for Tim Glidden

PROPOSED DEPARTMENT OF ENVIRONMENTAL PROTECTION AMENDMENTS TO
L.D. 1503- AN ACT to Amend the Classification System for
Maine Waters and Change the Classification of Certain Waters

May 9, 1985

Page	Line	
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12	24-25	(2) From [the Route 191] a point located 0.25 mile above the Route 1 bridge [in East Machias] to tidewater - Class C.
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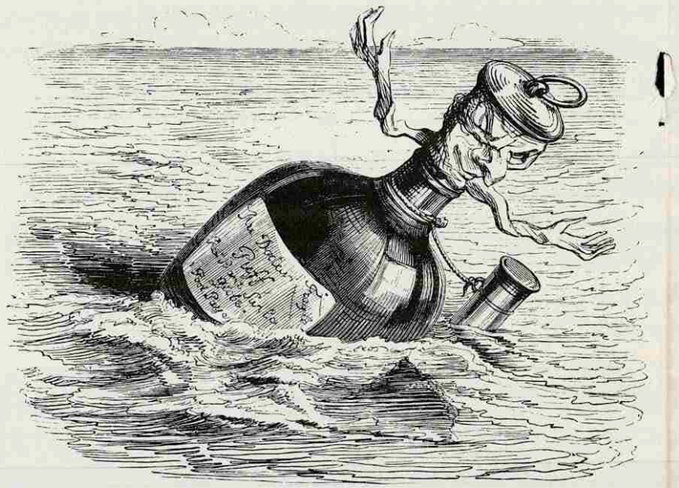
DEP's Proposed Water Quality Classifications

By Terry McGovern
Bureau of Water Quality Control

On November 9, 1984, the Department of Environmental Protection (DEP) submitted to Governor Brennan for his consideration, a proposed revision of Maine's laws for Classification of Surface Waters (Title 38, Chapter 3). The purpose of this article is to explain how this classification system is based on water quality standards and, more importantly, explain how this section of law affects the waters and people of Maine.

The function of the classification system is to provide direction to DEP from the people of Maine through the legislative process on how Maine's waters are to be managed. For example, the present law allows industrial discharges to affect water quality on rivers such as the Androscoggin, Kennebec and Penobscot but not on the Allagash River. This difference in classification is a result of the people of Maine, through the legislative process, mandating that the Allagash be maintained in its natural state while allowing some degradation of other rivers so that industries can prosper and provide employment. Another way to view this situation is that while it is important to maintain the pristine qualities of the Allagash and some other rivers, it is also important that the State allows economic development which enables people to earn a living and have leisure time to enjoy Maine's pristine waters.

The Federal Clean Water Act requires Maine to have a water quality classification system and to revise it periodically. That Act also sets minimum standards, including a provision that it shall be the goal of each State that all its waters are suitable for fishing and swimming. This prevents any State from giving its industries an unfair economic advantage by allowing discharges which violate these minimum standards. The States are allowed to establish classifications which define what portion



of the maximum allowed degradation is permitted on various waters. It is the responsibility of the States to decide if they will allow all their waters to be degraded to the allowed maximum or if some waters should be given a higher level of protection. Maine's present classification system provides a higher level of protection for most of the State's waters. Because concentrated populations and industrial development affect only a small portion of Maine's waters, this protectionist management system for most of the State's waters is likely to continue.

The water quality classification procedure is actually a two-step process: 1) to establish appropriate water quality classifications which best serve the interests of the people of Maine and also meet Federal requirements and 2) to apply these classifications to the various waters of Maine in such a way that benefits to the public are maximized.

ESTABLISHMENT OF CLASSIFICATIONS

There are five major goals which DEP seeks to achieve in this revision of Maine's water quality classification system: 1) eliminate those classes (D & SD) which do not meet the minimum requirements of the Federal Clean Water Act, 2) revise Class C and Class SC so that they meet the minumum requirements of the Federal Clean Water Act, 3) combine those classes (B-1 & B-2 and SB-1 & SB-2) which are quite similar, 4) establish classes (AA & SA) which provide for the preservation of certain outstanding waters of the State and 5) make the water quality standards such as bacteria, dissolved oxygen and aquatic life which define the nature of each classification more scientifically defensible. The means by which DEP has achieved the first four of these goals is illustrated in Table 1. The proposed classifications listed in Table 1 are considered by the staff of the Bureau of Water Quality Control to represent appropriate levels of protection, which the people of Maine can then use to direct the management of a particular piece of water.

Basically, the DEP proposal would reduce the number of classifications, add preservationist classes and delete the lowest classes presently established for rivers and marine waters. As previously mentioned, the deletion of the D and SD classes is necessary to make Maine's statute conform with Federal law for the same reason swimming has been added as a designated use for the C and SC classes. The addition of the AA class and the upgrading of the SA class is made in response to the Maine Rivers Policy and public sentiment that certain waters such as the Allagash River and marine waters off Acadia National Park be managed for the protection and preservation of their pristine qualities.

The major change in the classification of lakes and ponds is that, under the proposed system, all lakes and ponds are assigned one classification - Class GPA. This change clarifies the intent of the present system. It shall be the goal of the DEP that eutrophic, algae-choked waters presently classified as GP-B are restored to GP-A quality. The revision of the classification system also reflects increased understanding of the factors which degrade these treasured resources. Thus, the proposed standards are designed to increase the ability of State and local governments to limit lake pollution. As with the present statute, the proposal would prohibit new discharges of sewage to lakes. Since phosphorus discharges pose the greatest threat to our lakes, the DEP proposal contains provisions which will minimize the amount of phosphorus entering our lakes and ponds. Because virtually all the phosphorus discharged to a lake tributary ends up in the lake, new discharges of domestic wastewater to lake tributaries are prohibited in the DEP proposal. Also similarly, changes of land use in a lake watershed are prohibited if they would degrade the water quality of lakes.

Discussion of DEP's fifth basic goal - making the water quality standards more scientifically defensible - could easily fill six issues of the Maine Environews. This article will summarize the conclusions of scientific investigations by the Water Bureau staff rather than documenting their scientific basis. Recent advances in understanding the nature of water pollution effects and an upgrading of the scientific capabilities of the Water Bureau staff have aided recognition of numerous deficiencies in the scientific basis of Maine's present classification system.

The water quality criteria for dissolved oxygen were studied and the present standards required some modification. By reducing the number of classes, we have eliminated dissolved

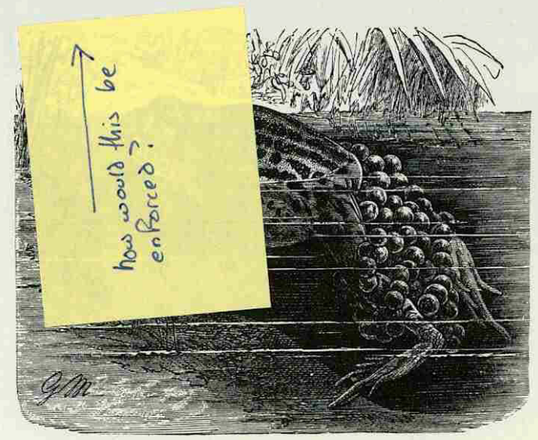


Table 1. Differences between Maine's present and proposed water quality classifications (DO = dissolved oxygen).

Present Classes for Fresh Waters

A	Allows low levels of bacteria and slight decreases of DO. Certain discharges which are equal in quality to the receiving water are allowed but may cause no harm to aquatic life.
B-1	Allows higher levels of bacteria and more decrease of DO than the present A class. Discharges are allowed but may cause no harm to aquatic life.
B-2	Allows higher levels of bacteria and more decrease of DO than the present B-1 class. Discharges are allowed but may cause no harm to aquatic life.
C	Allows higher levels of bacteria and more decrease of DO than the present B-2 class. Discharges are allowed but may cause no harm to aquatic life. This class does not have a goal of being suitable for swimming.
D	Allows higher levels of bacteria and more decrease of DO than the present C class. This class does not have as a goal suitability for fishing or swimming.

GP-A	Includes the vast majority of Maine's lakes and ponds. This class allows low levels of bacteria. No discharges are allowed.
GP-B	Includes those lakes and ponds which have algal blooms caused by people. This class allows higher bacteria levels than the present GP-A class. Certain discharges are allowed.

Present Classes for Marine Waters

SA	Allows low levels of bacteria and significant decreases of DO. Discharges are allowed but may cause no harm to "aquatic" life and may not "interfere" with the propagation and harvesting of shellfish.
SB-1	Allows higher levels of bacteria than the present SA class. The allowed DO decrease and discharge policy for this class are the same as for the present SA class.
SB-2	Allows higher levels of bacteria than the present SB-1 class. The allowed DO decrease and discharge policy for this class are the same as for the present SA class.
SC	Allows higher levels of bacteria and more decrease of DO than the present SB-2 class. Discharges are allowed which cause shellfish to be unsuitable for harvesting for direct consumption. This class does not have a goal of being suitable for swimming.
SD	Allows higher levels of bacteria and more decrease of DO than the present SC class. This class does not have as a goal suitability for fishing or swimming.

Proposed Classes for Fresh Waters

AA	Would allow bacteria, DO and aquatic life to be only as naturally occur. No discharges or impoundments would be allowed.
A	Is similar to the present A class. This class would allow bacteria and aquatic life only to be as naturally occur. Slight decreases of DO would be allowed. Certain discharges which are equal in quality to the receiving water would be allowed but may cause no harm to aquatic life.
B	Is similar to the present B-1 class. This class allows higher levels of bacteria than the proposed A class. This class allows slightly less decrease of DO than the present B-1 class. Discharges are allowed and may have some effect on aquatic life but may cause no harm to aquatic life.
C	Is similar to the present C class. This class allows higher levels of bacteria and more decrease of DO than the proposed B class. Discharges are allowed and may cause slight harm to aquatic life. This class has a goal of suitability for fishing and swimming.
GPA	Includes all of Maine's lakes and ponds. It is similar to the present GP-A class but clarifies the state's policy that all GP-B waters be restored to GP-A quality. No new discharges are allowed.

Proposed Classes for Marine Waters

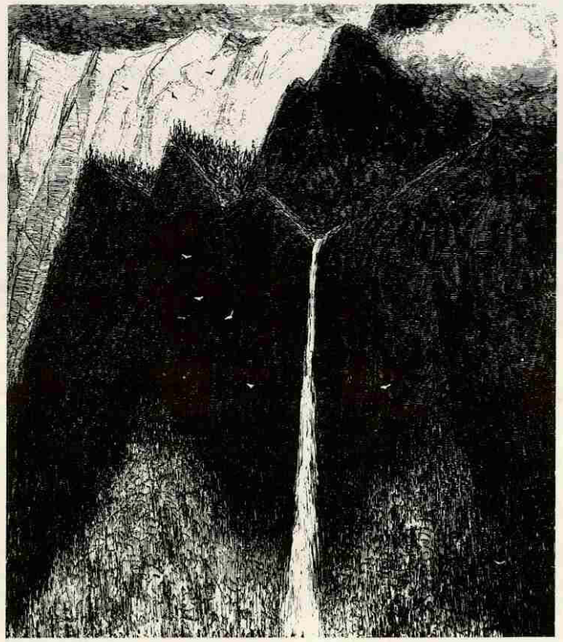
SA	Allows bacteria, DO and estuarine/marine life to be only as naturally occur. No discharges or impoundments are allowed.
SB	Is similar to the present SA class. This class allows higher levels of bacteria and more decrease of DO than the proposed SA class. Discharges which do not cause closure of open shellfish areas are allowed, provided they cause no harm to estuarine/marine life.
SC	Is similar to the present SC class. This class allows higher levels of bacteria and more decrease of DO than the proposed SB class. Discharges are allowed and may cause slight harm to estuarine/marine life. This class has as a goal suitability for fishing and swimming.

use (i.e., conservation) are progressing with greater support and success.

So far this discussion has been limited to the problems of a utility's purchase of Canadian hydro. It is a common misconception that all this cheap, Canadian hydroelectric power is available to private interests. The most imminent problems with private purchase of Canadian hydro, however, are with regard to legal and transmission difficulties. The fact is that currently the Canadian power can only be purchased through NEPOOL. It cannot be purchased directly by a consumer for several reasons. Section 211 of the Federal Power Act, which was enacted in 1978 as part of P.U.R.P.A., does not allow utilities to wheel power to an ultimate (private) customer.

In addition, according to state regulations established by the Maine's Public Utilities Commission, Canadian power made available to a utility must be offered (at cost) to that utility's rate payers. A utility cannot allocate purchased Canadian power to any particular customer or business interest.

The third obstacle is transmission. The NEPOOL agreement does not provide access for private interests to use the



NEPOOL P.T.F. (Public Transmission Facility) to wheel power. It does not seem realistic that NEPOOL would even entertain the notion since the purpose of their agreement is to increase the reliability of and decrease costs to the New england public utilities. Hence, for any private interest to purchase power directly from Hydro-Quebec it would have to build its own expensive transmission system. This is an extremely unrealistic proposition for any entity smaller than NEPOOL.

So you can see that the Canadian hydro available to Maine can only be obtained through the proper channels. It is not abundantly available to any private entity that would like to benefit from the purchase of cheap electricity. If that were the situation, then, perhaps, there would be an opportunity for those who wish to eliminate selective hydropower development in Maine. However, the undeniable problems of dependence, reliability and vulnerability with a foreign resource would still be present. With an ambitious hydro expansion in Maine, we could increase our energy and economic independence. If our choices for selective hydro development are in the best interest of the most people, I call that progress.

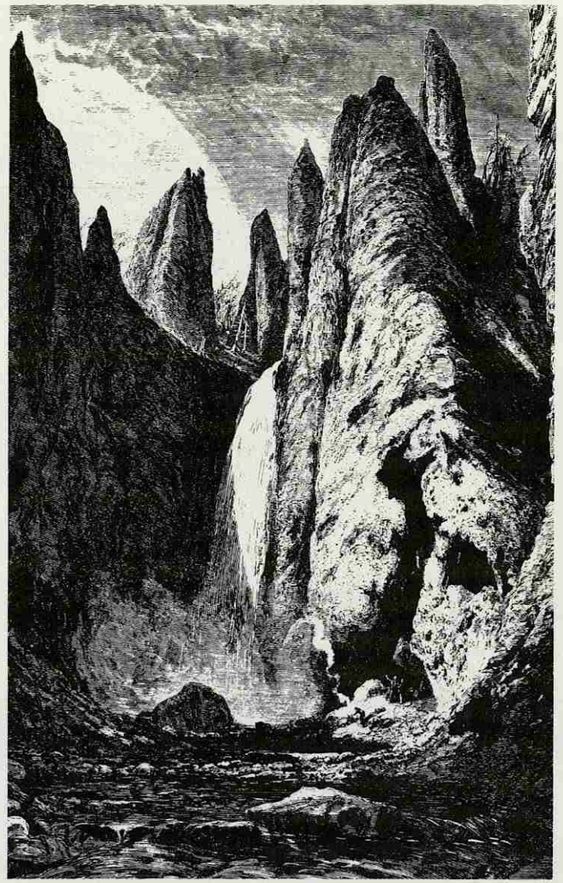
By Betsy Elder
Maine Office of Energy Resources

hydropower revolve around price and reliability. Utility officials are concerned that if there is a power outage somewhere along the remote 600 mile line from James Bay to Montreal that it could have a drastic effect on the power grid. There are questions with regard to Hydro-Quebec's ability to alleviate frequent blackout on its system.

There is also some doubt of Canadian reliability with regard to the Partis Quebecois. The possibility of a revival of Quebec separatism, and the many complications that would arise as a consequence, does discredit the reliability of Canadian negotiations somewhat.

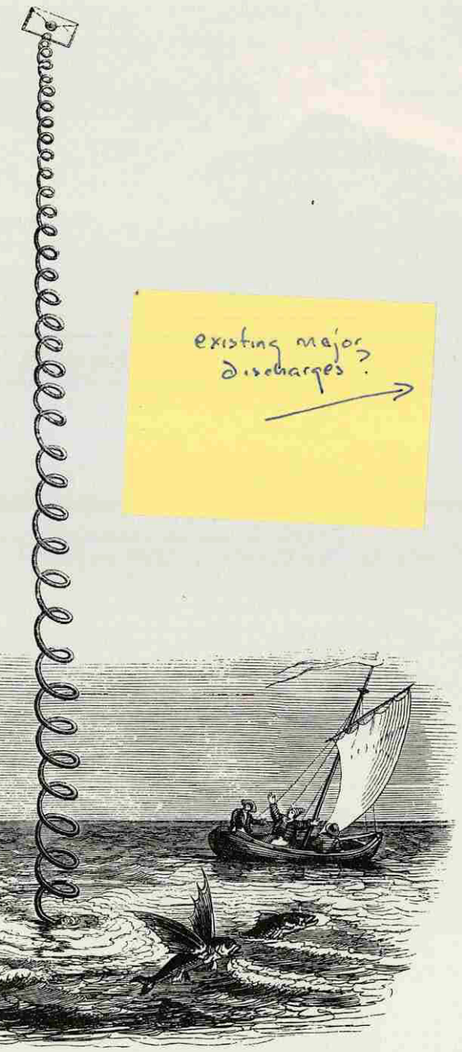
Speculation on the future availability and price of oil figures into a determination of benefit or lack of benefit in purchasing Canadian hydropower. Importation of Quebec electricity at 20% less than the current average price of oil-fired generation does stack up nicely in comparison.

The relationship between oil prices and the price of Canadian imports brought into New England is worthy of a closer look because of its implications for future policy. Most of the energy that will be imported is priced at a discount. The discount for much of the energy is set at 80% of the average NEPOOL fossil fuel cost. The average cost of NEPOOL's fossil fuel is dependent on oil and coal-fired generating costs. At the present time, approximately 75% of the fossil fuel costs are oil and 25% is coal. Reducing oil consumption and shifting that balance of fossil fuel cost away from oil has many benefits including lower prices for Canadian imports. With current average fossil fuel costs comprised of 75% oil and 25% coal, NEPOOL's average cost of fossil fuel is approximately four cents per kilowatt hour. At a 20% discount much of the Canadian energy would be purchased at approximately 3.2 cents per KWh at today's oil and coal prices. If the oil component of NEPOOL's average fossil fuel cost could be reduced to 25% and coal's share increased to 75% and all the other variables remained constant, the price of Canadian imports would drop to



approximately 2.9 cents per KWh. If prices remain at present levels this would more than double New England's net benefits from the agreements with Hydro-Quebec. New England utility managers and government regulators are striving to achieve this goal. Reducing the amount of oil in our electric generation mix is being accomplished in a variety of ways through local generation from hydropower, wood, coal and refuse. Simultaneously, programs designed to increase the efficiency of electricity

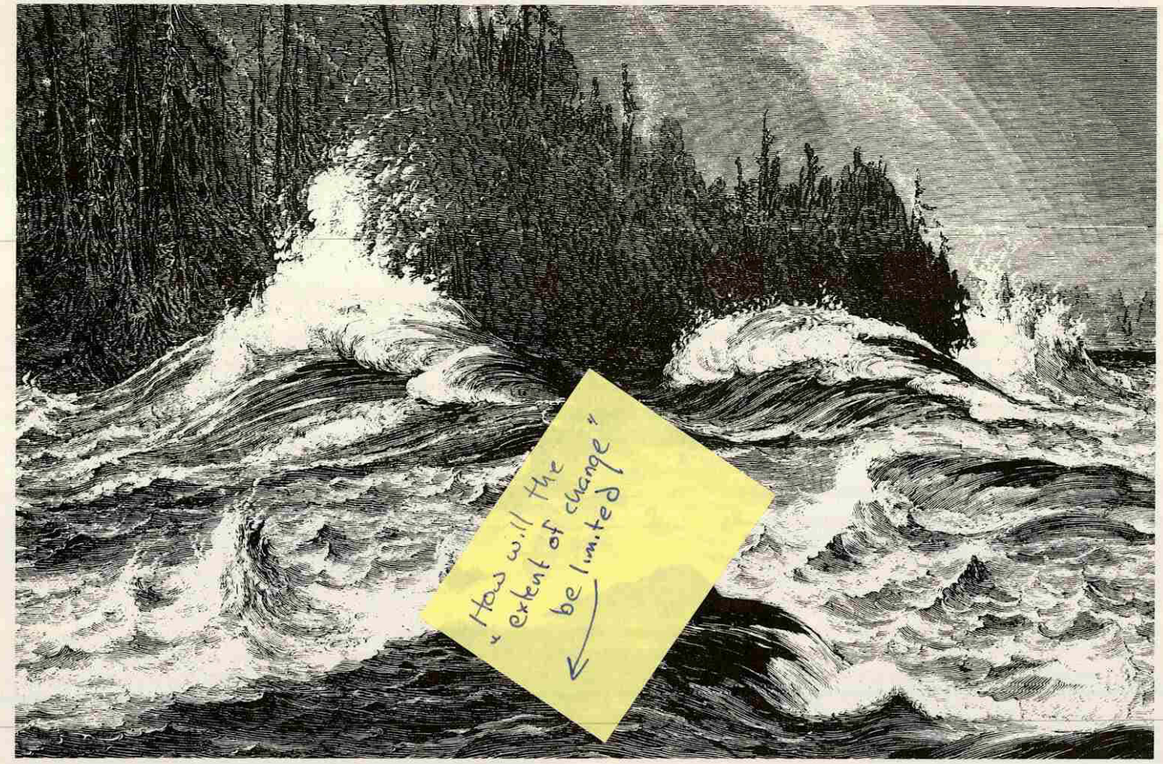
oxygen standards that have no biological significance. The proposed dissolved oxygen standards provide three levels of protection for the fish and other aquatic/marine life in Maine's waters. The highest classes provide for natural levels of DO and complete protection. The B and SB classes provide a high level of protection which is necessary for an unimpaired habitat. The C and SC classes allow dissolved oxygen levels which may result in an impaired habitat but still protect the integrity of the biological community.



Although it was once thought that adequate dissolved oxygen was all that was necessary to protect aquatic life, the discharge of toxic substances and other pollutants is now known to have potentially disasterous consequences for aquatic ecosystems. For this reason, DEP's proposed classification system is based on the end result of wastewater discharges - their affect on the aquatic and marine communities. The present classifications for rivers state that discharges to Class A, B-1, B-2 and C waters may cause no harm to aquatic life. We now know that this is an unrealistic goal. "Harm" can be construed to mean any change in the aquatic community. Through study of the effects of existing discharges, it has been found that almost all major discharges receiving best practical treatment cause some change to the aquatic community. The challenge then is to define what degree of change is acceptable. The concept of acceptability seeks to minimize biological impact but also implies a high degree of attainment by existing discharges of the proposed standards. It is the opinion of DEP staff that most major discharges will be able to meet the proposed standards for impact to aquatic life without additional wastewater treatment.

Since discharges to Class AA waters are prohibited and discharges to Class A waters are required to be of the same quality as the receiving water, the proposed standard that the aquatic life in these waters be "as naturally occur" is both realistic and attainable. For the proposed B classification, discharges are allowed, provided they do not cause detrimental changes in the aquatic community. This means that a treated discharge to Class B waters may cause some non-harmful changes such as abnormally high populations (enrichment) of a certain species.

Where a discharge has a high flow relative to the flow or volume of the receiving water, that receiving water would generally have to be a Class C water for the discharge to be in compliance with the classification statute. Under DEP's proposed system, a discharge to Class C (proposed) waters would be allowed to cause some detrimental changes to aquatic life, provided that the water remains of



sufficient quality to support all indigenous species of fish and maintain the structure and function of the aquatic community. This means that the species composition, particularly for benthic invertebrates, in a Class C water may be significantly different than in waters which do not receive major discharges. Although pollution-tolerant invertebrate species would be allowed to replace more sensitive species, the extent of allowed change is limited so that a healthy, diverse aquatic community is maintained. While the idea of allowing an industry or municipality to cause any degree of harm to aquatic life may be disagreeable to some people, one must remember that hundreds of millions of dollars have been spent in Maine to provide the best practical treatment for wastewater. To attain the "no harm" provision of the present classification system would probably require an expenditure of an even greater magnitude. The intent of the proposed biological criteria is to protect the food chain necessary to provide a quality fishery, even when the water receives major discharges. Although this protection may require improved wastewater treatment at some locations, it seems possible, over time, to accomplish this without hardship.

The bacteria standards which DEP is proposing as part of the revised classification system equal the biological standards in their complexity. The scientific basis for the proposed bacteria standards was discussed in the October, 1983 issue of Environews. As was stated then: 1) recent research has determined that the present standard is inadequate to protect swimmer health; 2) research has shown that some swimmers will develop a relatively mild, short-term illness (gastroenteritis) even at very low bacteria levels, and 3) the indicator bacteria (E. coli and enterococci) proposed for the new standard have a high correlation with swimmer illness and are useful for protecting the public health.

Research on levels of the proposed indicator bacteria in Maine waters was performed during 1984 and yielded some interesting results. It was found that lakes generally have lower bacteria levels than even the cleanest rivers. Thus, the bacteria data indicate that

uninterruptible and constant. Maine already obtains 17% of its present electricity from New Brunswick and this is likely to increase by 1990. This 17% combined with 10% from Hydro-Quebec totals a healthy 27% which seems to be a generous proportion of Maine's total energy mix to be dependent on foreign resources. It is conservative, however, when compared to New England's present 48% and CMP's 25% reliance on imported oil. (This percentage for CMP has been reduced only very recently from a percentage in the forties due to development of indigenous hydro [Brunswick] and cogeneration).

Phase II would require building another power line through the heart of New Hampshire to the Massachusetts border. NEPOOL anticipates the completion of this line by 1990 and both transmission lines will be constructed by a subsidiary of the New England Electric System. Transmission facilities can't be built fast enough to accommodate the surplus power available. Prudential-Bache Brokerage House estimates that Hydro-Quebec will be forced to spill water "over the dam" this year that could have generated $668 million dollars worth of hydroelectricity. Although the fate of future Canadian hydro projects is not certain, the potential for power available from them is great and involves capacities of: 3000 MW from Phase II, (north of Phase I); 3000 MW from Great Whale River (north of Phase I); and 6000 MW from the Nottaway, Broadback and Rupert Site (South of Phase I). Even beyond the scope of Hydro-Quebec, Canada may also offer potential cheap power options from other projects such as; Point Le Preau Nuclear Power (New Brunswick), natural gas from Nova Scotia and Bay of Fundy Tidal Power (New Brunswick).

Maine EnvironNews, (USPS 347-390), is published monthly at the Ray Building, AMHI Complex, Augusta, Maine 04333. Telephone (207) 289-2811.

Opinions expressed do not necessarily reflect the views and policy of the Department. Letters and suggestions are always welcome. Illustrations on pages six and nine by Grandville and on page 12 by Alfred Chantrey Corbould.

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POSTMASTER: Send address changes to EvironNews, DEP, State House Station #17, Augusta, Maine 04333.

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It is well established that there is a vast potential for Canadian power purchases. "Why then does Maine need to develop her own hydropower? What are the problems inherent in the purchase of Canadian hydro?" The best reason for selectively developing our indigenous resources is that it allows self-sufficiency and resultant security. It is unwise policy to become so dependent on any single resource that we couldn't supply our own needs if we really had to. Accessibility to our own cheap power, also, enables us to compete in the world markets, making our state and national economy stronger and more viable. Although New England is in an excellent bargaining position for the Canadian hydropower, it has a keen awareness, from experience with foreign oil, that too much dependence in one energy commodity is dangerous.

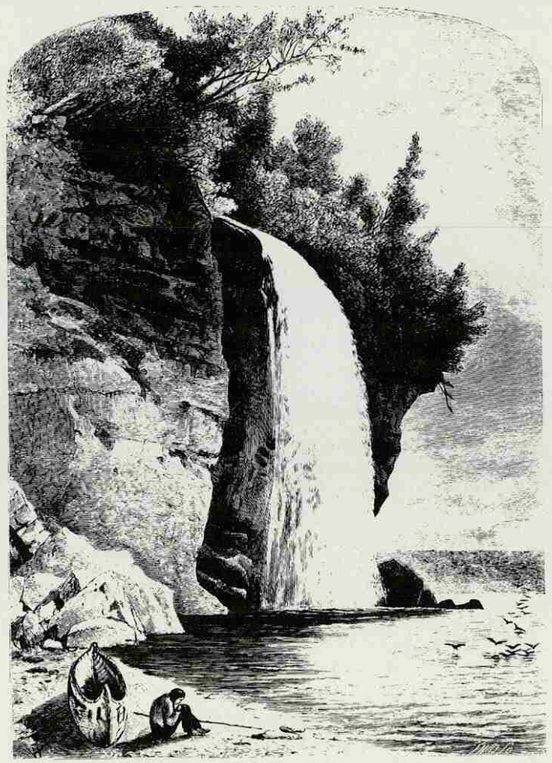
American utilities have traditionally built their own power plants to secure additional electricity for two reasons. The cost of constructing these plants combined with a utility's rate base usually allows the utility to earn a good rate of return on the investment thereby clearing a profit from building a new plant. Canadian electricity will delay or eliminate the need for some new power plants under constructrion, such as Seabrook II. Moreover, there is no built-in profit for American utilities if they buy Canadian hydropower because state regulators require that electricity purchased from outside a utility's own system be passed along to customers at cost. This arrangement discourages New England utilities from buying Canadian power because there is no profit incentive. However, contracts have been signed regardless of this factor because most utilities want relief from the cost overruns, regulatory headaches and financial risk in building today's new plants. They also want cheap Canadian power to keep the price of other fuels competitive in the commodity market.

The NEPOOL's primary concerns in negotiating another contract for Canadian

project is now complete and operational. James Bay's Phase I is the world's second largest hydro-facility, surpassed only by Itaipu in Brazil. The Le Grande Complex or Phase I is made up of three dams (LG2, LG3, LG4) and five reservoirs. It is equipped with 37 turbines which provide an installed capacity of 10,282 MW or about twelve times the power supplied by Maine Yankee (856 MW). With Phase I of the James Bay Le Grande Complex, Quebec-Hydro (which derives 99.7% of its power from water) will have a 29,200 MW capacity when the record peak demand was 20,000 MW. Phase I was partially operational in 1979 but was opened officially on May 27, 1984. It took 14 years to build Phase I and it cost about $15 billion. One of its dams produces enough power to replace 150,000 barrels or $4 million worth of crude oil every day. The first and largest dam on the Le Grande Complex, LG2, generates 80 times the power of Maine's largest hydro facility, the Harris Dam (76.6 MW). Just one of the sixteen generators at LG2 produces enough power in a single hour (300,000 million KWh) to supply the residential population of Bangor and Brewer with electricity for an entire year. Hydro-Quebec has the capability to export enough power to provide all the electricity consumed in most of New England.

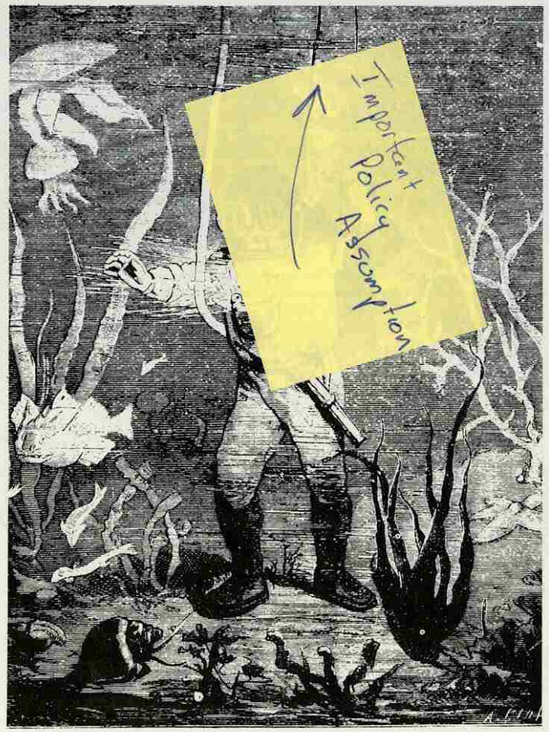
Both the Canadian and American public utility officials are hoping that the contract signed in 1983 is just the beginning of a long-term relationship. although Phase II of the James Bay Project has been taken off the drawing board, another contract was signed in principle this summer (1984) between NEPOOL and Hydro-Quebec. This is referred to as the Phase II agreement, not to be confused with Phase II of the James Bay Hydro Complex. The Phase II agreement contracts for 2000 MW of guaranteed capacity which would be imported starting in 1990. These 7 billion KWh's of additional capacity, when coupled with Phase I's 3 billion KWh per year will result in a total import of 10 billion KWh's per year by NEPOOL from Hydro-Quebec. the Phase I and II purchase represents 10% of New England's total energy mix. By comparison, the 2000 MW capacity from Hydro-Quebec would eliminate the need for any power from both Seabrook plants which together represent generation of 2300 MW.

Hydro-Quebec power from these agreements would also represent 10% of Maine's electrical energy mix or 950 million KWh per year. The percentages that each utility will receive remain the same with CMP receiving 7.8% or 780 million KWh/year and Bangor Hydro receiving 1.7% or 170 million KWh/year. Unlike Phase I power which is obligated only in the case of a surplus, Phase II power capacity will be scheduled,



lakes are more healthful for swimming than are rivers. Through examination of the data, knowledge of wastewater treatment systems and use of common sense, one can also conclude that Class C rivers which receive major discharges are less healthful than rivers which do not. The bacteria standards proposed by DEP are based on these three levels of health risk which have been found to exist in Maine's waters. The proposed bacteria standard for lakes is such that persons swimming in lakes which are meeting their classification requirements can expect no risk of becoming ill as a result. Those swimming in Class B rivers have a slight risk of getting ill as a result of the experience. Swimming in Class C rivers would be more risky than swimming in a Class B river. In those Class C rivers which have the maximum amount of bacteria allowed by the proposed standard, about 1 in 100 swimmers may develop gastroenteritis.

The intent of DEP's proposed bacteria standards is not to allow illness but rather to make the public aware of the inherent risks of swimming in various waters of the State. Despite tremendous advances in the improvement of water quality in Maine's major rivers, most



Mainers would still prefer to swim in lakes. This is a case where scientific research supports common sense. Lakes are the best place to go swimming! Although technically possible, the cost of making Class C rivers as healthful for swimming as lakes would be astronomical. It would probably cost the State less to build and operate a heated, indoor swimming pool in each riverside town than to make the bacteriological quality of Class C rivers equal to that of lakes. If the money were available, which would you choose?

Part of DEP's proposed revision of water quality classifications establishes procedures for the future reclassification of Maine's waters. To ensure full public participation, the Board of Environmental Protection would: 1) conduct studies and investigations of water quality and the socioeconomic context of water quality classifications, 2) hold public hearings in the affected areas, and 3) make recommendations for classification to the Legislature. The Legislature would then assign classifications so as to best serve the public interest.

Although it would seem desirable to have all changes of classification go through the above-described procedure, the establishment of new classification standards requires some immediate changes in the classifications assigned to waters of the State. DEP's proposed changes in classification are considered to be the minimum necessary for implementation of the revised classification standards.

All Class D waters are upgraded to Class C in DEP's proposal. Waters presently classified as "C" remain Class C in the revision. Even though there are many small brooks and streams in Maine which seem to be inappropriately classified as "C", no recommendation for their upgrading to Class B is being made at this time. All Class B-1 and Class B-2 waters are reclassified as Class B except for a few which are upgraded to Class AA. Waters which are presently Class A remain the same except for some which are upgraded to Class AA. Waters upgraded to Class AA are those rivers, streams and brooks: 1) within the boundaries of Baxter State Park, 2) within the boundaries of Acadia National Park, and 3) which merit special protection as described in the 1983

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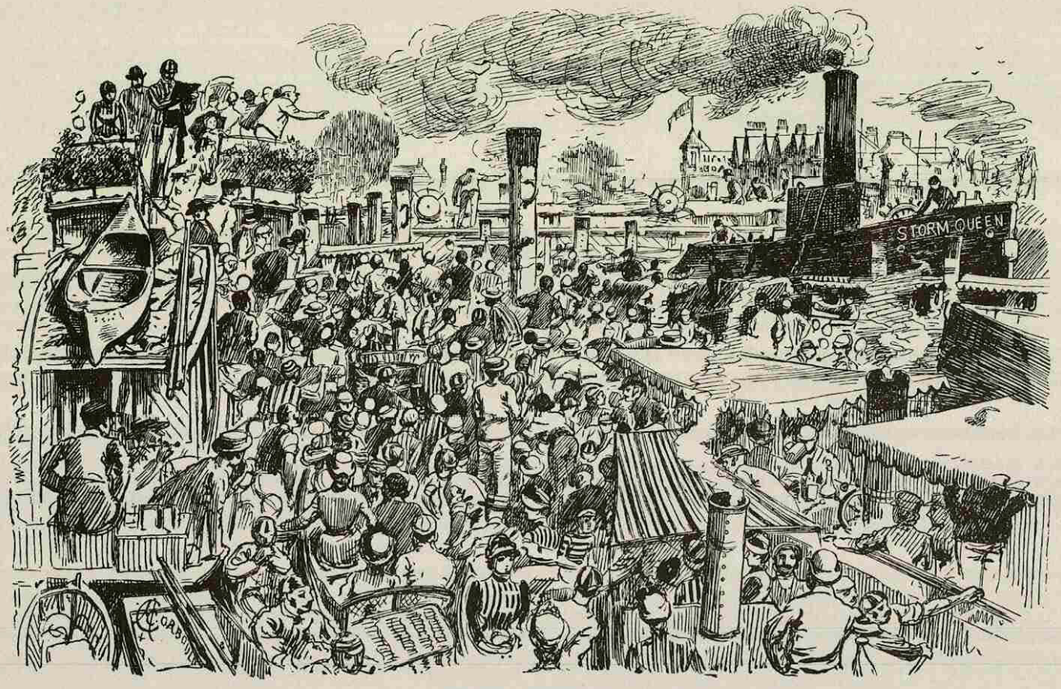

RIVER PUZZLE.

Rivers Protection Law and which also do not presently receive licensed discharges.

Because the present classifications assigned to estuarine and marine waters are largely an illogical and ambiguous patchwork, more sweeping changes in the assignment of classifications are necessary than for fresh waters. DEP's proposed revision calls for: 1) the repeal of the present classifications for estuarine and marine waters, 2) classifying these waters as "SB" unless otherwise specified, 3) establishing 10 "SC" zones in coastal harbors, and 4) establishing 9 "SA" zones adjacent to State or Federally owned lands. Like the assignment of classifications for fresh waters, the classifications for marine waters in DEP's proposed revision are intended to maintain the status quo as regards uses and discharges as much as possible.

Although the water classification statute has the potential to change patterns of water use and wastewater discharges, it is intended that such decisions be made by future Legislatures after full public participation. The most important action needed at this time for protecting and improving Maine's water resources is to make appropriate choices for how different classes of water are to be managed. For over two years, the staff of the DEP Bureau of Water Quality Control has struggled with vexing issues of bacteriological, biological, ecological, economic, legal, medical, social and technological relevance to the task of water quality classification. The proposed system for water quality classification represents our best efforts to provide the means to manage public waters in the best interest of the people of the State of Maine.

Maine Enviro ws

1984

See Pg 6

Canadian Hydro and Maine's Energy Mix

There has been an increasing interest by Mainers in the potential for purchasing Canadian hydropower as the panacea for all our domestic energy problems. A question that has been posed to me several times is, "Why do we need to develop any more hydropower in Maine if Canada is so willing to provide us with cheap power surplus from Hydro-Quebec? Why do we even consider new hydro projects of the magnitude of Big A, that have some negative impacts on our natural resources, if we can purchase cheap, renewable energy from another source?"

Well, there are many sound answers to this question. The first argument for developing our indigenous energy resources is that Canadian hydropower has some of the same disadvantages as imported oil. Since it is not a domestically controlled resource it may be subject to unreasonable price fluctuations, unpredictable interruption and it cannot always be contracted for on a dependable, long-term basis.

However, in March of 1983, the members of the New England Power Pool (NEPOOL), a consortium comprised of most of the New England utilities including Central Maine Power and Bangor Hydroelectric Company, agreed to an 11-year contract to purchase electricity from Phase I of Hydro-Quebec's James Bay Project. The current price negotiated by NEPOOL for Hydro-Quebec Power is 20% less than the average cost of electricity generated at New England's fossil fueled plants or approximately 3.2 cents per KWh at present oil and coal prices. The electricity will begin to flow in 1986 when it is anticipated that the transmission line between Quebec and Northern New Hampshire will be completed.

This deal is projected to save New England residents 100 million dollars per year during the early years and 350 million dollars annually later on by reducing the amount of oil-fired generation. Delivery of thirty-three billion KWh of energy is scheduled between 1986 and 1997 and it is estimated that this purchase of Quebec hydropower will displace five million barrels of oil.

Although a contract has been signed promising this power, it is not a firm-capacity, uninterruptible contract. In other words, NEPOOL will only be able to purchase the power when it is available in surplus. Maine will receive approximately 9.5% of the electricity imported by NEPOOL from Quebec, which works out to about 285 million KWh per year. CMP will receive 234 million KWh/year and Bangor Hydro will receive 51 million KWh/year. Approximately 3% of Maine's electricity needs will be served by Hydro-Quebec when the transmission line is constructed.

Hydro-Quebec is a government-owned, provincial utility which miscalculated Quebec's domestic demands for power. This power surplus has been created because Quebec's economic growth has not expanded at the anticipated rate and the needs for electricity have decreased accordingly.

Construction on the James Bay Le Grand Complex began in the early 1970's. The first phase of this gigantic power

TESTIMONY OF HENRY E. WARREN

COMMISSIONER, DEPARTMENT OF ENVIRONMENTAL PROTECTION

SUPPORTING L.D. 1503

AN ACT TO REVISE MAINE'S WATER QUALITY CLASSIFICATION SYSTEM

BEFORE THE JOINT STANDING COMMITTEE ON ENERGY AND NATURAL RESOURCES

SPONSORED BY: SENATOR PRAY

DATE OF HEARING: MAY 20, 1985

SENATOR USHER, REPRESENTATIVE MICHAUD, AND MEMBERS OF THE ENERGY AND NATURAL RESOURCES COMMITTEE. I AM HENRY E. WARREN, COMMISSIONER OF THE DEPARTMENT OF ENVIRONMENTAL PROTECTION, SPEAKING IN SUPPORT OF LD 1503.

IN THE THIRTY YEARS SINCE ITS INCEPTION, MAINE'S WATER QUALITY CLASSIFICATION SYSTEM HAS PROVEN ITSELF TO BE A VALUABLE TOOL IN THE EFFORT TO CLEAN UP MAINE'S POLLUTED WATERS AND PREVENT DEGRADATION OF ITS HIGH QUALITY WATERS. ONCE DEGRADED TO THE POINT WHERE THEY RESEMBLED OPEN SEWERS, NEARLY ALL OF MAINE'S MAJOR RIVERS HAVE RECOVERED ENOUGH TO SUPPORT SPORT FISHERIES. MOST HAVE ALSO IMPROVED TO SUCH A DEGREE THAT THEY ARE SAFE FOR SWIMMING. THAT THE CLASSIFICATION SYSTEM HAS ENDURED IN VERY NEARLY ITS ORIGINAL FORM UP TO THE PRESENT CLEARLY DEMONSTRATES THAT IT WAS WELL SUITED FOR ITS PURPOSE.

Written Testimony from '85 hearing

THE FACT THAT THE CLASSIFICATION SYSTEM HAS WORKED SO WELL HAS CONTRIBUTED TO THE NEED TO REVISE THAT SYSTEM. THE FEDERAL CLEAN WATER ACT ALSO REQUIRES THAT THE SYSTEM BE REVIEWED EVERY THREE YEARS AND, WHEN APPROPRIATE, BE REVISED. AS THE MORE BLATANT FORMS OF MUNICIPAL AND INDUSTRIAL POLLUTION HAVE BEEN ABATED, OTHER ENVIRONMENTAL PROBLEMS HAVE ARISEN TO REPLACE THEM. MOST OF THESE "NEWER" PROBLEMS, SUCH AS NONPOINT SOURCES, TOXIC AND HAZARDOUS WASTES, HAVE BEEN AROUND FOR YEARS, BUT HAVE BEEN MASKED BY THE MORE OBVIOUS POLLUTION FROM UNTREATED SEWAGE. THESE MORE SUBTLE FORMS OF WATER POLLUTION ARE MORE COMPLEX AND, IN SOME WAYS, MORE DIFFICULT TO DEAL WITH THAN EARLIER FORMS. THE PRESENT CLASSIFICATION SYSTEM IS NOT WELL SUITED TO DEALING WITH THESE NEWER PROBLEMS.

THE PROPOSED REVISIONS TO THE WATER QUALITY CLASSIFICATION SYSTEM ARE AIMED AT THESE AND OTHER SHORTCOMINGS, TAKING INTO ACCOUNT MANY SITUATIONS WHICH COULD NOT EASILY HAVE BEEN ENVISIONED TWENTY OR EVEN TEN YEARS AGO. FOR EXAMPLE, IN 1975 IT WOULD HAVE BEEN DIFFICULT TO IMAGINE THAT WITHIN TEN YEARS, WATER QUALITY IN THEN GROSSLY POLLUTED RIVERS SUCH AS THE KENNEBEC AND PENOBSCOT WOULD IMPROVE TO THE POINT THAT PEOPLE WOULD CONTEMPLATE SWIMMING IN THEM. THIS HAS HAPPENED. THE PROPOSED REVISION RECOGNIZES THIS IMPROVEMENT AND PROVIDES FOR SWIMMING IN SUCH RIVERS. IN SO DOING, IT WOULD ELIMINATE THE APPARENT CONFLICT BETWEEN THE CURRENT CLASSES, C AND SC, AND THE FEDERAL CLEAN WATER ACT'S GOAL OF "RECREATION IN AND ON THE WATER" WHEREVER POSSIBLE BY 1983. IN ADDITION, WE HAVE PROPOSED UPGRADING THE STATE'S BACTERIA STANDARDS TO INCLUDE INDICATOR ORGANISMS WHICH HAVE BEEN FOUND TO BE MORE RELIABLE INDICATORS OF WATER QUALITY THAN THOSE IN USE IN THE PRESENT CLASSIFICATION SYSTEM.

A CONTINUING PROBLEM WITH THE EXISTING WATER QUALITY CLASSIFICATION SYSTEM HAS BEEN THE CONFUSION AS TO WHETHER THE WATER QUALITY CLASSES ARE MEANT TO SERVE AS WATER QUALITY GOALS OR AS STATEMENTS OF EXISTING WATER QUALITY. THE PROPOSED REVISIONS CLEARLY SHOW THAT THE CLASSIFICATION SYSTEM IS GOAL ORIENTED AS REQUIRED BY THE FEDERAL CLEAN WATER ACT.

THE PROPOSED REVISIONS TO THE WATER QUALITY CLASSIFICATION SYSTEM INCLUDE A NEW CLASS -AA- WHICH IS MORE PROTECTIVE THAN THE PRESENT CLASS A IN THAT IT PROHIBITS DISCHARGES INTO CLASS AA WATERS. IN DEVISING THIS NEW "HIGHEST" CLASS THE INTENTION WAS TO PROVIDE THE LEGISLATURE A MEANS TO SET ASIDE THOSE WATERS WHICH ARE SO SPECIAL IN TERMS OF THEIR ECOLOGICAL, SOCIAL, SCENIC OR RECREATIONAL VALUE THAT THEY SHOULD BE PRESERVED AS NEARLY AS POSSIBLE IN A PRISTINE STATE.

FOR YEARS MAINE AND MANY OTHER STATES HAVE RELIED ON CHEMICAL PARAMETERS WITH NUMERICAL CRITERIA TO KEEP POLLUTANT LEVELS LOW ENOUGH TO PROTECT AQUATIC SPECIES SUCH AS FISH, SHELLFISH AND INSECTS. THE GROWING NUMBER, COMPLEXITY AND VARIETY OF CHEMICALS USED IN MODERN INDUSTRIAL PROCESSES HAS MADE IT NEARLY IMPOSSIBLE TO FULLY TEST THE EFFECTS OF EACH CHEMICAL ON ORGANISMS THAT LIVE IN OUR WATERS. FURTHERMORE, SUBSTANCES WHICH BEHAVE A CERTAIN WAY IN A CONTROLLED LABORATORY SITUATION MAY ACT ENTIRELY DIFFERENTLY IN A RIVER OR LAKE AND THE IMPACTS MAY VARY FROM ONE ANIMAL TO THE NEXT. THUS, THERE IS A CONSIDERABLE DEGREE OF UNCERTAINTY AS TO HOW WELL AQUATIC SPECIES ARE BEING PROTECTED IF ONE RELIES SOLELY ON NUMERICAL CRITERIA. THE PROPOSED REVISION OF THE CLASSIFICATION SYSTEM SUPPLEMENTS NUMERICAL CRITERIA WITH

BIOLOGICAL MEASURES OF ENVIRONMENTAL IMPACT IN ORDER TO MORE COMPLETELY GAUGE THE EFFECT OF POLLUTANTS DISCHARGED INTO MAINE'S WATERS.

FOR YEARS, HUNDREDS OF SEWAGE DISCHARGES FROM HOMES AND BUSINESSES ALONG MAINE'S COAST RESULTED IN THE CLOSING OF THOUSANDS OF ACRES OF PRODUCTIVE CLAM FLATS AND THE ACCOMPANYING LOSS OF MANY JOBS IN THE HARVESTING AND PROCESSING OF SHELLFISH. BY THE LATE 1970'S, CLEANUP EFFORTS HAD SUCCEEDED TO THE POINT OF REOPENING MANY OF THESE AREAS TO SHELLFISH HARVESTING. THIS BILL AIDS THE LEGISLATIVE MANDATE FOR PROTECTION OF THIS RESOURCE IN THAT IT PROHIBITS ANY NEW DISCHARGE WHICH WOULD REQUIRE THE DEPARTMENT OF MARINE RESOURCES TO CLOSE ANY SHELLFISH AREA.

A GREAT DEAL OF TIME AND EFFORT HAS GONE INTO THE PREPARATION OF THE PROPOSED WATER QUALITY CLASSIFICATION SYSTEM. THIS PROPOSAL IS THE RESULT OF EXPERIENCE GAINED FROM THE 111TH LEGISLATURE'S REACTION TO THE PROPOSED REVISION SUBMITTED THEN, AS WELL AS EXTENSIVE SAMPLING OF OUR STATE'S RIVERS, LAKES AND COASTAL WATERS DURING THE PAST YEAR AND A HALF. WE ARE SUBMITTING A COMPREHENSIVE PACKAGE TO YOU FOR YOUR CONSIDERATION. THE PACKAGE INCLUDES THE CLASSIFICATION SYSTEM AS WELL AS PROPOSED CLASSIFICATIONS FOR THE STATE'S WATERS. THE SECTIONS LISTING THE CLASSIFICATIONS OF STATE WATERS HAVE BEEN REORGANIZED TO MAKE THEM SHORTER, MORE UNDERSTANDABLE AND MORE AMENABLE TO FUTURE AMENDMENTS. IN ALMOST ALL CASES, THE PROPOSED CLASSIFICATIONS FOR FRESH WATERS MATCH THE EXISTING CLASSIFICATION. BY THAT, I MEAN THAT ALL B-1 AND B-2 WATERS ARE DESIGNATED B. ALL C AND D WATERS ARE DESIGNATED C AND ALL A WATERS REMAIN CLASSIFIED AS A. THE AA STANDARD HAS BEEN APPLIED ONLY TO THOSE WATERS IN BAXTER STATE PARK, ACADIA NATIONAL PARK AND THOSE WATERS WHICH WERE DESIGNATED BY THE 111TH LEGISLATURE AS OUTSTANDING RESOURCES MERITING SPECIAL PROTECTON AND WHICH ALSO DO NOT PRESENTLY HAVE ANY LICENSED DISCHARGES.

MARINE WATERS, ON THE OTHER HAND, HAVE BEEN SUBSTANTIALLY REDESIGNATED. QUITE FRANKLY, WE CAN FIND LITTLE RHYME OR REASON TO THE PRESENT CLASSIFICATIONS FOR MARINE WATERS OR THE ASSIGNMENT OF THOSE CLASSIFICATIONS. AS IT IS NOW, THE LAW PROVIDES FOR ALMOST THE EXACT SAME MANAGEMENT OF SA, SB-1 AND SB-2 WATERS. AS A RESULT, WE HAVE PROPOSED THREE STANDARDS FOR MARINE WATERS: SA, SB AND SC. THE PROPOSED SB CLASSIFICATION IS MORE PROTECTIVE THAN THE PRESENT SA CLASS AND IN OUR PROPOSAL, THE VAST MAJORITY OF MAINE'S MARINE WATERS WOULD BE RECLASSIFIED TO SB. THE PROPOSED SA CLASSIFICATION ALLOWS NO DISCHARGES. THE MARINE WATERS WHICH WOULD BE SA IN OUR PROPOSAL ARE ADJACENT TO STATE OR FEDERALLY-OWNED LAND. THE TEN AREAS THAT WE PROPOSE BE CLASSIFIED AS SC ARE LOCATED IN HARBORS WHERE THERE ARE CONCENTRATIONS OF POPULATION AND/OR COMMERCE SUCH AS PORTLAND HARBOR. THIS APPROACH TO THE CLASSIFICATION OF MARINE WATERS IS SUPPORTED BY THE DATA WE'VE COLLECTED. I'D LIKE TO DIRECT YOUR ATTENTION TO OUR MAPS IF YOU HAVE QUESTIONS ABOUT SPECIFIC WATERS.

AS I SAID, MUCH EFFORT HAS BEEN EXPENDED TO BRING YOU THE BEST SET OF WATER QUALITY STANDARDS POSSIBLE. WE FEEL THEY WILL WITHSTAND THE TEST OF TIME AND WILL PROVIDE A FRAMEWORK WHICH WILL CONTINUE THE HIGH QUALITY OF WATER AND LIFE IN THE STATE OF MAINE.

PROPOSED DEPARTMENT OF ENVIRONMENTAL PROTECTION AMENDMENTS TO
L.D. 1503- AN ACT to Amend the Classification System for
Maine Waters and Change the Classification of Certain Waters

May 9, 1985

Page	Line	
1	34	and on the water and that certain pristine [state] State wa-
4	22	sified as [lakes and] great ponds.
6	32	§ 363-A. Standards for classification of [lakes and] great
6	35	for the classification of [lakes and] great ponds, except
8	11	fishing recreational activities, aquaculture, propa-
8	23	recreational activities, aquaculture, propagation and
9	7	recreational activities, aquaculture, propagation of
12	22	to [the Route 191] a point located 0.25 mile above the Route 1 bridge [in East Machias] -
12	24-25	(2) From [the Route 191] a point located 0.25 mile above the Route 1 bridge [in East Machias] to tidewater - Class C.
12	28	Route 191 bridge in [East Machias] Jacksonville - Class A
19	29	[Main Stem] main stem, from the outlet of Great
20	1	[(0)] (o) Small streams and their tribu-
24	12	(d) From the T.3, R.11, W.E.L.S. - T.3,
30	10	(3) Little River [,] from the crossing of Route 5
33	19	[ment-] ments - Class B.
37	19	Falls to tidewater - [class] Class C.
45	5	G. Stuben and T.7, S.D.
48	28	tude 70°-09'-00" W. - Class SC.

Jennifer Clair

Larry Benoit 2 PM - 3:30 unconfirmed
Mary MacElaney scheduled

0 → "Management Goals" ? ← (P110) ← legally enforceable? NRC

Legislate target schedule ?

Why "next highest"? why not just maintain higher quality

What's the diff between "natural" & "unimpaired" habitat

1 ✓ → • Lack of specificity in biological/ecological criteria NRC (P110)
• cumulative impact (MAS)

2 → • "Use" of water is criteria of quality as well as the physical/biological parameters (P110)
(Also the case in the existing classification system)

minor X DO testing procedures (IP GNP)

3 ✓ → • Classification of impoundments (P110 IP GNP)

4 see 1 → • Definition of terms (P110)
• "Naturally occurring": how to ascertain this (P110 MCC&I)

5 → • NPS included in definition of discharge? (P110. NRC from different angles MCC&I)
(this concern is actually w/ existing laws)

minor X Opportunity to reclassify pristine waters (P110)
(isn't this what AA is?)

6 → • Application of antidegradation too vague language (NRC MAS)

minor X DO in "C" is not adequate should be 6ppm (NRC 1U)

7 ✓ → • Should be no ~~dom~~ or ind discharge to lakes or their tribs (NRC)

• How will landuse changes be enforced

• EPA comments

• are the bacteria levels for C healthy for swimming

what would it take to get 1/1000

X Include industrial use of water in purposes (in AB:C already) (P110 MCC&A)

• Suggest retention of multi tiered GP system w/ schedule (NRC)

X substitute "significant" for "detrimental" (NRC)

STATE OF MAINE
DEPARTMENT OF HUMAN SERVICES
AUGUSTA, MAINE 04333
PUBLIC HEALTH LABORATORY
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JOSEPH E. BRENNAN
GOVERNOR

MICHAEL R. PETIT
COMMISSIONER

Testimony of: Philip W. Haines, Dr. P.H.
Director, Public Health Laboratory
Department of Human Services

Supporting LD-1503

An Act to Amend the Classification System for Maine Waters and Change the Classification of Certain Waters.

Before: Committee on Energy and Natural Resources

Date: May 20, 1985

The Department of Human Services supports LD-1503, specifically as regards the proposal to institute new bacterial water quality criteria. These new criteria will bring Maine's statute into conformance with scientifically defensible standards for water quality, recently developed by the United States Environmental Protection Agency and several investigators.

The traditional standard for suitability for swimming has been the number of fecal coliform group bacteria. The cutoff level was supposed to represent a threshold, below which there would be no swimmer illness, and above which illness would begin to be observed. We now know this cutoff to be illusory.

Several investigators have recently studied the incidence of swimmer illness as related to counts of several species and groups of bacteria. They have observed that the best correlation between illness and counts of bacteria occurs for enterococci in marine waters and enterococci or E. coli in fresh waters. The old fecal coliform standard correlated very poorly with illness. These studies can be used to relate the expected number of illnesses per 1000 swimmers to the geometric mean counts of E. coli or enterococci. By the application of statistical principles, single-sample or instantaneous bacterial counts can also be related to risk.

LD-1503 adapts these criteria to Maine's waters. Although comparison to the old fecal coliform standard is difficult due to the poor correlation of that standard, it is believed that the criteria in LD-1503 represent a level of safety at least as great as that represented by the old standard. The proposed new standards are certainly more defensible from a scientific point of view, and represent a valid approach to the various risks involved. They represent a reasonable approach to quantitating for the public the ever-present health risks of swimming in a variety of waters.

Furthermore, the inclusion of both a geometric mean count and an instantaneous level makes the regulatory process clearer and more manageable for the Department of Human Services. The Department of Human Services will need to revise its swimming safety standards to conform to DEP's revised criteria. However, we heartily endorse the concept and look forward to a standard based on solid and well studied data. Such standards will be more protective of the public health than the existing fecal coliform standard. The new standards reflect up-to-date understanding of microbiology and health as well as the state of Maine's waters.

In summary, the Department of Human Services is pleased to support LD-1503's new bacterial water quality standards.

PAPER INDUSTRY INFORMATION OFFICE
133 STATE STREET
AUGUSTA, MAINE 04330

TESTIMONY FOR PUBLIC HEARING
COMMITTEE ON ENERGY AND NATURAL RESOURCES
1 p. m. MAY 20, 1985

REGARDING

L. D. 1503 - TO AMEND THE CLASSIFICATION SYSTEM FOR MAINE WATERS AND CHANGE THE CLASSIFICATIONS OF CERTAIN WATERS

Senator Usher and members of the Joint Standing Committee on Energy and Natural Resources: My name is Henry Magnuson and I'm the executive director of the Paper Industry Information Office in Augusta. This is a trade association of eleven pulp and paper manufacturers who produce 95% of the pulp and paper products made in the state of Maine.

The Paper Industry Information Office appreciates very much the opportunity to present testimony here today in support of the Department of Environmental Protection's effort to amend Maine's water classification system. The paper industry believes it's important to address the concepts of toxicity, designated uses, and impoundments, and their relationship to water quality. As such, L.D. 1503 is a step in the right direction.

The paper industry does, however, have significant concerns regarding certain aspects of L.D. 1503 and our support of the bill is predicated on the expectation that amendments can be made to overcome the problems we see in the bill.

(more)

The Department, as Hank Warren already has testified, has been in the process of drafting this legislation for nearly three years. It's been a major undertaking. From today's testimony, you can see that L.D. 1503 calls for a complete change in the way Maine's water classification statutes are administered. This revision contains numerous minor changes, many of which could have significant impacts. There also are a number of major changes aimed at allowing the department ultimately to define what degree of biological change is acceptable with respect to a specific classification.

As evidenced by the testimony you've already heard and the testimony still to come, and by the length of this bill, you can see that the subject of water classification is very complex. Without question, this committee has a very difficult task before it. Even though substantial work already has gone into L.D. 1503, work remains to be done, and the paper industry is very concerned that the time remaining in this session may not allow for full and complete deliberation by the committee on the changes being suggested or the impacts which will be brought upon industry in this state, whether L.D. 1503 is amended or not.

The paper industry stands ready to work diligently with this committee and the department to forge a bill which will protect Maine's waters while still being fair to Maine's major industry, which depends upon river water for industrial processing, cooling water, and hydropower generation.

I won't discuss at length all of the specific areas of the bill the paper industry believes warrant serious discussion and amending, but I do wish to mention eight of them.

(more)

1. The legislative findings indicate only that proper management of the state's water resources is of great concern for various environmental and recreational reasons. We believe that the legislative finding also should include a statement that management of Maine's water resources, likewise, is important for industrial process, cooling water, and hydroelectric generation purposes.

2. The Purpose also states that biological and water quality criteria necessary to support "characteristics and designated uses" of each classification should be determined. This raises the question of whether the DEP wishes to be able to look both at physical parameters as well as impacts on such things as recreation, the sport of fishing (as opposed to the impacts on fisheries), because these are designated uses of a classification. Paper companies are very concerned that this type of approach would allow the DEP to deny a water quality certification for any Federal discharge license on the basis of impact on uses, even where the physical parameters of the classification are met by the waters being discharged into a particular body of water.

3. An exemption is provided for water quality criteria where natural conditions are met. We are not sure what "natural" means. Does it mean before any industrial activity occurred? The DEP also would be required to submit a report on what measures are necessary for the attainment of "management goals," but the bill never states who sets these goals, what they are, or whether they differ from the classification. We would prefer to see reference being made to "classification," rather than to undefined "management goals."

(more)

4. With respect to Section 1 of the bill, there are a number of terms used without drawing distinctions or establishing definitions. These include: "quality," "characteristics," "designated uses," "classification," "standards," and "management goals." Because these terms will set forth the state's position on waste discharge licenses, allowable impacts, and water quality certifications, these terms must be clear, and the inter-relationships between them explained in the statutes.

5. For the first time, an "anti-degradation" standard is proposed to be contained in Maine's water quality statutes. This provision seems to be expanding upon water quality considerations beyond the physical characteristics, by requiring no degradation of designated uses. This could be read to mean that recreational uses of water bodies must be protected against such things as hydro development, even where the water quality characteristics are being maintained. The anti-degradation provisions would be imposed not only on discharges, but also on "any activity"--also undefined.

6. The paper industry also is concerned about the use of the word "discharge" without the qualifying term "direct" discharge, or any other limitation on its scope so as not to always place normal forestry activities in automatic violation of this prohibition.

7. Regarding the specific classification, it seems to us that it would be appropriate for the DEP to take this opportunity to identify, classify and, thereby, preserve certain pristine waters. Now that may be what is on these maps, which I did not know existed before this hearing, and which I have not had a chance to look at.

(more)

With respect to the proposed Class Double-A and Class A, about the only concern we have is the need to clarify direct and indirect discharges from forestry and some other normal land use activities, including agriculture.

8. There also is the concern regarding classification of waters behind impoundments. I believe you'll hear more about this from other speakers but, as proposed, classifying impoundments as "rivers" presents some serious difficulties to the industrial community, since the dissolved oxygen content minimums for flowing rivers would be extremely difficult or impossible to meet in an impoundment.

As I stated at the outset, the paper industry is ready and willing to work diligently toward arriving at a bill which not only provides proper management and classification of Maine's waters for various environmental and recreational reasons, but also provides for their reasonable use for industrial process, cooling water and hydropower generation purposes.

Thank you. I'll be happy to try to answer any question you may have. I also will be happy to provide specific language for your work session on any amendments you may determine should be made in the bill.

1503

LD. NO. 1421 - AN ACT TO AMEND THE CLASSIFICATION SYSTEM FOR MAINE WATERS AND CHANGE THE CLASSIFICATION OF CERTAIN WATERS.

THOMAS E. LINDER - ENVIRONMENTAL SERVICES SUPT., INTERNATIONAL PAPER CO., ANDROSCOGGIN MILL, JAY, ME.

In addition to comments being made on behalf of the pulp and paper industry by the Paper Industry Information Office, International Paper Company wishes to make the specific comments below. Due to the lack of time to fully document our position on each issue, the purpose of these comments is to identify those items of particular concern to International Paper.

1) Water quality criteria for several classifications of surface waters include minimal levels of dissolved oxygen. Our experience is that it is often unclear how compliance with D. O. criteria is to be determined. We therefore recommend that this bill include a requirement that the Department of Environmental Protection issue specific guidance for such determinations and that public review and comment on such guidance be solicited.

2) The classification of lakes and ponds (38 MRSA Section 363-A) allows for the inclusion of impoundments but states "that impoundments of rivers may be otherwise classified as specified in Section 363." The hydrologic nature of an impoundment is often distinctly different from that of a lake or a river. The automatic application of stream, lake, or pond standards is not warranted and may not be achieveable. International Paper recommends that a separate classification for impoundments with its own water quality criteria be established. Where uniform water quality criteria cannot be applied because of the nature of an impoundment, International Paper recommends that DEP be required to develop guidance by which suitable standards can be established. These procedures and the standards established should be available for public review and comment.

3) Enforcement of a dissolved oxygen standard based on percent saturation will be difficult. As in comment 1 above, DEP should be required to develop specific methods for determining the temperature of a water body that will be used to set the dissolved oxygen limit. DEP should be required further to specify the mechanism by which this limitation will be made known to those municipalities and industrial users who will be affected by it, and the frequency with which changes will be made in the dissolved oxygen limit.

International Paper Company would welcome an opportunity to meet with the appropriate committee to further discuss or explain our concerns.

Testimony of Natural Resources Council of Maine

L.D. 1503

Chairman Usher, Chairman Michaud, members of the Committee: My name is James Dow and I am before you on behalf of the Natural Resources Council of Maine.

The Natural Resources Council views L.D. 1503 as a major piece of environmental legislation - a bill of tremendous significance for the state's water resources. It is a bill which deserves your most careful scrutiny. Yet it is also a bill of some complexity.

For these reasons, and because it is late in the session and your statutory deadline is rapidly approaching, the Council's Board of Directors voted at their most recent meeting to suggest to you that if you feel you will not have time to thoroughly study both the proposed revision of Maine's water quality standards and the actual reclassification of the state's waters which this bill sets out, that you hold this bill over until next session, perhaps forming a subcommittee to review it in the interim period. The Council feels there is no need for the Committee to act in haste. The classification system presently in existence will suffice for the period of months until next session. There will be no loss of federal funds as had been rumored earlier. I would add that the Council would enjoy working with the Committee or any subcommittee that might be formed to review this bill between sessions.

With that important preface, I would begin by saying that from the Council's perspective, the overriding issue presented by this bill is whether it recognizes the vast improvements made since the early 1970's in the quality of the state's water or whether it allows backsliding, ie. the degradation of our waters.

That said, I would like now to comment on the bill itself. These comments, however, address only the first nine pages of the bill which concern the reclassification system. We have not yet thoroughly reviewed the remainder of the bill which sets out the actual classification of the state's water bodies. We are in the process of doing so, with the help of our members and directors.

In our view the first nine pages of L.D. 1503 set out a fundamentally sound reclassification system. We have, however, identified several points of concern.

The first concern involves the use of the word "goal" in the first section of the bill. While the bill adopts the federal fishable-swimmable "goal" (page 1, line 32), it then sets out "water quality management goals" (page 2, line 3), the new classification system, which are intended to upgrade the quality of waters which do not presently meet their "goals". The federal Clean Water Act often uses the term "goal" as a future target which is not in and of itself enforcable; water quality standards are, of course enforcable through the discharge licensing systems. Why this bill uses the term "goal" in the sense of a policy

target (fishable-swimmable goal) and also as a management tool (the actual class assigned to each body of water) is not clear. It should be very clear however in the law that the water quality standards are enforcable. It seems likely that this is the intended result, but the wording raises the question.

In this regard it is important to note that if this legislation does not result in the actual use of the new biological criteria in the discharge permits, than it is useless. One way to flesh out this problem would be to establish deadlines, perhaps July 1986, by which the Department would adopt regulations to define biological criteria for each class and how those criteria would be considered and enforced in the discharge permits. Remember that the effluent and discharge limitations in the permits must be stricter if the applicable water standards so require. (2)

This regulatory deadline would also be important because of the vagueness of some of the biological criteria language of class B and C in particular (pages 5 and 6). Note that class B waters "shall not cause adverse impact to aquatic life and that receiving waters shall be of sufficient quality to support all aquatic species indigenous to the receiving water without detrimental changes in the residential biological community". Not only does this standard presuppose sufficient DEP resources to determine the resident biological community and the impact of any pollutant on that community, but it also requires DEP to determine that the receiving waters will be of "sufficient quality", whatever that means. Also in class C waters, pollutants (3)

may cause "some changes to aquatic life". The regulatory definition of these terms and the biological surveys necessary to support these permit by permit decisions should have some teeth in them and this can be done in part by establishing deadlines for the adoption of criteria so that we are assured that these criteria are enforcable. (3)

The second major concern involves the "anti-degradation" paragraph on page 3, lines 6 through 20. That paragraph includes a loophole in the anti-degradation policy it establishes by allowing the Board of Environmental Protection to issue a permit that complies with the standards of the classification rather than the actual (higher) water quality when "the degradation of water quality is necessary for economic or social purposes which provide significant public benefits for the people of the state" (page 3, line 17). This exception should be striken, for several reasons. First, this is essentially a legislative policy judgment about economic development about which the BEP, established to protect the environment of the state, has little or no expertise. Secondly, this is essentially "spot zoning" and it is poor public policy to allow such decisions on a permit by permit basis, because only the big developers will be able to afford the technical and legal information to pressure the Board into accepting degradation. Third, this type of decision properly belongs with the Legislature; it is the type of policy judgement that goes beyond one permit applicant and has the potential to effect all future applicants who wish to site on (4)

a particular body of water.

The third concern involves the issue of non-point source discharges. The bill does not address this issue. Non-point sources cannot help but be a significant source of pollution in some high quality waters. At the very least, the issue of whether the pollutant load from non-point sources is to be considered part of the "natural conditions" (page 2, line 28) or whether new discharges will be limited because the existing non-point load is causing adverse impact on the biological community should be clarified. (5)

The fourth concern involves the dissolved oxygen criteria for class C waters (page 6520, line 17). Based on our information, the dissolved oxygen criteria of 5 ppm is not adequate protection for the survival, growth and reproduction of indigenous species of fish (Salmonids). We feel the criteria should be increased to 6 ppm which would provide a buffer zone, especially during reproduction and migration periods. (6)

Our sixth concern involves the bills treatment of lakes and ponds. First of all, on page 3 line 4 there is no prohibition on industrial discharges to tributaries of class GPA waters. We believe this statement should read "There shall be no discharge of domestic or <u>industrial</u> wastewater in the tributories of GPA waters." Secondly, although there are four classes of rivers, and three classes of ocean water, in the bill there is only one class of lakes. We wonder if a multi-tiered grading system for lakes which might lead to an affirmative management strategy (7)

for lakes in each of the respective tiers would not make sense. I believe Tom Gordon of the Congress of Lakes Association will go into this concern with you in more depth.

Our last concern, at this point in time at least, involves the use of the word "detrimental" on page 6 line 7 and page 8 line 39. In both cases the word is used to describe certain types of changes in the resident biological community in a class of waters. It is our belief that "detrimental" is a subjective term and that perhaps the word "significant", which could be more readily defined or understood in a legal sense, would be more appropriate. (8)

We hope you will find these comments useful in your consideration of this bill. As I mentioned previously we are still in the process of reviewing the last section of the bill which sets out the classification of the state's various water bodies. We will of course share the results of that review with you when it is complete.

In closing I would again urge you to give this piece of legislation close and thorough consideration and to not hesitate to hold it over until next session if you deem the time left this session inadequate to allow you to give the bill the attention it deserves.

Thank you.

LD 1506 5/20

PRO Sen. Charley Pray
Hank Warren

- distressed that bill is before the committee so late in getting the bill
- really wants the committee to deal w/ the bill
- This bill draws on substantial experience from water quality testing
- lower Kenn & lower Penob haven't been designated as AA because of
- existing discharges other stretchs with of "significant value" are classed as "AA" Does this mean the Rivers Study or the Rivers Bill
- substantial revisions in the marine classifications
- freshwater classifications are basically a side step into new system
- Framework for 3 yr program to review specifics in each river system

Mitchell asks about comulative impact. Warren says thats inevitable

Law asks how much its going to cost? State Agencies: nothing.

Mitchell asks about Casco Bay classifications CB has 3 classifications in it. How will that actually work if discharge in "C" water affects "A" class offsite

Phil [redacted] Humes DHS supports shift in bacterial standard

Hank Magnuson PIIO step in the right direction but there are some significant concerns

Magnuson (cont) ① biological standards

② legislative ~~reasons~~ finding should include industrial uses

③ Impact on uses of water as well as the physical parameters

④ Not sure what is meant by the "natural conditions exemption"

⑤ What are the "management goals" vs

⑥ In section I definitions needed
quality
characteristics
uses
standards
management goals

⑦ Concerned that ?

⑧ Anti degradation language is a problem because "use" ~~impacts~~ impacts may be used as grounds for denial

⑨ "Discharge" term is not limited to direct. NPS could be included.

⑩ DEP ought to take this opportunity to ~~re~~reclassify pristine waters

⑪ Classification of waters behind impoundments DO reqs hard to meet.

Thomas (Lindred & IP will Jay (see written)

Wants requirement that DEP issue rules governing how DO is tested

Ron House GNP basically as above

Jim Daus ① concerned over the lack of biological specificity in the classifications

Jim Dow: ② also concerned that anti degradation language is too loose

③ NPS issue is not addressed at all

④ DO criteria for Class C is not adequate for sustaining fish populations (should be 6 ppm)

⑤ "There shall be no residential or industrial discharges" to lakes or their tributaries.

will send written

OPP: Thatcher Turner Chamber of Commerce

- needs better definitions & standards
  - "natural conditions"
  - "naturally occurs"
  - "natural habitat"
- Def of discharge to exclude NPS
- Waters also useful to industry

NF/NA Ellen Baum hold the bill

- anti degradation language
- cumulative effect

Peter Thompson Trout Unlimited

raise DO standards to protect trout

Dan C

INTRODUCTORY REMARKS ABOUT MAINE'S PROPOSED BIOLOGICAL STANDARDS FOR CLASSIFICATION

I would like to begin by giving you some background about the development of these standards. I will be speaking about the standards for rivers and streams since this is the most important application for the State of Maine, however, biological standards are proposed for lakes and ponds and marine waters.

Classification of the State's waters began in the mid 1950's. The quality of the State's waters at that time was probably the poorest in history with little treatment. Little changed until the late 1960's and our knowledge of water pollution was astonishingly small. With the enactment of Federal Clean Water Act and especially the amendments of 1972, water pollution control escalated at a rapid pace. By the late 1970's most industries and major municipalities were providing treatment for their wastes. The consequence was a dramatic improvement in the quality of the State's water, I think well beyond the expectations of most. As a result of this, we are now seeing these waters used in ways and at intensities that were not imagined.

We have in this same period amassed a large body of scientific knowledge about water quality management. I doubt that any will argue that we have not learned a great deal in the last 20 years. Twenty years ago, oxygen demanding waste was the overwhelming concern. As this was reduced, water quality improved, but we also found many instances where the magnitude of those wastes had only masked other underlying water quality problems. Hence,we are now attentive not only to oxygen demand but problems such as

toxic substances, complex effluents, synergism, bioaccumulation, biomagnification, and so forth.

All these, the present quality of our waters, the improved scientific basis of our policies, the greatly expanded public use of our waters, and the expanded realization of all the intricacies of the term 'water quality' has led the department to propose a new classification system for our waters. It is thought that a major revision is necessary at this time to bring our laws into conformance with federal laws, with newly enacted state laws such as the Maine Rivers Act, with the policies of other state agencies such as the Office of Energy Resources, Inland Fisheries and Wildlife, and Marine Resources. We need to make use of the best available knowledge and to recognize the present quality and use that we enjoy. It is the intent of the Department, and I emphasize this, that this proposed revision of the law is not intended to change present overall water quality in the State. It is only intended to improve the means by which the Department manages and monitors quality of the water. Where any modifications are proposed which cause easing or tightening of present standards, it has been done only where strong scientific evidence directs a change to conform with established uses.

With respect to the biological standards, I would warn those factions which represent either the environmentalist side or the discharger's side not to view these standards as wholly good or bad. While the discharger may regard any new standard as just an additional burden I think you may find, particularly as we proceed today, very obvious benefits from this form of standard. Likewise, while the environmentalist may see these standards as yet another way to tighten some screws you should realize that this is not the purpose.

The Federal Clean Water Act in Section 101 states that "it is the objective of this Act to restore and maintain the chemical, physical and

biological integrity of the Nations waters." Of those three characteristics I would maintain that biological integrity is the most important since the physical and chemical characteristics have their greatest relevance as they relate to the well being of the biological community. And it is here that we establish the foundation for many of the uses we make of our waters and realize our own well being. Title 38 Section 341 of Maine Statutes state the department "shall protect and improve the quality of our natural environment and resources which constitute it, by directing growth and which will preserve for all time an ecologically sound and aesthetically pleasing environment." Techniques of biological evaluation are obviously the most direct means of measuring how ecologically sound the environment is. Biological evaluation has proven itself to be too valuable a tool in our water quality program to be ignored. It is the best means to integrate all the factors which encompass the term water quality.

First, I would like to discuss the present law as it exists today and some problems with it. In your comments, many of you have suggested that biological standards are new and untried yet this is definitely not the case. In fact, present state law has very definitive and strict biological standards in all classes except Class D. Department regulations presently exist which use diversity of bottom fauna to describe B-1 and B-2 waters, regulation specifying bioassay procedure and trophic state index to evaluate lake water quality. The concept is not at all new but is limited because of obsolete language in the present law.

Class A standards presently state "there shall be no disposal of matter or substances in these waters which would .....contain chemical constituents harmful..... to animal or aquatic life." I think this phrase speaks for itself. This class states specifically that effluents must be equal to or better than the receiving water thus it must be assumed that all

aquatic species could exist in such a water class.

Class B-1 and B-2 standards likewise state "there will be no disposal of matter or substances in these waters which would.....contain chemical constituents.....harmful to animal or aquatic life." Additionally these waters "shall be free of any matter or substance which alters the composition of bottom fauna,.....or which interferes with the propagation of fish", nor shall disposal of sewage or waste be injurious to aquatic life or render such dangerous for human consumption."

Class C standards also state "there will be no disposal of matter or substances in these waters which would ....also contain chemical constituents harmful to animal or aquatic life," "nor shall disposal of sewage or waste be injurious to aquatic life or render such dangerous for human consumption."

If we look at these biological standards collectively we find they are all quite alike. In fact they are exactly alike by specifying no disposal of substances harmful to animals or aquatic life. Classes B-1, B-2, and C all specify disposal of wastes shall not be injurious. Classes B-1 and B-2 are actually the most restrictive by further specifying the waters must be free of substances which alter the composition of the bottom fauna.

To manage our waters using these standards will be rather difficult. I do not see how we can establish any criteria which defines the term "harmful to animals and aquatic life" which could be suitable for Class A our highest quality waters as well as Class C, those waters receiving the greatest waste load. Criteria consistent with the other characteristics of Class A waters, specifically the clause that discharges shall be of equal or better quality than the receiving water, could doubtfully be applied to Class C waters without jeopardizing the quality of our Class A waters and introducing risks of degradation which the legislature did not intend.

The existing biological language was written before the DEP had a biological staff to make these evaluations, and before that period in the 1970's which was the advent of treatment of our wastewaters. Those individuals who wrote these standards were certainly forward-thinking individuals since they obviously recognized such issues as toxics, fish consumption and the role of bottom fauna in their plan. They did work at a disadvantage, in that, it is doubtful they could foresee the quality of the state's water after treatment was applied. It is also doubtful they had a clear idea how these standards could be defined since the science of environmental biology was unrefined 20 years ago.

Environmental biology has evolved during this period and we now have a sound theoretical foundation to make these evaluations. Bioassay methodology has now become a very standardized science and is routinely performed by state and federal laboratories as well as a large number of private laboratories. Likewise, the ecology of aquatic communities is now well described especially as it relates to the benthic invertebrates. The river continuum theory (Vannote et al 1980) has become a central theme in this new understanding and encompassess other concepts such as materials spiraling (Wallace et al, 1977) and functional feeding strategy (Cummins, 1973, 1974), such that we now have a good understanding of how these ecosystems operate. And taxonomy, that bug-a-boo of early studies is well established for most groups now. These ideas have been incorporated into numerous water quality studies including works by Rabeni and Gibbs (1977) and Rabeni and Davies (1985) here in Maine. The Europeans have used biomonitoring since the early 1900s with the advent of the Saprobien index and numerous techniques have evolved since that time (Hellawell, 1977). Therefore we feel it is time to take the initiative of previous legislatures and turn this into a workable

framework of standards applicable to the present status of our waters and with a sound ecological basis.

Therefore our proposal and the rationale for it is as follows:

It has been assumed that the public wants waters of different quality available, both high quality recreation oriented waters as well as waters of lesser quality for economic and social needs. The DEP has recommended that four classes be established for our rivers and streams.

Class AA is a new class with the highest degree of protection. It will be for free-flowing rivers and all discharges will be prohibited. This class is intended for waters of special value to the state. Consequently we expect no change to be observed in the biological community. We have thus recommended that the standard be that aquatic life shall be as naturally occurs. We will discuss some of these definitions in more detail later but essentially the same species and numbers should be found as in similar habitats free of human influence.

Class A waters would be much as they are presently, while hydropower projects and certain highly treated effluents would be permitted, this class would have very high quality water similar to Class AA. Because of the expected high level of treatment and the restrictive clause for effluents of "equal to or better than" we think that the same standard as Class AA is appropriate, that being that aquatic life shall be as naturally occurs.

The standards for Class B waters have been revised substantially. The portion of the proposed law about aquatic life states that discharges "shall not cause adverse impact to aquatic life in that the receiving waters shall be of sufficient quality to support all species indigenous to the receiving water without detrimental changes in the resident biological community. This standard has two distinct parts or tests. The first is that the receiving

water will be of sufficient quality to support all indigenous species. This would be determined through use of an effluent bioassay test, but this does not mean that a species has to exist in the river or stream, only that water quality cannot be the limiting factor.

The second test is that the resident community can change but this must not be identified as a detrimental change such as a significant loss of species. The present law, as you recall states that the composition of the bottom fauna cannot be altered. We know for a fact that discharges, even the best treated ones with ample dilution invariably cause significant change in community composition. Maine waters are typically low in nutrients, thus we commonly see great shifts in communities below these outfalls because of new food resources. Generally these shifts are not indicative of any harmful effects of an effluent and should be differentiated from detrimental changes. Maintenance of species and the integrity of the community provides the aquatic system with high stability and resilience during stress periods and thus insures a sound basis for the propagation of fish and higher organisms.

Class C will be the lowest standard and has also been revised substantially. That portion of the proposed law regarding aquatic life states that discharges may cause some changes to aquatic life, provided that the receiving water shall be of sufficient quality to support all indigenous species of fish and maintain the structure and function of the aquatic community.

Like Class B this standard has two parts or tests. The first is that the receiving water must be of sufficient quality to support all indigenous species of fish. Since Class C is our lowest class we must make this at least consistent with minimum federal requirements which requires quality of

waters for fish propagation to be maintained. This would be established through an effluent bioassay test, but again I remind you, that a fish species need not be present, only that water quality cannot be the limiting factor. We recognize that there are other factors such as competition, predation, and habitat availability which may preclude the presence of a fish species.

The second part of the standard is that community structure and function must be maintained. These are the two essential components in a community. Briefly stated structure is the richness of species and numbers of individuals within a community while function is the means by which they interact to utilize food and other resources. Within Class C waters, there could be significant losses and shifts in species. Typically we would expect to see some pollution intolerant species disappear, but it is essential that there must be some replacement by more tolerant species and that these tolerant species fulfill all vital functional roles in the community. This is a typical observation where communities are exposed to reduced D.O. near 5ppm, where settleable solids are present but low and where no toxicity is measured. Maintenance of structure is one means by which stability of the community is protected and both sound structure and function are necessary to support the higher and lower trophic levels of a community.

In summary I would like to restate a few points:

What is being proposed is not new. The DEP has been involved with biological studies for many years and their value is well proven. What we are trying to do is revise the law to accomodate this knowledge and its use more fairly.

As with the rest of the law, this revision is not intended to cause any significant change in the overall quality of the State's water in the future.

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AQUATIC LIFE STANDARDS PROPOSED IN LD 1503, MAY 1985

Classification	September, 1979 Maine Revised Statutes	May, 1985 Proposed Revision
Class AA	---	Aquatic life shall be as naturally occurs; all discharges prohibited
Class A	New discharges permitted only if "equal to or better than existing water quality of receiving waters".	Aquatic life shall be as naturally occurs; discharges permitted only if equal to or better than existing quality of the receiving waters.
Class B	No discharge of substances harmful to humans, animals or aquatic life.	Discharges shall not cause adverse impact to aquatic life; no detrimental changes in the resident biological community; receiving waters shall be of sufficient quality to support all indigenous species.
Class C	(Same as for Class B)	Discharges may cause some changes to the resident biological community, but receiving waters shall be of sufficient quality to support all indigenous species of fish; structure and function of the aquatic community shall be maintained.
Class D	No discharge of radioactive matter harmful to humans, animals, or aquatic life.	(Non attainment of classification)

NOTE: Underlined terms are defined in accompanying handout

STATE OF MAINE
Department of Environmental Protection

MAIN OFFICE: RAY BUILDING, HOSPITAL STREET, AUGUSTA
MAIL ADDRESS: State House Station 17, Augusta, 04333

JOSEPH E. BRENNAN
GOVERNOR

HENRY E. WARREN
COMMISSIONER

September 30, 1985

FREQUENTLY ASKED QUESTIONS ABOUT THE PROPOSED BIOLOGICAL LANGUAGE

I.

Q: Will incorporation of new biological language into the water quality statutes mean a change in licensing and enforcement policy?

A: No. It should be clear by now that the biological language in the existing Classes A, B and C all contain wording which prohibits all discharges "harmful to aquatic life". It is clear to us that Class C conditions do cause harm to certain forms of aquatic life. In spite of this it has been the Department's policy to follow what is believed to be the Legislative intent. The proposed statutory wording is the DEP's attempt at clarifying unwritten policy that has been followed for at least 10 years. Both biological monitoring and bioassays have been in use by DEP staff for many years. It is therefore to all parties' advantage to have language on the books which accurately reflects accepted policy. The one potential change may be a discharger's desire to use bioassay test results to modify some license parameters in their favor. DEP may also require bioassays of a discharger as a condition of the license. Actually, however, both of these possibilities exist at present, regardless of a change in statutory wording.

II.

Q. How will biomonitoring and bioassay be used in licensing and enforcement?

A. There will be little change from the present procedures. Use of bioassay as a license parameter will continue. We do not expect instream biomonitoring to be used as a licensing tool. Its use to indicate compliance with instream water quality standards will continue. Biomonitoring's major role for the Department will be as a barometer of the overall success of our efforts to protect the aquatic ecosystem. Where it reveals inadequate levels of protection for aquatic life, a more intensive investigation will follow, using physical, chemical and bioassay procedures to identify the source of the problem.

III. Q. What is the procedure to be used for adoption of biomonitoring regulations?

A. The DEP is bound by law to conform to the Administrative Procedures Act which requires the issuance of public notice and opportunity for public participation prior to adoption of any regulations. This will be followed as a minimum and as a matter of course. Beyond our obligation to conform to the APA we also welcome input from interested parties and depend upon a free and open dialogue in order to establish regulations in support of the biological language in the statute with which everyone can live. Ultimately, the DEP staff's proposal of specific regulatory criteria for instream biological monitoring will be a product of technical evaluation of macroinvertebrate data collected from over 150 locations in Maine over the last three years. In the interim, while this data is being processed, it is likely that administration of the biological language may proceed from a set of interim guidelines.

IV. Q. Are biomonitoring procedures sufficiently well developed and objective to be fairly used in regulation?

A. The United Kingdom officially recognized the unique usefulness of the benthic macroinvertebrate community to assess water qualty in 1970 with adoption of their use in the national River Pollution Survey. In 1973 the U.S. EPA published Biological Field and Laboratory Methods for Measuring the Quality of Surface Water and Effluents, a 200 page document outlining the usefulness of biological methods and detailing a great quantity of acceptable, quantitative analytical methods. Since the 1970's the science of benthic ecology has grown enormously in scope and sophistication due to mushrooming interest in both academic and governmental spheres. The North American Benthological Society, a major professional society of 1,600 members from all fifty states and a dozen foreign countries has done much to focus and professionalize interest in academic and applied aspects of benthic research. The biology staff at DEP has routinely used macroinvertebrate biomonitoring procedures for 10 years. Over this period its usefulness has been proven time after time. In many cases this has been thru objectively documenting measureable detrimental changes to the benthic community requiring changes in management practices. In other cases, biomonitoring has reassured us that a healthy, balanced biological community was surviving in situations where a negative impact had been predicted. Interpretation of the true meaning of environmental evaluation data is a process influenced by professional judgement in both the traditional physical/chemical realms as well as the biological. It is our belief that the benefits of the integrative aspects of biological data outweigh the risks of its being misused through biased interpretation.

The system of evaluation we are developing utilizes objective, quantitative analytical tools as its foundation and depends on professional biological judgement to balance the inevitable oversimplification that is a consequence of boiling down a vast amount of information into a handful of numbers.

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September 30, 1985

PROPOSED DEFINITIONS TO BE INCLUDED IN LD 1503

"aquatic life"; "resident biological community"; "aquatic community":

Any plants and animals which live at least part of their life cycle in water.
Assessment of the condition of the aquatic life will include, but not necessarily be limited to, examination of the resident benthic macroinvertebrate community.

benthic macroinvertebrate:

Animals without backbones, large enough to be seen with the unaided eye, which are retained on a U.S. Standard No. 30 sieve, and live at least part of their life cycle within or upon bottom surfaces in a body of water, eg insects, snails, clams, crustaceans, worms, leeches, etc.

"natural":

Living in, or as if in a state of nature untouched by human influence or activity.

"as naturally occurs":

With essentially the same assemblage of aquatic species and numbers found in situations with similar habitats which are free of human activity or influence.

"indigenous":

Species which occur in a reach of water or are known to have occurred according to historical records.

"without detrimental changes in the resident biological community":

No significant loss of species or excessive dominance by any one group attributable to human influence.

"natural habitat":

Class AA: Determined by aquatic life being "as naturally occurs".
Class A: Determined by effluent quality being "of equal to or better than existing quality of the receiving waters"; further determined by aquatic life being "as naturally occurs".

"unimpaired habitat":

Without a diminished capacity to support aquatic life.
Class B: Determined by there being no "detrimental changes in the resident biological community".

"support":

To sustain unimpaired life cycle requirements.

"receiving waters shall be of sufficient quality to support all indigenous species of fish":

not a definition; a procedure

Determined by effluent toxicity testing of indigenous species of fish or surrogate species of similar tolerances.

"community structure": (numerical characteristics):

Characteristics of a biological community based on numbers of individuals within different taxonomic groups, their proportional relationships to each other and the relation of each proportion to the total sample.

"community function" (operational characteristics):

Mechanisms of uptake, storage and transfer of life-sustaining materials available to a biological community which determines the efficiency of use and the amount of export of the materials.

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For several years now the Water Bureau of the Department of Environmental Protection has considered amendment of the surface water standards a high priority. Basically unchanged since the 1950s, the Standards of Classification of Surface Waters were written as a response to obvious forms of pollution observed at the time: scums, floating sludge, odors, massive fish kills and direct threat to public health. Today's water quality contrasts sharply with that of the 1950s and 1960s when the larger rivers were used to transport and dilute untreated waste. Maine's "working rivers" are providing people with far more enjoyment today by supporting a diversity of fishing and boating opportunities. Indeed, Maine has received national acclaim for its water quality cleanup efforts and citizens gather to celebrate the dramatic improvements in events such as the Great Kennebec River Whatever Race.

In light of these changes the D.E.P. feels the old Surface Water Standards and classification system is clearly an outdated tool. For example parts of the standards for Classes C and D, carried along since the original drafting, actually condone conditions prohibited by the Federal Clean Water Act. The Department of Environmental Protection has therefore proposed a major revision of the Statute which is pending before the second session of 112th Legislature as LD 1503.

One of the modern methods whose importance is not fully recognized by the wording of the existing law is the use of aquatic life in our waters to determine the overall level of health and livability that is attained by enacting the water quality standards. On a national level, biological monitoring of surface waters has become an important aspect of pollution assessment in the 1980s and is enthusiastically encouraged by the U.S. Environmental Protection Agency.

In Maine, the biology staff of the Water Bureau has been concerned with evaluation of pollutional stresses on aquatic communities for over 15 years. We feel we are in a good position to put these years of experience to work in a more formal, legal context. Biological assessment has, in

many cases provided information critical to the Department's decision-making process, either through reassuring us that a questionable discharge was having a benign effect or by alerting us to critical biological stress in a situation which appeared to be adequately controlled. The success of early investigations and the development of increasingly valid and reliable sampling and analysis techniques gives us confidence that the time has come to elevate the status of biological monitoring in the law. To do this, we wish to make its merits and limitations subject to public comment and scrutiny.

Accordingly, the biology staff of the Water Bureau has scheduled a public workshop to familiarize interested parties with the biological language in the proposed statute and with how we envision its implementation. We invite you to review the wording in the proposed statute and the enclosed draft of Guidelines Concerning Interpretation of the Biological Water Quality Standards of Maine and to attend the workshop and/or submit your comments and questions to us.

Sincerely,

SUSAN DAVIES
Biologist
Division of Environmental Evaluation
and Lake Studies
Bureau of Water Quality Control
Department of Environmental Protection

SD/d

Attachment

WHAT: Informative workshop on instream biological monitoring

a). What is it?
b). Who will it affect?
c). How is it done?
d). How will DEP use it?

WHEN: Last week in September, 1985

WHERE: Augusta, Maine

WHO: Presented by the Biology Staff of the Division of Environmental Evaluation and Lake Studies. Department of Environmental Protection.

ATTENDANCE: Legislators, Citizens, Industry, Environmental Groups, Municipal Treatment Plants,

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INTRODUCTION

Amateur naturalists and scientists alike make use of all types of aquatic animals to provide clues about the livability of water bodies. Fishermen rely on biological signs such as the types of plant or insect life in a stream to tell them if they can expect to catch a favored fish species. The DEP frequently receives calls during the summer from citizens who have observed biological events and occurences such as fish kills, insect hatches, or algae blooms. Their concern is that pollution has caused these events. These citizens are, in a sense, engaged in biological monitoring. On a more advanced and methodological level scientists have developed sophisticated ways of collecting and counting everything from microscopic bacteria to fish, to compare the livability of different stretches of water.

Biological monitoring is the term applied to water quality investigations which rely on the presence, absence and abundance of animals which occur in the sampling location. Here in Maine our efforts have been directed at the occurrence of macroinvertebrates (animals without backbones, visible to the eye such as insects, snails, clams, leeches, worms, crayfish, etc), which live on, under and around rocks, gravel or mud on the bottom of rivers and streams.

Below are listed some points which justify the choice of macroinvertebrates as the study group:

1. Aquatic macroinvertebrates are generally limited in mobility and are therefore less able to avoid the effects of pollutants. Fish, on the other hand, often have the ability to swim away from the effects of a pollutant and so may not be as reliable at indicating environmental conditions.

2. Macroinvertebrates have longer more complex life cycles than algae or bacteria, frequently living 1 to 3 years, and therefore may integrate water quality effects over time.

3. Within the group of macroinvertebrates, there is a very wide range of pollution tolerances of different species. Some sensitive species may be killed or excluded by very low levels of pollutants while other types may actually thrive in huge numbers only in the presence of extreme pollu ion. There is a great deal of information contained in one sample of macroinvertebrates.

4. Gamefish, which are of interest to the people of Maine, are largely dependent on the aquatic macroinvertebrate community as a food source. Since pollution tolerances of certain types of insects are broadly comparable to those of certain types of fish, assessment of the macroinvertebrates is an indirect method of gaining information about the potential of a fishery in the area without the expense of directly sampling gamefish.

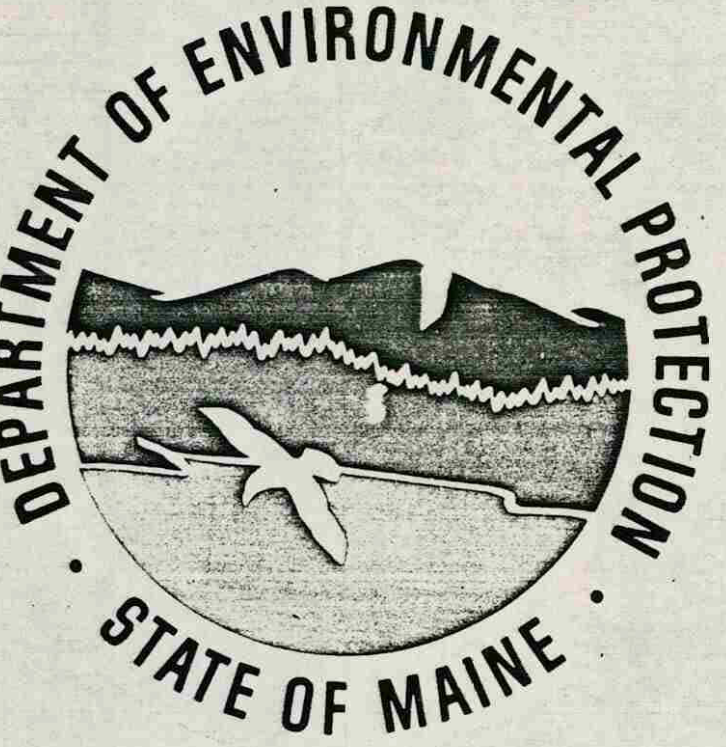
5. Aquatic macroinvertebrates are an extremely diverse group, having more different types of feeding and energy use strategies than higher level organisms like fish and therefore can provide information about disturbances in nutrient cycling in the whole system.

6. Methods of sample collection and analysis of results are becoming well established and accepted.

7. Some forms of aquatic macroinvertebrate life can be found in all but the most severely poisoned or disturbed habitats, unlike fish which are much more likely to be absent due to natural causes. Availability and ease of capture make them a more cost effective group to sample.

The last ten years have seen a dramatic increase in the quantity and the level of sophistication of macroinvertebrate studies. The EPA has strongly advocated the development and adoption of some form of biological monitoring as an additional mechanism to test compliance with narrative water quality criteria. Maine has been one of the first states to work with the EPA to attain that goal. Our careful and deliberate attention to the process will help to set a workable precedent for other states as they develop their programs.

The attached guidelines represent the first stage in the state's implementation of the biological water quality standards in the proposed statute. Macroinvertebrate data has been collected at locations above and below the majority of licensed discharges in Maine (117 sampling locations) in accordance with these guidelines. The net step is for the data to be analyzed and for the results to be sorted into categories of water quality in order to develop a picture of acceptable macroinvertebrate standards for each water quality class. Until this work is completed, strictly defined regulation of this portion of the statute is unrealistic. Therefore the following information is intended to present a framework for the development of the working document and to inform the public about our methods and intent.



D R A F T

Guidelines Concerning Interpretation of the Biological Water Quality Standards of Maine

Bureau of Water Quality Control

April 13, 1985

PURPOSE

To describe the procedure whereby the Board will determine whether the biological condition of a given stream or river section is satisfying the statutory standards of its designated class as stated in 38 MRSA, Section 363;

To document and explain State approved methods of the biological assessment of water quality;

To present examples of applications of biological standards to specific conditions which exist in waters of the State.

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DEFINITIONS

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Community Function - Pathways and processes of energy and nutrient use, storage and transfer within a system. A function of particular interest to the State is the efficiency of transfer of energy to other trophic levels such a gamefish.

Community Structure - Characteristics of the community based on abundance of individuals within different taxonomic groups, the proportional relationships between each of the components and their relation to the whole.

Indigenous - Native

Note: This shall be construed to mean that water quality shall be sufficient to support all indigenous species but not that all indigenous species must be present.

Natural - Free from the effects of human activities or influence.

Support - To sustain unimpaired life cycle requirements.

SECTION II

ASSESSMENT OF ATTAINMENT

This section presents factors considered in assessing whether a river or stream section is attaining its designated class in terms of the biological criteria set forth in 38 M.R.S.A., Section 363.

SUMMARY

This section presents biological assessment procedures which the State finds acceptable and provides guidelines to insure that conclusions generated from the assessment procedures are consistent, statistically reliable and valid in their interpretation of the directive of the statute. The section addresses the following major considerations:

A. What constitutes a sample of the biological community.

B. How the quantitative and qualitative information from the sample may be evaluated.

C. How conclusions are drawn from the data about the attainment of a classification applied to a stream or river section.

INTRODUCTION

Classification of Maine's rivers and streams according to biological water quality criteria requires a flexible and robust mechanism of data collection and analysis which allows comparisons to be made and conclusions to be drawn from many different environmental conditions. This document addresses the State's evaluation of the resident biological communities of its classified rivers and streams in terms of a defined sample of benthic macroinvertebrates inhabiting the section in question. The development of a sampling design for each location examined requires that careful attention is given to differentiating between differences or changes in biota attributable to natural or chance causes and those which are more properly identified as being of human origin. Sampling strategy strives to equalize the determining effects of local conditions and to promote data collection which reliably reflects the influence of water quality alone on community structure and function and the overall health and aesthetic appeal of the system.

The various sampling and analytical methods that are presented in this Section can be seen as tools which, when used in concert, can objectively define existing conditions, but should not be thought of as direct measures of ecological integrity. They are dependent upon the best professional judgment and experience of the examiner to determine whether they indicate that statutory standards of a particular classification have been satisfied.

Many of the most useful tools for interpretation of pollution effects depend upon examining relative differences between the test community and a reference community which is assumed to be unimpacted. Selection of the reference community is based upon its freedom from the environmental

perturbation in question and the overall similarity of its habitat to that of the sample community. Examples of relative measures are similarity indices, coefficient of community loss, and comparisons of lists of dominant taxa.

Static measures of existing community structure such as species diversity, presence/absence of indicator taxa and distribution of functional groups are useful for establishing the limits of normality to be expected in unperturbed systems and to thereby contribute to the interpretation of "without detrimental change" and "maintain structure and function."

No single index or measure has been universally recognized for its freedom from bias and its reliability as a decision-making tool. However, the weaknesses of one measure or index can often be compensated for by the strengths of another. Acceptable sampling methodologies and quantitative and qualitative analyses are presented in this section.

A. SAMPLING DESIGN

The biological community shall be evaluated in terms of the benthic macroinvertebrates inhabiting the river or stream section in question. Where practical and appropriate the community sampled shall be the macroinvertebrates colonizing a rock-filled basket artificial substrate (Weber, 1973) or a rock-filled cone sampling device (Courtemanch, 1984) incubated on the stream or river bottom for four weeks.

In some situations other sampling methods may be more appropriate or more practical and are acceptable provided that comparable standards of overall sampling design are maintained. The following is a list of sample collection methods which may be found appropriate in certain situations:

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B. SITE SELECTION

The habitat sampled shall be representative of the habitat of the section as a whole and in the case of sampling downstream of a known source of pollution it shall be representative of the receiving water habitat just

downstream of the area of initial dilution of the discharge. Wherever possible the following site selection criteria will be met:

1. Site shall be essentially unaffected by atypical influences such as bridges, culverts, waterfalls, obstructions to flow, etc.

2. The sample shall be taken from the middle 50% of the bank to bank stream width or from a location which is representative of the overall character of the segment;

3. The substrate of choice to be sampled is well scoured, rubble, cobble or gravel;

4. The sample shall be taken from a flowing or erosional area as opposed to a pool or depositional area;

5. For matched (upstream and downstream) sites efforts shall be made to take samples from habitats comparable in the following characteristics:

   a) water velocity
   b) substrate composition
   c) canopy coverage
   d) depth

C. APPLICABLE MEASURES OF COMMUNITY STRUCTURE AND FUNCTION:

The benthic macroinvertebrates obtained from the site shall be counted and identified to the lowest practicable taxonomic level (in most cases this will be to genus or to species). Quantitative analysis will be performed on sites with 3 or more replicate samples which yield an average of at least 50 organisms per sample at the upstream site.

Quantitative and qualitative examination of the data may include but not be limited to the parameters and interpretive analyses listed in Appendix A.

Severely impacted downstream sites may have fewer than 50 organisms and still be used for some quantitative analyses.

D. BASIS FOR SATISFACTION OF STATUTORY CRITERIA:

This section describes some of the analyses expected to contribute most strongly to evaluations of the attainment of a designated classification. Values obtained from all applicable community structure and function parameters, in conjunction with the experience and professional judgment of the investigator will place each site on the continuum of biological water quality conditions found in the State.

Conclusions about the justifiability and feasibility of strict reliance on specific values of or degrees of change in the parameters to represent break-points between the classes will be drawn following in-depth technical review of the Statewide biomonitoring program.

1. Determination of "as naturally occurs":

The site will be evaluated on the degree to which descriptors of the benthic macroinvertebrate community are comparable to features known to be characteristic of communities from natural areas. Pertinent features include:

Presence of Indicator Taxa (Plecoptera; Ephemeroptera)
High Ephemeroptera/Plecoptera Trichoptera Richness

Where data from a matched reference site exists:

Taxonomic Similarity (Jaccard, 1912)
Percent Similarity (Gauch and Whittaker, 1972)

2. Determination of "without detrimental change":

The site will be evaluated on the degree and nature of change in the community as compared to a matched community from an unimpacted area. Pertinent features include:

Presence of Indicator Taxa (Plecoptera; Ephemeroptera; Trichoptera)
High Ephemeopstera, Plecoptera, Trichoptera Richness

Where data from a matched reference site exists:

Maintenance or increase in total Taxonomic Richness
Maintenance or increase in Taxonomic Diversity (Shannon and Weaver, 1963; Brillouin, 1960)
Low Coefficient of Community Loss (Courtemanch, 1983)

Change between this community and an unimpacted reference community may be documented but it shall be in the direction of benign (limited) enrichment (increased Richness, Diversity, Total Numbers) rather than loss of taxonomic groups or dominance by any one group.

3. Determination of "maintain structure and function":

A. Structure:

Evaluations of benthic macroinvertebrate community structure will include but not be limted to the following descriptors:

Total Number of Individuals
Taxonomic Richness
Taxonomic diversity (Shannon and Weaver, 1963)

Where data from a matched reference site exists:

Coefficient of Community Loss
Percent Similarity

The degree of change in these measures which occurs below a source of pollution shall determine whether structure of the reference (upstream) benthic macroinvertebrate community has been maintained. In evaluating this standard the State will find acceptable some changes in the actual identities of the taxa constituting the communities, i.e., from sensitive, pollution-intolerant forms (Plecoptera, Ephemeroptera) to somewhat more pollution-tolerant forms (Hydropsychidae (Trichoptera); Chironomidae (Diptera)). Some representatives of either of the intolerant orders should be present.

B. Function:

Evaluations of benthic macroinvertebrate community function will include but not be limited to the following:

Functional Feeding Group Classificaiton
Trophic Specialist: Trophic Generalists Ratio
Indicator Taxa

The degree of change in pathways of processing nutritive materials shall be evaluated by the distribution of individuals within different Functional Feeding Groups, the ratio of Trophic Specialists to Trophic Generalists and the presence and abundance of Indicator Taxa known to utilize certain resources. Satisfaction of the statutory language for this classification will require demonstration that nutritive materials are being utilized by (several) different functional groups and that Trophic Specialists are not entirely excluded by limiting water quality conditions.

APPENDIX A

Applicable Measures of Community Structure and Function

1. Total Number of Individuals

   Count all individuals in all replicate samples from one site and divide by the number of replicates to yield mean number of individuals per sample.

2. Taxonomic Richness

   Count the number of different taxa found in all replicates from one site.

3. Presence or Absence of Indicator Taxa

   Qualitative assessment of the distribution of pollution intolerant and pollution tolerant organisms in the sample.

4. Ephemeroptera/Plecoptera/Trichoptera Richness (Lenat, D.R. 1983)

   Count the number of different taxa from the orders Ephemeroptera/Plecoptera, Trichoptera found in all replicates from one site.

5. Percent Non-Dipteran Insecta

   Tally the count of insectan individuals excluding the Dipterans and calculate what percentage of the total sample they represent.

6. Functional Feeding Group Classification (Merritt and Cummins, 1984)

   A general classification system for aquatic insects based on morpho-behavioral mechanisms of food acquisition. Major functional groups are: Shredders; Collectors; Scrapers; Piercers; Predators and Parasites.

   Taxa are assigned to one of these functional groups to facilitate functional community analysis and to assess the degree to which the biota reflect dependence upon a particular nutritional resource (Merritt and Cummins, 1984).

7. Trophic Specialist: Trophic Generalist Ratio (Merritt and Cummins, 1984)

   Within a functional feeding group individual taxa may be either specialists which are restricted to the utilization of a specific food resource or be facultative and thus able to exploit a broader range of food resources.

   Trophic generalists are expected to be better able to tolerate disturbance to aquatic habitats and thus to become numerically dominant because of their more flexible ability to utilize available resources.

   NOTE: This is a new measure which will be subject to verification against other measures.

Indices

1. Shannon-Weaver Taxonomic Diversity (Shannon and Weaver, 1963)

Combines information regarding taxonomic richness and the evenness of the distribution of individuals among the taxa.

$$\bar{d} = \frac{C}{N} (N \log_{10} N - \sum n_i \log_{10} n_i)$$

$\bar{d}$ = Shannon-Weaver mean diversity
C = 3.321928 (converts base 10 log to base 2)
N = Total number of individuals
H_i = Total number of individuals in the i^{th} species

2. Percent Similarity to matched unimpacted site (Gauch and Whittaker 1972):

A calculation of the degree to which the distribution of individuals within specific taxa in one site is similar to the distribution in another matched site. The value may range from zero (0) for sites with no taxa in common, to one for identical communities.

$$PS = \frac{2 \sum \min (P_{ij}, P_{ik})}{(P_{ij} + P_{ik})}$$

PS = Percent Similarity
Pij = Percentage of organisms of taxa i in community j
Pik = Percentage of organisms of taxa i in community k.

3. Coefficient of Community Loss (Courtemanch, D.L. 1983):

A similarity type measure which is sensitive to the loss of taxa from the unimpacted to the impacted site.

$$I = \frac{a - c}{b}$$

I = Coefficient of community loss
a = Number of taxa in unimpacted site
b = Number of taxa in impacted site
c = Number of taxa common to a and b

The result is a ratio of the number of taxa assumed lost due to the pollution source (a-c) to the number of taxa remaining including any new taxa (b).

4. Hilsenhoff Biotic Index (Hilsenhoff, W.L. 1982):

An index which assigns tolerance values to taxa and then calculates an overall average tolerance for the site based on the assemblage of organisms found.

$$B\ I = \leq \frac{n_i\ a_i}{N}$$

BI = Biotic Index
ni = Number of individuals of each taxon
ai = Tolerance value assigned to that taxon
N = Total number of individuals in the sample

This index was developed to assess the impact of organic pollutants.

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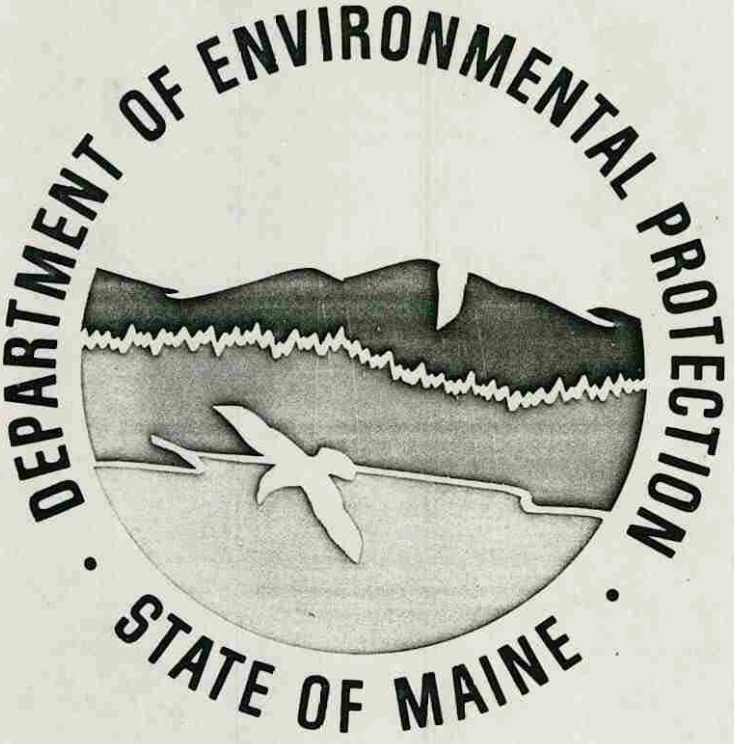

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APPENDIX A

Applicable Measures of Community Structure and Function

1. Total Number of Individuals

   Count all individuals in all replicate samples from one site and divide by the number of replicates to yield mean number of individuals per sample.

2. Taxonomic Richness

   Count the number of different taxa found in all replicates from one site.

3. Presence or Absence of Indicator Taxa

   Qualitative assessment of the distribution of pollution intolerant and pollution tolerant organisms in the sample.

4. Ephemeroptera/Plecoptera/Trichoptera Richness (Lenat, D.R. 1983)

   Count the number of different taxa from the orders Ephemeroptera/Plecoptera, Trichoptera found in all replicates from one site.

5. Percent Non-Dipteran Insecta

   Tally the count of insectan individuals excluding the Dipterans and calculate what percentage of the total sample they represent.

6. Functional Feeding Group Classification (Merritt and Cummins, 1984)

   A general classification system for aquatic insects based on morpho-behavioral mechanisms of food acquisition. Major functional groups are: Shredders; Collectors; Scrapers; Piercers; Predators and Parasites.

   Taxa are assigned to one of these functional groups to facilitate functional community analysis and to assess the degree to which the biota reflect dependence upon a particular nutritional resource (Merritt and Cummins, 1984).

7. Trophic Specialist: Trophic Generalist Ratio (Merritt and Cummins, 1984)

   Within a functional feeding group individual taxa may be either specialists which are restricted to the utilization of a specific food resource or be facultative and thus able to exploit a broader range of food resources.

   Trophic generalists are expected to be better able to tolerate disturbance to aquatic habitats and thus to become numerically dominant because of their more flexible ability to utilize available resources.

   NOTE: This is a new measure which will be subject to verification against other measures.

Indices

1. Shannon-Weaver Taxonomic Diversity (Shannon and Weaver, 1963)

Combines information regarding taxonomic richness and the evenness of the distribution of individuals among the taxa.

$$\bar{d} = \frac{C}{N} (N \log_{10} N - \sum n_i \log_{10} n_i)$$

$\bar{d}$ = Shannon-Weaver mean diversity
C = 3.321928 (converts base 10 log to base 2)
N = Total number of individuals
H_i = Total number of individuals in the i^{th} species

2. Percent Similarity to matched unimpacted site (Gauch and Whittaker 1972):

A calculation of the degree to which the distribution of individuals within specific taxa in one site is similar to the distribution in another matched site. The value may range from zero (0) for sites with no taxa in common, to one for identical communities.

$$PS = \frac{2 \sum \min (P_{ij}, P_{ik})}{(P_{ij} + P_{ik})}$$

PS = Percent Similarity
Pij = Percentage of organisms of taxa i in community j
Pik = Percentage of organisms of taxa i in community k.

3. Coefficient of Community Loss (Courtemanch, D.L. 1983):

A similarity type measure which is sensitive to the loss of taxa from the unimpacted to the impacted site.

$$I = \frac{a - c}{b}$$

I = Coefficient of community loss
a = Number of taxa in unimpacted site
b = Number of taxa in impacted site
c = Number of taxa common to a and b

The result is a ratio of the number of taxa assumed lost due to the pollution source (a-c) to the number of taxa remaining including any new taxa (b).

4. Hilsenhoff Biotic Index (Hilsenhoff, W.L. 1982):

An index which assigns tolerance values to taxa and then calculates an overall average tolerance for the site based on the assemblage of organisms found.

$$B\ I = \leq \frac{n_i\ a_i}{N}$$

BI = Biotic Index
ni = Number of individuals of each taxon
ai = Tolerance value assigned to that taxon
N = Total number of individuals in the sample

This index was developed to assess the impact of organic pollutants.

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PAPER INDUSTRY INFORMATION OFFICE
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September 6, 1985

Mr. William Glidden
Legislative Assistant
Committee on Energy & Natural Resources
State House Station #13
Augusta, Maine 04333

RE: L.D. 1503 - AN ACT To Amend The Classification System For Maine Waters

Dear Tim:

Within the last month a number of our members have received requests from the Energy & Natural Resources Committee to provide written comments on necessary changes to L.D. 1503.

I am sure you can appreciate that the complexity of L.D. 1503 requires a great deal of attention prior to any company or group being able to confirm that all concerns have been addressed. Given the problems inherent in trying to focus attention on such a task during the last month of the summer with shutdowns and vacation schedules, our membership has yet to put together a definitive list of concerns and language changes for all sections of the bill.

Nevertheless, our members have had several opportunities to talk about this legislation and I enclose two documents which are intended to constitute a preliminary response on behalf of the Paper Industry Information Office and its member companies. We hope, however, through the upcoming sessions with the Committee and through meetings with you, to refine the enclosed proposals considerably. As you can see, in a number of places we have not supplied actual language but indicated by general comments areas of the legislation which need substantial changes.

The first document enclosed is a very preliminary attempt at a redraft of the legislation. Deletions from the present bill are enclosed in brackets, additions are shown with parentheses and underlining within the parentheses, comments are enclosed by parentheses and not underlined and portions of the old law being repealed are shown in brackets and not underlined.

The other enclosure is more of a conceptual document which has some overlaps with the first but lists areas of concern.

I hope this material is of some benefit to the Committee and we look forward to refining our thoughts during the Committee's meetings.

Very truly yours,

Dale K. Phenicie DAS

Dale K. Phenicie
Chairman
PIIO Environmental Affairs Committee

Amendments to and comments regarding:

L.D. 1503 - AN ACT To Amend the Classification System For Maine Waters and Change the Classification of Certain Waters

Page 1 Line 30 - Delete the word "and", change the period to a comma and add the following:

"... for industrial process and clean water supplies and for hydro-electric power generation."

Page 2 Line 5 - Delete the word "characteristics".

Page 2 Line 6-9 - Delete the sentence.

Page 2 Line 41 - Delete the words "of management goals" and replace with "thereof."

Page 3 Line 6-7 - Delete the words "characteristics and".

Page 3 Lines 12-20 - Delete.

Page 3 Lines 31-37 - Delete this sentence.

Page 4 Line 34 - Insert the word "direct" between the words "no discharge".

Page 5 Line 13 - Insert the word "direct" between the words "no discharge".

Page 5 Line 21 - Insert the word "direct" between the words "no discharges".

Page 6 Line 40 - Insert at the end of the first sentence the following:

"The standards of classification contained in §363, with respect to dissolved oxygen content, shall not apply to impoundments in excess of 10 acres provided that the remaining characteristics of the classification for the water body of which the impoundment is a part are met."

GENERAL

There are a number of general comments which are difficult to translate into specific language without prior discussion with the Committee:

1. Undefined Terms. Throughout the provisions of the proposed statute, the terms "quality", "characteristics", "designated uses", "classification" and "standards" appear. Use of these terms

should be clarified and better organized or some indication given as to what the differences are between these terms.

2. No test for toxicity should be adopted without regulations to assure uniform testing. These regulations should be approved by the Legislature before becoming effective.

3. Various tests regarding impact to aquatic organisms are set up in the several water quality classifications. For instance, the standard for Class A is:

> "The aquatic life and bacteria content of these waters shall be as naturally occurs.".

For Class B waters, the test is:

> "...support all aquatic species indiginous to the receiving water without detrimental changes in the resident biological community.".

For Class C waters the test is:

> "...may cause some changes to aquatic life provided that the receiving waters shall be of sufficient quality to support all indiginous species of fish and maintain the structure and function of the aquatic community.".

This series of statutory tests needs precise definition before any legislation is adopted.

WATER RECLASSIFICATION

PIIO

DATE: 8-~~22~~30-85

AN ACT to Amend the Classification System for Maine Waters and Change the Classification of Certain Waters

Be it enacted by the People of Maine as follows:

Sec. 1. 38 M.R.S.A. §360 is enacted to read:

§360 Classification of Maine Waters

1. Findings; purpose. The Legislature finds that the proper management of the State's water resources is of great public interest and concern to the State in promoting its general welfare, preventing disease, promoting health, providing habitat for fish and wildlife and as a source [of] (for) (water contact) recreation[.](, industrial process and cooling water supplies and for hydroelectric power generation.)

The Legislature further finds and declares that the goal of the State is that all its surface waters shall be suitable for fishing and for water contact recreation in and on the water, and that certain pristine waters be preserved.

The Legislature intends by the enactment of this classification system to establish water quality management [goals] (criteria) for the State's waters. These [goals] (classifications) shall be based on the biological and water quality criteria necessary to support the characteristics [and designated uses] (eliminate reference to designated uses or define with a finite list.) of each classification. This

classification system is intended to protect Maine waters and facilitate the improvement of those waters which do not presently meet their [goal] (classification).

2. Procedures for reclassification of Maine waters. Following public notice, the board may conduct classification studies and investigations. Information collected during these studies and investigations shall be made available to the public in an expeditious manner. After consultation with other state agencies and, where appropriate, individuals, citizen groups, industries, municipalities and federal and interstate water pollution control agencies, the board may propose changes in water quality classification.

The board shall call public hearings in the affected area, or reasonably adjacent to the affected area, for the purpose of presenting to all interested persons the proposed classification for each particular water body and obtaining public input.

In accordance with this section, the board shall recommend changes in classification to the Legislature.

3. General Provisions. Where/natural/? (natural needs to be defined) conditions, including but not limited to, marshes, bogs and abnormal concentrations of wildlife cause the dissolved oxygen or other water quality criteria to fall below the minimum standards specified in sections 363, 363-A, 363-B and 364, those/naturally/? (define) affected waters will be considered to be attaining their classification. The department shall submit to the First Regular Session of each

Legislature, a report on the quality of the State's waters which characterizes existing water quality, identifies waters which are not attaining their classification and states what measures are necessary for the attainment of [management goals.] (classification).

There shall be no (new direct) discharge of domestic or industrial wastewaters to Class AA waters, Class SA waters or to waters with a drainage area of less than 10 square miles. There shall be no new discharge of domestic wastewaters to tributaries of Class GPA waters. (how does this affect municipal combined discharges to a tributary of a GPA?)

Water quality necessary to protect characteristics [and designated uses] shall be maintained and any discharge or activity requiring a waste discharge license pursuant to Section 414-A or a water quality certification pursuant to Section 401 of the United States Clean Water Act shall comply with the minimum standards of the classification. Where the quality of any classified water exceeds the minimum standards necessary to support the characteristics [and designated uses] of the next highest classification, the higher water quality shall be maintained unless the board finds that degradation of water quality is necesary for economic or social purposes which provide/significant public benefits for the people of the State./ (what does this phrase "significant public benefit" mean? - define)

For the purpose of computing whether a discharge will violate the classification of any river or stream, the

assimilative capacity of the river or stream shall be computed using the minimum 7-day low flow which occurs once in 10 years. There shall be no discharge of sewage, industrial waste, heat, hazardous matter or other substances to waters of the State which imparts color, taste, turbidity, toxicity, radioactivity or other characteristics which cause those waters to be unsuitable for the characteristics [and designated uses] ascribed to their class. All surface waters of the State shall be free of [settled] substances which alter the physical or (discharges of settliable) chemical nature of bottom material and of floating substances [except as naturally occur,] which [impair the characteristics and designated uses] (violate the criteria) ascribed to their class. There shall be no discharge to any water of the State which violates the provisions of sections 363, 363-A, 363-B and 364, except as provided in section 451, causes the "pH" of fresh waters to fall outside of the (6.0 to 8.5) (is this the same or a tightening?) range, causes the "pH" of estuarine/marine waters to fall outside of the 7.0 to 8.5 range. [or causes fish to be unsuitable for human consumption.]

Sections 2, 3, and 4 of L.D. 1503 are not included.

Sec. 5. 38 M.R.S.A. §363 is amended to read:

§363. Standards for classification of fresh waters

The board shall have 4 standards for the classification of fresh surface waters[.] which are not classified as lakes and ponds.

Class AA shall be the highest classification and shall be

applied to waters which are outstanding natural resources and should be preserved for reasons of ecological, social, scenic or recreational importance. Class AA waters shall be of such quality that they are suitable for drinking water after disinfection, water contact recreation, fishing, [recreational activities, navigation] and as a [free flowing and] natural habitat for fish and other aquatic life[.] (and for industrial process and cooling.)

The aquatic life, dissolved oxygen and bacteria content of these waters shall be as (naturally occurs.) (needs to be defined)

There shall be no (direct) discharge of domestic or industrial wastewaters to Class AA waters.

Class A shall be the 2nd highest classification and these waters shall be of such quality that [it can be used for recreational purposes, including bathing, and for public water supplies after disinfection.] they are suitable for drinking water after disinfection, water contact recreation, fishing, [recreational activities,] industrial process and cooling water supply, hydroelectric power generation, navigation and as a/natural habitat for fish and other aquatic life./(natural habitat needs clarification).

The dissolved oxygen content of [such] Class A waters shall be not [be] less than 7 parts per million or 75% of saturation [or as naturally occurs] whichever is higher. [, and contain not more than 20 fecal coliform bacteria per 100 milliliters.] The/aquatic life/and bacteria content of these waters shall

be/as naturally occurs./("aquatic life" and "as naturally occurs" must be defined. Does it mean no impact?)

[These waters shall be free from sludge deposits, solid refuse and floating solids such as oils, grease or scum. There shall be no disposal of any matter or substance in these waters which would impart color, turbidity, taste or odor other than that which naturally occurs in said waters, nor shall such matter or substance alter the temperature or hydrogen-ion concentration of these waters or contain chemical constituents which would be harmful or offensive to humans or which would be harmful to animal or aquatic life. No radioactive matter or substance shall be permited in these waters other than that occurring from natural phenomena].

There shall be no discharge of sewage or other pollutants into water of this classification and no deposits of such material on the banks of these waters in any manner that transfer of sewage or other pollutants into the waters is likely, except that existing licensed discharges into waters of this classification will be allowed to continue until practical alternatives exist[.] (or until the discharged effluent is equal to or better than the existing water quality.) [New discharges to these waters will be permitted only if, in addition to satisfying all the requirements of this chapter, the discharged effluent will be equal to or better than the existing water quality of the receiving waters. Prior to issuing a discharge license, the board shall require the applicant to objectively demonstrate to the board's

satisfaction that the discharge is necessary and that there are no other reasonable alternatives available.]

Class B [,the 2nd highest classification, shall be divided into 2 designated groups as B-1 and B-2.] shall be the 3rd highest classification and these waters shall be of such quality that they are suitable for drinking water supply after treatment, water contact recreation, fishing, [recreational activities,] industrial process and cooling water supply, hydroelectric power generation, navigation and as an /unimpaired habitat/ (needs to be defined) for fish and other aquatic life.

[B-1. Waters of this class shall be considered the higher quality of the Class B group and shall be acceptable for recreational purposes, including water contact recreation, for use as potable water supply after adequate treatment and for a fish and wildlife habitat.]

The dissolved oxygen content of [such] Class B waters shall be not less than [7 parts per million or 75%] (60%) of saturation, (and not less than 5 parts per million at any time) whichever is higher. [The fecal coliform bacteria shall not exceed 60 per 100 milliliters.] Between May 15th and September 30th, the number of Escherichia coli bacteria of human origin in these waters shall not exceed a geometric mean of 64 per 100 milliliters or a instantaneous level of 427 per 100 milliliters.

/Discharges to Class B waters shall not cause adverse impact to aquatic life in that the receiving waters shall be of

sufficient quality to support all aquatic species indigenous to the receiving water without detrimental changes in the resident biological community./ (what does all this mean?)

(These waters shall be free from sludge deposits, solid refuse and floating solids such as oils, grease or scum. There shall be no disposal of any matter or substance in these waters which imparts color, turbidity, taste or odor which would impair the usages ascribed to this classification nor shall such matter or substance alter the temperature or hydrogen-ion concentration of these waters so as to render such waters harmful to fish or other aquatic life. There shall be no discharge to these waters which will cause the hydrogen-ion concentration or "pH" of these waters to fall outside of the 6.0 to 8.5 range. There shall be no disposal of any matter or substance that contains chemical constituents which are harmful to humans, animals or aquatic life or which adversely affect any other water use in this class. No radioactive matter or substances shall be discharged to these waters which will raise the radio-nuclide concentrations above the standards as established by the United States Public Health Service as being acceptable for drinking water. These waters shall be free of any matter or substance which alters the composition of bottom fauna, which adversely affects the physical or chemical nature of bottom material, or which interferes with the propagation of fish.)

(There shall be no [disposal] (discharges) of sewage, industrial wastes or other wastes in such waters, except those

which have received treatment for the adequate removal of waste constituents including, but not limited to, solids, color, turbidity, taste, odor or toxic material, such that these treated wastes will not lower the standards or alter the usages of this classification, nor shall such disposal of sewage or waste be injurious to aquatic life or render such dangerous for human consumption.)

[B-2. Waters of this class shall be acceptable for recreational purposes including water contact recreation, for industrial and potable water supplies after adequate treatment, and for a fish and wildlife habitat. The dissolved oxygen of such waters shall not be less than 60% of saturation, and not less than 5 parts per million at any time. The fecal coliform bacteria is not to exceed 200 per 100 milliliters.]

[These waters shall be from sludge deposits, solid refuse and floating solids such as oils, grease and scum. There shall be no disposal of any matter or substance in these waters which imparts color, turbidity, taste or odor which would impair the usages ascribed to this classification, nor shall such matter or substance alter the temperature or hydrogen-ion concentration of the waters so as to render such waters harmful to fish or other aquatic life. There shall be no disposal of any matter or substance that contains chemical constituents which are harmful to humans, animals or aquatic life or which adversely affect any other water use in this class. There shall be no discharge to these waters which will cause the hydrogen-ion concentration or "pH" of these waters to fall

outside of the 6.0 to 8.5 range. No radioactive matter or substances shall be discharged to these waters which will raise the radio-nuclide concentrations above the standards as established by the United States Public Health Service as being acceptable for drinking water. These waters shall be free of any matter or substance which alters the composition of bottom fauna, which adversely affects the physical or chemical nature of bottom material, or which interferes with the propagation of fish.]

[There shall be no disposal of sewage, industrial wastes or other wastes in such waters, except those which have received treatment for the adequate removal of waste constituents including, but not limited to, solids, color, turbidity, taste, odor or toxic material, such that these treated wastes will not lower the standards or alter the usages of this classification, nor shall such disposal of sewage or waste be injurious to aquatic life or render such dangerous for human consumption.]

Class C [, waters, The 3rd highest classification, shall be of such quality as to be satisfactory for recreational boating and fishing, for a fish and wildlife habitat and for other uses except potable water supplies and water contact recreation, unless such waters are adequately treated.] shall be the 4th highest classification and these waters shall be of such quality that they are suitable for drinking water supply after treatment, water contact recreation, fishing, [recreational activities,] industrial process and cooling water supply, hydroelectric power generation, navigation and as a /habitat/

(define, what standards?) for fish and other aquatic life. The dissolved oxygen content of [such] Class C waters shall be not [be] less than 5 parts per million [or 60% of saturation, whichever is higher.] (, except in those cases where the board finds that the natural dissolved oxygen of any such body of water falls below 5 parts per million, in which case the board may grant a variance to this requirement. In no event shall the dissolved oxygen content of such waters be less than 4 parts per million. The fecal coliform bacteria is not to exceed 1,000 per 100 milliliters.)

Between May 15th and September 30th, the number of Escherichia coli bacteria of human origin in these waters shall not exceed a geometric mean of 142 per 100 milliliters or a instantaneous level of 949 per 100 milliliters.

/Discharges to Class C waters may cause some detrimental changes to aquatic life provided that the receiving waters shall be of sufficient quality to support all indigenous species of fish and maintain the structure and function of the aquatic community./ (what does all this mean?)

(These waters shall be free from sludge deposits, solid refuse and floating solids such as oils, grease or scum. There shall be no disposal of any matter or substance in these waters which imparts color, turbidity, taste or odor which would impair the usages ascribed to this classification, nor shall such matter or substance alter the temperature or hydrogen-ion content of these waters so as to render such waters harmful to fish or other aquatic life. There shall be no discharge to

these waters which will cause the hydrogen-ion concentration or "pH" of these waters to fall outside of the 6.0 to 8.5 range. There shall be no disposal of any matter or substance that contains chemical constituents which are harmful to humans, animals or aquatic life or which adversely affect any other water use in this class. No radioactive matter or substance shall be discharged to these waters which will raise the radio-nuclide concentration above the standards as established by the United States Public Health Service as being acceptable for drinking water.)

(There shall be no (direct) disposal of sewage, industrial wastes or other wastes in such waters, except those which have received treatment for the adequate removal of waste constituents including, but not limited to, solids, color, turbidity, taste, odor or toxic material, such that these treated wastes will not lower the standards or alter the usages of this classification, nor shall such disposal of sewage or waste be injurious to aquatic life or render such dangerous for human consumption.)

[Class D waters shall be assigned only where a higher water classification cannot be attained after utilizing the best practicable treatment or control of sewage or other wastes.]

[Waters of this class may be used for power generation, navigation and industrial process waters after adequate treatment.]

[Dissolved oxygen of these waters shall not be less than 2.0 parts per million. The numbers of coliform bacteria

allowed in these waters shall be only those amounts which will not, in the determination of the Commission, indicate a condition harmful to the public health or impair any usages ascribed to this classification.]

[These waters shall be free from sludge deposits, solid refuse and floating solids such as oils, grease or scum. There shall be no disposal of any matter or substance in these waters which imparts color, turbidity, taste or odor which would impair the usages ascribed to this classification, nor shall such matter or substance alter the temperature or hydrogen-ion content of the waters to impair the usages of this classification. There shall be no disposal of any matter or substance that contains chemical constituents which are harmful to humans or which adversely affect any other water use in this class. No radioactive matter or substance shall be permitted in these waters which would be harmful to humans, animal or aquatic life and there shall be no disposal of any matter or substance which would result in radio-nuclide concentrations in edible fish or other aquatic life thereby rendering them dangerous for human consumption.]

[There shall be no disposal of sewage, industrial wastes or other wastes in such waters, except those which have received treatment for the adequate removal of waste constituents including, but not limited to, solids, color, turbidity, taste, odor or toxic material, such that these treated wastes will not lower the standards or alter the usages of this classification.]

[Treated wastes discharging to these waters shall not create a public nuisance as defined in Title 17, Section 2802, by the creation of odor producing sludge banks and deposits or other nuisance conditions.]

[With respect to all classifications hereinbefore set forth, the board may take such actions as may be appropriate for the best interests of the public, when it finds that any such classification is temporarily lowered due to abnormal conditions of temperature or steam flow.]

Sec. 3. 38 M.R.S.A. §363-A:

§363-A Standards [of] for classification of lakes and [great] ponds

The board shall have [2 standards] 1 standard - Class GP-A - for the classification of lakes and [great] ponds[.] except that impoundments of rivers may be otherwise classified as specified in section 363, 368 and 369 and that waters contained in excavations approved by the board for waste water treatment purposes shall be unclassified waters. Class GPA waters shall be of such quality that they are suitable for drinking water after disinfection, water contact recreation, fishing, recreational activities, industrial process and cooling water supply, hydroelectric power generation, navigation and as a natural habitat for fish and other aquatic life.

[Class GP-A shall be the highest classification and shall be of such quality that it can be used for recreational purposes, including bathing, fish and wildlife habitat and for public water supplies after disinfection. Such waters shall

have a Secchi disk transparency of not less than 2.0 meters or as naturally occurs, and contain not more than 20 fecal coliform bacteria per 100 milliliters. Total phosphorus concentration shall not exceed 15 parts per billion, and chlorophyll A concentration shall not exceed 8 parts per billion as measured in samples taken at or near the surface of the water.]

[These waters shall be free from sludge deposits, solid refuse, floating solids, oils, grease and scum. No radioactive matter or substance shall be permitted in these waters other than that occurring from natural phenomena.]

[There shall be no direct or indirect discharge of sewage, pollutants or other substances harmful to water quality or aquatic life into waters of this classification except as provided in sections 371-A and 413. No materials shall be placed on the shores or banks thereof in such a manner that the same may fall or be washed into the waters or in such a manner that the drainage therefrom may flow or leach into those waters.]

[Class GP-B, the 2nd highest classification, shall be acceptable for recreational purposes, including water contact recreation, for use as potable water supply after adequate treatment, and for a fish and wildlife habitat. The fecal coliform bacteria count is not to exceed 60 per 100 milliliters. The total phosphorus concentration shall not exceed 50 parts per billion as measured in samples taken at or near the surface of the water.]

[These waters shall be free from sludge deposits, solid refuse and floating solids, such as oils, grease or scum. No radioactive matter or substances may be permitted in these waters other than that occurring from natural phenomena.]

[There shall be no direct or indirect discharge of sewage, pollutants or other substances harmful to water quality or aquatic life into waters of this classification, except as provided in sections 371-A and 413. No materials may be placed on the shores or banks thereof in such a manner that the materials may fall or be washed into the waters or in such a manner that the drainage therefrom may flow or leach into those waters.]

Class GPA waters shall be described by their trophic state based on measures of the chlorophyll "a" content, Secchi disk transparency, total phosphorus content and other appropriate criteria. Class GPA waters shall have a stable or decreasing trophic state, subject only to natural fluctuations, and shall be free of culturally-induced, algal blooms which impair their use and enjoyment. The number of Escherichia coli bacteria of human origin in these waters shall not exceed a geometric mean of 29 per 100 milliliters an an instantaneous level of 194 per 100 milliliters.

There shall be no new (direct) discharge of domestic or industrial wastewaters into Class GPA waters. Aquatic chemical applications approved by the board shall be exempt from the no discharge provision. Existing licensed discharges into these waters shall be allowed to continue only until practical

alternatives exist. /Discharges into tributaries of GPA waters shall not by themselves or in combination with other activities,/ (How is this defined? ***) cause water quality degradation which would impair the characteristics and designated uses of downstream GPA waters or cause an increase in the trophic state of those GPA waters. No /materials/ may be placed on or removed from the shores or banks of a Class GPA water body in such a manner that /materials/ (does "materials" mean "pollutant"?) may fall or be washed into the water or that contaminated drainage therefrom may flow or leach into those waters, except as provided in section 391. No change of land use in the watershed of a Class GPA water body may, by itself or in combination with other activities, cause water quality degradation which would impair the characteristics [and designated uses] of downstream GPA waters or cause an increase in the trophic state of those GPA waters. (define, presently to broad, exempt out forestry.)

*** Possibly say "Discharges into tributaries of GPA waters should meet those criteria for GPA waters. . . .

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04002-0001

September 3, 1985

Tim Glidden, Legislative Assistant
Committee on Energy and Natural Resources
State House Station 2
Augusta, Maine 04333

Re: L. D. 1503, AN ACT to Amend the Classification System for Maine Waters and Change the Classifications of Certain Waters.

Dear Tim:

Thank you for your letter regarding the Energy and Natural Resources Committee's study of the above bill and for inviting us to comment on it. At this point in time we have no specific suggestions for revisions, additions or deletions to the language of the bill. However, since we anticipate that other individuals and/or interest groups may make suggestions for revisions to the committee and that the committee itself may revise the bill, we would appreciate being kept informed of the bill's status. To that end, I would ask that you notify us of any committee meetings, public hearings, or informal work session which the committee may hold with either the public or the Department of Environmental Protection on this bill.

Again, thank you for offering us the opportunity to comment on this legislation and for your assistance in this matter.

Yours truly,

Mary Ann Lynch

Mary Ann Lynch

cc: Robert S. Briggs, Esquire
Stephen A. Johnson, Esquire

Maine Municipal Association
COMMUNITY DRIVE
AUGUSTA, MAINE 04330
(207) 623-8428

September 4, 1985

William T. Glidden
Legislative Assistant
State House Station 2
Augusta, Maine 04333

Dear Tim:

You had forwarded a copy of L.D. 1503, "An Act to Amend the Classification System for Maine Waters and Change the Classification of Certain Waters" to the Maine Municipal Association for comment. After review of this bill by MMA and by an affiliate group, we conclude that we have no significant objection to the language of L.D. 1503.

MMA's principal concern in reviewing this bill is the impact it might have upon municipal wastewater treatment facilities. The introduction of more stringent water classifications could lead to great expense for municipalities in this area. Careful examination of the bill revealed that few waterways' classifications have been changed and that no wastewater treatment plants would be affected by this legislation.

MMA's conclusion is supported by comments provided by the Maine Waste Water Control Association. However, this Association did have some reservations about enforcement and measurement in general and about the measurement of dissolved oxygen in particular. A copy of a letter from Thomas R. Todd, the new President of the Maine Waste Water Control Association, is enclosed for your reference.

Thank you for soliciting our comments. I look forward to attending the Committee's meeting in late September. Please let me know what the date and time of this meeting will be.

Sincerely,

James N. Katsiaficas
Assistant Director of State & Federal Relations

JNK:sj

cc: Kay Rand

MAINE WASTE WATER CONTROL ASSOCIATION
LOCAL GOVERNMENT CENTER
Community Drive
Augusta, Maine 04330
Telephone 1-800-452-8786

August 30, 1985

James Katsiaficas
Maine Municipal Assoc.
Augusta, Maine 04330

Dear James:

The Maine WasteWater Control Association supports L.D. 1503. I feel that more clarification is needed in some areas of the L.D. The degree of measurement and enforcement should not be at the discretion of certain individuals. The parameters should be well defined and reliably measurable.

The requirement of Dissolved Oxygen as a percent saturation is not appropriate. A defined concentration (unit of measurement) should be used.

The Biological criteria (Toxicity analysis) is a good concept. Just because a treatment facility does a good job in removing the "Conventional" pollutants, this does not guarantee that the treated waste water will be non-toxic.

wk
278 5442
nn
924 3865

Respectfully,

Thomas R. Todd, President
Maine WasteWater Control Association

MAINE AUDUBON SOCIETY

Gilsland Farm • 118 U.S. Route One • Falmouth, Maine 04105 • 781-2330

The responsible voice for Maine's environment and natural resources.

TO: MEMBERS OF THE LEGISLATIVE STUDY COMMITTEE ON LD 1503

FROM: NANCY C. ANDERSON, MAINE AUDUBON SOCIETY NCA

RE: RECOMMENDED REVISIONS TO LD 1503

DATE: September 5, 1985

Maine Audubon recommends the following changes to LD 1503:

1. We endorse upgrading to Class AA, rivers, streams, and brooks which are within Baxter and Acadia, and which are designated as deserving of special protection under the 1983 Rivers Protection Act. However, this upgrading should be accompanied by an upgrading of all tributaries to AA rivers to a minimum of Class A in order that the quality of Class AA rivers be preserved. Federal Regulations provide that "in designating uses of a water body . . ., the State shall take into consideration the water quality standards of downstream waters and shall ensure that its water quality standards provide for the attainment and maintenance of the water quality standards of downstream waters." (40 CFR 131.10(b)).

2. Some of our concern regarding cumulative impact has been alleviated by rereading Section 414-A(1)(A) of Title 38 which states that the board shall issue a discharge license only if the "discharge by itself or in combination with other discharges will not lower the quality of any classified body of water below such classification."

3. In the discussion of the final 1983 Federal Regulations in the Federal Register, it states that the wording of the anti-degradation policy was changed from allowing lower water quality to accomodate "significant" economic or social development to "important" economic or social development. "In the context of the antidegradation policy the word 'important' strengthens the intent of protecting higher quality waters. Although common usage of the words may imply otherwise, the correct definitions of the two terms indicate that the greater degree of environmental protection is afforded by the word "important'". Audubon therefore recommends that the anti-degradation language read: "the higher water quality shall be maintained, unless the board finds that degradation of water quality is necessary for economic or social purposes which provide important public benefits for the people of the State." (p. 3)

4. In accordance with state and federal anti-degradation policies, without extensive public involvement and a convincing demonstration of necessity for important economic purposes, we question the classification of certain estuarian and marine waters as SC on the basis that they

"are likely to receive major discharges as a result of the State's economic development policy." (p. 57, Statement of Fact). We understand that the phrase refers to Eastport and Sears Island which may indeed require SC design ation for "significant public benefits", but which nevertheless should be classified as SB if they are currently meeting the mimimum standards of that classification.

5. Maine Audubon supports the adoption of biological monitoring as a mechanism to ensure compliance with descriptive water quality criteria. We will be attending the DEP Workshop on Instream Biological Monitoring on September 30th in order to learn more about the differences among "natural" habitat, "unimpaired" habitat, and habitat "without detrimental changes". Audubon recommends the inclusion of general definitions of these terms in the statute. Clearly, regulations will be necessary to spell out the detailed appropriate macroinvertabrate standards and parameters for each water quality class.

6. The standards for classification set out the uses of the water and the necessary quantitative measures and quality of aquatic life to sustain those uses. The least coherent classification is Class A. Class A allows hydroelectric power generation, reflected in a dissolved oxygen content standard which is lower than as naturally occurs. Aquatic life and bacteria content, however, must be "as naturally occur". Nevertheless, discharges are allowed under certain limited circumstances: the discharge must (1) be pre-existing, or (2) be of a quality equal to that of the receiving waters and be found by the board to be "necessary" and the only reasonable alternative. These criteria have been variously interpreted as either essentially prohibiting new discharges because effluent rarely can be equal to the existing water quality, or authorizing new discharges as long as the procedures are followed. Audubon recommends that the Study Committee resolve this debate and ambiguity concerning Class A by adopting language that prohibits discharges while permitting hydropower. Class B and Class C can provide sufficient space and opportunity for industrial process and cooling water supply.

Thank you for this opportunity to provide you with our recommendations. I look forward to working with you on this important legislation.

cc: Terry McGovern, DEP

NON-PROFIT ORG.

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MAINE AUDUBON SOCIETY

GILSLAND FARM

118 U.S. ROUTE ONE

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Tim Glidden
Legislative Assistant
State House Station 2
Augusta, ME 04333

Maine Business

Maine Chamber of Commerce & Industry • 126 Sewall Street • Augusta, Maine 04330 • (207) 623-4568

September 6, 1985

Tim Glidden, Legislative Assistant
Office of Legislative Assistants
Room 101
State House Station 13
Augusta, ME 04333

RE: LD 1503; Water Re-Classification

Dear Tim:

Enclosed please find my comments on LD 1503, to be submitted to the sub-committee. As soon as a time has been set for the September 23, 1985 meeting, would you please notify me so that I in turn may notify my members. Thanks.

Best regards,

Patricia A. Waugh
Staff Attorney

enclosure

PAW:mae

Comments on LD 1503, AN ACT to Amend the Classification System for Maine Waters and Change the Classification of Certain Waters, presented by the Maine Chamber of Commerce & Industry

The Maine Chamber of Commerce and Industry is concerned with maintaining the water quality in the State of Maine. Maine Chamber of Commerce and Industry believes a balanced approach to regulating and classifying Maine's waters will serve to promote industrial development and protect environmentally pristine areas. Maine's waters must serve the industrial community as well as provide areas for recreational purposes. The classification system for Maine's waters attempts to balance industrial and recreational uses, however the proposed re-classification as presented in LD 1503 does not provide a balanced approach. The following are the main areas with which Maine Chamber of Commerce and Industry takes exception and hopes that the Committee will address these areas during their study of the bill.

A. Pollution Abatement Costs.

In any re-classification, change or upgrading of water quality, a cost vs. benefit analysis must be undertaken. Though the change in dissolved oxygen content from 7 ppm to 5 ppm may appear to be a minor change, yet the costs involved in such a change may be extensive. For example, between 1972 and 1984 private business expended over 82 billion dollars in investment and operating expenses to comply with the Federal provisions of the Clean Water Act.

It is vitally important the the Committee remember the costs involved in each minor change proposed by LD 1503 may be extremely expensive. One of Maine's leading tanneries attributes pollution abatement costs to the reduction of their workforce by 25 people. In order to determine that pollution abatement costs attributed to LD 1503 do not become prohibitively expensive, a cost v. benefit analysis should be used on each proposal.

B. Definitions Need More Clarity.

LD 1503 contains many words and phrases which lack clear definitions. For example, "naturally occurs", "indigenous", "significant public benefits", "unimpaired", and "natural habitat" are just some of the words and phrases which will require a great deal of interpretation on the part of the Department of Environmental Protection. Clearly, all parties involved desire wording that is clear and precise, subject only to minor interpretation. The importance of clarity in a law, is that everyone knows exactly what is required by the law. If a law is written so that it is vague, it becomes extremely difficult for a person to comply with the law, because the person will not understand what is required by the law.

C. Automatic Upgrading

LD 1503 contains a clause which will require an automatic upgrading of those waters which exceed the minimum standards set for that particular water segment. Page 3, lines 12 through 20 would require that a Class C river segment automatically become a Class B segment if it were meeting those standards. Two problems may arise with this clause. First, it would require any business discharging into the Class C segment to upgrade and maintain their discharges to meet the Class B requirements. For example, the business may be exceeding the Class C requirements with its present treatment system, it may not be able to meet the Class B requirements without costly changes to its wastewater operation.

Second, the automatic upgrade clause may not allow leeway for economic development on certain river segments. For example, if there are three businesses discharging into a Class C segment, yet all the businesses are all exceeding the Class C standards, the segment will automatically become a Class B segment. Not only will the existing businesses have to meet the Class B standards, any new businesses will also have to meet the Class B standards. Not only may the pollution abatement costs be prohibitively expensive for a new business to consider a location in Maine, the river segment may not be able to support further discharge and remain a Class B segment.

Tangential to the automatic upgrade clause is the upgrading of present B-2 segments to Class B segments. An upgrade such as this represents a tremendous change in the standards. For example:

Table 1

	Present B-2	Proposed B	Change
Do	5 ppm	7 ppm	2 ppm
Saturation	60 %	75 %	15 %

Whereas the more reasonable change would be to re-classify the present Class B-2 to a Class C. Such a re-classification results in a wash, with the proposed new standards for Class C. For example:

Table 2

	Present B-2	Proposed C	Change
Do	5 ppm	5 ppm	0
Saturation	60 %	60 %	0

D. Increased Dissolved Oxygen Content.

As the above Table 1 indicates, LD 1503 proposes to increase the dissolved oxygen standards to 7 ppm or 75% of saturation whichever is higher, from the present standard of 5 ppm or 60% saturation. An increase of 2 ppm will result in costly changes for those businesses which will have to meet the new standards.

Also related to the Do content increase is the issue of impoundments. Maine Chamber of Commerce and Industry's members are very concerned with how and where the Do content will be measured within impoundments, and hope that this can be clarified in LD 1503.

E. Bio-Monitoring

The Maine Chamber of Commerce and Industry is very concerned and apprehensive with the DEP's apparent hurry to enter into bio-monitoring. Currently, very few, if any states use bio-monitoring as the sole source of determining whether license standards are being met.

First, the number of variables which effect bio-monitoring are extensive. These may include, temperature, location, time of day/year, non-point source discharges, and species selected. For example, non-point source discharge can come from urban run-off, agricultural and forest practices. The issue then is how does bio-monitoring differentiate between point and non-point source discharge.

Second, though a licensee and the DEP may agree on the technics involved with the bio-monitoring, it may be difficult to agree on the results of the test. At present, bio-monitoring is considered by many to be more of an art than a science. The reason for this label is that bio-monitoring is largely interpretative. Bio-monitoring isn't considered a quantitative tool and thus should not be used as a means of regulatory enforcement. A regulatory tool should be clean and clear, with no room left to disagree with the results. If the means of enforcement is subject to variation in its results, this can lead to unfair enforcement, as well as to further complicate the job of the regulatory agency.

F. Effective Date

Many businesses are concerned with the absence of a time frame in LD 1503. It is unrealistic to believe that licensees will be able to modify their pollution control equipment immediately in order to comply with any re-classifying that may occur. Maine Chamber of Commerce and Industry recommends that a phased-in approach be added to LD 1503 in order that businesses be given an

adequate time within which to comply. An effective date of January 1, 1988 would allow approximately 1½ years for businesses to modify their pollution control systems.

G. Inadequate Staff

Presently the staff at DEP is inadequate to perform the myriad functions that are required. LD 1503 proposes no additional positions for monitoring and enforcement of water quality standards. If the Committee determines that bio-monitoring should be used as a regulatory tool, clearly the present staff will not have the time to monitor all the licensees. Maine Chamber of Commerce and Industry recommends that the Committee determine how many new positions must be added, and that the appropriate fiscal note be attached to LD 1503.

Thank you for allowing me the opportunity to comment on LD 1503. If you have any questions, I would be happy to answer them or provide additional information.

Respectfully submitted,

Patricia A. Waugh

Patricia A. Waugh
Staff Attorney
Maine Chamber of Commerce
and Industry

September 6, 1985

STATE OF MAINE
EXECUTIVE DEPARTMENT
STATE PLANNING OFFICE

JOSEPH E. BRENNAN
GOVERNOR

RICHARD E. BARRINGER
DIRECTOR

September 10, 1985

Tim Glidden
Legislative Assistants Office
State House Station #13
Augusta, Maine 04333

Dear Tim,

As Chairman of the Land & Water Resources Council, I have been working with the Departments of Environmental Protection, Conservation, Marine Resources, and Inland Fisheries and Wildlife to provide a single Administration position on amendments to LD 1503, An Act to Amend the Classification System for Maine Waters and Change the Classifications of Certain Waters.

We are pleased to submit the following comments and recommended amendments to LD 1503:

1. For purposes of clarification, the first sentence of paragraph 3 of §360(1) should be amended to read as follows:

   The Legislature intends by the enactment of ~~this~~ these classification ~~system~~ standards to establish water quality ~~management~~ goals for the State's waters.

2. We recommend that provision be made to assure that all classifications receive periodic review. As presently worded, proposed §360(2) does not provide for such reviews.

3. We recommend that the draft be amended to clarify the relationship of the water classification system to the special protection provided by the 1983 Maine Rivers Act regarding hydroelectric power generation on specific river segments. While the proposed Class AA is clearly in concert with these special protection provisions, not all of the river segments contained in the Maine Rivers Act (under 12 MRSA §403) are to be classified AA (e.g., the mainstem of the Kennebec from Curran Bridge to the tidal estuary would be Class C). These lesser classifications (Classes A, B and C) specifically identify hydroelectric power generation as a "suitable" use for the waters so classified.

184 STATE STREET, STATE HOUSE STATION 38, AUGUSTA, MAINE 04333 TEL. (207) 289-3261 or 3154

To avoid any confusion about the Legislature's intent, we urge the addition of an appropriate cross-reference to the applicable sections of the Maine Rivers Act in the description of each of these classes, for example, as follows:

"Class A shall be the 2nd highest classification and these waters shall be of such quality that they are suitable for ...hydroelectric power generation (except as prohibited under 12 MRSA, Chapter 200, §403),..."

4. A number of rivers classified under the bill as SC are now, or were historically, productive shellfishing areas. These areas should be open to restricted shellfish harvesting where water quality conditions permit. Therefore, we recommend that language be added to the designated uses of Class SC waters in §364 to accomplish this purpose, as follows:

> Class SC shall be the 3rd highest classification and these waters shall be of such quality that they are suitable for water contact recreation, fishing,... aquaculture propagation and restricted harvesting of shellfish, industrial process...

5. The Department of Inland Fisheries and Wildlife has a brown trout rearing station in Palermo on the section of the Sheepscot River which is proposed for designation as Class AA waters. As discharges are prohibited to Class AA waters, the classification line on the Sheepscot needs to be redrawn so that the trout station is not on an AA river stretch.

We are still discussing the issue of dissolved oxygen standards for Class C waters. We will be proposing a seasonal standard to assure protection of fish propagation. Amendment language to accomplish this will be provided for consideration by the Standing Committee on Energy and Natural Resources as soon as possible and, in any event, before the September Committee Meeting on LD 1503.

We have asked that Karen Massey, Executive Secretary of the Land & Water Resources Council, closely monitor the Committee's deliberations concerning this bill. In addition, should the Committee desire substantive revisions to the bill, we ask that the DEP, after consultation with other agencies through the Council, have an opportunity to draft and present appropriate amendments addressing the Committee's concerns.

The Administration considers the enactment of this bill a very high priority, and stands ready to serve the Committee in any way it can to assure the passage of a strong and effective water classification bill.

We appreciate this opportunity to comment on LD 1503.

Sincerely,

Richard E. Barringer
Chairman
Land & Water Resources Council

REB/l

cc: Members, Maine Land & Water Resources Council

Natural Resources Council of Maine
271 State Street, Augusta, Maine 04330 207-622-3101

September 11, 1985

William T. Glidden
Office Legislative Assistants
State House Station 13
Augusta, ME 04333

Dear Tim:

Enclosed are the Natural Resources Council's proposed changes to the language of L.D. 1503, as you requested in your letter of August 1, 1985.

These proposed changes are of two kinds: (1) substantive, intended to change the meaning and legal effect of L.D. 1503, and (2) non-substantive, intended to clarify the meaning of the existing language or to organize the language into a more accessible format. We have tried to be as specific as possible. Each proposed change is followed by a brief comment on why the change is appropriate. For convenience sake and not as an indication of priority, they are presented in an order which tracks the existing organization of L.D. 1503.

Following the proposed changes is a short list of issues raised by the bill which we are continuing to investigate and which seem worthy of consideration by the study committee.

Because our review of L.D. 1503 and its implications is still ongoing, we cannot regard these comments as completely exhaustive. They do reflect our concerns at this point in time. As our review continues over the next few months, we look forward to working with the Committee to produce a bill which will insure the protection and enhancement of quality of the state's waters.

Thank you for the opportunity to comment on L.D. 1503.

Sincerely,

James W. Dow
Staff Attorney

JWD:lg

Proposed Changes to L.D. 1503

offered by the

Natural Resources Council of Maine

September 11, 1985

1. Page 1, line 24. Change "§§ 360" to "§§ 362-B".

Comment: This change would place this section in a more logical place, i.e., immediately preceding the other classification sections, rather than immediately preceding sections on the organization and authority of the Board. Consideration should be given to renumbering the entire article, perhaps even the entire sub-chapter so as to provide a separate article for classification of waters.

2. Page 1, line 24. Add "surface" after Maine.

Comment: This bill is focused entirely on surface water. That should be made clear in the bill's title. It should also be made clear that the classification system is for surface water only.

3. Page 2, lines 1 - 9. Replace existing language with the following:

> The Legislature intends by this Act to establish a water quality classification system which will allow the State to manage its surface waters so as to both protect and enhance the quality of those waters. This classification system shall be based on water quality standards which designate the use or uses to be made of a class of waters and set criteria necessary to protect those uses. The Legislature further intends by this Act to assign to each of the state's surface water bodies a classification which shall designate the minimum level of quality which the Legislature intends for that body of water. This designation is intended to direct the state's management of that water in order to achieve at least that level of quality.

Comment: This language removes the goal v. standard confusion while clearly setting out what is intended by this Act.

4. Page 2, line 10. Make subsection 2 a definition section. Include in that section the following terms:

"natural conditions" (p. 2, line 28-29)

"water contact recreation" (p. 4, line 29; p. 5, lines 4 & 33; p. 6, line 12)

"recreational activities" (p. 4, line 29; p. 5, lines 4 & 33; p. 6, line 12)

"as naturally occurs" (p. 4, line 33; p. 5, line 11)

"waste waters" (p. 4, line 35)

"drinking water after disinfection" (p. 4, line 28; p. 5, line 3)

"drinking water supply after treatment" (p. 5, line 32; p. 6, line 11)

"practical alternatives" (p. 5, line 19)

"impoundments" (p. 6, line 36)

Comment: Several terms need definition. Use of the statute would be facilitated if the definitions were included here, rather than in the present § 361-A. However, since some key terms are defined there already, adding to that list is logical as well. In any case, definitions should be added.

5. Page 2, line 10. Relocate this section so as to follow the "General Provisions" section.

Comment: From the use perspective, the "General Provisions sub-section should follow the findings/intent sub-section.

6. Page 2, line 11. Replace the sentence beginning with the word "Following" with this:

> Upon petition by any person or persons, or on its own, the Board, following public notice, may conduct classification studies and investigations.

Comment: This language simply makes clear the public's right to cause this process to be initiated.

7. Page 2, line 19 & 20. Add the word "the" between "in" and "water" in line 19 and add "of a particular water body" after the work "classification" in line 20.

Comment: This makes clear that this procedure is for changing the classification of individual water bodies. The present language is ambiguous.

8. Page 2, line 28. Organize the General Provision section into subsections:

sub. (a) Natural Conditions (beginning with the word "where", p. 3, line 28.)

sub. (b) Report to Legislature (beginning with "The", p. 3, line 35.)

sub. (c) Discharge to certain waters prohibited (beginning p. 3, line 1, first word.)

sub. (d) Antidegradation provisions (beginning p. 3, line 6, first word.)

sub. (e) Determination of violation of standards (beginning p. 3, line 21, first word.)

sub. (f) Discharges affecting designated uses proibited (beginning with the word "There" p. 3, line 25)

sub. (g) Certain settled solids and floating materials prohited (beginning with the word "All", p. 3, line 31)

sub. (h) Other discharges prohibited. (beginning with the word "There", p. 3, line 37.)

Comment. The present language combines concepts in a manner which makes comprehension difficult. This change would simply make those concepts more accessible.

9. Page 2, line 33. Delete "363-B".

Comment: This reference to ground water classification standards seems inappropriate in the context of a revision of surface water standards.

10. Page 2, line 40-41. Replace "the attainment of management goals: with "those waters to attain their reclassification."

Comment: This enhances clarity by removing the reference to "goals".

11. Page 3, line 4. Add "or industrial" after "domestic".

Comment: Industrial discharges to tributaries of GPA water should be precluded as a general rule.

12. Page 3, lines 6-20. Delete. Replace with the following:

Anti degradation policy:

1) existing uses protected. Existing instream water uses and the level of water quality necessary to protect the existing uses shall be maintained and protected.

2) designated uses protected. The level of water quality necessary to protect the designated uses of each classification shall be maintained.

3) existing water quality to be maintained. Where the existing quality of any classified water exceeds the minimum standards necessary to support the designated uses of its classification, the higher water quality shall be maintained.

4) Licenses require compliance with standards. Any discharge license pursuant to section 414-A or any water quality certification pursuant to section 401 of the Federal Water Pollution Control Act ("Clean Water Act") PL 92-500, as amended: 33 USC 1251 et seq., shall be issued only if both the standards of the classification for the water body where the proposed discharge would occur and the requirements of this subsection will be met.

Comment: The present language seems inadequate to assure compliance with federal law as well as maintenance of the gains in water quality that Maine has achieved in the recent past. Specifically, these is no reference to existing uses (see 40CFR section 131.12(a)(1)) Nor is there a mechanism to protect water which is of higher quality than the minimum standards of its class but not of such quality as to meet the standards of the next higher classification. Also, the present language requiring compliance with the "minimum standards of the classification", p. 3, line 11-12, seems in conflict with M.R.S.A. section 414-A(1)(c).

The proposed language sets out in a clean format what is to be protected. It will insure compliance with the federal law, but more importantly protect the improvements that have occurred and are still occurring in the quality of Maine's water.

13. Page 3, line 44. The following two subsections should be added to the General Provisions section:

1) Non-point source discharge: The effects of non-point source discharges shall be included in any assessments of whether water is of such quality as to allow the issuance of a discharge license pursuant to section 414-A.

2) Regulations to be promulgated: No later than January 1, 1987, the Board shall promulgate regulations to implement this classification system, including but not limited to the folowing:

(a) Criteria for new discharges to Class A waters, section 363.

(b) Methodology and criteria to be used by the department to implement the dissolved oxygen, aquatic life and bacteria content standards.

Comment: Sub 1 attempts to address the difficult but significant subject of non-point source discharges. The intent is that the effects of these discharges be considered in determining whether licensed discharges can be allowed. Sub. 2 explicitly requires the promulgation of regulations.

14. Page 4, line 19. This section would be more accessible if it were organized into subsections with sub-headings.

15. Page 4, line 35. Add "or pollutants" after "waste waters".

Comment: Class AA is to be a "no discharge" class. This change makes it clear that not only waste waters but also pollutants as defined by the statute are prohibited. A neater alternative having the same effect would be simply to delete "of domestic or industrial waste waters."

16. Page 5, line 13-14. Delete "of sewage or other pollutants".

Comment: This language is superfluous and potentially confusing. Discharge is defined in section 361-A(1) as the addition of any pollutant to water of the State. This deletion also makes this sentence consistent with line 20.

17. Page 5, line 20. Add a fixed date at which existing licensed discharges must end.

18. Page 5, line 29. Add the following: The Board shall promulgate regulations establishing criteria for determining whether the effluent is equal to or better than the existing water quality, whether the discharge is necessary and that no other reasonable alternatives exist.

Comment: The decisions required by lines 21-29 are important ones, yet the present language only sets our the requirements in the most general form. Regulations which set out more specifically on what basis these decisions are to be made are appropriate.

19. Page 5, line 40-41. Delete "May 15th and September 30th,"; capitalize "the".

Comment: The bacteria content criteria should apply throughout the year. If it is appropriate to waive these limits under certain conditions, waiver provisions should be developed. A similar change should be made on page 6, line 19.

20. Page 6, line 2: Add the following sentence: "Escherichia coli bacteria found in these waters shall be presumed to be of human origin unless otherwise demonstrated."

Comment: It is our understanding that this is DEP's intent. This makes it clear.

21. Page 6, line 7. Replace "detrimental" with "significant".

Comment: "Detrimental" is an extremely subjective term, one which implies a qualitative difference. An effective definition, limiting that subjectivity, seems a most difficult task. Significant, though not without its subjective aspect, implies quantity, which can be measured. A determination of "signficant change" would thus seem to involve less subjectivity.

22. Page 6, line 17. Change "5" to "6".

Comment: To provide adequate protection for salmonids, a minimum DO criteria of 6 ppm is necessary for class C waters.

23. Page 6, line 23. Add the following sentence: "Escherichia coli bacteria found in these waters shall be presumed to be of human origin unless otherwise demonstrated."

Comment: Same as comment 20 above.

24. Page 6, line 35. Replace "Lakes and ponds", with "great ponds."

Comment: Lakes and ponds are "great ponds". "Great pond" is defined in section 392(1).

25. Page 6, line 35. (The clause beginning with the word "except" and ending with "369"). If the intent of this clause is as it seems, that impoundments are to be classified as great ponds unless otherwise classified, that should be stated clearly, in simple declarative fashion.

26. Page 8, line 39. Replace detrimental with "significant".

Comment: Same as comment 21 above.

27. Page 8, line 29-30. Delete "Between May 15th and September 30th,"

Comment: Same as comment 19 above.

28. Page 8, line 39. Replace "detrimental" with "significant."

Comment: Same as comment 21 above.

29. Page 9, line 13-14. Delete "Between May 15th and September 30th,".

Comment: Same as comment 17 above.

30. Page 9, line 32. Re: Sections 368 and 369. NRCM has identified many sections of rivers or streams which we feel may be inappropriately classified based on their quality and importance. However, since we understand that the central purpose of this bill is to revamp the classification system and that DEP will be focusing on the classification of individual waters subsequent to the enactment of the new system, we are not including our proposals for reclassification of particular water bodies in these comments.

31. Page 46, line 5. Re: The classification of estuarine and marine waters: Certain waters are classified SC because, as the Statement of Fact indicates, they "are likely to receive major discharges as a result of the State's economic development policy." This basis for placing these waters into the lowest class is inadequate.

Other Issues

The following are issues raised by L.D. 1503 which NRCM is continuing to investigate. They are worthy of consideration by the study committee.

1. Should color standards be included in the classification criteria?

2. Should there be a prohibition on discharges that produce foam that remains on the surface of a water body?

3. Is there a better, more comprehensive means of dealing with the non-point source discharge problem?

4. Is the methodology proposed by DEP to monitor the aquatic life standards workable and adequately comprehensive?

5. How does the proposed Class A for rivers and streams fit in conceptually to the overall classification system?

   (Note: The proposed Class A is conceptually troublesome. It seems to be a hybrid of Class AA and Class B, with certain designated uses and criteria taken from each. It would allow use for industrial progress and cooling supply, hydropower generation and the continuance indefinitely of existing licensed discharges, yet the aquatic life and bacteria content of these waters are to be as naturally occurs. How this Class fits into the system is not clear.)

6. Should there be more than one standard for great ponds to facilitate their management? (Note: Tom Gordon of the Congress of Lakes Association, an affiliate of NRCM will be offering comments on this issue.)

TROUT UNLIMITED

Rcvd 9/13

Tim Glidden
Legislative Assistant
State House Station 2
Augusta, Maine 04333

Dear Tim,

Thanks for contacting me concerning L.D. 1503. The suggestion I would offer on behalf of Trout Unlimited is a simple one; but before I offer it, lest it might appear that T.U. is not deeply concerned with this piece of legislation, I'd like to make a brief statement: The Kennebec Valley Chapter of Trout Unlimited has informally adopted the Kennebec River, especially below Waterville as "our" river. We find it curious that this great resource has received as little attention as it has. Most area residents think that the lower Kennebec is just slightly better than the open sewer that it was 15 or 20 years ago. Nothing could be further from the truth. We feel that it is our responsibility to do whatever we can to assure that the future of the river is brighter, much brighter, than its recent past. To that end we would offer this suggestion for consideration by the Committee on Energy and Natural Resources as regards L.D. 1503: we would ask that the Committee change line 17 on page 6 of L.D. 1503 to read 6 parts per million. This change is relative to the dissolved oxygen content of Class C waters and would go a long way to maintaining the water quality necessary to the success of cold water game fish management and restoration projects already underway on the river.

Thank you for your consideration in this matter. I'm sure we'll be seeing you at the upcoming hearings on L.D. 1503.

Peter Thompson

Peter Thompson
President, K.V.T.U.
Weeks Mills
New Sharon, Maine
04955

TROUT UNLIMITED

Peter Thompson
Weeks Mills
New Sharon, Maine
04955

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Tim Glidden
Legislative Assistant
State House Station 2
Augusta, Maine 04333

CMP Central Maine Power Company
GENERAL OFFICE, EDISON DRIVE, AUGUSTA, MAINE 04336 (207) 623-3521
(TWX NUMBER, CMP-AGUA 710-226-0195)

September 12, 1985

Mr. William T. Glidden
Legislative Assistant
Committee on Energy and Natural Resources
State Office Building - Room 120
Augusta, Maine 04333

Dear Tim:

Please excuse the delay in responding to your request for comments on L.D. 1503. CMP had the opportunity to comment on DEP's proposed water quality standard revisions last spring prior to the drafting of L.D. 1503. The DEP staff was open to considering some of the changes we suggested and incorporated several of our comments into the final draft. As you indicated in your letter, there are several complex issues here and your committee's study of the bill this fall should be very helpful in preparing the committee to address the bill again in the next session.

At this time, our company does not have further comments on the legislation nor do we expect a significant impact on our operations should L.D. 1503 be enacted. But we are studying the DEP's draft "guidelines concerning interpretation of the Biological Water Quality Standards" and will be participating in the workshop to finalize these. These guidelines will directly affect the quality of discharges to the various classes of receiving waters, as defined in L.D. 1503. For your information, however, I am enclosing some of our correspondence with DEP earlier, reflecting the dialogue between our company and that agency prior to the final drafting of the bill.

We are very interested in following the study and attending any meetings on L.D. 1503 and we appreciate your interest in our participation. I look forward to chatting with you again soon on this issue as well as issues for the upcoming session.

Sincerely,

Annette Ross Anderson
Director, Legislative Affairs

Enclosures

CMP Central Maine Power Company
GENERAL OFFICE, EDISON DRIVE, AUGUSTA, MAINE 04336 (207) 623-3521
(TWX NUMBER, CMP-AGUA 710-226-0195)

March 1, 1985

Mr. Stephen W. Groves, Director
Bureau of Water Quality Control
Department of Environmental Protection
State House Station 17
Augusta, ME 04333

Re: Proposed Revision of Maine's Water Quality Standards

Dear Mr. Groves:

The staff at Central Maine Power Company has reviewed the proposed revision of Maine's water quality standards with a view to determining how the revision would affect the operations of Central Maine Power Company and the effect the revision may have on other industries in the State. Overall, Central Maine Power Company does not see at this time any reason that the revision of the water quality standards as drafted would significantly affect Central Maine Power Company's operations. There are, however, several aspects of the revision which are unclear and could cause significant problems for the Company in the event the provisions are not clarified.

The proposed 38 M.R.S.A. §360(3)(b) Antidegradation, does not indicate whether parameters will be used individually or collectively to determine whether or not a classified body of water "supports the characteristics and designated uses of the next highest classification." Central Maine Power Company suggests that the second sentence of 38 M.R.S.A. §360 be further revised to read:

> Where the quality of any classified water, <u>with regard to any particular water quality criterion</u>, exceeds the minimum standards necessary to support the characteristics and designated uses of the next highest classification, the higher water quality shall be maintained unless the Board finds that degradation of water quality is necessary for economic or

> social purposes which provides significant public benefits for the people of the State of Maine.

38 M.R.S.A. §360(3)(d) Discharge Prohibited, may create a problem for Central Maine Power Company with regard to its pump storage development at Clear and at Rowe Ponds (Pleasant Ridge Plt., Somerset County). As you may recall, Central Maine Power Company has received from the Legislature permission to use Rowe Pond for pump storage. P.L. 1959, c.325, §3. It is therefore suggested that 38 M.R.S.A. §360(3)(d) be amended further by adding the following sentence:

> The prohibitions contained in this subparagraph shall not apply to any body of water which for authority to build, maintain and operate a pump storage development has been granted by the Legislature.

Section 2 of the proposed revision to the water quality standards, 38 M.R.S.A. §363, prohibits discharges to Class C waters that may cause some detrimental changes to aquatic life. Since it may well be argued that detrimental effects are ecologically defined by the degree to which community structure is changed, it is suggested that this addition to 38 M.R.S.A. §363 be further amended to read:

> Discharges to Class C waters may cause some detrimental changes to aquatic life provided that the receiving waters shall be of sufficient quality to support all indigenous species of fish and maintain the function of the aquatic community.

Central Maine Power Company is also concerned with the proposed revision to 38 M.R.S.A. §363-A. The proposed revision confusingly uses the word "quality" in slightly different ways in adjacent sentences of similar context. It is therefore suggested that the revision be further amended to read:

> Class GPA water quality compliance shall be determined by their tropic state based on measures of the chlorophyll "a" content, Secchi disk transparency, total phosphorous content and other criteria.

The proposed revision to 38 M.R.S.A. §364, as drafted, leaves it unclear whether or not aquaculture is permitted in

Class SA or Class SB waters. With regard to Class SA waters, the propagation and harvesting of shellfish is permitted but estuarine/marine life, dissolved oxygen and bacteria content of Class SA waters "shall be as naturally occurs". It may well be argued that aquaculture would disturb what naturally occurs and would therefore be prohibited in Class SA waters. Similarly, the propagation and harvesting of shellfish is permitted in Class SB waters but the waters are to remain "as an unimpaired habitat for fish and other estuarine/marine life." It is suggested that the provision relating to Class SA waters be amended to read:

> ...recreational activities, propagation and harvesting of shellfish, including aquaculture, navigation and as a free flowing and natural habitat for fish and other estuarine/marine life.

It is further suggested that the description of Class SB waters be amended to add the phrase "including aquaculture." Central Maine Power Company also suggests that the description of Class SB waters be amended to delete the word "unimpaired" from the phrase "as an unimpaired habitat for fish and other estuarine/marine life." The Company makes this suggestion in the event that the argument is presented that a diffuser or other submerged structure impairs the natural habitat for fish and other estuarine/marine life.

Finally, with regard to Class SC waters, Central Maine Power Company suggests that the following sentence be amended to read:

> Discharges to Class SC waters may cause some detrimental changes to estuarine/marine life provided that the receiving waters shall be of sufficient quality to support all indigenous species of fish and maintain the function of the estuarine/marine community.

Once again, the concern here is that any detrimental change to the waters will more than likely be defined and classified by the degree of change in the structure of the estuarine/marine community.

Central Maine Power Company would welcome the opportunity to discuss in greater length these changes to the water quality standards legislation and would be happy to meet with you at your earliest convenience.

Sincerely,

William H. Laubenstein, III
Counsel

cc: A. R. Anderson
V. S. Thompson
D. T. Flanagan

L. C. Alexander
D. T. Flanagan
A. R. Anderson
V. S. Thompson
4/9/85

STATE OF MAINE

Department of Environmental Protection

MAIN OFFICE: RAY BUILDING, HOSPITAL STREET, AUGUSTA
MAIL ADDRESS: State House Station 17, Augusta, 04333

JOSEPH E. BRENNAN
GOVERNOR

HENRY E. WARREN
COMMISSIONER

April 8,1985

Mr. William H. Laubenstein, III
Counsel
CENTRAL MAINE POWER COMPANY
Edison Drive
Augusta, Maine 04336

Dear Mr. Laubenstein:

Thank you and Central Maine Power's staff for the thoughtful comments on our Proposed Water Quality Standards Revisions. Your comments were very helpful in that you offered alternative language. While we have incorporated some of your suggestions, other will be addressed through regulation and/or policy upon passage of the statute.

1. Anti-degradation Policy - Present law (§414.1.C.) actually says what you have suggested since it refers to existing water quality irrespective of classification. The proposed policy pertains to the water classification system. As such it refers to uses and characteristics of a class. Swimming for example, is protected by the bacteria standards and fishing by the dissolved oxygen and biological standards. In most cases this section of law will not apply to a stream segment unless all or most of the criteria meet the standards of next highest classification.

2. Pump Storage - The answer to this question is largely responsible for our delay in answering your letter. We have asked for an opinion from the Attorney General's office to see if a conflict could exist between our proposed language and your permission to use Rowe and Clear Ponds for pump storage. It is the D.E.P.'s opinion that neither of these pump storage projects would require a waste discharge license since the water discharged should be of a similar quality to that in the ponds.

3. Biological Communities - You raise an interesting point in that to "change" something while "maintaining" it appears mutually exclusive. We feel, however, that the aquatic life may be changed at the species level (i.e., qualitatively) yet structural indices, which ignore species composition, can remain substantially intact. At the moment this admittedly is not obvious in the proposed statute, however, guidelines for biological measurement and interpretation are being developed to explain this in more detail. I will send you a copy of these when they are ready.

4. GPA Quality - Indeed our use of the word "quality" could be interpreted differently in different sections of the draft. That paragraph now reads "Class GPA waters shall be described by their trophic state based on....." omitting the word quality.

5. Aquaculture - Aquaculture has been added as an acceptable use of SA, SB and SC waters, yet we wish to retain some means of qualifying the impact to water quality of each class. Therefore, we choose to retain clauses such as "shall be as naturally occurs" in SA and "as an unimpacted habitat" in SB. This allows us to protect the characteristics of each class yet not unnecessarily prohibit non-conflicting uses of water. This means that raft culture of mussels would be an acceptable type of aquaculture in SA but intensive cage culture of finned fish might be unacceptable if fish and food wastes were to cause a detectable change from natural conditions. Similarly, if a type of aquaculture in SB were to impair the habitat, then it would not be an acceptable use of Class SB. Additionally, you point out that diffusers or some other submerged structure might impair the natural habitat. Again, we wish to retain flexibility to use our judgment. If such a structure in fact did impair fish habitat then it would not be a satisfactory use of that class of water.

Should you wish to discuss this in more detail, feel free to give me a call.

Sincerely,

STEPHEN W. GROVES
Director
Bureau of Water Quality Control
Department of Environmental Protection

SWG/JS/w

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September 3, 1985

Tim Glidden, Legislative Assistant
Committee on Energy and Natural Resources
State House Station 2
Augusta, Maine 04333

Re: L. D. 1503, AN ACT to Amend the Classification System for Maine Waters and Change the Classifications of Certain Waters.

Dear Tim:

Thank you for your letter regarding the Energy and Natural Resources Committee's study of the above bill and for inviting us to comment on it. At this point in time we have no specific suggestions for revisions, additions or deletions to the language of the bill. However, since we anticipate that other individuals and/or interest groups may make suggestions for revisions to the committee and that the committee itself may revise the bill, we would appreciate being kept informed of the bill's status. To that end, I would ask that you notify us of any committee meetings, public hearings, or informal work session which the committee may hold with either the public or the Department of Environmental Protection on this bill.

Again, thank you for offering us the opportunity to comment on this legislation and for your assistance in this matter.

Yours truly,

Mary Ann Lynch

cc: Robert S. Briggs, Esquire
Stephen A. Johnson, Esquire

Maine Municipal Association
COMMUNITY DRIVE
AUGUSTA, MAINE 04330
(207) 623-8428

September 4, 1985

William T. Glidden
Legislative Assistant
State House Station 2
Augusta, Maine 04333

Dear Tim:

You had forwarded a copy of L.D. 1503, "An Act to Amend the Classification System for Maine Waters and Change the Classification of Certain Waters" to the Maine Municipal Association for comment. After review of this bill by MMA and by an affiliate group, we conclude that we have no significant objection to the language of L.D. 1503.

MMA's principal concern in reviewing this bill is the impact it might have upon municipal wastewater treatment facilities. The introduction of more stringent water classifications could lead to great expense for municipalities in this area. Careful examination of the bill revealed that few waterways' classifications have been changed and that no wastewater treatment plants would be affected by this legislation.

MMA's conclusion is supported by comments provided by the Maine Waste Water Control Association. However, this Association did have some reservations about enforcement and measurement in general and about the measurement of dissolved oxygen in particular. A copy of a letter from Thomas R. Todd, the new President of the Maine Waste Water Control Association, is enclosed for your reference.

Thank you for soliciting our comments. I look forward to attending the Committee's meeting in late September. Please let me know what the date and time of this meeting will be.

Sincerely,

James N. Katsiaficas
Assistant Director of State & Federal Relations

JNK:sj

cc: Kay Rand

MAINE WASTE WATER CONTROL ASSOCIATION
LOCAL GOVERNMENT CENTER
Community Drive
Augusta, Maine 04330
Telephone 1-800-452-8786

August 30, 1985

James Katsiaficas
Maine Municipal Assoc.
Augusta, Maine 04330

Dear James:

The Maine WasteWater Control Association supports L.D. 1503. I feel that more clarification is needed in some areas of the L.D. The degree of measurement and enforcement should not be at the discretion of certain individuals. The parameters should be well defined and reliably measurable.

MWWCA-1 The requirement of Dissolved Oxygen as a percent saturation is not appropriate. A defined concentration (unit of measurement) should be used.

MWWCA-2 The Biological criteria (Toxicity analysis) is a good concept. Just because a treatment facility does a good job in removing the "Conventional" pollutants, this does not guarantee that the treated waste water will be non-toxic.

wk
278 5442
nn
924 3865

Respectfully,

Thomas R. Todd, President
Maine WasteWater Control Association

MAINE AUDUBON SOCIETY

Gilsland Farm • 118 U.S. Route One • Falmouth, Maine 04105 • 781-2330

The responsible voice for Maine's environment and natural resources.

TO: MEMBERS OF THE LEGISLATIVE STUDY COMMITTEE ON LD 1503

FROM: NANCY C. ANDERSON, MAINE AUDUBON SOCIETY NCA

RE: RECOMMENDED REVISIONS TO LD 1503

DATE: September 5, 1985

Maine Audubon recommends the following changes to LD 1503:

MAS- 1. We endorse upgrading to Class AA, rivers, streams, and brooks which are within Baxter and Acadia, and which are designated as deserving of special protection under the 1983 Rivers Protection Act. However, this upgrading should be accompanied by an upgrading of all tributaries to AA rivers to a minimum of Class A in order that the quality of Class AA rivers be preserved. Federal Regulations provide that "in designating uses of a water body . . ., the State shall take into consideration the water quality standards of downstream waters and shall ensure that its water quality standards provide for the attainment and maintenance of the water quality standards of downstream waters." (40 CFR 131.10(b)).

MAS- 2. Some of our concern regarding cumulative impact has been alleviated by rereading Section 414-A(1)(A) of Title 38 which states that the board shall issue a discharge license only if the "discharge by itself or in combination with other discharges will not lower the quality of any classified body of water below such classification."

MAS- 3. In the discussion of the final 1983 Federal Regulations in the Federal Register, it states that the wording of the anti-degradation policy was changed from allowing lower water quality to accomodate "significant" economic or social development to "important" economic or social development. "In the context of the antidegradation policy the word 'important' strengthens the intent of protecting higher quality waters. Although common usage of the words may imply otherwise, the correct definitions of the two terms indicate that the greater degree of environmental protection is afforded by the word "important'". Audubon therefore recommends that the anti-degradation language read: "the higher water quality shall be maintained, unless the board finds that degradation of water quality is necessary for economic or social purposes which provide important public benefits for the people of the State." (p. 3)

MAS-4. In accordance with state and federal anti-degradation policies, without extensive public involvement and a convincing demonstration of necessity for important economic purposes, we question the classification of certain estuarian and marine waters as SC on the basis that they

"are likely to receive major discharges as a result of the State's economic development policy." (p. 57, Statement of Fact). We understand that the phrase refers to Eastport and Sears Island which may indeed require SC design ation for "significant public benefits", but which nevertheless should be classified as SB if they are currently meeting the mimimum standards of that classification.

MAS - 5. Maine Audubon supports the adoption of biological monitoring as a mechanism to ensure compliance with descriptive water quality criteria. We will be attending the DEP Workshop on Instream Biological Monitoring on September 30th in order to learn more about the differences among "natural" habitat, "unimpaired" habitat, and habitat "without detrimental changes". Audubon recommends the inclusion of general definitions of these terms in the statute. Clearly, regulations will be necessary to spell out the detailed appropriate macroinvertabrate standards and parameters for each water quality class.

MAS-6. The standards for classification set out the uses of the water and the necessary quantitative measures and quality of aquatic life to sustain those uses. The least coherent classification is Class A. Class A allows hydroelectric power generation, reflected in a dissolved oxygen content standard which is lower than as naturally occurs. Aquatic life and bacteria content, however, must be "as naturally occur". Nevertheless, discharges are allowed under certain limited circumstances: the discharge must (1) be pre-existing, or (2) be of a quality equal to that of the receiving waters and be found by the board to be "necessary" and the only reasonable alternative. These criteria have been variously interpreted as either essentially prohibiting new discharges because effluent rarely can be equal to the existing water quality, or authorizing new discharges as long as the procedures are followed. Audubon recommends that the Study Committee resolve this debate and ambiguity concerning Class A by adopting language that prohibits discharges while permitting hydropower. Class B and Class C can provide sufficient space and opportunity for industrial process and cooling water supply.

Thank you for this opportunity to provide you with our recommendations. I look forward to working with you on this important legislation.

cc: Terry McGovern, DEP

Maine Business

Maine Chamber of Commerce & Industry • 126 Sewall Street • Augusta, Maine 04330 • (207) 623-4568

September 6, 1985

Tim Glidden, Legislative Assistant
Office of Legislative Assistants
Room 101
State House Station 13
Augusta, ME 04333

RE: LD 1503; Water Re-Classification

Dear Tim:

Enclosed please find my comments on LD 1503, to be submitted to the sub-committee. As soon as a time has been set for the September 23, 1985 meeting, would you please notify me so that I in turn may notify my members. Thanks.

Best regards,

Patricia A. Waugh
Staff Attorney

enclosure

PAW:mae

Comments on LD 1503, AN ACT to Amend the Classification System for Maine Waters and Change the Classification of Certain Waters, presented by the Maine Chamber of Commerce & Industry

The Maine Chamber of Commerce and Industry is concerned with maintaining the water quality in the State of Maine. Maine Chamber of Commerce and Industry believes a balanced approach to regulating and classifying Maine's waters will serve to promote industrial development and protect environmentally pristine areas. Maine's waters must serve the industrial community as well as provide areas for recreational purposes. The classification system for Maine's waters attempts to balance industrial and recreational uses, however the proposed re-classification as presented in LD 1503 does not provide a balanced approach. The following are the main areas with which Maine Chamber of Commerce and Industry takes exception and hopes that the Committee will address these areas during their study of the bill.

MCCI-1 A. Pollution Abatement Costs.

In any re-classification, change or upgrading of water quality, a cost vs. benefit analysis must be undertaken. Though the change in dissolved oxygen content from 7 ppm to 5 ppm may appear to be a minor change, yet the costs involved in such a change may be extensive. For example, between 1972 and 1984 private business expended over 82 billion dollars in investment and operating expenses to comply with the Federal provisions of the Clean Water Act.

It is vitally important the the Committee remember the costs involved in each minor change proposed by LD 1503 may be extremely expensive. One of Maine's leading tanneries attributes pollution abatement costs to the reduction of their workforce by 25 people. In order to determine that pollution abatement costs attributed to LD 1503 do not become prohibitively expensive, a cost v. benefit analysis should be used on each proposal.

MCCI-2 B. Definitions Need More Clarity.

LD 1503 contains many words and phrases which lack clear definitions. For example, "naturally occurs", "indigenous", "significant public benefits", "unimpaired", and "natural habitat" are just some of the words and phrases which will require a great deal of interpretation on the part of the Department of Environmental Protection. Clearly, all parties involved desire wording that is clear and precise, subject only to minor interpretation. The importance of clarity in a law, is that everyone knows exactly what is required by the law. If a law is written so that it is vague, it becomes extremely difficult for a person to comply with the law, because the person will not understand what is required by the law.

MCCI-3 C. Automatic Upgrading

LD 1503 contains a clause which will require an automatic upgrading of those waters which exceed the minimum standards set for that particular water segment. Page 3, lines 12 through 20 would require that a Class C river segment automatically become a Class B segment if it were meeting those standards. Two problems may arise with this clause. First, it would require any business discharging into the Class C segment to upgrade and maintain their discharges to meet the Class B requirements. For example, the business may be exceeding the Class C requirements with its present treatment system, it may not be able to meet the Class B requirements without costly changes to its wastewater operation.

Second, the automatic upgrade clause may not allow leeway for economic development on certain river segments. For example, if there are three businesses discharging into a Class C segment, yet all the businesses are all exceeding the Class C standards, the segment will automatically become a Class B segment. Not only will the existing businesses have to meet the Class B standards, any new businesses will also have to meet the Class B standards. Not only may the pollution abatement costs be prohibitively expensive for a new business to consider a location in Maine, the river segment may not be able to support further discharge and remain a Class B segment.

MCCI-4 Tangential to the automatic upgrade clause is the upgrading of present B-2 segments to Class B segments. An upgrade such as this represents a tremendous change in the standards. For example:

Table 1

	Present B-2	Proposed B	Change
Do	5 ppm	7 ppm	2 ppm
Saturation	60 %	75 %	15 %

Whereas the more reasonable change would be to re-classify the present Class B-2 to a Class C. Such a re-classification results in a wash, with the proposed new standards for Class C. For example:

Table 2

	Present B-2	Proposed C	Change
Do	5 ppm	5 ppm	0
Saturation	60 %	60 %	0

MCCI-5

D. Increased Dissolved Oxygen Content.

As the above Table 1 indicates, LD 1503 proposes to increase the dissolved oxygen standards to 7 ppm or 75% of saturation whichever is higher, from the present standard of 5 ppm or 60% saturation. An increase of 2 ppm will result in costly changes for those businesses which will have to meet the new standards.

Also related to the Do content increase is the issue of impoundments. Maine Chamber of Commerce and Industry's members are very concerned with how and where the Do content will be measured within impoundments, and hope that this can be clarified in LD 1503.

MCCI-6

E. Bio-Monitoring

The Maine Chamber of Commerce and Industry is very concerned and apprehensive with the DEP's apparent hurry to enter into bio-monitoring. Currently, very few, if any states use bio-monitoring as the sole source of determining whether license standards are being met.

First, the number of variables which effect bio-monitoring are extensive. These may include, temperature, location, time of day/year, non-point source discharges, and species selected. For example, non-point source discharge can come from urban run-off, agricultural and forest practices. The issue then is how does bio-monitoring differentiate between point and non-point source discharge.

Second, though a licensee and the DEP may agree on the technics involved with the bio-monitoring, it may be difficult to agree on the results of the test. At present, bio-monitoring is considered by many to be more of an art than a science. The reason for this label is that bio-monitoring is largely interpretative. Bio-monitoring isn't considered a quantitative tool and thus should not be used as a means of regulatory enforcement. A regulatory tool should be clean and clear, with no room left to disagree with the results. If the means of enforcement is subject to variation in its results, this can lead to unfair enforcement, as well as to further complicate the job of the regulatory agency.

MCCI-7

F. Effective Date

Many businesses are concerned with the absence of a time frame in LD 1503. It is unrealistic to believe that licensees will be able to modify their pollution control equipment immediately in order to comply with any re-classifying that may occur. Maine Chamber of Commerce and Industry recommends that a phased-in approach be added to LD 1503 in order that businesses be given an

adequate time within which to comply. An effective date of January 1, 1988 would allow approximately 1½ years for businesses to modify their pollution control systems.

MCCI-8

G. Inadequate Staff

Presently the staff at DEP is inadequate to perform the myriad functions that are required. LD 1503 proposes no additional positions for monitoring and enforcement of water quality standards. If the Committee determines that bio-monitoring should be used as a regulatory tool, clearly the present staff will not have the time to monitor all the licensees. Maine Chamber of Commerce and Industry recommends that the Committee determine how many new positions must be added, and that the appropriate fiscal note be attached to LD 1503.

Thank you for allowing me the opportunity to comment on LD 1503. If you have any questions, I would be happy to answer them or provide additional information.

Respectfully submitted,

Patricia A. Waugh

Patricia A. Waugh
Staff Attorney
Maine Chamber of Commerce
and Industry

September 6, 1985

PAPER INDUSTRY INFORMATION OFFICE
133 State St., Augusta, Me. 04330 • (207) 622-3166

September 6, 1985

Mr. William Glidden
Legislative Assistant
Committee on Energy & Natural Resources
State House Station #13
Augusta, Maine 04333

RE: L.D. 1503 - AN ACT To Amend The Classification System For Maine Waters

Dear Tim:

Within the last month a number of our members have received requests from the Energy & Natural Resources Committee to provide written comments on necessary changes to L.D. 1503.

I am sure you can appreciate that the complexity of L.D. 1503 requires a great deal of attention prior to any company or group being able to confirm that all concerns have been addressed. Given the problems inherent in trying to focus attention on such a task during the last month of the summer with shutdowns and vacation schedules, our membership has yet to put together a definitive list of concerns and language changes for all sections of the bill.

Nevertheless, our members have had several opportunities to talk about this legislation and I enclose two documents which are intended to constitute a preliminary response on behalf of the Paper Industry Information Office and its member companies. We hope, however, through the upcoming sessions with the Committee and through meetings with you, to refine the enclosed proposals considerably. As you can see, in a number of places we have not supplied actual language but indicated by general comments areas of the legislation which need substantial changes.

The first document enclosed is a very preliminary attempt at a redraft of the legislation. Deletions from the present bill are enclosed in brackets, additions are shown with parentheses and underlining within the parentheses, comments are enclosed by parentheses and not underlined and portions of the old law being repealed are shown in brackets and not underlined.

The other enclosure is more of a conceptual document which has some overlaps with the first but lists areas of concern.

I hope this material is of some benefit to the Committee and we look forward to refining our thoughts during the Committee's meetings.

Very truly yours,

Dale K. Phenicie DAS

Dale K. Phenicie
Chairman
PIIO Environmental Affairs Committee

Amendments to and comments regarding:

L.D. 1503 - AN ACT To Amend the Classification System For Maine Waters and Change the Classification of Certain Waters

PIIO-1 Page 1 Line 30 - Delete the word "and", change the period to a comma and add the following:

"... for industrial process and clean water supplies and for hydro-electric power generation."

PIIO-2 Page 2 Line 5 - Delete the word "characteristics".

PIIO-3 Page 2 Line 6-9 - Delete the sentence.

PIIO-4 Page 2 Line 41 - Delete the words "of management goals" and replace with "thereof."

PIIO-5 Page 3 Line 6-7 - Delete the words "characteristics and".

PIIO-6 Page 3 Lines 12-20 - Delete.

PIIO-7 Page 3 Lines 31-37 - Delete this sentence.

PIIO-8 Page 4 Line 34 - Insert the word "direct" between the words "no discharge".

PIIO-9 Page 5 Line 13 - Insert the word "direct" between the words "no discharge".

PIIO-10 Page 5 Line 21 - Insert the word "direct" between the words "no discharges".

PIIO-11 Page 6 Line 40 - Insert at the end of the first sentence the following:

"The standards of classification contained in §363, with respect to dissolved oxygen content, shall not apply to impoundments in excess of 10 acres provided that the remaining characteristics of the classification for the water body of which the impoundment is a part are met."

GENERAL

There are a number of general comments which are difficult to translate into specific language without prior discussion with the Committee:

PIIO-12 1. Undefined Terms. Throughout the provisions of the proposed statute, the terms "quality", "characteristics", "designated uses", "classification" and "standards" appear. Use of these terms

should be clarified and better organized or some indication given as to what the differences are between these terms.

PIIO-13 2. No test for toxicity should be adopted without regulations to assure uniform testing. These regulations should be approved by the Legislature before becoming effective.

PIIO-14 3. Various tests regarding impact to aquatic organisms are set up in the several water quality classifications. For instance, the standard for Class A is:

> "The aquatic life and bacteria content of these waters shall be as naturally occurs.".

For Class B waters, the test is:

> "...support all aquatic species indiginous to the receiving water without detrimental changes in the resident biological community.".

For Class C waters the test is:

> "...may cause some changes to aquatic life provided that the receiving waters shall be of sufficient quality to support all indiginous species of fish and maintain the structure and function of the aquatic community.".

This series of statutory tests needs precise definition before any legislation is adopted.

WATER RECLASSIFICATION

PIIO

DATE: 8-~~22~~30-85

AN ACT to Amend the Classification System for Maine Waters and Change the Classification of Certain Waters

Be it enacted by the People of Maine as follows:

Sec. 1. 38 M.R.S.A. §360 is enacted to read:

§360 Classification of Maine Waters

1. Findings; purpose. The Legislature finds that the proper management of the State's water resources is of great public interest and concern to the State in promoting its general welfare, preventing disease, promoting health, providing habitat for fish and wildlife and as a source [of] (for) (water contact) recreation[.](, industrial process and cooling water supplies and for hydroelectric power generation.)

PIIO-15

The Legislature further finds and declares that the goal of the State is that all its surface waters shall be suitable for fishing and for water contact recreation in and on the water, and that certain pristine waters be preserved.

The Legislature intends by the enactment of this classification system to establish water quality management [goals] (criteria) for the State's waters. These [goals] (classifications) shall be based on the biological and water quality criteria necessary to support [the characteristics [and designated uses] (eliminate reference to designated uses or define with a finite list.) of] each classification. This

PIIO-16

classification system is intended to protect Maine waters and facilitate the improvement of those waters which do not presently meet their [goal] (classification).

2. Procedures for reclassification of Maine waters. Following public notice, the board may conduct classification studies and investigations. Information collected during these studies and investigations shall be made available to the public in an expeditious manner. After consultation with other state agencies and, where appropriate, individuals, citizen groups, industries, municipalities and federal and interstate water pollution control agencies, the board may propose changes in water quality classification.

The board shall call public hearings in the affected area, or reasonably adjacent to the affected area, for the purpose of presenting to all interested persons the proposed classification for each particular water body and obtaining public input.

In accordance with this section, the board shall recommend changes in classification to the Legislature.

PIO-17 3. General Provisions. Where/natural/? (natural needs to be defined) conditions, including but not limited to, marshes, bogs and abnormal concentrations of wildlife cause the dissolved oxygen or other water quality criteria to fall below the minimum standards specified in sections 363, 363-A, 363-B and 364, those/naturally/? (define) affected waters will be considered to be attaining their classification. The department shall submit to the First Regular Session of each

Legislature, a report on the quality of the State's waters which characterizes existing water quality, identifies waters which are not attaining their classification and states what measures are necessary for the attainment of [management goals.] (classification).

PII0-18 (½ PII0-4) PII0-19

There shall be no (new direct) discharge of domestic or industrial wastewaters to Class AA waters, Class SA waters or to waters with a drainage area of less than 10 square miles. There shall be no new discharge of domestic wastewaters to tributaries of Class GPA waters. (how does this affect municipal combined discharges to a tributary of a GPA?)

PII0-20

PII0-21

Water quality necessary to protect characteristics [and designated uses] shall be maintained and any discharge or activity requiring a waste discharge license pursuant to Section 414-A or a water quality certification pursuant to Section 401 of the United States Clean Water Act shall comply with the minimum standards of the classification. Where the quality of any classified water exceeds the minimum standards necessary to support the characteristics [and designated uses] of the next highest classification, the higher water quality shall be maintained unless the board finds that degradation of water quality is necesary for economic or social purposes which provide/significant public benefits for the people of the State./ (what does this phrase "significant public benefit" mean? - define)

P110-22 (replaced by P110-6)

P110-26 (replaced by P110-6)

For the purpose of computing whether a discharge will violate the classification of any river or stream, the

assimilative capacity of the river or stream shall be computed using the minimum 7-day low flow which occurs once in 10 years. There shall be no discharge of sewage, industrial waste, heat, hazardous matter or other substances to waters of the State which imparts color, taste, turbidity, toxicity, radioactivity or other characteristics which cause those waters

P110-24 to be unsuitable for the characteristics [and designated uses] ascribed to their class. All surface waters of the State shall

P110-25 be free of [settled] substances which alter the physical or (discharges of settliable) chemical nature of bottom material

P110-26 and of floating substances [except as naturally occur,] which

P110-27 [impair the characteristics and designated uses] (violate the criteria) ascribed to their class. There shall be no discharge

replaced by P110-7 to any water of the State which violates the provisions of sections 363, 363-A, 363-B and 364, except as provided in section 451, causes the "pH" of fresh waters to fall outside of

P110-28 the (6.0 to 8.5) (is this the same or a tightening?) range, causes the "pH" of estuarine/marine waters to fall outside of

P110-29 the 7.0 to 8.5 range. [or causes fish to be unsuitable for human consumption.]

Sections 2, 3, and 4 of L.D. 1503 are not included.

Sec. 5. 38 M.R.S.A. §363 is amended to read:

§363. Standards for classification of fresh waters

The board shall have 4 standards for the classification of

P110-30 fresh surface waters[.] which are not classified as lakes and ponds.

Class AA shall be the highest classification and shall be

applied to waters which are outstanding natural resources and should be preserved for reasons of ecological, social, scenic or recreational importance. Class AA waters shall be of such quality that they are suitable for drinking water after disinfection, water contact recreation, fishing, [recreational

P110-31 activities, navigation] and as a [free flowing and] natural habitat for fish and other aquatic life[.] (and for industrial process and cooling.)

The aquatic life, dissolved oxygen and bacteria content of

P110-32 these waters shall be as (naturally occurs.) (needs to be defined)

P110-8 There shall be no (direct) discharge of domestic or industrial wastewaters to Class AA waters.

Class A shall be the 2nd highest classification and these waters shall be of such quality that [it can be used for recreational purposes, including bathing, and for public water supplies after disinfection.] they are suitable for drinking water after disinfection, water contact recreation, fishing,

P110-33 [recreational activities,] industrial process and cooling water supply, hydroelectric power generation, navigation and as

P110-34 a/natural habitat for fish and other aquatic life./(natural habitat needs clarification).

The dissolved oxygen content of [such] Class A waters shall be not [be] less than 7 parts per million or 75% of saturation [or as naturally occurs] whichever is higher. [, and contain not more than 20 fecal coliform bacteria per 100 milliliters.]

P110-35 The/aquatic life/and bacteria content of these waters shall

be/as naturally occurs./("aquatic life" and "as naturally occurs" must be defined. Does it mean no impact?)

[These waters shall be free from sludge deposits, solid refuse and floating solids such as oils, grease or scum. There shall be no disposal of any matter or substance in these waters which would impart color, turbidity, taste or odor other than that which naturally occurs in said waters, nor shall such matter or substance alter the temperature or hydrogen-ion concentration of these waters or contain chemical constituents which would be harmful or offensive to humans or which would be harmful to animal or aquatic life. No radioactive matter or substance shall be permited in these waters other than that occurring from natural phenomena].

There shall be no discharge of sewage or other pollutants into water of this classification and no deposits of such material on the banks of these waters in any manner that transfer of sewage or other pollutants into the waters is likely, except that existing licensed discharges into waters of this classification will be allowed to continue until practical

P110-36 alternatives exist[.] (or until the discharged effluent is equal to or better than the existing water quality.) [New discharges to these waters will be permitted only if, in addition to satisfying all the requirements of this chapter, the discharged effluent will be equal to or better than the existing water quality of the receiving waters. Prior to issuing a discharge license, the board shall require the applicant to objectively demonstrate to the board's

satisfaction that the discharge is necessary and that there are no other reasonable alternatives available.]

Class B [,the 2nd highest classification, shall be divided into 2 designated groups as B-1 and B-2.] shall be the 3rd highest classification and these waters shall be of such quality that they are suitable for drinking water supply after

P110-37 treatment, water contact recreation, fishing, [recreational activities,] industrial process and cooling water supply, hydroelectric power generation, navigation and as an

P110-38 /unimpaired habitat/ (needs to be defined) for fish and other aquatic life.

[B-1. Waters of this class shall be considered the higher quality of the Class B group and shall be acceptable for recreational purposes, including water contact recreation, for use as potable water supply after adequate treatment and for a fish and wildlife habitat.]

The dissolved oxygen content of [such] Class B waters shall

P110-39 be not less than [7 parts per million or 75%] (60%) of saturation, (and not less than 5 parts per million at any time) whichever is higher. [The fecal coliform bacteria shall not exceed 60 per 100 milliliters.] Between May 15th and September 30th, the number of Escherichia coli bacteria of human origin in these waters shall not exceed a geometric mean of 64 per 100 milliliters or a instantaneous level of 427 per 100 milliliters.

P110-40 /Discharges to Class B waters shall not cause adverse impact to aquatic life in that the receiving waters shall be of

sufficient quality to support all aquatic species indigenous to the receiving water without detrimental changes in the resident biological community./ (what does all this mean?)

(These waters shall be free from sludge deposits, solid refuse and floating solids such as oils, grease or scum. There shall be no disposal of any matter or substance in these waters which imparts color, turbidity, taste or odor which would impair the usages ascribed to this classification nor shall such matter or substance alter the temperature or hydrogen-ion concentration of these waters so as to render such waters harmful to fish or other aquatic life. There shall be no discharge to these waters which will cause the hydrogen-ion concentration or "pH" of these waters to fall outside of the 6.0 to 8.5 range. There shall be no disposal of any matter or substance that contains chemical constituents which are harmful to humans, animals or aquatic life or which adversely affect any other water use in this class. No radioactive matter or substances shall be discharged to these waters which will raise the radio-nuclide concentrations above the standards as established by the United States Public Health Service as being acceptable for drinking water. These waters shall be free of any matter or substance which alters the composition of bottom fauna, which adversely affects the physical or chemical nature of bottom material, or which interferes with the propagation of fish.)

P110-41
?

(There shall be no [disposal] (discharges) of sewage, industrial wastes or other wastes in such waters, except those

which have received treatment for the adequate removal of waste constituents including, but not limited to, solids, color, turbidity, taste, odor or toxic material, such that these treated wastes will not lower the standards or alter the usages of this classification, nor shall such disposal of sewage or waste be injurious to aquatic life or render such dangerous for human consumption.)

[B-2. Waters of this class shall be acceptable for recreational purposes including water contact recreation, for industrial and potable water supplies after adequate treatment, and for a fish and wildlife habitat. The dissolved oxygen of such waters shall not be less than 60% of saturation, and not less than 5 parts per million at any time. The fecal coliform bacteria is not to exceed 200 per 100 milliliters.]

[These waters shall be from sludge deposits, solid refuse and floating solids such as oils, grease and scum. There shall be no disposal of any matter or substance in these waters which imparts color, turbidity, taste or odor which would impair the usages ascribed to this classification, nor shall such matter or substance alter the temperature or hydrogen-ion concentration of the waters so as to render such waters harmful to fish or other aquatic life. There shall be no disposal of any matter or substance that contains chemical constituents which are harmful to humans, animals or aquatic life or which adversely affect any other water use in this class. There shall be no discharge to these waters which will cause the hydrogen-ion concentration or "pH" of these waters to fall

outside of the 6.0 to 8.5 range. No radioactive matter or substances shall be discharged to these waters which will raise the radio-nuclide concentrations above the standards as established by the United States Public Health Service as being acceptable for drinking water. These waters shall be free of any matter or substance which alters the composition of bottom fauna, which adversely affects the physical or chemical nature of bottom material, or which interferes with the propagation of fish.]

[There shall be no disposal of sewage, industrial wastes or other wastes in such waters, except those which have received treatment for the adequate removal of waste constituents including, but not limited to, solids, color, turbidity, taste, odor or toxic material, such that these treated wastes will not lower the standards or alter the usages of this classification, nor shall such disposal of sewage or waste be injurious to aquatic life or render such dangerous for human consumption.]

Class C [, waters, The 3rd highest classification, shall be of such quality as to be satisfactory for recreational boating and fishing, for a fish and wildlife habitat and for other uses except potable water supplies and water contact recreation, unless such waters are adequately treated.] shall be the 4th highest classification and these waters shall be of such quality that they are suitable for drinking water supply after

P110-42 treatment, water contact recreation, fishing, [recreational activities,] industrial process and cooling water supply,

P110-43 hydroelectric power generation, navigation and as a /habitat/

(define, what standards?) for fish and other aquatic life. The dissolved oxygen content of [such] Class C waters shall be not [be] less than 5 parts per million [or 60% of saturation, whichever is higher.] (, except in those cases where the board finds that the natural dissolved oxygen of any such body of water falls below 5 parts per million, in which case the board may grant a variance to this requirement. In no event shall the dissolved oxygen content of such waters be less than 4 parts per million. The fecal coliform bacteria is not to exceed 1,000 per 100 milliliters.)

Between May 15th and September 30th, the number of Escherichia coli bacteria of human origin in these waters shall not exceed a geometric mean of 142 per 100 milliliters or a instantaneous level of 949 per 100 milliliters.

P110-46 /Discharges to Class C waters may cause some detrimental changes to aquatic life provided that the receiving waters shall be of sufficient quality to support all indigenous species of fish and maintain the structure and function of the aquatic community./ (what does all this mean?)

(These waters shall be free from sludge deposits, solid refuse and floating solids such as oils, grease or scum. There shall be no disposal of any matter or substance in these waters which imparts color, turbidity, taste or odor which would impair the usages ascribed to this classification, nor shall such matter or substance alter the temperature or hydrogen-ion content of these waters so as to render such waters harmful to fish or other aquatic life. There shall be no discharge to

these waters which will cause the hydrogen-ion concentration or "pH" of these waters to fall outside of the 6.0 to 8.5 range. There shall be no disposal of any matter or substance that contains chemical constituents which are harmful to humans, animals or aquatic life or which adversely affect any other water use in this class. No radioactive matter or substance shall be discharged to these waters which will raise the radio-nuclide concentration above the standards as established by the United States Public Health Service as being acceptable for drinking water.)

P110-47 (There shall be no (direct) disposal of sewage, industrial wastes or other wastes in such waters, except those which have received treatment for the adequate removal of waste constituents including, but not limited to, solids, color, turbidity, taste, odor or toxic material, such that these treated wastes will not lower the standards or alter the usages of this classification, nor shall such disposal of sewage or waste be injurious to aquatic life or render such dangerous for human consumption.)

[Class D waters shall be assigned only where a higher water classification cannot be attained after utilizing the best practicable treatment or control of sewage or other wastes.]

[Waters of this class may be used for power generation, navigation and industrial process waters after adequate treatment.]

[Dissolved oxygen of these waters shall not be less than 2.0 parts per million. The numbers of coliform bacteria

allowed in these waters shall be only those amounts which will not, in the determination of the Commission, indicate a condition harmful to the public health or impair any usages ascribed to this classification.]

[These waters shall be free from sludge deposits, solid refuse and floating solids such as oils, grease or scum. There shall be no disposal of any matter or substance in these waters which imparts color, turbidity, taste or odor which would impair the usages ascribed to this classification, nor shall such matter or substance alter the temperature or hydrogen-ion content of the waters to impair the usages of this classification. There shall be no disposal of any matter or substance that contains chemical constituents which are harmful to humans or which adversely affect any other water use in this class. No radioactive matter or substance shall be permitted in these waters which would be harmful to humans, animal or aquatic life and there shall be no disposal of any matter or substance which would result in radio-nuclide concentrations in edible fish or other aquatic life thereby rendering them dangerous for human consumption.]

[There shall be no disposal of sewage, industrial wastes or other wastes in such waters, except those which have received treatment for the adequate removal of waste constituents including, but not limited to, solids, color, turbidity, taste, odor or toxic material, such that these treated wastes will not lower the standards or alter the usages of this classification.]

[Treated wastes discharging to these waters shall not create a public nuisance as defined in Title 17, Section 2802, by the creation of odor producing sludge banks and deposits or other nuisance conditions.]

[With respect to all classifications hereinbefore set forth, the board may take such actions as may be appropriate for the best interests of the public, when it finds that any such classification is temporarily lowered due to abnormal conditions of temperature or steam flow.]

Sec. 3. 38 M.R.S.A. §363-A:

§363-A Standards [of] for classification of lakes and [great] ponds

The board shall have [2 standards] 1 standard - Class GP-A - for the classification of lakes and [great] ponds[.] except that impoundments of rivers may be otherwise classified as specified in section 363, 368 and 369 and that waters contained in excavations approved by the board for waste water treatment purposes shall be unclassified waters. Class GPA waters shall be of such quality that they are suitable for drinking water after disinfection, water contact recreation, fishing, recreational activities, industrial process and cooling water supply, hydroelectric power generation, navigation and as a natural habitat for fish and other aquatic life.

[Class GP-A shall be the highest classification and shall be of such quality that it can be used for recreational purposes, including bathing, fish and wildlife habitat and for public water supplies after disinfection. Such waters shall

have a Secchi disk transparency of not less than 2.0 meters or as naturally occurs, and contain not more than 20 fecal coliform bacteria per 100 milliliters. Total phosphorus concentration shall not exceed 15 parts per billion, and chlorophyll A concentration shall not exceed 8 parts per billion as measured in samples taken at or near the surface of the water.]

[These waters shall be free from sludge deposits, solid refuse, floating solids, oils, grease and scum. No radioactive matter or substance shall be permitted in these waters other than that occurring from natural phenomena.]

[There shall be no direct or indirect discharge of sewage, pollutants or other substances harmful to water quality or aquatic life into waters of this classification except as provided in sections 371-A and 413. No materials shall be placed on the shores or banks thereof in such a manner that the same may fall or be washed into the waters or in such a manner that the drainage therefrom may flow or leach into those waters.]

[Class GP-B, the 2nd highest classification, shall be acceptable for recreational purposes, including water contact recreation, for use as potable water supply after adequate treatment, and for a fish and wildlife habitat. The fecal coliform bacteria count is not to exceed 60 per 100 milliliters. The total phosphorus concentration shall not exceed 50 parts per billion as measured in samples taken at or near the surface of the water.]

[These waters shall be free from sludge deposits, solid refuse and floating solids, such as oils, grease or scum. No radioactive matter or substances may be permitted in these waters other than that occurring from natural phenomena.]

[There shall be no direct or indirect discharge of sewage, pollutants or other substances harmful to water quality or aquatic life into waters of this classification, except as provided in sections 371-A and 413. No materials may be placed on the shores or banks thereof in such a manner that the materials may fall or be washed into the waters or in such a manner that the drainage therefrom may flow or leach into those waters.]

Class GPA waters shall be described by their trophic state based on measures of the chlorophyll "a" content, Secchi disk transparency, total phosphorus content and other appropriate criteria. Class GPA waters shall have a stable or decreasing trophic state, subject only to natural fluctuations, and shall be free of culturally-induced, algal blooms which impair their use and enjoyment. The number of Escherichia coli bacteria of human origin in these waters shall not exceed a geometric mean of 29 per 100 milliliters an an instantaneous level of 194 per 100 milliliters.

P110-48 There shall be no new (direct) discharge of domestic or industrial wastewaters into Class GPA waters. Aquatic chemical applications approved by the board shall be exempt from the no discharge provision. Existing licensed discharges into these waters shall be allowed to continue only until practical

P110-49 alternatives exist. /Discharges into tributaries of GPA waters shall not by themselves or in combination with other activities,/ (How is this defined? ***) cause water quality degradation which would impair the characteristics and designated uses of downstream GPA waters or cause an increase

P110-50 in the trophic state of those GPA waters. No /materials/ may be placed on or removed from the shores or banks of a Class GPA water body in such a manner that /materials/ (does "materials" mean "pollutant"?) may fall or be washed into the water or that contaminated drainage therefrom may flow or leach into those waters, except as provided in section 391. No change of/land use/in the watershed of a Class GPA water body may, by itself or in combination with other activities, cause water quality degradation which would impair the characteristics [and

P110-51 designated uses] of downstream GPA waters or cause an increase

P110-52 in the trophic state of those GPA waters. (define, presently to broad, exempt out forestry.)

*** Possibly say "Discharges into tributaries of GPA waters should meet those criteria for GPA waters. . . .

STATE OF MAINE
EXECUTIVE DEPARTMENT
STATE PLANNING OFFICE

JOSEPH E. BRENNAN
GOVERNOR

RICHARD E. BARRINGER
DIRECTOR

September 10, 1985

Tim Glidden
Legislative Assistants Office
State House Station #13
Augusta, Maine 04333

Dear Tim,

As Chairman of the Land & Water Resources Council, I have been working with the Departments of Environmental Protection, Conservation, Marine Resources, and Inland Fisheries and Wildlife to provide a single Administration position on amendments to LD 1503, An Act to Amend the Classification System for Maine Waters and Change the Classifications of Certain Waters.

We are pleased to submit the following comments and recommended amendments to LD 1503:

LWRC- 1. For purposes of clarification, the first sentence of paragraph 3 of §360(1) should be amended to read as follows:

The Legislature intends by the enactment of ~~this~~ these classification ~~system~~ standards to establish water quality ~~management~~ goals for the State's waters.

LWRC- 2. We recommend that provision be made to assure that all classifications receive periodic review. As presently worded, proposed §360(2) does not provide for such reviews.

LWRC- 3. We recommend that the draft be amended to clarify the relationship of the water classification system to the special protection provided by the 1983 Maine Rivers Act regarding hydroelectric power generation on specific river segments. While the proposed Class AA is clearly in concert with these special protection provisions, not all of the river segments contained in the Maine Rivers Act (under 12 MRSA §403) are to be classified AA (e.g., the mainstem of the Kennebec from Curran Bridge to the tidal estuary would be Class C). These lesser classifications (Classes A, B and C) specifically identify hydroelectric power generation as a "suitable" use for the waters so classified.

To avoid any confusion about the Legislature's intent, we urge the addition of an appropriate cross-reference to the applicable sections of the Maine Rivers Act in the description of each of these classes, for example, as follows:

"Class A shall be the 2nd highest classification and these waters shall be of such quality that they are suitable for ...hydroelectric power generation (except as prohibited under 12 MRSA, Chapter 200, §403),..."

LWRC-4. A number of rivers classified under the bill as SC are now, or were historically, productive shellfishing areas. These areas should be open to restricted shellfish harvesting where water quality conditions permit. Therefore, we recommend that language be added to the designated uses of Class SC waters in §364 to accomplish this purpose, as follows:

> Class SC shall be the 3rd highest classification and these waters shall be of such quality that they are suitable for water contact recreation, fishing,... aquaculture propagation and restricted harvesting of shellfish, industrial process...

LWRC-5. The Department of Inland Fisheries and Wildlife has a brown trout rearing station in Palermo on the section of the Sheepscot River which is proposed for designation as Class AA waters. As discharges are prohibited to Class AA waters, the classification line on the Sheepscot needs to be redrawn so that the trout station is not on an AA river stretch.

We are still discussing the issue of dissolved oxygen standards for Class C waters. We will be proposing a seasonal standard to assure protection of fish propagation. Amendment language to accomplish this will be provided for consideration by the Standing Committee on Energy and Natural Resources as soon as possible and, in any event, before the September Committee Meeting on LD 1503.

We have asked that Karen Massey, Executive Secretary of the Land & Water Resources Council, closely monitor the Committee's deliberations concerning this bill. In addition, should the Committee desire substantive revisions to the bill, we ask that the DEP, after consultation with other agencies through the Council, have an opportunity to draft and present appropriate amendments addressing the Committee's concerns.

The Administration considers the enactment of this bill a very high priority, and stands ready to serve the Committee in any way it can to assure the passage of a strong and effective water classification bill.

We appreciate this opportunity to comment on LD 1503.

Sincerely,

Richard E. Barringer
Chairman
Land & Water Resources Council

REB/l

cc: Members, Maine Land & Water Resources Council

Natural Resources Council of Maine
271 State Street, Augusta, Maine 04330 207-622-3101

September 11, 1985

William T. Glidden
Office Legislative Assistants
State House Station 13
Augusta, ME 04333

Dear Tim:

Enclosed are the Natural Resources Council's proposed changes to the language of L.D. 1503, as you requested in your letter of August 1, 1985.

These proposed changes are of two kinds: (1) substantive, intended to change the meaning and legal effect of L.D. 1503, and (2) non-substantive, intended to clarify the meaning of the existing language or to organize the language into a more accessible format. We have tried to be as specific as possible. Each proposed change is followed by a brief comment on why the change is appropriate. For convenience sake and not as an indication of priority, they are presented in an order which tracks the existing organization of L.D. 1503.

Following the proposed changes is a short list of issues raised by the bill which we are continuing to investigate and which seem worthy of consideration by the study committee.

Because our review of L.D. 1503 and its implications is still ongoing, we cannot regard these comments as completely exhaustive. They do reflect our concerns at this point in time. As our review continues over the next few months, we look forward to working with the Committee to produce a bill which will insure the protection and enhancement of quality of the state's waters.

Thank you for the opportunity to comment on L.D. 1503.

Sincerely,

James W. Dow
Staff Attorney

JWD:lg

Proposed Changes to L.D. 1503

offered by the

Natural Resources Council of Maine

September 11, 1985

NRC- 1. Page 1, line 24. Change "§§ 360" to "§§ 362-B".

Comment: This change would place this section in a more logical place, i.e., immediately preceding the other classification sections, rather than immediately preceding sections on the organization and authority of the Board. Consideration should be given to renumbering the entire article, perhaps even the entire sub-chapter so as to provide a separate article for classification of waters.

NRC- 2. Page 1, line 24. Add "surface" after Maine.

Comment: This bill is focused entirely on surface water. That should be made clear in the bill's title. It should also be made clear that the classification system is for surface water only.

NRC- 3. Page 2, lines 1 - 9. Replace existing language with the following:

> The Legislature intends by this Act to establish a water quality classification system which will allow the State to manage its surface waters so as to both protect and enhance the quality of those waters. This classification system shall be based on water quality standards which designate the use or uses to be made of a class of waters and set criteria necessary to protect those uses. The Legislature further intends by this Act to assign to each of the state's surface water bodies a classification which shall designate the minimum level of quality which the Legislature intends for that body of water. This designation is intended to direct the state's management of that water in order to achieve at least that level of quality.

Comment: This language removes the goal v. standard confusion while clearly setting out what is intended by this Act.

NRC-4. Page 2, line 10. Make subsection 2 a definition section. Include in that section the following terms:

"natural conditions" (p. 2, line 28-29)

"water contact recreation" (p. 4, line 29; p. 5, lines 4 & 33; p. 6, line 12)

"recreational activities" (p. 4, line 29; p. 5, lines 4 & 33; p. 6, line 12)

"as naturally occurs" (p. 4, line 33; p. 5, line 11)

"waste waters" (p. 4, line 35)

"drinking water after disinfection" (p. 4, line 28; p. 5, line 3)

"drinking water supply after treatment" (p. 5, line 32; p. 6, line 11)

"practical alternatives" (p. 5, line 19)

"impoundments" (p. 6, line 36)

Comment: Several terms need definition. Use of the statute would be facilitated if the definitions were included here, rather than in the present § 361-A. However, since some key terms are defined there already, adding to that list is logical as well. In any case, definitions should be added.

NRC - 5. Page 2, line 10. Relocate this section so as to follow the "General Provisions" section.

Comment: From the use perspective, the "General Provisions sub-section should follow the findings/intent sub-section.

NRC - 6. Page 2, line 11. Replace the sentence beginning with the word "Following" with this:

> Upon petition by any person or persons, or on its own, the Board, following public notice, may conduct classification studies and investigations.

Comment: This language simply makes clear the public's right to cause this process to be initiated.

NRC - 7. Page 2, line 19 & 20. Add the word "the" between "in" and "water" in line 19 and add "of a particular water body" after the work "classification" in line 20.

Comment: This makes clear that this procedure is for changing the classification of individual water bodies. The present language is ambiguous.

NRC- 8. Page 2, line 28. Organize the General Provision section into subsections:

sub. (a) Natural Conditions (beginning with the word "where", p. 3, line 28.)

sub. (b) Report to Legislature (beginning with "The", p. 3, line 35.)

sub. (c) Discharge to certain waters prohibited (beginning p. 3, line 1, first word.)

sub. (d) Antidegradation provisions (beginning p. 3, line 6, first word.)

sub. (e) Determination of violation of standards (beginning p. 3, line 21, first word.)

sub. (f) Discharges affecting designated uses proibited (beginning with the word "There" p. 3, line 25)

sub. (g) Certain settled solids and floating materials prohited (beginning with the word "All", p. 3, line 31)

sub. (h) Other discharges prohibited. (beginning with the word "There", p. 3, line 37.)

Comment. The present language combines concepts in a manner which makes comprehension difficult. This change would simply make those concepts more accessible.

NRC- 9. Page 2, line 33. Delete "363-B".

Comment: This reference to ground water classification standards seems inappropriate in the context of a revision of surface water standards.

NRC- 10. Page 2, line 40-41. Replace "the attainment of management goals: with "those waters to attain their reclassification."

Comment: This enhances clarity by removing the reference to "goals".

NRC- 11. Page 3, line 4. Add "or industrial" after "domestic".

Comment: Industrial discharges to tributaries of GPA water should be precluded as a general rule.

NRC- 12. Page 3, lines 6-20. Delete. Replace with the following:

Anti degradation policy:

1) existing uses protected. Existing instream water uses and the level of water quality necessary to protect the existing uses shall be maintained and protected.

2) designated uses protected. The level of water quality necessary to protect the designated uses of each classification shall be maintained.

3) existing water quality to be maintained. Where the existing quality of any classified water exceeds the minimum standards necessary to support the designated uses of its classification, the higher water quality shall be maintained.

4) Licenses require compliance with standards. Any discharge license pursuant to section 414-A or any water quality certification pursuant to section 401 of the Federal Water Pollution Control Act ("Clean Water Act") PL 92-500, as amended: 33 USC 1251 et seq., shall be issued only if both the standards of the classification for the water body where the proposed discharge would occur and the requirements of this subsection will be met.

Comment: The present language seems inadequate to assure compliance with federal law as well as maintenance of the gains in water quality that Maine has achieved in the recent past. Specifically, these is no reference to existing uses (see 40CFR section 131.12(a)(1)) Nor is there a mechanism to protect water which is of higher quality than the minimum standards of its class but not of such quality as to meet the standards of the next higher classification. Also, the present language requiring compliance with the "minimum standards of the classification", p. 3, line 11-12, seems in conflict with M.R.S.A. section 414-A(1)(c).

The proposed language sets out in a clean format what is to be protected. It will insure compliance with the federal law, but more importantly protect the improvements that have occurred and are still occurring in the quality of Maine's water.

NRC-13. Page 3, line 44. The following two subsections should be added to the General Provisions section:

1) Non-point source discharge: The effects of non-point source discharges shall be included in any assessments of whether water is of such quality as to allow the issuance of a discharge license pursuant to section 414-A.

2) Regulations to be promulgated: No later than January 1, 1987, the Board shall promulgate regulations to implement this classification system, including but not limited to the folowing:

(a) Criteria for new discharges to Class A waters, section 363.

(b) Methodology and criteria to be used by the department to implement the dissolved oxygen, aquatic life and bacteria content standards.

Comment: Sub 1 attempts to address the difficult but significant subject of non-point source discharges. The intent is that the effects of these discharges be considered in determining whether licensed discharges can be allowed. Sub. 2 explicitly requires the promulgation of regulations.

NRC - 14. Page 4, line 19. This section would be more accessible if it were organized into subsections with sub-headings.

NRC - 15. Page 4, line 35. Add "or pollutants" after "waste waters".

Comment: Class AA is to be a "no discharge" class. This change makes it clear that not only waste waters but also pollutants as defined by the statute are prohibited. A neater alternative having the same effect would be simply to delete "of domestic or industrial waste waters."

NRC - 16. Page 5, line 13-14. Delete "of sewage or other pollutants".

Comment: This language is superfluous and potentially confusing. Discharge is defined in section 361-A(1) as the addition of any pollutant to water of the State. This deletion also makes this sentence consistent with line 20.

NRC - 17. Page 5, line 20. Add a fixed date at which existing licensed discharges must end.

NRC - 18. Page 5, line 29. Add the following: The Board shall promulgate regulations establishing criteria for determining whether the effluent is equal to or better than the existing water quality, whether the discharge is necessary and that no other reasonable alternatives exist.

Comment: The decisions required by lines 21-29 are important ones, yet the present language only sets our the requirements in the most general form. Regulations which set out more specifically on what basis these decisions are to be made are appropriate.

NRC- 19. Page 5, line 40-41. Delete "May 15th and September 30th,"; capitalize "the".

Comment: The bacteria content criteria should apply throughout the year. If it is appropriate to waive these limits under certain conditions, waiver provisions should be developed. A similar change should be made on page 6, line 19.

NRC- 20. Page 6, line 2: Add the following sentence: "Escherichia coli bacteria found in these waters shall be presumed to be of human origin unless otherwise demonstrated."

Comment: It is our understanding that this is DEP's intent. This makes it clear.

NRC- 21. Page 6, line 7. Replace "detrimental" with "significant".

Comment: "Detrimental" is an extremely subjective term, one which implies a qualitative difference. An effective definition, limiting that subjectivity, seems a most difficult task. Significant, though not without its subjective aspect, implies quantity, which can be measured. A determination of "signficant change" would thus seem to involve less subjectivity.

NRC- 22. Page 6, line 17. Change "5" to "6".

Comment: To provide adequate protection for salmonids, a minimum DO criteria of 6 ppm is necessary for class C waters.

NRC- 23. Page 6, line 23. Add the following sentence: "Escherichia coli bacteria found in these waters shall be presumed to be of human origin unless otherwise demonstrated."

Comment: Same as comment 20 above.

NRC- 24. Page 6, line 35. Replace "Lakes and ponds", with "great ponds."

Comment: Lakes and ponds are "great ponds". "Great pond" is defined in section 392(1).

NRC - 25. Page 6, line 35. (The clause beginning with the word "except" and ending with "369"). If the intent of this clause is as it seems, that impoundments are to be classified as great ponds unless otherwise classified, that should be stated clearly, in simple declarative fashion.

NRC- 26. Page 8, line 39. Replace detrimental with "significant".

Comment: Same as comment 21 above.

NRC-27. Page 8, line 29-30. Delete "Between May 15th and September 30th,"

Comment: Same as comment 19 above.

NRC-28. Page 8, line 39. Replace "detrimental" with "significant."

Comment: Same as comment 21 above.

NRC-29. Page 9, line 13-14. Delete "Between May 15th and September 30th,".

Comment: Same as comment 17 above.

NRC-30. Page 9, line 32. Re: Sections 368 and 369. NRCM has identified many sections of rivers or streams which we feel may be inappropriately classified based on their quality and importance. However, since we understand that the central purpose of this bill is to revamp the classification system and that DEP will be focusing on the classification of individual waters subsequent to the enactment of the new system, we are not including our proposals for reclassification of particular water bodies in these comments.

NRC-31. Page 46, line 5. Re: The classification of estuarine and marine waters: Certain waters are classified SC because, as the Statement of Fact indicates, they "are likely to receive major discharges as a result of the State's economic development policy." This basis for placing these waters into the lowest class is inadequate.

Other Issues

The following are issues raised by L.D. 1503 which NRCM is continuing to investigate. They are worthy of consideration by the study committee.

NRC-32 1. Should color standards be included in the classification criteria?

NRC-33 2. Should there be a prohibition on discharges that produce foam that remains on the surface of a water body?

NRC-34 3. Is there a better, more comprehensive means of dealing with the non-point source discharge problem?

NRC-35 4. Is the methodology proposed by DEP to monitor the aquatic life standards workable and adequately comprehensive?

NRC-36 5. How does the proposed Class A for rivers and streams fit in conceptually to the overall classification system?

(Note: The proposed Class A is conceptually troublesome. It seems to be a hybrid of Class AA and Class B, with certain designated uses and criteria taken from each. It would allow use for industrial progress and cooling supply, hydropower generation and the continuance indefinitely of existing licensed discharges, yet the aquatic life and bacteria content of these waters are to be as naturally occurs. How this Class fits into the system is not clear.)

NRC-37 6. Should there be more than one standard for great ponds to facilitate their management? (Note: Tom Gordon of the Congress of Lakes Association, an affiliate of NRCM will be offering comments on this issue.)

TROUT UNLIMITED

Rec'd 9/13

Tim Glidden
Legislative Assistant
State House Station 2
Augusta, Maine 04333

Dear Tim,

Thanks for contacting me concerning L.D. 1503. The suggestion I would offer on behalf of Trout Unlimited is a simple one; but before I offer it, lest it might appear that T.U. is not deeply concerned with this piece of legislation, I'd like to make a brief statement: The Kennebec Valley Chapter of Trout Unlimited has informally adopted the Kennebec River, especially below Waterville as "our" river. We find it curious that this great resource has received as little attention as it has. Most area residents think that the lower Kennebec is just slightly better than the open sewer that it was 15 or 20 years ago. Nothing could be further from the truth. We feel that it is our responsibility to do whatever we can to assure that the future of the river is brighter, much brighter, than its recent past. To that
TU-1 end we would offer this suggestion for consideration by the Committee on Energy and Natural Resources as regards L.D. 1503: we would ask that the Committee change line 17 on page 6 of L.D. 1503 to read 6 parts per million. This change is relative to the dissolved oxygen content of Class C waters and would go a long way to maintaining the water quality necessary to the success of cold water game fish management and restoration projects already underway on the river.

Thank you for your consideration in this matter. I'm sure we'll be seeing you at the upcoming hearings on L.D. 1503.

Peter D. Thompson

Peter Thompson
President, K.V.T.U.
Weeks Mills
New Sharon, Maine
04955

CMP Central Maine Power Company
GENERAL OFFICE, EDISON DRIVE, AUGUSTA, MAINE 04336
(TWX NUMBER, CMP-AGUA 710-226-0195)
(207) 623-3521

September 12, 1985

Mr. William T. Glidden
Legislative Assistant
Committee on Energy and Natural Resources
State Office Building - Room 120
Augusta, Maine 04333

Dear Tim:

Please excuse the delay in responding to your request for comments on L.D. 1503. CMP had the opportunity to comment on DEP's proposed water quality standard revisions last spring prior to the drafting of L.D. 1503. The DEP staff was open to considering some of the changes we suggested and incorporated several of our comments into the final draft. As you indicated in your letter, there are several complex issues here and your committee's study of the bill this fall should be very helpful in preparing the committee to address the bill again in the next session.

At this time, our company does not have further comments on the legislation nor do we expect a significant impact on our operations should L.D. 1503 be enacted. But we are studying the DEP's draft "guidelines concerning interpretation of the Biological Water Quality Standards" and will be participating in the workshop to finalize these. These guidelines will directly affect the quality of discharges to the various classes of receiving waters, as defined in L.D. 1503. For your information, however, I am enclosing some of our correspondence with DEP earlier, reflecting the dialogue between our company and that agency prior to the final drafting of the bill.

We are very interested in following the study and attending any meetings on L.D. 1503 and we appreciate your interest in our participation. I look forward to chatting with you again soon on this issue as well as issues for the upcoming session.

Sincerely,

Annette Ross Anderson
Director, Legislative Affairs

Enclosures

CMP Central Maine Power Company
GENERAL OFFICE, EDISON DRIVE, AUGUSTA, MAINE 04336
(TWX NUMBER, CMP-AGUA 710-226-0195)
(207) 623-3521

March 1, 1985

Mr. Stephen W. Groves, Director
Bureau of Water Quality Control
Department of Environmental Protection
State House Station 17
Augusta, ME 04333

Re: Proposed Revision of Maine's Water Quality Standards

Dear Mr. Groves:

The staff at Central Maine Power Company has reviewed the proposed revision of Maine's water quality standards with a view to determining how the revision would affect the operations of Central Maine Power Company and the effect the revision may have on other industries in the State. Overall, Central Maine Power Company does not see at this time any reason that the revision of the water quality standards as drafted would significantly affect Central Maine Power Company's operations. There are, however, several aspects of the revision which are unclear and could cause significant problems for the Company in the event the provisions are not clarified.

CMP-1 The proposed 38 M.R.S.A. §360(3)(b) Antidegradation, does not indicate whether parameters will be used individually or collectively to determine whether or not a classified body of water "supports the characteristics and designated uses of the next highest classification." Central Maine Power Company suggests that the second sentence of 38 M.R.S.A. §360 be further revised to read:

> Where the quality of any classified water, <u>with regard to any particular water quality criterion</u>, exceeds the minimum standards necessary to support the characteristics and designated uses of the next highest classification, the higher water quality shall be maintained unless the Board finds that degradation of water quality is necessary for economic or

social purposes which provides significant public benefits for the people of the State of Maine.

CMP-2 38 M.R.S.A. §360(3)(d) Discharge Prohibited, may create a problem for Central Maine Power Company with regard to its pump storage development at Clear and at Rowe Ponds (Pleasant Ridge Plt., Somerset County). As you may recall, Central Maine Power Company has received from the Legislature permission to use Rowe Pond for pump storage. P.L. 1959, c.325, §3. It is therefore suggested that 38 M.R.S.A. §360(3)(d) be amended further by adding the following sentence:

> The prohibitions contained in this subparagraph shall not apply to any body of water which for authority to build, maintain and operate a pump storage development has been granted by the Legislature.

CMP-3 Section 2 of the proposed revision to the water quality standards, 38 M.R.S.A. §363, prohibits discharges to Class C waters that may cause some detrimental changes to aquatic life. Since it may well be argued that detrimental effects are ecologically defined by the degree to which community structure is changed, it is suggested that this addition to 38 M.R.S.A. §363 be further amended to read:

> Discharges to Class C waters may cause some detrimental changes to aquatic life provided that the receiving waters shall be of sufficient quality to support all indigenous species of fish and maintain the function of the aquatic community.

CMP-4 Central Maine Power Company is also concerned with the proposed revision to 38 M.R.S.A. §363-A. The proposed revision confusingly uses the word "quality" in slightly different ways in adjacent sentences of similar context. It is therefore suggested that the revision be further amended to read:

> Class GPA water quality compliance shall be determined by their tropic state based on measures of the chlorophyll "a" content, Secchi disk transparency, total phosphorous content and other criteria.

CMP-5 The proposed revision to 38 M.R.S.A. §364, as drafted, leaves it unclear whether or not aquaculture is permitted in

Class SA or Class SB waters. With regard to Class SA waters, the propagation and harvesting of shellfish is permitted but estuarine/marine life, dissolved oxygen and bacteria content of Class SA waters "shall be as naturally occurs". It may well be argued that aquaculture would disturb what naturally occurs and would therefore be prohibited in Class SA waters. Similarly, the propagation and harvesting of shellfish is permitted in Class SB waters but the waters are to remain "as an unimpaired habitat for fish and other estuarine/marine life." It is suggested that the provision relating to Class SA waters be amended to read:

> ...recreational activities, propagation and harvesting of shellfish, including aquaculture, navigation and as a free flowing and natural habitat for fish and other estuarine/marine life.

CMP-6 It is further suggested that the description of Class SB waters be amended to add the phrase "including aquaculture." Central Maine Power Company also suggests that the description of Class SB waters be amended to delete the word "unimpaired" from the phrase "as an unimpaired habitat for fish and other estuarine/marine life." The Company makes this suggestion in the event that the argument is presented that a diffuser or other submerged structure impairs the natural habitat for fish and other estuarine/marine life.

CMP-7 Finally, with regard to Class SC waters, Central Maine Power Company suggests that the following sentence be amended to read:

> Discharges to Class SC waters may cause some detrimental changes to estuarine/ marine life provided that the receiving waters shall be of sufficient quality to support all indigenous species of fish and maintain the function of the estuarine/ marine community.

Once again, the concern here is that any detrimental change to the waters will more than likely be defined and classified by the degree of change in the structure of the estuarine/ marine community.

Central Maine Power Company would welcome the opportunity to discuss in greater length these changes to the water quality standards legislation and would be happy to meet with you at your earliest convenience.

Sincerely,

William H. Laubenstein, III
Counsel

cc: A. R. Anderson
V. S. Thompson
D. T. Flanagan

L. G. Alexander
D. T. Flanagan
A. R. Anderson
V. S. Thompson
4/9/85

STATE OF MAINE

Department of Environmental Protection

MAIN OFFICE: RAY BUILDING, HOSPITAL STREET, AUGUSTA
MAIL ADDRESS: State House Station 17, Augusta, 04333

JOSEPH E. BRENNAN
GOVERNOR

HENRY E. WARREN
COMMISSIONER

April 8,1985

Mr. William H. Laubenstein, III
Counsel
CENTRAL MAINE POWER COMPANY
Edison Drive
Augusta, Maine 04336

Dear Mr. Laubenstein:

Thank you and Central Maine Power's staff for the thoughtful comments on our Proposed Water Quality Standards Revisions. Your comments were very helpful in that you offered alternative language. While we have incorporated some of your suggestions, other will be addressed through regulation and/or policy upon passage of the statute.

1. Anti-degradation Policy - Present law (§414.1.C.) actually says what you have suggested since it refers to existing water quality irrespective of classification. The proposed policy pertains to the water classification system. As such it refers to uses and characteristics of a class. Swimming for example, is protected by the bacteria standards and fishing by the dissolved oxygen and biological standards. In most cases this section of law will not apply to a stream segment unless all or most of the criteria meet the standards of next highest classification.

2. Pump Storage - The answer to this question is largely responsible for our delay in answering your letter. We have asked for an opinion from the Attorney General's office to see if a conflict could exist between our proposed language and your permission to use Rowe and Clear Ponds for pump storage. It is the D.E.P.'s opinion that neither of these pump storage projects would require a waste discharge license since the water discharged should be of a similar quality to that in the ponds.

3. Biological Communities - You raise an interesting point in that to "change" something while "maintaining" it appears mutually exclusive. We feel, however, that the aquatic life may be changed at the species level (i.e., qualitatively) yet structural indices, which ignore species composition, can remain substantially intact. At the moment this admittedly is not obvious in the proposed statute, however, guidelines for biological measurement and interpretation are being developed to explain this in more detail. I will send you a copy of these when they are ready.

4. GPA Quality - Indeed our use of the word "quality" could be interpreted differently in different sections of the draft. That paragraph now reads "Class GPA waters shall be described by their trophic state based on....." omitting the word quality.

5. Aquaculture - Aquaculture has been added as an acceptable use of SA, SB and SC waters, yet we wish to retain some means of qualifying the impact to water quality of each class. Therefore, we choose to retain clauses such as "shall be as naturally occurs" in SA and "as an unimpacted habitat" in SB. This allows us to protect the characteristics of each class yet not unnecessarily prohibit non-conflicting uses of water. This means that raft culture of mussels would be an acceptable type of aquaculture in SA but intensive cage culture of finned fish might be unacceptable if fish and food wastes were to cause a detectable change from natural conditions. Similarly, if a type of aquaculture in SB were to impair the habitat, then it would not be an acceptable use of Class SB. Additionally, you point out that diffusers or some other submerged structure might impair the natural habitat. Again, we wish to retain flexibility to use our judgment. If such a structure in fact did impair fish habitat then it would not be a satisfactory use of that class of water.

Should you wish to discuss this in more detail, feel free to give me a call.

Sincerely,

STEPHEN W. GROVES
Director
Bureau of Water Quality Control
Department of Environmental Protection

SWG/JS/w

STATE OF MAINE

Inter-Departmental Memorandum

Date September 19, 1985

To Tim Glidden — Dept. Legislative Assistant's

From Richard E. Barringer, Director — Dept. State Planning Office

Subject L.D. 1503, Water Classification

Enclosed please find the proposed seasonal DO standard amendment to Class B and Class C Water Quality Criteria.

This proposal meets the concerns of the Departments of Inland Fish and Wildlife and Marine Resources for assuring maintenance of existing fisheries in these waters, and it has the concurrence of the Department of Environmental Protection.

The Council has been pleased to serve as coordinater in reaching this concensus. We hope the Committee will consider this proposed amendment favorably.

Dick

REB:nv

cc: Dick Davies

STATE OF MAINE
Department of Environmental Protection

MAIN OFFICE: RAY BUILDING, HOSPITAL STREET, AUGUSTA
MAIL ADDRESS: State House Station 17, Augusta, 04333

JOSEPH E. BRENNAN
GOVERNOR

HENRY E. WARREN
COMMISSIONER

MEMORANDUM

September 18, 1985

TO: Karen Massey - Land & Water Resources Council

FROM: Steve Groves, Water Bureau Director

SUBJECT: Seasonal dissolved oxygen criterion for protection of spawning in LD 1503

****

We have checked with Inland Fisheries and Wildlife and feel the following language will suffice to ensure adequate dissolved oxygen for successful propagation (spawning and egg incubation) for indigenous fish species.

On page 5 line 40 and on page 6 line 18 of LD 1503 add after the word higher ", except that from the period October 1 through May 14 in order to ensure successful spawning and egg incubation of indigenous fish species, the 7 day mean dissolved oxygen concentration shall not be less than 9.5 parts per million and the 1 day minimum dissolved oxygen concentration shall be not less than 8.0 parts per million in spawning areas.

SG/d

FIRST REGULAR SESSION

ONE HUNDRED AND TWELFTH LEGISLATURE

Legislative Document No. 1503

S.P. 557 In Senate, May 9, 1985

Reference to the Committee on Energy and Natural Resources suggested and ordered printed.

JOY J. O'BRIEN, Secretary of the Senate

Presented by President Pray of Penobscot.

Cosponsored by Representative Diamond of Bangor, Representative Jacques of Waterville and Senator Usher of Cumberland.

STATE OF MAINE

IN THE YEAR OF OUR LORD
NINETEEN HUNDRED AND EIGHTY-FIVE

AN ACT to Amend the Classification System for Maine Waters and Change the Classifications of Certain Waters.

Be it enacted by the People of the State of Maine as follows:

Sec. 1. 38 MRSA §360 is enacted to read:

NRC-1
NRC-2

§360. Classification of Maine waters

1. Findings; purpose. The Legislature finds that the proper management of the State's water resources is of great public interest and concern to the State in promoting its general welfare, preventing disease, promoting health, providing habitat for fish and wildlife and as a source of recreation.

replaced
P110-1
P110-15

The Legislature further finds and declares that the goal of the State is that all its surface waters shall be suitable for fishing and for recreation in and on the water and that certain pristine state waters be preserved.

DEP-1

Bill Peabody
3/31

The Legislature intends by the enactment of this classification system to establish water quality management goals for the State's waters. These goals shall be based on the biological and water quality criteria necessary to support the characteristics and designated uses of each classification. This classification system is intended to protect Maine waters and improve the quality of those waters which do not presently meet their goal.

2. Procedures for reclassification of Maine waters. Following public notice, the board may conduct classification studies and investigations. Information collected during these studies and investigations shall be made available to the public in an expeditious manner. After consultation with other state agencies and, where appropriate, individuals, citizen groups, industries, municipalities and federal and interstate water pollution control agencies, the board may propose changes in water quality classification.

The board shall call public hearings in the affected area, or reasonably adjacent to the affected area, for the purpose of presenting to all interested persons the proposed classification for each particular water body and obtaining public input.

In accordance with this section, the board shall recommend changes in classification to the Legislature.

3. General provisions. Where natural conditions, including but not limited to, marshes, bogs and abnormal concentrations of wildlife cause the dissolved oxygen or other water quality criteria to fall below the minimum standards specified in sections 363, 363-A, 363-B and 364, those naturally affected waters will be considered to be attaining their classification. The department shall submit to the First Regular Session of each Legislature a report on the quality of the State's waters which characterizes existing water quality, identifies waters which are not attaining their classification and states what measures are necessary for the attainment of management goals.

There shall be no discharge of domestic or industrial waste waters to Class AA waters, Class SA waters or to waters with a drainage area of less than 10 square miles. There shall be no new discharge of domestic waste waters to tributaries of Class GPA waters.

Water quality necessary to protect characteristics and designated uses shall be maintained and any discharge or activity requiring a waste discharge license pursuant to section 414-A or a water quality certification pursuant to Section 401 of the United States Clean Water Act shall comply with the minimum standards of the classification. Where the quality of any classified water exceeds the minimum standards necessary to support the characteristics and designated uses of the next highest classification, the higher water quality shall be maintained, unless the board finds that degradation of water quality is necessary for economic or social purposes which provide significant public benefits for the people of the State.

For the purpose of computing whether a discharge will violate the classification of any river or stream, the assimilative capacity of the river or stream shall be computed using the minimum 7-day low flow which occurs once in 10 years. There shall be no discharge of sewage, industrial waste, heat, hazardous matter or other substances to waters of the State which imparts color, taste, turbidity, toxicity, radioactivity or other characteristics which cause those waters to be unsuitable for the characteristics and designated uses ascribed to their class. All surface waters of the State shall be free of settled substances which alter the physical or chemical nature of bottom material and of floating substances, except as naturally occur, which impair the characteristics and designated uses ascribed to their class. There shall be no discharge to any water of the State which violates the provisions of sections 363, 363-A, 363-B and 364, except as provided in section 451, causes the "pH" of fresh waters to fall outside of the 6.0 to 8.5 range, causes the "pH" of estuarine and marine waters to fall outside of the 7.0 to 8.5 range or causes fish to be unsuitable for human consumption.

Sec. 2. 38 MRSA §361-A, sub-§1-A, as enacted by PL 1973, c. 625, §270, is repealed.

Sec. 3. 38 MRSA §361-A, sub-§2, as enacted by PL 1971, c. 470, §1, is amended to read:

2. Fresh surface waters. "Fresh surface waters" means all waters of the State other than ~~tidal~~ estuarine and marine waters and ground water.

Sec. 4. 38 MRSA §361-A, sub-§5, as enacted by PL 1971, c. 470, §1, is amended to read:

5. Estuarine and marine waters. "~~Tidal~~ Estuarine and marine waters" means those portions of the Atlantic Ocean within the jurisdiction of the State, and all other waters of the State subject to the rise and fall of the tide except those waters listed and classified in sections 368 and 369.

Sec. 5. 38 MRSA §363, as amended by PL 1979, c. 529, is repealed and the following enacted in its place:

§363. Standards for classification of fresh waters

The board shall have 4 standards for the classification of fresh surface waters which are not classified as lakes and ponds.

Class AA shall be the highest classification and shall be applied to waters which are outstanding natural resources and should be preserved for reasons of ecological, social, scenic or recreational importance. Class AA waters shall be of such quality that they are suitable for drinking water after disinfection, water contact recreation, fishing, recreational activities, navigation and as a free flowing and natural habitat for fish and other aquatic life.

The aquatic life, dissolved oxygen and bacteria content of these waters shall be as naturally occurs.

There shall be no discharge of domestic or industrial waste waters to Class AA waters.

Class A shall be the 2nd highest classification and these waters shall be of such quality that they are suitable for drinking water after disinfection, water contact recreation, fishing, recreational activities, industrial process and cooling water supply, hydroelectric power generation, navigation and as a natural habitat for fish and other aquatic life.

The dissolved oxygen content of Class A waters shall be not less than 7 parts per million or 75% of saturation, which is higher. The aquatic life and bacteria content of these waters shall be as naturally occurs.

There shall be no discharge of sewage or other pollutants into water of this classification and no deposits of such material on the banks of these waters in any manner that transfer of sewage or other pollutants into the waters is likely, except that existing licensed discharges into waters of this classification will be allowed to continue until practical alternatives exist.

New discharges to these waters will be permitted only if, in addition to satisfying all the requirements of this chapter, the discharged effluent will be equal to or better than the existing water quality of the receiving waters. Prior to issuing a discharge license, the board shall require the applicant to objectively demonstrate to the board's satisfaction that the discharge is necessary and that there are no other reasonable alternatives available.

Class B shall be the 3rd highest classification and these waters shall be of such quality that they are suitable for drinking water supply after treatment, water contact recreation, fishing, recreational activities, industrial process and cooling water supply, hydroelectric power generation, navigation and as an unimpaired habitat for fish and other aquatic life.

The dissolved oxygen content of Class B waters shall be not less than 7 parts per million or 75% of saturation, whichever is higher. Between May 15th and September 30th, the number of Escherichia coli bacteria of human origin in these waters shall not

exceed a geometric mean of 64 per 100 milliliters or a instantaneous level of 427 per 100 milliliters.

Discharges to Class B waters shall not cause adverse impact to aquatic life in that the receiving waters shall be of sufficient quality to support all aquatic species indigenous to the receiving water without detrimental changes in the resident biological community.

Class C shall be the 4th highest classification and these waters shall be of such quality that they are suitable for drinking water supply after treatment, water contact recreation, fishing, recreational activities, industrial process and cooling water supply, hydroelectric power generation, navigation and as a habitat for fish and other aquatic life. The dissolved oxygen content of Class C waters shall be not less than 5 parts per million or 60% of saturation, whichever is higher.

Between May 15th and September 30th, the number of Escherichia coli bacteria of human origin in these waters shall not exceed a geometric mean of 142 per 100 milliliters or an instantaneous level of 949 per 100 milliliters.

Discharges to Class C waters may cause some changes to aquatic life, provided that the receiving waters shall be of sufficient quality to support all indigenous species of fish and maintain the structure and function of the aquatic community.

Sec. 6. 38 MRSA §363-A, as amended by PL 1981, c. 153, §§1 and 2, is repealed and the following enacted in its place:

§363-A. Standards for classification of lakes and ponds

The board shall have one standard - Class GPA - for the classification of lakes and ponds, except that impoundments of rivers may be otherwise classified as specified in sections 363, 368 and 369 and that waters contained in excavations approved by the board for waste water treatment purposes shall be unclassified waters. Class GPA waters shall be of such quality that they are suitable for drinking water after disinfection, water contact recreation, fishing, recreational activities, industrial process and cooling water supply, hydroelectric power generation, navigation and as a natural habitat for fish and other aquatic life.

Class GPA waters shall be described by their trophic state based on measures of the chlorophyll "a" content, Secchi disk transparency, total phosphorus content and other appropriate criteria. Class GPA waters shall have a stable or decreasing trophic state, subject only to natural fluctuations, and shall be free of culturally-induced algal blooms which impair their use and enjoyment. The number of Escherichia coli bacteria of human origin in these waters shall not exceed a geometric mean of 29 per 100 milliliters or an instantaneous level of 194 per 100 milliliters.

There shall be no new discharge of domestic or industrial waste waters into Class GPA waters. Aquatic chemical applications approved by the board shall be exempt from the no discharge provision. Existing licensed discharges into these waters shall be allowed to continue only until practical alternatives exist. Discharges into tributaries of GPA waters shall not, by themselves or in combination with other activities, cause water quality degradation which would impair the characteristics and designated uses of downstream GPA waters or cause an increase in the trophic state of those GPA waters. No materials may be placed on or removed from the shores or banks of a Class GPA water body in such a manner that materials may fall or be washed into the water or that contaminated drainage therefrom may flow or leach into those waters, except as provided in section 391. No change of land use in the watershed of a Class GPA water body may, by itself or in combination with other activities, cause water quality degradation which would impair the characteristics and designated uses of downstream GPA waters or cause an increase in the trophic state of those GPA waters.

Sec. 7. 38 MRSA §364, as amended by PL 1977, c. 373, §§7 to 9, is repealed and the following enacted in its place:

§364. Standards for classification of estuarine and marine waters

The board shall have 3 standards for the classification of estuarine and marine waters.

Class SA shall be the highest classification and shall be applied to waters which are outstanding natural resources and should be preserved for reasons of ecological, social, scenic, economic or recreational importance. Class SA waters shall be of such quality that they are suitable for water contact recreation, fishing, recreational activities, aquaculture propagation and harvesting of shellfish, navigation and as a free-flowing and natural habitat for fish and other estuarine and marine life. DEP-5

The estuarine and marine life, dissolved oxygen and bacteria content of these waters shall be as naturally occurs.

There shall be no discharge of domestic or industrial waste waters to Class SA waters.

Class SB shall be the 2nd highest classification and these waters shall be of such quality that they are suitable for water contact recreation, fishing, recreational activities, aquaculture propagation and harvesting of shellfish, industrial process and cooling water supply, hydroelectric power generation, navigation and as an unimpaired habitat for fish and other estuarine and marine life. DEP-6

The dissolved oxygen content of Class SB waters shall be not less than 85% of saturation. Between May 15th and September 30th, the numbers of enterococcus bacteria of human origin in these waters shall not exceed a geometric mean of 8 per 100 milliliters or an instantaneous level of 54 per 100 milliliters. NRC-27 MWWCA-1

Discharges to Class SB waters shall not cause adverse impact to estuarine and marine life in that the receiving waters shall be of sufficient quality to support all estuarine and marine life indigenous to the receiving water without detrimental changes in the resident biological community. There shall be no NRC-26:28

new discharge to Class SB waters which would cause closure of open shellfish areas by the Department of Marine Resources.

Class SC shall be the 3rd highest classification and these waters shall be of such quality that they are suitable for water contact recreation, fishing, recreational activities, aquaculture propagation of shellfish, industrial process and cooling water supply, hydroelectric power generation, navigation and as a habitat for fish and other estuarine and marine life. CWRC-4 DEP-7

The dissolved oxygen content of Class SC waters shall be not less than 70% of saturation. Between May 15th and September 30th, the numbers of enterococcus bacteria of human origin in these waters shall not exceed a geometric mean of 14 per 100 milliliters or an instantaneous level of 94 per 100 milliliters. NRC-29 MWWCA-1

Discharges to Class SC waters may cause some changes to estuarine and marine life provided that the receiving waters are of sufficient quality to support all indigenous species of fish and maintain the structure and function of the estuarine and marine communities.

Sec. 8. 38 MRSA §365, as amended by PL 1977, c. 300, §15, is repealed.

Sec. 9. 38 MRSA §367, as amended by PL 1979, c. 495, §3, is repealed.

Sec. 10. 38 MRSA §368, as amended by PL 1979, c. 495, §§4 to 6, is repealed and the following enacted in its place:

§368. Classification of major river basins NRC-30

All surface waters lying within the boundaries of the State which are in river basins having a drainage area greater than 100 square miles which are not classified as lakes or ponds and are not otherwise classified in this section are Class B waters.

1. Androscoggin River Basin.

A. Androscoggin River, main stem, including all impoundments.

(1) From the Maine - New Hampshire boundary to a line formed by the extension of the Bath-Brunswick boundary across Merrymeeting Bay in a northwesterly direction - Class C.

B. Little Androscoggin River Drainage.

(1) Little Androscoggin River, main stem, including all impoundments.

(a) From the outlet of Bryant Pond to a point located 0.25 mile above the bridge at West Paris - Class B.

(b) From a point located 0.25 mile above the bridge at West Paris to its confluence with Andrews Brook - Class C.

(c) From its confluence with Andrews Brook to the Route 26 bridge in South Paris - Class B.

(d) From the Route 26 bridge in South Paris to its confluence with the Androscoggin River - Class C.

(2) Little Androscoggin River, tributaries.

(a) Bird Brook (Norway) - Class C.

(b) Davis Brook (Poland) - Class C.

(c) Outlet of Thompson Lake (Oxford) - Class C.

(d) Pennesseewassee Lake Outlet (Norway) - Class C.

(e) Unnamed Brook (Auburn) which enters the Little Androscoggin River from the north about 1.3 miles east of Minot Village - Class C.

C. Androscoggin River, Upper Drainage; that portion within the State lying above the river's most upstream crossing of the Maine-New Hampshire boundary.

(1) Cupsuptic Stream and its tributaries above its confluence with Cupsuptic Lake - Class A.

(2) Kennebago River and its tributaries above its confluence with Mooselookmeguntic Lake - Class A.

(3) Magalloway River and those tributaries of the Magalloway River which have drainages lying wholly within the State - Class A.

(4) Rapid River, from the outlet of Pond in the River to the Magalloway Plantation - Upton boundary - Class AA.

D. Androscoggin River, minor tributaries.

(1) Austin Brook (Mexico) from Fourth Street to its confluence with the Androscoggin River - Class C.

(2) Bean Brook (Rumford) from the dam at the rendering company to its confluence with the Androscoggin River - Class C.

(3) Chapman Brook (Bethel) and its tributaries above the bridge at the highway leading from Bethel to Gilead on the north side of the Androscoggin River - Class A.

(4) Logan Brook (Auburn) - Class C.

(5) No Name Brook (Lewiston) - Class C.

(6) Penley Brook (Auburn) - Class C.

(7) Sabattus River from Sabattus Pond to limits of Lisbon urban area - Class C.

(8) Spears Stream (Peru) from the sawmill dam to its confluence with the Androscoggin River - Class C.

(9) Swift River, from the point at which the Mexico - Rumford boundary leaves the river at Osgood Avenue to its confluence with the Androscoggin River - Class C.

(10) Webb River (Dixfield) from the White Bridge to its confluence with the Androscoggin River - Class C.

(11) Whitney Brook (Canton) and its tributaries - Class C.

2. Dennys River Basin.

A. Dennys River, main stem.

(1) From the outlet of Meddybemps Lake to the Route 1 Bridge - Class AA.

(2) From the Route 1 bridge to tidewater - Class B.

B. Dennys River, tributaries.

(1) All tributaries entering above the Route 1 bridge - Class A.

3. East Machias River Basin.

A. East Machias River, main stem.

(1) From the outlet of Pocomoonshine Lake to the Route 191 bridge in East Machias - Class AA. DEP-8

(2) From the Route 191 bridge in East Machias to tidewater - Class C. DEP-9

B. East Machias River, tributaries.

(1) All tributaries entering above the Route 191 bridge in East Machias - Class A. DEP-10

4. Kennebec River Basin.

A. Kennebec River, main stem.

(1) From Moosehead Lake (including East and West Outlet) to its confluence with Indian Pond - Class B.

(2) From Harris Dam to a point located 1,000 feet below Harris Dam - Class B.

(3) From a point located 1,000 feet downstream from Harris Dam to its confluence with the Dead River - Class AA.

(4) From its confluence with the Dead River to its confluence with Wyman Lake - Class B.

(5) From Wyman Dam to its confluence with Fall Brook in Solon, including all impoundments - Class B.

(6) From its confluence with Fall Brook in Solon to the head of the island immediately below Great Eddy in Skowhegan, including all impoundments - Class C.

(7) From the head of the island immediately below Great Eddy in Skowhegan to Shawmut Dam, including all impoundments - Class B.

(8) From Shawmut Dam to the Curran Bridge in Augusta, including all impoundments - Class C.

(9) From the Curran Bridge in Augusta to a line drawn across the Tidal Estuary of the Kennebec River due east from Abagadasset Point - Class C.

(10) From a line drawn across the Tidal Estuary of the Kennebec River, due east from Abagadasset Point, and bounded by a line across the southwesterly arm of Merrymeeting Bay formed by an extension of the Brunswick-West Bath town line across the bay in a northwesterly direction to the westerly shore of Merrymeeting Bay and to a line drawn from Chop Point in Woolwich to West Chop Point in Bath - Class B.

B. Carrabassett River Drainage.

(1) Carrabassett River, main stem.

(a) Above its confluence with the West Branch - Class A.

(b) From its confluence with the West Branch to a point located 1.0 mile above the railroad bridge in North Anson - Class B.

(c) From a point located 1.0 mile above the railroad bridge in North Anson to its confluence with the Kennebec River - Class C.

(2) Carrabassett River, tributaries.

(a) All tributaries entering the Carrabassett River above its confluence with the West Branch - Class A.

(b) Gilman Stream (New Portland) from the bridge at New Portland to its confluence with the Carrabassett River - Class C.

(c) Harris Brook (New Portland) below Route 16 in Village of North New Portland to its confluence with Gilman Stream - Class C.

(d) Mill Stream (Anson) from the railroad bridge in North Anson Village to its confluence with the Carrabassett River - Class C.

(e) Stanley Stream (Kingfield) - Class C.

(f) West Branch of the Carrabassett River and its tributaries - Class A.

C. Cobbosseecontee Stream Drainage.

(1) Cobbosseecontee Stream, main stem.

(a) Above the dam located at latitude 44° - 13.3', longitude 69° - 47.2' (approximately) - Class B.

(b) From the dam located at latitude 44° - 13.3', longitude 69° - 47.2' (approximately) to its confluence with the Kennebec River - Class C.

(2) Cobbosseecontee Stream, tributaries.

(a) Unnamed stream (Manchester) entering Cobbosseecontee Lake through golf course from immediately south of Manchester Village - Class C.

(b) Unnamed brook (Readfield) and its tributaries entering northerly cove of Lake Maranacook at Readfield across Route 17 - Class C.

D. Dead River Drainage.

(1) Dead River, main stem.

(a) From the Long Falls Dam to the upstream limit of Big Eddy in T.3, R.4, B.K.P.W.K.R. - Class B.

(b) From the upstream limit of Big Eddy in T.3, R.4, B.K.P.W.K.R. to its confluence with the Kennebec River - Class AA.

(2) Dead River, tributaries.

(a) North Branch of the Dead River and its tributaries above its confluence with Flagstaff Lake - Class A.

E. Messalonskee Stream Drainage.

(1) Messalonskee Stream, main stem.

(a) From the outlet of Messalonskee Lake to its confluence with the Kennebec River - Class C.

(2) Messalonskee stream, tributaries.

(a) Messalonskee Stream entering between the outlet of Messalonskee Lake and its junction with the Kennebec River - Class C.

F. Moose River Drainage.

(1) Moose River, main stem.

(a) Above its confluence with Number One Brook in Beattie Township - Class A.

(b) From its confluence with Number One Brook in Beattie Township to its confluence with Attean Pond - Class AA.

(c) From the outlet of Attean Pond to its confluence with Big Wood Pond - Class A.

(d) From the outlet of Big Wood Pond to its confluence with Long Pond - Class C.

(e) From the outlet of Long Pond to its confluence with Brassua Lake - Class B.

(f) From the outlet of Brassua Lake to its confluence with Moosehead Lake - Class B.

(2) Moose River, tributaries.

(a) All tributaries entering above the outlet of Big Wood Pond - Class A.

G. Sandy River Drainage.

(1) Sandy River, main stem.

(a) From the outlet of Sandy River Ponds to the Route 142 bridge in Phillips - Class A.

(b) From the Route 142 bridge in Phillips to the Route 2 bridge in Farmington - Class B.

(c) From the Route 2 bridge in Farmington to its confluence with the Kennebec River - Class C.

(2) Sandy River, tributaries.

(a) All tributaries entering above the Route 142 bridge in Phillips - Class A.

(b) Bean Brook (Strong) between its confluence with Doctor Brook and its confluence with Valley Brook - Class C.

(c) Lemon Stream (Starks) from dam in Starks Village to its confluence with the Sandy River - Class C.

(d) Meadow Brook (Wilton) from Depot Street to its confluence with Wilson Stream - Class C.

(e) Temple Stream, between the bridge in the Village of Temple and its confluence with Sandy River - Class C.

(f) Unnamed stream (Farmington) in urban area, vicinity of Middle Street - Class C.

(g) Unnamed stream (New Sharon) below former canning factory in New Sharon Village - Class C.

(h) Valley Brook (Strong) between the Route 145 Bridge and its confluence with the Sandy River - Class C.

(i) Wilson Stream, main stem, from outlet of Wilson Pond to the Route 133 crossing - Class C.

(j) Wilson Stream, main stem, from Route 133 crossing to junction with Sandy River - Class C.

H. Sebasticook River Drainage.

(1) Sebasticook River, main stem, including all impoundments.

(a) From the confluence of the East Branch and the West Branch to the most downstream point of the Pittsfield-Burnham boundary - Class C.

(b) From the most downstream point of the Pittsfield-Burnham boundary to a point located 0.5 mile above the highway bridge at Clinton - Class B.

(c) From a point located 0.5 mile above the highway bridge at Clinton to a point located 1.0 mile above the highway bridge at Benton Falls - Class C.

(d) From a point located 1.0 mile above the highway bridge at Benton Falls to the Central Maine Power Company Dam in Winslow - Class B.

(e) From the Central Maine Power Company Dam in Winslow to its confluence with the Kennebec River - Class C.

(2) Sebasticook River, tributaries.

(a) Brackett Brook (Palmyra and Newport) - Class C.

(b) Carlton Stream (Troy) and tributaries - Class C.

(c) China Lake Outlet, from the outlet of China Lake to its confluence with the Sebasticook River - Class C.

(d) Farnham Brook (Pittsfield) below Route 100 - Class C.

(e) Fifteenmile Stream and tributaries below its confluence with Mill Stream in Albion - Class C.

(f) Higgins Brook (Harmony) from the crossing of Route 154 above Harmony to its confluence with the Great Moose Lake - Class C.

(g) Mill Stream from immediately above its crossing of the Albion-Benton Road to its confluence with Fifteenmile Stream - Class C.

(h) Sandy Stream, main stem, from the outlet of Sandy Pond to its confluence with Halfmoon Stream - Class C.

(i) Sandy Stream (Unity) from its junction with Bacon Brook to a point 0.5 mile from the entrance of Mussey Brook - Class C.

(j) Sebasticook River, East Branch main stem, from the outlet of Lake Wassookeag to its confluence with Corundel Lake - Class C.

(k) Sebasticook River, East Branch main stem, from the outlet of Corundel Lake to its confluence with Sebasticook Lake - Class C.

(l) Sebasticook River, East Branch main stem, from the outlet of Sebasticook Lake to its confluence with the West Branch - Class C.

(m) Sebasticook River, West Branch Main Stem, from the outlet of Great Moose Lake to its confluence with the East Branch, including all impoundments - Class C.

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(n) Small streams and tributaries, direct or indirect, not otherwise specified or classified, entering the Sebasticook River from the east between Twentyfive Mile Stream and Fifteenmile Stream - Class C.

(O) Small streams and their tributaries not otherwise specified entering the Sebasticook River from the east between the outlet of Fifteenmile Stream and the point of discharge of China Lake Outlet - Class C.

I. Kennebec River, minor tributaries.

(1) All tidal portions of tributaries entering above a line drawn across the tidal estuary due east from Abagadasset Point which are not otherwise classified - Class C.

(2) Austin Stream and its tributaries above the highway bridge on Route 201 in the Town of Bingham - Class A.

(3) Bond Brook and its tributaries below the crossing of Route 11 prior to reconstruction of this route in 1955 - Class C.

(4) Currier Brook (Skowhegan) from Fairview Avenue to its confluence with the Kennebec River - Class C.

(5) Fall Brook (Solon) from the dam upstream of Route 201 in Solon Village to its confluence with the Kennebec River - Class C.

(6) Mill Stream (Norridgewock) below the upstream bridge in the village - Class C.

(7) Twomile Brook (Augusta) from the entrance of the Cushnoc Housing Development sewer to the Kennebec River - Class C.

(8) Unnamed stream (Augusta) and tributaries crossing Bangor Street near the Coca Cola bottling plant - Class C.

(9) Unnamed brook (Bowdoinham) which enters the tidal portion of the West Branch of the Cathance River approximately 0.7 mile above the bridge in Bowdoinham - Class C.

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5. Machias River Basin.

A. Machias River, main stem.

(1) From the outlet of Fifth Machias Lake to its confluence with the Whitneyville Mill Pond - Class AA.

(2) From the outlet of the Whitneyville Mill Pond to the site of the low dam opposite the ends of West Street and Hardwood Street in Machias - Class B.

(3) From the site of the low dam opposite the ends of West Street and Hardwood Street in Machias to tidewater - Class C.

B. Machias River, tributaries.

(1) All tributaries entering above the river's confluence with the Whitneyville Mill Pond which are not otherwise classified - Class A.

(2) Mopang Stream, from the outlet of Mopang Second Lake to its confluence with the Machias River - Class AA.

(3) Old Stream, from the outlet of First Lake to its confluence with the Machias River - Class AA.

(4) West Branch of the Machias River, from the outlet of Lower Sabao Lake to its confluence with the Machias River - Class AA.

6. Mousam River Basin.

A. Mousam River, main stem.

(1) From the outlet of Mousam Lake to a point located 0.5 mile above Mill Street in Springvale - Class B.

(2) From a point located 0.5 mile above Mill Street in Springvale to its confluence with Estes Lake - Class C.

(3) From the outlet of Estes Lake to tidewater - Class B.

B. Mousam River, tributaries.

(1) East Branch of Shaker Brook from the Route 4 bridge to the Alfred-Waterboro boundary - Class C.

(2) Hay Brook (Alfred and Sanford) - Class C.

(3) Unnamed Brook, entering the East Branch of Shaker Brook from the west just below Waterboro Village - Class C.

7. Penobscot River Basin.

A. Penobscot River, main stem.

(1) From the confluence of the East Branch and the West Branch to the Veazie Dam, including all impoundments - Class C.

(2) From the Veazie Dam to a line extended in an east-west direction from the outlet of Reed Brook in the Village of Hampden Highlands - Class C.

B. Penobscot River, East Branch Drainage.

(1) East Branch of the Penobscot River, main stem.

(a) Above its confluence with Grand Lake Mattagamon - Class A.

(b) From the dam at the outlet of Grand Lake Mattagamon to a point located 1,000 feet downstream from the dam at the outlet of Grand Lake Mattagamon - Class B.

(c) From a point located 1,000 feet downstream from the dam at the outlet of Grand Lake Mattagamon to its confluence with the West Branch - Class AA.

(2) East Branch of the Penobscot River, tributaries.

(a) All tributaries and segments of the East Branch of the Penobscot River entering above the outlet of Grand Lake Mattagamon which are not otherwise classified - Class A.

(b) All tributaries and segments of the East Branch of the Penobscot River entering below the outlet of Grand Lake Mattagamon which are not otherwise classified - Class B.

(c) All tributaries and segments of the East Branch of the Penobscot River which are within the boundaries of Baxter State Park - Class AA.

(d) Sawtelle Brook, from a point located 1,000 feet downstream from the dam at the outlet of Sawtelle Deadwater to its confluence with the Seboeis River - Class AA.

(e) Seboeis River, from the outlet of Snowshoe Lake to its confluence with the East Branch - Class AA.

(f) Wassataquoik Stream, from the boundary of Baxter State Park to its confluence with the East Branch - Class AA.

(g) Webster Brook, from a point located 1,000 feet downstream from the dam at the outlet of Telos Lake to its confluence with Grand Lake Mattagamon - Class AA.

C. Penobscot River, West Branch Drainage.

(1) West Branch of the Penobscot River, Main Stem.

(a) From the dam at the outlet of Seboomook Lake to a point located 1,000 feet downstream from the dam at the outlet of Seboomook Lake - Class B.

(b) From a point located 1,000 feet downstream from the dam at the outlet of Seboomook Lake to its confluence with Chesuncook Lake - Class AA.

(c) From Ripogenus Dam to the T.3, R.11, W.E.L.S. - T.3, R.10, W.E.L.S. boundary - Class B.

(d) From the T.3, R.11, W.E.L.S. -T.3, R.10, W.E.L.S. boundary to its confluence with Ambajejus Lake - Class AA.

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(e) From the outlet of Elbow Lake to the outlet of Ferguson and Quakish Lakes - Class B.

(f) From the outlet of Ferguson and Quakish Lakes to its confluence with the East Branch of the Penobscot River, including all impoundments - Class C.

(2) West Branch of the Penobscot River, tributaries.

(a) All tributaries and segments of the West Branch of the Penobscot River which are within the boundaries of Baxter State Park - Class AA.

(b) All tributaries entering above the dam at the outlet of Seboomook Lake - Class A.

(c) Millinocket Stream, from the railroad bridge near the Millinocket-T.3 Indian Purchase boundary to its confluence with the West Branch of the Penobscot River - Class C.

D. Mattawamkeag River Drainage.

(1) Mattawamkeag River, main stem.

(a) From the confluence of the East Branch and the West Branch to the Kingman-Mattawamkeag boundary - Class B.

(b) From the Kingman-Mattawamkeag boundary to its confluence with the Penobscot River - Class AA.

(2) Mattawamkeag River, tributaries.

(a) Baskahegan Stream, from the narrows in Crooked Brook Flowage approximately one mile above the village of Danforth to its confluence with the Mattawamkeag River - Class C.

(b) Fish Stream, from a point 0.25 mile upstream of the Route 11 bridge in Patten to its confluence with the West Branch of the Mattawamkeag River - Class C.

(c) Mattakeunk Stream (Lee) from the outlet of Mattakeunk Pond to its confluence with Dwinal Pond - Class C.

(d) Webb Brook (Patten) and its tributaries - Class C.

(e) West Branch of the Mattawamkeag River (Island Falls) from a point 100 feet upstream of the railroad bridge at Island Falls to its confluence with Upper Mattawamkeag Lake - Class C.

E. Piscataquis River Drainage.

(1) Piscataquis River, main stem.

(a) From the confluence of the East Branch and the West Branch to the Abbot-Guilford boundary - Class B.

(b) From the Abbott-Guilford boundary to its confluence with the Pleasant River - Class C.

(c) From its confluence with the Pleasant River to the dam at Howland - Class B.

(d) From the dam at Howland to its confluence with the Penobscot River - Class C.

(2) Piscataquis River, tributaries.

(a) Carleton Stream (Sangerville) from its mouth to the crossing of Route 23 - Class C.

(b) Davee Brook below North Street, Dunham Brook below Forest Street and Fox Brook below Grove Street in Dover-Foxcroft - Class C.

(c) East and West Branches of the Piscataquis River and their tributaries above their confluence near Blanchard - Class A.

(d) Phillip Brook, Monson, from Lake Hebron to the junction with Monson Stream - Class C.

(e) Pleasant River, East Branch and its tributaries - Class A.

(f) Pleasant River, main stem, from the end of Maple Street in Brownville Junction to its confluence with the Piscataquis River - Class C.

(g) Pleasant River, West Branch, from the outlet of Fourth West Branch Pond to its confluence with the East Branch - Class AA.

(h) Pleasant River, West Branch tributaries - Class A.

(i) Sebec River, from the dam at Main Street in Milo to its confluence with the Piscataquis River - Class C.

(j) Sebec River and its tributaries above the outlet of Monson Stream - Class A.

F. Penobscot River, minor tributaries.

(1) All minor tributaries entering from the west between Pushaw Stream and the outlet of Reed Brook in Hampden which are not otherwise classified - Class C.

(2) All minor tributaries entering from the east between Blackman Stream and a line extended in an east-west direction from the outlet of Reed Brook in Hampden which are not otherwise classified - Class C.

(3) Alamoosook Lake Tributaries - Class A.

(4) Cambolasee Stream (Lincoln) below the Route 2 bridge - Class C.

(5) Great Works Stream (Bradley) and its tributaries above the Route 178 bridge - Class A.

(6) Kenduskeag Stream (Bangor) and tributaries below the Bullseye Bridge - Class C.

(7) Mattanawcook Stream (Lincoln) below the outlet of Mattanawcook Pond - Class C.

(8) Olamon Stream and its tributaries above the bridge on Horseback Road - Class A.

(9) Passadumkeag River and its tributaries above Grand Falls - Class A.

(10) Sourdabscook Stream and its tributaries above the dam of the Hampden Water District - Class A.

(11) Sunkhaze Stream and its tributaries - Class A.

8. Pleasant River Basin.

A. Pleasant River, main stem.

(1) From the outlet of Pleasant River Lake to a point located 1,000 feet above tidewater - Class AA.

(2) From a point located 1,000 feet above tidewater to tidewater - Class B.

9. Presumpscot River Basin.

A. Presumpscot River, main stem.

(1) From the outlet of Sebago Lake to its confluence with Dundee Pond - Class A.

(2) From the outlet of Dundee Pond to a point located below the Village of South Windham - Class B.

(3) From a point located below the Village of South Windham to tidewater - Class C.

B. Presumpscot River, tributaries.

(1) Little River (Windham) from canning plant on Route 114 to its confluence with the Presumpscot River - Class C.

(2) Stevens Brook (Bridgton) - Class C.

10. Narraguagus River Basin.

A. Narraguagus River, main stem.

(1) From the outlet of Eagle Lake to the Maine Central Railroad Bridge - Class AA.

(2) From the Maine Central Railroad Bridge to tidewater - Class B.

B. Narraguagus River, tributaries.

(1) All tributaries entering above the river's confluence with the West Branch - Class A.

(2) West Branch of the Narraguagus River and its tributaries - Class A.

11. Royal River Basin.

A. Royal River, main stem.

(1) From the outlet of Sabbathday Pond to tidewater - Class B.

B. Royal River, tributaries.

(1) All tributaries of the Royal River which are not otherwise classified - Class C.

(2) Chandler Brook (Pownal) - Class B.

(3) Collyer Brook (Gray) - Class B.

12. Saco River Basin.

A. Saco River, main stem.

(1) From the Maine-New Hampshire boundary to its confluence with the impoundment of the Swan's Falls Dam - Class AA.

(2) From its confluence with the impoundment of the Swan's Falls Dam to a point located 1,000 feet below the Swan's Falls Dam - Class B.

(3) From a point located 1,000 feet below the Swan's Falls Dam to its confluence with the impoundment of the Hiram Dam - Class AA.

(4) From its confluence with the impoundment of the Hiram Dam to a point located 1,000 feet below the Hiram Dam - Class B.

(5) From a point located 1,000 feet below the Hiram Dam to its confluence with the Little Ossippee River - Class AA.

(6) From its confluence with the Little Ossipee River to its confluence with Thatcher Brook - Class B.

(7) From its confluence with Thatcher Brook to tidewater - Class C.

B. Saco River, tributaries.

(1) Brown Brook (Limerick) main stem, from the outlet of Sokokis Lake to its junction with the Little Ossipee River - Class C.

(2) Kimball Brook (Fryeburg) from a point 0.5 mile above the Route 113 crossing to Charles Pond - Class C.

(3) Little River, from crossing of Route 5 approximately 1.0 mile above Cornish Village to its confluence with the Ossipee River - Class C.

(4) Ossipee River from a point located 0.5 mile upstream of the Route 25 bridge at Kezar Falls to its confluences with the Saco River - Class C.

(5) Wards Brook (Fryeburg) - Class C.

13. St. Croix River Basin.

A. St. Croix River, main stem.

(1) From the outlet of Chiputneticook Lakes to the Grand Falls Dam, those waters lying within the State - Class B.

(2) From the Grand Falls Dam to its confluence with Woodland Lake, those waters lying within the State - Class C.

(3) From the Woodland Dam to tidewater, those waters lying within the State, including all impoundments - Class C.

B. St. Croix River, tributaries.

(1) All tributaries which have portions of their drainage area in Maine and portions in New Brunswick, those waters lying within the State - Class B.

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(2) All tributaries entering upstream from the dam at Calais, the drainage areas of which are wholly within the State - Class A.

14. St. George River Basin.

A. St. George River, main stem.

(1) From the outlet of Lake St. George to tidewater - Class C.

B. St. George River, tributaries.

(1) All tributaries and segments of the St. George River which are not otherwise classified - Class C.

(2) All tributaries entering above the outlet of Lake St. George - Class B.

(3) Crawford Pond Outlet and Crawford Pond tributaries - Class B.

(4) Fuller Brook and its tributaries - Class B.

(5) North and South Pond tributaries and outlet to the St. George River - Class B.

15. St. John River Basin.

A. St. John River, main stem.

(1) From the confluence of the Northwest Branch and the Southwest Branch to a point located one mile above the foot of Big Rapids in Allagash - Class AA.

(2) From a point located one mile above the foot of Big Rapids in Allagash to the Frenchville-Madawaska boundary, those waters lying within the State, including all impoundments - Class B.

(3) From the Frenchville-Madawaska boundary to where the international boundary leaves the river in Hamlin, those waters lying

within the State, including all impoundments - Class C.

B. Allagash River Drainage.

(1) Allagash River, main stem.

(a) From Churchill Dam to a point located 1,000 feet downstream from Churchill Dam - Class A.

(b) From a point located 1,000 feet downstream from Churchill Dam to its confluence with Gerald Brook in Allagash - Class AA.

(c) From its confluence with Gerald Brook in Allagash to its confluence with the St. John River - Class A.

(2) Allagash River, tributaries.

(a) All tributaries and segments of the Allagash River which are not otherwise classified - Class A.

(b) Allagash Stream, from the outlet of Allagash Pond in T.9, R.15, W.E.L.S. to its confluence with Chamberlain Lake - Class AA.

(c) Chemquasabamticook Stream, from the outlet of Chemquasabamticook Lake to its confluence with Long Lake - Class AA.

(d) Musquacook Stream, from the outlet of Third Musquacook Lake to its confluence with the Allagash River - Class AA.

C. Aroostook River Drainage.

(1) Aroostook River, main stem.

(a) From the confluence of Millinocket Stream and Munsungan Stream to its confluence with the Machias River - Class AA.

(b) From its confluence with the Machias River to the Sheridan Dam - Class B.

(c) From the Sheridan Dam to its confluence with Presque Isle Stream, including all impoundments - Class B.

(d) From its confluence with Presque Isle Stream to a point located 3.0 miles upstream of the intake of the Caribou water supply, including all impoundments - Class C.

(e) From a point located 3.0 miles upstream of the intake of the Caribou water supply to a point located 100 yards downstream of the intake of the Caribou water supply, including all impoundment- ments - Class B.

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(f) From a point located 100 yards downstream of the intake of the Caribou water supply to the international boundary, including all impoundments - Class C.

(2) Aroostook River, tributaries.

(a) All tributaries and segments of the Aroostook River entering above the confluence with St. Croix Stream which are not otherwise classified - Class A.

(b) Limestone Stream from the Long Road Bridge to the international boundary - Class C.

(c) Little Machias River and its tributaries - Class A.

(d) Little Madawaska River and its tributaries, including Madawaska Lake tributaries above the Route 161 bridge in Stockholm - Class A.

(e) Machias River, from the outlet of Big Machias Lake to the Garfield Plantation-Ashland boundary - Class AA.

(f) Machias River tributaries entering above the Garfield-Ashland boundary - Class A.

(g) Millinocket Stream, from the outlet of Millinocket Lake to its confluence with Munsungan Stream - Class AA.

(h) Munsungan Stream, from the outlet of Little Munsungan Lake to its confluence with Millinocket Stream - Class AA.

(i) Pattee Brook (Fort Fairfield) and its tributaries above the dam just upstream of the Route 167 bridge - Class A.

(j) Presque Isle Stream and its tributaries above its confluence with, but not including, the North Branch of Presque Isle Stream - Class A.

(k) St. Croix Stream from the outlet of St. Croix Lake to its confluence with Hall Brook in T.9, R.5, W.E.L.S. - Class A.

(l) St. Croix Stream from its confluence with Hall Brook in T.9, R.5, W.E.L.S. to its confluence with the Aroostook River - Class AA.

(m) St. Croix Stream tributaries - Class A.

(n) Salmon Brook, from the dam immediately above Washburn to its confluence with the Aroostook River - Class C.

(o) Squapan Stream and its tributaries above the B&A Railroad bridge - Class A.

(p) Unnamed Stream (Presque Isle) near Vining Station on Washburn Road - Class C.

D. Fish River Drainage.

(1) Fish River, main stem.

(a) From the outlet of Mud Pond to its confluence with St. Froid Lake - Class AA.

(b) From the outlet of St. Froid Lake to the Route 11 Bridge - Class A.

(c) From the Route 11 Bridge to the bridge at Fort Kent Mills - Class B.

(d) From the bridge at Fort Kent Mills to its confluence with the St. John River - Class C.

(2) Fish River, tributaries.

(a) All tributaries entering above the Route 11 Bridge - Class A.

E. Meduxnekeag River Drainage.

(1) Meduxnekeag River, main stem.

(a) From the outlet of Meduxnekeag Lake to the international boundary - Class B.

(2) Meduxnekeag River, tributaries.

(a) North Branch of the Meduxnekeag River and its tributaries above the Monticello - T.C, R.2 boundary - Class A.

F. St. John River, minor tributaries.

(1) All tributaries of the St. Francis River, the drainage areas of which are wholly within the State - Class A.

(2) All tributaries and branches of the St. John River above the outlet of Allagash River, the drainage areas of which are wholly within the State, including that portion of the river above the St. John Pond Dam- Class A.

(3) Baker Branch, from a point located 1.5 miles below Baker Lake to its confluence with the Southwest Branch - Class AA.

(4) Big Black River, from the international boundary to its confluence with the St. John River - Class AA.

(5) Northwest Branch, from the outlet of Beaver Pond in T. 12, R. 17, W.E.L.S. to its confluence with the St. John River - Class AA.

(6) Southwest Branch, from a point located 5 miles downstream of the international boundary to its confluence with the Baker Branch - Class AA.

(7) Martin Brook (Madawaska) downstream of the bridge on the Back Settlement Road - Class C.

(8) Negro Brook (Allagash Plantation) and its tributaries - Class A.

(9) Thibodeau Brook (Grand Isle) from Route 1 to the St. John River - Class C.

(10) Violette Brook (Van Buren) below the railroad to its confluence with Violette Stream - Class C.

(11) Violette Stream (Van Buren) below Champlain Street to its confluence with the St. John River - Class C.

16. Salmon Falls River Basin.

A. Salmon Falls River, main stem.

(1) From the outlet of Great East Lake to tidewater, those waters lying within the State - Class B.

17. Sheepscot River Basin. LWRC-5

A. Sheepscot River, main stem.

(1) From its origin in Montville to tidewater - Class AA.

B. Sheepscot River, tributaries.

(1) West Branch of the Sheepscot River, main stem, from the outlet of Branch Pond to its confluence with the Sheepscot River - Class AA.

18. Union River Basin.

A. Union River, main stem

(1) From the outlet of Graham Lake to the Route 1A bridge in Ellsworth Falls - Class B.

(2) From the Route 1A bridge in Ellsworth Falls to tidewater - class C. DEP-16

Sec. 11. 38 MRSA §369, as amended by PL 1979, c. 495, §§7 and 8, is repealed and the following enacted in its place:

§369. Classifications of minor drainages

All surface waters lying within the boundaries of the State which are in basins having a drainage area less than 100 square miles which are not classified as lakes or ponds and which are not otherwise classified in this section are Class B waters.

1. Cumberland County. Those waters draining directly or indirectly into tidal waters of Cumberland County, with the exception of the Androscoggin River Basin, the Presumpscot River Basin, the Royal River Basin and tributaries of the Androscoggin River Estuary and Merrymeeting Bay, entering above the Chops.

A. All minor drainages of Cumberland County which are not otherwise classified - Class C.

B. Brunswick.

(1) Unnamed Stream entering tidewater of New Meadows River at Middle Bay - Class A.

C. Cape Elizabeth.

(1) Alewife Brook - Class A.

D. Falmouth.

(1) Mill Creek and its tributaries - Class B.

E. Freeport.

(1) Harvey Brook - Class B.

(2) Frost Gully Brook - Class A.

(3) Merrill Brook and its tributaries entering below the Maine Central Railroad crossing - Class B.

(4) Collins Brook and its tributaries - Class B.

(5) Mill Stream and its tributaries - Class B.

(6) Little River and its tributaries - Class B.

F. Portland.

(1) Stroudwater River from its origin to its confluence with Indian Camp Brook - Class B.

G. Scarboro.

(1) Finnard Brook - Class B.

(2) Stuart Brook - Class B.

H. South Portland.

(1) Red Brook and its tributaries from the Rye Pond outlet dam to its origin - Class B.

I. Yarmouth.

(1) Pratts Brook - Class B.

2. Hancock County. Those waters draining directly or indirectly into tidal waters of Hancock County, with the exception of the Union River Basin.

A. All brooks, streams and segments of those brooks and streams which are within the boundaries of Acadia National Park - Class AA.

B. All minor drainages entering tidewater between the Bucksport-Orrington boundary and a point located due east from Fort Point - Class C.

C. Blue Hill.

(1) Carleton Stream, main stem, between First Pond and Second Pond - Class C.

(2) Carleton Stream, main stem, from the outlet of First Pond to tidewater at Salt Pond - Class C.

(3) Unnamed Stream at edge of Blue Hill Village entering tidewater near "Big Rock" - Class C.

(4) Unnamed Stream flowing from near "Old Cemetery" to the Town Wharf - Class C.

(5) Unnamed Stream about 100 yards east of Mill Brook Stream - Class C.

D. Brooksville.

(1) Shepardson Brook (or Mill Brook), main stem, from Route 176 to its outlet at tidewater - Class C.

E. Bucksport.

(1) All minor drainages which enter tidewater between the head of tide on Marsh Stream and the head of tide on the Orland River which are not otherwise classified - Class C.

(2) Silver Lake Outlet, above the village limits of Bucksport - Class B.

F. Ellsworth.

(1) Unnamed Stream south of Laurel Street in Ellsworth - Class C.

G. Franklin.

(1) Unnamed Stream flowing near railroad station in Franklin Village to Hog Bay - Class C.

H. Gouldsboro.

(1) All coastal streams, direct and indirect segments, discharging to tidewater on the easterly mainland of Gouldsboro - Class C.

I. Lamoine.

(1) Spring Brook below washer at Grindle's gravel pit - Class C.

J. Penobscot.

(1) Winslow Stream, main stem, from tidewater to dam at the sawmill of S.C. Condon - Class C.

K. Sedgewick.

(1) Sargent Brook at Sargentville Village, main stem, from tidewater to a point 300 feet upstream of the highway - Class C.

(2) Three Unnamed Streams entering tidewater immediately north of Sedgewick Village - Class C.

L. Trenton.

(1) Stony Brook from Route 3 crossing to tidewater - Class C.

M. Winter Harbor.

(1) Coastal streams, brooks and segments of those streams and brooks between the Winter Harbor-Gouldsboro boundary and the boundaries of Acadia National Park - Class C.

3. Knox County. Those waters draining directly or indirectly into tidal waters of Knox County, with the exception of the St. George River Basin.

A. Friendship.

(1) Goose River, main stem, from tidewater to the dam at the Herbert Tibbetts' sawmill - Class C.

B. Owls Head.

(1) All coastal streams, direct and indirect segments of those streams, draining to tidewater in the Town of Owls Head - Class C.

C. Rockland.

(1) All coastal streams, direct and indirect segments of those streams, draining to tidewater in the City of Rockland - Class C.

D. Rockport.

(1) All coastal streams, direct and indirect segments of those streams, draining to tidewater in the Town of Rockport, unless otherwise described or classified - Class C.

(2) Goose River and its tributaries - Class B.

(3) Lily Pond Outlet - Class B.

E. St. George.

(1) All coastal streams, direct and indirect segments of those streams, draining to tidewater in the Town of St. George, unless otherwise described or classified - Class C.

F. South Thomaston.

(1) All coastal streams, direct and indirect segments of those streams, draining to tidewater in the Town of South Thomaston - Class C.

G. Thomaston.

(1) Mill River, main stem, from tidewater to a point 0.5 mile above tidewater - Class C.

(2) Oyster River, main stem, from tidewater to a point 200 feet upstream of Packard's Mill - Class C.

H. Warren.

(1) Unnamed Stream to St. George River tidewater near Warren-Cushing boundary between a point 500 feet above the South Warren-North Cushing Road to tidewater - Class C.

4. Lincoln County. Those waters draining directly or indirectly into tidal waters of Lincoln County, with the exception of the Sheepscot River Basin and tributaries of the Kennebec River Estuary and Merrymeeting Bay, entering above the Chops.

A. Bristol.

(1) Pemaquid River, main stem, from dam upstream of Bristol Village to the entrance of Boyd Pond - Class C.

B. Waldoboro.

(1) Goose River, main stem, from tidewater to the dam at Herbert Tibbetts' sawmill - Class C.

C. Westport.

(1) All coastal streams and segments of those streams draining to tidewaters in the Town of Westport - Class C.

5. Penobscot County. Those waters draining directly or indirectly into tidal waters of Penobscot County, with the exception of tributaries of the Penobscot River Estuary entering north of a line extended in an east-west direction from the outlet of Reed Brook in the Village of Hampden Highlands.

A. Minor drainages of Penobscot County which are not otherwise classified - Class C.

B. Reed Brook (Hampden) - Class C.

6. Sagadahoc County. Those waters draining directly or indirectly into tidal waters of Sagadahoc County, with the exception of tributaries of the Androscoggin River Estuary, the Kennebec River Estuary and Merrymeeting Bay, entering above the Chops.

A. All minor drainages of Sagadahoc County which are not otherwise classified - Class C.

7. Waldo County. Those waters draining directly or indirectly into tidal waters of Waldo County.

A. All minor drainages of Waldo County which are not otherwise classified and which enter tidewater between head of tide on the Goose River and head of tide on Marsh Stream in Frankfort - Class C.

B. Belfast.

(1) Goose River, below the upstream crossing of Route 141 - Class C.

C. Searsport.

(1) Mill Brook and its tributaries upstream of a bridge site on an abandoned road about 1.5 miles northerly of Searsport Village - Class B.

(2) Unnamed Stream and its tributaries entering tidewater at the northwest corner of Long Cove - Class B.

8. Washington County. Those waters draining directly or indirectly into tidal waters of Washington County, with the exception of the Dennys River Basin, the East Machias River Basin, the Machias River Basin, the Narraguagus River Basin and the Pleasant River Basin.

A. Calais.

(1) Unnamed Stream entering tidewater portion of St. Croix River between Beech and Union Streets - Class C.

B. Columbia.

(1) Dyke Brook, East Branch, from tidewater to the crossing of the Maine Central Railroad - Class C.

C. Columbia Falls.

(1) Unnamed Stream, from the Maine Central Railroad Bridge near the Pleasant River Canning Company plant to tidewater - Class C.

D. Harrington.

(1) Unnamed Stream passing through the village, from a point immediately upstream of the school sewer to tidewater - Class C.

E. Jonesboro.

(1) Chandler River and its tributaries above the Highway Bridge on Route 1 - Class A.

F. Robbinston.

(1) Unnamed Stream entering northerly end of Brooks Cove - Class C.

(2) Unnamed Stream immediately north of Schoolhouse Lane - Class C.

G. Stuben and T7, S.D.

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(1) Whitten Parrin Stream - Class C.

H. Trescott.

(1) Wiggins Brook at South Trescott, main stem, between Route 191 and tidewater - Class C.

I. Whiting.

(1) Orange River and its tributaries above the highway bridge on Route 1 - Class A.

9. York County. Those waters draining directly or indirectly into tidal waters of York County, with the exception of the Saco River Basin, the Salmon Falls River Basin and the Mousam River Basin.

A. All coastal streams above tidewater between Roaring Rock Point (York) and the head of tide on Branch River (Wells), except as otherwise specified or classified - Class C.

B. All coastal streams and their tributaries not otherwise specified between Walker Point (Kennebunkport) and Fletchers Neck in Biddeford - Class C.

C. Biddeford.

(1) Moors Brook and its tributaries - Class C.

(2) West Brook and its tributaries - Class C.

D. Saco.

(1) Goosefare Brook from its origin to head of tide - Class C.

(2) Milliken Brook - Class C.

Sec. 12. 38 MRSA §370, as amended by PL 1979, c. 495, §§9 and 10, is repealed and the following enacted in its place:

§370. Classifications of estuarine and marine waters

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MAS-4

All estuarine and marine waters lying within the boundaries of the State and which are not otherwise classified are Class SB waters.

1. Cumberland County.

A. Cape Elizabeth.

(1) Tidal waters lying westerly of a line beginning at Portland Head Light and running northerly to the southernmost point of land on Cushing Island - Class SC.

B. Cumberland.

(1) Tidal waters located within a line beginning at a point located on the Cumberland-Portland boundary at approximately latitude 43°41'-18"N., longitude 70° - 05'-48"W. and running northeasterly to a point located on the Cumberland-Harpswell boundary at approximately latitude 43° - 42'-57"N., longitude 70° - 03'-50" W.; thence running southwesterly along the Cumberland-Harpswell boundary to a point where the Cumberland, Harpswell and Portland boundaries meet; thence running northeasterly along the Cumberland-Portland boundary to point of beginning - Class SA.

C. Falmouth.

(1) Tidal waters located within a line beginning at a point located on the shore at latitude 43° - 42'-03"N. longitude 70° - 15'-22" W. and running southwesterly along the Falmouth-Portland boundary to the shore of Mackworth Island; thence running northerly along the western shore of Mackworth Island and the Mackworth Island Causeway to a point located at latitude 43° - 41'-42" N., longitude 70° - 14'-25" W.; thence running along the shore of the Presumpscot River Estuary to point of beginning - Class SC.

D. Harpswell.

(1) Tidal waters located within a line beginning at a point located on the Cumberland-Harpswell boundary at approximately latitude 43° - 42'-57" N., longitude 70° - 03'-50" W. and running northeasterly to a point located at latitude 43° - 43'-08" N., longitude 70° - 03'-36"W.; thence running southeasterly to a point located at latitude 43° - 42'-02" N., longitude 70° - 00'-00" W.; thence running due south to the Harpswell-Portland boundary; thence running northwesterly along the Harpswell-Portland boundary to a point where the Cumberland, Harpswell and Portland boundaries meet; thence running northwesterly along the Cumberland-Harpswell boundary to point of beginning - Class SA.

E. Portland.

(1) Tidal waters located within a line beginning at a point located on the Cumberland-Portland boundary at approximately latitude 43° - 41'-18" N., longitude 70° - 05'-48" W. and running southeasterly along the Cumberland-Portland boundary to a point where the Cumberland, Harpswell and Portland boundaries meet; thence running southeasterly along the Harpswell-Portland boundary to longitude 70° - 00'-00" W.; thence running due south to a point located at latitude 43° - 38'-21" N., longitude 70° - 00'-00" W.; thence running due west to a point located at latitude 43° - 38'-21" N., longitude 70° - 09'-06" W.; thence running northeasterly to point of beginning - Class SA.

(2) Tidal waters lying northwesterly of a line beginning at Portland Head Light and

running northerly to the southernmost point of land on Cushing Island; thence running northerly along the western shore of Cushing Island to the northernmost point of land on Cushing Island; thence running northerly to the southernmost point of land on Peaks Island; thence running northerly along the western shore of Peaks Island to a point located at latitude 43° - 40'-10" N., longitude 70° - 11'-34" W.; thence running northwesterly to the southernmost point of land on Great Diamond Island; thence running northwesterly along the westerly shore of Great Diamond Island to a point located at latitude 43° - 40'-36" W., longitude 70° - 11'- 34" W.; thence running northwesterly for 0.7 mile to a point where the Falmouth-Portland boundary forms a right angle; thence running northwesterly along the Falmouth-Portland boundary to a point located at latitude 43° - 42'-03" N., longitude 70° - 15'-22" W. - Class SC.

F. South Portland.

(1) All tidal waters - Class SC.

G. Yarmouth.

(1) Tidal waters of the Royal River and its tidal tributaries lying westerly of longitude 70° - 09'-00" W. Class SC.

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2. Hancock County.

A. Bar Harbor.

(1) Tidal waters, except those lying within 500 feet of privately owned shoreline, lying northerly of latitude 44° - 16'-36" N., southerly of latitude 44° - 20'-27" N., and westerly of longitude 68° - 09'-28" W. - Class SA.

B. Bucksport.

(1) All tidal waters - Class SC.

C. Cranberry Isles.

(1) Tidal waters, except those lying within 500 feet of privately owned shoreline, lying within 0.5 mile of the shore of Baker Island - Class SA.

D. Mount Desert.

(1) Tidal waters, except those lying within 500 feet of privately owned shoreline, lying northerly of latitude 44° - 16'-36" N. and easterly of longitude 68° - 13'-08" W. - Class SA.

(2) Tidal waters of Somes Sound lying northerly of a line beginning at a point located at latitude 44° - 18'-18", longitude 68° - 18'-42" N. and running northeasterly to a point located at latitude 44° - 18'-54" N., longitude 68° - 18'-22" W. and lying southerly of a line beginning at a point located at latitude 44° - 19'-37" N., longitude 68° - 18'-52" W. and running northeasterly to a point located at latitude 44° - 19'-45", longitude 68° - 18'-23" W. - Class SA.

E. Orland.

(1) Tidal waters lying northerly of the southernmost point of land on Verona Island - Class SC.

F. Southwest Harbor.

(1) Tidal waters lying northerly of latitude 44° - 12'-44" N., southerly of latitude 44° - 14'-13" N. and westerly of longitude 68° - 18'-27" W. - Class SA.

(2) Tidal waters of Somes Sound lying northerly of a line beginning at a point located at latitude 44° - 18'-18" N., longitude 68° - 18'-42" W. and running northeasterly to a point located at latitude 44° - 18'-54" N., longitude 68° - 18'-22" W. - Class SA.

G. Tremont.

(1) Tidal waters lying northerly of latitude 44° - 12'-44" N., southerly of latitude 44° - 14'-13" N. and easterly of longitude 68° - 20'-30" W. - Class SA.

H. Verona.

(1) Tidal waters lying northerly of the southernmost point of land on Verona Island - Class SC.

3. Knox County.

A. Isle Au Haut.

(1) Tidal waters, except those lying within 500 feet of privately owned shoreline, lying northerly of latitude 44° - 00'-00" N., southerly of latitude 44° - 03'-06" N., easterly of longitude 68° - 41'-00" W. and westerly of longitude 68° - 35'-00" W. - Class SA.

B. Owls Head.

(1) Tidal waters lying westerly of a line running between the southernmost point of land on Jameson Point and the northernmost point of land on Battery Point - Class SC.

C. Rockland.

(1) Tidal waters lying westerly of a line running between the southernmost point of land on Jameson Point and the northernmost point of land on Battery Point - Class SC.

4. Penobscot County.

A. Hampden.

(1) Tidal waters lying southerly of a line extended in an east-west direction from the outlet of Reed Brook in the Village of Hampden Highlands - Class SC.

B. Orrington.

(1) Tidal waters lying southerly of a line extended in an east-west direction from the outlet of Reed Brook in the Village of Hampden Highlands - Class SC.

5. Sagadahoc County.

A. Georgetown.

(1) Tidal waters located within a line beginning at a point on the shore located at latitude 43° - 47'-16" N., longitude 69° - 43'-09" W. and running due east to longitude 69° - 42'-00" W.; thence running due south to latitude 43° - 42'-52" N.; thence running due west to longitude 69° - 44'-25" W.; thence running due north to a point on the shore located at latitude 43° - 46'-15" N., longitude 69° - 44'-25" W.; thence running northerly along the shore to point of beginning - Class SA.

6. Waldo County.

A. Frankfort.

(1) All tidal waters - Class SC.

B. Prospect.

(1) All tidal waters - Class SC.

C. Searsport.

(1) Tidal waters located within a line beginning at the southernmost point of land on Kidder Point and running due east to the Searsport-Stockton Springs boundary; thence running southerly along the Searsport-Stockton Springs boundary; to latitude 44° - 25'-25" N.; thence running due west to latitude 44° - 25'-25" N., longitude 68° - 54'-30" W.; thence running due north to the shore of Mack Point at longitude 68° - 54'-30" W.; thence running along the shore

in an easterly direction to point of beginning - Class SC.

D. Stockton Springs.

(1) Tidal waters lying northerly of the southernmost point of land on Verona Island - Class SC.

E. Winterport.

(1) All tidal waters - Class SC.

7. Washington County.

A. Calais.

(1) Tidal waters of the St. Croix River and its tidal tributaries lying westerly of longitude 67° - 09'-48" W. - Class SC.

B. Eastport.

(1) Tidal waters lying southerly of latitude 44° - 54'-50" N., easterly of longitude 67° - 02'-00" W. and northerly of latitude 44° - 53'-15" N. - Class SC.

C. Lubec.

(1) Tidal waters, except those lying within 500 feet of West Quoddy Head Light, located within a line beginning at a point located on the northern shore of West Quoddy Head at latitude 44° - 49'-08" N., longitude 66° - 57'-30" W. and running due north to the international boundary; thence running southeasterly and southwesterly along the international boundary to latitude 44° - 47'-00" N.; thence running due west to longitude 66° - 58'-45" W.; thence running due north to a point located in Carrying Place Cove at latitude 44° - 48'-36", longitude 66° - 58'-45" W.; thence running along the shore of West Quoddy Head to point of beginning - Class SA.

D. Trescott.

(1) Tidal waters located within a line beginning on the shore at latitude 44° - 45'-02" N., longitude 67° - 04'-16" W., and running due east to longitude 67° - 03'00" W.; thence running due south to latitude 44° - 43'-30" N.; thence running due west to longitude 67° - 05'-14" W.; thence running due north to a point located on the shore at latitude 44° - 44'-28" N., longitude 67° - 05'-14" W.; thence running along the shore of Eastern Head to point of beginning - Class SA.

8. York County.

A. Biddeford.

(1) Tidal waters of the Saco River and its tidal tributaries lying westerly of longitude 70° - 22'-54" W. - Class SC.

B. Kennebunk.

(1) Tidal waters of the Kennebunk River and its tidal tributaries lying northerly of latitude 43° - 20'-50" N. - Class SC.

C. Kennebunkport.

(1) Tidal waters of the Kennebunk River and its tidal tributaries lying northerly of latitude 43° - 20'-50" N. - Class SC.

D. Kittery.

(1) Tidal waters of the Piscataqua River and its tidal tributaries lying westerly of longitude 70° - 42'-52" W.; southerly of Maine Route 103 and easterly of Interstate Route 95 - Class SC.

E. Old Orchard Beach.

(1) Tidal waters of Goosefare Brook and its tidal tributaries lying westerly of longitude 70° - 22'-55" W. - Class SC.

F. Saco.

(1) Tidal waters of Goosefare Brook and its tidal tributaries lying westerly of longitude 70° - 22'-55" W. - Class SC.

(2) Tidal waters of the Saco River and its tidal tributaries lying westerly of longitude 70° - 22'-54" W. - Class SC.

Sec. 13. 38 MRSA §371-A, as amended by PL 1983, c. 743, §9, is repealed.

STATEMENT OF FACT

This bill revises the system for classification of the waters of the State and provides interim classifications for the waters of the State. This revision of classification standards is necessary to establish appropriate levels of water quality among classes, base the classes' water quality on scientifically defensible criteria and to provide additional protection for waters of the State.

Section 1 clarifies the purpose of these classifications in that they represent a series of goals for the waters of the State. Section 1 also establishes procedures for reclassification of the waters of the State and establishes general provisions for the administration of the classifications.

Sections 2, 3 and 4 revise definitions relating to protection and improvement of waters of the State.

Section 5 establishes 4 classes of fresh surface waters which are not classified as lakes and ponds. Class AA is the highest classification and shall be applied to waters which are outstanding resources for reasons of ecological, social, scenic or recreational importance. The discharge to Class AA waters of domestic or industrial waste waters is prohibited. Activities which would cause Class AA waters to be other than a free flowing and natural habitat for fish and other aquatic life are prohibited. Class A waters have water quality and discharge provisions which are essentially unchanged from present law.

Class B is anticipated to be the most frequently applied classification for the State's rivers, streams and brooks. Discharges to Class B waters are allowed, provided that they cause no harm to aquatic life and meet bacteriological standards necessary to protect swimmers. Class C is anticipated to be applied to rivers and streams which presently receive major discharges. Discharges to Class C waters are allowed, provided they meet bacteriological standards necessary to protect swimmers and are of sufficient quality that all indigenous species of fish and a diverse community of aquatic life are supported in Class C waters.

Section 6 establishes 1 Class - GPA - for lakes and ponds. To protect and improve lakes and ponds, there are restrictions established for discharges and changes of land use in the watersheds of lakes and ponds.

Section 7 establishes 3 classes of estuarine and marine waters. Class SA is the highest classification and shall be applied to waters which are outstanding resources for reasons of ecological, social, economic, scenic or recreational importance. The discharge to Class SA waters of domestic or industrial waste waters is prohibited. Activities which would cause Class SA waters to be other than a natural and free flowing habitat for fish and other estuarine and marine life are prohibited. Class SB is anticipated to be the most frequently applied classification for the State's estuarine and marine waters. Discharges to Class SB waters are allowed, provided that they cause no harm to estuarine and marine life, meet bacteriological standards necessary to protect swimmers and do not adversely affect the State's shellfish resources. Class SC is anticipated to be applied to estuarine and marine waters which presently receive major discharges or are likely to receive major discharges as a result of the State's economic development policy. Discharges to Class SC waters are allowed, provided they meet bacteriological criteria necessary to protect swimmers and are of sufficient quality to support all indigenous species of fish and a diverse community of estuarine and marine life.

Sections 8 and 9 repeal the present procedures for classification of waters of the State. Section 13 repeals the present 2-class description for classification of great ponds.

Section 10 revises the description of classifications, the Maine Revised Statutes, Title 38, section 368, of major river basins. Section 10 describes the classification of all rivers, streams and brooks which are in drainages with an area greater than 100 square miles. Several of these river basins are presently contained in the Maine Revised Statutes, Title 38, section 369. Unlike the present law, section 10 describes classifications in standardized outline form to aid readability and subsequent revisions. Section 10 also differs from the present law by describing the classification of all segments of the main stems of major river basins as well as the main stems of major tributaries. Since most minor drainages described in section 10 are Class B, the section is headed by an overall classification of Class B for waters which are not otherwise classified. This aspect of the revision results in a shorter, more understandable text and will aid subsequent revision. Section 10 also corrects a few geographical inconsistencies and errors in the present law.

Section 10 changes the classification of certain waters of the State. The following waters are upgraded to Class AA:

1. All rivers, streams, brooks or segments thereof within the boundaries of Baxter State Park; and

2. Outstanding river and stream segments which merit special protection as specified in the Maine Revised Statutes, Title 12, section 403 and which also do not presently receive licensed discharges.

All waters currently classified as B-1 or B-2 are reclassified as "B" except for a few which are upgraded to Class AA. All waters currently classified as "C" remain assigned to that classification. All waters currently classified as "D" are upgraded to Class C.

Section 11 revises the description of classifications of minor drainages. Like those of section 10, these revisions are intended to aid public participation in the procedures for reclassification by describing classifications in a shorter, more understandable form.

Section 11 also changes the classification of certain waters of the State. All streams, brooks or segments thereof within the boundaries of Acadia National Park are upgraded to Class AA. All waters currently classified as "B-1" or "B-2", except for those in Acadia National Park, are reclassified as "B".

Section 12 repeals the present description of classifications of estuarine and marine waters of the State and describes the classification of all estuarine and marine waters of the State. This complete revision is necessary for implementation of the standards for classification established in section 7. Section 12 is headed by an overall classification of SB for estuarine and marine waters which are not otherwise classified. Section 12 classifies certain areas of the estuarine and marine waters of the State as Class SC waters. These SC areas presently receive major discharges or are likely to receive major discharges as a result of the State's economic development policy. Section 12 also classifies certain areas of the estuarine and marine waters as Class SA. Waters classified as Class SA in section 12 comprise much of the estuarine and marine waters adjacent to lands owned by the State Government or Federal Government.

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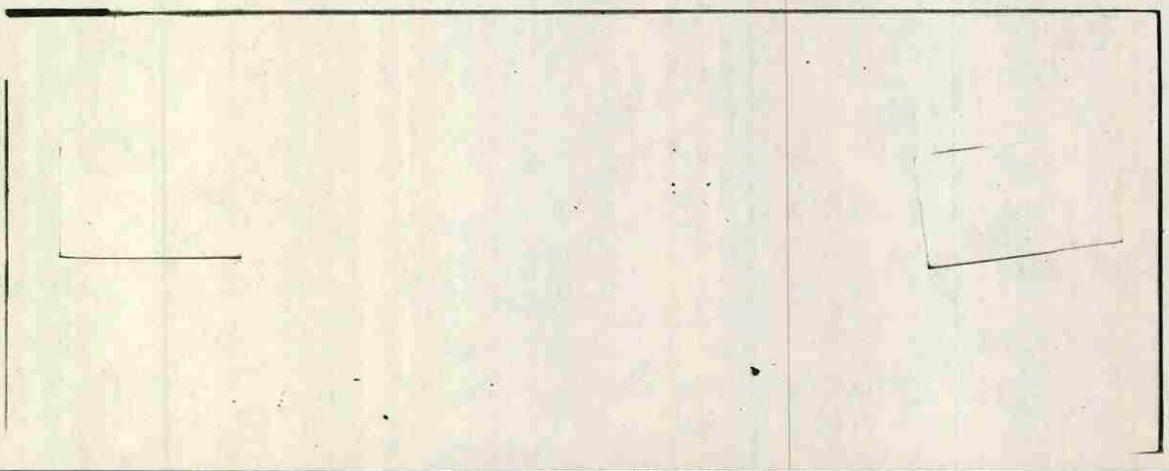

Natural Resources Council of Maine
271 State Street, Augusta, Maine 04330 207-622-3101

October 16, 1985

William T. Glidden
Office of Legislative Assistants
State House Station 13
Augusta, Maine 04333

Dear Tim:

Enclosed are the Natural Resources Council of Maine's proposals for changes in the language of LD 1503, as requested by Mike and Ron's memo of September 27th. These proposals are limited to the sections of the bill set out in that memo as being the focus of the October 22nd meeting and are organized into three sections to parallel the areas listed in the memo.

If you have any questions regarding these proposals before the October 22nd meeting, please let me know.

Sincerely,

James Dow
Staff Attorney

JD:lg

NRCM Language changes in Area #1.

1) Section 360 subsection 1, second paragraph (p. 1, lines 31-35):

Delete existing language. Replace with the following:

> The Legislature hereby declares that it is the state's objective to restore and maintain the chemical, physical and biological integrity of the state's waters and to preserve certain pristine state water. The Legislature further declares that in order to achieve this objective (1) it is the state's ultimate goal that the discharge of pollutants into the waters of the state be eliminated and (2) it is the state's interim goal to achieve water quality in the state's water which provides for the protection and propagation of fish, shellfish, and wildlife and provides for recreation in and on the water.

Justification for the change: The purpose of this paragraph is to set out the mandate of the Clean Water Act. The present language inadequately does that. It delineates, in an imprecise way, only the interim goal of the Act. The new language is patterned on Section 101 of Clean Water Act. It sets out clearly both the ultimate and interim goals of the state in regard to its surface waters. It is very important that this longer perspective be added to this section's language.

2) Section 360 subsection 1, third paragraph (p. 2, lines 1-9):

Delete existing language. Replace with the following:

> The Legislature intends by this Act to establish a water quality classification system which will allow the state to manage its surface waters so as to both protect and enhance the quality of those waters. This classification system shall be based on water quality standards which designate the use or uses to be made of a class of waters and establish criteria necessary to protect those uses. The Legislature further intends by this Act to assign to each of the state's surface water bodies a classification which shall designate the minimum level of quality which the Legislature intends for that body of water. The designation in intended to direct the state's management of that water in order to achieve at least that level of quality.

Justification: This paragraph should set out clearly what is intended by this Act. The present language of LD 1503 creates confusion with the previous paragraph (regarding the state's goals) through its use of the term "goal." It also fails to address the intent of the sections actually classifying the state's water. The proposed language clearly delineates what

the two aspects of this bill - one, establishing a classification system and the other, assigning classifications to the various water bodies - are intended to accomplish.

NRCM: Proposed Changes in Area #2

1) Section 360 subsection 3, first paragraph (p. 2, line 28):

(a) Delete the number "360-B" from line 33.

Justification. This reference to the section of title 38 which establishes standards of classification of ground water is inappropriate in the context of this bill which seeks to revise surface water standards. Ground water classification is an issue which deserves consideration on its own. Amendments to the ground water standards of section 363-B should not be made as an after thought in this bill.

(b) Add the following definition of the term "natural conditions":

Justification: This is an important term which ought to be defined. This definition tracks the definition of the term "natural" proposed by DEP at its September 30th workshop. That definition was taken from Webster's dictionary.

2) Section 360 subsection 3, second paragraph (p. 3, line 1):

(a) Delete "of domestic or industrial waste waters" from line 1 - 2. Add in its place "of pollutants."

Justification: Class AA waters, class SA waters and waters with a drainage area of less than 10 square miles are inteneded to be "no discharge" waters. The discharge of all pollutants, not simply waste waters, must be precluded. This language change would accomplish this. (Although the statutory definition of "discharge" makes the addition of the phrase "of pollutants" perhaps unnecessary, adding it enhances clarity.)

(b) Add the phrase "or industrial" after the word "domestic" in line 4.

Justification: Domestic effluent is not necessarily the only effluent with significant nutrient or chemical content which may pose a threat to GPA waters. Industrial effluent may have some phosphorous content. Other chemicals in that effluent may also play some role in the nutrient budget of lakes and thereby promote algae growth. Because lakes flush slowly and thereby concentrate pollutants, it is appropriate to take the conservative approach to their protection. Adding the proposed language would do that.

3) Section 360 subsection 3, third paragraph, first sentence (p. 3, line 6):

Note: Although the Committee memo of September 27 solicits comments on this sentence, it is more appropriately addressed

in conjunction with the second sentence since both concern maintaining water quality or "anti degradation". That topic is expressly deferred in the memo until a later date. In the event that the study committee decide to consider this topic at the October 22 meeting, however, changes in the anti-degradation language of the entire paragraph are included here.

Delete entire paragraph (lines 6 - 20). Replace with the following:

Anti-degradation provision:

1) existing uses protected. Existing instream water uses and the level of water quality necessary to protect the existing uses shall be maintained and protected.

2) designated uses protected. The level of water quality necessary to protect the designated uses of each classification shall be maintained.

3) existing water quality to be maintained. Where the existing quality of any classified water exceeds the minimum standards necessary to support the designated uses of its classification, the higher water quality shall be maintained.

4) Licenses require compliance with standards. Any discharge license pursuant to section 414-A or any water quality certification pursuant to section 401 of the Federal Water Pollution Control Act ("Clean Water Act") PL 92-500, as amended: 33 USC 1251 et seq., shall be issued only if both the stanards of the classification for the water body where the proposed discharge would occur and the requirements of this subsection will be met.

Justification: The present language seems inadequate to assure compliance with federal law as well as maintenance of the gains in water quality that Maine has achieved in the recent past. Specifically, there is no reference to existing uses (see 40 CFR section 131.12(a)(1)). Nor is there a mechanism to protect water which is of higher quality than the minimum standards of its clas but not of such quality as to meet the standards of the next higher classification. Also, the present language requiring compliance with the "minimum standards of the classification", p. 3, line 11-12, seems in conflict with M.R.S.A. section 414 (A)(1)(c).

The proposed language sets out in a clean format what is to protected. It will insure compliance with the federal law,

but more importantly, protect the improvements that have occurred and are still occurring in the quality of Maine's water.

4) Section 360 subsection 3, fourth paragraph:

Add the following language at the end of the paragraph (or set out in a new paragraph):

Regulations to be Promulgated: No later than January 1, 1987, the Board shall promulgate regulations to implement the classification system established by this Act, including but not limited to the following:

(a) Methodology and criteria to be used by the department to implement the dissolved oxygen, aquatic life and bacteria content standards.

(b) A mixing zone policy including the methodology for determining the characteristics of mixing zones as well as the in-zone water quality.

Justification: Regulations to implement the classification established by the bill will be necessary. The proposed language makes this clear and sets a deadline for the promulgation of regulations. It also expressly directs that regulations in two important areas are developed.

NRCM: Language Changes in Area #3

1) Section 363, second paragraph (p. 4, line 23).

(a) Define the term "water contact recreation" (line 29) as follows:

Water contact recreation: Any form of play, amusement or relaxation that involves physical contact between a person and water, including but not limited to swimming and wading.

(b) Define the term "recreational activities" (lines 29-30) as follows:

recreational activities: Forms of play, amusement or relaxation other than water contact recreation that take place on, by or near a water body, including but not limited to boating, and nature observation.

(c) Define the term "Natural habitat" (lines 30-31) as follows:

Natural habitat: A habitat untouched by human influence or activity.

(d) Define the term "as natuarally occurs" (line 33) as follows:

As naturally occurs: As would exist in a state of nature untouched by human influence or activity.

Justification: Definitions of these terms clarify the section's meaning.

Note: These definitions apply as well to the terms when used in the subsequent paragraphs delineating the characteristics of Class A, B and C.

2) Section 363, fourth paragraph (p. 4, line 39):

Delete "of domestic or industrial waste waters" (lines 34-35.)

Justification: Class AA is to be a preservationist, no discharge class. This change makes it clear that discharges not only of waste water but of all pollutants are prohibited. (The definition of "discharge" in 38 M.R.S.A. Section 361-A(1) makes the addition of the phrase "of pollutants" unnecessary, although for clarity's sake it may be desirable.)

3) Section 363 seventh and eighth paragraph:

NRCM supports the changes in the language of these paragraphs proposed by the Maine Audubon Society.

4) Section 363, ninth paragraph (p. 5, line 30):

Define the term "unimpared habitat" (line 36) as follows:

unimpaired habitat: A habitat without a diminished capacity to support aquatic life.

Justification: This definition tracks the language proposed by DEP at its September 30 workshop.

5) Section 363, tenth paragraph (p. 5, line 38):

(a) Delete "Between May 15th and September 30th" from lines 40-41.

Justification: The bacteria content criteria should apply throughout the year. If it is appropriate to waive these limits under certain conditions, waiver provisions should be developed.

Note: This proposed changes also applies to the criteria for Class C waters, p. 6 line 19, Class SB waters p. 8 line 29-30, and Class SC waters, p. 9 line 13-14.

(b) Add the following sentence at the end of the paragraph:

"Escherichia coli bacteria found in these waters shall be presumed to be of human origin unless otherwise demonstrated."

Justification: It is our understanding that this is DEP's intent. This makes it clear.

Note: This proposed change also applies to the criteria for Class C waters, p. 6 line 23, Class SB waters, p. 8 line 34, and Class SC waters, p. 9 line 18.

6) Section 363, tenth paragraph (p. 5 line 38):

Add the language (except the last three words) proposed by the Land and Water Resources Council to page 5, line 40, after the word "higher":

except that from the period October 1, through May 14 in order to ensure successful spawning and egg incubation of indigenous fish species, the 7 day mean dissolved oxygen concentration shall not be less than 9.5 parts per million and the 1 day minimum dissolved oxygen concentration shall be not less than 8.0 parts per million.

Justification: This proposal meets the dissolved oxygen cold water criteria currently proposed by the U.S. Environmental Protection Agency, as required by section 304 (a)(1) of the Clean Water Act, believed necessary to protect the early life stages of cold water fisheries. (The last three words of the LWRC proposal were deleted because of our concerns about the extent to which spawning areas have been identified.)

7) Section 363, eleventh paragraph (p. 6 line 3):

Define the phrase "without detrimental changes in the resident biological community," as follows: No significant loss of species or excessive dominance by any one group attributable to human influence.

Justification: This definition was proposed by DEP at its September 30 workshop. This definition also applies to the phrase as used on p. 8 line 39.

8) Section 363, twelfth paragraph (p. 6 line 9):

Delete the last sentence of the paragraph (lines 15-18). Replace with the following:

> The 30 day mean dissolved oxygen content of Class C waters shall be not less than 6.5 ppm and a 7 day mean minimum dissolved oxygen content of not less than 5.0 ppm, except that from the period October 1 through May 14 in order to ensure successful spawning and egg incubation of indigenous fish species, the 7 day mean dissolved oxygen concentration shall not be less than 9.5 ppm and the 1 day minimum dissolved oxygen concentration shall not be less than 8.0 ppm.

Justification: The present language is inadequate to prevent growth impairment of cold water fish species. The proposed language is based on the U.S. EPA's proposed criteria believed necessary to protect the other life stages of cold water fish species. It is our understanding through communications with EPA that their proposed dissolved oxygen criteria will in all likelihood be adopted unchanged.

MAINE AUDUBON SOCIETY

Gilsland Farm • 118 Old Route One • Falmouth, Maine 04105 • 781-2330

To: Senator Ron Usher, Representative Michael Michaud, Representative Steven Law, and Representative James Reed Coles
From: Nancy C. Anderson, Maine Audubon Nancy
Date: October 16, 1985

Re: Specific Language Changes and Recommendations for the October 22 Meeting

1. s 360 (3) second paragraph [p. 3 lines 1-5]:

"There shall be no discharge of pollutants to Class AA waters, Class A waters, Class SA waters or waters with a drainage area of less than 10 square miles. There shall be no new discharge of pollutants to tributaries of Class GPA waters."

2. Maine Audubon agrees with the changes recommended by the Natural Resources Council of Maine (NRCM) in paragraph 3 of section 360 (3) on page 3 [lines 6 through 12]. This language, which requires the protection of existing and designated uses, meets the requirements of the federal antidegradation policy [40 CFR 131.12].

3. s 363 [p.4 lines 34-35]:

"There shall be no discharge of pollutants to Class AA waters."

4. s 363 [p.5 lines 1-7]:

"Class A shall be the 2nd highest classification and these waters shall be of such quality that they are suitable for drinking water after disinfection, water contact recreation, fishing, recreational activities, hydroelectric power generation, navigation and as a natural habitat for fish and other aquatic life."

5. s 363 [p. 5 lines 13-20]:

"There shall be no discharge of pollutants into waters of this classification, and no deposits of such material on the banks of these waters in any manner that transfer of pollutants into the waters is likely, except that existing licensed discharges into waters of this classification will be allowed to continue until practical alternatives exist or January 1, 1990 whichever occurs first."

[Delete lines 21-29.]

6. Maine Audubon supports DO criteria in Maine's classification of rivers which are adequate for the survival, growth and reproduction of salmonids, species of which are indigeneous to essentially all Maine rivers and streams. [Both the Land and Water Resources Council and the NRCM have proposed language whose purpose is to achieve that result.]

7. Generally the definitions proposed by DEP at the September 30th meeting seem appropriate to be included in the statute, with the expectation that more detail will be included in regulations where necessary. We recommend that the definition of "without detrimental changes in the resident biological community" be clarified.

8. s 363-A [p.7 lines 19-20]:

"There shall be no new discharge of pollutants into Class GPA waters."

[p. 7 lines 22-25]:

"Existing licensed discharges into these waters shall be allowed to continue only until practical alternatives exist or January 1, 1990, whichever occurs first."

9. s364 [p. 8 lines 18-19]:

"There shall be no discharge of pollutants to Class SA waters."

Maine Business

Maine Chamber of Commerce & Industry • 126 Sewall Street • Augusta, Maine 04330 • (207) 623-4568

October 17, 1985

Tim Glidden, Legislative Assistant
Energy and Natural Resources Committee
State House Station #2
Augusta, ME 04333

RE: LD 1503, AN ACT To Amend the Classification System for Maine Waters and Change the Classifications of Certain Waters.

Dear Tim:

Enclosed please find the Maine Chamber of Commerce and Industry's suggested language changes for LD 1503, per your memo of September 27, 1985.

Please note that MCCI has coordinated with the Paper Industry Information Office and other industrial interests on the proposed language changes to the bill. In order to avoid duplication, I have not submitted comments on the sections with which the Paper Industry Information Office's comments are substantially similar to ours. I have submitted comments on those areas that are of particular concern for the October 22, 1985 meeting.

Thank you for your time and attention is this matter.

Sincerely,

Patricia A. Waugh
Staff Attorney

enclosures

PAW:mae

LD 1503: AN ACT To Amend the Classification System for Maine Waters and Change the Classifications of Certain Waters

1. §360 sub §1: Findings; Purpose:

MCCI has coordinated with the Paper Industry Information Office and other industrial interests in an effort to limit duplication of materials submitted to the Committee.

In regards to this section, MCCI remains concerned with the proposed language in LD 1503, subject to possible minor revisions however, the comments submitted by PIIO are substantially similar to those that would have been submitted by MCCI and thus will not be reiterated.

LD 1503: AN ACT To Amend the Classification System for Maine Waters and Change the Classifications of Certain Waters

2. General Provisions

MCCI has coordinated with the Paper Industry Information Office and other industrial interests in an effort to limit duplication of materials submitted to the Committee.

In regards to this section, MCCI remains concerned with the proposed language in LD 1503, subject to possible minor revisions however, the comments submitted by PIIO are substantially similar to those that would have been submitted by MCCI and thus will not be reiterated.

LD 1503: AN ACT To Amend the Classification System for Maine Waters and Change the Classifications of Certain Waters

3. Standards for Individual Classifications

1. Page 5 of LD, lines 33 and 34:

delete "recreational activities"

Justification: This phrase is potentially confusing and not necessary in that the language "water contact recreation" and "fishing" incorporate the idea of recreational activites.

2. Page 5 of LD, line 35:

add after "supply," "and discharges and"

Justification: This clarifies that not only may the waters be used for intake purposes such as cooling waters, but may also by used for discharges as reflected by language in later paragraphs.

3. Page 5 of LD, line 36:

delete "unimpaired"

Justification: This term may be confusing in that some changes in the habitat may occur even if hydroelectric generation occurs, and might be construed as to be an impaired habitat.

4. Page 5 of LD, line 39:

change "7" to "5" and change "75%" to "60%".

Justification: This change would not require an upgrading of the present B-2 rivers.

5. Page 6 of LD, line 5:

add after "waters"; "below a sufficient area necessary for mixing"

Justification: This phrase incorporates the mixing zone concept, thus making it clear that any changes to the aquatic community shall be measured below the mixing zone.

3. Standards for Individual Classifications continued

6. Page 6 of LD, Line 6:

delete "indigenous to" and add "existing in"

Justification: The DEP's proposed definition of indigenous is: "Species which occur in a reach of water or are known to have occurred according to historical records." This definition might require the waters to be suitable for species of fish which have not been present in the waters for reasons other than quality, i.e., temperature. By using the term existing, it requires the water to remain of suitable quality to support present species of fish, yet recognizes that some species may not be present for reasons other than quality.

7. Page 6 of LD, lines 12 and 13:

delete "recreational activities"

Justification: This phrase is potentially confusing and not necessary in that the language "water contact recreation" and "fishing" incorporate the idea of recreational activities.

8. Page 6 of LD, line 14:

add after "supply"; "and discharges and"

Justification: This clarifies that not only may the waters be be used for intake purposes such as cooling waters, but may also be used for discharges as reflected by language in later paragraphs.

9. Page 6 of LD, line 24:

add after "waters"; "below a sufficient area necessary for mixing"

Justification: This phrase incorporates the mixing zone concept, thus making it clear that any changes to the aquatic community shall be measured below the mixing zone.

10. Page 6 of LD, line 27:

delete "indigenous" and add "existing"

Justification: Same as number 6.

PIERCE, ATWOOD, SCRIBNER, ALLEN, SMITH & LANCASTER

ONE MONUMENT SQUARE

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WILLIAM L. HARVEY**

*MEMBER OF DISTRICT OF COLUMBIA BAR ONLY
**MEMBER OF CALIFORNIA BAR ONLY

October 17, 1985

Mr. David Elliott
Mr. W. Tim Glidden, Jr.
Office of the Legislative Assistants
Room 101
State House Station 13
Augusta, ME 04333

RE: Water Quality Reclassification Study (L.D. 1503)

Dear Dave & Tim:

On behalf of the Paper Industry Information Office, I enclose a redrafted set of proposed amendments and comments to L.D. 1503 for those areas of the L.D. to be discussed by the Subcommittee on Tuesday, October 22nd. Dan Boxer and I have worked with the environmental managers of various paper companies in order to draft the proposed amendments. We have attempted to be as thorough as possible. While I would like to say that the enclosed are the Paper Industry's final thoughts with respect to these sections of the bill, as a result of the Department of Environmental Protection's seminar on September 30 regarding bioassay and biomonitoring, we are still working on several definitions which we believe should be included in the legislation in addition to those set forth in the enclosed. We also may have further thoughts regarding new wording for several other paragraphs covered by the enclosed proposed amendments. I should note that the DEP's seminar did very little to satisfy concerns of a number of companies regarding bioassay, biomonitoring and how the Department intends to utilize these techniques to set water quality.

We look forward to meeting with you and the Subcommittee on the 22nd. In the meantime, should you have any questions, please do not hesitate to give either Dan or myself a call.

Thanks so much for your continuing assistance and cooperation.

Very truly yours,

John D. Delahanty

JDD/e
Enclosure

cc: Dale K. Phenicie, Chairman
Members, PIIO Environmental Affairs Committee
David A. Sargent

PAPER INDUSTRY INFORMATION OFFICE

Proposed amendments to L.D. 1503 -- AN ACT To Amend the Classification System for Maine Waters and Change the Classifications of Certain Waters

Page 1, Line 30 - Delete "and" after the word "wildlife" and insert a "," after "wildlife";

Add "water contact" between the words "of recreation";

Change the "." after "recreation" to a "," and add the following:

"for industrial process and cooling water supply and discharge, irrigation for agricultural uses, and for hydro-electric power generation."

Comment: These changes insure that recreational uses are specifically related to water quality; recognize what Maine waters are used for today and what certain waters must be used for in the future.

Page 1, Line 35 - Add a new paragraph after line 35 as follows:

"The Legislature further finds that Maine waters constitute a valuable indigenous and renewable energy resource; and that impoundments are unique in their benefits and impacts to the natural environment, contribute to the economic welfare of the State, provide important recreational opportunities, provide a unique habitat for fisheries and wildlife and that the water quality standards necessary to support designated uses in impoundments may be different from the water quality standards in unimpounded waters."

Comments: Although the treatment of impoundment classifications is one of the issues to be considered at a later date, PIIO believes this reference to impoundments should be placed in the Findings Section of the legislation. This language recognizes, as does the

"Maine Waterway Development and Conservation Act" ("Hydro-licensing law") that impoundments are unique, contribute to the economic welfare of Maine and to hydro-electric power generation. The language also clearly sets out that the Legislature recognizes water quality behind these impoundments will be different from unimpounded waters and must be treated as such.

Page 2, Lines 1-9 - Replace existing language with the following:

"The Legislature intends by this Act to establish a water quality classification system which will allow the State to manage its surface waters so as to protect the quality of these waters. This classification system shall be based on water quality standards which designate the use or uses to be made of a class of waters and set criteria necessary to protect those uses. The Legislature further intends by this Act to assign to each of the State's surface water bodies the classification which shall designate the minimum level of quality which the Legislature intends for the body of water. This designation is intended to direct the State's management of that water in order to achieve at least that minimum level of quality."

Comment: This language attempts to clarify the goal vs. standard confusion while setting out what is intended by this Act. It is PIIO's understanding that this Act was not to result in water quality upgrading but to redefine the present water quality statutory language. Standards should be set and used but the language should not allow for upgrading of classifications without legislative oversight. Also, L.D. 1503 does not define what is meant by "goal." Therefore to ensure clarity, this term should be deleted.

While the words "designated uses" are used in a general sense in this paragraph, the "designated uses" for each class should be defined with a finite list.

Alternative 2 essentially is the Natural Resources Council's language. It deletes "enhance" which otherwise would provide for upgrading waters without legislative oversight.

Page 2, Lines 28-35 - Delete and replace as follows:

Where natural conditions, including, but not limited to, marshes, bogs and abnormal concentrations of wildlife, or dams, diversions or other types of hydrologic modifications, cause the dissolved oxygen or other water quality criteria to fall below the minimum standards specified in Sections 363, 363-A, 363-B and 364 those affected waters will be considered to be attaining their classification, providing that existing uses are maintained and protected. For purposes of complying with any dissolved oxygen standard and impoundments, the applicable measurement shall be a daily average at a depth of 5 ft. or 1/2 the depth of the water body at a representative point of measurement, whichever is less.

Comment: This language recognizes that there are certain factors which may cause the DO of certain waters to fall below the minimum standards yet these waters should still be considered as attaining their classification. It also specifies where DO is to be measured so as to insure uniformity of measurement, especially behind impoundments.

Page 2, Lines 40-41 - Delete "for attainment of management goals" and replace with "for those waters to attain their classification."

Comment: This wording is the same as the Natural Resources Council except that it changes "reclassification" to

"classification." We assume "reclassification" is a typographic error. The purpose of the language is the same as the NRC's -- to enhance clarity by removing reference to "goals."

Page 3, Line 1 - Add "new direct" between the words "no discharge."

Comment: This is the first of several references in the legislation which raise the question of point/non-point discharges. While the other references relate to different classes of water, the basic rationale for inserting the words "new direct", or simply "direct", as the case may be, remains the same. Agriculture, forestry, mining and other land use activities result in indirect discharges which can never be eliminated. The U.S. Environmental Protection Agency ("EPA") does not attempt to regulate indirect discharges in the same way as direct discharges. The State of Maine likewise should not attempt to do so. This language makes clear that the prohibition is against new direct discharges. The Legislature should move slowly before prohibiting any discharge, direct as well as indirect. This is especially so when it is not yet public knowledge what waters will be determined to be Class AA.

The Department of Environmental Protection ("DEP") should be required to report back to the Legislature on who would be impacted, and what the cost and hardships would be upon persons who have all discharges, direct or indirect, prohibited. There may be someone discharging into what will become Class AA. Under the proposed language that person's discharge would be immediately in violation. At a minimum, this information should be before the Legislature prior to adoption of any "no discharge" language.

Page 3, Line 4 - Add "direct" between the words "new discharge".

Comment: While this sentence does not affect industrial users, the same concerns as discussed above apply. In addition, there is the question of how prohibition of any new discharge of domestic wastewaters may affect municipal combined discharges to a tributary of a GPA. This question should be answered by the DEP.

Page 3, Lines 6-7 - Delete "characteristics and".

Comment: This deletion insures conformity with previous sections of the legislation. If the designated uses are protected then the standards for the classification would be met. As noted earlier "designated uses" should be defined for each classification.

Page 3, Lines 30-31 - Delete "characteristics and".

Comment: See immediately preceding comment.

Page 3, Lines 31-37 - Delete the sentence starting at the end of line 31 with the word "All" and ending at the beginning of line 37 with the word "class".

Comment: The language in this paragraph is too braod and will be impossible to meet.

Page 3, Lines 43-44 - In line 43 add a "." after "range" and delete "or causes fish to be unsuitable for human consumption".

Or, in the alternative, define "unsuitable for human consumption" with reference to established criteria, possibly a U.S. Food and Drug Administration ("FDA") standard.

Comment: The words "unsuitable for human consumption" simply are too broad to leave undefined. Fish which one person might feel are suitable for consumption, another person may not think are suitable.

Page 3, Line 44 - Add the following new language:

"Biological water quality standards as specified in Sections 363 or 364 may be implemented only after public hearing in accordance with the Maine Administrative Procedure Act provisions on Rulemaking and review and approval of the proposed rules by the Joint Select Committee having jurisdiction over water quality classifications. Rules implementing biological water quality standards shall specify, in detail, sampling and analytical methods, protocols and procedures and the basis for satisfying the statutory criteria. In adopting any such rule, the Board shall solicit and consider information concerning the economic impact of such standards, and distinctions between conditions necessary to support lifecycles of cold and warm water species of fish.

Any person whose discharge is determined by the Board to be violating the applicable biological water quality standards shall be allowed a period of three years from the date the Board determines the standards have been violated to implement a program which the Board determines will result in compliance. During this time period, this person shall not be in violation of Sections 347-349 as a result of failure to meet the biological water quality standards."

Comment: This language insures biological water quality standards will be adopted pursuant to the Maine Administrative Procedures Act thereby providing interested parties an opportunity for input. It further assures the Legislature will review any rules adopted for this new testing method. In addition, the language provides a time period for persons to comply with the biological water quality standards. Biomonitoring and bioassay techniques have not yet progressed to an exact science. It would be unfair to insist upon

immediate compliance or to otherwise not allow persons the opportunity to comply without threat of violation.

Page 4, Line 15 - After line 15 insert a new section 5 which will contain the following new definitions to be contained in 38 M.R.S.A. Section 361-A, and renumber the remaining Sections of the bill consecutively.

1. As naturally occurs. "As naturally occurs" means those waters with essentially the same assemblage of aquatic species and numbers found in situations with similar natural habitats."

2. Indiginous. "Indiginous" means species occurring or living in a particular natural habitat.

3. Natural. "Natural" means absent retrievable man-induced conditions.

4. Retrievable Man-Induced Conditions. "Retrievable man-induced conditions" means those conditions causing changes in water quality which are due to man's modification of his environment which are not considered permanent and are capable of being restored or regained.

5. Without detrimental change to the resident biological community. "Without detrimental change to the resident biological community" means no significant loss of species or excessive dominance by any one group attributable to retrievable man-induced conditions.

Page 4, Lines 29 - Add "full body" before "water contact recreation".

Comment: The addition of the words "full body" clarify that Class AA waters should be of such a quality that water contact recreation of all types can be experienced without limitation as to enjoyment or exposure. This same language, "full body", also will be

suggested additions for Class A and B waters. For Class C waters, the suggested language will be "limited." The word "limited" recognizes: Class C waters will be the lowest water classification category; that some people may not choose to or desire to swim in Class C waters for the same period of time as in Class AA waters; and, that Class C waters should not be held to the same water contact standard as Class AA, A or B waters.

Page 4, Lines 29-30 - Delete "recreational activities."

Comment: "Recreational activities" is not defined. If "recreational activities" is directly related to water quality, it already is covered by water contact recreation, fishing and navigation and should be deleted. Otherwise the issue of water quality related recreational activities will be confusing. Deletion of "recreational activities" also insures conformity with the statement on page 1, lines 33-34 of the L.D., that surface waters shall be suitable. . ."for recreation in and on the water. . ."

Page 4, Line 30 - Delete "as a free flowing and".

Comment: If it is the Department's intention that all AA rivers are those rivers protected in the Hydro-Licensing law, then the use of "free flowing" would seem to be appropriate. If the Department desires to include more rivers in the AA rivers classification than protected by the Hydro-Licensing law, then "free flowing" should be deleted. It would be in conflict with the Hydro-Licensing law as this phrase would prohibit hydro-electric power generation.

Page 4, Line 34 - Insert "direct" between the words "no discharge".

Comment: See earlier comment for Page 3, Line 1. There is significant concern within the forest products industry that the proposed language,

without the addition of the word "direct," could effectively disrupt normal and responsible forestry operations by causing a woods contractor to violate water quality standards as a result of even indirect siltation of a stream.

Page 5, Line 4 - Add the words "full body" before the words "water contact recreation".

Comment: See Comments to proposed change to Page 4, Line 29.

Page 5, Lines 4-5 - Delete "recreational activities".

Comment: See Comments to proposed change to Page 4, Lines 29-30.

Page 5, Lines 5-6 - After "industrial process and cooling water supply" add "and discharge".

Comment: If Class A waters are to be suitable for industrial process and cooling water supply, then industry, out of necessity, must be able to discharge this water. Naturally, any discharges would have to meet the criteria for Class A waters.

Page 5, Line 13 - Insert "direct" between the words "no discharge".

Comment: See Comments to proposed change to Page 3, Line 1.

Page 5, Line 20 - After "exist" delete the "." and add the following:

"or until the discharged effluent is equal to or better than the existing water quality."

Comment: The addition of this language will not result in reduction of water quality. Rather, it will prevent undue confusion with respect to the determination of whether a practical alternative exists.

Page 5, Line 21 - Insert the word "direct" between the words "no discharge".

Comment: See Comment to proposed change to Page 3, Line 1.

Page 5, Line 33 - Add "full body" before "water contact recreation".

Comment: See Comment to proposed change to Page 4, Line 29.

Page 5, Lines 33-34 - Delete "recreational activities".

Comment: See Comments to proposed change to Page 4, Lines 29-30.

Page 5, Lines 34-35 - Insert "and discharge" after "industrial process including water supply".

Comment: See Comments to proposed change to Page 5, Lines 5-6.

Page 5, Line 39 - Delete "several parts per million or 75%" and insert "five parts per million or 60%."

Comment: It is industry's understanding, based upon discussions with the DEP, that this legislation is not to upgrade any present classifications. The language proposed in L.D. 1503 is a substantial upgrade for all present Class B-2 waters. This explicit upgrade in B-2 waters would cause substantial hardships for industry located on B-2 waters.

Page 6, Line 3 - Add ",after reasonable opportunity for mixing," between the words "waters shall".

Comment: This language allows effluent being discharged to Class B waters to be reasonably mixed with the receiving waters before being measured for its impact on aquatic life. Without this language, it would be possible that monitoring the impact on aquatic life would be required to be performed at the end of the discharge pipe.

Page 6, Line 12 - Add "limited" immediately before the words "water contact recreation".

Comment: Class C waters, under the proposed legislation, will be the lowest class of water in this State. The proposed addition of the word "limited" still provides that the waters will be suitable for water contact recreation but recognizes that people must not expect the same quality of full body water contact recreation as found in Class AA, A and B waters. In the present law, there is no mention of water contact recreation in Class C waters. Without some limitation on this phrase, this could be a substantial upgrade jeopardizing the continued operations of industrial facilities. Also, see Comments to proposed changes to Page 4, Line 29.

Page 6, Lines 12-13 - Delete "recreational activities".

Comments: See Comments to proposed change to Page 4, Lines 29-30.

Page 6, Lines 13-14 - Insert "and discharge" after the words "industrial process of cooling water supply".

Comment: See Comment to proposed change to Page 5, Lines 5-6.

Page 6, Lines 17-18 - Place a "." after "million" and delete "or 60% of saturation, which is higher".

Reference to 60% of saturation is eliminated. It is an upgrade and could have a significnt impact on present discharges.

Page 6, Line 24 - Add ", after reasonable opportunity for mixing," between the words "waters shall".

Comment: This language provides that a discharge be allowed a reasonable opportunity for mixing before being tested for whether it meets the standards for Class C waters. This language also recognizes today's practice of mixing zones. See Comments to proposed change to Page 6, Line 3.

Page 6, Line 27 - Delete "the" and insert the word "appropriate" between the words "maintain" and "structure".

Comment: See Comments to proposed changes to Page 4, Lines 29-30.

Page 7, Line 2 - Add "full body" before "water contact recreation".

Comment: See Comment to proposed change to Page 4, Line 29.

Page 7, Line 3 - Delete "recreational activities".

Comment: See Comments to proposed changes to Page 4, Lines 29-30.

Page 7, Line 4 - Add "and discharge" after "supply".

Comment: See Comments to proposed changes to Page 5, Lines 5-6.

Page 7, Line 19 - Insert the word "direct" between the words "new discharge".

Comment: See Comments to proposed change to Page 3, Line 1.

Page 7, Lines 30-32 - Delete "materials" and insert the word "pollutants".

Comment: "Materials" is not defined. "Pollutants" already is defined by statute.

Page 7, Line 39 - Delete "characteristics and".

Comment: Clarifies that designated uses which are set out for GPA waters shall not be impaired and eliminates confusion over what the characteristics of what GPA waters are.

12-11-85

A.G. concern — Staff advise with A.G. written statement meet before (DEP/OLA) w/ AG to discuss meaning summarize content of mtg to W.G.

Jan 6 9:00
written comments by Dec 19

Dir. Discharge - legislat is through a standard change. RR & trucks — vehicles — include in stds. of contract DEP - leave out irrigation (if Karen M. get ok from agric)

Impoundments - see T.G. handout

D.O.

Groves says fact that fact that current discharge attains W.Q. at spawning area should go in legis. intent, not letter to P.L. 10 year DEP.

Talk w/ S.G.

C ~~spawning~~ requirements intended to ~~apply to existing~~ new discharges only; existing licensed disch. will not be expected to comply.

Philosophical differences which W.G. should not be deciding on. Up to legislators to decide what approach to follow.

Be careful not to put words in W.G. members mouths

Antidegradation

(1) Jim D - prob. w/ exis. use = design. use & how relates to Dan B (6)

don't want to be limited by "defined to be ..." because "significant" designated uses -
not intended to use this to prohibit getting to application stage.
BEP needs to be able to look at situation on case by case basis w/ some guidance.

design. uses are too large. Need to protect parts of the bundle of uses e.g. rec in + on the water.

(6) meant to say protection of exist. use is not a licensing req. goal is to avoid implication that things have to remain just as is.

Dan B: clarify 6(a)
Nancy A - " 1 2nd sentence
Everyone submit statement of intent

(3) pub. hear. see note

(7 & 8) - DEP = unsure

Kean segments
Jim & Nancy will get back if still have concerns

rescind. biolog. comm — C & SC
use term in both ✱ because awaits
need for additional change in implementation

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discharge to tributaries of AA
Daniel will check # of occurrences & Nancy
will let us know

11-25-85 Water Quality

Anti degradation - Steve G - state's right to manage (with protection of "exist uses" & pub. part.) water quality which exceeds min "fish/swim" goal of CWA.

existing uses -

maintenance of W.Q. -

stab. ambient - increase not due to transitory ~~increase~~ improvement due to shut down of plant.

Any disch &c. pursuant - - -

Protection of applicant's right ——

Boxer objects to auth. of bd. to det. what constitutes "exist. use" which must be protected. Too much auth. for bd.

Existing use is not criteria itself which can be used to deny permit — only existing use which is necessary to protect water qual.

Define existing instream water uses as designated uses, which exist for purposes of a/d policy. and characteristics of each (factors actually being attained) classification

D.O.

Direct / Indirect
Jim D -

A/D -
Dan Boxer -

Impediments -
Jim D - general language on value of hydro - prob. w/
need to work on mechanics of G.P. class.

Designated Uses

It might be best to use "drinking water supply after treatment" throughout

and as a habitat for fish and other aquatic life characterized by the presence of natural and free flowing conditions

Other comments on 11/8 draft

p1 "State's" should be capataliyed twice in last PP

p3, 3.C. double negative in last 3 lines is unnecessary. Sentance structure in LD 1503 is better

p5, #5, line 10 "A discharger seeking a new or renewed"

p5, §465, 1., line 3, "and which the Legislature has found should be preserved"

p6, 2., line 5 "except as prohibited under" is too negative & should be replaced by "pursuant to".

What about definitions for "Industrial pollutant" and "Domestic pollutant".

Terry McGovern

WQ 11/19

Check address list for Dale Phenicies address

Impoundments

see existing language pg 307 of Title 38

PWO Proposal is intended to apply specifically to identified impoundments.

NRC objects to 2nd sentance & 1st part of ~~sec~~ third sentance

include in comments // Not intended to affect Big A application (Boxer)

Class C D.O.

60% saturation

will control when water temp goes below 77°F

DEP is writing "sliding scale" licenses which would rely on water temp.

GNP/IP claims that this is an upgrade they won't be able to meet.

DEP claims they could

Anderson this is just putting the C standard to what it ought to be

Boxer suggests some language in impoundments that existing situation is not affected 60% is intended to provide protection for new or expanded discharges

municipalities may have probs but DEP can handle that

11/19

spawning DO

DEP: 1/3 of spawning habitat is in Class C; thus the spawning standard is impt.

A When establishing a designated spawning areas; the DEP shall consider (criteria)

B leave it out but with statement of intent that all parties agree that spawning issues will be protected

C Existing & Renewals covered by statement of intent
New or Expanded discharges would have to meet the spawning standard
Spawning areas are likely to be those where the DO is relatively the highest.

Spawning Issues
1 when
2 where
3 how apply to each

GPA revise opening sentance
Revise intro to classification section using term "defined under § . . . as GP and not classified . . . " for "classified"

11-19-85 WATER QUAL.

Impoundments
- Zoar, GNP & IP not concerned
- process to see that designated uses being reasonably attained, if so class be deemed to be met.
- not sure wish of treating all impound. the same

Mattaseunk dam

existence of impound

Jim O - good approach, focus on identified problem, question use of 2nd sentence & 1st part of 3rd.

X in comments indicate not wishing to affect impoundments

MAS - wants cross-ref. to rivers bill, etc - rather than general language
Jim O - wants ref to D.O. only - not general characteristics

Class C

D.O. - 5ppm - in current law — need 60% for fish to live

steve & - 60% saturation - important for use of DO by fish
- spawning should be included - no impact on industry - don't relate to low sag points. Important to have to address new industry affecting spawning areas

Tim G. - GB does represent my quest of requirements
There are times & places when can't meet -
but that prob. occurs in impairments which has been
eliminated as an issue.

~~Steve G - it is a protection issue for new indus. affecting spawning areas~~

PIIO - reflect intent that current industry will not be
affected & intended to deal w/ new, or expanded dischargers.
Municipal treatment plants are most problematic - DEP
needs this to deal w/ seasonal discharges of effluent
PIIO - tentative agreem (pending agreem w/ Biologist)

Seasonal D.O. -
1/3 of Penobscot R spawning areas are in "C"
Pertinent = largest salmon reproduction area. ∴ if want
to protect WQ need to protect spawning areas
Comment - consideration given to seasonal stand. for C. But
since spawn. areas not identified agreed not to include
for now pending later id. & refinement of spawning areas
through licensing process. Bill Comment
PIIO support reduction on new licenses; existing licenses
are covered by current lic. procedures.
Comment - DO will be naturally higher in spawning areas
anyway = little problem for industry.
(Gen'l philosophy message to industry; need to protect broad resource)
Issues — when, areas, new or existing industries

seasonal discharge - NRC would like to present language

S waters - fecal coliform
- no discharge to SB - -

#4 Implementation schedule
p. 7 biological steward.

Those impairments shall be considered to meet their class if the bd. finds th

Water Qual
11/19/85

working group
ALC

Discussion of Dan's language re anti-degradation. I don't have handout - last week's.

General economic signif is what he's trying to show.
Hydro dup & Big A: Nancy - can we refer to State approval of hydro dup instead of restating it.

* - include comments to specifically exclude Big A.

Handout 11-15-85 - I don't have it.

Class C.

DO 1503:

5ppm - std from existing law
Steve: 60% saturation - support to drive O_2 across membranes.
Spawning std - should be included in C 'cause not a prob. in terms of compliance. Impt to protect spawning grounds from new dup.

Indus: - This 60% does constitute an up-grading of existing classifications - not supposed to happen here.

Dave - Sliding scale to accomodate diff. water temps.
∴ need for 60% in addition to 5ppm.

Steve - by separating out impoundments, you eliminate

~~water~~ class C waters that are not in compliance. ~~This~~ is a protection issue - for future development

Need 60% to provide partial pressure - 5ppm is not sufficient.

Steve - not an upgrading because licenses already restrict discharges to acceptable levels.

Dan: grandfather ~~so~~ incase DEP is wrong & there are places that currently cannot meet 5ppm/60%

* If goal is fishable & 60% is necessary for fish life (not spawning), then where is the choice.

Dale " I don't disagree with you, I think."
- Can DEP's intent: to protect C waters which are already in compliance* from new discharges, be stated somehow

Dan - wants to check out 60% with his biologist.

Jim - NRC proposed 6ppm - keep this in mind.

Spawning

Steve - Atlantic Salmon restoration commitment of State. We have that water qual today in spawning areas of Penobscot. Need to protect these areas. No upgrading.
Only for where spawning ground occurs.

Oct 1 - May 14

Steve: Restrict spawning criteria to designated spawning areas and set up a procedure to establish spawning areas.

Dale: Identify spawning areas - don't know where they are etc

~~Steve~~ ~~*~~ Put off spawning std in C - till spawn. areas are identified next yrs. Then amended law. ~~Amend~~ in legis. intent include intent to protect spawn. areas in Class C once areas identified.

- ~~Need~~ Include spawning criteria for New Discharges.
- Process to identify spawning areas:

Philosopical issue: Tougher stds and attracting new industry to Me.

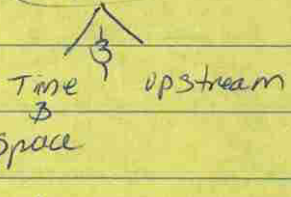
Other C issues

- Bacteria stds: Seasonal stds re: chlorine. Gap in public health protection from will present language.

~~[illegible]~~

Defn's - p. 13 #8

Resident Biological Community: Means the community of aquatic life existing in a habitat prior to the influence of a discharge.



Great Ponds

§ 368: word classified line 36, 37. p. 9 CD 503.
Δ classified to Defined.

Implimentation schedules: see p. 7.
~~① Review of~~ see p. 54 for those not in compliance now. include this list in Cmte rpt - as part of library of legs. intent.

p. 5 - See note.

Water Qual
11/13

Name	Address
VAL THOMPSON	Central Maine Power Co - Augusta
Pattie Waugh	MCCI
N. Anderson	Maine Audubon
James Dow	Natural Resources Council of Maine.
Jim Grippe	International Paper Co.
John Dekahanty	Pierce, Atwood - PIPO
Dale K Phenicie	Great Northern Paper
Ken Young	D.E.P.
Steve Groves	DEP
Dave Courtemanch	DEP
Eric Hall	EPA Region 1

11-13-85 Water Quality Reclass

§ 364 (1)

1st ¶ - Boxer - include "community" that not intent that 0 discharge be used for law suit, Gross - also state that using CWA as basic outline

2nd ¶(1) "when appropriate" Boxer

(2) Dow - not consistent w/ this ¶ which is to parallel CWA - may be appropriate elsewhere in Act. (Gen'l Prov.)

(or next ¶ - This class. sys. shall ensure that no discharge pollutant ....

P110 ¶ each uses as described in water class. standards

characteristics - 1 & DGP modify to indicate what characteristics failing about in water quality stand.

~~Class C~~

Reclassification - MAS - 2 issues - classifying sys & water body class.

leave in "upon petition ..."

Antidegradation —

DEP - orig. phil. was that DEP could degrad. wat. qual to minimum goals of Clean Q

EPA (1) existing uses be maintained (2) where wat. qual exceeds standards that qual. will be maintained unless . . .

States need to develop. procedures

MCCI/NRC -

1. existing uses - Boxer - broad gen'l language in stat. as how define existing uses and then det. by on case-by-case basis with application, rather than define by rule.

state can be flexible as want, as long as specify manner in which decision will be made.

Grover - all actys which affect wat. qual. are covered by permit or wat. qual. cert. which have pub. forums so can have existing use covered in permit process.

Boxer - nothing in this section shall be construed as limiting existing uses (or other uses) of water under existing law.

For comment clarify that applies to hydro, causeways, bridges, etc.

Dunn - need to define exist. use. (upstream)

Grover - Nothing in this section shall affect existing use shall be det. at the time of licensing, under any provision of law.

Nothing in this § shall be construed to limit or preclude an applicants rights to apply under CWA §401, FPA §, §403 and other state law

Krieger, Comment - reflect that permit under the other law doesn't allow degradation to existing uses.

Definitions –

C – ossun

PHO { 9.5 DO
5 ppm/60 ℄ – upgrade?

Water Qual
11/13/85
working group
ACC

Handouts: New AA package
MCC I
P110 - language & letter

(1) General provisions
- question of use of word Discharge as a designated use.

P110 - "Tourism" out - not needed - part of industry.
"restore" - need to clarify meaning
"elimination of discharges" - (not even "where appropriate")
- the elimin. of discharge is not mandated.
"characteristics" - not clearly defined term - "designated uses" is enough.

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0 - Discharge Question: - include comments re: intent (ie where appropriate is in accordance w/ FCWA) in Statement of Fact.

Nancy: "where appropriate" doesn't add anything to the bill - implicit. an unnecessary qualifier.

p. 2 ~~#2.~~ ~~st~~ # (#2)
- DEP - use of word "quality" - Classification instead.

#2 (2) - goals - levels of goals - (2) - discharging shouldn't be a goal. - it's a mechanism by which we get to WQ goals.

Findings #1, drop word Tourism. Add in $ on water.

flea-flowing intimacy)

"Characteristics" - actually a variant on designated use.
- issue is "free flowing" - is this the only real thing not included in designated use? If so, just say d.u & free flowing.

Criteria: #
Charac's: descriptive
D.U: free flowing?

Dale: Why put characteristics in? Not in CWA, nobody clear - adds confusion.

(*) what is a char vs a d.u., vs, criteria

just describe (or list) "characteristics" - ~~and drop the word~~ ie, "with x, y & z characteristics."

BUT:
Don't change class A.

"Protection & propagation":
patty; plio: inclusion of "& propagation" would lead to DO std of spawning in other sections. Don't want automatic upgrading of ~~not~~ non-spawning waters.

So, add "where attainable" à la CWA.
& help propagation.

Class B. cont.

Spawning:

MCCI - identification of spawning areas in B & C is unclear & ∴ unacceptable.

DEP - not really an issue - no B classified spawning areas in industries' ~~sp~~ discharge areas.

~~add — successful spawning conditions~~

change successful to ~~or~~ optimal before spawning.

~~Ad~~ " ~~optimal spawning~~

Defn indigenous: which are or can be supported in a reach of water

will be a prob w/ conte - ie "can be" supported?

ie, not there but

Dale: How to define what species of fish? What's the record.

last # of B:

mixing zone:

After adequate op. for mixing.

under general provisions, ref to sec 45 1 includes mixing zone.

~~Class~~ Procedural issues

Audubon's comment re review of:

① rivers

② stds.

- ok. to deal w/ as separate issues
- a procedural mechanism that should be in place - separate from anti-deg.
- on petition the Board may.

fish unsuitable for consumption

~~21 CFR 342~~

* 21 USC 342

Nancy - what about B + C discharges into GPA's?

Anti Degradation:

DEP - original intent of 1503: would apply only where some kind of unforseen event improved WQ to next highest class. (not w/in class).

EPA - AD lang same since '75

① existing uses to be maintained.

② Where current WQ exceeds spec's for given class to be maintained, unless sig ee. benefit.

w/in class ⇒ or between classes?

③ Where a decision is made to allow degradation, existing uses shall be maintained. ~~can't be lost~~.

* existing use to be determined by states. (ie, attained designated uses)

so, must define existing uses to allow for approprate AUs (ie, free flowing is not a des. use).

Now designated uses are same in AA, A, B, C & once attained, ∴ so are existing uses. ∴ can go down easily. So, Δ line 7 p 3 to "existing and designated uses."

Steve

* Big issue: define existing uses. - fed intent was not to block Dep.

protect water qual which is responsible for existing uses

* make existing uses determinable at time of licensing by DEP. But at least define the universe of possibilities.

Dan Case by case basis to det. existing uses w/ understanding that 401 Rights protected.

Ron: No need to include protection of existing rights clause. Concerned that such a statement will fiat the Boards right to turn down an application.

Definitions:

endigenous - all species don't need to be there, just that the water quality must be able to support them.

What acceptable records? "State & fed historical records"

Detrimental Δ's - define "significance of Δ's" in Reg's

Water Quality
11-5-85

Name	Address
Jim Dow	Natural Resources Council of Maine
John Delahanty	Pierce, Atwood for PELC
Ken Young	DEP for People of Maine
S.W. Gwinn	"
David Courtemanch	"
Wil Côté	International Paper
DAVE WEFRING	" "
JIM GRIPPE	" "
Jim Peterson	Boise Cascade
VAL THOMPSON	Central Maine Power Co.
LEIGH C. ALEXANDER	CMP Co.
PATTIE WAUGH	MCCI
DALE PHENICIE	GNP / PNO
Karen Masser	NWRC

11/5th WQ

Review charge to group ; process

Comments on §1 of 10/24 memo

NRC/JD - legislature could add new AA rivers in the future

P110/JDel. - Reserves judgement on last 10/24 §1 bullet about waste discharge as a designated use

NRC/JD - hazardous mater is not explicitly included in definition of pollotant ;

Comments/Discussion of §2 of 10/24 memo

Findings ; purpose section

P110/DP : doesn't like zero discharge language ; unrealistic

Groves points out that CWA requires a 0 discharge goal.

Phenicie says "sure but Feds don't really expect to achieve this. This could allow "racheting" of discharge quality

Doud : maintains that state law ought to reflect Federal law

Courtemanch : add "where appropriate" to zero discharge goal

⇒? W.11 Cote : IP : reads general provision from Florida law

Discussion of terms criteria vs characteristics

P110 would prefer not to have "characteristics" used as a term distinct from uses or criteria

Direct / Indirect : include term direct ; define w/ EPA "Point" definition

MCCI
P110 DEO OK

11/5 WQ

Definitions

natural: discussion of DEP and meaning of phrase "as if in a state of nature" to cover discharges to A water which are "better than or equal to".

Groves argues that if hydro is a desquated use, then hydro ~~conditions~~ induced conditions would be considered naturally occurring.

The impoundment creates a "GPA" class and gets rid of the riverine classification and thus dudes the DO standards

11-5-85

#1

2nd - other uses could be added to AA Jim D

DB call last - "waste assimilation & transport" - Jim D means same as discharge? wants to reserve argument til later

7th 9th include hazardous - DE, as is

---

§464 sub-§1 - goal of eliminating pollutants is broader than current, existing programs

David L - "eliminate where appropriate"

Bob C - Fla statement of goals

w/o treatment necessary to protect designated uses

[PHO will redraft]

need for interim goal? -

criteria/characteristics

David C - crit. protect charact & uses

PHO - need to see how 'characteristics' concept unfolds in rest of bill - may have to come back at language

DE - rule-making - PHO may need to come back depending on definitions of terms - defer Check w/ Jim

Comments & summary of rules review methods

DEP - mixing zone not needed because of §451

Reopen licence
DEP - applies only to biological standard
PHO - need to say reopened & establish a compliance schedule

How to design treatment facility under construction by eff. date of dec't know what biolog. stand. are?
Not many will be started before Jan 1, 1987.

AA - sec. in 402

do you need to differentiate between quality of activity in diffent classes or does wat. qual. criteria do that in fact?

Discharge
to direct discharge of pollutant to AA
§502 (14) CWA
direct =

Definitions — "as naturally occurs"
use NRC definition " unaffected by

"natural" - DEP definition? PHO need qualification
" w/ normal range of variability"
PHO will develop

A – recreation in doors
no direct discharge ; new direct discharges
existing licenses

B – recreation
Direct discharge
raised DO standard for Oct →
apply only to ~~designated~~ identified "spawning areas"

Water Qual.
10/22

Name	Address	
Andy Smith	NRCM: 271 State St., Augusta, ME	
Nancy Anderson	Maine Audubon, 118 US Route One, Falmouth 04105	
Jim Dow		
Karen Massey	Land and Water Resources Council, Sta. # 38	
Pathie Wright	126 Sewall street Augusta	— MCCI
Barry Ellis	P.O. Box 179 Guilford Me	Guilford Industries
W. Dana Perkins Jr.	Box 3553 Portland, Me 04104	Portland Water District
Mary J. Herman	71 Sewall St Augusta, Me ~~15 Baker St, Brunswick~~ 04330	Edwin Herman / CMP
Dale Phenicie	Great Northern Paper	Millinocket, Me
Dan Boxer	Pierce, Atwood: for Paper Industries Info. Office; Portland	
John Delaharty	" " "	
Ed Gorham	Maine AFL-CIO	
Wil Côté	International Paper Co.	Norcross, Georgia
Lauren Davies	Maine DEP	Augusta, ME
Terry McGovern	" "	
David Courtemanch	" "	" "
Steve Groves	" "	" "
Ken Young	" "	Augusta. Me.

10/~~25~~ Water Quality Reclassification

TG handed out material

- Jim Dow
- Nancy Anderson: eliminate worry ~~over~~ water quality: Full contact water.
- Brief statement by Phenicie explaining inclusion of impoundment language

Phenicie: Water Contact recreation "in or on the water"
Anderson what about "in or on the water" used directly

Pg 1 Discussion around the inclusion of discharge in the (goal) general statement.
Steve Graves: zero discharge is not realistic; having discharge included in §360 is not that big a deal
Boxer: leaving out "discharge" will give somebody a handle to sue against a discharger
Dow: leave this general as its supposed to be
Discussion of including NRC-2 "surface" in the title.
Impoundment proposal postponed

Pg 2 ~~Pg 2~~ PIIO/NRC language replacing 1st ¶
discussion over whether or not "enhance" should be included.
Discussion of "characteristics" deferred
Definition of "natural conditions"

SG suggests 3/1 including "direct" and defining direct discharge similar to EPA point-source.
Boxer suggests that there still maybe a problem since logging could be covered to be interpreted

the dividing line on Atwater

so as to include Scott in a C stretch

DEP proposal

Upstream to Madison B

Madison to Abbaye Pt C

Abb. Pt to Oceano B*

PIIO will check w/ Scott.

* qualified on what existing quality is.

Water Quality. WQ mtg 10/22 ALC

I Comments

Jim Dow: NRC

① Me. citizens have made a huge monetary investment in Coastal waters. (over 100,000,000 in 87. Bond issues.) This investment must be protected.

② Water Qual is a long-term issue.

Clean Water Act: Backbone of clean water effort.

2 goals ① eliminate discharges.

② protection of fish, wildlife, shellfish & ③ recreation in & on water.

So, beware of effect of language changes.

Nancy Anderson - Me Audubon.

① Full water contact recreation. goal is no Discharge

~~Jim Dow~~

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Nancy: Inappropriate to have "Discharge" as a designated use (as per p110's suggestions).

Intent is management goals for H_2O. Discharge is not the goal. So, not to be specified as a designated use. Doesn't mean ~~the~~ no discharges. A philosophical statement.

10-22-85

page 1 of 2 pages

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View wat. qual. issue from long term perspective to see when we want to go.

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§360(1) P/10 - water contact

1st Q NRC - OK

MAS - object to adding discharge as design use

2nd Q NRC

Manage St. waters for discharges? - in practical sense are doing so.

P/10 language is too specific for broad, philosophy section.

Draft (not too much detection on drafting)

cover in gen'l, philosophical language for purpose & purpose (allowing discharges)

Class of Maine Surface waters - P/10 has no problem w/ issuing on surface water.

DEP

(will it affect §363-B - G.W. class standard.)

Reed - does industrial process cover use & discharge

Page 3

3rd ¶ PIIO - concern w/ enhance

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What characteristics affect what designated uses? Drafty - provide characteristic summary; try to establ. acceptable approach.

"enhance those waters which are not currently meeting their classification (goal) (standard)

Page 5 NRC - delete 363-B - ok PIIO, DOE, NWRC

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was this agreement?

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No "new" discharges to < 10 sq mi

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can we substitute "pollutant" for list of in bill

Bottom sediment

① unobjectionable (substitute for unsuitable) OR
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series of staff papers discussing
- legis review of rules (APA etc vs haz. waste rev. e.g.)
- DEP/EPA licensing process
- Fed. Wat. Qual. Stand. process

p. 10

Legis rev. of rules -

P. 9. - D.O. only methodology should be included in regs (criteria should be in standards)
PWO - deep measurement of DO ok to be estab. by regs

Incorporate PWO & NRC rule adopting language. NRC/MAS add to 'economic impacts which will be considered.
"including but not limited to eco. & environ. impact of such ..."

PWO - 2nd Ft 3 yrs -
DEP use upto 1988 (Fed requirmt?)
deal w/ those that occur after that thru negotiation in consent degree
Fed might not allow discharger to violate stand- until 1988. Groves - can work out language if all agree on date.

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Boxer - data is less, than method - wants to limit redress to license - not wat. qual. violation enforcement act.

Groves - after 1988 should be an enforcement action

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§347 (3) expand reopening of licenses to make clear can reopen license based on biological standards violation

Any person whose discharge .... shall be handled under §347. EPA will have to sign-off

P-N PID §on defns

additional definitions { designated use
oxygen standard
unimpaired habitat

Defer definitions

P12 P110 at bottom
"full body"

Groves - Gen'l statement at beginning that there are to be different classes of water to be managed differently.

what about using "safe" for water content rec, (rather than suitable)

p.13 P110 - resolved

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P. 13/14 Should there be discharges allowed to Class A? There are none now; provision was originally allowed for mining wastes - Boxer only way for mining industry to exist. Groves - not a problem now; suggests not touch it. MAS - ok

P. 14 - P110 - draft language for "recreation in and on"

- discharge not allowed as designated use

- "direct"

- "or until ..." P110 withdraws

10/25 WQ

Discussion of which rivers are included in AA class
(apparently common understanding reached)

DE asks about special situation in <10 sq mi watersheds

Discussion about Regulatory requirements:
- explicit reference to Leg. "review & approve"

Michaud asks when regs will be ready

Will bio-mon standards be implemented via relicensing & enforcement actions

Modify §347 to make it clear that implement. of bio monitoring standards occurs through relicensing not through enforcement OR modify P110 proposal on pg 10 10/25/86

Graves suggests "general/physiographical" statement that recognizes differences between quality of water for water contact recreation

Boxer proposes loosening discharge requirement on A in opposition to Andersons proposal to have no discharge

To deal with DO in B class move the dividing line on Kennebec so as to include Scott in a C stretch

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Class B

D.O. standard P. 17

Groves - leave B standard same; change Kenn. R. to C span Augusta to Madison & B span Madison to Solon

---

EPA D.O stand. proposed

---

suspend bacteria criteria in summer months

chlorine is toxic/expensive, don't want to put any more in water than necessary.

NRC language on spawning & egg incubation -

Groves - lit. says need additional oxygen during spawning

P/10 didn't seem to have prob. w/ temp for B. Both have prob. w/ C

9/24 Water Quality Attendance

S Usher
R Coles
R Michaud
R Laws

D. Elliott
T. Glidden
A. Colnes

Name:	Address & Phone:	
Karen A. Massey	Land & Water Resources Council, Sta. #38	289-3261
Nancy C Anderson	Maine Audubon, 118 US Rt. 1, Falmouth 04105	781-2330
James Dow	Natural Resources Council of Me.	622-3101
Ted Burnett	International Paper, Jay	
Jim GRIPPE	INTERNATIONAL PAPER Co., JAY	897-3431
Hank Magnuson	Paper Industry Information Office, Augusta	622-3166
PATTIE WAUGH	MAINE CHAMBER OF COMMERCE & INDUSTRY	623-4568
Terry McGovern	DEP - Statehouse Sta #17	289-2437
Dennis SASSEVILLE	NORMANDEAU ASSOCIATES	(603) 472-5191
Mary Ann Lynch	Verrill & Dana Two Canal Plaza PHd 04112	774-4000
JOHN SLOCOMB	INTERNATIONAL PAPER Co., STERLING FOREST, NY	914-351-2101
Leigh Alexander	CMP Co	623-3521
VAL THOMPSON	CMP Co	623-3521
Susan Davies	DEP Statehouse Sta 17	289-3355
David Courtemanch	DEP	289-2437
Matthew Scott	DEP	289-3355
John Sowles	DEP	289-3355
Ray Pepin	S.D. WARREN - Westbrook	856-6911
ED MARINETTI	STATLER TISSUE Co.	623-4731
TOM GRIFFIN	S.D. WARREN Co.	453-9301
Barry Ellis	Guilford Industries Inc	876-3331
William BALL	Acheron Engineering	368-5786
James J. McKeown	NCASI	617 381-3254
JOHN D. Delahanty	Pierce, Atwood, Portland - PIPO counsel	773-6411
Dan Boxer	Pierce, Atwood	" " " "

JAMES N. KATSIAFICAS	MAINE MUNICIPAL ASSN.	623-8428
PETER THOMPSON	TROUT UNLIMITED	478-2644
Jim Peterson	Boise Cascade	364-4521
WILFRED A. CÔTÉ	INTERNATIONAL PAPER	404-447-1474
Phyllis Gardiner	Attorney General's Office	289-3051
DALE PHENICIE	GREAT NORTHERN PAPER	723-5131
DAVID PEAKES	BOISE CASCADE CORP	(207) 257-5972
DAVID L BISHOP	FRASER PAPER LTD	(207) 728-3321

9-29-85

Impoundments - DEP, David Gartenmaier

variance granted when applicant shows that because of hydrological configuration of water there will be deep water zone which will not mix as if it were free flowing - then would be free of wat. class stand. which would normally apply.

Similar to natural phenomon which occurs in G.P. = reason why G.P. don't have D.O. standard for that reason.

Dan Foxer - PWO General Industry comments (excluding impoundments) Overview of paper industry concerns. Language section is preliminary - needs more discussion.

① Description of classes - terms describing characteristics of uses - interpreted thru rule-making input by legis. Legis should list terms to be clarified - not at discretion of DEP

Should all downstream H_2O's from mills be suitable for water contact recreation

② Impoundments - DEP language not suitable. Fed precedent for exempting impoundments. Fed reg allow exemptions if conditions warrant. Impoundments are not like rivers

③ DO for class B waters - too high can't be met.

④ Water segments meeting class stand. of higher water class should not be "downgraded" to higher class
⑤ Discharge to trib. of G.P. & indirect discharge to water bodies. "Discharge" too broad – woods operations, Fed. law draws a distinction – St. should too
⑥ Process for bringing into compliance
⑦ Toxics

Patti Waugh – CCI
① Definitions needs more clarity. All work together to resolve
② Industry costs – bear in mind when discussing bill
③ Effective date – time to indus. to come into compliance – Jan 1 1988 (at least 1 yr.) rather than DEP consent decree
④ Fiscal note in DEP staff to carry out biomonitoring

Rachael Lesko – IP Manager (also on behalf of Boise Cascade) Serious concerns
① Class C biological stand. – "support all indig. spec. of fish" impossible – needs def. – we need rule guidance. DEP proposed standard lead to further ?'s. Not fair to impose this.

mills to higher standards than mills in other states. Hard comm to require strict compliance w/ APA in development of biological standards w/ full record & pub part.

② Clear entitlement for "water contact rec" = change from present law. Who det. suitability for swimming. If color, odor etc (purity) is required by DEP – mills cannot meet Stand.

③ Det. of compliance – are we in position of being out of compliance w/o knowing it until DEP makes det. of acquatic conditions. Higher water qual. must be maintained = don't know what water qual. stand. must be met in advance.

④ O.C. Natural impoundments – Eco. impact of restrictive environ. standards. Cannot guarantee standard will be met behind impound. – which are one like lake than rivers. Hydro pow means impound & impoundments do not resemble free flowing wat. in all respects. Gulf Island.
EPA reg allow removal of establishment of sub category if dam, etc, precludes use

Cannot guarantee will meet proposed standard on day in day out basis = increased cost or cut back in production. Could not receive discharge licence.
They recognize reality that impoundments are more like lakes than rivers.
Prob- compounded by lack of std. by DEP.
Need to meet standard in all water at all times is unrealistic. Should be clarity average at 5' or at ½ depth which ever is less.
No guarantee that Gulf Island could meet prop. stand. no matter what.

Dennis Sassaville - Assoc.
Problem w/ impoundments - characterization & control.
Impoundments have been existing for any year ∴ have evolved into a settled biological state. are really no different, except for greater flushing rate, than lakes.
Effects of impond. -
slow rate of flow - thermal stratification occurs in deeper impoundment.
- clearing of water is slowed
- siltation
- different algal growth
- " habitat for fish & other aquatic life

- affect chemical interactions
- weed growth may occur
- fluctuation in water level affecting biological community.
- more susceptible to environmental impacts

William Ball - Engineering Secs

Biomonitoring system - improve legis. clarity
① Tribute to development & use of biological monitoring limitations. (DEP/EPA are writing permits using bio monitoring procedures - there is disagreement on the use of the procedures)
Input of affected communities into regs.
② Definition of criteria for A, B & C should be clarified. Legis. estab. better biological criteria for development of standards. for ea. class. Should recognize differences in wat. class in legis.
③ DEP should wait for EPA to develop national biomonitoring criteria rather than be first state to do so. (haven't contacted all - 30?)
Region 1 pushy biomonitoring.

Licenses being issued based on 1 or 2 persons interpretation of what should be issued (based on biomonitoring) (20 of 3 in ME) not on written standards. → under Region 1 control in conjunction w/DEP. Reg. 1 says existing st. law allows it.

Biomonitoring would not require vigorous statewide monitoring effort. Staff is very competent. Can't speak to need for more staff.

James McQueen - Eng. mgnr of Paper Industry for water qual. - Taft
2 aquatic research centers.
Results of bleached craft by product on quality of receiving waters. - Shows sensitivity of biologic community - some due to craft process effluent - some not.
Acute test - not effective
Chronic test

looking at total community year after year. Difficult to transfer biologic findings to specific aspects of stream unless all circumstances are same
Difficult to relate what happens in test sample bastetracone and what goes on in stream as a whole. Test good for screening tool but difficult to apply generally

Dale Florence - EPA
Tom Griffen SD Mines - Somerset
Effect on future growth at mill. Computer model by Penn. R. Indicate no more BOD affecting discharge in Summer which precludes mill expansion. Models are conservative

& combined w/ DO limits of 10/5.0 make
exposure difficult

John Casey - Trail Whitney - atty
above stds of Be art waste treat. plant w/
reductive discharge trains. Need renewal
& EPA trying to require more restrictive
conditions. Need more guidance as to how
DEP/EPA to use bio mon. to write
licenses/permits.
Direct DEP to write rules governing
use of bio mon.

effluent discharge to meet DO quantity-qual. std.

Dale Pierce - GNP
Biomonitoring - indus. must know what stand. to be held to
point - numerical stand. for level of impact
impoundments
DO standards in classifications.

MATT SCOTT -

T 38 § 241

Lakes / Impoundments - lakes are different. Never intended to class. impnds as other than flowages because they are receiving discharges. Not typical of lake sys. in NC. Impoundments driven by sediments they receive & by short retention time.

Biomonitoring - St. has been in biomonit for 15 yrs. Work w EPA Reg & industry to develop further. Have 4 staff people to do so. Consider this sufficient.

Welcome guidance from legis. on content & direction of rules to be promulgated. Cannot adopt rules w/o APA procedures.

Biological indicators remain a useful indicator of health of water community - rather than relying only on toxic/quantity? standards.

Many of class B & C current standards are more restrictive than proposed class. sys.

9/24th Water Quality

① brief summary of whats in the package (TG)

② Impoundments DEP (Courtemanch) proposes variance language (see written). This would tend to applied to the deeper portions of impoundments.

Dan Boxer - will deal with impoundments is order

General P110 presentation

General concerns

- Concepts used to define classification
  These should be interpreted through rule making w/ specific guidance from Legislature
- Distinctions between classifications are not always clear
- Impoundments - shouldn't have to meet the same standards ~~are~~ as rivers. Is not enthused about the variance procedure
- Claims there is Federal precedent for exempting impoundments
- Concerned about the increase in Class B DO standards
- Concerned about anti-degradation language
- Doesn't like restrictions on tributaries to Great Ponds
- Concerned about "indirect" discharges
  should be a distinction between PS & NPS
  EPA makes the distinction (?)
- There should be a timetable for compliance

- how are toxics going to be treated under the new bill? (implications of the new Clean Water Act)
  Questions whether or not biomonitoring (bioassays) are sufficiently developed tools for this clean water program

Patti Waugh comments similar to written
- emphasis on clarifying definitions
- keep in mind cost/benefit analysis & effective date for compliance rather than consent decree mechanisms
- thinks ~~they~~ DEP would need more staff for biomonitoring

Newland Lesko IP & (also supported by Boise)

mill manager

there are lots of problems w/ existing & proposed law. don't have specific language

⊙ Biological standards on Class C waters
- proposed DEP guidelines only lead to more questions
- shouldn't force Maine mills to meet standards other mills in other states
- All interpretations should go through rulemaking
- All water should be swimmable in proposed bill - Who decides what is swimmable?
- Enforcement & classification doesn't want to be in the position of not knowing if they're meeting the law

- Doesn't want anti-degradation
- Have to "know the rules of the game"
- Impoundments - specifically concerned with Gulf Island Dam - IP management won't invest in mill until this issue is clarified.
  - slower currents; higher sedimentation (organic); temperature stratification
  - Not really even a problem - WQ in Gulf Island Pd is fine for species that live there; the life stages that live there
  - EPA provides that state may remove a designated use from classification of specific segments
  - DEP has indicated that 2/3 cut of BOD may be necessary; Gulf Island Pd might still not meet standards
  - Technology is not "readily" available to attain consistent reduction of necessary amount
  - Recognize reality -

Dennis Sasseville (Normandeau)

- claims that old impoundments have settled into a "status quo" with regard to WQ
- There is a lag time in response to clean ups
- Are impoundments "better" than rivers? not here to argue that; they are more susceptible to detrimental effects

William Ball (Archeron Eng) works w/ industry; DEP; clients

- People are used to the existing system
- People, of course, don't like change but specially if it's not well understood.

⇒ - The burden is on DEP to demonstrate workability of bio M & bio-A

⇒ - Time Frame should be established. DEP & EPA have already licenses with Bio M & Bio A requirements Formal input is needed

- Clearer definitions of A B & C classifications needed
- Biomonitoring is possible but better definition of "goals" in each classification (I think he means "uses")
- Careful consideration of uses; should every river be able to support trout.
- How to handle multiple discharges to single waterway
- Should DEP wait for EPA direction

⇒ - Is aware of 4-5 Draft permits (~~DEP~~) proposed (w/in last 2 months) that have Bio A & Bio M requirements. About 15 in New England.

- Feels that EPA Region 1 is forcing alot of this action at this point.
- Basically, likes the new approach & thinks that it would rarely impose additional burdens beyond current system

James McKeown NCASI & Tufts

- Research oriented
- see written testimony
- Theres too much "noise" in the natural environment to use bio-monitoring
- Laboratory testing to reduce "noise" is difficult to transfer to situations in the real world.

~~Dale Phenicie~~

Tom Griffin SD Warren (see written)

Discusses making all 3-2s → C under new scheme)

John Casey Pratt & Whitney

Here treatment is "state of the art"; more stringent than "Best Available Technology Treatment"

EPA is promulgating new effluent standards

They are up for a license renewal

- Bio assays ~~are~~ have been used to calibrate effluent #s
- Real problem is there is "no guidance" from legislature
- P&W disagrees with testing methodologies

Bill should include direction to promulgate regulations.

(7)

Barry Ellis
Val Thompson } ?
Dale Phenicie

SUMMARY

- emphasizes need to have standard testing procedures
- ground rules must be explicit
- would like to "numerical standards for limits on NPS" (turbidity standard is a possibility
- Impoundments & DO standards

— LUNCH —

- No additional comments on ~~spec~~ General Comments; Issues
- Apparently Happy w/ MRA language suggested by LWRC

Matt Scott

① States that he differs w/ S. Groves

② Impoundments were never intended to be classified as lakes & they receive discharges; so Wyman doesn't receive discharge so it is treated as a lake; whereas Gulf Island Pond receives large discharges [So is an impoundment classified on the basis of whether or not it receives a discharge?]

③ Reads letter from Ruckelshaus (Feb '84) that promotes bio assay[; bio monitoring (?)]

④ On specific comments on Kennebec

(5) This has been a 7Q10 year although on regulated rivers (incl Penob, Kenn, & And) flow can be maintained.

(6) Regarding interpretation of biological indicator - despite uncertainties, these are valuable; there was probably alot of skepticism of DO & pH when that was first introduced

Next meeting 10/22 9AM get room

Monday Bio Mon. Seminar

9/24
ALC

Impoundments -

DEP proposed amendment to allow lower DO in deeper portions of impoundments so long as designated uses not affected. Mimics the ecological situation in naturally stratified lakes. Great Ponds don't have a DO std. for this reason.

PIIO - General Presentation. Dan Boxer. PIIO Environmental Sub-Comm and Maine Chamber.

① Concepts used to support classifications.
- Industry wants to know rules specifically: Bio monitoring needs to be made into a uniform system & established by the legislature.

② Consequences of new classes. Specifically, what's the significance of C being swimable. Swimable below mills not practical.

③ Impoundments - shouldn't need to meet the same stds as the river. Today's DEP Amend insufficient - Need to exempt the entire impoundments.

④ DO being raised for B waters - in summer can't be met.

⑤ Anti-degradation "deemed to be of the higher class" -

inforcement difficult. How to know if you're in or out of compliance.

(6) Tributaries to Great Ponds. Need to define. (everything is)

(7) "Indirect" discharges to lakes & streams (non-point-source) need distinction between direct & indirect.

(8) Timing for compliance -

(9) Toxics:

Bio-monitoring inadaquate tool to asses & define
Usencing provisions ie: Toxics from mills - etc.

Patti Waugh

(1) Definitions - made precise
(2) Cost - to industries.
(3) Timing - give Industry time - not DEP consent decree.
- practice
- Machinery.
(4) ~~DF~~ Fiscal note to expand DEP staff.

Noel Newland

M. Lescaux - Mgr. IPC.

- Concerns w/ present & proposed WQCS. Ideas today - not language.

(1) Biological requirements for C too vague.
- Not fair to impose tests on maine mills that competitors don't have to meet.
- Paper Industry should be able to help in defining Bio. stds à la administrative procedures act w/ full hearings etc.

(2) Class C - Water Contact rec in new C: Downstream waters to be suitable for swimming: how suitable? can't be pure; who to decide;

(3) Enforcement - means that industry will be out of compliance in order to have it show up via B.M.

(4) Anti-deg: How to know which class must be met?

(5) Impoundments: unreasonable & unworkable to apply 5ppm to impoundments. (cause of Natural state of impoundments)
Impounded H_2O ≠ free flowing river H_2O.
Prob. on paper only
U.S.EPA - specifically provides that a designated use may be dropped in the case of Dams for hydropwr.

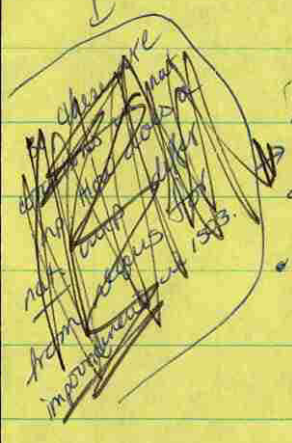
(2) up river Discharge - can't reduce it by 2/3. But up river discharges alone can't insure 5ppm in downstream impoundment of Gulf Island Pond. This summer, discharges were reduced by 2/3 while G.I.P. DO was still <5ppm.

(3) * Consultant study — of Androscoggin - 5ppm in Gulf Is Pd not possible.

Dennis Sassenville - paper co. consultant. Impoundments

(1) Many impoundments are old & have established environmental patterns. It's more susceptible to Env effects.

- lag time before cleansing effects can be seen.
- Most impoundments were once flowing rivers (in Me.) ∴ most long & narrow
- Colder bottom waters provide habitat for cold water fisheries. So, stratification is necessary. Increased flow & mixing that would break down stratification would eliminate certain impoundment habitats.
- Yes an impoundment a lake or a river. Need to decide. and regulate appropriately



William Ball - Engineering - PA. DEP & implimentation of Bio Monitoring.

- Suggestions for improving clarity of interpretation of B.M. classifications.

(1) need to explain & clarify & educate re: new classes & relevant procedures, protocols & regulations.

(2) Time frame: DEP & EPA are already writing permits w/ B.M. in them - before BM is clarified & established.

DEP schedule for (1) adoption

(2) use

Formal input from all concerned parties.

(3) Defn of A, B, C. AA OK.

Defn of Biological tests & goals for each class. (diff bet. classes.

(4) DEP to be given timeframe for est. of Defn's of classes & procedures ~~& meet~~ to avoid the continued issuance of permits including B.M. (EPA, DEP) w/o adequate defn.

(5) Should PA be the first State to do B.M or should we wait for experience to clarify.

~~Dale Phenissy~~

Tom Griffen - Env. Engineer. SD Warren.

See comments.

* B-2 ⇒ B situation.

Automatic uparacling - (won't this effectively ↑ class?)

modeling - diffcult to do accurately -

* Why necessary to ↑ D.O. - (Oct 1)

Wants to stay w/ existing stds until computer modeling shows economic impact of ↑ D.O. stds.

- need assessment of each indiv. River Section. Possible.

Casey - Pratt/Whitney.

. Existing stds are high. We're in compliance.

(*) . Need legislative guidance of application of B.M. to a determination of D.O.

- Methodology & Tests - poorly done in setting of stds

. Current licensing shouldn't include B.M. yet.

Dale Phenissy

Time for reclass - Laws should reflect existing water conditions.

What species? what tests? - Standardization of B.M. Regulatory framework.

[redacted]

Matt Scot: DEP

- Charged to Direct Development.

① Impoundments ≠ lakes.

? Impoundments already receiving discharges

② Bio Assay / Monitoring.

- 15 yrs involvement.
- Staff adaquate

DEP industry to do their own BM/BA. w/ DEP guidance.

- Regulations are never put forth w/o Administrative Procedures Act.
- Current law is defined by practice - so why not new law. Old law is written stricter than its enforced.

Next Mtg

① Review of L.D

Oct 22 9:00

9-29-85

Impoundments - DEP, David Gartenmaier

variance granted when applicant shows that because of hydrological configuration of water there will be deep water zone which will not mix as if it were free flowing - then would be free of wat. class stand. which would normally apply.

Similar to natural phenomon which occurs in G.P. = reason why G.P. don't have D.O. standard for that reason.

Dan Boxer - PIC General Industry comments (including impoundments) Overview of paper industry concerns. Language section is preliminary - needs more discussion.

① Description of classes - terms describing characteristics of uses - interpreted thru rule-making input by legis. Legis should list terms to be classified - not at discretion of DEP

Should all downstream H_2O's from mills be suitable for water contact recreation

② Impoundments - DEP language not suitable. Fed precedent for exempting impoundments. Fed reg allow exemption if conditions warrant. Impoundments are not like rivers

③ DO for class B waters - too high can't be met.

(2) Water segments meeting class stand. of higher water class should not be "deemed" of higher class
(3) Discharge to trib. of G.P. & indirect discharge to water bodies. "Discharge" too broad - woods operations, Fed. law draws a distinction - St. should too
(6) Process for bringing into compliance
(7) Toxics

Patti Waugh - CCI
(1) Definitions needs more clarity - all work together to resolve
(2) Industry costs - bear in mind when discussing bill
(3) Effective date - time to implem. to come into compliance - Jan 1 1988 (at least 1 yr.) rather than DEP consent decree
(4) Fiscal note for DEP staff to carry out biomonitoring

Rowland Lesko - IP Manager (also on behalf of Boise Cascade) Serious concerns
(1) Class C biological stand. - "support all indig. spec. of fish" impasse - needs def. - we need more guidance. DEP proposed standard lead to further ?'s. Not fair to impose this.

mills to lesser standards Then mills in other states. Use cannot to require strict compliance w/ APA in development of biological standards w/ full record & pub part.

② Clean suitable for "water contact rec" = change from present law. Who det. suitability for swimming. If color, odor etc (purity) is required by DEP - mills cannot meet Stand.

③ Det. of compliance - are we in position of being out of compliance w/o knowing it until DEP makes det. of acquatic conditions Higher water qual. must be maintained = don't know what wat qual. stand. must be met in advance.

④ D.O. Natural impoundments - Eco. impact of restrictive environ. standards.
Cannot guarantee standard will be met Natural impound. - which are more like lakes Than rivers. Hydro power means impoundments impoundments do not resemble free flowing wat. in all respects. Gulf Island.
EPA may allow removal or establishment of sub categories of Uses, etc, presently use

Cannot guarantee will meet proposed standard on day in day out basis = increased cost or cut back in production. Could not receive discharge license.
Must recognize reality that impoundments are more like lakes than rivers.
Prob- compounded by lack of std. by DEP.
Need to meet standard in all water at all times is unrealistic. Should be daily average at 5' or at ½ depth which ever is less.
No guarantee that Gulf Island could meet prop. stand. no matter what.

Dennis Sassaville - Assoc.
Problem w/ impoundments - characterization & control.
Impoundments have been existing for many years ∴ have evolved into a settled biological state. Are really no different, except for greater flushing rate, than lakes.
Effects of impond. -
slows rate of flow - thermal stratification occurs in deeper impoundment
- Cleansing of water is slowed
- sedimentation
- different algal growth
- " habitat for fish & other aquatic life

- affect chemical interactions
- weed growth may occur
- fluctuation in water level affecting biological community.
- more susceptible to environmental impacts

William Ball - Engineering Secs

Biomonitoring system - improve legis. clarity
① Tie/ person to development & use of biological monitoring limitations. (DEP/EPA are writing permits using bio monitoring procedures - there is disagreement on the use of the procedures)
Input of affected communities into regs.
② Definite of criteria for A, B & C should be clarified. Legis. estab. better biological criteria for development of standards. Ex. class. Should recognize differences in wat. class in legis.
③ DEP should wait for EPA to develop national biomonitoring criteria rather than be first state to do so. (haven't contacted all - 30% Region I pushing biomonitoring.

Licenses being issued based on 1 or 2 persons interpretation of what should be issued (based on biomonitoring) (20 of 3 in ME) not on written standards. → under Region I control in conjunction w/DEP. Reg. I says existing st. law allows it.

Bio monitoring would not require vigorous statewide monitoring effort. Staff is very competent. Can't speak to need for more staff.

James McQueen - Dep. mgnr of Paper Industry for water qual. - Taft
2 aquatic research centers.
Results of bleached craft by product on quality of receiving waters. - shows sensitivity of biologic community - some due to craft process effluent - some not.
Acute test - not effective
Chronic test

looking at total community year after year. Difficult to transfer biologic findings to specific aspects of stream when all circumstances are same
Difficult to relate what happens in test sample back to one and what goes on in stream as a whole. Test good for screening tool but difficult to apply generally

Date Florice - EPA
Tom Griffen SD Warren - Somerset
Effect on future growth at mill. Computer model for Kenn. R. Indicate no more DO affecting discharge in Summer which precludes mill expansion. Models are conservative

& combined of DO limits of 10/503 make
expansion difficult

John Casey - Trail Whitney - atty
above state of the art waste treat. plant w/
restrictive discharge limits. Need renewal
& EPA trying to require more restrictive
conditions. Need more guidance as to how
DEP/EPA to use bio mon. to write
licenses/permits.
Delist DEP to write rules governing
use of bio mon.

effluent discharge to meet DO quant-stds.

Dale Hence - GNP
bio monitoring - indus. must know what stand. to be held to
non point - numerical stand. for level of impact
impoundments
DO standards in classifications.

MATT SCOTT -

T. 38 § 241

Lakes / Impoundments - lakes are different. Never intended to class. impnd. as other than flowages because they are receiving discharges. Not typical of lake sys. in Me. Impoundments driven by sediments trap eff & by short retention time.

Biomonitoring - St. has been in biomonit for 15 yrs. Worthy of EPA Reg & moneys to develop further. Have 4 staff people to do so. Consider this sufficient.

welcome guidance from legis. on content & direction of rules to be promulgated. Cannot adopt rules w/o APA procedures.

. Biological indicators remain a useful indicator of health of water community - rather than relying only on toxic/quantity? standards.

Many of class B & C current standards are more restrictive than proposed class. sys.

DEP 9/24

As a possible resolution we are suggesting the following amendment to Section 360 (3.) General Provisions:

P. 2, l. 35 .. their classification. For waters located in tne deeper portions of impoundments, the board may grant a variance allowing the water quality criteria for dissolved oxygen and aquatic life to fall below the minimum standards specified in Section 363 if the board finds that those waters cannot attain those requirements due to unusual hydrologic conditions which restrict mixing of the water and that said variance will not cause the impoundment to be unsuitable for the characteristics and designated uses ascribed to the impoundment's classification. The department shall submit to....

1. Dale Phenicie, Great Northern Paper Company, Chairman of the Environmental Affairs Committee, Paper Industry Information Office, will present an introduction of broad areas of concern.

2. Patti Waugh, Maine Chamber of Commerce and Industry, will point out that a specific compliance date is needed and will emphasize that the concerns are shared by many companies other than those in the paper industry.

3. Newland A. Lesko, mill manager, International Paper Company, Jay, will present a prepared statement worked out jointly with Boise Cascade Paper Group Rumford Mill and will then introduce:

4. Dennis Sasseville, Norandeau ~~Norando~~ Associates of New Hampshire, water quality consultant to Boise and IP.

5. William Ball, Archeron Engineering, will present information on bioassay and biomonitoring, pointing out that numerical consistency is not yet established in these methods.

6. James McKeown, National Council for Air & Stream Improvement, will present a NCASI slide show to make the point that the paper industry has extensive expertise on the subject of bioassay and biomonitoring, but does not believe it should be the basis for regulation.

7. Tom Griffin, S. D. Warren Company, Skowhegan, will present information on the impact of the proposed regulations on the current construction of Warren's #2 paper machine at Skowhegan.

8. John Casey, Pratt & Whitney, Saco, will discuss his company's experience with EPA and DEP licensing.

7. Barry Ellis, Guilford Industries, will discuss the proposal's impacts on the Maine's textile industry.

8. Val Thompson, Central Maine Power Company, may speak. He will be present and participate if it is appropriate.

My name is Newland Lesko and I am the Mill Manager for International Paper Company's Androscoggin Mill in Jay. I am here today to express to you our very serious concerns over major problems presented by the present and proposed Water Quality Legislation. We share in all of the concerns expressed by Mr. Phenicie on behalf of the Paper Industry Information Office and I would now like to elaborate briefly on some of those difficulties for the Committee. Members of my technical and environmental staff are here with me and will be available, as will I, to meet further with you and to discuss any of these issues with you and your committee assistants. I do not plan on proposing specific language today but hope that we can subsequently develop language in close cooperation with your staff and the DEP as the magnitude of our concerns become apparent.

BIOLOGICAL STANDARDS

The first issue I would like to discuss with you is our concern over very loose standards which have been set as biological requirements for Class C waters. The proposed legislation states that discharges to Class C waters:

> "Shall be of sufficient quality to support all indigenous species of fish and maintain a structure and function of the aquatic community."

Biologists and lawyers could argue for years over what each of these terms mean. Those who must run a mill and keep it in compliance are caught in the middle. I realize that the DEP has scheduled a workshop to present to the public its interpretation of some of

THESE TERMS. I HAVE REVIEWED THE PROPOSED INTERPRETATIONS WITH OUR BIOLOGIST AND FIND THAT THEY IN TURN LEAD TO FURTHER QUESTIONS.

I ALSO UNDERSTAND THAT DIFFERENT BIOLOGISTS IN DIFFERENT STATES HAVE DIFFERENT THOUGHTS ON WHAT SOME OF THESE TERMS MEAN. AS YOU KNOW, THE PULP AND PAPER BUSINESS IS VERY COMPETITIVE. IT IS NOT FAIR TO IMPOSE A TEST UPON MAINE MILLS WHICH OUR COMPETITORS DO NOT HAVE TO MEET. IT IS NOT FAIR TO PLACE MAINE MILLS IN JEOPARDY OF VIOLATING THE LAW WHEN OUR COMPETITORS DON'T FACE THE SAME EXPOSURE. IT IS NOT FAIR TO DICTATE A SET OF DEFINITIONS OF CONFUSING STATUTORY CRITERIA WITHOUT PEER REVIEW AND OPPORTUNITY FOR FORMAL INPUT BY THOSE WHO WOULD BE SUBJECT TO THESE DEFINITIONS AND INTERPRETATIONS. ACCORDINGLY, WE URGE THAT THIS COMMITTEE REQUIRE THAT THE IMPLEMENTATION OF BIOLOGICAL WATER QUALITY STANDARDS BE HANDLED IN STRICT ACCORDANCE WITH MAINE'S ADMINISTRATIVE PROCEDURE ACT AND THAT ANY BIOLOGICAL STANDARDS NOT BE ESTABLISHED WITHOUT OPPORTUNITY FOR HEARING AND THE COMPILATION OF A COMPLETE RECORD WHICH MUST BE PRESENTED TO THE BOARD OF ENVIRONMENTAL PROTECTION FOR ULTIMATE DECISION. THIS IS TOO IMPORTANT AN ISSUE TO BE LEFT SOLELY TO THE VARYING INTERPRETATIONS OF STAFF MEMBERS OF THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.

CHANGE IN CLASS C DESIGNATED USES:

THE PROPOSED LEGISLATION WOULD ADD A REQUIREMENT TO CLASS C WATERS THAT THEY BE "SUITABLE FOR . . . WATER CONTACT RECREATION." THIS IS A CHANGE FROM PRESENT LAW.

WE ARE VERY PROUD OF THE RESULTS FROM MILLIONS OF DOLLARS WHICH HAVE BEEN SPENT TO CLEAN UP OUR RIVERS. PEOPLE NOW FISH AND SWIM IN THE ANDROSCOGGIN RIVER. BUT WE ALSO HAVE TO BE HONEST WITH OURSELVES. WITH MAJOR INDUSTRIAL ENTERPRISES EMPLOYING THOUSANDS OF PEOPLE AND PRODUCING HUNDREDS OF THOUSANDS OF TONS OF PAPER EVERY YEAR, THE RIVER DOWNSTREAM FROM THESE MILLS IS GOING TO DIFFER FROM PRISTINE WATER UPSTREAM. WHO DETERMINES WHETHER DOWNSTREAM WATERS ARE "SUITABLE" FOR SWIMMING? IF THE DEP STAFF WANTS NO ODOR, COLOR OR OTHER CHARACTERISTICS WHICH AN AVERAGE SWIMMER MIGHT NOT WANT OR EXPECT, WE MIGHT AS WELL CLOSE OUR MILLS NOW. THESE WATERS WILL SIMPLY NOT BE SUITABLE TO SOME PEOPLE WHO DEMAND COMPLETE PURITY IN THEIR SWIMMING WATERS. WHO MAKES THIS DETERMINATION? BEFORE THIS LEGISLATION IS ADOPTED THAT DECISION MUST BE MADE.

ENFORCEMENT AND CLASSIFICATION UNCERTAINTY:

THE DEPARTMENT APPARENTLY IS MOVING TOWARDS A SYSTEM WHERE COMPLIANCE WITH THE LAW IS DETERMINED BY BIO-MONITORING. ARE WE TO BE PUT IN A POSITION WHERE WE MAY BE OUT OF COMPLIANCE, AND NOT EVEN KNOW IT, UNTIL THE DEPARTMENT CHECKS ITS ARTIFICIAL SUBSTRATE

STATIONS IN THE RIVER AND DETERMINES THAT THERE ARE INSUFFICIENT QUANTITIES OF MACROINVERTEBRATES? BEFORE THE DEPARTMENT IS ALLOWED TO IMPLEMENT LEGISLATION WHICH LEADS US DOWN THIS PATH, SERIOUS CONSIDERATION MUST BE GIVEN TO THE POLICY IMPLICATIONS OF PLACING MAINE INDUSTRY IN A POSITION WHERE THEY WON'T KNOW WHETHER THE LAW IS BEING VIOLATED UNTIL AFTER THE DEP MAKES A DETERMINATION ON THE SUITABILITY OF AQUATIC CONDITIONS BASED UPON ITS BIO-MONITORING. SIMILARLY, THE LEGISLATION CONTAINS A PROVISION THAT WHERE THE QUALITY OF ANY CLASSIFIED WATER EXCEEDS THE MINIMUM STANDARDS NECESSARY TO SUPPORT THE CHARACTERISTICS AND DESIGNATED USES OF THE NEXT HIGHEST CLASSIFICATION, THE HIGHER WATER QUALITY SHALL BE MAINTAINED. ONCE AGAIN, WE WILL BE PUT IN A POSITION OF NEVER KNOWING WHAT CLASSIFICATION WE MUST MEET. BASIC FAIRNESS DICTATES THAT OUR MILLS KNOW WHAT WATER QUALITY STANDARDS MUST BE MET IN ADVANCE OF ANY TESTING OR DE FACTO RECLASSIFICATION BY STAFF BASED UPON WHAT THEY BELIEVE THE WATER QUALITY TO BE. WE HAVE TO KNOW THE RULES PRIOR TO THE GAME IF WE ARE GOING TO PLAY BY THEM.

DISSOLVED OXYGEN BEHIND IMPOUNDMENTS:

THIS PARTICULAR ISSUE, IF NOT RESOLVED FAIRLY, COULD RESULT IN THE PERMANENT INABILITY OF OUR MILL TO CONTINUE PRODUCTION AT PRESENT LEVELS AND THE LOSS OF HUNDREDS OF JOBS. IN ADDITION, OUR CORPORATE MANAGEMENT WILL NOT INVEST IN A MILL WHICH IS SADDLED WITH REQUIREMENTS THAT CANNOT BE MET UNDER ANY REASONABLE ENVIRONMENTAL PROGRAM. LET ME EXPLAIN IN MORE DETAIL HOW THIS ISSUE AFFECTS US.

THE PRESENT LEGISLATION AND PROPOSED LEGISLATION CALL FOR THE MAINTENANCE OF 5 PARTS PER MILLION OF DISSOLVED OXYGEN IN CLASS C WATERS. WE HAVE LIVED WITH THIS STANDARD IN THE PAST AND ARE PREPARED TO CONTINUE LIVING WITH IT IN THE FUTURE AS FAR AS THE ANDROSCOGGIN RIVER GOES. WE CANNOT, HOWEVER, GUARANTEE THAT THIS STANDARD CAN BE MET BEHIND DOWNSTREAM IMPOUNDMENTS. IN FACT, IT IS NOT BEING MET BEHIND IMPOUNDMENTS BELOW OUR MILL AND BELOW OTHER PULP AND PAPER MILLS ON THE RIVERS. THE SIMPLE FACT IS THAT IMPOUNDMENTS ARE LIKE LAKES IN MANY RESPECTS. RIVERS FLOW FREE AND CAN MIX, REOXYGENATE AND CONTINUALLY REPLENISH THEMSELVES WITH FRESH WATER. IMPOUNDMENTS BY THEIR VERY NATURE ARE BODIES OF WATER HELD IMPOUNDED BY A DAM. THESE BODIES OF WATER ARE DEEPER, SLOWER MOVING, WARMER AND SUBJECT TO MUCH LESS MIXING THAN "RIVER" FRESH WATER. ALSO, BECAUSE WATER VELOCITIES IN IMPOUNDMENTS ARE SO LOW, ORGANIC SOLIDS SETTLE TO THE BOTTOM WHERE THEY UTILIZE OXYGEN AS THEY DECAY. THE AMOUNT OF OXYGEN UTILIZED BY SEDIMENTS IN LAKES AND IMPOUNDMENTS IS MUCH HIGHER THAN IN FREE FLOWING STREAMS. THIS IS WHY LOW DISSOLVED OXYGEN LEVELS ARE OBSERVED IN MANY NATURAL AND MAN-MADE IMPOUNDMENTS. OUR OWN EXPERIENCE AND THAT OF OTHERS ON A STATE AND NATIONAL LEVEL SHOWS THAT WATER BELOW THE SURFACE OF AN IMPOUNDMENT HAS FAR MORE DIFFICULTY MEETING THE STANDARDS OF 5 PARTS PER MILLION OF DISSOLVED OXYGEN THAN RIVER WATER. THIS IS A FACT OF LIFE AND A HYDROLOGIC REALITY. IF WE WANT HYDROPOWER WE MUST HAVE IMPOUNDMENTS. IF WE HAVE IMPOUNDMENTS WE CANNOT EXPECT THE WATER BEHIND THOSE IMPOUNDMENTS TO RESEMBLE FREE-FLOWING RIVER WATER IN EVERY RESPECT.

Let me emphasize at this point that we do not even believe this is really an environmental problem. It is a problem on paper only. Our biologists inform us that the water quality in the major downstream impoundment, Gulf Island Pond, is perfectly satisfactory for the species that inhabit that impoundment and the life stages which exist there. As you go deeper into the impoundments, however, during the warmer times of year, periodically the 5 parts per million of dissolved oxygen is impossible to maintain.

The U. S. Environmental Protection Agency has recognized that this type of situation will exist. In its water quality standard regulations, EPA specifically provides that states may remove a designated use or establish a subcategory of a use if the designated use cannot feasibly be obtained because:

> "Dams, diversions or other types of hydrologic modifications preclude the obtainment of the use, and it is not feasible to restore the waterbody to its original condition or to operate such modification in a way that would result in the obtainment of the use."

We ask this Committee to recognize the same reality, since no one could reasonably suggest removal of Gulf Island Dam or the elimination of paper production on the Androscoggin.

If the Legislation is not corrected and DEP follows its present course, the consequences could range from moderate production cuts and layoffs to complete shutdown of the mill.

The Maine Department of Environmental Protection, based upon dissolved oxygen readings in Gulf Island Pond and its preliminary river modeling studies has indicated that a 2/3 cut in our BOD license discharge may be necessary. You should be aware that our discharge <u>presently</u> meets the similar effluent limitation as competitors all over the country and in othe parts of the State. In other words, we are in compliance with the standards set by EPA for discharges of our type. You should also realize that those standards were set based upon what a well operated mill could achieve.

Nevertheless, because the dissolved oxygen content of waters behind Gulf Island Dam is not at 5 parts per million, the DEP has said more will be needed. Our study shows that the technology is not readily available to guarantee a further 2/3 reduction in our discharge on a continued basis, day in and day out. The entire process would have to change in some manner or production would have to be cut back.

THINGS MAY BE EVEN WORSE THAN THIS, HOWEVER, BECAUSE DURING PRODUCTION CUTBACKS THIS SUMMER OUR DISCHARGE ACTUALLY MET THE 2/3 CUT ON SOME OCCASIONS. EVEN AT THIS LEVEL, THE 5 PARTS PER MILLION WAS STILL NOT REGULARLY MET AT GULF ISLAND POND. WE HAVE DISCUSSED THIS SITUATION WITH OUR WATER QUALITY EXPERTS AND THEY INFORM US THAT IT IS ENTIRELY POSSIBLE THAT EVEN WITH NO DISCHARGE FROM THE UPRIVER MILLS THE WATER QUALITY IN GULF ISLAND POND WOULD BE BELOW 5 PARTS PER MILLION ON CERTAIN DAYS.

UNDER THE MAINE LAW AS WRITTEN, WE COULD NOT RECEIVE A WASTE DISCHARGE LICENSE IF THE GULF ISLAND POND DISSOLVED OXYGEN WAS BELOW 5 PARTS PER MILLION . . . NO MATTER HOW LOW OUR DISCHARGE WAS IN BOD CONTENT.

I HOPE YOU CAN SEE FROM THIS BRIEF EXPLANATION THAT WE ARE IN SERIOUS TROUBLE BECAUSE OF THE WAY THE STATUTE IS WRITTEN. WE ASK THIS COMMITTEE TO RECOGNIZE REALITY JUST AS REALITY IS RECOGNIZED IN THE STANDARDS OF CLASSIFICATION FOR LAKES WHERE NO DISSOLVED OXYGEN REQUIREMENTS ARE SET. THIS MAKES SENSE BECAUSE TESTS ALL OVER THE STATE REVEAL DISSOLVED OXYGEN CONTENT IN LAKES IS BELOW 5 PARTS PER MILLION ON MANY OCCASIONS.

As a closing note, let me say that the problem is compounded by the lack of a clear policy on DEP's part as to where dissolved oxygen is measured in impoundments. Neither the present nor proposed Water Quality Legislation addresses how dissolved oxygen is to be measured. The DEP policy is to require that standards be met at every depth and location at all times. This is not too unreasonable for shallow, free flowing streams that are well mixed, but it is unreasonable for impoundments which are slow moving and at least partially stratified. The standard should be a daily average at a depth of 5 feet or one half the depth, whichever is less.

Later today you will hear from Dennis Sasseville, who is a scientist with Normandeau Associates in New Hampshire, to talk in more detail about the hydrological characteristics of impoundments. Dennis has been working as part of a team set up by Boise Cascade and International Paper to study the water quality of the Androscoggin River in light of the DEP's demands that the 5 part standard be met in Gulf Island Pond. I think it is important for the Committee to understand that this state of the art study has so far cost in excess of $700,000, and has come up with no indications that the water quality in Gulf Island Pond can reach the 5 part level on a regular basis, regardless of what International Paper Company and Boise Cascade do.

At this time I would like to introduce Mr. Sullivan of Boise Cascade, who will further comment on these subjects.

James McKeown NCASI 9/24

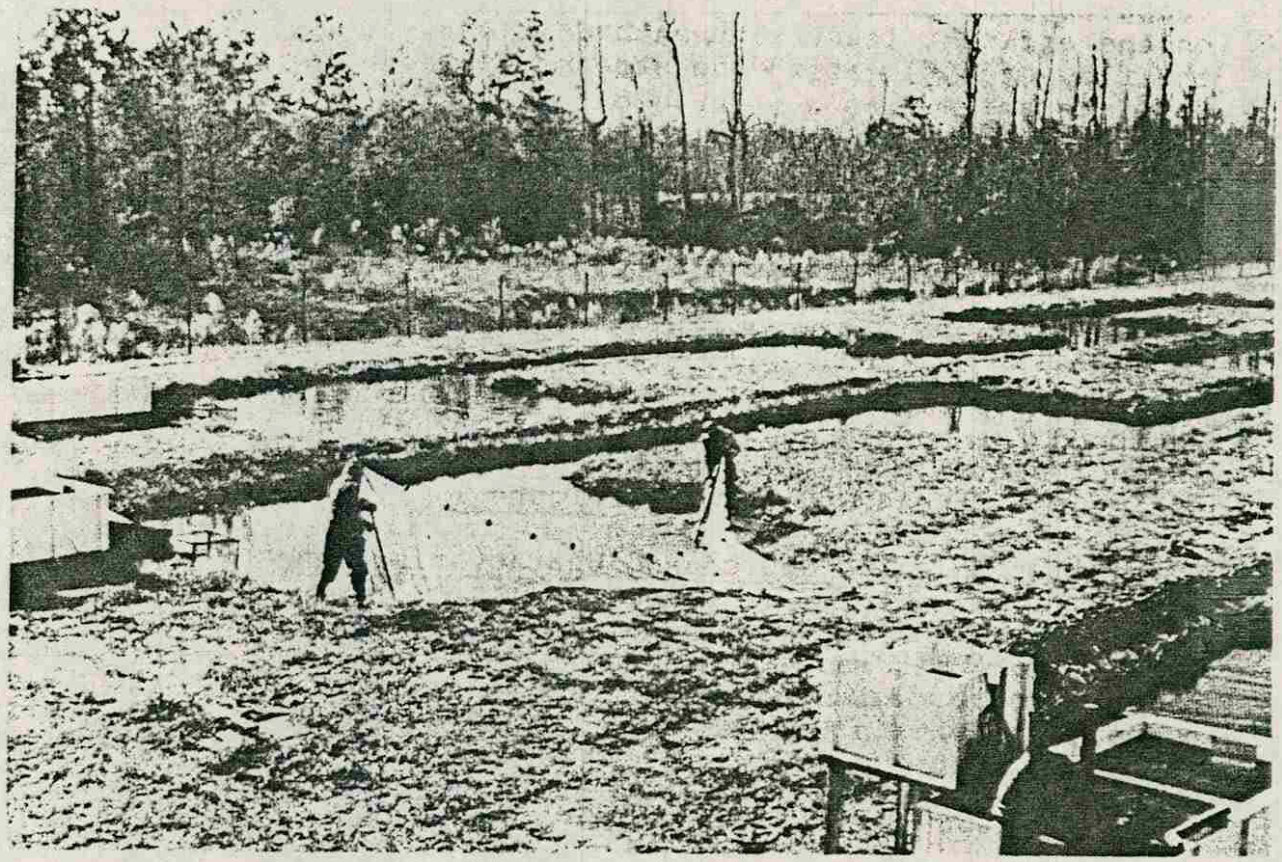


FIGURE 1 VIEWS OF SOUTHERN STREAMS (North Carolina)

APPENDIX C

TABLE C1 96 HR STATIC BIOASSAY RESULTS OF FISH EXPOSED TO BIOLOGICAL STABILIZED EFFLUENT
LB = LARGEMOUTH BASS, BG = BLUEGILL SUNFISH, GS = GOLDEN SHINER, AND MF = MOSQUITO FISH

DATE	SPECIES	96 HR LC_{50} (% by volume)	DATE	SPECIES	96 HR LC_{50} (% by volume)
6/10/75	LB	100	7/18/77	LB	100
7/15/75	BG	100	8/15/77	BG	100
8/11/75	BG	100	9/19/77	BG	100
9/08/75	BG	100	10/17/77	BG	100
10/13/75	BG	100	11/14/77	GS	100
11/11/75	MF	100	12/19/77	GS	100
12/15/75	MF	100	1/16/78	GS	100
1/12/76	MF	100	2/20/78	GS	100
2/15/76	MF	100	3/20/78	GS	100
3/15/76	MF	100	4/17/78	GS	100
4/12/76	MF	100	5/13/78	GS	100
5/15/76	LB	100	8/08/78	LB	100
7/12/76	LB	100	9/14/78	GS	100
8/09/76	BG	100	10/30/78	GS	100
9/13/76	BG	100	11/14/78	LB	100
10/11/76	BG	100	12/15/78	LB	100
11/15/76	MS	100	1/09/79	LB	50
12/13/76	MS	100	1/24/79	GS	33
11/10/77	GS	100	2/19/79	GS	100
2/14/77	GS	100	3/12/79	GS	100
3/14/77	GS	100	4/16/79	GS	100
4/11/77	GS	100			
5/16/77	GS	100			

FIGURE 30 CUMULATIVE BIOMASS OF GOLDEN SHINERS DURING EACH STUDY YEAR. STREAMS 2 AND 4 RECEIVED STABILIZED BLEACHED KRAFT MILL EFFLUENT.

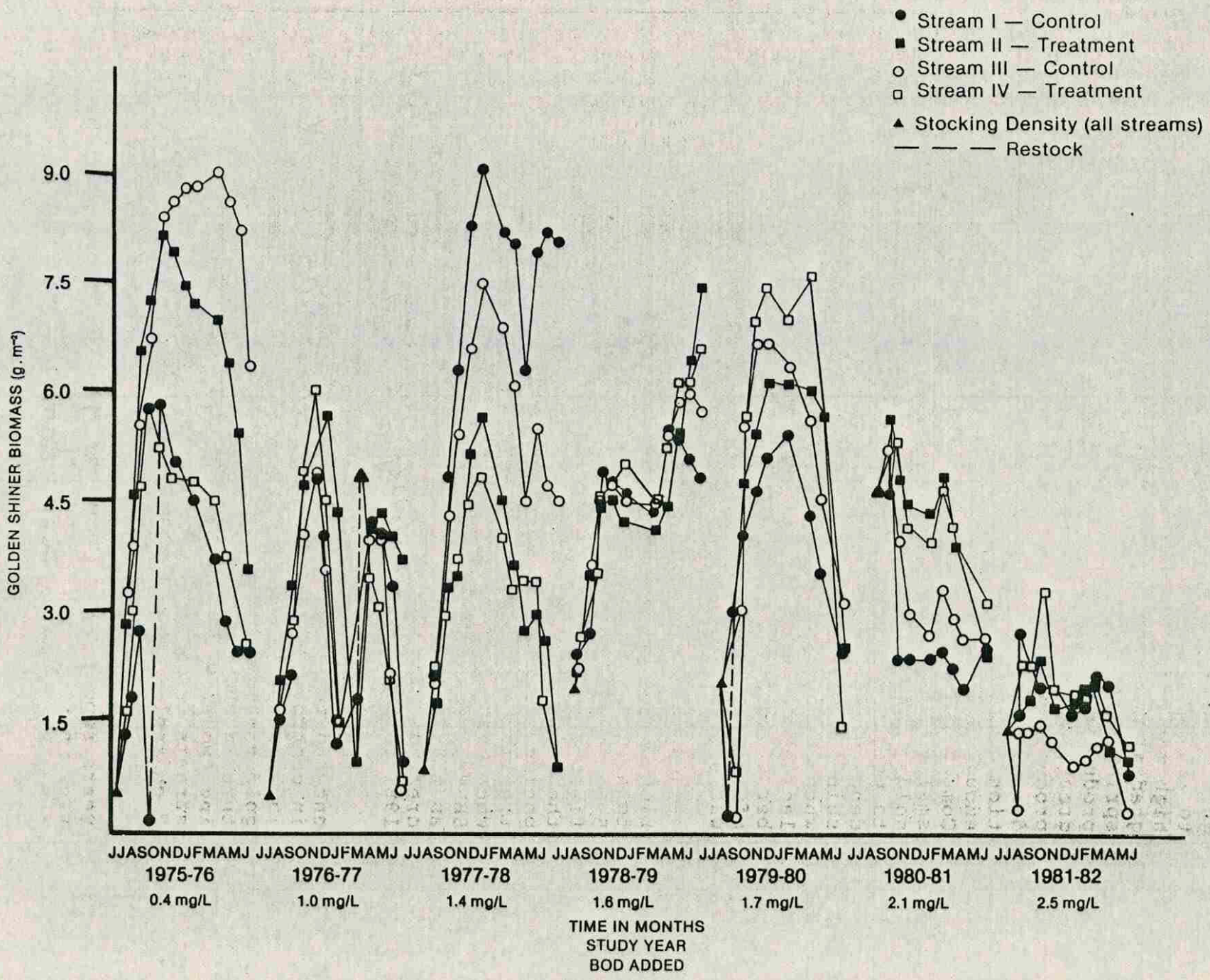


FIGURE 22 CUMULATIVE BIOMASS OF BLUEGILL SUNFISH DURING EACH STUDY YEAR. STREAMS 2 AND 4 RECEIVED STABILIZED BLEACHED KRAFT MILL EFFLUENT

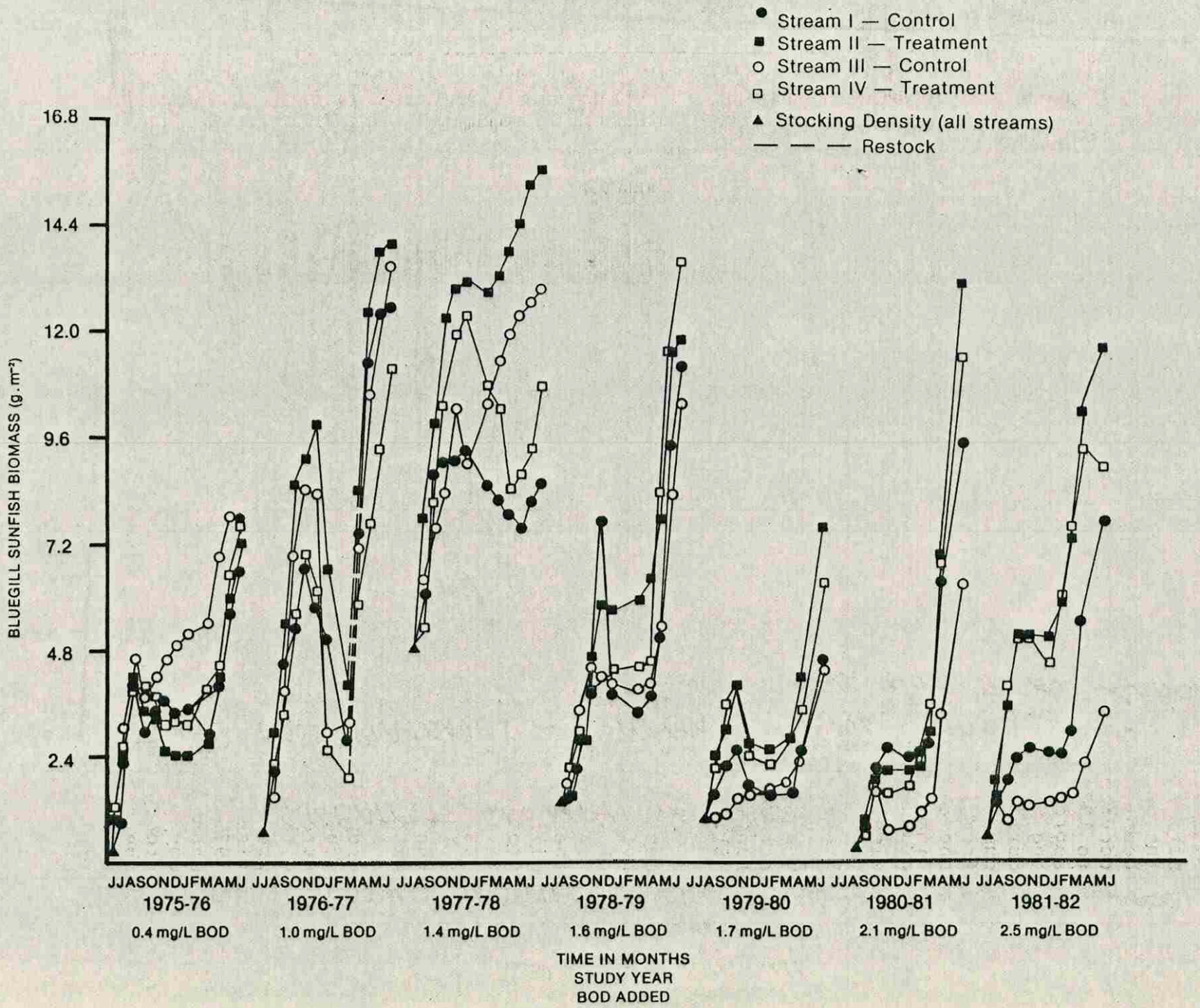


FIGURE 14 BIOMASS OF LARGEMOUTH BASS DURING EACH STUDY YEAR. STREAMS 2 AND 4 RECEIVED STABILIZED BLEACHED KRAFT MILL EFFLUENT.

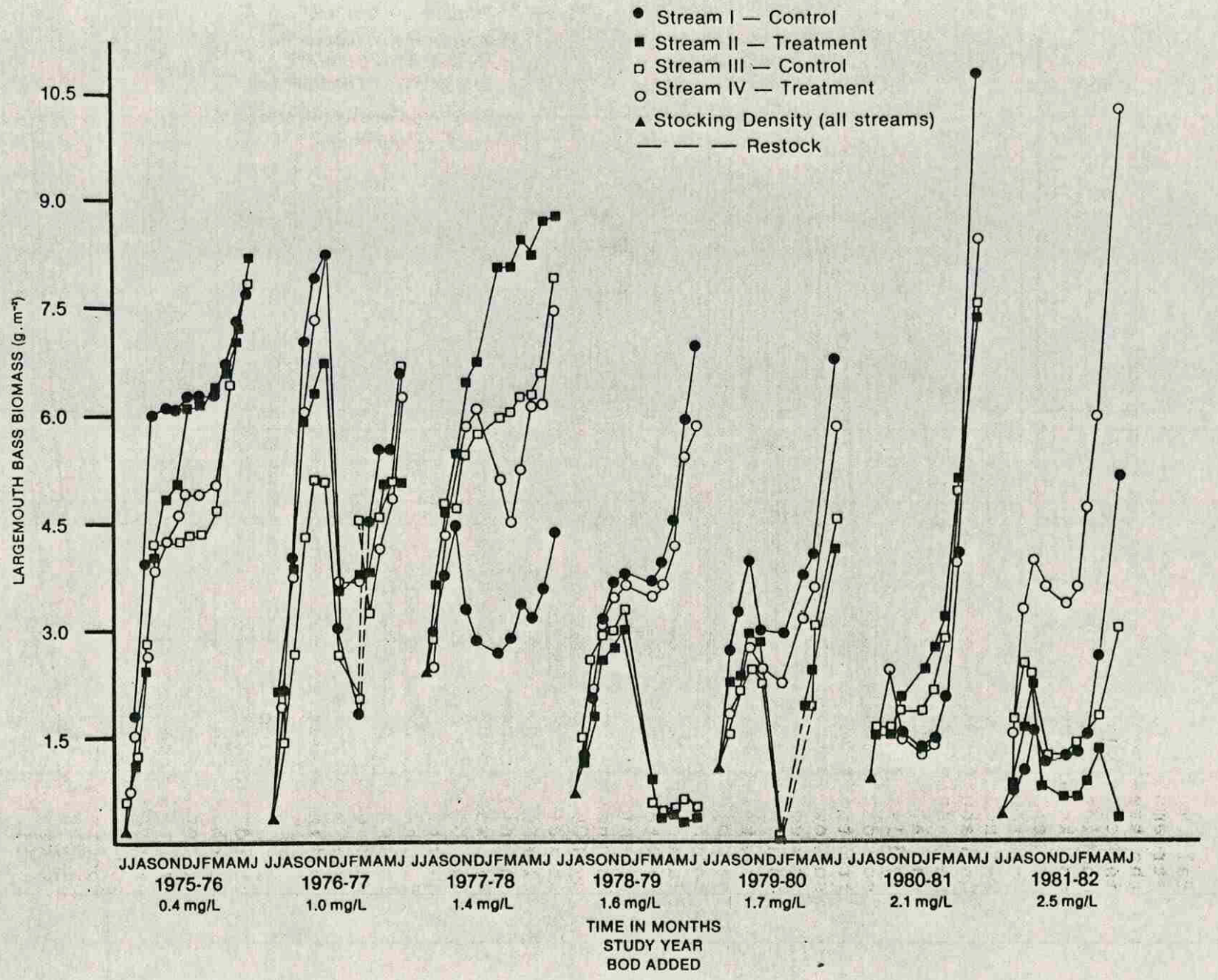


FIGURE 12 TOTAL CUMULATIVE BIOMASS OF LARGEMOUTH BASS, BLUEGILL SUNFISH AND GOLDEN SHINERS DURING EACH STUDY YEAR. STREAMS 2 AND 4 RECEIVED STABILIZED BLEACHED KRAFT MILL EFFLUENT

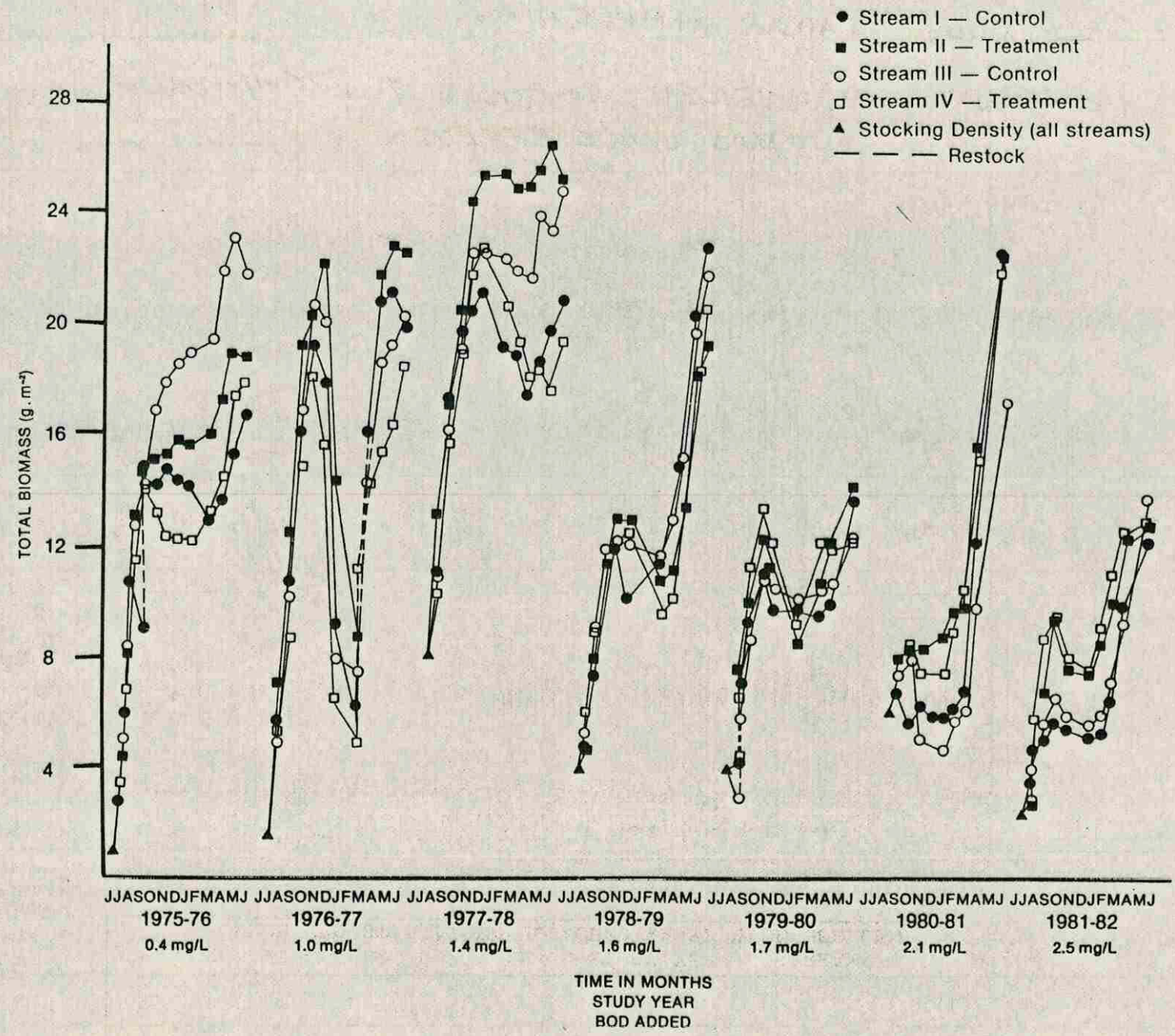


TABLE 10 (Cont'd) PERCENT COMPOSITION OF MACROINVERTEBRATES IN FISH STOMACH SAMPLES DURING JULY 1982
C=CONTROL STREAMS, T=TREATMENT STREAMS

	JULY 1982			
	BASS[1]		BLUEGILL[1]	
TAXON	C	T	C	T
Amphipoda	18(40)[2]	6(21)	44(65)	50(76)
Isopoda	1(5)		<1(5)	1(10)
Decapoda	39(85)	33(68)		<1(5)
Ephemeroptera		3(5)	2(15)	1(10)
Trichoptera		8(21)		10(33)
Diptera				
Chironomidae	9(35)	12(16)	47(65)	20(90)
Empididae				
Odonata				
(Adults)				
(Larvae)	18(45)	37(74)	3(15)	17(67)
Hemiptera				
Corixidae				
Belostomatidae			<1(5)	
Gerridae		1(5)		
Coleoptera	1(5)			1(14)
Terrestrial				
Arthropoda	2(10)		<1(5)	<1(5)
Sphaeridae				
Hirudinea				
Oligochaeta			<1(5)	1(14)
Gastropoda			2(15)	<1(5)
Fish	12(30)			

[1] Fourteen fish were sampled for each group.
[2] The number in parentheses indicates the percent of total stomach samples in which this food item was present.

FIGURE 10 SHANNON-WEINER DIVERSITY IN CONTROL AND TREATMENT STREAMS WHEN 2.1 MG/L OF BOD OF SBKME WERE ADDED TO STREAMS 2 AND 4

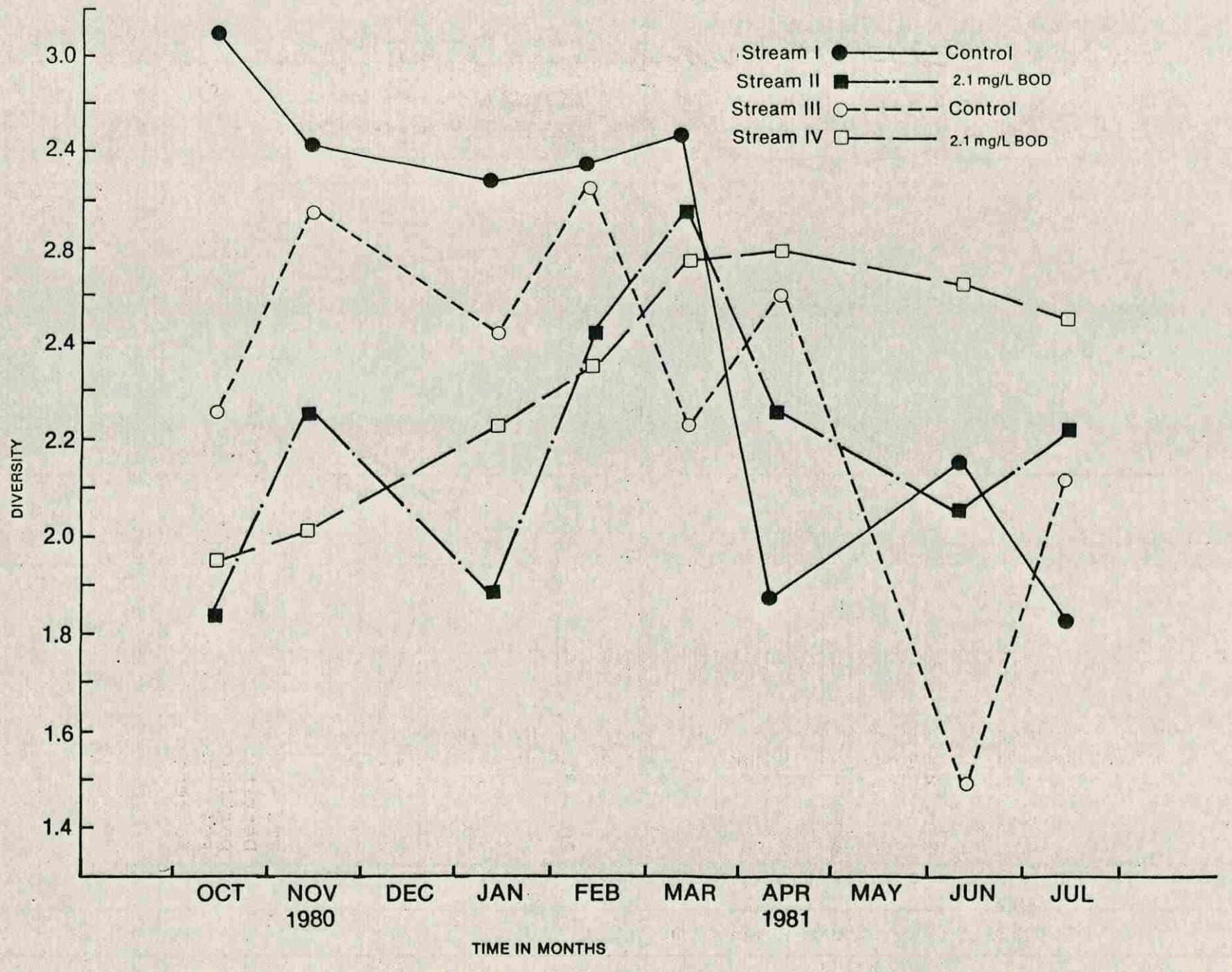


TABLE 9 THE BIOTIC INDEX (BI) OF THE TOTAL NUMBERS OF MACROINVERTEBRATES FOUND IN COMBINED CONTROL AND TREATMENT STREAMS AND THEIR PERCENT COMPOSITION AS CLASSIFIED BY FUNCTIONAL FEEDING GROUPS

DATE	BI	FTO %	FT1 %	FT2 %	FT3 %	FT4 %	FT5 %	FT6 %	FT7 %	FT8 %
Oct. 80 C	3.86	--	--	2	70	5	2	5	16	--
T	3.65	--	--	<1	83	<1	1	3	12	--
Nov. 80 C	3.85	--	--	4	72	5	2	3	14	--
T	3.36	<1	--	2	81	1	1	4	10	<1
Jan. 81 C	3.34	--	--	<1	74	4	1	4	15	2
T	3.25	--	--	2	75	2	<1	2	15	4
Feb. 81 C	3.41	--	--	2	79	4	<1	2	13	<1
T	3.28	--	<1	3	80	3	1	1	12	<1
Mar. 81 C	3.22	--	--	2	76	1	1	1	18	1
T	3.29	<1	<1	3	74	<1	1	2	17	4
Apr. 81 C	3.06	--	--	<1	75	1	1	1	22	--
T	3.08	--	--	2	73	<1	1	4	19	<1
Jun. 81 C	3.36	--	--	<1	68	18	<1	<1	12	1
T	3.18	--	--	5	79	<1	<1	4	10	2
Jul. 81 C	3.13	<1	--	1	67	1	1	1	24	6
T	3.04	<1	--	2	72	3	<1	1	22	--

FTO = Herbivores-feeding on living vascular hydrophyte, FT1 = Detritivores, FT2 = Filter Feeders, FT3 = Collectors-fine organic particles or on substrate surface-often on underside of rocks, FT4 = Scrapers-periphyton, FT5 = Predator, FT6 = Omnivore, FT7 = Scavenger-nutrients below substrate (worms), FT8 = Scavenger

TABLE 5 SBKME CHEMICAL CHARACTERISTICS AND AMOUNTS ADDED TO TREATMENT STREAMS
(Continued)

Micrograms/Liter

	1981 to 1982								
	SBKME					ADDED TO TREATMENT STREAMS			
COMPOUND	No. of Samples Quantified	$\bar{x}$	S.D.	Max.	Min.	$\bar{x}$	S.D.	Max.	Min.
oleic acid	119	134	206	1,200	ND	12.7	12.7	60.3	ND
linoleic acid	119	26	40	233	ND	2.6	2.5	12.2	ND
9,10 dichlorostearic acid	118	18	3	100	ND	1.8	2.0	8.5	ND
pimaric acid	119	173	200	1,150	ND	17.6	13.9	58.9	1.1
palustric acid	119	149	291	1,320	ND	10.5	17.8	73.1	ND
isopimaric acid	119	155	189	878	5	14.9	12.5	53.1	1.5
abietic acid	119	363	591	2,750	2	30.1	37.6	147.0	0.8
dehydroabietic acid	119	336	437	2,170	8	32.2	28.3	121.1	2.8
neoabietic acid	118	91	178	852	ND	6.5	11.4	46.1	ND
14 chlorodehydroabietic acid	119	14	12	55	ND	1.6	1.0	4.3	0.1
12 chlorodehydroabietic acid	119	64	49	188	5	7.5	4.9	22.6	1.0
dichlorodehydroabietic acid	119	72	40	168	9	8.9	4.1	22.8	2.0
2,4 dichlorophenol	123	4	4	15	ND	0.4	0.5	1.8	ND
2,4,6 trichlorophenol	123	3	4	16	ND	0.4	0.4	1.8	ND
2,3,4,6 tetrachlorophenol	123	2	1	5	ND	0.3	0.2	1.4	ND
pentachlorophenol	123	0	1	2	ND	0.1	0.1	0.2	ND
4,5 dichloroguaiacol	123	1	3	15	ND	0.2	0.4	1.7	ND
4,5 dichlorocatechol	123	8	8	27	ND	0.9	0.9	4.3	ND
3,4,5 trichloroguaiacol	123	9	5	22	ND	1.2	0.7	3.1	ND
4,5,6 trichloroguaiacol	123	3	2	9	ND	0.4	0.3	1.6	ND
3,4,5 trichlorocatechol	123	16	18	87	ND	2.2	2.6	14.0	0.3
3,4,5,6 tetrachloroguaiacol	123	4	3	13	ND	0.5	0.4	1.7	ND
3,4,5,6 tetrachlorocatechol	123	5	5	26	ND	0.7	0.7	3.9	0.2
2,4,5 trichlorophenol	123	0	0	2	ND	0.0	0.1	0.3	ND

ND = Not Detected

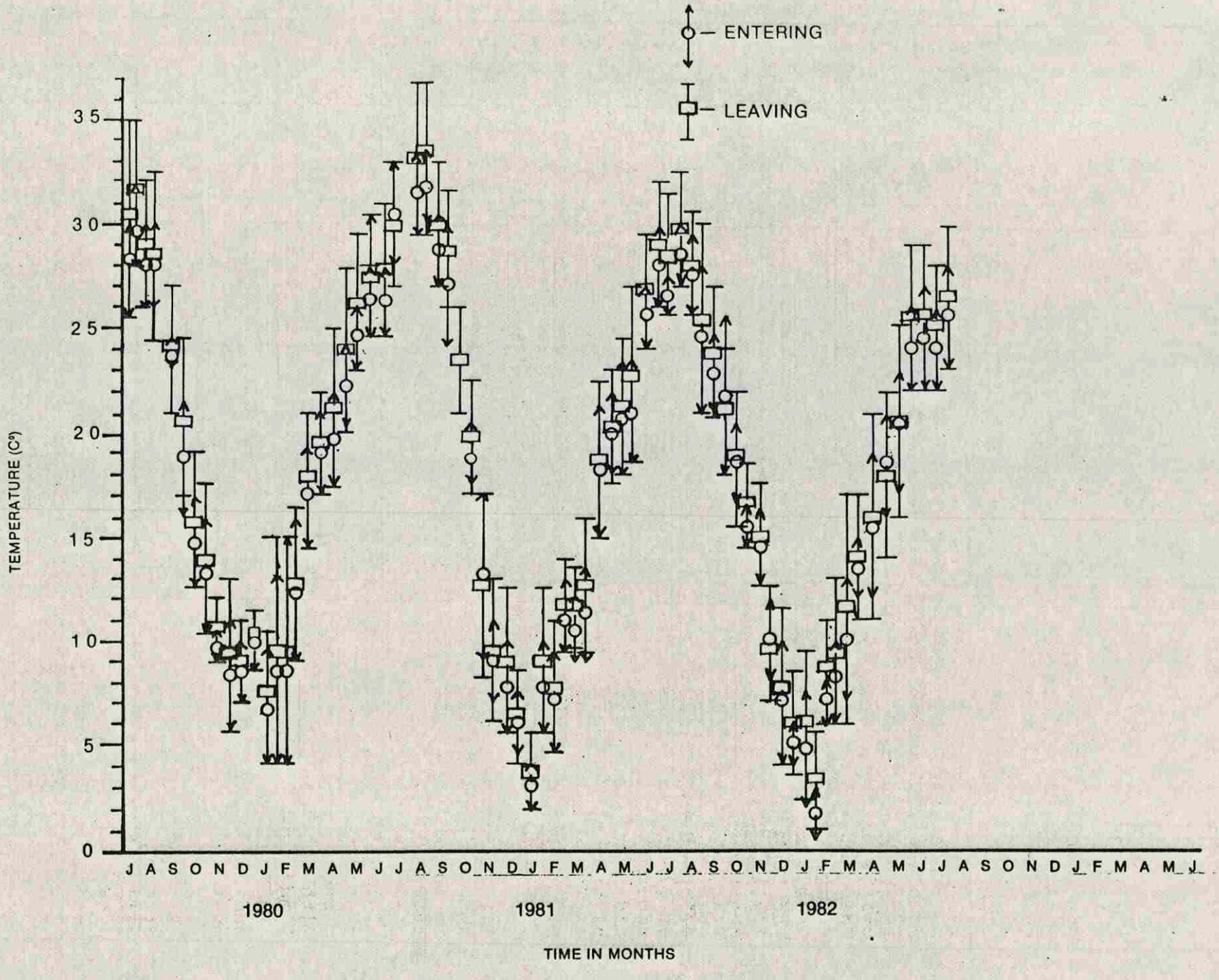


FIGURE 3 (Cont'd) BIWEEKLY HIGH, LOW AND MEDIAN TEMPERATURE OF RIVER WATER ENTERING AND LEAVING STREAMS JULY 1980 TO JUNE 1982

EFFLUENT ADDITIONS

Effluent additions to the streams were increased annually over the seven years of study reported in this bulletin. From 1975 through 1982, the average BOD of biologically treated bleached kraft effluent (SBKME) added to the streams increased incrementally from 0.4 to 2.5 mg/l and the percent by volume concentration increased from a mean of 4 to 15 percent. The mean total resin acid concentrations added to streams receiving effluent ranged from a low of 5 ug/l during 1975 to 1976 to a high of 199 ug/l during 1978 to 1979. The addition of chlorinated phenolic compounds increased over the 7 years of study and mean additions ranged from approximately 8 to 30 ug/l. Mean additions of suspended solids ranged from 1 mg/l to 2.8 mg/l, and the mean true color additions of 90 to 275 cu were also made to streams receiving effluent.

COLOR

The primary observable difference between streams receiving effluent and control streams was the presence of color. At mean true color additions of approximately 200 color units, an effect on the growth of the macrophyte Elodea because of light reduction was noticeable.

MACROINVERTEBRATES

The numerical and biomass density of macroinvertebrates was variable between streams and within streams through time, but no noticeable difference of these parameters between control and streams receiving effluent was noted until the BOD of SBKME added reached 1.4 mg/l (11 percent effluent by volume). Above this level, the number of the amphipods, isopods and total macroinvertebrates were frequently greater in the streams receiving effluent than the control streams. The biomass of these organisms did not demonstrate this trend to the extent that the numbers did.

SPAWNING

Bluegill sunfish have spawned in the streams at all effluent concentrations tested. Bluegill sunfish and bass juveniles when spawning occurred served as a partial restocking source the subsequent study year. Numbers of bluegill spawns recorded during the spring of 1979, 1980, 1981 and 1982 indicated no noticeable trends in spawning activity between streams receiving effluent and control streams. Golden shiners were also observed spawning in the streams during all years and larval golden shiners were routinely observed in both control and treatment streams. Because of their youth, largemouth bass have reproduced only sporadically in the experimental streams. At the highest effluent concentration tested, bass spawned in one control stream and one treatment stream. Based on these observations, the reproductive success of these three species has not been noticeably impaired at the levels of effluent thus far tested.

FISH PRODUCTION

The total production and biomass of fish from all streams were nearly equal when 0.4, 1.0 and 1.4 mg/l (4, 7 and 11 percent by volume) of BOD of SBKME were added to treatment streams. The productivity of the streams for bass, bluegill sunfish, and golden shiners, although variable at these effluent concentrations was not found to be affected by the presence of effluent although there was higher production of bluegill sunfish at 11% effluent added. Total production and biomass did not indicate any total yearly or seasonal effect due to the addition of effluent during this time period. During the study year that 1.6 mg/l of BOD entered the streams (10 percent by volume) winter losses of bass from streams receiving effluent made an evaluation of the productivity of the streams for fish of limited value. In subsequent years, when 1.7, 2.1 and 2.5 mg/l of BOD was added to the streams (9.0, 12 and 15 percent by volume), the total production and biomass of the three species of fish from streams receiving effluent was usually as great or greater than the total production or biomass of fish from control streams.

WATER QUALITY

The quality of the water fed the warmwater experimental streams was typically slightly acidic, highly colored, very soft, and at times, relatively turbid. The nutrients, phosphorous and nitgrogen were nearly always abundant. Summer temperatures frequently reached 30°C or greater and the dissolved oxygen was at times below 4.0 mg/l. There was a nominal 5°C increase in temperature during passage through the experimental streams.

FISH FEEDING HABITS

Stomach analysis of fish sampled during the last three years of study indicated that crayfish, adult and larval dragonflies, fish, amphipods and chironomids were important food items for bass. Bluegill sunfish fed primarily on amphipods, chironomids and larval damselflies. No consistent differences in the feeding habits were noted between fish from streams receiving effluent and control streams.

S. D. WARREN COMPANY, SOMERSET PLANT

COMMENTS ON LD 1503 - 9/24/85

My name is Tom Griffin. I am the Environmental Engineer at S. D. Warren's Somerset Plant in Skowhegan, Maine.

One of S. D. Warren's major concerns with LD 1503 is the effect it will have on future growth in Maine.

The S. D. Warren Somerset Plant in Skowhegan is currently installing a second paper machine. During the licensing process, we were advised by DEP that the current Kennebec River computer model indicated that the river is now water quality limited for dissolved oxygen and that there would be no increase to the plant's 24-hour BOD standard for summer months.

The Kennebec River is currently being remodeled in a cooperative effort with DEP to verify the accuracy of the model.

Computer models of rivers are used to assure dissolved oxygen criteria will be maintained. They are, however, very conservative using 7-day, 10-year low flow conditions, summer river water temperatures and maximum effluent loading to predict the dissolved oxygen concentrations. The likelihood of these assumed conditions occurring simultaneously are remote. In other words, there are a number of safeguards built into these models to assure dissolved oxygen concentrations will normally remain well above current criteria guidelines.

With the increase in dissolved oxygen standards associated with LD 1503 and the conservatism built into these computer models, we are concerned that future expansion may be severely limited or impossible.

Our particular situation at the Somerset Plant is that we discharge into a 5-mile section of river classified as "B-2". The dissolved oxygen standard in that section will go from 60% saturation and 5 ppm to 75% and 7 ppm. At any temperature above 66°F the 7 ppm standard will apply. Temperatures in the summer typically reach the 73 to 75° range. At 75°F the 7 ppm represents 82% saturation which we will have to meet under the conservative model conditions; i.e., 7-day, 10-year low flow condition, maximum temperature, and maximum effluent discharge. Dissolved oxygen measurements this summer showed natural oxygen levels of 85% saturation upstream of industrial discharges on the Kennebec. Contrasting the proposed dissolved oxygen standard of 82% at 75°F and a natural level of 85%, it is easy to see that there could be virtually no room for industrial use. This problem is compounded by the fact that this 5-mile "B-2" section of river below the plant is an impoundment behind Shawmut Dam.

The remaining section of river is classified "C". This section of river typically has very high dissolved oxygen levels. We are concerned that the anti-degradation portion of the bill will in effect automatically upgrade existing stretches of Class C river segments. We are concerned with the method that would be used to upgrade and whether the method would be open for public comment and review. This law may in fact penalize facilities for operating treatment plants at efficient levels by upgrading their receiving waters. This automatic upgrading will have the same effect of reducing the potential future development by limiting any additional assimulative capacity currently available for growth.

In summary, we recommend leaving the dissolved oxygen standards at their current levels.

Before any changes in dissolved oxygen standards are made:

1. The economic impact (i.e., curtailed expansion) of these changes should be determined through detailed modeling analysis; and
2. The biological justification for the increase demonstrated.

MEMORANDUM

TO: Tim
FROM: Andi
DATE: 8-21-85
SUBJ: Water Quality Reclassification: meeting notes 8-19-85

Hank Warren:
Estimates that reclassification is a three year process.

Steve Groves:

I History

•1960's - first classification of Maine's waters according to Federal framework (A,B1,B2,C,D) Not sure why B1 and B2 - possibly to allow higher bacteria in B2.

•1967 - Legislature mandated that all state waters should meet their classification by 1976. Intent aimed specifically at the industrial sector and the construction of treatment centers. Few treatment centers built.

•1972 - DEP expanded, Federal Clean Water Act set 1977 as goal-deadline for fishable swimmable and 1983 as goal for zero discharge (backed off). Fishable swimmable wherever possible as determined by a cost benifit analysis. For example, combined storm sewers prevent uniform compliance. Lots of money made available for municipal sewage treatment (two year expenditure deadline). Primary concern was to lower BOD, not toxins.

•Late 1970's - Concern started to focus on toxics and this was added to the Clean Water Act. EPA started to push for numerical criteria on all sorts of things. At this point DEP started to look at biologically based standards.

•1977 - Fishable swimmable deadline extended to 1983 with a waiver to 1988. Most of the basics achieved.

II Why

•Federal Regulations require three year periodic review of water quality classification system.

•Consolidate gains.

•Shift to bio-monitoring basis of evaluation to deal with situations where dissolved oxygen standards were met but other toxins were killing aquatic life (Corinna and Guilford).

III Issues

A. General goal of Federal Clean Water Act is fishable-swimmable. State ("mamagement") goal is fishable-swimmable. "Standards" are the means to achieving this goal. "Designated Uses" support the standard. "Water Quality Criteria" to evaluate whether or not the designated uses can be supported.

C. Groves described this as an immpossible situation: it is necessary to meet the physical and biological parameters to permit the designated uses. Possible exceptions are color and foam for which impacts are difficult to asses. EPA would permit partial use such as 'recreation in or on the water' instead of 'swimmable'.

Hydro power is also a possible question; it could interfere withe designated uses in A-C waters.

Law claims that "free flowing" is a bad term because a fish ladder over barrier falls would "obstruct" the free flow of water.

D. To be discussed during Sept 23 meeting.

E. Federal government has a definition of discharge. Non-point source discharges should be dealt with through land use management practices, not licensing.

F. Groves would like DEP to maintain a middle course between EPA who want more stringent and industry who want less stringent anti-degradation regulations. He feels DEP should protect the "bottom line" of each classification while managing discharges within the acceptable range of each classification. He also said that there is an anti-degradation clause in the existing waste water discharge statutes. EPA would require an applicant to show cost-benefit analysis to justify an anti-degradation finding.

G. Shifting to a single lake classification to simplify the system, to focus on non-attainment and to identify water quality trends.

Prohibiting domestic discharges to Great Pond Tributaries to limit phosphorous. Industrial discharges are not a problem. Point source discharges exist in only one or two lakes.

H. 1-100 is chosen because it approximates the actual risk of the existing standard, eventhough the correlation between bacterial levels and illness is difficult to document.

IV Susan Davies: Bio-monitoring

- General discussion

- If habitat could support trout but trout are not there, would discharge impact be judged by the "trout standard" criteria?

- Seven segments (10 -30 miles) are now in non-attainment:
  - Corrina
  - Thompson Lake Outlet
  - Presquile Stream
  - Guilford
  - Goosefare
  - E. Branch Sebasticook

V General

Law raised the issue that proposing changes in classification should not be discretionary. Perhaps there ought to be a schedule (state) for review of classifications and existing water quality. Also, a schedule for the reclassification effort itself.

3353M

8/19 Water Quality Usher Michaud Coles Law / Glidden - Colnes

DEP Warren Groves (?)(?)
Grippe IP ? (?)
Dave Sargent
Jim Doe
John Delahanty
Patti Waugh

- Things to Get
  - Statutory sections
  - Side by side of old & new
  - digest of 8/19 discussion
  - digest of suggestions

Warren estimates that actual reclassification will take 3 years

Groves a little history

in 1967 Legislature mandated that water would & meet its classification by 1976

doesn't know why B1 & B2 created except perhaps to allow higher bacteria in B2

in 1972 Federal Clean Water Act set 1977 as goal/deadline for fishable swimmable w/ 1983 as goal for zero discharge. Lots of $ for municipal sewage treatment

in late 1970's concern started to go up on toxics and this was added to Clean Water Act. EPA started to push for numerical criteria on all sorts of things.

at this point DEP started to look a biologically-based standards

by '77 most of the basics had been achieved

fish/swim deadline extended to '83 w/ waivers to '88

2/ 8/9 Water Quality

Combined storm sewers will keep us from always meeting F/S stand.

Why LD 1503

- EPA requires 3 yr periodic review
- Consolidate gains
- Shift to Bio-monitoring basis of evaluation
  - had situations where DO was met but aquatic life was wiped out by other discharge constituents (Corinna & Guilford)
- Groves asserts that F/S goal is subject to cost benefit analysis (response to Rep Law)
- Funding (federal) is directed to greatest need (Law also asks if federal $ is tied to this goal)

Goals - general: Fishable/swimmable

Specifics Standards

1. Designated uses support (or define) the standard
   Water quality criteria used to evaluate whether or not designated uses can be supported.
   + Groves says that if you meet biological & physical parameters you will ~~meet~~ not affect designated use (by definition) possible exception for color & foam which is difficult to assess ~~impact~~ effect

* talk w/ Murch & Flanagan

Hydro power is a question too. Hydropower is a designated use for A-C wq. not AA

Law claims that "free flowing" is a bad term because a fish ladder over barrier falls would "obstruct" free flow of water.

3/ 8/19 Water Quality

Susan Davies Discussion of Bio monitoring

① If habitat could support trout but trout aren't there; would discharge impact be judged on "trout standard/criteria"?

② 7 segments are in non-attainment (10-20 miles)

Corning

Thompson Lake Outlet

Presque Isle Stream

Guilford

Goose Race

E Branch Sebast. cook

Groves: - Federal government has a definition of discharge. Offers to lengthen & expound on definition.

- The way to deal w/ NPS is through use practices not discharge licensing
- Anti-degradation: EPA wants more stringent language. Groves feels that he's in the middle
- Groves feels that DEP should protect the "bottom line" of each classification. DEP should have latitude to manage within the ranges of quality between one classification and the next. Says there is an anti-degradation clause in the existing wastewater discharge statutes.

(Coorlemaish → Groves 8/15/85 impoundments) ⇒ ! (McGovern → Groves 8/12/85 memo anti-degradation)

Groves says that an anti degradation finding would involve a cost benefit analysis.

4/ 8/19 Water Quality

Item G
- Going to one lake class to simplify system and to focus on non attainment
- Prohibiting domes. discharges to GP trib.s to limit phosphorous phos. is not a problem w/ industrial discharges.

H. 1/100 is choosen because it approximates the protection of the existing standard (even though there's no correlation between existing standard & # of illnesses)

D. Variance for waters in the deeper part of an impoundment when hydrologic conditions limit mixing & fish & designated uses are not negatively affected.

Law raises the issue that proposing changes in classification should not be discretionary

(perhaps ought to be a schedule (state) for review of classifications & existing water quality)
(also a schedule for reclassification effort anticipated).

Issues

Consultant report comparison

PATTIE WAUGH - MCCI 126 Sewall St Augusta Me 04338

JOHN Delahanty, Pierce, Atwood One Monument Sq Portland Me 04101

Jim GRIPPE - IPCO - Androscoggia Mill, Jay

Jim Dow. - NRCM.
271 State St Augusta Me 04330

X

Supervisor, Environmental Compliance
International Paper Co Jay Me 04239

Document # 3510 M

An Act to Amend the Classification System for Maine Waters and Change the Classifications of Certain Waters (S.P. 915) (L.D. 2283)

Was reported by the Committee on Engrossed Bills as truly and strictly engrossed.

The SPEAKER: The Chair recognizes the Representative from Saco, Representative Nadeau.

Representative NADEAU: Mr. Speaker, Men and Women of the House: I would just like to ask someone if they could explain what this bill does.

The SPEAKER: The Representative from Saco, Representative Nadeau, has posed a question through the Chair to anyone who may respond if they so desire.

The SPEAKER: The Chair recognizes the Representative from Medway, Representative Michaud.

Representative Michaud: Mr. Speaker, Men and Women of the House: Basically, what this bill does is, during the first session of the 112th, and we also had a bill in the 111th legislature submitted by the department on classifications of Maine waters -- this was the bill held over from the Energy and Natural Resources to work on. This is one of the few bills that was put out that is unanimous. It was a very controversial issue and that is probably one of the reasons why the Energy and Natural Resources Committee had the bill for four years.

In the Committee Report, because of the complication, we did adopt a report which could be used for interpreting provisions of this new law. We are endorsing new concepts such as biological monitoring in this bill but it is simply putting it into statutes what the Department of Environmental Protection is already doing currently.

We also added a provision dealing with anti-degradation. This language was the most difficult for the committee to work out because, if it was not done properly, it probably could be interpreted wrong. We did have an EPA representative at one of the working group subcommittees who did explain that the existing uses could be used as designated uses. It is not the intention of the anti-degradation provision to prohibit activities which interfere with existing uses as long as the goals of the Clean Water Act are maintained.

There was some concern that specific existing uses such as fishing for rainbow trout, swimming, or white-water rafting was going to interfere with or eliminate that anti-degradation provision and could be read to prohibit any uses such as these.

The statutes and the comments in the Committee Report, taken together, makes it clear that impacts are allowed and are to be considered on a case by case basis and that the anti-degradation language is intended to protect broad goals. The committee did not view this as making any substantial changes in the current law but it does modernize the whole structure of the water reclassification.

I reread the bill and I could not find any errors. We are not upgrading or degrading any rivers in the State of Maine with the exception of the Kennebec which, under the new classification, would either have to be upgraded or degraded.

This was a Unanimous Report from the Energy and Natural Resources Committee.

Subsequently, the bill was passed to be enacted, signed by the Speaker and sent to the Senate.

An Act to Provide a Periodic Cost-of-living Adjustment in the State Reimbursement to Boarding Care Facilities (S.P. 918) (L.D. 2292)

Was reported by the Committee on Engrossed Bills as truly and strictly engrossed, passed to be enacted, signed by the Speaker and sent to the Senate.

RESOLVE, Authorizing the Exchange and Sale of Certain Public Reserved Lands (H.P. 1516) (L.D. 2145) (C. "A" H-615)

Was reported by the Committee on Engrossed Bills as truly and strictly engrossed, finally passed, signed by the Speaker and sent to the Senate.

The following items appearing on Supplement No. 3 were taken up out of order by unanimous consent:

PETITIONS, BILLS AND RESOLVES REQUIRING REFERENCE

The following Bill was received and, upon the recommendation of the Committee on Reference of Bills, was referred to the following Committee, Ordered Printed and Sent up for Concurrence:

Judiciary

Bill "An Act to Provide Funding through Fees and Trim Expenses of the Court Mediation Service" (H.P. 1655) (Presented by Representative KANE of South Portland)(Cosponsor: Senator CARPENTER of Aroostook) (Approved for introduction by a majority of the Legislative Council pursuant to Joint Rule 27)

(Committee on Appropriations and Financial Affairs was suggested)

On motion of Representative Carter of Winslow, referred to the Committee on Judiciary, ordered printed and sent up for concurrence.

By unanimous consent, ordered sent forthwith to the Senate.

The Chair laid before the House the following matter: Bill "An Act to Provide Funding through Fees and Trim Expenses of the Court Mediation Service" (S.P. 928) (L.D. 2321) which was tabled earlier in the day and later today assigned pending reference.

Subsequently, was indefinitely postponed and sent up for concurrence.

On motion by Senator PEARSON of Penobscot, placed on the SPECIAL APPROPRIATIONS TABLE, pending ENACTMENT.

An Act to Amend the Maine Osteopathic Student Loan Program

H.P. 1497 L.D. 2110
(C "A" H-619)

On motion by Senator PEARSON of Penobscot, placed on the SPECIAL APPROPRIATIONS TABLE, pending ENACTMENT.

An Act to Make Additional Allocations from the Alcohol Premium Fund

S.P. 910 L.D. 2277

On motion by Senator VIOLETTE of Aroostook, Tabled Unassigned, pending ENACTMENT.

An Act to Allow the State Liquor Commission to Establish One Additional Discount Liquor Store

H.P. 1619 L.D. 2281
(H "A" H-621)

Senator HICHENS of York moved to Table 1 Legislative Day, pending ENACTMENT.

On motion by Senator VIOLETTE of Aroostook, Tabled until Later in Today's Session, pending ENACTMENT.

An Act to Amend the Classification System for Maine Waters and Change the Classifications of Certain Waters

S.P. 915 L.D. 2283

THE PRESIDENT: The Chair recognizes the Senator from Cumberland, Senator Usher.

Senator USHER: Thank you, Mr. President. Mr. President, Ladies and Gentlemen of the Senate. I would like to take a few minutes of your time to summarize as best I can, to explain the Water Quality Reclassification Bill, which is before us, before we Enact the Bill.

This is a hold over of a bill. The original bill was L. D. 1503. This comes under a new draft of L. D. 2283. This Bill represents an important mile stone in Maine's 40 year effort to clean up its' lakes, streams and coastal waters. Many people have participated in the development of this Bill. Everyone has given some ground; yet the final product is a solid foundation for future efforts to maintain and improve the quality of our waters. Despite many difficult issues, we have achieved a remarkable degree of consensus. I'd emphasize that we have a unanimously favorable committee report here.

The most important things to understand are that this Bill will:

(1) Allow the State to meet its' obligations under the Federal Clean Water Act:

(2) Strengthen the State's hand in blocking unwanted Federal approval of projects which the State has rejected:

(3) Give industry and other economic development interests a clearer picture of the State's water quality standards:

(4) Give us the tools to manage our waters in the best interests of the people of Maine: and

(5) Retain the final authority of the Legislature to establish the classification of individual water bodies.

During the First Regular Session of the 112th Legislature, the Department of Environmental Protection submitted L. D. 1503, "An Act to Amend the Classification System for Maine Waters and Change the Classifications of Certain Waters." Owing to the complexity of the Bill and its' late submission, the Joint Standing Committee on Energy and Natural Resources voted to hold the Bill over until the Second Regular Session and to prepare a new draft during the summer interim.

Our current water quality classification and regulation system has not been comprehensively reviewed for many years. Recognizing the need for careful consideration of all Maine interests, and the value of a consensus effort, the committee established an ad-hoc working group composed of parties interested in the issue. The core working group included representative of industry, utilities, public interest environmental groups and the Department of Environmental Protection. A broader group monitored the progress of this core group.

The committee report provides a detailed statement of intent on many of the key provisions of the Bill. Important options that were reviewed by the committee are discussed. Extensive committee files are also available to document the committee's efforts and intent.

The main reason for this, is I want these to get On the Record, because it is of great concern nationwide. Water quality is a major issue, and I feel this is a good step. I move the Enactment of this Legislation.

Which was PASSED TO BE ENACTED and having been signed by the President, was presented by the Secretary to the Governor for his approval.

An Act to Provide a Periodic Cost-of-living Adjustment in the State Reimbursement to Boarding Care Facilities

S.P. 918 L.D. 2292

On motion by Senator PEARSON of Penobscot, placed on the SPECIAL APPROPRIATIONS TABLE, pending ENACTMENT.

Resolve

Resolve, Authorizing the Exchange and Sale of Certain Public Reserved Lands

H.P. 1516 L.D. 2145
(C "A" H-615)

Which was FINALLY PASSED and having been signed by the President, was presented by the Secretary to the Governor for his approval.

Under suspension of the Rules, the Senate considered the following inclusively:

Emergency

An Act to Amend the Charter of the Lucerne-in-Maine Village Corporation

S.P. 720 L.D. 1843
(H "A" H-620 to C "A" S-436)

Emergency

An Act Relating to Cancellation and Non-renewal of Property and Casualty Insurance Contracts

H.P. 1457 L.D. 2054
(C "A" H-612)

Emergency

An Act to Clarify the Authority of Municipalities to Raise and Appropriate Money for Financial Assistance to Water and Sewer Districts

S.P. 854 L.D. 2166
(C "A" S-445)

These being an Emergency Measures and having received the affirmative votes of 26 Members of the Senate, with No Senators having voted in negative, and 26 being more than two-thirds of the entire elected Membership of the Senate, were PASSED TO BE ENACTED and having been signed by the President, were presented by the Secretary to the Governor for his approval.

Emergency Resolve

Resolve, Creating a Maine Commission to Commemorate the Bicentennial of the United States Constitution

S.P. 813 L.D. 2045
(C "A" S-443)

On motion by Senator VIOLETTE of Aroostook, Tabled 1 Legislative Day, pending FINAL PASSAGE.

Emergency Resolve

Resolve, for Laying of the County Taxes and Authorizing Expenditures of Lincoln County for the Year 1986

H.P. 1534 L.D. 2162
(H "A" H-626)

This being an Emergency Measure and having received the affirmative vote of 28 Members of the Senate, with No Senators having voted in negative, and 28 being more than two-thirds of the entire elected Membership of the Senate, was FINALLY PASSED and having been signed by the President, was presented by the Secretary to the Governor for his approval.

Emergency Resolve

Resolve, Authorizing a Continuation of the Study of the Utilization of Vacant Buildings at Pineland

H.P. 1539 L.D. 2170

Statement of Rep. Michael Michaud of Medway
Chairman, Joint Standing Committee on
Energy and Natural Resources
Water Quality Reclassification

Mister Speaker, ladies and gentlemen of the House, I'd like to take a few minutes of your time today to summarize and, as best I can, to explain the Water Quality Resclassification bill, LD 2283. This bill represents an important milestone in Maine's 40 year effort to clean up its lakes, streams and coastal waters. Many people have participated in the development of this bill. Everyone has given some ground; yet the final product is a solid foundation for future efforts to maintain and improve the quality of our waters. Despite many difficult issues, we have achieved a remarkable degree of consensus. I'd emphasize that we have a unanimously favorable committee report here.

The most important things to understand are that this bill will

1. Allow the state to meet its obligations under the federal Clean Water Act;

2. Strengthen the State's hand in blocking unwanted federal approval of projects which the state has rejected;

3. Give industry and other economic development interests a clearer picture of the state's water quality standards;

4. Give us the tools to manage our waters in the best interests of the people of Maine; and

5. Retain the final authority of the Legislature to establish the classification of individual water bodies.

During the First Regular Session of the 112th Legislature, the Department of Environmental Protection submitted LD1503, An Act to Amend the Classification System for Maine Waters and Change the Classifications of Certain Waters. Owing to the complexity of the bill and its late submission, the Joint Standing Committee on Energy and Natural Resources voted to hold the bill over until the Second Regular Session and to prepare a new draft during the summer interim.

Our current water quality classification and regulation system has not been comprehensively reviewed for many years. Recognizing the need for careful consideration of all Maine interests and the value of a consensus effort, the committee established an ad-hoc working group composed of parties interested in the issue. The core working group included

representatives of industry, utilities, public interest environmental groups and the Department of Environmental Protection. A broader group monitored the progess of this core group.

The committee report provides a detailed statement of intent on many of the key provisions of the bill. Important options that were reviewed by the committee are discussed. Extensive committee files are also available to document the committee's efforts and intent.

I'll stop with this. The statement of fact provides a good section-by-section discussion of the bill. I'm happy to answer any questions my colleagues may have.

OPTIONAL
MATERIAL DESCRIBING INDIVIDUAL SECTIONS

Sections 1 through 14 make technical corrections and repeal obsolete provisions of current water quality law. Section 15 of the bill enacts a new article, 4-A, in Chapter 3, subchapter I of Title 38. This article contains the main body of the new water quality classification system. I will briefly describe each of the following sections.

Title 38, section 464 provides the general goals and objectives of the water classification system, along with a set of general regulatory and administrative provisions. Procedures for reclassification, departmental reports to the Legislature, general provisions governing discharges and rulemaking requirements are all included in §464.

Title 38, section 465 describes the requirements of each of the four classifications for fresh surface water, not including great ponds. The classes are AA, A, B and C.

Class AA is the highest classification and is applied to waters which are outstanding resources for reasons of ecological, social, scenic or recreational importance. The discharge to Class AA waters of domestic or industrial waste waters is prohibited. Activities which would cause Class AA waters to be other than a free flowing and natural habitat for fish and other aquatic life are prohibited.

Class A waters have water quality and discharge provisions which are essentially unchanged from present law.

Class B is the most frequently applied classification for the State's rivers, streams and brooks. Discharges to Class B waters are allowed, provided that they cause no substantial harm to aquatic life and meet bacteriological standards necessary to protect swimmers.

Class C is applied to rivers and streams which presently receive major discharges. Discharges to Class C waters are allowed, provided they meet bacteriological standards necessary to protect swimmers and are of sufficient quality that all indigenous species of fish and a diverse community of aquatic life are supported.

Title 38, section 465-A establishes one class, GPA, for lakes and ponds To protect and improve lakes and ponds, there are restrictions established for discharges and changes of land use in the watersheds of lakes and ponds.

Title 38, section 465-B establishes three classes of estuarine and marine waters.

Class SA is the highest classification and is applied to waters which are outstanding resources for reasons of ecological, social, economic, scenic or recreational importance. The discharge to Class SA waters of domestic or industrial waste waters is prohibited. Activities which would cause Class SA waters to be other than a natural and free flowing habitat for fish and other estuarine and marine life are prohibited.

Class SB is the most frequently applied classification for the State's estuarine and marine waters. Discharges to Class SB waters are allowed, provided that they cause no substantial harm to estuarine and marine life, meet bacteriological standards necessary to protect swimmers and do not adversely affect the State's shellfish resources.

Class SC is applied to estuarine and marine waters which presently receive major discharges or which may receive such discharges as a result of the State's economic development policy. Discharges to Class SC waters are allowed, provided they meet bacteriological criteria necessary to protect swimmers and are of sufficient quality to support all indigenous species of fish and a diverse community of estuarine and marine life.

Title 38, section 465-C, ground water standards, is taken verbatim from existing law, 38 MRSA §363-B.

Title 38, section 466 provides definitions for twelve terms which are used in the new water quality classification system.

Title 38, sections 467, 468 and 469 revise the description of classifications of surface fresh and coastal waters. This revision results in a shorter, more understandable text and will aid subsequent revision.

On the whole, classifications have not been substantially changed from existing law. The changes that have been made are outlined in the statement of fact.

Title 38, sections 470 takes the provisions for ground water verbatim from existing law.

Section 16 enacts a new provision in the hydro licensing law to require legislative review of hydroelectric licensing rules prior to their adoption.

5563M

Statement of Sen. Ron Usher of Westbrook
Chairman, Joint Standing Committee on
Energy and Natural Resources
Water Quality Reclassification

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Class SC is applied to estuarine and marine waters which presently receive major discharges or which may receive such discharges as a result of the State's economic development policy. Discharges to Class SC waters are allowed, provided they meet bacteriological criteria necessary to protect swimmers and are of sufficient quality to support all indigenous species of fish and a diverse community of estuarine and marine life.

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