

# MAINE STATE LEGISLATURE

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STATE OF MAINE  
LEGISLATIVE RESEARCH COMMITTEE

FIRST SUMMARY REPORT  
TO THE  
ONE HUNDRED AND FIFTH LEGISLATURE  
VOLUME ONE

JANUARY, 1971



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January 1, 1971

To the Members of the 105th Legislature:

By statute the Legislative Research Committee is required to make or cause to be made such studies and investigations as the Legislature directs. In addition, the Committee is empowered to and has liberally exercised its own initiative by undertaking studies of matters pertaining to important issues of public policy and questions of state-wide interest. The Committee's ultimate objective is to assist the Legislature by submitting factual information pertinent to the questions involved along with such findings and recommendations for action or nonaction as the Committee deems desirable.

The Legislative Research Committee has inquired at great length and with serious purpose into those matters referred to it and hereby has the pleasure of submitting to you the first portion of its report on activities of the past two years. This report designated as Volume I deals with eight assigned topics and contains the findings and recommendations pursuant thereto. Reports relative to other matters ordered for study by action of the Legislature or undertaken by motion will appear in subsequent publications.

On behalf of the membership, I wish to express at this time our individual and collective appreciation to many individuals, organizations and persons in the service of the State whose assistance to the Committee in its studies and deliberations has made it possible to obtain information respecting the many problems confronting the Committee and without whose cooperation conclusions could not have been reached.

The members of the Committee also wish to express their appreciation for being chosen to participate in these assignments and sincerely hope the following reports will prove of benefit to the Members of the Legislature as well as the citizens of Maine.

Respectfully submitted,

A handwritten signature in cursive script that reads "William E. Dennett".

WILLIAM E. DENNETT, Chairman  
Legislative Research Committee

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STATE OF MAINE  
LEGISLATIVE RESEARCH COMMITTEE

REPORT ON WATERWAY USE FOR  
LOGS AND PULPWOOD  
to the  
ONE HUNDRED AND FIFTH LEGISLATURE

JANUARY, 1971  
Legislative Research Committee  
Publication 105-3

WATERWAY USE FOR LOGS AND PULPWOOD

WHEREAS, for over 200 years the rivers and streams of the State of Maine have been used for the commercial transportation of logs and pulpwood to feed the mills of the lumber and paper industry; and

WHEREAS, through purchase and legislative action certain legal rights have been acquired for such use; and

WHEREAS, through the continuation of such use the rivers and streams of the State have had deposited within them quantities of bark and sunken logs which have contributed substantially to the pollution load of such streams and rivers; now, therefore, be it

ORDERED, the Senate concurring, that the Legislative Research Committee is directed to study such practice, its effects on said streams and rivers, the alternative means of transporting said logs and pulpwood, possible time tables for eliminating or phasing out such river use, and the effect on whatever legal rights may presently exist by curtailing or limiting such practice; and be it further

ORDERED, that the State Department of Forestry and the Water and Air Environmental Improvement Commission be directed to provide the Committee with such technical advice and other assistance as the Committee deems necessary or desirable to carry out the provisions of this Order; and be it further

ORDERED, that the Committee report its recommendation, together with such proposed legislation as it may deem appropriate, to the next regular session of the Legislature.

HP 1470	House of Representatives	In Senate Chamber
Dam	Read and Passed	Read and Passed
Skowhegan	February 5, 1970	February 6, 1970
	Sent up for concurrence	In concurrence

## SUBCOMMITTEE ON WATERWAY USE FOR LOGS AND PULPWOOD

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As stated by preamble of a joint legislative order, the rivers and streams of the State of Maine have been used for the commercial transportation of logs and pulpwood to feed the mills of the lumber and paper industry for over 200 years. In conjunction with this, through purchase and legislative action certain legal rights have been acquired for such use. Therefore, through the continuation of such use the rivers and streams of the State have had deposited within them quantities of bark and sunken logs which have contributed substantially to pollution loads. Against this background the One Hundred and Fourth Legislature in its First Special Session passed the above mentioned order, house paper 1470, directing the Legislative Research Committee to study this practice, its effects on said streams and rivers, the alternate means of transporting logs and pulpwood, possible time tables for eliminating or phasing out such use of the waterways and the effect on whatever legal rights may presently exist by curtailing or limiting such practice.

Pursuant to this directive the committee conducted an intensive investigation, including a public hearing on April 14, 1970, an aerial inspection and numerous conferences involving various state agencies, the logging industry and concerned citizens.

The Committee found that in most instances river driving in the State of Maine, in spite of its colorful heritage, is fast giving way to other methods of transporting logs and pulp to the mills. According to testimony of a spokesman for the Great



Northern Paper Company the firm has stopped driving various streams and brooks but has been driving between 100,000 and 175,000 cords a year down the West Branch of the Penobscot River to two mills. Further testimony revealed that the Great Northern was the only company using the waters of the West Branch to drive logs and that by 1972 or 1973 at the latest, the firm will give up log driving on the West Branch and that all their wood will go into the mills by train or truck.

Although such articles as "Great Northern's Last Big Pulpwood Drive"<sup>1</sup> and "The Last Log Drive in the Nation May Already Have Happened in Maine"<sup>2</sup> taken in conjunction with testimony received by the Committee seem to reflect a declining trend, one can still observe full scale river driving operations in several parts of the State. In respect to this, the Committee received testimony from the Maine Department of Inland Fisheries and Game that, based on their research<sup>3</sup>, pulp driving on the Kennebec River has more than doubled in the past 30 years. "The 1965 to 1967 drives were two to three times those of the early 1960's and an even greater multiple of the drives of the 1950's." The Committee was informed by the logging industry that approximately 330,000 cords of pulp a year are presently being transported

1. Down East, October 1970, page 35.
2. Maine Times, May 9, 1969 and "The Machias River Log Drive", Down East, May 19, 1966, page 23
3. Fish Management in the Kennebec River, Maine Department of Inland Fisheries and Game Fishing Bulletin No. 8, page 43.

down the Kennebec River by the Kennebec Log Driving Company.<sup>4</sup>

Of the three major river drives left in the State, namely on the waters of the Kennebec, the West Branch of the Penobscot and Machias Rivers and their tributaries, a comparison of current volumes, population of surrounding area, distance of the drives and other interests affected, point to the Kennebec as the major area of controversy.

In the testimony the Committee found on the one hand a large segment of concerned citizens who felt that the Kennebec River, being a principal artery of the State some 200 miles in length, has unlimited recreational and business potential but as it exists today due to pollution by pulp, sawdust and bark deposits and logging operations, it is closed and locked away from use by the public. It was contended that this unjust situation deserves consideration, particularly at a time when the State is actively supporting landmark environmental laws and is expecting citizens to pay off 50 million dollars in bonds for municipal pollution abatement facilities to clean up a river that they cannot use.

4.	Kennebec Log Driving Co..P&SL	Ch.		P&SL	Ch.
	Incorporated.....	1835	590	Booms.....	1852 638
	Amended.....	1838	496		1859 352
		1843	81		1881 138
		1869	216		1893 431
		1879	171		1903 250
		1885	402		
		1887	109	Moose River drive,	
		1917	13	purchase of.....	1921 2
			14		1925 1
		1921	2	Overlayings.....	1881 125
		1925	7	Prize logs.....	1837 313
	Authority extended.....	1839	530		1838 496
		1845	242		1846 381
		1852	531	Rafting at Sands boom.	1856 626
				See also Resolves of	
				1876	

In support of their position, documented evidence and testimony submitted to the Committee tended to show that out of 300,000 cords of pulpwood placed in the river 4% sinks or that approximately 12,000 cords of wood go to the bottom each year. In addition to wet storage of pulp all winter long in certain parts of the river, the drive on the Kennebec lasts from ice out until August 26th. At one location the entire river is jammed full of pulp 4 to 5 miles in length and remains that way year round. Wyman Lake, Indian Pond and the flowage above Shawmut Dam in Fairfield and other sections of the river are often jammed from shore to shore with pulpwood, preventing navigation by boat and use for fishing, waterskiing, water fowl hunting and other recreational uses. The Kennebec River is used by the paper mills as a debarking process and is a suspension of polluting bark fibres over its entire bottom, reaching over 2 feet in depth in some places. Sunken logs and other obstructions have a detrimental effect on fish population and other aquatic life. Navigation for business or pleasure is virtually impossible due to the hazzard of floating logs. Bulldozing the outflowing logs back into the river causes erosion of banks and siltation on the river bottom, and camp owners are deprived full use of their beaches and waters fronting their camps. There is technical knowledge which makes land transport of pulp reasonable and would not undermine the economic base of the towns dependent upon the paper industry for their living. In closing it was their feeling that the logging industry had the right to use the river but their charter had been abused over the years to

the detriment of other users who perhaps offered even greater potential.

On the other hand the Committee heard testimony from logging interests that they were very much aware of the public's concern about the responsibility to protect the environment as well as their obligation to avoid unreasonable interference with the rights and privileges of others. They felt the public should know that they are actively studying alternate systems of transporting and processing wood with a view to eliminating the major log drive from the Kennebec River as soon as practicable. It was also pointed out that the Kennebec River was a vital factor in the origin and location of a mill for it provided water power to run the mill and a water highway on which raw material could economically be supplied. The river has also extended a strong influence on the acquisition of forest lands to support the mills as well as the design of handling and processing facilities to fit this mode of transportation. As mill operators are currently oriented toward and influenced by the Kennebec River a switch to another method of transporting raw materials presents a number of complex problems at all phases of operation from the forest to wood preparation facilities. The problem is further complicated by the fact that rail facilities are limited and do not effectively serve the timberlands. The only real alternative now available other than the use of the river would be to haul the wood by truck. Although the Great Northern Paper Company plans to use this method on its own private road system in the near future it is impracticable to extend such a road system to Kennebec Valley mills because of the

great distance involved and extensive intervening private ownerships. Therefore, the only course open is the public roads and the potential effect of this added truck transportation on these highways is a matter of concern.

Beyond these findings the Committee sought the assistance of the Attorney General's Office and the Environmental Improvement Commission as to specifics contained in the Order and advanced through the testimony.

In response to a series of questions submitted by the Committee to the Office of the Attorney General the following opinions were rendered:

Question #1:

Is total obstruction to navigable passage either through the process of moving or storage of logs permissible on nontidal rivers and streams of this State?

Question #2:

If the answer to Question #1 is affirmative, are there limitations as to time and does a duty arise to give public notice?

Question #3:

If the answer to Question #1 is negative, what is the legal obligation of all waterway users in respect to assuring navigable passage?

Answers:

While it is possible to conceive of a situation where total obstruction is permissible, no definite rule can be set forth. The rule in Maine appears to be that the public has an

easement in and to all navigable<sup>5</sup> waters and there can be no unreasonable interference with that public right. Maine cases speak of these public rights as being held by the State in trust for the public [State v. Leavitt, 105 Me. 76, 79, 72 A. 875, 876 (1909)] and of the public having an easement to use water courses in particular ways [Smart v. Aroostock Lumber Co., 103 Me. 37, 47, 68 A. 527, 531 (1907)]. The rule is perhaps best set forth by the court in the case of Davis v. Winslow, 51 Me. 264 (1863):

"The general doctrine . . . in reference to the use of navigable rivers, or public streams, as public highways, is, that each person has an equal right to their reasonable use. What constitutes reasonable use depends upon the circumstance of each particular case; and no positive rule of law can be laid down to define and regulate such use, . . . In determining the question of reasonable use, regard must be had to the subject matter of the use, the occasion and manner of its application, its object, extent, necessity, and duration, and the established usage of the country. The size of the stream, also, the fall of water, its volume, velocity and prospective rise or fall, are important elements to be taken into account. The

5. Navigable rivers and streams are defined in Maine as those "in which logs can be floated" Stearns Lumber Co. v Penobscot Bay Electric Co., 121 Me. 287, 116 A. 734 (1922).

same promptness and efficiency would not be expected of the owner of logs thrown promiscuously into the stream, in respect to their management, as would be required of a shipmaster in navigating his ship. Every person has an undoubted right to use a public highway, whether upon the land or water, for all legitimate purposes of travel or transportation; and if, in doing so, while in the exercise of ordinary care, he necessarily and unavoidably impedes or obstructs another temporarily he does not thereby become a wrongdoer, his acts are not illegal, and he creates no nuisance for which an action can be maintained.

" . . . , shipmasters and boatmen, in receiving, transporting and delivering their cargoes, raftsmen, in managing their rafts, river drivers, in running logs, and mill owners, in securing them, oftentimes, of necessity, require so much of a highway as temporarily to obstruct it; but, in such cases, they must so conduct themselves as to discommode others as little as is reasonably practicable, and remove the obstruction or impediment within a reasonable time, having regard to the circumstances of the case; and, when they have done

this, the law holds them harmless."

51 Me. at 297.

However, it should be noted that in Smart v. Aroostook, 103 Me. 37 (1907), the Court stated:

"No circumstances can be supposed which would authorize an individual to convert a navigable stream into a place of deposit for logs or other materials so as to permanently obstruct navigation." 103 Me. at 47.

The question as to "limitations of time" obviously cannot be answered by stating a rule. The best that can be done is to look at the cases.<sup>6</sup>

The question as to "duty (of) public notice" has not to our knowledge been resolved. We have found no cases wherein the "duty of notice" was required or discussed. However, it would appear that there may be a duty of public notice arising out of the common law tort doctrine of due care. We understand that as a matter of common practice, logging companies do give public notice of their forthcoming drives.

Question #4:

Since obstruction to navigable passage can take many forms, from several miles of floating logs bank to bank, to a single boom stretched to opposite banks, what constitutes an obstruction to navigable passage in a legal sense, and can floating logs during the course of several months of a river drive be considered such an obstruction to passage?

6. See the examples given on pp. 40 and 41.



**Answer:**

An obstruction to navigable passage is best defined by looking to the case law for examples:

Season storage of logs on a part of Moose River so as to completely block the river held unreasonable.

McPheters v. Moose R. Log Driving Co., 78 Me. 329 (1886).

Storage of logs on Presque Isle Stream so as to prevent plaintiff from canoeing through a 5 mile section held unreasonable.

Smart v. Aroostook Lumber Co., 103 Me. 37 (1907).

Obstruction of Union River by logs so as to prevent plaintiff from navigating his logs on the river held unreasonable.

Brown v. Black, 43 Me. 443 (1857).

Obstruction of Kennebec for 20 days by a boom so as to prevent plaintiff from conveying sand and ballast down river held unreasonable.

Dudley v. Kennedy, 63 Me. 465 (1874).

Not unreasonable to use temporary guide booms for channelling logs into a mill pond where the booms do not obstruct passage; but it would be unreasonable to obstruct the passage by raising the bed or narrowing the channel.

Veazie v. Dwinal, 50 Me. 479 (1862).

If a man wishes the use of a stream and no other person wants it, he may encumber it in a way not permitted for a moment when others at the same time need the use.

Bearce v. Dudley, 88 Me. 410 (1896).

Dam which had been in place for 72 years deemed to be a nuisance when plaintiff's logs were obstructed.

Knox v. Chaloner, 42 Me. 150 (1856).

Slabs and waste from a sawmill thrown into the Androscoggin River held to be unreasonable obstruction when it interfered with plaintiff's mill operation.

Gerrish v. Brown, 51 Me. 256 (1863).

Unreasonable obstruction to maintain a boom across the whole expanse of the Penobscot River.

Plummer v. Penobscot Lumbering Assoc.,  
67 Me. 363 (1877).

No cases were found concerning the public's right to use streams and rivers for swimming, fishing, waterskiing, etc., but language found in Smart v. Aroostook Lumber Co., 103 Me. 37, 68 A. 527 (1907) that "Navigability for pleasure is as sacred in the eyes of the law as navigability for any other purpose" would appear to be broad enough to establish the public's right to the use of these rivers and streams for recreational purposes.

Thus it can only be said that whether an obstruction is actionable depends upon the use to which the river or stream is being put by others, the use to which the river or stream is being put by the obstructor and the extent of interference, all of which must be looked at on a case by case basis.

Question #5:

What legal remedies are available to aggrieved persons from obstruction of navigable passage and recourse against whom?

Answer #5:

The remedies available to aggrieved parties are of a common-law type rather than of a statutory type. (While 17 M.R.S.A. § 2802 does declare "obstructing or impeding, without legal authority, the passage of any navigable river. . . ." to be a public nuisance, but the remedy is a common law action.)

One remedy available to an aggrieved party is an action for negligence. For example, the Court in Kennebec Towage Co. v. State, 142 Me. 327 (1947), states that to leave a concealed and unprotected underwater obstruction in a navigable channel is actionable negligence.

Private actions will also lie for both public and private nuisances. The aggrieved party must however show special damages, i.e., damages unique to him and not merely to the community at large. See Smart v. Aroostook, 103 Me. 37 (1907); Dudley v. Kennedy, 63 Me. 465 (1874); Low v. Knowlton, 26 Me. 128 (1846).

A private individual in the exercise of the public right of navigation may remove an obstruction to navigation and recover the cost of the removal from the person causing the obstruction. See: Brown v. Chadbourne, 31 Me. 9 (1849).

Recourse by the aggrieved party would be against the party or parties who are the proximate cause of the damage sought to be redressed. Under commonly accepted principles of agency law, a principal is liable for any tort committed by his agents acting within the scope of their authority. Thus, for example, an aggrieved party may either sue the logger who started the actual drive or the company for whom he works, or both.

Questions #6 and #7:

What, if any, liability attaches to river drivers, wood owners, woodcutters or controlling water companies, or others, for damage to both personal and real property as a result of logging operations on nontidal rivers and streams?

Is there any legal obligation at any point during, or a reasonable time after, a log drive to clear beaches and camp lots of nonfloating logs and to remove navigable hazards such as sunken deadheads and accumulations of bark within the waterway?

Answer:

As stated in the Answer to Question #5, the party causing the damage to either personal or real property is liable for those damages. While it is legally possible to bring an action for damages against the driver or anyone else whose act was the "proximate cause" of the damage, in most instances action will and should be brought against the logging company, i.e., the company directing the logs to be driven down the river, rather than its agents or servants.

38 M.R.S.A. §§ 974, 976 and 977 provide a statutory scheme for the legal adjustment of the rights of the log owners and the property owners.

Section 974 provides that the owner of logs may enter upon any "mill, mill-brow, boom or raft of logs or other timber in search of such lost property".

Section 976 provides that logs or other timber lodged upon lands adjoining any waters are forfeited to the owner or occupant thereof after two years if during such time the lands

were improved, otherwise after six years. However, the land owner must advertise within one year after finding the logs.

Section 977 provides that the owner of the timber may enter on lands whereon his timber is lodged and remove it at any time before forfeiture. However he must have previously tendered to the owner of the lands, a reasonable compensation for all damages.

There appears to be no statutory requirement or obligation upon a party who has caused logs to come upon beaches and camp lots or to sink and thus create navigation hazards to remove these logs from the beaches, lots or waters. However, an action for a mandatory injunction could result in an order by a court to such a party to abate the particular public or private nuisance, in addition to awarding compensation for actual damages.

Secondly there is a common law duty to remove hazards to navigation, but this duty is only one for which a party would be liable in damages for negligence if some other party were damaged and is thus not a duty in the affirmative sense of the word.

Question #8:

Within the context of the Environmental Improvement Laws, MRSA, Title 38 or other reference, is additional language necessary to regulate and control bark pollutants resulting from storage of logs within waterways over extended periods of time and runoff from uncovered stock piles of bark?

Answer:

Yes. 38 M.R.S.A. §416 prohibits the placing or depositing "in the inland waters or tidal waters of this State, or on

the banks thereof so that the same shall fall or be washed into such waters, any slabs, edgings, sawdust, chips, bark, or shavings created in the manufacture of lumber or other wood products." The statute goes on to prohibit the discharge of "grease, oil, gasoline, kerosene or related products", and then goes on to provide that the Environmental Improvement Commission may, if the polluter refuses to do so, arrange for the removal of such "grease, oil, gasoline, kerosene or related products" and charge the expense of such removal against the polluter. The statute does not, however, authorize such cleanup and cost-charging in the case of bark, slabs or similar wastes. We suggest that the statute be amended to cover this omission.

38 M.R.S.A. § 451 prohibits the disposal of "wastes" which will lower the classification of any body of water. Although the technical requirements of showing that a "disposal" is such as to lower the classification of the water are difficult and time consuming, conceivably this statute could be used against parties storing logs within waterways over extended periods of time or against parties disposing of bark in such a manner that runoff from the bark reaches the waters of the State. The Environmental Improvement Commission may have some technical advice which your committee would find useful in perhaps revising § 451 and simplifying it or writing a separate statute to cover bark "leaching".

Question #9:

Can the Legislature later revoke or limit the powers which it granted to log driving corporations?

Answer:

Without reading all the charters granted by the Legislature in this area, certain initial observations can be made. As a general rule, it is doubtful that the Legislature granted or intended to grant to these corporations powers any broader than those which they possessed as a common law right. That is, the Legislature merely empowered the log companies to make a reasonable use of the State's waterways. The term "reasonable" as it applies to this use is discussed at length earlier.

Generally, the charter of a corporation created by the Legislature is a contract between the State and the company. Coffin v. Rich, 45 Me. 507 (1858); Proprietor's of Machias Boom v. Sullivan, 85 Me. 343 (1893). Under the Constitution of the State of Maine, the State cannot impair the obligations of any contract. Maine Constitution, Art. 1, § 1. However, Maine statutes specifically provide in part:

"Acts of incorporation passed since March 17, 1831 may be amended, altered or repealed by the Legislature, as if express provision therefor were made in them unless they contain an express limitation." 13 M.R.S.A. § 2.

This provision applies to all corporate charters whether or not specifically included and regardless of whether the company was chartered under general or special laws. Thus, it appears that the Legislature could enact a variety of laws regulating or halting log driving so long as the legislation did not confiscate

corporate property or impair the obligation of any lawful existing contract made by a corporation. Opinion of the Justices, 97 Me. 590 (1903). All the possible legislative actions discussed at the subcommittee hearing prohibiting or phasing out log drives, regulating storage of logs in the rivers, prohibiting driving of logs unless debarked, regulating the time and manner of log drives or requiring removal of bark on logs, appear to be appropriate constitutional approaches to the problem.

Turning to the Environmental Improvement Commission, the Committee learned at the outset of its hearings that the Environmental Improvement Commission had already, over a year earlier, adopted the policy that use of the rivers for transporting wood should be prohibited. However, in adopting this policy, the Commission also recognized the need for a time table to cope with the transportation and economic problems involved.

At the Committee's request the Environmental Improvement Commission was asked to determine, where possible, if there was sufficient degradation of water quality and pollution level within waterways used for the commercial transportation of logs and pulp-wood due to any of the following causes which would warrant prohibitive legislation:

1. Accumulation of bark.
2. Deposits of slash, sunken logs or pulp.
3. Storage of unbarked logs at various periods of time.
4. Bark leaching from stockpiles into waterways.

The Committee also asked, subject to the Commission's findings in regard to the above, if they would reword section 416



of Title 38 (Environmental Improvement Commission Law) in the proper technical language to include such findings and further, in view of the Attorney General's recommendation, the Committee asked for the consideration and simplification of section 451 of Title 38 or a separate statute to cover bark leaching.

The Environmental Improvement Commission report is as follows:

It is known that vast accumulations of bark and wood deposits have gathered in quiet waters which have been used for many years for storing and for driving logs, and there are still many areas where accumulations of sawmill wastes are apparent upon investigation. Many lakes and streams have been thus abused, but those having such problems have not been well documented or even enumerated. The Environmental Improvement Commission has had no apparent need to engage its limited staff in such studies since the log driving was permitted by statute, even in Class A waters.

In general the measurement of the effects of pollutional qualities have not been attempted in otherwise unpolluted waters. On the other hand the extent to which such wastes contribute to pollution, where other sources are apparent, cannot be separately determined. This leaves only infrequent instances where such pollution has provided actual data, usually incidental to some other study.

The Department of Inland Fisheries and Game reports having made no studies of the extent of this problem. They have no available data to show such degradation. In Canada the Madawaska

River is said to have improved from 0 p.p.m. dissolved oxygen to 7.0 p.p.m. (temperature not stated) upon elimination of wood transportation and storage in that river.<sup>7</sup>

In Maine the extent of the problem is probably more widespread than one would realize, but the only data for otherwise unpolluted water seems to be related to Wyman Dam on Kennebec River and Ferguson Lake on Penobscot River in so far as the effects of wood storage is concerned.

The data available regarding Wyman Dam from Environmental Improvement Commission records is very limited (three tests in 1948) and no significant oxygen depletion is indicated. At Ferguson Lake Dam ten records in 1962 and 1965 show no percent saturation of oxygen greater than 78% (and some as low as 70%) when 85 to 95 percent would be the expected range for such a lake if unpolluted.

A published report (Project 2219) by the Institute of Paper Chemistry, Appleton, Wisconsin, A Biological Study of the Penobscot River in the Vicinity of Millinocket, Maine - 1964, says of a location more than three miles upstream of Ferguson Lake Dam "Wood slivers, accumulations of bark and pieces of woody debris resulting from log drives were abundant upon the bottom of the river in this vicinity." Even this was used as a control station for the study, and it was used to represent a "balanced biota". There were present some organisms considered intolerant of pollution, but their numbers would hardly be considered normal for an unpolluted lake bottom.

7. Verbal communication 10/15/70 by officials of Fraser Companies Ltd. in E.I.C. office.

In a publication of the University of Maine Water Resources Center, Water Quality Degradation By Wood Bark Pollutants, Sproul and Sharpe (1968) it is indicated that there is a slow but progressive biological conversion of some organic matter in wood bark to organic acids, both in bark storage piles and when bark is submerged in water. The leaching of waste flows from bark piles, some of which have grown to enormous proportions in our state while others have accumulated through ill-advised attempts to fill land, present special problems.

This report states, "the potential water quality degradation of surface and ground water from wood bark drainage is very great . . . This degradation results whether the bark is stored on land, as represented by the static resting, or in the form of benthal deposits. . . . The oxygen demands would be sufficient to reduce dissolved oxygen concentrations to zero on many streams. The much higher BOD of the liquid within the bark deposit would present a distinct hazard under stream conditions where scouring of this material occurred. This scouring would release all of the material in a slug . . . . If appreciable quantities of bark were involved, the result might be catastorptic to the ecological balance in the stream."

The conclusion of this report states:

1. Significant water quality degradation results from materials leached from woodbark stockpiles on land or in watercourses. This degradation results from organic and inorganic materials which cause BOD, color, odor, COD, alkalinity, and acidity and increase the solids in the water.

2. Softwood bark leachings from simulated "dry" land stockpiles had color of up to 1000 units, BOD up to 1200 mg/l and a threshold odor number of 500 at the end of 55 days. Hardwood bark leachings under similar conditions were degraded to a lesser extent except for a higher color. Storage under higher temperatures generally decreased the extent of water contamination.

3. Benthal bark deposits created oxygen demands of about 0.6 to 0.8 pounds per day per ton of dry bark. BOD values within the bark benthal deposit reached 17,700 mg/l. Color of the overlying water reached as high as 6,000 units for the softwood bark. Hardwood barks gave colors as high as 1,000 units. Other parameters showed extensive degradation although not as extensive for the hardwood as for the softwood bark.

4. Woodbark should not be discharged to watercourses. When stockpiled on land it should be placed within over-impervious material and surrounded by impervious berms.

#### Acknowledgement

Acknowledgement is made to the Penobscot Company, Old Town, Maine for furnishing the bark samples used in this study.

Studies by our own personnel indicate that from one waste bark pile at least a flow of 4000 gallons per minute carries at least 9500 pounds per day of oxygen demand to the receiving waters. Other drainage from bark deposits show that the material promotes a distinct and unpleasant growth of slime, and color and high

acidities are frequently noted. Literature indicates that toxic properties have been attributed to the water extract liquor from hemlock and spruce bark which are harmful to aquatic life.

It is extremely difficult to control the pollution resulting from bark piles. New ones are frequently started near pulp mills, and many modern sawmills also remove bark from logs before sawing, and such piles of waste bark are not limited to any local areas. We are told that this sort of drainage does not constitute a "discharge" under section 413 and thus is not subject to control through licensing.

It should be noted in attaching the following suggested statutory revisions that the Attorney General's Office has not yet recommended the drafts, therefore, the suggestions are those of the Commission's staff and not the Commission itself. Also, the prohibition date in section 416C has been left blank.

R.S., T. 38, §416, repealed and replaced. Section 416 of Title 38 of the Revised Statutes as amended by sections 4 and 9 of chapter 431 and section 2 of chapter 572, both of the public laws of 1969, is repealed and replaced.

§ 416. Deposit of refuse of forest products manufacture

No person, corporation or other party shall place or deposit or discharge, directly or indirectly, in the inland waters or tidal waters or on the ice thereof or on the banks so that the same shall fall or be washed into the waters, any slabs, edgings, sawdust, shavings, chips or bark.

Whoever violates any provision of this section shall pay a fine of not less than \$100 nor more than \$500 and costs for each offense.

Nothing contained in this section shall nullify, modify or in any way affect any license granted by the commission or otherwise granted pursuant to or by section 413.

§416-A. Deposit of refuse of debarking operations

No person, corporation or other party shall place or deposit, directly or indirectly, bark or wood debris where subsurface or surface drainage from such deposit will contaminate any water-course of the State.

Whoever violates any provision of this section shall pay a fine of not less than \$100 nor more than \$500 and costs for each offense.

§ 416-B. Deposit of fats, greases or oils

There shall be no discharge of fats or grease, crude petroleum oil or any petroleum products or waste oil residues or animal or vegetable or mineral oils of any kind into the inland or tidal waters of the State.

Any person, corporation or other party who discharges or permits to be discharged any such materials shall notify the Environmental Improvement Commission of such discharge and shall remove same from the effected waters and shorelines.

If such person, corporation or other party fails to act promptly to remove such materials from said waters and shoreline, the commission may arrange for its removal. The person, corporation or other party responsible for the discharge shall be liable to the State of Maine for all costs and expenses incurred by the commission in the removal of said materials.

Whoever fails to act promptly to remove such materials or

fails to notify the Environmental Improvement Commission upon discovery of the discharge shall pay a fine of not less than \$100 nor more than \$500 and costs.

§ 416-C. Water transportation and storage of wood

No person, corporation or other party shall place unpeeled or debarked wood into the inland waters of the State or on the ice thereof for the purpose of storing logs or pulpwood at the mill or transporting said wood downstream to mills or on the way to mills after \_\_\_\_\_.

Whoever violates any provision of this section shall pay a fine of not less than \$1,000 nor more than \$10,000 and costs for each offense.

§ 417-D. General

If any person, corporation or other party believes it to be necessary in the prosecution of his or its business to deposit some or all of the material mentioned in this section in any of said waters, or on the banks thereof, to an extent prohibited by this section, he or it may make application to such commission, which shall give notice thereof and hold a hearing thereon, and which shall have authority to issue an order thereon granting such permit as it deems advisable or denying such application.

Any person, corporation or party aggrieved by any order or decision of the Commission under this section may appeal to the Superior Court according to the procedures outlined in section 415.

CONCLUSION

In the light of these findings, emphasis being placed on the height of economic difficulty and severity of problems

associated with alternative means of transporting wood in volume, both of which industry must overcome, the Committee feels that legislation to limit or curtail existing use of the waterways of this State is not appropriate and would serve no useful purpose at the present time.

The Committee does, however, unanimously recommend that all persons and firms, utilizing navigable waters of this State for commercial storage or movement of wood, be put on notice and given fair warning that with the increasing pressure being brought to bear on the Legislature to limit or terminate river driving activities, they should look forward to more stringent laws.

By taking this position, it is the Committee's firm hope that officials of the industry will heed the warning and thereby place greater emphasis on the rights and privileges of others, including thoughtful consideration of the adverse affect of bark accumulations and pollution on the ecology, the coexistent prerogative of the general public to use navigable waters for business or pleasure and perhaps follow the Great Northern Paper Company's lead in establishing realistic time schedules for phasing out use of the waterways.