be reduced significantly as the mill converts to 100% recycled material.

### Dalhousie – Newsprint

With the exception of two minor variances, the NBIP Forest Products Inc. newsprint mill at Dalhousie, New Brunswick operated in full compliance with BOD and TSS effluent regulations in 1992. Effluent volume was reduced in 1992 with the closing of two paper machines. Secondary treatment is planned in order to comply with new federal requirements by the end of 1995.

Modifications to the power boiler reduced suspended particulate emissions in 1992 but consistent compliance was not achieved. Improvements are being made in the dewatering of sludges so that these wastes will burn more completely and further reduce particulate emissions.

Construction began in 1992 on a new, approved disposal site for solid wastes consisting of boiler ash and waste wood residues. The new site will commence operation in 1993. Solid wastes were reduced by 60% in 1992.



Recycling plant centrifugal cleaners –  
Matane mill



## Air Emissions – Particulate

Refer to appropriate text

mg/Nm<sup>3</sup>

1000 —

800 —

600 —

400 —

200 —

0 —

Gold River  
Recovery  
Boiler

Gold River  
Power  
Boiler

Gold River  
Lime  
Kiln

Gatineau

Dalhousie

Provincial  
Limit  
Actual

## Canexel – Wood Products

The Canexel plant in East River, Nova Scotia, which produces hardboard siding, door skins and wall panelling, operated in full compliance with BOD regulations in 1992, but was unable to meet the TSS standard. The plant installed a new sludge-handling facility in 1992 to remove solids for disposal at the Company's authorized landfill site. To meet TSS requirements, additional engineering was commissioned to modify Canexel's primary and secondary treatment facilities by mid-1993.

The Canexel plant complied with all air quality regulations but is continuing to target further reductions in suspended particulates and fly ash which constituted an occasional nuisance.

Improvements were made in 1992 in the management of Canexel's authorized site for disposal of solid wastes. Waste materials were compacted and covered on a regular basis.

In 1992, solids wastes were reduced by 15%. An on-site quarry, which was previously used to store sludges, was closed and a rehabilitation program undertaken.

## Effluent Quality – BOD

Refer to appropriate text

BOD  
(tonnes/day)

60 —

50 —

40 —

30 —

20 —

10 —

0 —

Usk

Gold River

Dryden

Thunder Bay

Gatineau

La Tuque

\*Matane

Dalhousie

Canexel

BOD Limit  
Actual 1991  
Actual 1992

\*Agreement with the  
ministère de l'Environnement du Québec

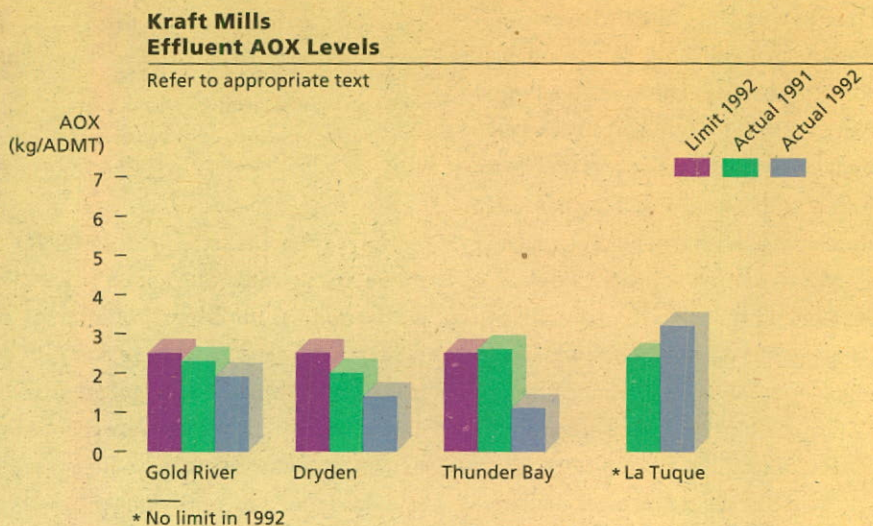


## Chlorinated Organics (AOX)

In 1992, CP Forest continued to reduce the levels of chlorinated organics (AOX) in mill effluent. Based on current scientific knowledge, levels below 2.5 kg per tonne have minimal environmental impact. CP Forest is committed to levels well below 2.5 kg per tonne.

Bleaching with chlorine and/or chlorine compounds, which contributes to AOX levels, remains an essential part of the paper-making process. As well as whitening the finished product, bleaching provides strength and uniformity to the paper, both of which are important quality requirements for customers.

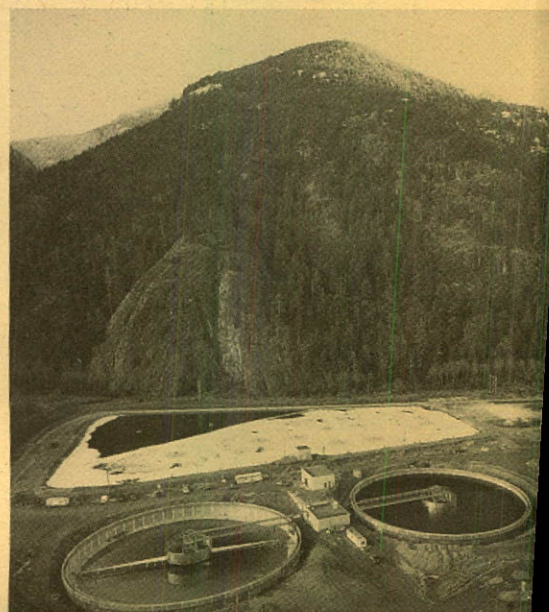
Throughout its operations, CP Forest continued to use chlorine dioxide substitution in order to reduce the use of elemental chlorine in the bleaching process. The Company's facilities met all applicable government requirements for AOX. Chlorine dioxide substitution and/or secondary treatment produced significant AOX



reductions at the Gold River, Thunder Bay and Dryden mills. Higher substitution of chlorine dioxide at the La Tuque mill in 1993 will further reduce present AOX levels to meet the new provincial requirements.

CP Forest will continue to use this technology (chlorine dioxide substitution) as a basis for control of chlorinated organics. In addition to this commitment to chlorine dioxide substitution, CP Forest continues to work with universities and other research facilities to seek out and evaluate alternative technologies, including enzymes, in order to meet customer requirements for competitively-priced, quality products while maintaining environmental protection.

Secondary effluent treatment facility – Gold River mill





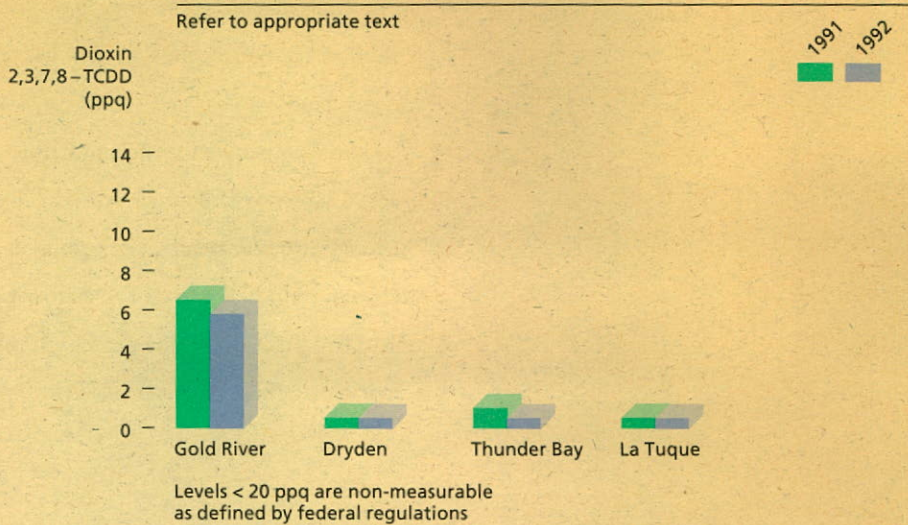
**Dioxins and Furans**

New federal regulations require non-measurable levels of dioxins (less than 20 parts per quadrillion) and furans (less than 50 parts per quadrillion) in pulp mill effluent by January 1994. CP Forest's kraft-pulp mill operations achieved those levels in 1991 and, in 1992, dioxin levels were reduced consistently to below 1 ppq at the Thunder Bay, Dryden and La Tuque mills. The Company remains committed to achieving and maintaining similar levels at all facilities.

Research has shown that in some cases, such as that of the Gold River mill, a portion of the furan content in mill effluent is produced through the burning of bark which has been exposed to the natural chlorine in sea water. Some of these furans, which are produced in the same way during forest fires, appear in the mill's effluent as naturally-occurring compounds. The Company is working with other B.C. coastal mills and PAPRICAN to determine solutions to this problem.

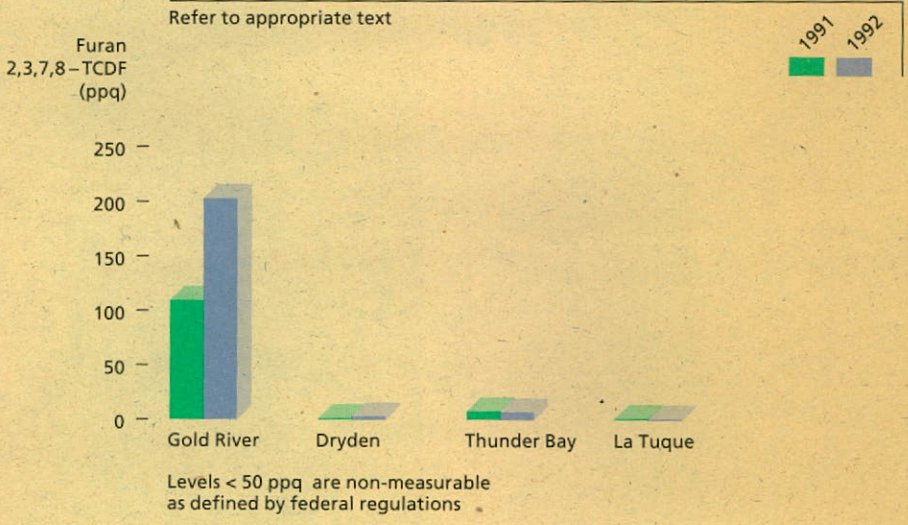
**Kraft Mills  
Effluent Dioxin Levels**

Refer to appropriate text



**Kraft Mills  
Effluent Furan Levels**

Refer to appropriate text







## Forest

## Management

CP Forest has long been a leader in the sustainable harvesting of Canada's forests. By carefully planning and conducting operations to protect the woodlands, the Company recognizes the commercial, recreational and ecological importance of forested lands.

The Company's foresters in British Columbia, Northwestern Ontario, Quebec and New Brunswick work in close partnership with governments to ensure the long-term management of resources. The Company's forest operations involve 11 million hectares, the majority of which are public lands. This represents only a tiny fraction of one percent of the forested land which covers half of Canada's landmass.



Second growth forest – Cowichan woodlands





## Harvesting Practices

In British Columbia, where the majority of operations are on Vancouver Island, the Company harvests close to 2.4 million cubic metres of wood annually.

Clearcutting, which is a common practice in many countries including Sweden, remains the safest, most economically and environmentally appropriate method of harvesting and regenerating coastal forest sites. In some areas, CP Forest uses selective thinning techniques to enhance the level of management of second-growth forests.

In 1992, the Company introduced a portable debarker and chipper to process pulp logs into chips for the Gold River pulp mill, thus making

optimal use of small diameter tops. By chipping in the woods at Lake Cowichan and Gold River, the Company was able to recover 20,000 cubic metres of previously unused wood. The Company continues to examine alternative harvesting systems, particularly in B.C., to further reduce the environmental impact of logging roads.

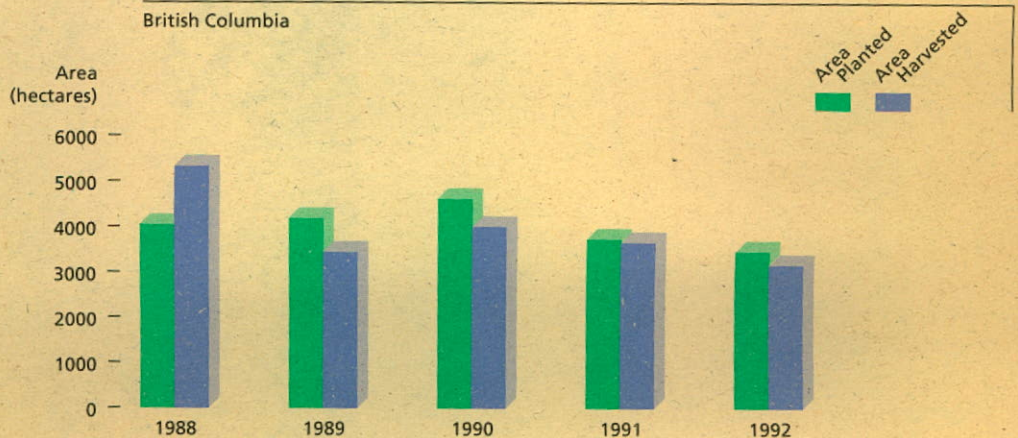
In Northwestern Ontario, where the Company harvests more than 2.5 million cubic metres of black spruce, jackpine and poplar from the boreal forest, the use of full-tree chipping has allowed salvage in areas heavily infested by spruce budworm which results in better utilization of the forest stands. In addition, CP Forest continued a major operation to salvage blowdowns in 1992, recovering fibre that would otherwise have been lost to fire or insects.

In Quebec, where the annual harvest was 344,360 cubic metres last year, and in New Brunswick, where the annual harvest was 644,187 cubic metres, the Company made extensive use of chips and sawdust through arrangements with sawmills.

CP Forest ended the practice of floating logs on the Gatineau and Saint-Maurice Rivers in Quebec and on the Restigouche River, bordering Quebec and New Brunswick, and began clearing the banks of these waterways to improve conditions for fishermen and boaters.

## Forest Management Area Planted vs Area Harvested

British Columbia





### Protection of Habitats



A dramatic population increase

The protection of fish and wildlife habitats is an important element in the long-range planning and daily activities at all CP Forest operations.

In British Columbia, where extensive programs of stream bank protection and erosion control are implemented to preserve fish habitats, a government report was issued in 1992 which was critical of industry practices on Vancouver Island. While the Company disagrees with some of the conclusions, corrective action was taken and additional audits were initiated on more than 500 harvest blocks throughout the Company's coastal operations. The result of the process has been a clearer understanding of current performance and a higher level of stream protection at all on-going operations.

The Company continued to work closely with governments to protect critical habitat for grizzly bears, mountain goats, Roosevelt elk, deer and other animals.

In Northwestern Ontario, CP Forest has reduced the size of harvest blocks and their distribution as an integral part of operations to protect the natural habitat for moose and the nesting sites of heron, osprey, hawk and owl. One indicator of the success of these efforts is the dramatic increase of the bald eagle population in the last decade.

In Quebec, the Company leaves 20 metre-wide buffer strips along lakes and permanent water courses to protect the fish habitat and to maintain a





Planting species favourable for deer habitat



riparian forest cover for the numerous wildlife species living in this environment. To ensure that moose can safely travel in the mosaic of cut and uncut patches of mature forests, green belts of standing timber of at least 60 metres are left between adjacent clearcut areas. These belts provide the required hiding cover for the moose. They can be harvested only when the adjacent

areas are well regenerated. In New Brunswick, areas traditionally used by deer were planted with a mix of white spruce, cedar and black spruce, species favourable to deer habitat. Specific forest areas were left unharvested to protect marten populations.



## Public Consultation, Multiple Use of Forests

CP Forest practices a policy of extensive public consultation with various users and stakeholders, including native peoples.

Thousands of kilometres of logging roads are open to the public for recreational activities, and visual impact assessments are an important element of harvesting plans.

During 1992, CP Forest became a signatory to the Principles of Sustainable Forestry, an initiative of the Forest Alliance of British Columbia. The principles establish a comprehensive standard for the planning and implementation of all forest-based activities, ensuring environmental protection and economic stability.

The Company's various interactions with the public in British Columbia included the development in 1992 of the Nootka Sound Stability Zone concept, designed to ensure the social, economic and environmental stability of the Nootka Sound area. A key component is the involvement of the communities of Gold River, Tahsis and Zeballos, as well as local native bands, in local decisions concerning the allocation and management of all resources.

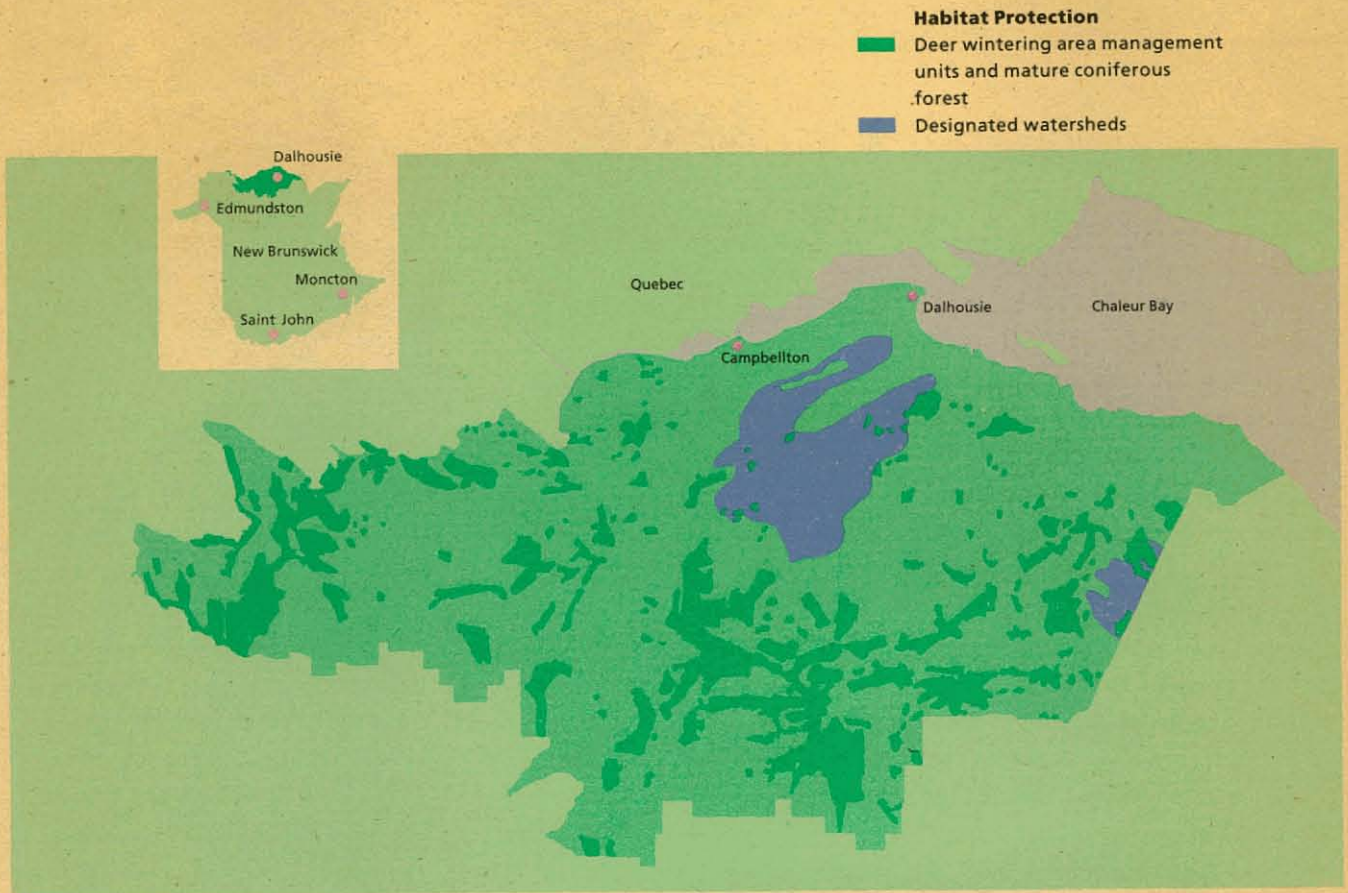
In Northwestern Ontario, the planning of forest management activities on Crown land involved extensive consultations with all forest user groups, including direct contact with native peoples, tour operators, local anglers, hunters, trappers, other resource extraction companies, and cottagers.

In Quebec, where legislation requires public consultation for five-year and twenty-five-year forest management plans, CP Forest has joined the industry in developing a more extensive consultation process to better integrate the needs and concerns of other users. Representatives of hunting and fishing associations have been informed regularly of the Company's plans; some of these plans were modified, when required, to respect recreational needs. The Company has also begun the preparation of the first twenty-five-year forest management plan required under the Forest Act enacted in 1986. Some of these plans are due in April 1993 and the others will follow in April 1994.

Managing the forest for multiple use







The Dalhousie woodlands division is responsible for the management of the Lacroix freehold in Quebec, which supports one of the highest moose populations in the Gaspé peninsula. With the collaboration of the Quebec Ministry of Recreation, Hunting and Fishing, and of the *Coopérative d'exploitation des ressources fauniques de la Vallée de la Matapédia*, moose hunting on this freehold is controlled. About 200 hunters are chosen by lottery each year, and are given a specific zone in which to hunt. Hunter density is maintained at an optimum level. The moose population seems to be prospering, based on the gradual

increase of the hunter success rate from 66% in 1986 to 90% in 1992. In the planning process for forest management activities, special care is given to protect areas heavily utilized by moose, such as moose calving areas and salt licks, and to leave uncut patches within each harvested area for hiding cover and for winter use. The local community benefits from this wildlife management approach through sustained seasonal demand for lodging, food and sporting goods.

#### **NBIP Forest Products Inc. License**

The Deer Wintering Area Management Units (DWAMU) and the Mature Coniferous Forest Habitat (MCFH) comprise a total of 79,000 ha. This area is managed for wildlife habitat and all activities within it are specified within their twenty-five-year Management Plan.

The "Designated Watersheds" comprise 30,000 ha. They are managed in such a way as to protect the water supply of the surrounding villages.

The areas mentioned above may be harvested using selective cuts, patch, or small clear cuts.



## Research

CP Forest operates a world-class research facility and tree nursery at Saanichton, B.C., specializing in genetics and tree improvement. As a result of 30 years of an operational tree improvement program, the Company succeeded in establishing a second generation Douglas fir seed orchard.

In British Columbia, almost all of the Douglas fir and half of the hemlock seedlings planted in 1992 were from genetically-improved seed. This is a direct result of our long-term commitment to our tree improvement program launched in the early 1960s. CP Forest is always looking for new ways to reduce insect problems. At the Saanich orchard, seedlings are treated with Safer's insecticidal soap, and birds and ladybugs are used as natural predators in protection programs.



World-class silvicultural research –  
Saanich Forestry Centre

In Northwestern Ontario, cooperative tree improvement programs included the maintenance of seed orchards for spruce and jackpine. These seed orchards will supply improved seed for establishing future forest plantation. Aerial spraying of herbicides has been replaced by ground application in specific situations and locations as part of CP Forest's policy that the safe and judicious use of licensed and registered herbicides assists natural regeneration.

At Harrington, Quebec, the Company produced most of the seedlings for its eastern replanting program. In addition, the Harrington forestry centre maintains a seed orchard and gathers cones for reforestation. The centre also develops forest management plans for the Company's private lands in the Harrington area.

Producing seedlings for  
reforestation operations





Forest Renewal

CP Forest employs a variety of practices for forest renewal and forest tending, including planting and natural regeneration as well as thinning techniques to ensure that trees are not overcrowded.

The careful use of seedlings in areas which have been selectively harvested contributed to realizing CP Forest's commitment to the principles of biodiversity and sustainability. By maintaining a patchwork of cut-and-leave areas and by planting many species, CP Forest ensures that biological diversity is maintained.

The Company ensures the long-term sustainability of forest resources through silvicultural research and extensive reforestation. CP Forest replanted more than 27 million trees in 1992 as part of its reforestation program. In British Columbia more than 90% of logged areas were replanted within 18 months of harvesting.

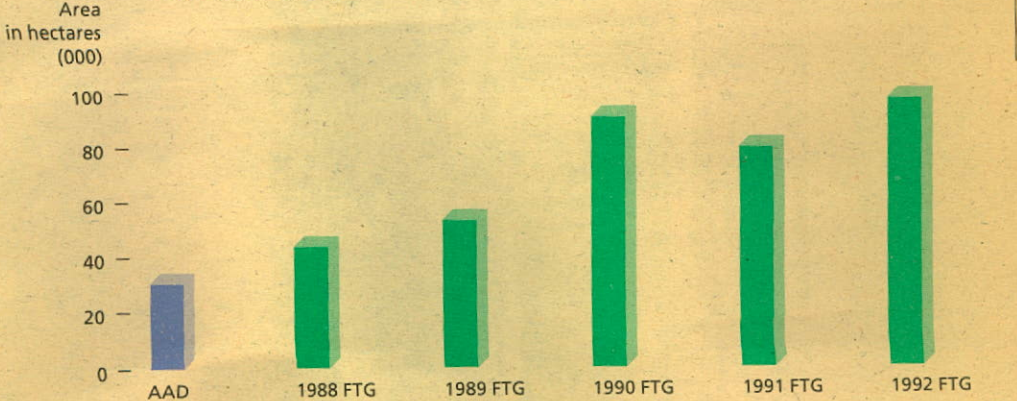
In Northwestern Ontario, when a regenerating area meets the required height and stocking conditions, the Ontario Ministry of Natural Resources (O.M.N.R.) approves the area as "Free-to-Grow". These areas can then be added back into the inventory and included in the Allowable Annual Cut calculations. Concerted efforts by the Company and O.M.N.R. staff to

survey past regenerating areas have resulted in over 368,000 hectares being declared "Free-to-Grow". This is almost twice as much area as the area harvested and lost to fires, insect damage, etc., from 1988 to 1992. These excellent results from silvicultural work will ensure future wood supplies for CP Forest and will benefit other forest users.

More than 27 million seedlings planted in 1992



Forest Management  
Areas Declared "Free-To-Grow" vs Average Areas Depleted  
Northwestern Ontario







## Recycling

CP Forest invested in new technologies and procedures at its Thunder Bay and Gatineau mills to become North America's largest producer of post-consumer recycled-content newsprint. The Company also expanded its use of old corrugated containers at the Matane facility and announced plans to use recycled pulp in the manufacture of white paper at the Dryden mill.

With the new deinking facilities fully operational, the CP Forest mills at Thunder Bay and Gatineau can produce 900,000 tonnes of recycled-content newsprint every year, thus

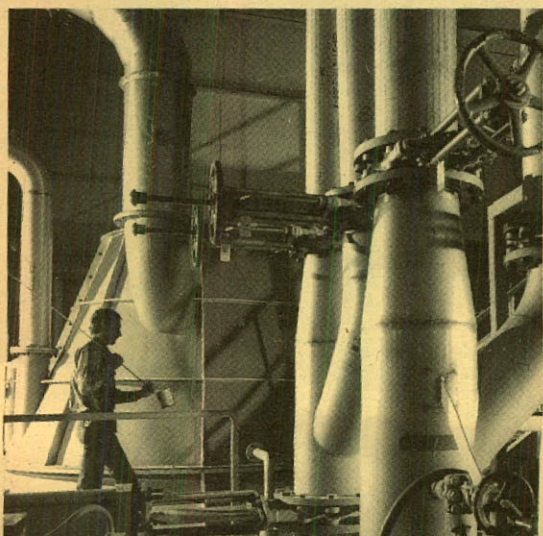
removing from the waste stream some 330,000 tonnes of old newspapers and magazines. By using materials gathered in the cities of Eastern Canada and the United States where CP Forest sells its products, the Company has created an environmental loop of use and reuse of the forest fibre.

Totalling \$175 million, the investments at the Thunder Bay and Gatineau mills are a clear indicator of CP Forest's long-term commitment to customer and environmental needs. At the Matane facility, equipment was installed in 1992 to permit up to 50% content of old corrugated containers and additional equipment will bring the content up to 100% in 1993.



330,000 tonnes of old newspapers and magazines out of the waste stream

Pulper – Gatineau deinking plant





## **Environmental Audits**

As part of its continuing commitment to promote responsible environmental management, CP Forest implemented a company-wide environmental audit program in 1992.

The internal auditing process helps to identify areas for improvement in environmental management, expedite solutions, and increase environmental awareness among all CP Forest personnel.

The audits are intended to go beyond compliance with government regulations. They extend to CP Forest's own standards and practices which sometimes are more stringent than regulations or apply in non-regulated areas.

With the assistance of Arthur D. Little Inc., a well-recognized consulting firm in this field, CP Forest conducted audits in 1992 of facilities at Burlington, Thunder Bay, Dryden,

Gatineau and Gold River. All other CP Forest facilities, including forest operations, are scheduled for environmental audits in 1993.

The audits examine management and operational issues in the areas of air, water and solid waste, spill control, emergency response planning, and waste transportation. Following the audit, each facility develops and implements a comprehensive action plan.

All CP Forest operations will benefit from an environmental audit every two years. The process is expected to generate a broad exchange of knowledge among the various facilities as they compare experiences and develop solutions to environmental challenges.



## Glossary

**AOX** (Adsorbable organic halogens) Chlorine is a halogen which physically attaches to the surface of organic matter and is measured in kilograms per tonne of pulp produced. These substances are also referred to as chlorinated organics.

**Black liquor** When wood is cooked with chemicals to separate the fibres used to produce paper, lignins and other materials are concentrated in a liquid commonly referred to as black liquor. The chemicals are recovered for recycling and the black liquor is burned to produce steam for process use.

**BOD** (Biochemical Oxygen Demand) Oxygen consumed by organic matter breaking down in effluents.

**Deinking** A process to remove printing inks from old newspapers and magazines. Soaps and air are added to the fibre slurry. The resulting froth acts as an adhering medium for ink particles which are removed, dewatered and incinerated.

**Dioxins, Furans** Two complex classes of organic compounds formed during the bleaching process as by-products of the reaction between chlorine and the lignin in wood.

**Precipitator** A mechanical device used to efficiently remove suspended particles in an air stream. The device uses electrically-charged plates to attract the particles which are then mechanically removed.

**Primary Treatment** A wastewater treatment process utilizing chemical and physical properties to reduce suspended solids from effluents.

**Riparian** Area situated near a river or a body of water.

**Scrubber** A mechanical device used to remove suspended particles in an air stream. Fine water sprays are applied to the flue gas and the particles are removed in the resultant liquid effluent.

**Secondary Treatment** A wastewater treatment process using air or pure oxygen with microorganisms to reduce BOD, AOX and other potentially toxic components from effluents.

**Sludge** The solids composed mainly of wood fibre and inert organic and inorganic material, recovered from primary and secondary treatment and from the recycled newsprint process, is commonly referred to as sludge. It is burned for fuel value or used as a soil supplement.

**TMP** (Thermomechanical Pulp) Pulp produced using energy and steam to break down wood chips into smaller cellulose fibres that will be used to make paper.

**TRS** (Total Reduced Sulphur) Gases produced in the kraft process. They are primarily a combination of hydrogen sulphide, methyl mercaptans and dimethyl disulphides which are very odorous, with a smell like rotten eggs or cabbage.

**TSS** (Total Suspended Solids) A measure of the total amount of suspended solid matter found in effluents.



## The Environmental Challenge

CP Forest incorporates environmental protection in the Company's daily decision-making process.

Canadian Pacific Forest Products has responsibilities to customers, shareholders, employees and communities to protect the environment while producing quality products that meet or exceed customer requirements.

The Company's commitment to protecting the environment is founded on the belief that it has been entrusted with the stewardship of extensive renewable natural resources. Through its policies, procedures and research efforts, CP Forest remains abreast of new knowledge and technologies which create opportunities for the Company to resolve environmental challenges.

CP Forest remains open to comments and questions about the Company's environmental commitment.

For further information contact:

Canadian Pacific Forest Products  
Corporate Communications Department  
1155 Melcalfe Street  
Montreal, Quebec  
H3B 2X1

Phone: (514) 878-5061  
Fax: (514) 878-5071

Canadian Pacific Forest Products  
Corporate Environment Department  
2001 Neebing Avenue  
Thunder Bay, Ontario  
P7C 4W3

Phone: (807) 475-2652  
Fax: (807) 475-4801



This report was printed on 40% post-consumer recycled-content newsprint produced at the Gatineau mill and on Offset 140M, produced at the Dryden mill.