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PUBLIC HEARING

before

ASSEMBLY CONSERVATION AND NATURAL RESOURCES COMMITTEE

ASSEMBLY BILL No. 3103

(The "Watershed Protection Act")

and

ASSEMBLY BILL No. 4204

(The "Watershed Restoration Act")

June 12, 1991
East Brook School Auditorium
Paramus, New Jersey

MEMBERS OF COMMITTEE PRESENT:

Assemblyman Thomas J. Duch, Chairman
Assemblyman Daniel P. Jacobson, Vice-Chairman
Assemblywoman Maureen B. Ogden
Assemblyman John E. Rooney

ALSO PRESENT:

Jeffrey T. Climpson
Office of Legislative Services
Aide, Assembly Conservation and
Natural Resources Committee

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Hearing Recorded and Transcribed by
Office of Legislative Services
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Trenton, New Jersey 08625

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THOMAS J. DUCH
CHAIRMAN
DANIEL P. JACOBSON
VICE-CHAIRMAN
JOSEPH A. MECCA
MAUREEN OGDEN
JOHN E. ROONEY

New Jersey State Legislature
ASSEMBLY CONSERVATION
AND NATURAL RESOURCES COMMITTEE
STATE HOUSE ANNEX, CN-068
TRENTON, NEW JERSEY 08625-0068
(609) 292-7676

NOTICE OF PUBLIC HEARING

The Assembly Conservation and Natural Resource Committee will hold a public hearing on the following legislation:

A-3103 The "Watershed Protection Act."
Duch/Jacobson

A-4204 The "Watershed Restoration Act."
Duch/Rooney

The hearing will be held on **Wednesday, June 12, 1991 at 7:00 p.m. at East Brook School Auditorium, Spring Valley Road, Paramus, New Jersey.**

The public may address comments and questions to Jeffrey T. Climpson, Committee Aide and persons wishing to testify should contact Carol Hendryx, secretary, at (609) 292-7676. Those persons presenting written testimony should provide 10 copies to the committee on the day of the hearing.

DIRECTIONS to East Brook School, Spring Valley Road, Paramus:

Take GARDEN STATE PARKWAY NORTH TO EXIT 161 (Route 4 East).
Proceed approximately one mile on ROUTE 4 EAST to SPRING VALLEY ROAD EXIT. The ramp will take you up and over Route 4.
After crossing over Route 4, stay to the right for SPRING VALLEY ROAD.
EAST BROOK SCHOOL is approximately 1 and 1/8 miles up on the right.

Issued May 31, 1991

ASSEMBLY, No. 3103

STATE OF NEW JERSEY

INTRODUCED MARCH 1, 1990

By Assemblymen DUCH and JACOBSON

AN ACT concerning watershed protection, and supplementing Title 58 of the Revised Statutes.

BE IT ENACTED *by the Senate and General Assembly of the State of New Jersey:*

1. This act shall be known and may be cited as the "Watershed Protection Act."

2. The Legislature finds and declares that the protection of the State's water supply system is a matter of grave concern and is essential to the health, safety and well-being of all the citizens of New Jersey; that new water supply projects, conservation programs, and allocation practices alone are not sufficient to adequately protect the quality and long-term availability of the State's drinking water supplies; that the use of surface water resources for drinking water becomes increasingly more difficult as those waters become more contaminated with point source and nonpoint source pollution; that while pollutants emanating from point source discharges of wastewater are covered under the New Jersey Pollutant Discharge Elimination Systems (NJPDES) regulatory program, there are at present no specific regulatory programs for the regulation of nonpoint source pollution, considered to be a major cause of water quality degradation in the State.

The Legislature further finds and declares that the effectiveness of buffer zones in providing water quality protection against nonpoint sources of pollutants has been amply documented, and that the establishment of buffer zones around water supply reservoirs is an effective method of providing a measure of water quality protection; that placing buffer zones only around water supply reservoirs, however, will not be sufficient to protect the water quality from nonpoint source pollution and long-term degradation; that in order to provide adequate water quality protection to water supply reservoirs it is necessary to implement a watershed management program that incorporates a multi-zone buffer approach; and that the public interest dictates that the State establish appropriate and effective multi-zone buffers for all watersheds associated with water supply reservoirs, tributaries, and intakes.

The Legislature further finds and declares that a statewide watershed management program must necessarily embody the

diverse geological and climatic conditions and population characteristics that define this State; and that while watershed management should be undertaken in a comprehensive manner, careful attention must be paid to regional differences, relative population density, levels of growth and development, and similar land use considerations in order to reflect this diversity; and that the distinctive nature of New Jersey's various regions and development patterns must be taken into consideration in implementing a multi-zone buffer approach to statewide watershed management.

The Legislature therefore determines that it is in the public interest to establish a comprehensive watershed protection program in the Department of Environmental Protection incorporating a multi-zone buffer approach to water quality protection which includes all tributaries, water supply intakes, and water supply reservoirs, and which reflects the State's diverse regional, geological and population characteristics.

3. As used in this act:

"Buffer zone" means a strip of land designed and planted with specific vegetation to achieve sediment and soil erosion control; or a band of naturally vegetated land which is left undisturbed around a strem, pond, wetland or reservoir for the purpose of mitigating the effects on the water resources from pollution and disturbances from adjacent land uses;

"Department" means the Department of Environmental Protection;

"Watershed land" means those lands located above or upstream from a terminal water supply reservoir or surface water intake, including the land surrounding tributaries or feeder streams entering the water supply reservoir.

4. a. Within one year of the effective date of this act, the department shall adopt, pursuant to the "Administrative Procedure Act," P.L. 1968, c. 410 (C.52:14B-1 et seq.), rules and regulations establishing buffer zones for all watershed lands associated with public water supply reservoirs, including water supply intakes and tributaries, for the purpose of protecting drinking water quality. The rules and regulations shall incorporate best management practices for nonpoint source pollution control, and include the following considerations:

(1) The effects of climatic conditions, including mean annual temperature and precipitation levels, upon the watershed land;

(2) The effects of regional and geographical differences which characterize the various watershed lands identified by the department; and

(3) Land use patterns, including population density, degree of urbanization and present and projected levels of growth and development.

b. The provisions of this section shall not apply to land utilized

for the purpose of the protection of a public water supply if the land is otherwise subject to regulation pursuant to P.L.1979, c.111 (C.13:18A-1 et seq.) or P.L.1973, c.185, (C.13:19-1 et seq.).

5. This act shall take effect immediately.

STATEMENT

This bill would require the Department of Environmental Protection to adopt rules and regulations establishing buffer zones for all watershed lands associated with public water supply reservoirs, including water supply intakes and tributaries, for the purpose of protecting drinking water quality.

The rules and regulations must incorporate best management practices for nonpoint source pollution control, and include consideration of the effects of climatic conditions, regional and geographical differences and land use patterns, including population density, degree of urbanization and present and projected levels of growth and development, that characterize the watershed lands identified by the department.

ENVIRONMENT

The "Watershed Protection Act."

ASSEMBLY, No. 4204

STATE OF NEW JERSEY

...TRODUCED DECEMBER 3, 1990

By Assemblyman DUCH

AN ACT concerning the restoration of watershed properties, supplementing Title 48 of the Revised Statutes, and amending P.L.1988, c.163, R.S.48:2-23 and R.S.48:3-7.

BE IT ENACTED *by the Senate and General Assembly of the State of New Jersey:*

1. (New section) This act shall be known and may be cited as the "Watershed Restoration Act."

2. (New section) The Legislature finds and declares that the protection of the State's water supply system is a matter of grave concern and is essential to the health, safety and well-being of all the citizens of New Jersey; that public water utilities in this State have recently transferred historical watershed lands which are necessary for the long-term protection of public water supplies and which serve the dual interests of protecting valuable open space, conservation and recreation; that inconsistent public utility accounting rules have created an artificial incentive for certain public water utilities to attempt to develop these lands rather than preserving them, with full public compensation, for the benefit of the ratepayers and public; and that still other public water utilities need to acquire additional watershed lands to serve as buffer zones for the long-term protection of their surface water resources, but are reluctant to do so for financial reasons.

The Legislature therefore determines that it is necessary to revise and expand public policy with respect to watershed property held or formerly owned by public water utilities as hereinafter provided.

3. (New section) As used in this act:

"Board" means the Board of Public Utilities.

"Business concern" means any corporation, association, firm, partnership, sole proprietorship, trust or other form of commercial organization.

"Department" means the Department of Environmental Protection.

"Person" means any individual or business concern.

"Public water supply reservoir" means any of the 39 public water supply reservoirs identified by the department in the study required pursuant to section 3 of P.L.1988, c.163, including any public water supply reservoir operated or maintained by a county.

EXPLANATION--Matter enclosed in bold-faced brackets [thus] in the above bill is not enacted and is intended to be omitted in the law.

Matter underlined thus is new matter.

district water supply commission, municipality, municipal or county utilities authority, municipal water district, joint meeting or any other political subdivision of the State authorized pursuant to law to operate or maintain water supply facilities or otherwise provide water for human consumption; or any public water supply reservoir owned or operated by a public water utility.

"Related entity" means any person which owns or holds, either directly or indirectly, at least 25% of the voting stock of a public water utility, including any affiliated business concern, or any wholly or partially owned subsidiary thereof.

"Watershed property" means those watershed lands located above or upstream from a public water supply reservoir or surface water supply intake, including the land surrounding tributaries or feeder streams entering the public water supply reservoir, and includes all watershed lands identified by the Department of Environmental Protection in the study required pursuant to section 3 of P.L.1988, c.163, and all watershed property identified by the board in the study required pursuant to section 6 of P.L.1988, c.163.

"Watershed Property Review Board" means the Watershed Property Review Board established pursuant to section 2 of P.L.1988, c.163.

4. (New section) a. The provisions of any other law, or of any rule, regulation or order adopted or issued pursuant thereto to the contrary notwithstanding, any gain realized from the sale or conveyance by a public water utility of any watershed property previously held in its rate base, in whole or in part, to preserve and protect the water quality of a public water supply reservoir, shall accrue solely to the interests of the public water utility's ratepayers. The Board of Public Utilities shall determine the manner in which the gain shall be distributed to ratepayers.

b. The provisions of this section shall apply to any proposed distribution pending as of the effective date of this act.

5. (New section) a. Any approval heretofore granted by the Watershed Property Review Board or the Board of Public Utilities to a public water utility to sell or convey watershed property previously held in its ratebase, in whole or in part, to preserve and protect the water quality of a public water supply reservoir, is hereby voided to the extent any such approval is still on appeal, or to the extent that the approval applies to watershed property which has not been finally conveyed in accordance with all provisions of law, including any condition of the board's approval, or any requirement, where applicable, for final local subdivision or site plan approval. Any county or municipal subdivision or site plan approvals for such watershed property on appeal as of the effective date of this act are hereby vacated.

b. The board shall promptly compile an inventory of all watershed property subject to the provisions of this section. The board shall publish the inventory in at least one newspaper of

general circulation within the affected county or counties and at least one newspaper of statewide circulation. The inventory shall be accompanied by a notice advising the public that the maintenance of watershed property in a public water utility's rate base is necessary to preserve and protect drinking water quality.

c. The board shall, by order in writing, require a public water utility to include in its rate base all watershed property subject to the provisions of this section. In issuing this order, the board shall authorize the public water utility to recover from ratepayers any amounts previously paid to ratepayers from the proceeds of the gain from the sale or conveyance of the watershed property, including interest calculated from the date of payment, at an interest rate to be determined by the board. The public water utility shall be entitled to an additional amount equal to any revenues it would otherwise have received in water rates or charges if the watershed property had been retained in its rate base.

6. (New section) a. (1) Any conveyance by a public water utility to a related entity of watershed property previously held in its ratebase, in whole or in part, to preserve and protect the water quality of a public water supply reservoir, is hereby voided, and the watershed property shall be returned to the ownership of the public water utility.

(2) The board shall promptly compile an inventory of all watershed property subject to the provisions of this section. The board shall publish the inventory in at least one newspaper of general circulation within the affected county or counties and at least one newspaper of statewide circulation. The inventory shall be accompanied by a notice advising the public that the maintenance of watershed property in a public water utility's rate base is necessary to preserve and protect drinking water quality.

b. (1) The provisions of subsection a. of this section shall not apply to any watershed property conveyed prior to January 1, 1990 to an unrelated third party.

(2) Any interest in watershed property which would otherwise be subject to the provisions of subsection a. of this section, but which has been transferred by the related entity to an unrelated third party since January 1, 1990 shall be forthwith reacquired by the public water utility pursuant to the power of condemnation provided in section 59 of P.L.1962, c.198 (C.48:19-15.1).

(3) To the extent any watershed property returned to the ownership of a public water utility under this section was conveyed to a related entity on the basis of its appraised value and not on the basis of a value arrived at through public bidding, the public water utility shall be obligated to pay the related entity the appraised value of the land as determined by the board multiplied by the average appreciation rate of comparable

properties in the vicinity of the watershed property since the date of the board's determination.

7. (New section) a. The board shall direct a public water utility to sell any watershed property or other interest therein which is utilized for golf course or country club purposes in accordance with public bidding procedures approved by the board.

b. (1) The sale of any watershed property or other interest therein subject to the provisions of this section shall be subject to permanent, indefeasible covenants requiring that the watershed property shall be maintained in its existing uses and with no increase of the land with impermeable cover by more than 10%.

(2) These covenants shall state explicitly that the watershed property is subject to any rule or regulation adopted by the department for watershed management and the protection of water resources, and shall include such other restrictions as the board, in conjunction with the department, may determine to be necessary to preserve and protect water quality.

(3) Nothing in these covenants shall preclude the dedication of the watershed property to those land uses that promote open space preservation, conservation, or recreation needs, including parks, nature preserves or comparable nondevelopmental uses.

8. (New section) a. The proceeds from any gain from the sale of any watershed property or other interest therein by a public water utility, including gain from long-term leases, or a gain subject to the provisions of section 4 of this act, shall be deposited in an interest-bearing account with an accredited financial institution.

The account established pursuant to this subsection shall constitute an escrow account to compensate the public water utility for any reasonable expenses necessarily incurred in the acquisition or reacquisition of watershed property. All withdrawals from the account shall be subject to the written approval of the board.

b. The board may approve the withdrawal and expenditure of funds from the account solely for the following purposes:

(1) Any funds to which the public water utility is entitled pursuant to the provisions of subsection c. of section 5 of this act;

(2) Any funds which the water utility owes a related entity pursuant to the provisions of subsection b. of section 6 of this act;

(3) Any funds necessary to pay for the acquisition of additional watershed property that the board may direct the public water utility to acquire from time to time to preserve and protect the water quality of a public water supply reservoir;

c. To the extent that the unexpended balance of the fund is not sufficient to cover the costs of the purposes provided in paragraphs (1) and (2) of subsection b. of this section, the board shall determine that these funds may be credited to the public water utility from among the following options:

(1) the addition of an amount in its ratebase for payment by

ratepayers residing in the county wherein the watershed property is located; or

(2) the resale, at public bidding and subject to such conditions as the board may impose, of a portion of the reacquired watershed property which the board, in consultation with the department, determines to be of minimal value in preserving and protecting the water quality of a public water supply reservoir.

9. (New section) a. (1) The board may adopt, pursuant to the provisions of the "Administrative Procedure Act," P.L.1968, c.410 (C.52:14B-1 et seq.), any rules and regulations necessary to implement the provisions of this act.

(2) The board shall adopt rules and regulations for the administration of any account established pursuant to section 8 of this act, and for the supervision of any action taken pursuant to the provisions of this act.

b. Any ratepayer of a public water utility subject to the provisions of this act, or any nonprofit group whose members include ratepayers of the public water utility, shall be entitled to intervene in any proceeding held by the board pursuant to the provisions of this act.

10. (New section) a. The provisions of any other law, or of any rule or regulation adopted pursuant thereto to the contrary notwithstanding, no public water utility or person owning more than 25% of the voting stock of any public water utility shall hold any equity interest in any business concern engaged in the development of real property in this State. No business concern engaged in the development of real property in this State shall hold more than 25% of the voting stock of any public water utility.

b. Should the board find that any public water utility is in violation of the provisions of this section, then it shall order the public water utility to dispose of the business concern in accordance with the provisions of R.S.48:3-7.

11. Section 1 of P.L.1988, c.163 is amended to read as follows:

1. a. No municipality, municipal utilities authority, or public water utility shall convey any [land] watershed property utilized for the [purpose of the] preservation and protection of the water quality of a public water supply reservoir prior to the adoption by the Department of Environmental Protection of the rules and regulations establishing buffer zones for all watershed lands associated with public water supply reservoirs for the purpose of protecting drinking water quality required pursuant to the "Watershed Protection Act," P.L. , c. (C.) (now before the Legislature as Senate Bill No. 2339 and Assembly Bill No. 3103 of 1990). [The provisions of this section shall not apply to land utilized for the purpose of the protection of a public water supply if the land is otherwise subject to regulation pursuant to P.L.1979, c.111 (C.13:18A-1 et seq.) or P.L.1973, c.185 (C.13:19-1 et seq.).]

b. As used in the provisions of P.L.1988, c.163:

"Public water supply reservoir" means any of the 39 public water supply reservoirs identified by the department in the study required pursuant to section 3 of P.L.1988, c.163, including any public water supply reservoir operated or maintained by a county, district water supply commission, municipality, municipal or county utilities authority, municipal water district, joint meeting or any other political subdivision of the State authorized pursuant to law to operate or maintain water supply facilities or otherwise provide water for human consumption; or any public water supply reservoir owned or operated by a public water utility.

"Watershed property" means those watershed lands located above or upstream from a terminal public water supply reservoir or surface water supply intake, including the land surrounding tributaries or feeder streams entering the public water supply reservoir, and includes all watershed lands identified by the Department of Environmental Protection in the study required pursuant to section 3 of P.L.1988, c.163; or any watershed property identified by the Board of Public Utilities in the study required pursuant to section 6 of P.L.1988, c.163.

(cf: P.L.1990, c.19, s.1)

12. Section 2 of P.L.1988, c.163 is amended to read as follows:

2. a. There is established in the Department of Environmental Protection a Watershed Property Review Board, which shall consist of the Commissioner of the Department of Environmental Protection, the Commissioner of the Department of Community Affairs, and the President of the Board of Public Utilities. The Watershed Property Review Board shall be authorized to exempt from the provisions of section 1 of [this act] P.L.1988, c.163 the conveyance of watershed property if the person applying for the exemption demonstrates to the Watershed Property Review Board that there is a compelling public need for the conveyance of the property, that the denial of the exemption would result in extraordinary hardship, [or] and that the [sale or development of the] watershed property is [otherwise consistent with the purposes of this act] determined to be of minimal value for the purpose of preserving and protecting the water quality of a public water supply reservoir. Any person applying for an exemption pursuant to the provisions of this section shall submit to the board appropriate documentation addressing the issue of buffer areas surrounding public water supplies, and shall also provide the board with proposals for the mitigation of any adverse environmental impact which would result from an exemption applied for pursuant to the provisions of this section.

b. A determination by the Watershed Property Review Board to grant or deny an exemption from the provisions of section 1 of [this act] P.L.1988, c.163 shall constitute the final agency action on the matter, and shall be subject only to judicial review as provided in the Rules of Court.

c. Prior to making a final determination on an application for an exemption from the provisions of section 1 of [this act] P.L.1988, c.163, the Watershed Property Review Board may refer the application to the Office of Administrative Law, which shall conduct a hearing and issue recommendations based on findings of fact and conclusions of law for consideration by the Watershed Property Review Board in making its determination.

(cf: P.L.1988, c.163, s.2)

13. R.S.48:2-23 is amended to read as follows:

48:2-23. The board may, after public hearing, upon notice, by order in writing, require any public utility to furnish safe, adequate and proper service, including furnishing and performance of service in a manner that tends to conserve and preserve the quality of the environment and prevent the pollution of the waters, land and air of this State, and including furnishing and performance of service in a manner which preserves and protects the water quality of a public water supply reservoir, and to maintain its property and equipment in such condition as to enable it to do so.

The board may, pending any such proceeding, require any public utility to continue to furnish service and to maintain its property and equipment in such condition as to enable it to do so.

The board, in requiring any public water utility to furnish safe, adequate and proper service, may require the public water utility to retain in its rate base any property which the board determines is necessary to preserve and protect the water quality of a public water supply reservoir.

It shall be a rebuttable presumption that maintaining watershed property associated with public water supply reservoirs is necessary to preserve and protect the water quality of a public water supply reservoir.

As used in this section, "public water supply reservoir" means any public water supply reservoir as defined in section 3 of P.L. , c. (C.) (now before the Legislature as this bill) which is owned or operated by a public water utility; and "watershed property" means those watershed lands located above or upstream from a terminal public water supply reservoir or surface water supply intake, including the land surrounding tributaries or feeder streams entering the public water supply reservoir, and includes all watershed lands identified by the Department of Environmental Protection in the study required pursuant to section 3 of P.L.1988, c.163; or any watershed property identified by the board in the study required pursuant to section 6 of P.L.1988, c.163.

(cf: P.L.1988, c.163, s.5)

14. Section 4 of P.L.1988, c.163 (C.48:2-23.1) is amended to read as follows:

4. a. The Board of Public Utilities, in reviewing a request by a public water utility to convey [land] watershed property utilized

for the purpose of the preservation and protection of a public water supply reservoir to a corporation or other entity which is not subject to the jurisdiction of the board, shall request the Department of Environmental Protection to review and make recommendations on an assessment, prepared and submitted by the public water utility, of the impact that the conveyance, and the prospective use or uses of the land conveyed, would have on the water quality of the affected public water supply reservoir, and shall require the department to assess the impact of the conveyance on the State's open space, conservation, and recreation requirements. The department, upon receipt of a request by the board for an assessment and a review pursuant to this subsection, shall prepare and submit to the board the assessment and review within 12 months of the request therefor.

b. Any public water utility requesting the board to approve a conveyance of [land] watershed property utilized for the purpose of the protection of a public water supply reservoir to a corporation or other entity which is not subject to the jurisdiction of the board shall submit to the board a document setting forth a detailed explanation of the prospective use or uses of the land to be conveyed. The board, upon receipt of this document, may require the public water utility to submit any additional information which the board deems appropriate.

c. As used in this section, "public water supply reservoir" means any of the 39 public water supply reservoirs identified by the department in the study required pursuant to section 3 of P.L.1988, c.163, including any public water supply reservoir operated or maintained by a county, district water supply commission, municipality, municipal or county utilities authority, municipal water district, joint meeting or any other political subdivision of the State authorized pursuant to law to operate or maintain water supply facilities or otherwise provide water for human consumption; or any public water supply reservoir owned or operated by a public water utility; and "watershed property" means those watershed lands located above or upstream from a terminal public water supply reservoir or surface water supply intake, including the land surrounding tributaries or feeder streams entering the public water supply reservoir, and includes all watershed lands identified by the Department of Environmental Protection in the study required pursuant to section 3 of P.L.1988, c.163; or any watershed property identified by the board in the study required pursuant to section 6 of P.L.1988, c.163.

(cf: P.L.1988, c.163, s.4)

15. R.S.48:3-7 is amended to read as follows:

48:3-7. a. No public utility shall, without the approval of the board, sell, lease, mortgage or otherwise dispose of or encumber its property, franchises, privileges or rights, or any part thereof; or merge or consolidate its property, franchises, privileges or

rights, or any part thereof, with that of any other public utility.

Where, by the proposed sale, lease or other disposition of all or a substantial portion of its property, any franchise or franchises, privileges or rights, or any part thereof or merger or consolidation thereof as set forth herein, it appears that the public utility or a wholly owned subsidiary thereof may be unable to fulfill its obligation to any employees thereof with respect to pension benefits previously enjoyed, whether vested or contingent, the board shall not grant its approval unless the public utility seeking the board's approval for such sale, lease or other disposition assumes such responsibility as will be sufficient to provide that all such obligations to employees will be satisfied as they become due.

Every sale, mortgage, lease, disposition, encumbrance, merger or consolidation made in violation of this section shall be void.

Nothing herein shall prevent the sale, lease or other disposition by any public utility of any of its property in the ordinary course of business, nor require the approval of the board to any grant, conveyance or release of any property or interest therein heretofore made or hereafter to be made by any public utility to the United States, State or any county or municipality or any agency, authority or subdivision thereof, for public use.

The approval of the board shall not be required to validate the title of the United States, State or any county or municipality or any agency, authority or subdivision thereof, to any lands or interest therein heretofore condemned or hereafter to be condemned by the United States, State or any county or municipality or any agency, authority or subdivision thereof for public use.

b. Notwithstanding any law, rule, regulation or order to the contrary, an autobus public utility regulated by and subject to the provisions of Title 48 of the Revised Statutes may, without the approval of the Department of Transportation, sell, lease, mortgage or otherwise dispose of or encumber its property, or any part thereof, except that approval of the Department of Transportation shall be required for the following:

(1) the sale of 60% or more of its property within a 12-month period;

(2) a merger or consolidation of its property, franchises, privileges or rights; or

(3) the sale of any of its franchises, privileges or rights.

Notice of the sale, purchase or lease of any autobus or other vehicle subject to regulation under Title 48 of the Revised Statutes shall be provided to the Department of Transportation as the department shall require.

c. No public water utility shall convey, lease, sell or otherwise dispose of its watershed property without the approval of the board.

As used in this subsection, "watershed property" means those

watershed lands located above or upstream from a terminal public water supply reservoir or surface water supply intake, including the land surrounding tributaries or feeder streams entering the public water supply reservoir, and includes all watershed lands identified by the Department of Environmental Protection in the study required pursuant to section 3 of P.L.1988, c.163; or any watershed property identified by the board in the study required pursuant to section 6 of P.L.1988, c.163.

(cf: P.L.1985, c.232, s.1)

16. This act shall take effect immediately.

STATEMENT

This bill would revise and expand public policy with respect to watershed property held or formerly owned by public water utilities.

Public water utilities in this State have recently transferred historical watershed lands which are necessary for the long-term protection of public water supplies and which serve the dual interests of protecting valuable open space, conservation and recreation. Inconsistent public utility accounting rules have created an artificial incentive for certain public water utilities to attempt to develop these lands rather than preserving them, with full public compensation, for the benefit of the ratepayers and the general public. Further, other public water utilities need to acquire additional watershed lands to serve as buffer zones for the long-term protection of their surface water resources, but are reluctant to do so for financial reasons.

This bill would reverse decisions previously made by the Board of Public Utilities which authorized the development of approximately 1000 acres of watershed property around Oradell Reservoir, Lake Tappan and the Hackensack River in Bergen County.

The bill would also remove the financial incentives on the part of investor-owned public water utilities to transfer and develop watershed protection lands by providing that any gain realized from the sale or conveyance by a public water utility of any watershed property previously held in its rate base to preserve and protect the water quality of a public water supply reservoir must accrue solely to the interests of the public water utility's ratepayers.

LAND USE

The "Watershed Restoration Act."

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ASSEMBLYMAN THOMAS J. DUCH (Chairman): Good evening ladies and gentlemen, and welcome to a special hearing of the Assembly Conservation and Natural Resources Committee. The purpose of this hearing tonight is to take testimony on two separate pieces of legislation: One is Assembly Bill No. 3103, sponsored by myself and Assemblyman Dan Jacobson, and that is known as the Watershed Protection Act; and A-4204, known as the Watershed Restoration Act, sponsored by Assemblyman Duch and Assemblyman John Rooney, a member of this Committee. There are copies of both of those bills available on top of the piano on the right. If anyone needs a copy, please pick one up.

Additionally, we have the corresponding Senate bills sponsored by Senator Paul Contillo in the Senate available. We will provide them to you as well, at the conclusion of the meeting. Anyone who wishes a copy, we do have them available. Please see our Committee aide and we will make them available.

We view this hearing as being very, very important to the preservation of water quality and the integrity of water quality, not only in Bergen County, but also in the entire State of New Jersey. We view these bills as very, very necessary as something that will guarantee that each citizen in our State will be entitled to, and will obtain, pure, pristine water in the future.

We look forward to your testimony this evening. We will be joined as the evening goes on, by Assemblywoman Maureen Ogden, Assemblyman Joseph Mecca, and Assemblyman Dan Jacobson, a sponsor of one of the bills. They are all en route. Assemblyman Rooney will, unfortunately, have to leave us a little early. He is the Mayor of his community, and he does have a budget hearing tonight. As Mayor, his constituents demand his presence at that meeting as well. So Assemblyman Rooney, I am certain, will read the transcript of the hearing and we'll look forward to your comments as one of the co-prime sponsors of one of these very important measures.

The first individual I would like to call to testify this evening will be the Senate sponsor of the corresponding measures, Senator Paul Contillo.

S E N A T O R P A U L C O N T I L L O: Thank you, Mr. Chairman. First, I want to welcome you to Paramus. We are delighted that you are here, particularly on such an important subject.

I think if we do nothing else during our political term in office but pass these two bills that you have sponsored, we will have justified our entire term. I think the results and the effect of this for future generations is simply immeasurable.

I'm going to do something tonight that I kind of resent, as a Chairman. I'm going to read a statement, but I just want it on the public record, and I think it's very, very important. I was delighted to see Tim Searchinger. I assume he will speak to the legal ramifications of what has just happened, which gives added impetus to what we're about to do.

I'm here this evening to testify in favor of your Assembly bills, the Watershed Protection Act, and the Watershed Restoration Act. As the sole sponsor of the identical bills in the Senate, I applaud you, Assemblyman Duch, and I applaud your efforts to proceed with this important legislation. I strongly support the timely enactment of both of these bills into law.

Now, I assume that we will discuss tonight the bills as they have -- the one bill, the "buffer bill" -- been amended and released from the Senate Committee. That is the bill I think I saw up there, which has in it the amendments that were proposed, and unanimously passed by the Committee, that strengthen it tremendously in adding the 50-foot buffer around all feeder streams that feed into the reservoir. I don't know if you're going to discuss it that way, or the way the bill currently is. My comments will be as to the bill that I released, which will be that way. Okay?

ASSEMBLYMAN DUCH: That's fine, Senator.

SENATOR CONTILLO: I'd like to first say a few words about the Watershed Protection Act, the so-called "buffer bill." As you know, the bill would establish buffer zones around public water supply reservoirs, and around those streams that contribute their flow directly into a public water supply reservoir -- called feeder streams -- for the purpose of protecting drinking water quality. The boundaries of a buffer zone would not extend beyond the boundaries of the watershed management area -- those lands owned and held by water companies and public water supply purveyors to ensure the purity of the State's surface water supplies -- except that a protective zone would extend for 50 feet on each side of a feeder stream outside of the watershed management area.

I must say to you that that particular amendment, while it strengthens the bill, is controversial. There are those who have a different view of it, and I assume you'll hear both sides of it this evening.

In addition to protecting drinking water quality, the provisions of the Watershed Protection Act will ensure that these pristine, magnificent watershed areas remain in open space in perpetuity. In a State as congested and overdeveloped as New Jersey, we can no longer afford to lose any more of these historical watershed lands, which are necessary for the long-term protection of public water supplies, and which serve the dual interests of protecting valuable open space, conservation, and recreation. Once again, I strongly applaud this important legislation, and I favor its release.

Now, I also support the Watershed Restoration Act, which is a companion bill, which my Committee will have a regular Committee hearing on and, hopefully, release for a floor vote this month. I'm elated, as I'm sure you are, by the recent events concerning issues which are addressed by the bill. As we all know, on Friday, June 7, a State Appeals Court

ordered the Watershed Property Review Board to reconsider several lamentable decisions allowing the Hackensack Water Company to sell 287 acres of watershed property to the Rivervale Realty, Inc., a real estate development company. Both the Hackensack Water Company and Rivervale Realty belong to the same parent company, United Water Resources; the same stockholders own both companies.

You're shaking your head because you've been on this for years, Assemblyman.

ASSEMBLYMAN ROONEY: Absolutely.

SENATOR CONTILLO: During the closing days of the Kean administration -- and I think it was probably the closing hours -- the Watershed Property Review Board exempted Hackensack Water from the 1988 moratorium on the conveyance of watershed lands associated with public water supply reservoirs -- that's legislation that I sponsored and shepherded through the Legislature -- and the Board of Public Utilities approved the sale.

Now, I think it's important, for the record, that we remember who the members of that Review Board were: They were the DEP, and at that time, Helen Fenske, I assume, was representing Chris Daggett. You had Christine Todd Whitman as the President of the BPU, who was there representing the BPU. Dr. Villane was not at the meeting, I don't think, and I think he dissented from the vote. But in any case, that last minute -- that last-second decision without proper notice-- In fact, my recollection tells me that Assemblyman Rooney and the Mayor of Oradell were the only two public officials -- and I don't know how you found out about it -- who found out about it at the last minute and did attend that meeting, and were probably denied the right to speak, as I recall.

ASSEMBLYMAN ROONEY: If you'd like a dissertation, I could tell you exactly what happened.

I got a call from Mayor Hague, who found out about the meeting. I got a call, I think it was 1:00 or 2:00 on

Thursday; the meeting was Friday, at 1:00. I went to that meeting. I was allowed to speak at this portion of the meeting, but I was not allowed to speak at the BPU portion of the meeting when the actual vote took place.

SENATOR CONTILLO: Despicable, wasn't it?

ASSEMBLYMAN ROONEY: Absolutely. You know I was livid.

SENATOR CONTILLO: Okay. Now, these rulings, which were made at the eleventh-hour, without notice -- from my perspective, without notice or any opportunity for public comment -- allowed Hackensack Water to convey watershed lands in Emerson, Harrington Park, Haworth, Oradell, and River Vale, to Rivervale Realty for $16.5 million. Restrictions on the sale allegedly guaranteed that the land would remain as golf courses, but it was my impression that a potential loophole in the deed covenant would be used to develop these properties, which are really some of the last remaining open spaces in Bergen County.

At any rate, the Appellate Court ruling overturned the exemption granted by the Watershed Property Review Board, and returned the case to that body for further consideration. The ruling states that Hackensack Water had failed to demonstrate a "compelling public need" or any "extraordinary hardship," the two criteria for an exemption we had established in the moratorium legislation to prevent -- or so my colleagues and I in the Legislature thought, at the time -- just this sort of sleazy land deal from occurring. I'm confident, however, that the current members of the Board of Public Utilities and the Watershed Property Review Board will exercise much better judgment and environmental sensitivity as they prepare to revisit the issue, and hopefully they will repudiate the political pressures which regrettably ended -- or affected their predecessors.

Only two more pages.

As many of you know, I have been involved with watershed protection issues since 1984, when the Board of

Public Utilities rather foolishly, in my opinion, permitted the Hackensack Water Company to remove more than 700 acres of watershed property from its rate base and to transfer these irreplaceable lands to Rivervale Realty for development. The BPU's lame rationale for allowing the transfer was that the action would lower rates and save the ratepayers money. The BPU divided $6 million equally between the stockholders of United Water Resources and the ratepayers. I want to say it again -- 700 acres for $6 million. It's unthinkable. To this day, I have kept my $18 check. It's a marvel. It's an absolute marvel -- an $18 check from Hackensack Water Company. Meanwhile, Rivervale Realty began selling off parcels of the land, and by 1988 had sold about 9% of the total acreage for more than it had paid for the entire 700 acres.

However, the BPU's own study -- which was mandated by the moratorium bill -- has shown that the supposed rate savings to each customer from the removal of watershed properties from the rate base was insignificant, and in a subsequent poll, the ratepayers expressed their preference to keep watershed lands protected in a rate base, in return for paying a few cents more in their bill.

As I say, I'm not getting any younger, and since the preservation of the State's remaining watershed area must be a number one priority for any Senator or any Assemblyman who claims to care about the environment, strong measures must be taken now to prevent any future horror stories involving the sale of watershed lands. Consequently, it is imperative that the Legislature enact the Watershed Restoration Act and act on it this year.

The bill reverses decisions previously made by the Board of Public Utilities which authorized the development of approximately 1000 acres of watershed property around Oradell Reservoir, Lake Tappan, and the Hackensack River, in Bergen

County, except for those lands which unfortunately have already been sold to third parties. I don't think that we could effectively reach them.

To finish off: This bill would remove the financial incentives on the part of Hackensack Water and other investor-owned public utilities to transfer and develop watershed lands, by providing that any gain realized from the sale or conveyance by a public water utility of any watershed properties previously held in the rate base to preserve and protect the water quality of a public water supply reservoir, must accrue solely to the interests of the public water utility's ratepayers. Therefore, there would be no motivation for them to go into these incestuous relationships that they develop.

One final point: The Watershed Restoration Act would prohibit any public water utility in this State from owning or holding any interest in a real estate development company, and would require the BPU to order the utility to dispose of any such interest. Provisions such as those would restore some sanity to the State's watershed property management policies, which, in my opinion, is long overdue. Once again, I urge the Committee to favorably release and act on this much-needed legislation.

ASSEMBLYMAN DUCH: Thank you very much, Senator Contillo. We appreciate your being here tonight, and we appreciate your comments. For the members of the general public, I would just like to announce that Senate Bill No. 2339 is also available now, up front, should you require a copy. I'd like to thank you for coming. Wwe appreciate your input and all the work that the Senate Committee has already done on this issue.

SENATOR CONTILLO: Thank you.

ASSEMBLYMAN DUCH: Thank you, Senator.

We will next hear from our Committee member, Assemblyman Rooney. Assemblyman Rooney, the floor is yours.

ASSEMBLYMAN ROONEY: Thank you. I think tonight I have to be called Mayor Rooney, since I have to run to that budget hearing. We heard at 4:30 this afternoon that our budget was approved, and having been an original prime cosponsor of the permanent move of the budget hearing dates to March 15 -- which we kept postponing on an annual basis -- we finally did it this year on a permanent basis. And what happens? Here we are June 12, and we're passing budgets; so much for legislation.

I have been, as the Senator has acknowledged, in the trenches on this particular issue -- on all of these issues -- ever since they first came up. The original 700 acres, as the Senator mentioned, was a crime. The kind of price that was paid for this-- It sounds like the sale of Manhattan Island for $24 in trinkets to Peter Minuet. That's the kind of sale that this really represents. We're talking-- We figured it out. It was an average of $15,000 an acre on the original 700 acres, in a time when similar property -- adjoining property -- was going for an average of $150,000 an acre. It's nice to be able to transfer properties to yourself without public bidding, for one-tenth of its value, and say that you're doing a public service.

This was the thrust of formal legislation that dealt with part of what's in here: that a water company should not be in the real estate business because we have a conflict of interest. There's a clear conflict of interest, and it has to be stopped. If the Water Company is in the water business, the real estate business will be taking away from that. The real estate company is in for a profit; water is a public entity, and we cannot have those two. They are conflicts. So, my hearings on that-- In fact, a lot of the information from those hearings was used in the particular court case that we're talking about.

I'm glad to see the results of the court case of last week. That only affirms that we were right all the while. And, as the Senator mentioned, we had people that I respected up until that particular vote that Friday that will live in infamy at the end of the Kean administration, when I was down there actually pleading with these people not to do this; to leave it over until a permanent group could look at it further.

I've always respected Helen Fenske as an environmentalist. From that time, I do not, and I've told her so when she was at a meeting within the last month. I do respect Doc Villane, a former colleague of mine in the Assembly. Doc Villane, at that time, was Commissioner of DCA. He was on the phone. I questioned the vote -- a phone vote for a meeting like that, of that magnitude, but Doc happened to have voted the right way. He voted, "No." And, Christine Todd Whitman voted, "Yes" in both hearings, and that, to me, showed me where she stood. As an aside, last year when she asked for my support in her Senate race, I told her absolutely, unconditionally, "No." And in any future race I will tell her absolutely, unconditionally, "No." I will not support a person who is antienvironment, and that's the kind of thing that we saw.

Now, as far as what happened beyond that, the Senator didn't go far enough. At that time, Mr. Guido had passed away -- the other Republican member of the BPU. We were short a member, so we had George Barbour, a Democrat, and Christine Todd Whitman, a Republican. Had it been a tie vote, that wouldn't have occurred. Both of them voted in the affirmative, but I couldn't even get up to speak that day to Mr. Barbour. He wrote it in the affirmative. We still don't have a Republican member on that Board, and when it came over to the new administration, Scott Weiner took over as Chairman of the BPU with two Democrats on there: George Barbour and Scott

Weiner. Scott knew that Mr. Barbour had already voted for it. Without a second vote with him -- to be 2 to 1 -- Mr. Barbour wasn't going to counteract himself.

So, we continue with the farce of this situation. Politically, both parties are at fault for this. The blame can be laid on both our Houses, and it shouldn't have been a political issue. This is an environmental issue, critical to this area. This is something that-- We've been ripped off. I feel very strongly about this. These bills correct the situation. These bills will take the place of what's happening in the court today, and the court cases are going to be proven correct. They're going to continue this way, because this is a rip-off of the first magnitude. There's no question in my mind.

The other thing that the Senator spoke about is the loophole in that original -- that 300-acre legislation. The loophole was the poison pill that nobody has talked about. The county Freeholders didn't talk about it. The poison pill said: "If anybody came along at a later date and took any of that 300 acres away, or the 700 acres from the original transfer, and challenged that in court on the 700 acres, they would get acre for acre out of the golf course land of 300. So that completely shot that whole deal, the Evergreen, which I call "Wintergreen," because it was a snow job all the way. That would have shot that all to hell. So that's where all of this legislation has come from.

And what I have-- You know, I left New York State for a good reason. I mean, I like New Jersey, and I like what New Jersey is doing, but I have to admire what New York did. The Public Utilities Commission in New York State, when they found the exact same situation happening, where Hackensack Water sold some acreage, I believe it was 20 or 30 acres, to Rivervale Realty, from Spring Valley Water -- same companies -- for $300,000-- Within a year after that transfer of $300,000, they sold it privately for $1. million. What did the PUC do in New

York? They had guts. They stood up and said, "No, you will take 100% of the profits of that transfer and give it to your ratepayers." Now that's what I call a Public Utilities Commission. That's a Commission that really is interested in the public, not what we've got down in Trenton.

What we've had and what we've got now-- It's still doing the wrong thing. Unless this legislation is passed in its present form, we can go on forever seeing all of our beautiful watershed properties go down the drain to development. This has got to cease. This legislation is a bipartisan product. It has all of the elements that we've been talking about. The one that I had: keeping the water companies out of the real estate business. That was one of mine. The Senator has been involved with it. Tom Duch has been involved with it. We've worked together. We've worked at different purposes, but we've all come together. That's what this bill is doing.

The other thing I want to see passed as part of the package, and perhaps we can do that-- I believe it's in another Committee. I have a bill in. It's a "right of first refusal," so any time this land comes up as a question, let the municipality look at it; let the county look at it; let the State look at it. If they put an appraisal of $15,000 an acre-- I know in Northvale, if I had that kind of land offered to me back in 1983 or '84, where it was worth $150,000, I would have jumped at it. Absolutely, positively jumped at it. That's what we need to do.

We also have to take a page from the agricultural section. When we have agriculture in, once it goes to development, we then turn around and go back three years, and we collect taxes for three years back. They didn't do that with this. This is as of the day of the sale. The other thing that galls me to no end -- it has always galled me -- is this-- Senator, you were wrong on one thing. I hate to say

it. The total price of the 700 was $12 million. The $6 million was supposed to be divided from the shareholders. That's your $18. The reason you got that number is, after the Hackensack Water Company took out taxes and commissions, we got $2.8 million back. The $3 million is the right figure -- the $2.8 million -- but it came from $12 million. Now, if you start figuring $12 million versus $120 million, and we got $3.8 million or $4 million back, figure the percentage that the ratepayer got back. It's a shame. It's a rip-off. It shouldn't have happened.

The other nice thing that my staff found-- Steve Gusto, who's an accountant on my staff, had done the financial reviews and the investigation along with Greg Gauge. They spent hours going over the transfers and looking into this. One of the things we found was, they had commissions in there. They're not a licensed real estate firm to have commissions. That was at the time of the sale. They weren't allowed to have those commissions, but they reserved them. I don't know where the money is, but it's reserved for taxes. What taxes? They never paid taxes because they transferred these lands at $1. The real estate taxes weren't even paid on. These are the kinds of things that have happened.

These bills correct the situation. Paul, I'm glad to be with you on these issues, and I've been there all along, regardless of our political differences. This is one thing we can all agree on. It's good legislation, and the Hackensack Water Company has got to be made to pay the price -- the right price for that land. It was public watershed. It deserves to be public watershed. You want to sell it, then we deserve to have the right price and a fair market value, not the nonsense that you've been giving us.

With that, I'm late for my budget hearing. I'm going to have to run. I will read the transcript I thank you very

much for your time. I see my colleague, Assemblywoman Ogden, is here, so I'll just-- Thank you very much.

ASSEMBLYMAN DUCH: Thank you, Assemblyman Rooney. Thank you for your comments, and thank you for being here this evening.

At this time I would like to acknowledge the fact that two additional colleagues have arrived: Assemblyman Daniel Jacobson, to my left, your right, and Assemblywoman Maureen Ogden to my right, your left. Assemblyman Jacobson has asked for time to make a brief statement, at this time.

ASSEMBLYMAN JACOBSON: Yes, I'd like to be very brief. Thank you, Tom. I know you're all here and you'd like to speak and address the Committee and get on the agenda.

Just to tell you-- To take it a little bit beyond Bergen County, I came up from Monmouth County for a few reasons. First of all, Tom asked me to, and he's the Chairman of the Committee, and when Tom says, "Come," you come. He's also my elder -- he's actually five years older than me -- which is amazing, because I look like 10 years older than him.

But, more importantly, since I was elected to the Legislature, this Committee is the key Committee in terms of open space preservation and conservation. And Tom and I have very often discussed a geographic coalition of the Bergen County area and the Monmouth County area, because what I see in Monmouth County -- as much as I love the people from Bergen County I know, and they're wonderful people-- I'm very upset about the development patterns that you've had here, and I see it happening down where we are in Monmouth County. Tom and I have often exchanged stories and philosophies about how to deal with this. That's why I'm here tonight.

What I'm going to do with all the testimony that I receive and the stories I receive from Bergen County is, I'm going to use that to lobby my colleagues in the central portion of the State, and together with this initiative and other

initiatives which Tom and I often talked about, we'll move forward and do what we can to preserve open space throughout New Jersey. That's just the brief comment I wanted to make, and I apologize for being late. I caught traffic on the Garden State Parkway because of the overdevelopment up here, so hopefully we can address it. (laughter) I was steaming in traffic. I don't like traffic. Thank you, Mr. Chairman.

ASSEMBLYMAN DUCH: Thank you very much, Assemblyman Jacobson. At this time we'll hear from Assemblyman Patrick Roma, who is a guest in the audience. Assemblyman Roma, if you would step forward to the table?

A S S E M B L Y M A N P A T R I C K J. R O M A: Thank you, Mr. Chairman. Members of the Committee, welcome to Paramus, the home of my legislative district.

As the Senator indicated, these issues go back a number of years, and they're very critical issues. I remember reading an editorial concerning Bergen County -- less than 7% being open space. I had the opportunity to be at the watershed, to be at Borgs Woods and other areas in Bergen County. Perhaps sometimes we don't realize what we have until we've lost it. And, in walking around the track I suddenly realized that with the Oradell Reservoir, with Lake Tappan and Woodcliff Lake, the lands are extremely valuable, in part because of the fact that they protect our water, but at the same time, they protect our water from highway oils, toxic chemicals, rock salt, pesticides, and fertilizers.

I remember being at a lot of the hearings and hearing testimony from different people saying that nothing would happen, as far as the pesticides and the other problems; that our water supply would be okay. I remember the campaign that was necessary -- a grass-roots campaign -- and I would thank the groups of Bergen SWAN, the environmental groups that came forward. I see that Greg Gage is here, also Robert Hague, the husband of Mayor Hague.

All individuals, not only at the local level, but at the State level, realized that this was a very important issue. We all became sponsors of the bill -- the original bill -- in order to provide for the moratorium, because we realized in the last analysis that God was not going to make any more land. We had the 7% left in Bergen County. We saw what was happening; Rivervale was rapidly picking off various communities in an attempt to promote this development. And, as Assemblyman Rooney indicated, it was wrong. We're talking about a company that has, as its primary objective, to sell water, not land.

We looked at the way the land was valued. That was another aspect during the hearings. When they were told to look at a tract of land -- The appraiser was told to look at the whole parcel of land, not to look at it in the improved status. From that standpoint we're not talking about a piece of property that might be 200 by 100 -- whatever the dimensions would be. Wwe're looking at a pristine forest, and from that standpoint the value was skewed. So when we saw a $16 million appraisal, and then we saw subsequently with three courses, one of those courses being sold -- one course being sold, and the two remaining courses being kept-- Quite frankly, that property was undervalued tremendously. That land may have been worth $40 million, $50 million, or $60 million depending on how you wanted to utilize the appraisal, and if someone had said, "What would be the appraised value in the improved condition?" then I daresay we would have land that was much more valuable from a real estate standpoint.

Unfortunately, what happened in those prior proceedings with the BPU -- and I think there is plenty of blame to go around from the standpoint of what happened before, and even at the present time with the BPU-- As Assemblyman Rooney has indicated, New York has taken a vital step in order to void those sales, not to wait for legislation. I think

that's what should be done. Too often we have conflicting policies in this State, just as when we have the "grandfathering" of wetlands. How you can do something on Monday, and then do something on Tuesday that is completely different, is wrong.

So, I'm glad to be a cosponsor of all of these bills. I know that there is another bill that is in this Committee that I am the sponsor of, which would also provide for a 500-foot buffer. I would like the consideration of this Committee, perhaps, to put that bill up at a later time, and that we'd all be joined as cosponsors, as a group of measures, in order to promote watershed across our State.

I remember the hearings we had, and the confusion that resulted in Trenton when we tried a number of votes in order to get these bills passed. Many of our legislators from urban areas thought that these bills would not be in their best interests. Well, quite frankly, we're talking about a commodity that is precious to all of us, and that is clean water. I think that should be our priority. I was glad to be a prime sponsor. I was glad to help in order to get these bills through the Assembly, and now we have additional bills. We have the bills that are cosponsored by yourself, Mr. Chairman, and other members, and we have the bill that I referred to which, hopefully, will receive consideration. But as I said before, sometimes we have a tendency with competing groups out there where, if we do not all band together, somehow we will lose the war.

The concern that I have is that this has been an ongoing process, and just as we have the victory of the lawsuit, we have to move ahead with the legislation. I would indicate that from my standpoint there are certain other offshoots and considerations that we should take into account. When the Density Aid was passed that benefited a number of southeast Bergen communities. One of the things that occurred

was, communities such as Paramus, Oradell, and Haworth had actually received no density aid, because when we computed the number of people per square foot, towns such as Paramus, Oradell,and Haworth were penalized because of the fact that they had environmentally sensitive areas. I have introduced a bill that would also provide for the exclusion of those environmentally sensitive lands. There's no reason why those people having parks, having reservoirs, having all those environmentally sensitive areas should be penalized from an economic standpoint, because it is a bad message to send.

I think what we should be doing is sending the right message from the standpoint of moving legislation, and telling people, "Yes, we are going to give you an incentive to keep land in its pristine status," and at the same time, providing for the buffer zones, providing for those sorts of regulations.

I say sometimes, that with DEP-- While DEP is supposed to protect us, I think we all have a certain feeling that the times everything that is done, while well-intentioned, is not exactly what the Legislature wanted. Sometimes when we give them rules and regulations, they promulgate us out of existence. So, to some extent, I think this legislation should be very focused from the standpoint of telling them exactly what to do. That's why I leap back to the bill dealing with the buffer zones. The testimony that I heard seems to indicate that the 500-foot buffer zone is perhaps what is needed in the future. People differ on the amount, but one thing is for sure, this land is there. It is essential, not only to Bergen County, but it's essential to the State of New Jersey. Just as many of us voted for many bills in order to help save our oceans and to provide for transfer development rights, these are issues that are statewide.

And, as Assemblyman Jacobson indicated, yes, Monmouth County is watching; other counties are watching, but I think we

have an obligation to work as legislators on certain issues, hopefully many issues, in order to provide this sort of protection for the entire State.

I'm proud to be a cosponsor and I'm proud to support this legislation. As I indicated before, I started early with this campaign after I joined the Legislature, and whenever you have an environmental initiative like this, I will be glad to work with you to make sure the bills are signed into law, no matter what it takes in terms of lobbying our BPU, in terms of lobbying the Legislature, or in terms of lobbying our Governor. I think we all stand together on certain types of issues, and something such as this, so very important -- our environment -- is something we should all work together on.

Thank you for this opportunity.

ASSEMBLYMAN DUCH: Thank you very much, Assemblyman Rooney.

ASSEMBLYMAN ROMA: Roma.

ASSEMBLYMAN DUCH: Roma. I'm sorry, Pat.

ASSEMBLYMAN ROMA: It's spelled R-O-M-A. (laughter)

ASSEMBLYMAN DUCH: Sorry, Pat.

Thank you, Assemblyman Roma.

At this time we will hear from Tim Searchinger, from the Environmental Defense Fund. Tim, if you will step forward please? (applause)

T I M O T H Y S E A R C H I N G E R, ESQ.: Thank you, Assemblyman. I hope--

ASSEMBLYMAN DUCH: I think it's very good that you brought your supporters. (laughter) You've won the applause contest so far. Go ahead, Tim.

MR. SEARCHINGER: Only until the Bull's game and Michael Jorden gets the applause.

I've brought with me Dr. Granville Sewell, who is a Distinguished Professor of Public Health at Columbia University. He is going to speak, at some point, a little bit

about the science behind the reason for buffers and the need for them. And, although he has enough knowledge to speak for hours and hours and hours, we know that's not here, but I urge you to ask him any of the scientific questions you may have about the buffer bill.

ASSEMBLYMAN DUCH: Okay. If I may, just to assist us in making sure that the transcript is correct and complete, ask if the Doctor would spell his name for the record, and as we go through the evening, when you step forward and you introduce yourself, if you would state your name and then spell your last name so that our transcript is clear, okay?

DR. G R A N V I L L E H. S E W E L L: The name is Granville H. Sewell -- S-E-W-E-L-L, Professor of Public Health and Environmental Sciences, Columbia University School of Public Health.

MR. SEARCHINGER: It's a real honor to be here speaking in front of people who have been working on this issue so much longer than I. I actually had the pleasure of using Assemblyman Rooney's statements to the BPU in the brief that helped to overturn those decisions that he was objecting to and, in fact, they were alluded to in the court decision.

I just want to refer that the court decision has been somehow represented as being merely a remand of the decision to allow the transfer of 300 acres. It is far more than that. When an agency decision is overturned, the court never says, "You can never make that decision again." It simply says, "The reasons you gave were invalid, and if you can't come up with better reasons, you better not try it again." In this case, the court found six or seven different things wrong with the BPU and Review Board decisions. Among them were that the fundamental findings of fact, about consistency with the purposes of the Act, were invalid, were erroneous, and that the effort to justify the transfer on water quality grounds was inconsistent with the Department of Environmental Protection

Watershed Report that had been requested by the Act. They never really came to terms with what the terms of the Act were. There's many, many others. Procedural violations really went right down the road pointing out error after error, and even, among other things, addressing the economic issue of whether or not it was appropriate or permissible for the Board of Public Utilities to allow a utility to transfer land to its own real estate division without public bidding. The court basically said that it found the BPU's rationale for this "unintelligible" and dismissed it at that and sent it back.

So what we have, frankly, is a very strong review of the behavior of the Watershed Property Review Board and the Board of Public Utilities by a court that has received all the arguments at length, allowed oral argument at length, and now addressed it. I just think that although that decision only addresses the 300 acre transfer of golf courses, it does more. It says what we have all been saying, that the agencies have not been behaving correctly, have not been following the law, and it's necessary for other forces -- other legal forces -- whether the court, or in this case the Legislature, to step in.

So we urge you very strongly, on behalf of the Environmental Defense Fund, that you pass the Restoration Act. The thrust of the Restoration Act is to take advantage of some very fortunate market conditions and to take advantage of this court decision. Those conditions are basically this: It turns out that these three golf courses, even if kept as golf courses, even without the loopholes, are worth probably upwards of $40 million. And if we take that asset, we can sell off those golf courses, while restricting them permanently and unqualifiedly, without the poison pills, as golf courses, and take that $40 million and use it to reacquire the 700 acres of woodlands.

And furthermore, we can hold the Water Company to its own appraisal. When the Water Company said, in 1984, that these lands were worth $10 million, we can say, "Fine, that's what we're going to reacquire them for. We're going to give you the benefit of the appreciation since that day, but basically, we are going to hold you to your own appraisal." So not only will we be able to reacquire those 700 acres of woodlands, we will probably have money left over to use to acquire other buffer lands, where buffer lands are inadequate.

I'd just like, very briefly, to reiterate a little bit of the history of the 1984 decision that allowed 700 acres of land to be transferred. It was based on an expert's report, and that expert basically said, "We will look at standards generally for buffer zones elsewhere and we will try and apply them in this circumstance, but do not transfer the land on the basis of what we are telling you, alone. There must be a further detailed study of each parcel before the land is transferred." That detailed study was never done. "Furthermore," the report said, "if you do transfer the land, hold it to existing zoning; maintain existing zoning to protect water quality." That wasn't done, and the zoning has been changed in many instances.

ASSEMBLYMAN JACOBSON: That was the '84 decision of the BPU?

MR. SEARCHINGER: That's right. This is the underlying consultant's report that was used to justify that decision.

ASSEMBLYMAN JACOBSON: And that was their own consultant's report?

MR. SEARCHINGER: That's right.

ASSEMBLYMAN JACOBSON: And still made the recommendations that weren't followed.

MR. SEARCHINGER: That's right, that weren't followed.

ASSEMBLYMAN JACOBSON: I apologize. I just haven't seen-- I'm not familiar with the details, and I just have the case in front of me that I'm skimming as you're speaking.

MR. SEARCHINGER: Sure. Well, that case doesn't really go into--

ASSEMBLYMAN JACOBSON: I know, it's just the beginning of that transcript.

MR. SEARCHINGER: We have some other literature that we'll hand up that goes into the history in greater depth.

The underlying great scientific conclusion of that report, even beyond -- even without the caveats -- was that we can transfer the land because the reservoirs are so eutrophied, so filled with nutrient pollution that there's nothing much worse they can get. Now that's not true. It can get worse, but it exemplifies that, in fact, the reason the Company has since had to spend a great deal of money on installing new and other kinds of water treatment equipment, is the fact that this watershed was not protected, and water quality has deteriorated in the watershed. The chlorine use had to rise. Chlorine, in turn, when used in excessive amounts, gives rise to trihalomethanes, which are a dangerous carcinogen. And so the Company has had to move to other treatment technologies because it failed to protect its watershed quality -- its watershed.

So the Restoration Act is a wonderful opportunity for this Committee to finally put this issue to bed. We have the opportunity, with the new court decision, to finally get back these woodlands, preserve the golf courses in their existing use and, frankly, have total victory. We are fortunate that the real estate market is such that it allows that.

I'd very briefly like to address also the buffer bill because the buffer bill, after all, is the bill designed to make sure that what happened in Bergen County isn't repeated elsewhere. The buffer bill, right now, that's come out of the

Senate, is a bill that we support. We understand the Committee's intention to essentially base its approach on the Senate bill.

We do have a few suggested amendments that I do think are quite important: First, basically that Senate buffer bill establishes a 1500-foot buffer zone around reservoirs where utilities already own the land -- only where utilities already own the land. That's significant because where we essentially have land in quasi-public ownership -- land that has been bought and paid for by ratepayers or by municipalities -- it's appropriate to take a very conservative approach to water quality. So, we support that. However, the bill only provides for a 50-foot buffer around the feeder streams that feed into a reservoir, even where utilities have more land. And it turns out that, in fact, it's virtually just as important to protect the feeder streams as it is the reservoir itself, because pollutants, once they enter into that feeder stream, come down to the reservoir and can cause contamination. We recommend that that be up to a 500-foot buffer -- only where utilities already own the land. That is also, in fact, consistent with Newark -- Newark's own study of its watershed, where Newark concluded that a minimum of a 500-foot buffer was required around its feeder streams. And in fact, Newark, it turns out, is the utility -- one of the few utilities that owns significant land around its feeder streams.

Thirdly, the Senate bill provides for a 50-foot buffer even in private land. Now, this is a very minimal buffer zone, but a very valuable buffer zone. It's the minimum recommended by the DEP Watershed Report. Just by comparison, in Massachusetts, a bill has -- four years in a row -- been voted out of the house there, that would provide for a 200-foot buffer zone, even on private land. The only reason that bill has not passed in the last four years is because of one very

powerful state Senator, I am told, and they have very high hopes that it will pass this year.

So, a 50-foot buffer zone to protect New Jerseyans hardly seems too much to protect our drinking water. However, we recommend that that buffer be extended, not just to the streams that directly flow into the reservoir, but also to the streams that indirectly flow in. That can include streams that flow into another stream only a few feet from the reservoir, but it can also include streams that are much farther up. It turns out, according to the Newark report, that the streams that we have most to be concerned about are the perennial streams, the streams that go dry part of the year, that allow pollutant buildup, allow sedimentation, allow a high rate of erosion. And it is those feeder streams that, if not protected, have the potential to contribute enormous amounts of pollutants downstream and into the reservoir. So, we recommend that change as well.

Finally, what the Senate bill does is, it provides for the lands that are outside of those buffer zones that are held by utilities -- a continuation of the moratorium for two years while DEP studies ways of preserving those additional lands for open space conservation and recreation. We support that. But one of the things that is going to happen after those two years, is that DEP will report back to the Legislature on ways that it can help preserve those lands for open space conservation and recreation.

The Legislature does not act instantaneously, and we recommend that the moratorium be extended for a further two years after that, to allow the Legislature to act.

I just will add on that point that the Task Force on Open Space, appointed by the last Governor and continued by the new Governor, has used that figure of 375,000 acres of open space needed to be acquired in New Jersey. We have roughly 50,000 acres of land owned by utilities as watershed land.

Much of that is the finest natural land remaining in New Jersey. It makes very little public policy sense to allow any of that land to escape out of public hands, while we then spend vast sums of money to reacquire private land.

So, that's my presentation. I'd just like to turn it over to Dr. Sewell, to give you a very-- Perhaps I've mispronounced your name all these days.

DR. SEWELL: No, it's absolutely correct.

MR. SEARCHINGER: Okay. To just give you a brief scientific explanation far better than anything I could present.

DR. SEWELL: I wouldn't say that at all. I think you've done a splendid job.

I'm only going to talk about five minutes to lay out a menu, and then I would like you to ask questions so that we can move in a productive direction.

The threats to any waterway, as far as human use is concerned, are two types: It can be chemical -- leads to toxicity, eutrophication; or pathogenic -- that is, disease carrying organisms -- a disease causing organism. We always have to talk about degrees of risk. There is no water that is completely safe. There's no water that, under all conditions, will produce disease. Even with chemicals, it's a matter of dose. For people it's also, again, a matter of dose and the type of organism.

The third is that the concern over water quality primarily involves human activities. So, when we're talking about the human activities, that is the legitimate primary focus.

In developing water supplies, we use two very time-honored principles: From the beginning of the century they have talked about the necessity for source protection and the necessity for multiple barriers.

Source protection means that the best way to keep water from being hazardous, by either chemical or pathogenic

causes, is to try to preserve its quality from its very point of origin, as far as where the rainfall precipitation occurs. The best way of doing this, of course, is to maintain the quality of the area, the sanitation of the areas in which waters fall, because once they fall and have begun to move, they're going to begin to collect both pathogens and chemicals. Chemicals particularly are very difficult to get out. There's no simple treatment to get chemicals out of water once they're mixed. When I say chemicals, it could be chemicals from air pollution, fertilizers, oils, a whole host of materials that we can classify as chemicals.

Once we have passed the point of source protection, then we talk about multiple barriers, the second principle. Multiple barriers include distance, because most waters, if they do not receive new contaminants, will tend to cleanse themselves, both biologically as well as chemically. Also, we try to prevent further contamination -- buffer zones. The buffer zones have another purpose because to some degree all buffer zones are also source areas because you're going to be having the rain, the precipitation; then also groundwater flows coming out into the buffer zones.

The third area that we talk about is, of course, the treatment. Treatment tends to be a Band-Aid for chemical contaminants, as I mentioned earlier. Let me talk about buffer zones more specifically because, obviously, that's the primary interest here. Buffer zones are valuable for the first reason; they give an opportunity to manage human activities. It doesn't mean prohibiting them, but it means preventing those activities which will be putting either chemical or pathogenic contamination into the waters.

The chemicals that have been most harmful in the Bergen area, for example, probably are the fertilizers; fertilizers on lawns, fertilizers on agriculture. They're shrinking agriculture. These are what cause the

eutrophication; that is, a growth of organisms in the water which then gives it the ability to mask the biological contaminants. But also besides fertilizers-- Pesticides such as is used on golf courses in ample quantity, herbicides, as well as insecticides, also pose a problem and must be, to some degree, managed.

Then third, just the human activities which, inevitably, seem to accompany when people feel that they own an area. I'm always appalled at a neighbor I have in Englewood, where I live, an elderly lady for whom I help to take care of her house. She has an apartment dwelling behind, and I found that the whole back fence is now soaked with oil. All of her vegetation and her flowering shrubs are dying, because the people in the apartment building drain their cars of oil. They change it, because it's much cheaper to change oil yourself. And, they're not going to carry it very far; they take it in back and dump it. But I'm sure if there was a way of hiding it and dumping it and getting it more quickly out of sight, they would do it. It's not that they're being malicious, it's waste. They want to get rid of it; it's a bother. It's that type of mentality that occurs when you have land next to water. Go along the shores of any stream here where it's up against dwellings and you'll see all kinds of debris. What will not be easily seen, but can be easily traced, are various activities which will provide both biological and chemical contamination.

The biological one is also an interesting one. If you have septic tanks, it's very direct. Even if you have sewers, sewers tend to leak, especially when they're in an area which was recently developed, where you have differential settling and breakage between the pipes in a sewer line. A septic tank is somewhat notorious for breaking down, that is, when it's not properly maintained. Especially when it's not properly constructed, it will not perform. You eventually get a

breakout of the sewage, and in many cases where the septic tank is lower than the house, which is often the case where you have banks moving towards the stream -- lower elevation is always on the stream side -- you're going to have contamination moving directly into the stream.

Even when they appear to be working, septic tanks are very deceptive. We have found pathogenic organisms, showing that the septic tank wasn't working, hundreds of feet from a septic tank when there's been coarse gravel. If you get very fine sand, oddly enough -- which is probably the best kind of material -- you can't find pathogenic materials, organisms, even five inches, sometimes, beyond the septic tank.

But, take the typical situation: If you're going to have a semi-rural area with any septic tanks, and you don't have a buffer, you're inviting trouble because they're going to be able to move that septic tank field close to the river, and there's going to be a stream or intermittent stream, and no means of managing that when it begins to break down, as many of them do, notoriously. So whether you have sewers -- as much as Bergen County does now, as I understand -- or you have septic tanks, you still have a problem.

I think, at this point, let me stop and let's cover the areas which I have not covered, hat may be on your mind. All right, maybe Mr. Searchinger has some questions.

MR. SEARCHINGER: Don't let us force you to keep us here if there are others that want to go on. I'd just like to ask you, Dr. Sewell, if I can, if you think that the buffers that I have talked about are buffers that you find consistent with your research?

DR. SEWELL: We would like much wider buffers, in the hundreds of feet, but 50 feet is reasonable. Fifty feet is about, I think, from here to that wall. That's a little closer, but it's surprising how quickly you can come to 50 feet. And, it is reasonable; certainly it should not be any narrower.

ASSEMBLYMAN DUCH: Yes, Assemblywoman Ogden?

ASSEMBLYWOMAN OGDEN: Thanks, Tom. You just said that if you have fine, sandy soil that pathogens might not even travel five inches; if you had more coarse gravel, they could travel maybe hundreds of feet.

DR. SEWELL: Two extremes. And where is the average? I'm saying 50 feet is a reasonable average, but, of course, we'd like it further away.

ASSEMBLYWOMAN OGDEN: What I'm wondering is: Can you apply the characteristics of these two types of soils -- and other types of soils -- to come up with relatively accurate predictions of how wide buffers should be in order to protect the quality of water in the tributaries?

DR. SEWELL: Not with any reasonable accuracy, but I'll also go one step further. I'm just talking about one phenomena and that is a septic tank. That is only one of many other potential sources of contamination. The more worrisome ones are when you get a lot of free access -- chemical dumping. I know this stream up in Englewood. I've sometimes seen a spraying truck that sprays people's yards. It draws up early in the morning by a little brook, and I've seen them first flush out their tank and then fill it from this little stream. They can get direct access to that stream. That is the kind of thing which one needs to prevent. And fifty feet, to me -- I would like much more -- is a reasonable demarcation, saying, "Look, this belongs to the public and it is restricted for public well-being."

ASSEMBLYWOMAN OGDEN: I was just trying to determine whether there are any specific guidelines that are inherent in the land itself, and the type of soil and the slope--

DR. SEWELL: Soils, I can assure you-- If there are some magic or some widely followed guidelines, is really what you're asking for. In this particular case, I have not found any because it's so -- we call it site specific. Most areas,

and I know that one of the most stringent-- Connecticut, as I understand, for example, has put much more weight on buffer zones. They went through this exercise of saying, "Is there any rule?" and they finally came down and said, "We have to be arbitrary."

ASSEMBLYWOMAN OGDEN: I'm just looking for legal grounds that we can firmly stand on to say, "We need 200, or 250, or 500."

DR. SEWELL: I'd love to give them to you, but I-- Again, we're talking about degrees of risk, and where are you going to cut the risk? It's an exercise of reason that has to be used.

ASSEMBLYWOMAN OGDEN: And also, who owns the property.

DR. SEWELL: Well, you have to, but from a science standpoint, I'm ignoring that for the moment.

MR. SEARCHINGER: I'd just like to say that from Connecticut, buffers-- Connecticut now has a recent report out, a draft report actually, which says that even beyond the buffer, Connecticut is advocating that utilities seek to acquire -- utilities and municipalities -- open space, as much as possible, throughout the entire watershed area, because even when you're away from a stream, when you have open space it can serve as an assimilative capacity of pollutants that ultimately could find their way down into the water body. So it has also moved to seek -- to urge -- the acquisition of open space throughout the watershed.

There are utilities in Massachusetts that are seeking to acquire their entire watershed as a way of protecting against contaminants. As a general rule, I think utilities are moving in the opposite direction from that lead by Hackensack Water Company. But also, I want to point out that, of course, beyond Bergen County we are dealing with areas as in the Newark watershed and others, where you have very steep slopes, and the buffer would have to be way beyond this. I think all this bill

is talking about now is a first step, a very important first step, because the most important step is that first 50 feet.

The DEP report recommended a system of watershed-wide controls, but, frankly, I don't think they came up with specific enough recommendations for you to act on that today.

I think that this bill, if extended to a 50-foot buffer on all streams in the watershed that feed into the reservoir, would be a wonderful first step and keep the surface waters from going the way of New Jersey's groundwaters, where New Jersey has lead the nation in violations of the drinking water quality.

DR. SEWELL: There's another standard people sometimes apply, and that is the distance at which you can throw objects -- distance at what you could comfortably carry objects -- and the distance, also, in which you can get screening for a stream. Usually, that's considered a 100-foot minimum. That's why many states try to go for 100 feet and not 50 feet. But, Bergen County is a highly developed area, and if we're talking about degrees of risk-- To say that it is a drastically higher risk for 50 feet than 100 feet, I cannot say. Therefore, I'm not doing it. But, about the question, I think there needs to be a buffer.

MR. SEARCHINGER: Okay. We'll go now. I'm just going to hand up to the Committee, first, a copy of the New York opinion that Assemblyman Rooney talked about, and secondly, some pages that I know you have in the record but I draw your attention to, regarding the deterioration-- They're pages from the Rutgers Report that exemplify the deterioration of the Hackensack Water Company's water supplies, and others, because of the lack of protection of the watershed, and, also, a copy of the recent court decision.

Thank you.

ASSEMBLYMAN DUCH: Thank you very much. Thank you, Doctor.

The next individual signed up to testify is Robert Hague of Oradell, New Jersey. Welcome.

R O B E R T H A G U E: I'm here tonight partially because my wife, Mayor Hague of Oradell, could not make it, but also because I have followed the watershed all my life and I think I have some understanding of it. I'm Robert Hague, 380 Grove Street, Oradell, New Jersey.

When I first came onto the planet, I found that my forebears had swimming, boating, skating -- all on land and waterways that the Hackensack Water Company later took over. I used to complain bitterly because when they took this over and people could no longer swim, they supplied no substitute. When you could no longer skate, they supplied no substitute; the same with boating. We lost all of these things, but I was told this was fine, because this was protecting our area. I knew a lot of the Water Company people, George Spaulding, for example, the Chief Chemist, for years, and the way he went about protecting the watershed. Really, he devoted his life to it. Even this was not enough.

Back in the '20s, one time along about January, we had a terrible odor in the water. It got worse and worse. If you took a shower, you could hardly stand the odor. At that time, there wasn't bottled water available so we used to boil it before we drank it. We were assured that the problem was that the ice had been on the reservoir so long, this was affecting the quality of the water. Spring came and the ice went away, but not the odor. Finally, it was determined that upstream a plant was, I believe, distilling things, throwing refuse nearby, and this was getting into the water, and this was the reason for all of this terrible odor. In spite of what they had done in acquiring land, they still had not done enough. Now the upshot of this, was that George Spaulding went about trying to find ways to improve the odor quality of the water using activated carbon. He later got a prize from the American

Waterworks Association for this work, but it was mothered by necessity. When this odor wouldn't go away when the ice melted, George's job was really in jeopardy.

Now, one thing that has not been mentioned to any great extent in any of these hearings, is that when we do things that allow for fast runoff, pave areas, put blacktop in -- all this -- and then we get heavy rains, the water very quickly runs off, and where does it go? It goes over the dam in Oradell and down the Hackensack River. It's forever lost as drinking water.

Now, when I was a boy, if we had heavy rains, you could depend on the river running more rapidly for the next couple of weeks, because this water was being held in vegetation along the way. These lands -- buffer zones and such -- do more than just keep contaminants from going in; they keep from having such a rapid runoff. This all helps to make the quantity of water available from the land greater. And I think it's a terrible thing to neglect it by selling off lands that all these years were held as necessary for a proper watershed. I, personally, would like to see that any land that has been held as part of the watershed, has paid low taxes to the community because of this, be held forever as part of the watershed. Forget buffer zones. If this gives us more buffer zone, all the better. As we just heard before, this is all beneficial to the quality of the water.

I would like to comment: I witnessed the same hearings that Assemblyman Rooney did when, at the last part of the previous administration, the go-ahead was given to allow the development of these lands, and I think the way all of those hearings were conducted was a disgrace. It was characterized by a speaker at one of our meetings as a, "kangaroo court." I think that any of you who had witnessed that, would agree.

Thank you.

ASSEMBLYMAN DUCH: Thank you very much for coming, Mr. Hague, and thank you for testifying for yourself and for the Mayor.

Our next speaker will be Janet Schwarz from the League of Women Voters of Northern Valley. We also have Marcia Kastan from the League of Women Voters -- if you would like to step forward at the same time? I note that one is representing the Northern Valley Chapter, and one, the Pascack Valley Chapter, but we will recognize you together, and you may speak.

J A N E T S C H W A R Z: Thank you. My name is Janet Schwarz, and I am testifying on behalf of the League of Women Voters of Northern Valley. We appreciate this opportunity to testify before the Assembly Conservation and Natural Resources Committee, in support of the Watershed Protection Act and the Watershed Restoration Act.

The League of Women Voters has been concerned for many years with the protection and conservation of natural resources. In regard to water resources, the League supports stringent controls to protect the quality of current and potential drinking water supplies, including protection of watersheds for surface supplies and of recharge areas for groundwater. We believe that the enactment of these bills is essential to accomplish this goal.

The Watershed Protection Act will protect drinking water quality by establishing protective vegetative zones and special management zones around all public water supply reservoirs and feeder streams. While this is a vital step to protect watershed, it will not preserve many thousands of acres of utility-owned watershed land outside the buffer. For this reason, the League strongly supports the bill's provision requiring the DEP to consult with the water utilities to devise an economically feasible plan to preserve this land for open space, conservation, and recreation purposes.

In addition, the League strongly supports provisions in both bills that would remove financial incentives on the part of water utilities to sell off watershed protective land for development and, secondly, would prohibit water utilities from being associated with businesses engaged in real estate sales and development.

The Watershed Restoration Act would provide for the requisition of nearly all the watershed land transferred from Hackensack Water Company to its sister company, Rivervale Realty. A major step forward in the achievement of this goal was the Appeals Court ruling on June 7, which voided the January 1990 sale of 287 acres of watershed land from Hackensack Water Company to Rivervale Realty. Another favorable determination was the recent legal opinion issued by the Office of Legislative Services which affirms the constitutionality of the Restoration Act. This opinion, plus the court ruling, enhance the prospect of passage of this important legislation.

As New Jersey continues to undergo growth and development, pollution increases. These watershed lands, which surround reservoirs and streams, are more important than ever for protecting our water supply. Undeveloped land acts as a natural filtration system, extracting harmful chemicals before they enter the reservoirs. Modern water treatment technology alone is unable to remove all pollutants from drinking water. It is essential that we have both modern treatment technology and sufficient undeveloped watershed land to provide safe drinking water. The League commends the Assembly Conservation and Natural Resources Committee for its continuing efforts to protect New Jersey's natural resources. Thank you.

M A R C I A K A S T A N: I am Marcia Kastan, Immediate Past President of the League of Women Voters of Pascack Valley. Our members are of the Pascack Valley area: that is, the towns of Montvale, Park Ridge, Woodcliff Lake, Rivervale, Hillsdale, Washington Township, Westwood, and Emerson.

As a committee member of our Water Quality Study, with Janet Schwarz, and on behalf of my area League, I concur with her statements and would like to add a short statement of my own.

The protection of watershed land throughout the State of New Jersey has been a major concern of the League of Women Voters of both Northern Valley and Pascack Valley in recent years. Watershed land plays a critical role in preserving the quality of our drinking water by filtering out pollutants before they enter the water supply. Preserving these lands now will save taxpayers the expense of constructing additional costly water purification systems in the future. Moreover, modern water treatment methods alone are not able to remove all contaminants from drinking water. In order to ensure a safe water supply we need both modern treatment technology and sufficient undeveloped watershed land.

Thank you very much.

ASSEMBLYMAN DUCH: Thank you very much. I would like to point out to the members of the public that the League of Women Voters has taken a very active stand and an active role on this particular issue. They recently had a little delegation of four ladies representing the League, and the various chapters, come to my office. We discussed various amendments which, coincidentally, about a week later upon meeting with Tim Searchinger-- The same amendments the ladies presented -- very similar amendments -- were presented by the Environmental Defense Fund. So, it seems that most of the groups that are concerned about the preservation of our water quality, indeed the preservation of our way of life, are coming from the same point of view and that they have very similar concerns.

I would like to thank you for your input.

MS. SCHWARZ: Okay. Thank you.

ASSEMBLYMAN DUCH: Our next speaker will be Kathryn Brewington.

K A T H R Y N L. B R E W I N G T O N: My name is Kathryn Brewington -- B-R-E-W-I-N-G-T-O-N. I, too, applaud the League of Women Voters. I applaud you as a group, Assemblypersons. I applaud our State Senate for the work that they're doing to help us.

ASSEMBLYMAN DUCH: Could you pull that mike over?

MS. BREWINGTON: This one?

ASSEMBLYMAN DUCH: Yes.

MS. BREWINGTON: You mean you missed all that? (laughter)

ASSEMBLYMAN DUCH: Okay. They're having some difficulty hearing you in the back.

MS. BREWINGTON: Oh, are they? Okay. I have no written statement. I have only the years I've spent in meetings in Hackensack, Park Ridge, Oradell, and here in Paramus, in front of the BPU and in front of Assembly representatives and State Senate representatives in relation to protection of our watershed.

I am a stockholder of United Water Resources because I'm an environmentalist and because I have concern about what's happening in terms of the quality of our water.

I had a rather not so enthusiastic reaction to the latest notice that came from The Record about the remand decision from the court, only because I do not trust, at this point. Since 1986, I have been at meetings; more than one a year -- more than four a year -- talking about this, trying to see what we could do, as interested people, to ensure that the integrity of our water and our environment will be protected.

I view it as a very political ball -- a political situation that depends on who wants to be on the right side, and that's almost weepable, because we all need to drink the water; we all need to breathe the air. And I, as a nurse -- as a clinical specialist certified in medical/surgical nursing and 35 years of experience -- know that we have certain standards

which we must meet, or we won't get approved. I'm talking about the institution. How is it that the people who are dependent upon their legislators to maintain a healthy and viable environment-- How can they get away with playing politics all the time? Hospitals lose their accreditation if they do not meet standards. How can we expect that our lives will be dictated and/or legislated by others who do not meet standards?

I appeal to you all, who, I know, want to do what's right for the people. I applaud Senator Contillo, Assemblyman Rooney, Assemblyman Duch -- who I'm just meeting tonight -- Assemblywoman Ogden, who I've seen at other meetings and-- Did I miss anybody? Assemblyman Jacobson.

ASSEMBLYMAN JACOBSON: Don't worry. That's okay. (laughter)

MS. BREWINGTON: The point is, we're all in this together. Everybody needs to make a living. Everybody needs to meet their bills. Everybody needs to breathe. Everybody needs to breathe clean air. Everybody needs to have clean water and everybody needs to have food that's not going to make them sick, so they can live their lives. I appeal to you to do what's right regardless of the political ramifications. The people will respect you if you take a stand; that is, what's right for our environment, air, water, and food.

Thank you for your time.

ASSEMBLYMAN DUCH: Thank you very much. I would just like to make a statement: The name of this Committee is the Conservation and Natural Resources Committee of the General Assembly. The Committee's sole purpose, as I view it, is to conserve and protect the natural resources of the entire State of New Jersey. The goal of the Committee continues to be the same as it was under my predecessor, Assemblywoman -- and former Chairperson of this Committee -- Maureen Ogden. We continue the same goals and the same motivation today.

We're having this hearing on both of these bills so that people who are affected immediately are able to testify, to give us their input, to tell us their additional ideas that they wish to have included in this bill. We want to know what you have to say. That's why we're up here. That's why the hearing is held here, and not in Trenton. This issue is at the heart of the environment in Bergen County -- the protection of the environment in Bergen County -- and that's why the hearing was brought here. I would like to publicly thank my Committee members for coming here for this hearing. It's very important, and it shows the true sign of their concern for conserving our natural resources.

Our next speaker will be Michael Bivona.

M I C H A E L B I V O N A: Yes. I'm Michael Bivona from 252 Old Tappan Mill, Old Tappan, New Jersey.

So far, I've heard no mention of our problem in Old Tappan, but I want to commend you for the work that you've put into these bills. I think there could be some corrections and some additions to them, especially Bill No. 3103 regarding the buffer zones.

First of all, I would like to see one thing added to the bill and that is: Please, speed. Right now, Old Tappan is in danger of having a 250-unit condominium -- well, townhouses built within 250 feet of Old Tappan Reservoir. I have been at every meeting complaining about the situation with the water, and it's this: The entire project is going to drain the surface water from this project into Lake Tappan.

We had testimony from water experts saying that in order for the water to be safe it's necessary that a series of traps -- water traps -- be placed along the path of the water that is being distributed into the lake. And these water traps are set so that they precipitate-- The hydrocarbons, the fertilizers, the chemicals for herbicides and insecticides will precipitate out into these water traps.

And, according to the testimony of the water experts, unless these traps are cleaned religiously four times a year, the system will break down because any heavy rain, any residue left in the bottom of these traps will be stirred up and will pass on down from trap to trap and finally wind up in Lake Tappan.

Now, I've argued that there's no way that any town or any organization can, from now until time immemorial, be sure that these traps are cleaned. By the way, the material that comes out of these traps has to be dumped at a toxic waste site. Problem: If this development is allowed to collect the water from all over its development 100% -- some of it beyond what you project as a buffer zone -- and discharge it into Lake Tappan, what is the need for a buffer zone? All they're doing is taking the water from that area, bringing it down into another area and then distributing it into the reservoir.

I would suggest that what should be added to this Assembly Bill No. 3103 is: 1) an immediate moratorium on passage of the bill, which I can see in here; and 2) a provision that any waters from a new project being distributed into any water supply, that there be a restriction against the use in that area of insecticides, herbicides, and fertilizers -- an absolute prohibition. This will ensure that in spite of the fact of collecting all these herbicides and everything, and distributing them down the stream, it will stop. At least, we hope it will stop, if somebody enforces it. Right now, I can see no real benefit -- except for the one, the retention of water -- of a buffer zone, if we're going to allow the developer to shoot the water, bypass the buffer zone, and stick it to the reservoir.

That's my main concern, but, please, within the next three or four months, maybe even less, Old Tappan is going to issue a subdivision approval on this property. At this time I don't see-- Now, let's take the worst case scenario: The

subdivision is approved. The subdivider now goes in with his bulldozers and he levels the land; takes down all the trees. By the way, I went out there to investigate how many trees are going to be preserved -- about one tree to every two acres. Supposing he strips this land and prepares it for putting in these homes and roads and everything, and then a moratorium is passed or the bill setting the buffer zone is passed which, in effect, would limit his ability to build on that property? What's he going to do? Is he going to keep building? No, he's going to walk away. He'll walk away leaving stripped land -- not properly graded -- that has all the chance in the world of washing right straight down into Lake Tappan, with no method of control whatsoever. Certainly, Old Tappan is not wealthy enough to go in there and preserve the land, and they wouldn't own the land, anyway.

So we have a very dangerous situation occurring up there, and I don't know any way to stop it, unless we get these bills passed quickly to a point where the developers say, "Hey, I can't do it." Otherwise, I'm afraid they'll get halfway through-- I don't know what the position would be if they got the land cleared and then all of a sudden this came up -- the moratorium or the buffer zone. Then what would the builder do?

ASSEMBLYMAN DUCH: I'm sure that that would be a situation that would wind up in court. It would probably be the first test of this legislation.

MR. BIVONA: Yeah, but, I am not interested in legalities. I'm interested in the fact that that's going to be raw land. It's going to be tied up in court and in the meantime we're going to have heavy storms, rain, and everything under the sun is going to wash it right down into Lake Tappan; incidentally, into my backyard, too, because I--

ASSEMBLYMAN DUCH: I would think there would be some local ordinances governing grading, sloping, some engineering

requirements, some posting of bonds. If there are not those kinds of local ordinances in effect, your town has a serious problem, sir, with all due respect.

MR. BIVONA: I agree that there are, but if we come to a point where he's stripped the land, he's put his dams in to keep the silt from washing down, how long is that going to last if there's a moratorium? He's not going to build. Those dams don't last forever. They only last long enough to--

ASSEMBLYMAN DUCH: I understand that. But, that's a question, really, that a local engineer and a bonding ordinance and bonding requirements for that kind of a project would deal with. The key here is that you need the bills. That's the bottom line. That's the key. You need these bills, because from what you're telling me, those local protections are apparently not in effect.

MR. BIVONA: I need speed. Yes, it's breaking down. The town needs speed. The water needs speed, because that's going to dump right into Lake Tappan. Incidentally, I don't know who this lady was, before I was speaking, for the Water Resources-- I understand that Water Resources is very hesitant about ever, ever dredging any of the reservoirs from this point on because of the amount of sediment -- toxic sediment laying at the bottom. They are afraid to disturb it. It can only get worse. Now, what happens when they don't dredge? It silts up and silts up and silts up. Pretty soon, we don't have a reservoir; we have a pond. This is also disturbing.

So, I think anything you can do to speed up these bills would be greatly appreciated. I think the time for talking is done. This is the time almost-- For me, it's desperate. It's almost tomorrow that it has to be done, not "We'll consider it three months from now or six months from now, or maybe we'll bring it up out of Committee next year sometime." It doesn't work. Not now, it's too late.

ASSEMBLYMAN DUCH: Thank you, sir.

ASSEMBLYWOMAN OGDEN: I can assure you that the members of the Committee, on a bipartisan basis, are going to support the Chairman in moving the bill and also in trying to see it posted for a vote.

I just would like to make a couple of comments, though, because I agree with the Chairman in terms of sediment and erosion control. I mean, I understand what you're saying about the land being left open and the developer walking away from it. You also should have, like a tree ordinance, to prevent them from cutting down all the trees and you should have an EIS in your town so that they won't be putting all this storm water runoff into your reservoir. You know, really, to me it makes no sense whatsoever to say that this apartment complex is forbidden to use insecticides, herbicides, fertilizers. I mean, who's ever going to follow that out? So what you really, really need is something like treatment of that storm water before it goes into the drinking water supply.

MR. BIVONA: They're doing that as best they can, but you know as well as I know, knowing politics, knowing people, that 20 years from now nobody's even going to think about it. It's going to be over and done with. The hullabaloo is done. Nobody's complaining -- we'll clean them out next year.

I know, in front of my house, I allowed the County of Bergen to run a sewer line from the road into my pond in the back. They put two catch basins in. They haven't cleaned them since they put them in. And this is what's going to happen with these other things, too. It may sound like I'm crying wolf, but I'm not. These things are dangerous, and if they're not consistently cleaned four times a year and sent to a toxic dump, they're going to pollute Lake Tappan. Thank you.

ASSEMBLYMAN DUCH: Thank you very much, sir.

The next speaker will be Gregory Gage representing Bergen SWAN.

G R E G O R Y G A G E: Yes, hello there. My name is Gregory Gage -- G-A-G-E -- from Hillsdale, representing Bergen SWAN -- Save the Watershed Action Network.

First of all, I've come before this Committee, and others like it, in the past. I want to thank, very much, Assemblyman Tom Duch, for sponsoring this hearing giving the public of Bergen County a chance to-- That this issue be vented in public is very important.

We've been working on this bill, or on this issue, at this point, three-and-a-half or more years. When we started this, I don't think we even understood the can of worms that we might be opening up. And, it's been a pleasant walk in the woods all along. We've been learning a lot. There's been a lot of experiences. We accomplished a lot in that time, as well.

But when we started out, I mean, I didn't know -- and I don't think a lot of people knew -- that we didn't have buffer requirements for reservoirs; that there wasn't any environmental law that said we even needed one foot of buffer land around the reservoir. Obviously, laws are something that take place or are enacted to deal with problems as they come along, and we never, in our own minds or as a State, ever feared that these lands might be in jeopardy some day. People who owned them, who protected them, the water protectors-- The Water Company had done a good job over the years protecting these lands, and we had reason to believe that that would go on. Obviously, we were wrong.

But, the time has come, and it's way past due, for the enactment of strong legislation that serves to protect these lands -- not just in Bergen County, but throughout the entire State. This is a serious problem, something that's been overlooked for way too long.

I'd like to come out, first of all, in full support of the Watershed Protection Act. We'd like to see it strengthened

and merged with Senator Contillo's bill that he has posted out of Committee in the Senate Chambers.

Some of the things, you know-- Tim Searchinger has talked adequately and informatively on some of the scientific rationale, and some of the things that have happened in the past. We have to look at Bergen County's realities, and that's what I want to speak to a little bit -- and different realities in different parts of the State -- because in Bergen County, having this Watershed Protection Act is something that we need, but it doesn't completely and adequately address all of the problems we have here. We talk about a 50-foot buffer. I think lots of us would like to have more, but we're cognizant of the political reality that feeder streams, and everything else, go through everyone's backyard.

If we were starting from scratch in a rural community, the idea of putting in 50-foot buffers or 100-foot buffers around all feeder streams entering a reservoir and upstream from our water intake, might be very adequate. In Bergen County, I don't think we are going to meet that dream. It is already fully developed. These backyards have things already. People have built their houses right up to the streams. That is just a political reality we have to deal with. Obviously, the more we can protect, the stronger and better our water quality will be.

Nonpoint source pollution is one of the biggest threats we have coming towards us; something that is going to be addressed in this bill, and needs to be further addressed in other legislation that will come down the pike, I'm sure, in the years to come. It is one of the major threats to our drinking water supply. It is a major threat to our oceans, and life in the oceans.

One of the things besides just fully supporting a strong Watershed Protection Act, is the fact of its companion bill, the Watershed Restoration Act, because it does go and

address some of the needs that Bergen County has. These are the lands that are left intact in Bergen County; that have not yet been developed around the reservoirs; that the Water Company, over the years, had the foresight at the time to protect and save from development. It is all that we do have behind and protecting our water -- our drinking water -- from the effects of surrounding encroachment of man's development.

I think it has been adequately documented over the various hearings, and also tonight, about the various problems that have arisen over time in the way Hackensack Water Company, United Water Resources, and Rivervale Realty have conducted business. The 700 acres that were transferred in '84 are lands that Bergen SWAN has always had its eyes set on, because those are the lands that are most environmentally sensitive. They are the ones that abut and come up against the Hackensack River, in between Lake Tappan and the Oradell Reservoir. They are the lands that surround the reservoirs. They are the lands that remain in their natural state. They are the ones that have the wildlife. Some of the last remaining wildlife habitats are in the center of Bergen County, a very densely populated area; lands that don't just provide valuable habitat for the wildlife themselves, but for the humans who enjoy it, and oxigenate, and just the open space needs of Bergen County. These lands are all the same, and one.

Over the years, we had public trust in the Hackensack Water Company. We entrusted it with a resource, not just any resource, but one that is very valuable to, not just humans, but all the wildlife that exists here and the water. Because of that entrustment, we allowed them not to pay full taxes on these lands over the years. We allowed them the powers of eminent domain to acquire this land, and if they didn't acquire it through the power of eminent domain, they certainly had the threat of it to use.

We allowed for them to charge us through the rate base for these lands and pay for them over the years -- the taxes and the original costs of these things. We allowed them, legislatively, the right to have a monopoly on this resource. All this stuff comes with public trust. That is something we entrusted with them.

We were obviously betrayed in '83 and '84. We were betrayed two years prior, when we allowed the conflict of interest to be created between the Hackensack Water Company and Rivervale Realty; the fact that they could restructure and have a nonregulated utility sister company that would be able-- You know, you could play a shell game, switch the land from one to the other at undervalued prices, which we have already talked about.

There is a conflict of interest which was created through the State regulations. We have talked over and over again throughout the years of the BPU's handling of this case; the fact that there was no public bidding; that they relied entirely on the Havens and Emerson Report, as was reported earlier this evening, which stated it should not be the sole document; that they had no prior experience in this kind of work before; that you should maintain the present zoning; that you should even consider purchasing more land. Furthermore, this report said, in clear writing, that building on these lands would degrade the water quality.

This is a question I even posed to Barry Schwartz, the water chemist with the Hackensack Water Company. He, rightly, admitted that, yes, building on these lands would degrade the raw water quality. We have had a debate over raw water quality versus tap. Costs-- You know, should you prevent it beforehand, or should you treat it afterwards? There is a lot of debate on that kind of an issue. One thing is for sure: After-treatment costs are going to be more. We are going to

pay for that. The Hackensack Water Company is not going to pay for that. You and I are.

I think it is a time-honored technique and business practice -- protecting the buffers themselves. That is a first step. Treating it afterwards is very important as well, but let's stick with what we know -- time honored -- what other states such as Connecticut and New York City do in protecting the lands up in the Catskills. They are buying lands. They are setting out much larger buffers than we would even dream about -- or we can only dream about. They are looking at it with the foresight to deal with this problem, and they can. We must also.

One of the things that-- We have had victories over the years on this issue, and we have had pitfalls as well. But one was last year when we had appeals, with the help of the Environmental Defense Fund and Bergen SWAN, before the Board of Public Utilities. Just reading from an article that was published in The Star-Ledger by Ted Sherman last year, after the BPU-- The headline says: "BPU Admits it Goofed in Watershed Land Sale." It says: "In a petition filed in April by the EDF and Bergen SWAN -- the Save the Watershed Act on Network -- the BPU was urged to halt development on former reservoir land. The EDF argued that at the time of the transfer, the Board of Public Utilities violated its own procedural rules and failed to consider the environmental impact of the land swap."

Ruling on that petition last year, BPU President, Scott Weiner -- now our DEP Commissioner -- who was not a member of the Board at the time of the initial decision, said that the regulatory agency had made a mistake to allow the transfer. In quotes, it says: "I think what the Board did was wrong. It was not smart public policy then, and it is not smart public policy now." At the same time Weiner said: "There is no legal basis to undo what was done." That was from

the Board of Public Utilities' perspective. Obviously, we took it a step further. We went and appealed that, and it went to the courts.

Last Friday, we were graced with a very favorable ruling, saying that the way the Water Company conducted business -- as was mentioned before -- at the last-minute, closed room hearings in early January 1990, was wrong. They ruled that there was no compelling public need to transfer these lands then, and it isn't the case today. They said you should wait until State regulations are ready. Obviously, that is what the buffer bill is intended to do.

It addressed the idea and the notion of public bidding; that the Board of Public Utilities did not follow its own rules, and if it were to waive those rules, it had to have good cause. It didn't find that there was any intelligible reason in the writing about what that good cause might be. It didn't exist.

The thing that strikes me, and lots of others, is: That same situation existed in '84, when they waived the rules then. There was no compelling need. The public was ripped off in a shell game. They got the one-time $18 check, which, you know, amounted to nothing. We saved 17 cents per year on our utility bills by taking these lands out of the rate base, which was their justification. I think we would all like to pay that 17 cents again, to save those.

These lands, as I mentioned before, are the most environmentally sensitive. I am talking about the original 700 acres. They are the most environmentally sensitive from a water quality standpoint. To walk back there -- if you ever get the chance -- is to see just pristine wetland ponds and bogs. When it rains and overfills, they drain into the river that feeds down into the reservoir. They are pristine. You could probably drink the water, because nothing else is entering it except from the air. There is not even-- You

know, some of these areas don't even have the effects of man -- the yards and ChemLawns, and things of that sort.

These lands in '84 were not put out for public bidding. It was not in the best public interest, as Scott Weiner mentioned, to sell off these lands. What we need to do at this point is, and what I do, and what Bergen SWAN is doing-- We are fully supporting the Watershed Restoration Act, which is a bill which seeks to correct the problem that was created several years ago. The Board of Public Utilities did not feel it was within their jurisdiction to correct it in their ruling here. The courts ruled favorably on 300 acres of golf courses the other day. We are going to be pushing the courts further, and also through legislation, to turn back the clock on the 700 acres. That is the most environmentally important, and that is the goal, I think, that lies before us in protecting our water supplies.

Your Watershed Restoration Act-- We have gotten support from all members of the community, from various environmental groups in the State, and from elected officials. County Executive Pat Schuber has endorsed this bill. Obviously, we have a full slate of Bergen County's Assemblypeople and Senators coming in behind us and finding out the importance of this kind of a bill. We see members and legislators from other areas of the State, who have been very concerned over the years with protecting drinking water quality and the natural environment, with us here today. We have members from the League of Women Voters and various other groups.

Bergen SWAN fully endorses and supports a strong Watershed Protection Act that sets up buffers, and its companion bill, the Watershed Restoration Act. This is very much needed now to halt any further development.

Thank you.

ASSEMBLYMAN DUCH: Thank you very much. Also representing Bergen SWAN here tonight we have Mark Becker and Larry Kuttner. You may come up together or separately, whatever you desire.

M A R K B E C K E R: Good evening. My name is Mark Becker -- B-E-C-K-E-R. I am from Westwood. I would like to echo all the sentiments expressed here tonight from my colleagues and from EDF and the citizens here, except, of course, if the Water Company spoke, I probably wouldn't echo their sentiments. (brief discussion about audience not being able to hear, and which microphone to use)

As I said, I would like to echo the sentiments expressed here by everyone, except if the Water Company had spoken, I probably would not agree with much of what they said. I would like to thank all of you on the Committee for coming out to Paramus and holding this hearing right near the area that is affected. It is very important and very encouraging to see you doing that.

I am here tonight as a representative of Bergen SWAN. We are a citizens' environmental group comprised of over 1000 Bergen County residents. We were formed out of a concern that we saw serious environmental degradation happening with the prospect of these watershed buffer lands being developed.

I guess I could speak most personally about my experiences working with Bergen SWAN, going out on weekends, petitioning, going to meetings, going to hearings, and talking to people in the park about the issue. There is just overwhelming sentiment throughout the community that this is wrong; it has to be corrected. I think we are really, really blessed with the convergence of events here; that we can really make this work now and reclaim those 700 acres through the Watershed Restoration Act and through the buffer bills. A combination of these can really ensure that we have these 700 acres reclaimed and preserved forever, as they should be.

I would also like to say that the residents of this community are extremely angry at the Water Company for what it has done. As mentioned before, this betrayal of public trust-- I don't think the Water Company fully appreciates and respects the public. Seeing what they have done is just incredible.

Over the past 100 years they acquired this acreage and were given the responsibility to provide clean, pure drinking water to the residents. Within the last 10 years, they have made a decision to forget that, and put ahead of that responsibility this chase after windfall real estate profits, a short-term goal at best, and, in light of the recent market, a not very realistic one.

I would also like to add, aside from what the Restoration Act will do for our immediate area, I think it has important consequences for watershed protection throughout the State. I think it will set important precedents that we can use to achieve our goals of preserving water quality through protecting the watershed areas. All I can say is, the mechanisms are there. This bill provides us with the mechanisms that will do it. You just have to move it as quickly as possible, and that is what I am urging all of you to do.

Thank you.

ASSEMBLYMAN DUCH: Thank you, Mark.

L A R R Y K U T T N E R: I am Larry Kuttner -- K-U-T-T-N-E-R, also of Bergen SWAN. I am a resident of Cresskill. I would like to confine my comments to why this legislation is so important and why a utility such as the Hackensack Water Company cannot be relied on to safeguard the public water supply.

When the Board of Public Utilities asked the Water Company to justify their land holdings, they commissioned a report, which they provided to the Board, and which they also

chose to interpret in their own way, disregarding a lot of recommendations. The report stated that the Water Company's buffer area was less than average; that water quality had degraded over the preceding decades due to development in the area; and that additional development would continue to degrade the water. They also suggested that additional land needed to be acquired in some places where there is insufficient or no buffer. It is interesting to note that in some areas where there are no buffers, instead, there are hazardous waste sites such as landfills, directly adjacent to the waterways.

They also said that the existing zoning should be retained for the properties. After the transfer, the Water Company's sister company, Rivervale Realty, has gone about seeking zoning changes, such as in Emerson, where they wanted to build an office complex adjacent to the Oradell Reservoir. That study, incidentally, said that it shouldn't be used as the basis for transferring the land; that further study was required. But that was disregarded.

As things have progressed, the Water Company has continued to display its lack of concern with water quality and has shown that their motivation is solely profit. Of the 40 parcels that were transferred under that initial BPU approval in 1984, more than half of them have discrepancies where Rivervale Realty is claiming ownership of additional acreage that wasn't approved for transfer, basically reducing the buffer zones. The largest example of this was in the previously mentioned site along the Oradell Reservoir in Emerson, where they attempted to reduce the buffer zone in half to gain approximately 36 additional acres so they could build their office complex there.

Another issue is the values of these properties. One interesting piece of land in Old Tappan -- which was discussed by one of the previous speakers -- in Old Tappan, in addition to Lake Tappan, was a piece of land that was purchased under

New Jersey State Library

the threat of condemnation by the Water Company in 1977 for approximately $180,000. Only six years later, that entire parcel -- none of it was ever used for Water Company purposes -- was transferred to Rivervale Realty for roughly a quarter of the price that had been paid by Hackensack Water Company and, you know, therefore the ratepayers.

Then, only a few years after that, it was sold as part of a larger parcel which is now planned for the large townhouse complex, at an approximate value of $750,000. So, the Water Company has continued to mislead the public about their motives. From this you can basically see that their sole and only motive is for profit for their company.

Thank you.

ASSEMBLYMAN DUCH: Thank you very, very much.

Next we will hear from Henry Gripenburg. Mr. Gripenburg?

H E N R Y J. G R I P E N B U R G: My name is Henry Gripenburg -- G-R-I-P-E-N-B-U-R-G. I am from Haworth.

Ladies and gentlemen: I want to thank you for coming to Bergen County and for hearing our testimony tonight. I appreciate it.

I wish to express my full support for passage of Assembly Bill Nos. 3103 and 4204. We must do everything possible to fully protect our most precious resource -- our water supply. It must be fully safeguarded, so that present and future generations may live healthy lives. All watershed systems in the State must have maximum protection.

Please allow me to deviate for a second and quote from a building contracts' magazine, "Interiors" November 1989: "There has been more degradation of the environment in the last 30 years than in the last one million--" I wish to repeat that statement: "There has been more degradation of the environment in the last 30 years than in the last one million" -- and I will continue the quote -- "and more built in the last four

decades than in the more than 300 years between the settlement of Jamestown and 1949 all put together. The way we have built of late is unprecedented in our use of land."

Since the late '80s when Bergen County had approximately 12% open land, we have now decreased it to approximately half that number. It includes land that is both buildable and nonbuildable; all this rapid construction and development with ever-decreasing safeguards. The safeguards seem to get less and less, not more and more.

No one fully understands the effects of all the chemicals used by our society: pesticides, herbicides, fertilizers, petroleum products, and sewerage. Many of the compounds are so new that their residual effect is really unknown. Many such items that were in common usage just a few years back, have been banned. Extreme long-term health problems have since been attributed to their usage -- birth defects and cancers, to name a few.

When we add any contamination to the environment, we are creating a real unknown. The frightening part is, we do not know the danger for the future. We do not know the persistence concerning the danger of these chemicals; the real time requirement for the water flow to neutralize the chemicals, or substances. Also, the method or methods of contracting the substance personally-- You can do it via breathing, skin surface, orally. All this adds to the risk factor. We know water usage can include all three. When showering, for example, you get both the vapor and skin contact. Food or drink for the oral part of contamination.

There are additional parts of the problem: A single gallon of gasoline can contaminate approximately three-quarters of a million gallons of water. Pesticides are toxic to humans, animals, and various organisms and plants. Sewage spills and excessive fertilizers can create algae bloom. This has happened in our local reservoirs. Part of the connecting link

between the Wanaque and Oradell Reservoirs is the Passaic River. Don't worry about the fact that there are sewerage treatment plants upstream. Don't worry about the toxins, sewerage, or heavy metals, because we now have on-line the world's most advanced water treatment plant.

Hackensack Water claims it can filter any water. They do not tell us the full cost of the treatment. Even with the new plant, we have had days, last year, of unsatisfactory water. We do not know how it deals with all the possible danger items I mentioned earlier. Why do we have to settle for artificially cleaned water? Attached to my testimony is a chart of "Major Sources of Groundwater Contamination." It is from the EPA. New Jersey has a problem in all categories except one. With all the groundwater problems existing, why must we add to the risk of our limited surface supplies? Where are we going to get our future water?

The Hackensack Water Company has paid dividends since 1886, surpassed by only 35 companies on the New York Stock Exchange. I really think that is a record they should be proud of. However, recently the Company has been allowed to divide into multiple companies. Not being satisfied with their old record, to me, greed has created companies in order to sell this watershed land; land bought by our ratepayer dollars. Ratepayers, up until now, have maintained the property. We pay the taxes. Now the stockholders demand that it is their right to sell and profit off of our land.

All of the land originally was bought for the protection of the watershed. Much of the land was purchased through subterfuge; some of it through condemnation. Now the stockholders want to develop it via Rivervale Realty.

As stated at a recent River Vale Planning Board meeting in December -- the Water Company was seeking a removal of soil permit at the time -- Rivervale Reality and Hackensack Water Company are two separate and distinct companies. The

only link is United Water Resources, the parent company. Yet, over the two-year ownership of the property in question, as claimed by Rivervale Reality at the meeting in the Borough of River Vale, Hackensack Water Company had paid the taxes all that time. They claimed it was internal bookkeeping.

The development in River Vale did not strictly adhere to property boundary lines. They were in slight -- and I repeat the word "slight" -- violation of the buffer and wetlands laws. To me, that is cheating on the boundaries, and gives me great question to wonder about their intent.

In Old Tappan -- as mentioned earlier -- housing was built over the past few years also, where they had no sewers, just septic tanks. Several long-used wells became unsafe and had to be closed. But don't fear, because sewers are coming to Old Tappan. Again it was mentioned earlier that sewers leaked at an extreme amount. I would hate to say the large numbers I have seen registered.

They want you to believe, though, that it is a perfect solution. United Water Resources is claiming assistance with these sewers, paid for by the ratepayers. This is to enable land sold by Rivervale Realty -- the stockholders' profit -- to build single-family cluster housing 250 feet from the reservoir. In order to add to the density, a special drainage system is being proposed. It must be maintained four times a year. It is essentially a toxic dump.

Just some of what I mentioned makes me worry about our future water supply. Remember, the Hackensack Water Company says, "We can filter any water." It seems they are out to prove it, no matter what the cost to the ratepayer.

Three percent of the earth's water is fresh, but only 1% is readily available for human consumption. How much really of that 1% is pure? How much is really totally safe for human life? I would like to know why we are risking our limited supply of water by allowing greed to profit from our watershed

land. Please maximize our protection. Don't risk less by allowing irreversible land development. We have the exact same amount of water today as existed three billion years ago.

We have lost what was once an excellent utility company, to me, via political handling. I do not wish to lose my water supply via additional errors. The entire State must have maximum protection of its water sources, especially for our children. Please get these bills passed soon.

Thank you.

ASSEMBLYMAN DUCH: Thank you very much, Mr. Gripenburg.

Next we will have Nancy Smith, a member of the Planning Board of Haworth.

N A N C Y F. S M I T H: My name is Nancy Smith. Can you hear me?

ASSEMBLYMAN DUCH: You have to speak a little louder, right into the microphone.

MS. SMITH: Okay. My name is Nancy Smith. I am from Haworth, and am a member of the Planning Board. I am also the Planning Representative to our new Environmental Commission, new by two years. We have just completed our Environmental Resource Inventory and a new Master Plan for the town of Haworth, which includes a conservation element. So, we have been deeply involved in the environmental factors of the half of our town which borders the Oradell Reservoir.

Excuse me. I forgot to also say that I am the Mayor's representative for cross acceptance in the State Planning Commission.

I would like to submit a copy to you, if possible, of testimony given on August 17, 1989 to the Watershed Property Review Board. You probably have this in your files, but it was given by Nancy Kamen, our Environmental Commission Chairman, and she quoted the Havens and Emerson Report which was published by the Water Company, and which we have used as a reference, particularly when it came to buffer zones. The

buffer zone which is in our new Master Plan is what is suggested in the Havens and Emerson Report because there are no State laws on that subject.

May I just say parenthetically that the DEP suggestions of buffer zones submitted to the Legislature, which were 250, 250, and 250, with a total of 750, regardless of the acreage of the area-- I think that approach is a very positive one. The first 250 for critical areas, the next 250 for intermediate, and the last one, still environmentally sensitive, but some usage of that land can be made.

Whatever you finally decide on the area of the buffer zone, there isn't a town in the State of New Jersey that will not have to adjust to it, in one form or another. I have no question in my mind about that. I also have no question that the public, as a whole, supports the protection of their water supply. They know if they drink bad water it will affect their lives.

One other parenthetical thought is, the Water Company says that its water is pure and it meets all of the State criteria. The State criteria only include 20 to 30 pollutants. I am not sure whether it is 23 or 27, but something like that. The new list of heavy metals and other chemicals which should be included in any analysis of water quality, are not now included in the monthly reports which are submitted by the Hackensack Water Company. We don't really know what the quality of our water is. We do know the quality of the land in filtering that water.

Nancy Kamen said: "Since the lands in question are watershed, a major concern of our Environmental Commission is water quality. Once again, I refer to the Water Company's own document, the Havens and Emerson Report, which indicates that there is considerable debate regarding appropriate standards for protective buffer lands. After a review of available literature on the subjects of watershed management and water

quality, the authors indicated that: 'In general, the need to protect water quality in reservoirs through the restricted use of perimeter lands was emphasized in the literature and with those State agencies involved with environmental control and health.' (page V-2)

"In addition, the authors noted that discussions were held with the New Jersey Department of Environmental Protection regarding reservoir protection regulations and, 'The opinion was expressed that any sale of land could be detrimental to water quality, and that water purveyors should attempt to obtain as much land as possible to protect their water supply.'" (pages VI-1, VI-2) That is a direct quote from the Havens and Emerson Report, which was published by the Hackensack Water Company in 1983, revised in 1987.

If they, themselves, recognize the importance of water quality, certainly they should not be surprised if we demand it.

I have copies of this testimony for you, not many, just three. (gives copies to Committee)

We are concerned with the development of the land, particularly in Haworth, because the Oradell Reservoir, and across the Reservoir in Emerson-- The Oradell Reservoir is the terminal reservoir in the Hackensack Water Company system. It starts in upstate New York, and comes all the way down to Oradell, where it is dammed. Then it becomes part of the Hackensack River.

The sediments from the streams in Haworth are nothing compared to the sediments and the pollution that come from Tuxedo Park in the State of New York, where they were allowed to increase the dumping of aluminum by 10 times what they had previously done, on the assertion by the Water Company that the land will filter that contaminant. I wish I could quote that to the Water Company on occasion.

I would like to read to you from our new Master Plan a section about the Oradell Reservoir: "At the extreme western

border of Haworth is the Oradell Reservoir, a 235-acre body of water. It is an integral part of the surface water supply of the Hackensack Water Company. In 1983 and 1987, the Water Company received the results of a report on its holdings, wherein the protection of its water supply was analyzed and recommendations put forth," which I just quoted. "The recommendation most significant for Haworth was to create 'protective zones with additional requirements for site-specific limitations of steep slopes and soil conditions: 1) All land within 250 feet of the 100-year flood level of the Oradell Reservoir.'

"Based upon data from these 1983 and 1987 Havens and Emerson Reports, the State Watershed Review Board, in a 1990 decision, mandated the preservation in perpetuity of Hackensack Water Company lands presently leased to the Haworth Golf Club, a 73.99-acre tract. Said acreage is bound by a restrictive covenant which, 'restricts the use of property herein conveyed exclusively for golf and country club purposes and such other uses customarily associated with golf and country clubs.'" The reason for that is that historically the White Beaches Country Club has been there for, oh, I think, 85 years. That is the historical background of the Water Company land. It is not quite that old.

"This buffer zone consists of all lands 'within the 250-foot distance of the 100-year flood level of the Oradell Reservoir, as well as any other areas that are delineated area buffer zoned within the July 14, 1987 report of Havens and Emerson, Inc.' The 1987 report of Havens and Emerson recommends the following: 'Other reservoir areas to be forever preserved as protected buffer zone lands; all lands within 250 feet of the 100-year flood level of the Reservoir'" -- which borders the Reservoir, that flood level. "If any land within a slope greater than 15% is within 150 feet of the Reservoir, within significant interception by wetlands, swales, and

natural depressions between the slopes and the Reservoir, the buffer zone shall extend 250 feet beyond the top of the slope, or 500 feet from the high level of the Reservoir, whichever is less.

"If any land with shallow depths to bedrock 20 inches or less or poorly drained -- or very poorly drained soils as defined by the United States Soil Conservation Service, the buffer zone shall extend to 250 feet beyond this land, or 500 feet from the high level of the Reservoir, whichever is less."

I could go on reading the other covenants in here. I am not sure that you are interested in that, except that it does show you--

ASSEMBLYMAN DUCH: If you could provide us with a copy of that--

MS. SMITH: This is a brand-new Master Plan. We don't have many copies yet, but I'm sure we could supply you with it.

ASSEMBLYMAN DUCH: Just those particular sections dealing with buffer zones; not your entire Master Plan, but the sections dealing with buffer zones and bedrock, and the extension of buffer zones. I think that would be helpful to our Committee aide, as we go forward.

MS. SMITH: Well, let me just read one little section under the soils as well. I mean, we list the soils that are in Haworth, and it says: "Some soils are not well-suited to development because they tend to have high groundwater tables, excessive moisture, low weight-bearing capacities, or other unsuitable characteristics. For example, flat, poorly drained areas often have high groundwater tables, or have flood or excessive moisture problems. Accordingly, dry, below-ground basements are difficult or impossible to construct, and many individuals or companies opt for slabs or crawl spaces under a building."

The reason I read that to you was that this is typical in unused land that is left in Bergen County. It is so-called

"junk" land, a great deal of it wetlands, which need to be protected because they clean the water recharge areas, even though they are small. They do an extraordinary job in cleaning the water and the air that is around them. The poorly drained soils are a fact of life in Bergen County. This whole Hackensack River situation-- I mean, the Oradell Reservoir was originally the Hackensack River that had been later dammed. It is all a glacial plain. The ice age got down that far.

So, we have sandy loams, and we have hard-panned clay, and we have high water tables. If you have ever tried to park in the parking lot of the Bergen County Office Building, you know what a flood plain is. It is often a foot or two under water. Now engineers like to figure out ways of containing water. My point to you is, most of Bergen County has a water problem. Almost all of it has floods. It is not just the flood tunnel in New Milford that is under discussion. It is flooding all over here -- all over this county.

You are bound to have it. You have a Palisades. The back side of the Palisades gets all that water. It has to go someplace, folks. The problem in these towns is that the capacity for the land to absorb it is becoming less and less as we have more impervious surfaces. We must protect as much of that land as we can, or we will be washed down the tubes. As they say on the coastal flood plains, the same thing can happen there.

I'm sorry. I didn't mean to get into a long lecture. But flooding is a serious problem; a serious problem for planning boards, and for environmental commissions. It is something that people understand; that when our sewers overflow and put those contaminants into the Reservoir -- and they often do overflow because of the flooding -- then we have a problem of containing those nonpoint source pollutants.

Thank you.

ASSEMBLYMAN DUCH: Thank you very much, Ms. Smith.

MS. SMITH: I'm sorry. Were there any questions?

ASSEMBLYMAN DUCH: Any questions? (no response) Thank you very much for your time.

MS. SMITH: You're very welcome.

ASSEMBLYMAN DUCH: Next we will hear from Jeanne Marie Otersen, New Jersey Environmental Federation.

J E A N N E M A R I E O T E R S E N: Good evening. My name is Jeanne Otersen -- O-T-E-R-S-E-N. I am with the New Jersey Environmental Federation. I am also a Bergen County representative. I am here tonight to represent the Federation, as well as, I imagine, myself, because I am affected by this issue. I want to point out that the Federation is one o the largest environmental lobbying groups, and sees this as a statewide issue. Because we are here in Paramus, most of the speakers have addressed both of these bills from the perspective of Bergen County. But as Dan Jacobson said earlier about all the development, I see particularly the Protection Act as being the warning shot, and what happened here with the utility company as another warning shot to the rest of the State, that now is the opportunity for the State to take action.

When people ask for swift action here, it is a little bit ironic. We're talking about an issue that has been around for seven years. It is long past due for action. People tonight have, I think, dealt a lot with the substance of the issue and the merits of the bills. Probably what I want to do is just stress four or five points that I think are more political points to the bills. And though we always say that doesn't affect the issue, we know that it does.

These two bills -- the Watershed Protection Act and the Restoration Act -- really are foreshadowings of issues that I see emerging in the next two years in New Jersey: One is nonpoint source pollution. My organization -- the Federation -- worked for two-and-a-half years to win the Clean Water Enforcement Act, which dealt with point source pollution, but

left untouched is the issue of runoff, which is a step at least in these two bills -- the issue of overdevelopment, encroachment onto open spaces, and the issue of pesticides, spiralizes the kinds of things that have been mentioned tonight and their impact on water quality.

I think the combination of looking at pesticide use and looking at water pollution from nonpoint sources, really looks at the heart of these bills. I think there are three or four things we need to win these bills. What we need to see is the kind of bipartisan leadership that we have here in Bergen County taken across the State. Too much of what we have seen down in Trenton on this is that people see it as a Bergen County set of bills, so they don't feel the impetus; they don't feel the need to move forward on it. There are a few people like Assemblyman Jacobson who see the foreshadowing he does, and, again, Assemblywoman Ogden.

So we need to see the people on your Committee and the people here in Bergen County take that bipartisan leadership to their parties and to the Speaker in the Assembly and the Senate President, and urge quick action. I think the closer we get to the November elections, the least likely we are to see action on these bills. Frankly, now is the time to do it. You know, the longer we wait-- We are going to be here in 1992 urging people to take swift action.

So I would urge, as SWAN has, and as the Environmental Defense Fund has, this Committee to vote and amend the bill so it will correlate with Senator Contillo's bill. We would urge, also, immediate consideration of the Restoration Act on both Committees. We would urge the Senate to take an immediate vote on the floor for the Protection Act, and we would ask each member of this Committee to go to their party caucuses and advocate for fast bipartisan action on this bill.

I think I want to, I guess, also reiterate Tim's earlier point, that the Appeals Court action reminded us all

very clearly that the utility companies and the regulators, and even local officials, are either unwilling or unable to protect the public interest; that it is now up to the Legislature. There is nowhere else for the people to turn. For seven years, they have looked to various sources for support in protecting their water quality, and they have gotten nowhere. It is now in the hands of the Legislature. If you don't move, and don't act, we will go on unprotected and things will only get worse.

Lastly, I want to urge this Committee to seek -- and this is a political issue -- a waiver from the Speaker to bypass the Appropriations Committee with these bills, particularly with the Protection Act. What we have seen down in Trenton in the last couple of months, is that that becomes a bottleneck; that opposition to any particular environmental bill becomes economic opposition. No matter what the merits of the particular issue are, we are told, "It is hard economic times. It is not the time to pass this bill." They send it to Appropriations and it becomes a bipartisan battle. It raises issues of taxes, and it is the death knell.

I think if we can avoid that with this bill, that it will again ensure that we will move quickly on the bill.

I would like to thank you again for being here and for moving this bill forward. That is all I have to say.

ASSEMBLYMAN DUCH: Thank you. Thank you very much.

I would just like the public to be informed that we have received a communication from the New Jersey Builders Association. They have certain comments regarding both bills. That communication will be made a part of the record. Also, I received a telephone call before I arrived here this evening from Ella Filippone of the Passaic River Coalition, expressing support of both bills. She will be faxing a statement to my office tomorrow, which will also be included in the record of this hearing.

The next individual who has signed up to testify is Martha Green, Hackensack Water Company.

M A R T H A G R E E N: Good evening. Thank you very much for allowing me the opportunity to speak on behalf of the Hackensack Water Company on these very important issues.

The stated objective of both bills that you have heard about this evening is the protection of water quality. Let me assure you that there is no one in this room, or in New Jersey, who cares more about water quality and its protection than the Hackensack Water Company.

I have some exhibits with me which I would like to leave you copies of, and which I will be referring to.

ASSEMBLYMAN DUCH: Please give the Committee aide one of them.

MS. GREEN: Okay. These are the State and Federal water quality standards and show how our water compares not only with the existing standards -- which were cited earlier this evening -- but with a number of parameters that are not yet the subject of standards.

Water quality is our business. It is a very integral part of our commitment to our customers and our shareholders, and we take it very seriously.

For the benefit of Committee members who are not from this area, let me just, as background, very briefly state that the Hackensack Water Company serves 750,000 people in Bergen and Hudson Counties. We are one of the State's largest investor-owned water companies, and our primary water supply comes from a series of four man-made reservoirs in the upper watershed of the Hackensack River.

All of the Federal and State drinking water regulations that apply, including those that are yet to be proposed, have the objective of ensuring that what comes out of the tap is safe to drink. As I have indicated -- and would be

glad to provide any further backup on -- our water more than complies with those standards by a wide margin of safety.

Indeed, the water treatment technology that is available today is probably capable of transforming just about anything into something that meets drinking water standards. Evidence of that is the many water supply systems, both nationally and in New Jersey, that are able to draw water directly from rivers like the Mississippi, the Delaware, or, indeed, the Passaic, and still serve their customers with water that meets the standards.

That has not been our practice, and it does not have any role in our future conduct at Hackensack Water, because we recognize that the better the quality of the source, the better the ultimate quality of the drinking water.

I recall the Professor who spoke earlier talking about multiple barriers of pollution. In fact, that is precisely the kind of comprehensive watershed protection program we have always conducted. You might say that we started the "raindrop." As a result, we are able to supply the 750,000 people with water of superior quality, and still at a reasonable cost.

The watershed we are talking about tonight is a bistate watershed encompassing 72,000 acres. At least half of the land that drains into the watershed I am speaking of is in New York. The watershed is home to more than a quarter-of-a-million people. The developed nature of the watershed is precisely what requires such a special vigilance on our part. Our approach has evolved over the years in adapting to changing conditions and changing technology. The approach is a comprehensive multifaceted watershed management strategy which includes the ownership and establishment of protective buffers, which still exist, I want to assure you; patrols and water quality monitoring throughout the watershed, even in the most remote corners; and a review of proposed

development in the watershed to ensure that water quality is not compromised. History also includes protests of flood plain development, some of which has been successful, some not so successful.

We have contributed financially, over many years, to the construction of the sanitary sewer system in both states, that carries waste out of the watershed for safe treatment and disposal. I think this deserves special mention, because it is one of the issues that underlies a lot of the recent history. The single most important pro-environment event in our watershed was the completion, in the late 1970s, of the sanitary sewers, again, as I noted, in both states, replacing the septic systems that were such a problem.

As a result, there is virtually no sewage discharge in the Hackensack watershed. I should note that there are three remaining towns in the watershed served by septic systems. The closest to the reservoir is Old Tappan, and that is in the process of being corrected.

As a result of all of this, Hackensack Water Company has a clean watershed and a good quality raw water supply. In the past 30 to 40 years, the raw water quality has gotten cleaner, measurably so. I would be glad, at a future time, to provide some additional background about that, because I believe there is a misconception that needs to be corrected.

ASSEMBLYMAN DUCH: We would welcome submission of that information at your earliest convenience.

MS. GREEN: We will do that, Assemblyman. One of the comments that was made earlier this evening that I would like to point out just as an illustration of the unique nature of our watershed-- The Professor who spoke earlier talked about trihalomethanes, which are, indeed, a problem for many surface water suppliers. But the principal source of trihalomethanes is a natural one -- leaves. In fact, we have taken action against that problem by changing our treatment process and

introducing, really, the first ozone water purification plant in the State of New Jersey. That has brought our level of trihalomethanes to an area where we need not be concerned, we believe, for several generations of increased water standards.

The objective of legislation should be to promote good engineering judgment and capable professional and scientifically sound regulation. We believe the framework is already in place to enable DEP to regulate water source protection, and that this legislation -- particularly the Watershed Protection Act -- discussed tonight, is somewhat redundant. We testified to that effect with regard to the Senate version, as well.

At the same time, there are important issues that this legislation does not address, and a number of other speakers have alluded to them, such as additional measures to reduce nonpoint source pollution, and particularly interstate initiatives with New York to address and correct inconsistent streamwater quality classifications.

Nevertheless, if legislation is inevitable, we believe it would be a mistake not to rely on the considerable work that has been done by DEP on thi issue in their 1989 report on watershed protection strategies. The report recommends a broad watershed management strategy with a number of components very similar to those we have in place. It cites protective buffers as an important watershed protection tool, but it also cautions against reliance on buffers as the sole component in a water quality program. The report advocates a range of buffer zones from 50 feet to 300 feet for the first defense of buffers, you might say, and recommends that the final width of the buffer be determined on the basis of a site-by-site review. We believe this is very important, because there may be site conditions which would require greater or lesser protection.

In its present version, we view Assembly Bill No. 3103 as sort of a clean slate. It has all the right objectives. It

has the potential to establish New Jersey's first rational and scientifically grounded standards for watershed protective buffers. We would caution strongly against following the route that has characterized the history of Senate Bill No. 2339. In some of its recent versions -- although we generally supported the initial version of that bill -- it will impose great financial and bureaucratic burdens on many homeowners, water customers, and municipalities, without doing much of anything to improve watershed protection.

As always, we look forward to participating in the further discussions of these issues I am sure there will be. We will participate and will provide any information we can to help you to make your wise decisions.

ASSEMBLYMAN DUCH: If I may just ask you to tell my colleagues on the Committee what your official capacity with the Water Company is?

MS. GREEN: Yes. I apologize. I should have done that at the outset. I am Vice President of Public Affairs with the Hackensack Water Company.

ASSEMBLYMAN DUCH: May I ask you this: Why would there be any reason that the Water Company would oppose the establishment of larger buffer zones and the preservation of watershed areas?

MS. GREEN: The only reason that we would oppose such a measure, Assemblyman, is if it is not grounded with scientific judgment. We, as a water utility, have the dual obligation to provide our customers with a safe and adequate supply of water at a reasonable cost. Particularly in this region of the country, the cost is an important issue.

One of the things that needs to be noted about the land transfers that have been discussed earlier in this hearing, is that those did not come about as a result of a brainstorm that someone at the Water Company had. We were ordered, probably in 1981, by the BPU, to review all of our

property holdings and justify the properties that we continued to own and charged customers to help to support. It was really in complying with that order that it was discovered that some of the properties were not in a location that measurably added to water quality protection.

I guess the short answer to your question is, in our view, it is an issue of scientific justification, and there is an economic component that must be considered.

ASSEMBLYMAN DUCH: I am so concerned about overdevelopment, not only in Bergen County, but in the State of New Jersey, as we go forward. I, personally, feel a great need to preserve whatever watershed area we have around reservoirs. For example, the Newark watershed area is huge. I am concerned that in the future -- them, you -- may want to sell off more land so that we preserve a lower rate, but sell off the land and impact on the quality of the water in the future.

I have this feeling that the more land I have surrounding the reservoir that is natural, that is in its regular pristine state -- the more I have, the better off I am going to be, the purer my water will ultimately be when it settles in that reservoir, and the purer the water will be that is delivered to the people.

I understand what you're saying about scientifically, but I would rather be safe than sorry. I would rather preserve hundreds of acres more than would scientifically be necessary, than endanger the quality of our water in the future. That is my concern. That is the reason why these bills have been brought forward.

Members of the Committee, any comments?

ASSEMBLYWOMAN OGDEN: I have a question: As I recall, you said just a few minutes ago that-- It sounds as though you are determining there is certain land now that possibly isn't necessary for the Water Company to retain, to preserve the

quality and quantity of the water. Do I understand correctly what you said?

MS. GREEN: This is a past condition. This is the outcome of the Havens and Emerson review of all of the Water Company's holdings, which was done in compliance with a BPU order of 1981.

ASSEMBLYWOMAN OGDEN: But that land was originally acquired to preserve the water supply?

MS. GREEN: Yes, it was, over a long period of, probably, more than 100 years.

ASSEMBLYWOMAN OGDEN: As was done with most water companies.

MS. GREEN: Yes.

ASSEMBLYWOMAN OGDEN: I have not read this report at all, but I assume it is a geology firm -- a geologist, a hydrologist. Is that right?

MS. GREEN: Yes. Havens and Emerson is a consulting engineering firm. Actually, I cannot speak to their particular areas of expertise, except to say that they have played a key role in advising the State of New Jersey on its water Master Plans in a number of versions. So they do have established and recognized credentials, both in the water area and in the water resource and quality areas, as well.

ASSEMBLYWOMAN OGDEN: The reason I asked that is because I am really quite familiar with an equally well regarded company of -- I guess, hydrologists, you would call them -- doing reports on the East Orange Water Company land, which is land that is in my area. It seems to me that these reports basically go along the lines of the people who hire the consultants, no matter how outstanding their reputation is, because you see them going one way at one point, and another way at another time.

MS. GREEN: I certainly can't comment on that, Assemblywoman, except to say that the selection of Havens and

Emerson was not something that was unilaterally done by Hackensack Water Company. In fact, my recollection of the process is that the BPU provided a list of, it may have been six or so, engineering firms that met their criteria for credentials and experience. One of the criteria was that the firm have no past relationship with the Hackensack Water Company. So, you know, I certainly can't comment, except to believe that they have to sign their names as professionals to this report, and I believe it is their professional judgment that is reflected here. and not simply who the client was.

ASSEMBLYWOMAN OGDEN: Although we all know there are really two schools of thought on how you treat water: whether you preserve the land in its natural state in order to prevent it from being contaminated initially, and then on the other end of the spectrum, are engineers who feel they can clean up any water, no matter how dirty it is.

MS. GREEN: Yes, and I alluded to that in my testimony. I believe that many sanitarians will say that a mixture of all of those is very important; that it is not appropriate to look at either extreme. That certainly has been our philosophy; that rather than either/or, a mixture of all of the best, again, multiple barriers, including the best treatment we can do, but also the best protection we can provide, are important.

ASSEMBLYMAN DUCH: Thank you, Assemblywoman. Assemblyman Jacobson?

ASSEMBLYMAN JACOBSON: Yes, just a couple of quick questions, and a point. First of all, Martha, I would like to thank you for coming forward to testify.

MS. GREEN: Thank you.

ASSEMBLYMAN JACOBSON: I give you credit for your courage, after hearing some of the people with an opposing view. I know it is not easy to do, and I appreciate, as a Committee member, the Water Company coming forward.

I just have a couple of questions, particularly pertaining to the transfer of the 287 acres that was the subject of the recent court action involving the Environmental Defense Fund, and particularly how it pertains to the Watershed Restoration Act, which is aimed at that transfer.

What I don't understand is-- I understand that a lot of the decisions the utility has to make are balancing the economic costs versus the public benefit. But the 287 acres which you were seeking to transfer-- What type of price was the Water Company trying to get for that land? What were you looking to get for that -- for the 287 acres? Do you remember the price?

MS. GREEN: That is a more difficult question perhaps for me to answer. Let me explain it from the Water Company's point of view: The property has been golf courses for many, many decades. The transfer was based on two independent appraisals: One appraiser hired by the Board of Public Utilities, and one by the Company. As it happened, I think in this case the BPU's appraisal was slightly lower than ours, but we settled on the higher number to avoid any controversy. In fact, I don't recall the number, but I think--

ASSEMBLYMAN JACOBSON: Roughly, give or take?

MS. GREEN: Please don't ask me to guess, but I would be glad to provide the information. The property, again, before its transfer, was deed restricted.

ASSEMBLYMAN JACOBSON: I would like to know the rough-- Just give me-- I mean, you can't be off by that far. I'm sure it wasn't $100 million; it wasn't $100,000.

MS. GREEN: No, it was in the neighborhood of $16 million. I am just not sure whether that is the gross or the net number, for basically what was two-and-a-half golf courses.

ASSEMBLYMAN JACOBSON: I am just curious: If you take $16 million, what is your -- if you know off the top of your head-- How much does a utility like this take in from its customers on an annual basis?

MS. GREEN: Our annual revenues are something on the order of, maybe, $100 million. Again, I'm just stabbing.

ASSEMBLYMAN JACOBSON: Just so I understand this, too, was the decision-- When the idea for this came from the BPU order in the early part of the '80s and you realized that there were other excess properties that were not necessarily necessary, and then you decided to sell-- See, the reason I support the bills -- and this just kind of confirms something I felt-- The benefit of the sale, over the long run, seems to be fairly minuscule compared to your revenues. If you take a decade, your revenues could be, in today's dollars, a billion, give or take $100 million, and you're talking about a one-shot deal of $16 million. Then, of course, the benefit of preventing-- So the cost, to me, for the ratepayer, over, say, a decade, is very little. It is such an insignificant amount, yet the benefit you can receive, since you always have to balance costs and benefits, is something that Tom was talking about, where the added security-- Sixteen million -- and I'm not talking a decade; I am not going to stretch it over a decade-- But $16 million off of a billion, or $900 million, or $1.1 billion, or whatever, seems like a very small price to pay.

MS. GREEN: I'm not sure I follow your math, and I really can't address that, but--

ASSEMBLYMAN JACOBSON: What I'm saying is, it is a one-shot sale, though, right? In other words, what you guys are looking to do is a one-shot sale?

MS. GREEN: Well, let me make a couple of points to try to address that issue: The property is golf courses. The deed restrictions were placed on it before the transfer, and the intent of those deed restrictions was to assure that they would remain golf courses permanently.

ASSEMBLYMAN JACOBSON: Wasn't there a problem-- Just briefly going through the case -- really quickly -- wasn't there a problem in the restrictions that the court found, in

that once you or your affiliate -- or whatever the term is -- didn't have any more purpose for the golf courses, then the restrictions-- In other words, it seems that the court, in its examination -- in its decision -- found that those restrictions really weren't that binding. That was the basis of the whole decision.

MS. GREEN: There was a provision included in the deed restrictions that intended to protect the interests of the shareholders, who have always owned this property and continue to do so until it is sold to someone else; that in return for sacrificing some of the value of their asset by deed restricting it permanently to golf course use, that some protection is appropriate in the event the shareholders lose the opportunity to benefit from the use of some of their other property. That is the only reason it-- I would stress, and I don't want to get into too much detail on the lawsuit because, obviously, it is not a completed issue-- But that is the intent, to safeguard the shareholders' interest, while assuring that this property will remain open space. It was not intended as any way of subverting or getting around the deed restriction at some future date.

ASSEMBLYMAN JACOBSON: I think you are making an economic judgment, which is your right to do.

MS. GREEN: Which is our obligation to do.

ASSEMBLYMAN JACOBSON: Yeah, your right and your obligation.

Just so I can get a few more facts, and then I will close my questions, again this will pertain to the Restoration Act to try to balance the costs of benefits in my mind. It would also, I assume-- As I understand it, in its application to Bergen County, I guess it would also reverse that 700-acre transfer from the early part of the decade. Is that correct? (no response) If this bill goes through in its present form,

the 700-acre transfer, which as I understand it is already a done approval, so to speak, would also be voided.

How much would that cost the Company? Do you have any idea?

MS. GREEN: I am going to sidestep that question a bit, because we are still analyzing the impact of that bill. We think it has a lot of problems, and we will be eager to testify in greater detail about the impacts of that bill. I am not prepared to do that tonight because, again, we are really still reviewing all of the impacts. We believe the impacts go beyond just our Company, however.

ASSEMBLYMAN JACOBSON: Oh, without a doubt. In my area of Monmouth County, there is a swimming river reservoir which is in a very environmentally sensitive area, which would be affected by this, I think, in a very positive way. Monmouth Consolidated Water, I'm sure, would think differently.

I just wanted to establish the costs versus the benefits. That is all I really wanted to know. As soon as you have your analysis of the costs, I would recommend that you forward it to us without delay. I would like to see quick action, and I know you want to see quick action on the bills, too.

Thank you very much. I really appreciate your coming forward again. It's not easy.

MS. GREEN: Thank you.

ASSEMBLYMAN DUCH: Thank you very much, Martha.

No one else has signed up to testify. Does anyone else wish to be heard at this time? (affirmative response from audience) Yes, sir, if you would please step forward. Does anyone else wish to testify after this gentleman? (no response)

You, sir, will wrap up the evening.

MR. SEARCHINGER: (speaking from audience) Mr. Chairman, if I get the opportunity, I would like to take about two more minutes to testify again.

ASSEMBLYMAN DUCH: Okay. Our next to last speaker will be Timothy Dunn. Mr. Dunn is here representing the Environmental Defense Fund and Bergen SWAN.

T I M O T H Y J. D U N N, ESQ.: I indicated that, Mr. Chairman, because I do represent them -- and I think it is important to indicate that -- in a piece of litigation that is still pending in the Superior Court of this State, which I will not comment on this evening. I just thought I should indicate my relationship to them.

I reside in the Borough of Haworth, which is one of the communities affected by other litigation that I was not involved in with the Environmental Defense Fund, which was recently decided this past week, as the Committee knows. I grew up in the Borough of Harrington Park most of my life, so I am really speaking on behalf of myself and my association with the communities that are involved, as well as the Environmental Defense Fund.

I wanted to indicate to the Committee that, based upon my own practice, which is in the Borough of Closter, another nearby Northern Valley community-- I do primarily real estate law there, or a substantial amount of real estate law, involving a fair amount of development. I represent developers.

However, in this particular case, having grown up in that particular area, I think we have become aware -- I have become aware -- over many years, of the significant impact not just of the river itself -- the Hackensack River, the northern part above the reservoirs which constitutes the main collecting point of waters for the Hackensack Water Company -- but the watershed within which it is contained, which is an entire system. Our experience in those communities is that that watershed is a very valuable asset to the communities -- the water users of the communities -- besides just the citizens, and I am not just speaking of the open space aspect, but rather the fact that those watersheds were a buffer for us.

Now, when the sewers came in, in the '50s and the '60s, it was generally understood -- the future prognosis of most of us -- that the impact of the need for those buffer areas which constituted the watersheds, would be reduced. What we have seen over the years is that that system is very valuable, not only because of the impact of the septic buffering, but also because of the increasing urbanization and the storm water runoff.

I am speaking from my own experience, not from a technical point of view, or a legal point of view; but from personal experience of having lived there for virtually 50 years in the Borough of Harrington Park, next to a river that we grew up in and learned to swim in and fished in and learned to enjoy. But, more than that, we learned to appreciate the real value to the people who reside in that watershed for its pure water purposes and the value of the land for that purpose.

With regard to the last speaker who mentioned a couple of things with regard to the Havens and Emerson Report, I have some familiarity with it. I am aware, by virtue of my own involvement in the I-3 parcel, which is in River Vale-- I note there are a number of parcels on that property. Our own tabulation of those parcels-- There are in excess of 30; I do not know the exact number we have there. They are all designated by numeral. But approximately, out of 30 to 40 of those parcels, we have an indication that about 19 of them do not meet, at the present time, through their transfer of deeds, the controlling parameters that were put on there with regard to the conveyances permitted by the BPU order originally, and in the 1984 deeds we used to convey those properties. About three of them, including the I-3 parcel, do not comply with the area requirement.

With regard to the Havens and Emerson Report that I am familiar with, the recommendation with regard to I-3, we are aware that there was originally an indication by them that they

anticipated approximately eight units. The application is now before the court, with approximately 26 housing units. So, when we are talking about the report, I am just bringing to the Committee's attention that we can't speak of that report in a vacuum, because its use, the compliance with it, and its applicability to any particular lot -- to any particular parcel -- varies from parcel to parcel.

Likewise, with regard to the conveyances and with regard to the monetary considerations, our tabulations for the approximate 700 acres -- plus or minus -- that have been acquired, or were subject to the original BPU order and were conveyed to Rivervale Realty-- Approximately 70 of them that we were able to tabulate from deeds just by rough searches, have been sold by Rivervale Realty for approximately $14 million, and that is only 10% of the entire amount of properties that were permitted to be conveyed. We have, of the $14 million-- The original conveyance under BPU order for 700,000, was something like $10,600,000. So, with 10% of the properties conveyed, we already have a profit to Hackensack Water Company of almost 50% above the original cost.

I think those figures are given. I have to indicate, I do not have the tabulations with me. I am speaking on the basis of tabulations that have been compiled by the Environmental Defense Fund. I feel a need, of course, to supply the documentation, the tabulation, which I volunteer to do. It is only fair to provide them to the Water Company for their use.

I think that is information the Committee should have. The numbers are fabulous with regard to the differentials between the appraised values, the conveyance value, the benefit to the ratepayers, and the actual ultimate conveyance -- the differentials. I think those tabulations should be made available and the Committee should have them

when deciding what the real benefit and cost analysis benefit to all interested citizens and parties should be.

ASSEMBLYMAN DUCH: Thank you very much, Mr. Dunn.

A final comment by Mr. Searchinger.

MR. SEARCHINGER: Thank you very much for giving me a return. I know it has been a long evening.

I would just like to comment very briefly: It is true that the Hackensack Water Company has been meeting the final water quality standards for treated water. That is not hard to do in the long term, because when you know what kind of pollutants are there, you develop treatment technologies to meet the pollutants that you sample.

I want to call your attention to two drinking water concerns: One is -- and I think this is what Dr. Sewell was talking about most of the time -- that the concern is not with meeting the drinking water standard for, let's say, a disease organism on an average base, on a long-term basis. It is what happens occasionally. Do you have a situation where, for some reason or another, the treatment system temporarily breaks down, doesn't work as well, and then you allow a diseased organism in the pretreated water to escape and get through? That is the reason why we have source protection. It is to provide a multiple barrier to make it less likely that there will be a disease organism that hasn't otherwise settled, or otherwise that can escape through. That is not just a theoretical circumstance. It happens not infrequently that a treatment system does not work. That is why we have the multiple barriers. That really has nothing to do with the water quality standard.

The other thing I would say is, if we are going to find trihalomethanes, which are one of the primary drinking water concerns right now-- Trihalomethanes are made by the interaction of chlorine and humic acid, which the Hackensack Water Company representative quite correctly said come, to a

large extent, from leaves. However, how much is made depends on how much chlorine you use. How much chlorine you use depends, in large part, on whether the reservoir is eutrophied. You have to use more chlorine when the water becomes more eutrophied, more turbid, and as a result you make more trihalomethanes.

I have provided a chart which was compiled in the Rutgers Report, which shows that over the years, I think, from 1960 to 1985, the Water Company's use of chlorine went up virtually threefold. It was that increased use of chlorine that helped to motivate the switch to a different form of treatment that does not use chlorine, or very little of it, which is ozone.

Now, because they have gone to ozone, they are going to have no problem meeting the trihalomethane standard -- which has not been promulgated yet, except in loose form. But that was a very high cost for the community, developing ozanation, first.

Secondly, ozone itself has by-products; has some potentially dangerous products -- by-products. We just don't know what they are. They are being studied right now, as water purveyors across the country are trying to discover exactly what the benefits or disadvantages of ozone are. So, there is no drinking water standard for ozone by-products for them to violate. We may not know for many, many years what that standard should be.

I just wanted this to communicate a more balanced picture of the water quality issue.

Regarding the Havens and Emerson Report, I mentioned some ways in which that wasn't complied with. I would like to emphasize that the Havens and Emerson Report itself recommended that the Company acquire an additional 800 acres of buffer land. So, even using their favorite study, it said they needed 800 additional acres. Not one has been acquired since that

report came down. I think that says a lot about the true motivation.

Finally, on the financial issue, which I think is important, the Water Company's transfers would allow a total of $10 million to ratepayers -- both transfers. The golf course transfer would have allowed only $7 million to ratepayers. One reason it is so little is that the BPU has allowed a policy, unique for water companies, of allowing rate-based watershed land, when it is sold off -- 50% of that profit to go to the ratepayers, and 50% to go to the shareholders.

Now, when any other utility in New Jersey sells property that was in the rate base and paid for by ratepayers, if that goes up in value, the ratepayers get all of it. The reason is this: When the utility goes out and buys property and it goes down in value, the ratepayers have to pay the utility for the decrease. But we have one exception, and that is in the case of watershed property held by public water utilities. The water company gets 50%. Now, that is not the practice in many, many other states, including New York. We have provided a list of them to the Committee aide in the past. One of the very important things that this bill -- the Restoration Act -- would do, is make sure that 100% of the value of any increase in land go to the ratepayers. That would remove the incentive to sell off the land.

Finally, regarding the appraisals, the issue was not who did the appraisals, whether a BPU appraiser or not. The issue was, was it appropriate and permissible for them to use an appraised method, instead of putting the land up for public bidding? The regulations require public bidding, because we know that appraisers make mistakes. The only way to assure the fair market value, is to allow the fair market to operate. And what the court said was, "You can't just corner the market that way. You can't assume that you are going to get it at an appraised price. Put it up for public bidding."

We know this land was transferred in January at an appraised price of $16 million, and one-third of it-- A deal has been made to sell off one-third of it for $15 million, only a few months later. And the same thing happened with the earlier transfers.

Ratepayers under the Hackensack Water Company's formulation, if they sewed up all the new land, would make $10 million, under what we are talking about where the golf courses would be restricted to golf course use. And sold off at public bidding, ratepayers would make $40 million. So, purely from an economic standpoint, ratepayers do better under our bill.

Thank you.

ASSEMBLYMAN DUCH: Thank you very much.

I would like to thank the members of the public who have come here tonight -- the various groups who have come to testify. I thank you very much for your attention throughout the evening.

I would also like to thank the members of the Conservation and Natural Resources Committee of the General Assembly. I am very pleased to serve with all of these individuals, both the Republicans and the Democrats. I find them all to be very honorable and wonderful people; people who are very concerned about the environment, and people who truly belong on this Committee.

I would like to thank Assemblyman Jacobson and Assemblywoman Ogden, who are not from this area, but who have stayed with us throughout the evening and listened intently to your testimony. I thank them very, very personally for being here with us.

Thank you. This hearing is adjourned.

(HEARING CONCLUDED)

APPENDIX

Submitted by Tim Searchinger, Environmental Defense Fund

The case against Hackensack Water Co.

By Tim Searchinger

Less than 7 percent of Bergen County remains open space, and none is more beautiful — or more valuable — than the undeveloped watershed lands around Oradell Reservoir, Lake Tappan, and Woodcliff Lake. These lands are valuable in part because they protect the county's drinking water from highway oils, toxic chemicals, rock salt, pesticides, and fertilizers.

For conservation and recreation purposes, these lands are unique in Bergen County. They contain historic giant cottonwoods and provide rare woodlands for several endangered birds, from the great-horned owl to the bald eagle. The lands also provide an important stopover for thousands of migratory water birds, including rarities such as canvasback ducks.

As many as 700 acres of these lands now face imminent development by their owner, the Hackensack Water Co., a privately owned utility turned real estate developer. Five years ago, the water company attempted to transfer 700 acres of these lands to its sister company, Rivervale Realty, in a sweetheart deal that shortchanged the water company's 170,000 ratepayers by millions of dollars.

Ironically, the water company's single-minded efforts at development should be its undoing. In seeking the necessary approvals from the New Jersey Board of Public Utilities (BPU), the water company has so misrepresented the evidence of its own experts and has violated so many legal requirements that the development plans can be legally stopped.

Private gain from eminent domain?

The BPU can save the 700 acres if it grants a pending petition brought by the Bergen SWAN, a local environmental group, and the Environmental Defense Fund, a national nonprofit advocacy organization.

To understand the significance of the transfer, one must go back to the turn of the century, when the Hackensack Water Co. used the power of eminent domain to acquire these lands. Eminent domain is a power that only governments can wield to force land owners to sell property whether they want to or not. But the government lent this power to the company because the lands were necessary to protect water quality. The company could afford to buy the lands because the ratepayers were obligated to pay the cost.

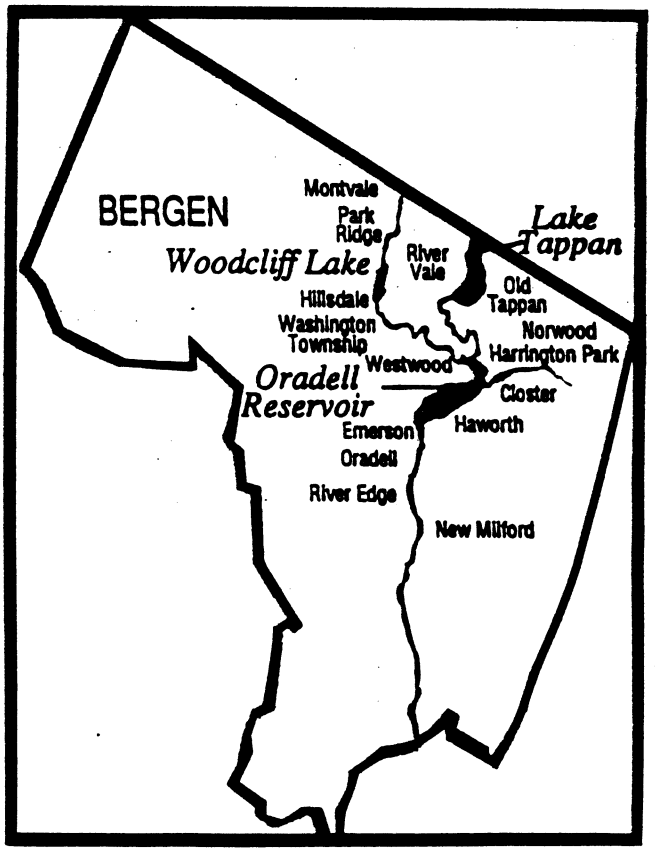
The deal worked well for everyone. The reservoirs were protected by an adequate amount of buffer lands, the ratepayers had clean water, and the county had large chunks of otherwise rapidly vanishing undeveloped land.

Seven years ago, a lack of vigilance by state regulators gave the water company a chance to change the rules. It hired environmental consultants to see if it could sell of some of its lands. In 1983, the company reported that the consultants recommended selling 700 acres. In truth, the consultants hired by the company did no such thing. Instead, they recommended that the land remain undeveloped because of its rare value for conservation and open space.

Environmental report distorted

Under some circumstances, the consultants said, the company could probably sell some of the lands without harming drinking water quality — provided the company maintained a minimum buffer zone from 50 to 500 feet around the reservoirs and feeder streams.

The reason: Filtration cannot capture most toxic



Tim Searchinger is an attorney with the Environmental Defense Fund.

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chemicals or several other pollutants, so most experts agree that reservoirs require buffer lands. Oradell Reservoir, Lake Tappan, and Woodcliff Lake already have less buffer land than most reservoirs in the East — less than a third the buffer land around the Wanaque Reservoir or the Ashokan Reservoir in New York State, for example.

The consultants recommended two other restrictions. First, the company had to carefully study each parcel in detail and work with local government to restrict development before any sale. Second, any development had to maintain existing zoning.

Unfortunately, the BPU never examined the report before approving the sale in 1984. The BPU mistakenly claimed it had already examined the environmental issues in a related decision in 1983, when it actually had postponed the environmental review. The result: no review of the environmental issues.

Ratepayers bear brunt

The victims are not just water quality and conservation, but also the ratepayers who buy their water from the Hackensack Water Co.

Not only did Hackensack Water sell the land, but it talked the BPU into letting the land be sold to Hackensack Water's own real estate division, Rivervale Realty, using appraisers to set the price. This violated BPU regulations, requiring open bidding to assure fair market value.

Not surprisingly, Rivervale paid a small fraction of the land's real worth. Ratepayers got $2.9 million in dividends for the entire 700 acres. Two parcels of land totaling 49 acres, appraised in 1985 at $1.3 million, have already been resold for $11.7 million. The true market value of these lands is probably quite staggering.

Procedures ignored

Fortunately, the company may have been too greedy. The BPU's order required the company to submit a formal survey of each parcel of land before the final sale. The BPU would then check the survey to make sure the company did not sell any parcels that the company had agreed were necessary to protect drinking water.

The company just ignored this part of the order. It transferred the lands to its real estate division only days after the BPU order. Not only has the BPU never received or approved full surveys, but the company has tried to use the confusion over boundaries, in order to develop some buffer lands that it had agreed to keep. In direct contradiction to its environmental consultants' report, the company has also sought and obtained zoning changes from local planning boards for more-intensive development.

In Emerson, for example, the consultants recommended preserving at least a 500-foot buffer zone around the Oradell Reservoir, and no change in zoning. The company's real estate division paid a dividend to ratepayers for an area that omitted this buffer, and based on the assumption that development was limited by the original zoning.

Since then, the company has changed the zoning to commercial and has proposed to build town houses and office complexes to within 250 feet of the Oradell reservoir: including 32 acres more than the company bought from ratepayers. At least two other parcels of land have similar histories.

'Poison pill' hard to swallow

Fearing legal challenges to its development of the 700 acres, in the past year the company then devised its "poison pill" defense, using 300 acres of golf courses it owns beside the Oradell Reservoir.

To also develop these lands, the company needed BPU approval. After the BPU denied one request, the company offered to preserve the golf courses, but only so long as it were guaranteed "reasonable" development of the other 700 acres. Even restrictions imposed by zoning boards on the 700 acres might reopen the golf courses to development.

In the closing hours of the Kean administration, the BPU agreed — while ignoring a long list of procedural rules. The Environmental Defense Fund and Bergen SWAN have now challenged the BPU's order.

Do the economics justify the land transfers? The BPU staff has recently reported an emphatic no in a general study on the costs of keeping watershed lands intact. Because the company purchased the lands so cheaply long ago through eminent domain, it costs ratepayers only a few cents a year to keep this land for watershed protection.

Unfair profits

But doesn't the water company have a right to profit from the land? Hardly. It acquired the land using the governmental power of condemnation exactly because it was necessary to protect water quality. Ratepayers have effectively paid for the land. And the land remains needed today to conserve wildlife, to clean the air, and to protect drinking water. It is cheaper and safer to protect the water from all pollutants first than to rely on our ability to filter some pollutants later.

What's the remedy? The many legal violations give the BPU ample grounds to correct its errors. But even under normal circumstances, the BPU has extraordinary authority to reconsider old decisions. In this instance, it should change course and require the company to preserve these lands.

Would it cost the ratepayers money? It wouldn't cost a cent if the Environmental Defense Fund and Bergen SWAN have their way. The BPU is now deciding how the water company should spend millions of dollars received from another land lease agreement.

It could find no better way to do so than by using the money to reacquire the old watershed lands — giving Bergen County one last opportunity to preserve a small part of its natural heritage while protecting its drinking water and giving county residents a place to breathe.

Earth Day speakers, from longtime activists to President Bush, exhorted Americans to "think globally, act locally." With an assist from the BPU, Bergen County can do both — and save money to boot — by protecting their pristine watershed lands from the ravages of the Hackensack Water Co.

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Submitted for record by Tim Searchinger, Environmental Defense Fund

PROPOSED AMENDMENTS TO THE WATERSHED RESTORATION ACT

Amend subsection 6b(1) by adding the following sentence:

"To the extent any such property has not previously received any required final site plan or subdivision approval for development, no municipality or county shall allow such property to be developed to a greater intensity than provided for by the zoning in place at the time the board gave approval for transfer."

Delete subsection 6b(3) and replace it with the following additional sections:

"(3) The public water utility shall be obligated to pay the related entity the fair market value of the land as of date of enactment of this Act as determined by the board. The public water utility and the related entity shall jointly submit an accounting of the fair market value of the property within sixty days of the enactment of this Act.

(4) In the same proceeding in which it determines the fair market value of the lands discussed in paragraph 6b(3), the board shall reassess the value to which it ascribed the lands at the time of their transfer from the public water utility to the related entity if that value was determined by appraisal and not by public bidding. The board shall determine the extent to which any increase in fair market value since the date of its earlier valuation is demonstrated to be the result of a true increase in the value of the property. To the extent the public water utility cannot demonstrate any increase to be the result of a true increase in the value of the property, the board shall readjust its prior appraisal. The board shall order the public water utility to pay to ratepayers 100% of any difference between the appraised value found by the board at the time of transfer and the readjusted value by depositing this sum in the account established under section 8 of this Act.

(5) The board shall also reassess the value it established for any lands transferred from a public water utility to a related entity that have since been transferred to third parties. To the extent a public water utility cannot establish that the increase in price of the land between the board's appraised value and the sale price of the land is the result of a true increase in the value of the property, the board shall readjust its prior appraisal. The board shall order the public water utility to pay to ratepayers 100% of any difference between the appraised value found by the board at the time of transfer and the readjusted value by depositing this sum in the account

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established under section 8 of this Act.

(6) For purposes of this section, a true increase in the economic value of any watershed lands is an increase that results from a general appreciation in general property values, as determined by the average appreciation rate of comparable properties in the vicinity of the lands in question, or an icnrease demonstrated to result from site-specific improvements. The burden of demonstrating a true increase shall rest with the public water utility.

Amend 8c(2) to read as follows:

"(2) the resale, at public bidding and subject to such conditions as the board may impose, of a portion of the reacquired watershed property which the board,1 in consultation with the dpeartment, determines to be of relatively minimal value in preserving and protecting the wate quality of a public water supply reservoir; or

Add 8c(3) as follows:

(3) contributions by any government entity or private person interested in the preservation of the watershed property because of its value for open space, conservation, recreation or drinking water protection."

Amend section 7a to read as follows:

"a. The board shall direct a public water utility to sell any watershed property or other interest therein which is utilized for golf course or country club purposes in accordance with public bidding procedures approved by the board. The board may choose a negotiated bidding process if it determines that such a process is more likely to result in a higher purchase price. However, no related entity of the public water utility may participate in such a bidding process. These sales shall not be subject to the Watershed Moratorium Act."

Amend Section 9a(2) by replacing the final period with a commoa and by adding the following clause

"but the failure to adopt any such rules shall not limit the board's authority to supervise management of the account by order."

Submitted by Tim Searchinger, Environmental Defense Fund

STATE OF NEW YORK
PUBLIC SERVICE COMMISSION

OPINION NO. 90-28

CASE 88-W-049 - Proceeding on Motion of the Commission regarding the transfer of 23 acres of land from the Spring Valley Water Company, Inc. to its affiliate, Rivervale Realty Company.

OPINION AND ORDER
ADOPTING RECOMMENDED DECISION

Issued and Effective: October 3 , 1990

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CASE 88-W-049 - Proceeding on Motion of the Commission regarding the transfer of 23 acres of land from the Spring Valley Water Company, Inc. to its affiliate, Rivervale Realty Company.

OPINION NO. 90-28

OPINION AND ORDER
ADOPTING RECOMMENDED DECISION

(Issued and Effective October 3, 1990)

BY THE COMMISSION:

INTRODUCTION

In October 1984, Spring Valley Water Company, Inc. (the company or Spring Valley), petitioned for authority to transfer approximately 23.11 acres of land adjoining its DeForest Lake Reservoir to Rivervale Realty Company (Rivervale), an affiliated company owned by United Water Resources.[1] The company proposed to transfer the land for $.304 million, on the basis of a November 1983 appraisal of

[1] United Water Resources also owns Hackensack Water Company. Spring Valley is a wholly-owned subsidiary of Hackensack Water Company.

$.276 million, as adjusted upward by 10% to allow for a subsequent increase in the land's value. The company agreed that the $.18 million net gain on the transfer should be used to adjust its rate base downward consistent with the New York Uniform System of Accounts,[1] contending the result of its proposal would be to pass through the entire increase in the value of the property to ratepayers.

Staff recommended approval of the company's petition, and the requested transfer for $.304 million was approved.[2] At that time, it was also concluded that the resulting annual property tax expense savings of about $15,000 per year and the downward adjustment to rate base for the net gain should be reflected in the company's next rate case.[3] Within 32 days of the February 1985 decision, before title even passed to it, Rivervale conducted an auction for the resale of the subject land and received 14 offers ranging from $.38 million to $1.806 million. The highest offer was

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[1] 16 NYCRR Subchapter E, Article 1.

[2] Case 9221, Spring Valley Water Company Incorporated, 16 NYCRR, Chapter V, Water Works Corporations; Subchapter E, Uniform System of Accounts, Order, (issued February 26, 1985). This decision is referred to as the "February 1985 decision."

[3] The tax expense reduction was reflected almost immediately in connection with a second-stage rate filing. The $.18 million rate base adjustment was reflected in rates in September 1990, which was the first opportunity to reflect this rate base adjustment in connection with a major rate change.

accepted and, later that year, the land was sold by Rivervale to the highest bidder for $1.806 million.

A public outcry ensued because of the nearly 500% difference between the transfer price approved in the February 1985 decision and the land's market-established value. As a result of legislation, a staff investigation of Spring Valley and its dealings with its affiliates commenced in August 1986.[1] In the 1987 Report resulting from that investigation, staff advised that it would raise in the company's next rate case the issue of whether to adjust the price at which the property was transferred from Spring Valley to Rivervale.[2] In 1988, this proceeding was instituted to consider the reasonableness of the originally approved transfer price of $.304 million.[3]

This land transfer case was heard on a common record with another case that has since been concluded.[4] The hearings pertaining to the land transfer, including the prehearing conference, were held on six days between May 16,

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[1] Investigation of Spring Valley Water Company, Inc., New York State Department of Public Service, January 1987. (1987 Report).

[2] Id., p. A-21.

[3] Case 88-W-049, Order Instituting Proceeding (issued March 16, 1988).

[4] Case 88-W-048, Opinion and Order Relating to Disposition of Deferred TRA-86 Tax Benefits, Opinion No. 89-39 (issued November 16, 1989), and Opinion and Order Denying Petition for Rehearing and Request for Alternative Relief, Opinion No. 89-39(A) (issued April 19, 1990).

1988 and May 23, 1990. This case was initially presided over by Administrative Law Judge Edward D. Cohen, but in September 1989, the case was transferred to Administrative Law Judge Gerald L. Lynch. Judge Lynch's recommended decision (R.D.), which is summarized below, was issued June 7, 1990.

Exceptions to the recommended decision have been taken by the company and staff; both have replied to each other's exceptions. The only other party is the West Branch Conservation Association which has agreed generally with staff's positions throughout the case, but which filed no briefs on exceptions or opposing exceptions.

This Opinion and Order first summarizes the recommended decision and then turns to the issues raised on exceptions. Our conclusions are presented last.

THE RECOMMENDED DECISION

Judge Lynch rejected the company's argument that it would be unfair to reconsider the February 1985 decision, finding a manifest error of fact underlying that decision. Specifically, the company failed to inform either staff or the Commission that, prior to the filing of its October 1984 petition: (1) efforts were initiated to subdivide the subject land for residential construction; and (2) the proposed subdivision received preliminary approval. This substantial progress toward final subdi ision approval indisputably increased substantially the land's value

concurrently with an enormous "bursting" of property values generally in the area. The Judge also concluded the remedy in this case need not be limited to an additional, prospective rate base adjustment, as the company had argued. He concluded we have reasonable discretion to fashion any remedy warranted by the evidence presented in this case.

Turning to the ratemaking treatment of this transaction under the Uniform System of Accounts, which requires net gains or losses on the sale of land be used to adjust rate base, Judge Lynch rejected the company's argument that gains on the sale of utility property "belong" solely to shareholders and could not be used to reduce its rate base. The Judge distinguished out-of-state cases holding to the contrary on the grounds that New York ratepayers, unlike their counterparts elsewhere, have paid for substantial utility property losses. This practice, he explained, follows from the general philosophy, reflected in numerous cases over many years, that ratepayers are generally responsible for the costs of reasonable utility losses and should benefit from any gains on the sale or transfer of utility property. Thus, the Judge agreed with staff that a 1960 New York Appellate Division decision sustaining New York's allocation of gains and losses in such situations continues to be valid precedent.[1] Finally, Judge Lynch

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[1] New York Water Service Corp. v. Public Service Commission, 12 A.D.2d 122, 129, 208 NYS2d 857 (App. Div. 1960).

agreed with staff that application of the general policy with respect to the treatment of gains and losses on the sale of utility assets would not result in an unconstitutional denial of either due process or equal protection.

Because the land's value is important in determining the correct rate base adjustment and any other warranted ratemaking adjustments, a substantial part of the recommended decision concerns evidence introduced about the value of the parcel at various times. Table 1 from the recommended decision summarizes the results of five appraisal reports on the record in this case:

Table 1

Summary of Appraisals

		Company Appraisers			Staff Appraisers	
Date	Milestone	Ramundo	Ryan	Stack	Meola	Martin
11/18/83	Initial Appraisal	$276,000	$335,000	$ 325,000	$ 347,000	$ 336,000
10/01/84	Company Petition	$304,000*	$810,000	$ 693,000	$1,373,000	$1,300,000
2/20/85	Commission Decision	-	$890,000	$ 849,000	$1,750,000	$1,800,000
4/01/85	Rivervale Accepts Bids	-	$920,000	$1,125,000	$1,750,000	$1,860,000

* Ramundo adjusted up by 10% as proposed by Spring Valley.

After considering all the arguments and evidence about value, Judge Lynch found the most reasonable estimates of value as of the three most pertinent dates are as follows:

Date	Judge's Finding of Value
11/18/83	$ 336,000
10/ 1/84	$1,225,000[1]
2/20/85	$1,692,000

The value of the subject land appreciated rapidly because of receipt of subdivision approvals and the general "bursting" in property values at the time. The Judge also agreed with staff that the February 1985 decision did not adopt a valuation "as of" any specific date. Accordingly, he concluded any remedy adopted in this case should be based on the land's value contemporaneous with the February 1985 decision.

Because the land's value was absolutely and significantly greater than $.304 million when the transfer was approved, Judge Lynch recommended that the $1.692 million value as of February 1985, net of applicable taxes and other expenses, be used to reduce the company's rate base as provided for by the Uniform System of Accounts. He concluded an additional rate base reduction of approximately $941,896 is justified given the land's actual value in February 1985.[2]

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[1] See R.D., pp. 52-60. The $1.692 million estimate is based on the $1.806 million bid price, less 1% for the difference in time between February and April 1985, and less another 5% to recognize the value added by the final subdivision approval granted in March 1985.

[2] A calculation of the $941,896 figure is shown on R.D., p. 63, Table 2. The total rate base adjustment would thus be the sum of $9,069 for the book cost of the land, $180,408 resulting from the February 1985 decision and $941,896 as a result of this case, or $1.131 million.

Because of the magnitude of the additional rate base adjustment, the Judge agreed with staff that the company's rate base would have been adjusted in 1985 if the actual fair market value of the subject land had been known at the time. He therefore concluded the company should also be required to "refund with interest" the earnings associated with a rate base that has been overstated since February 1985.[1] Subject to update at the time of a final opinion and order in this case, Judge Lynch concluded that in addition to the rate base adjustment warranted by the evidence, Spring Valley owes its retail ratepayers approximately $287,207 and owes Hackensack Water Company, whose customers helped cover the costs of the subject parcel, approximately $588,500. These refund amounts are intended to return to customers amounts they have paid on a rate base which has been overstated by $941,896 since 1985. The Judge went on to propose three alternative remedies that

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[1] Although the Judge discussed refunds with interest in the recommended decision, it is technically more accurate to say that he concluded only that Spring Valley has a significant monetary obligation to its ratepayers because of amounts they paid on an overstated rate base since 1985. He recommended, for example, that a decision be reached in the company's then pending rate case (Case 89-W-1151) about how that obligation could be fulfilled efficiently and fairly in light of all relevant factors, R.D., pp. 7 and 66. Judge Lynch also issued a ruling requiring the introduction of evidence on the best way for Spring Valley to fulfill this obligation. Cases 88-W-049 and 89-W-1151, Spring Valley Water Company, Inc., Ruling Requesting Evidence of Implementation of Any Remedy in Land Transfer Case (issued July 10, 1990). The Judge's recommendation of "refunds with interest" must be read broadly in light of these other factors.

might be adopted if we disagreed with any of his reasoning in support of his primary recommendation.

Finally, to prevent a recurrence of the difficulties presented by this case, Judge Lynch further recommended that rules be promulgated to be followed in every case involving the transfer or sale of utility assets, or at least in those cases involving all such transfers or sales between utilities and their affiliates.

ISSUES ON EXCEPTIONS

The Fairness of Changing the Transfer Price Approved in February 1985

Staff endorses the conclusion that the transfer price should be reconsidered because neither it nor the Commission had been made aware of important information about the land's value in 1985. The company excepts, maintaining that the February 1985 decision should not be reopened simply because the land's resale value soared beyond all expectations.[1] It renews its general argument that no order will ever be final if this kind of "hindsight, second guessing" is permitted and claims that by January 1987, it was entitled to rely on the February 1985 decision.

The company itself has suggested that an administrative agency may review its previous decisions where there is an error of law or a manifest error of fact in the

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[1] Spring Valley's Brief on Exceptions, p. 15.

record of the earlier administrative proceeding.[1] It cannot be disputed that material information about the value of the subject parcel was available to the company, but not disclosed to staff or the Commission. Specifically, efforts were initiated by Spring Valley in November 1983 to subdivide the subject parcel and in July 1984, before the company filed its petition, the Clarkstown Planning Board granted preliminary subdivision approval. Because this information was not disclosed by Spring Valley prior to the February 1985 decision, a manifest error of fact about the land's value was made in 1985. Indeed, as noted, the approved transfer value in February 1985 and the market established value 32 days later differed by nearly 500%. As a result of this manifest error of fact, rates stayed in effect which were unfairly high and appropriate steps to defer for ratepayers the revenue effects of the transfer were not taken. Accordingly, based on the standard offered by Spring Valley, the February 1985 decision may be properly reexamined in this proceeding.

Asserted Limits on our Authority to Shape a Remedy in this Case

On exceptions, the company maintains that a prospective rate base adjustment was "fixed" as the proper remedy in this case by the February 1985 decision. Because the 1988 Order Instituting Proceeding put only the transfer

[1] Spring Valley's Initial Brief, p. 12.

price in controversy, it contends, it cannot be ordered to make any refunds in this case.

In reply, staff sees no bar to adopting measures in addition to a rate base adjustment. Staff also contends it is fair to order refunds in this case on the assumption that if the subject land's actual market value had been known in 1985, contemporaneous steps would have been taken to reduce the company's rate base rather than delaying recognition of the rate base adjustment to the time of the company's next filed rate case. It would be wrong to limit the remedy to a prospective rate base adjustment and to penalize ratepayers, staff suggests, given Spring Valley's failure in 1984 and 1985 to produce all the relevant information about the land's value.

The Order Instituting Proceeding makes clear that the February 1985 decision might have been wrong, and if so, that it should be changed as needed to make the overall result fair. When staff introduced testimony suggesting ratemaking adjustments beyond a rate base reduction, the company made no objection, and it had a full opportunity to cross-examine staff's testimony. Finally, no prior order expressly limits a proper remedy in this case to a prospective rate base adjustment. For these reasons, we reject the suggestion that our ratemaking options are limited in this case to a prospective rate base adjustment.

New Jersey State Library

Other Legal Issues

The company presents an array of arguments intended to show that it would be illegal to reduce its revenue requirement in any way based on the net gain on the ultimate sale of the subject parcel. To begin, the company relies on a 1926 United States Supreme Court decision and a line of out-of-state court decisions that suggest that gains on utility property purchased with shareholder capital should properly be credited solely to shareholders. Even though ratepayers pay the costs of maintaining the property and provide a return on the investment in it, these cases say, the ratepayers are purchasing only service, not an ownership interest in the underlying property. "These cases, all factually analogous to the instant situation," the company goes on, "support the principle that the gains from the sale of these lands should properly be credited solely to the shareholders as a matter of law."[1]

Pointing to numerous Commission decisions that permitted utilities to recover from New York ratepayers significant property losses, Judge Lynch distinguished Spring Valley's precedent.[2] He pointed out, for example, that both the New Hampshire and Pennsylvania cases cited by the company held that it would not be fair to allocate to ratepayers

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[1] Spring Valley's Brief on Exceptions, p. 29.

[2] See R.D., pp. 33-37.

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gains on the sale of utility property, as losses on the sale of such property would not be paid by them. The Judge compared this with the New York practice of allowing recovery of prudent utility losses from ratepayers. Moreover, he explained that the New York Uniform System of Accounts itself provides that losses on the sale of water utility property shall be included in rate base and the utility should earn a return on this amount.

On exceptions, the company argues all the New York precedent relied on by the Judge here involved nuclear power plants abandoned because of changed public policy and regulatory priorities. To distinguish the current case from those the Judge cited, the company also contends there is no risk of any loss with respect to reservoir protective property. Moreover, the company goes on, some of the decisions cited by the Judge involved only partial recovery of utility losses, and none of them involved non-depreciable property (such as land), the initial costs of which were never recovered through depreciation expenses allowed in rates.

Second, the company criticizes a 1960 New York Appellate Division decision sustaining the New York practice--embodied in the Uniform System of Accounts--of allocating to ratepayers both losses and gains on the sale of utility property. The company contends the court did not consider carefully in that decision the basic regulatory and

constitutional issues (such as the asserted denials of due process and equal protection) which it says are raised in this case.

The company claims the recommended decision, if adopted, would result in an uncompensated taking of shareholders' property without due process. While it apparently recognizes that the cash gain on the sale would stay with it as a source of funds to the extent it is used only to reduce rate base, the company complains that it would unfairly be denied a return on that gain. It denies as well that the gain would increase its cash flow, contending credits or refunds to ratepayers and any rate base reduction will have an opposite effect. Finally, the company renews its equal protection arguments on behalf of Rivervale.

In reply, staff notes initially that the company itself proposed in 1985 that its rate base be reduced by the net gain on the transfer to Rivervale. Staff distinguishes the precedent cited by Spring Valley, pointing out, for example, that the one U.S. Supreme Court decision cited has nothing to do with the treatment of gains and losses on the sale of utility land. Accordingly, staff contends, the 1960 New York Appellate Division decision should be followed here. Turning to the company's constitutional claims, staff denies the recommended rate base adjustment and refunds with interest amount to a taking, and it disagrees strongly with the notion that the recommended remedy furthers no legitimate

interest. The imputation of a fair sale or transfer value, staff goes on, furthers an important government interest in setting just and reasonable rates. Finally, staff criticizes Spring Valley for claiming on Rivervale's behalf that Rivervale would be denied equal protection under the law. Neither Spring Valley nor Rivervale would be denied equal protection, staff asserts, if the recommended remedy were adopted in this case.

As the line of cases relied upon by Judge Lynch suggests, utility losses have generally been recovered from New York ratepayers unless they were adjudged imprudent or there were unusual circumstances that warranted a different result so that just and reasonable rates could be set. Despite the company's suggestion to the contrary, this general policy has been applied in cases involving abandoned power plants, as well as in many others. Some of these cases have permitted amortization of partly depreciated property while others did not.[1] The cases have included the amortization of outdated telephone equipment and the recovery of undepreciated costs of retired manufactured gas plants.[2]

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[1] The costs of a loss on the sale of land were allowed in Case 27794, Sterling Power Project Nuclear Unit No. 1, Opinion and Order Prescribing Treatment of Sterling Expenditures in Rates, Opinion No. 82-1 (issued January 13, 1982), 22 NY PSC 1, 34-35.

[2] See, for example, Case 9218, Long Island Lighting Company, Order of December 27, 1975, by which LILCO was permitted to recover over seven years the extraordinary property losses associated with retired manufactured gas plant.

Every time additional revenues are authorized to cover the cost of shorter service lives of telephone equipment, or reserve deficiencies resulting from shorter service lives are recognized in rates, utilities are being allowed to recover from ratepayers losses that they otherwise would have to write off against income. Indeed, in the company's most recently completed rate case, Spring Valley itself requested and received permission to recover from ratepayers the costs of meters taken out of service early.

This policy of generally allowing the recovery of prudently incurred utility costs from ratepayers has been in effect for years, and its reasonableness has been recognized by the courts.[1] And the policy is balanced precisely because New York ratepayers are generally entitled as well to utility gains on the sale or transfer of assets. To recognize utility losses in rates but not utility gains would undo that balance. Accordingly, the precedent offered by Spring Valley is not dispositive here.

The company's arguments about the absence of a legitimate regulatory interest and an unconstitutional taking

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[1] Abrams v. PSC, 67 NY2d 205 (1986), wherein the Court of Appeals agreed the prudent investment test could be, though need not be, applied in determining whether to allow recovery of utility costs from ratepayers. The Court of Appeals for t e District of Columbia Circuit has also approvingly cited New York Water Service Corporation v. Public Service Commission in Democratic Central Committee of D.C. v. Washington M.A.T. Com'n, 485 F.2d 786, 798 and 810-811, cert. denied 415 U.S. 935 (1973).

without due process are also unpersuasive. New York's method of recognizing utility gains in the ratemaking process provides balance to the extent ratepayers have often been called upon to cover the cost of prudent utility losses.

Nor does close scrutiny leave intact the argument that any reduction to rate base on account of a gain on the sale of utility land amounts to an unconstitutional taking. To begin, the actual net gain on the sale need not be "taken" from the company and returned to ratepayers via refunds or any other means. The Uniform System of Accounts requires that the corpus of the gain remain with the water utility. In this way the cash gain remains available to the company for use in the utility business. Moreover, all New York water utilities are generally able to recover from ratepayers prudently incurred utility losses. The opportunity to recover such losses from ratepayers in such situations is tantamount to compensation for ratepayers' commensurate right to receive the benefit of net gains on the sale of utility property. Finally, the Constitution merely guarantees prudent, regulated entities rates that allow them a reasonable opportunity to be financially solvent. As the United States Court of Appeals for the District of Columbia has stated "under Hope. . . .the only circumstance under which there is a possibility of a taking of investors' property by virtue of rate regulation is when a utility is in the sort of financial difficulty described in Justice

Douglas' opinion. . . .But absent the sort of deep financial hardship described in Hope, there is no taking and hence no obligation to compensate. . . ."[1] So long as the rate setting process results in a rate tariff reflecting a just and reasonable balance of consumer and investor interests, the requirements of the Constitution are satisfied.[2] Because the ratemaking adjustments we have adopted based on our conclusions in this case will permit Spring Valley to remain solvent and to charge just and reasonable rates, there is no unconstitutional taking.

The company's claim about a denial of equal protection also is incorrect, for there are other cases where net gains on the sale of utility property have been captured for ratepayers.[3]

For all of these reasons, the Uniform System of Accounts as applied here and the recommended remedy are both lawful in all respects.

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[1] Jersey Central Power and Light Company v. Federal Energy Regulatory Commission, 810 F.2d 1168, 1181 footnote 3 (D.C. Cir. 1987).

[2] Niagara Mohawk Power Corporation v. Public Service Commission, 69 N.Y.2d 365, 372 (1987).

[3] See Case 29407, New York Telephone Company, Order Approving Sales to an Affiliate at No Less Than $25.42 million (issued December 18, 1987) and R.D., p. 37, fn 1.

Valuation Issues

The company and staff both except to some of Judge Lynch's findings about the value of the subject parcel. To begin, the company insists the remedy ultimately adopted in this case should be based on the subject land's value "as of" October 1984, when it filed its petition to transfer the land, not contemporaneous with the February 1985 decision. According to the company, the sole issue to be reviewed in this proceeding is the transfer price, not the "as of" valuation date which, it asserts, was previously "accepted without reservation" as October 1984.[1]

Turning to the evidence of the land's value as of October 1984, the company contends the original November 1983 appraisal of $276,000, as adjusted upward by 10% for the passage of time to October 1984, results in a reasonable appraised value which is supported by the testimony of both staff and company experts in this case. Accordingly, it suggests no change should be made to the February 1985 decision on account of the other four appraisals introduced in this case.

Beyond the issue of the proper appraisal date, the company charges that staff's appraisers proposed, and Judge Lynch adopted, unreasonably high appraisal values as of October 1984 and February 1985 based on the ultimate $1.806

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[1] Spring Valley's Brief on Exceptions, pp. 4 and 16.

millon sale price established by the highest bidder in April 1985. This is improper, according to Spring Valley, because final subdivision approval was given on March 20, 1985, after the February 1985 decision, and the substantial value added by that final approval cannot properly be imputed retroactively to increase the property's appraised values on any prior date.

Finally, consistent with its position during the hearings, the company argues that conclusions about the subject land's value should be reached solely on the basis of evidence of the land's value for "utility purposes." Apparently disagreeing with the Judge's view that these arguments pertain more to the proper remedy than to the land's value, the company maintains (1) that all the extra value added by subdividing the land and receiving necessary approvals resulted solely from efforts of its unregulated affiliate; and (2) the land was never useful in service to ratepayers or was only marginally so. Thus, according to Spring Valley, the appreciation resulting directly from non-utility efforts to improve non-utility land should not be taken into account when valuating the subject property for the purposes of this case.

Staff replies that in the absence of any explicit finding to the contrary, a valuation contemporaneous with the Febru ry 1985 decision is more reasonable than one in October 1984. In fact, staff suggests, April 1, 1985 (the date bids

were accepted by Rivervale) would be a more reasonable valuation date than one in October 1984, on the theory that the February 1985 decision would have been delayed had it learned about Spring Valley's progress toward the necessary subdivision approvals. Staff characterizes as unreasonable the company's proposal to rely on an appraisal that fails to recognize either the general bursting in real estate values at the time or the progress toward final subdivision approval before the land was transferred to Rivervale Realty. Staff disputes the criticisms of its appraisers' studies and contends the company's appraisers' reports are invalid to the extent they produce values significantly below the actual $1.806 million bid on April 1, 1985. Staff goes on to deny that Judge Lynch unfairly took account of the extra value added by the final subdivision approval. Turning, finally, to the company's suggestion that the value added by the subdivision process should not be accounted for here, or that the subject land should be valuated only as utility property that was of little use, staff argues the record proves that Rivervale took none of the risks of the subdivision process. The appreciation associated with that effort should thus be credited to Spring Valley's ratepayers, according to staff, rather than to Rivervale. And staff sees no record basis for the notion that the subject parcel was not used and useful.

Staff also excepts to the Judge's February 1985 valuation of $1.692 million, contending Spring Valley could

have received final subdivision approval prior to the February 1985 decision. According to staff, the $1.806 million bid on April 1, 1985 is the best evidence of the land's value which should be imputed as of February 20, 1985 and provide the basis for the rate base adjustment and any other remedy in this case.

Despite the company's repeated assertion to the contrary, there is absolutely no explicit basis upon which one could conclude that a valuation "as of" any specific date was adopted in the February 1985 decision. In the absence of any explicit finding to that effect, the Judge reasoned that the best valuation date should be adopted in this case, and he gave reasons why a February 1985 date made more sense than an October 1984 date.[1] The company's exception does not even dispute his reasons; it disagrees only with the recommended outcome. For the reasons given in the recommended decision, we are persuaded that the subject land's value in February 1985 is the proper basis for any ratemaking adjustments to be adopted in the case.

Turning to the evidence about value, the company presents three meritless arguments. We agree with Judge Lynch that arguments about who initiated and pursued the subdivision process or about how useful the land was for utility service do not bear on the land's value and pertain

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[1] See R.D., pp. 54-56.

only to the proper remedy. The company's argument that the original appraisal of $276,000 plus 10% for the passage of time provides a reasonable basis for resolving this case is undermined by the testimony of its own witnesses, the reasonable appraisals of staff, and the $1.806 million bid received on April 1, 1985. Even taking into account the absence of final, formal subdivision approval in October 1984 and February 1985, it is disingenuous for the company to suggest the subject parcel was worth only about $304,000 as of either of those dates. As Table 1, above, shows, both of its appraisers suggest the subject land was worth more than 100% more than $304,000 even as early as October 1984.

Turning to staff's exception, we agree with Judge Lynch that we are barred from adopting a value for the subject parcel as of February 1985 based solely on a later bid made after the final, formal subdivision approval received by Spring Valley. Staff's exception, accordingly, is denied.

Remedy

Turning first to Judge Lynch's primary recommendation, the company excepts to the rate base adjustment and denies it has any refund obligation to ratepayers attributable to its rate base having been overstated since 1985. The interests of investors and ratepayers will not be fairly balanced, according to Spring

Valley, if it is found to owe ratepayers and Hackensack Water Company approximately $800,000 (subject to update) and required to reduce its rate base by an additional $941,896 because of the sale or transfer of a parcel held in rate base at an original cost of about $10,000. The company contends such an outcome would be unfair on its face.

If ratepayers are entitled to any appreciation in value for the subject parcel, Spring Valley goes on, it would be more reasonable to order only a prospective rate base adjustment, as Judge Lynch proposed in the alternative. Such a result would be more fair, in its view, given that: (1) the subject land was assertedly never used and useful; and (2) much of the rapid and substantial appreciation in value was attributable to the efforts of its unregulated affiliate, Rivervale, to prepare the land for subdivision and residential development.

In the alternative, the company argues this case could be resolved fairly if it were ordered to refund to ratepayers with interest all return and expenses they ever paid on the subject land while it was in rate base, on the theory that it was included in rate base inadvertently. The company claims the record shows that the land was not essential to protect the adjoining reservoir and that it took reasonable steps to remove the subject land from rate base and to transfer it to its affiliate once this fact was

confirmed.[1] The company also claims the Other Customer Contributed Capital Rate was incorrectly employed by staff and recommended by Judge Lynch in computing its obligation to ratepayers under this alternative theory. If the Customer Deposit Rate is applied instead, it says, it owes its ratepayers and Hackensack Water Company approximately $220,000 and $400,000, respectively, under this alternative theory.

Staff excepts to all of the three alternative remedies offered by Judge Lynch and opposes the company's exceptions to the extent they support adoption of any alternative remedy in lieu of a rate base adjustment and refunds based on an imputed value of $1.806 million for the parcel in February 1985. It denies that the reasons offered for the alternative remedies are supported by the record. It claims, for example, that the land was properly in rate base because it was used and useful, that the subdivision process was undertaken and completed by Spring Valley, and that the appreciated value that resulted from that process should fairly be credited to ratepayers. Accordingly, staff strongly recommends a prospective rate base adjustment and refunds to ratepayers associated with the company's overstated rate base since 1985. As noted, staff believes

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[1] Such a remedy would obviate any rate base reduction but would require refunds of about $275,000 to its customers and $666,000 to its parent, Hackensack Water Company.

these adjustments should be based on Judge Lynch's $1.692 million estimate of value as of February 1985 or, preferably, the $1.806 million actually bid in April 1985.

Staff and the company both except to the recommendation that a decision on how Spring Valley should discharge any monetary obligation it has to its ratepayers should be made in its rate case. Staff argues Spring Valley should be required now to make refunds to its customers and Hackensack Water Company over one- and two-year periods, respectively. The company makes no specific proposal but argues that once a decision is reached on a settlement agreement proposed in its rate case, it should then be ordered to file a plan to fulfill any monetary obligation it has to its ratepayers or Hackensack Water Company.

Neither staff nor the company, it should be noted, takes any position on the rulemaking proceeding recommended to avoid cases like this in the future. Staff suggests only that pending the outcome of such a proceeding, or should such a proceeding not be initiated, utilities should be required to present two contemporaneous and independent appraisals in any case in which they propose to sell or transfer utility property.

This case resulted from: (1) less than arms length dealings between a regulated utility, Spring Valley, and an unregulated affiliate, Rivervale Realty; and (2) Spring Valley's failure to provide relevant and material information

about the subject land's value in 1984 and 1985. Under these circumstances, the company has the burden of proving conclusively any allegation it makes to support a remedy in this case other than what would normally be required by the New York Uniform System of Accounts.

While the company has presented two major arguments along these lines having to do with who pursued the subdivision approvals and the asserted inadvertent inclusion of the subject land in rate base, the recommended decision explained that the company failed to prove either of these allegations and pointed to specific evidence suggesting both of these allegations are incorrect.[1] The company has not shown that these conclusions were wrong or were unsupported by evidence and, therefore, its exception is denied.

Given the company's failure, and considering all of the arguments and evidence in this case, the most reasonable solution in this case is to require the further rate base adjustment warranted by the Uniform System of Accounts as well as to require the company to make up to customers amounts they overpaid because of the company's lack of candor in 1984 and 1985. As previously noted, the amount owed as updated through August 1990 is $1,010,981.

Because we are adopting the Judge's primary recommendation, we do not reach any of the issues raised in

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[1] See, R.D., pp. 65-67.

connection with the three alternative remedies offered in the recommended decision.

Staff's exception also is denied, because it would be unfair to valuate the land for the purposes of this case based solely on the April 1985 bid made after the final subdivision approval was granted in March 1985. Judge Lynch explained in the recommended decision that while there is evidence to suggest Spring Valley could have received the final subdivision approval in January, this evidence is not conclusive. Staff has not shown this conclusion to be incorrect.

The remaining issues concern the manner and timing of Spring Valley's refund obligation and whether to initiate the recommended rulemaking proceeding. We considered the former issue in the pending rate case and decided that the recommended additional rate base adjustment of $941,896 should be combined with the company's total refund obligation, as updated through August 1990, of $1,010,981, for a total of $1,952,877.[1] This adjustment has already been reflected in rates.

No basis has been offered on exceptions for rejecting the recommended rulemaking proceeding, which will be initiated for the reasons offered by Judge Lynch.

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[1] Case 89-W-1151, supra, Opinion No. 90-23 (issued September 17, 1990).

CONCLUSION

For the reasons discussed above, a further rate base adjustment of $941,896 is clearly warranted by evidence of the subject land's actual value in February 1985. Given the magnitude of the additional rate base adjustment warranted by this evidence, it is reasonable to conclude such a rate base adjustment would have been recognized in rates immediately in 1985, or that its revenue effects would have been deferred for ratepayers, had all relevant information about the subject land's value been provided by Spring Valley before the February 1985 decision. Because the February 1985 decision was based on a less than complete record, rates in effect in 1985 and after were too high or appropriate deferrals were not made. As updated through August 1990, Spring Valley's retail customers and Hackensack Water Company overpaid Spring Valley a total, including interest, of $1,010,981.[1] To make up for this unfair result, rates that are set prospectively should recognize and correct the unfairness by being lower than they otherwise would be.

Accordingly, pending possible further disposition, we determined in the company's recently completed rate case that the $941,896 rate base adjustment and the $1,010,981 owed by Spring Valley for past customer overpayments should be combined and used as a total rate base adjustment of

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[1] Id., Appendix 2.

$1,952,877 so that rates in effect prospectively will account for the company's existing rate base as well as past overpayments that resulted directly from Spring Valley's withholding of relevant, material evidence.

The Commission orders:

1. To the extent it is consistent with this Opinion and Order, the Recommended Decision of Administrative Law Judge Gerald L. Lynch is adopted as part of the decision of the Commission in this proceeding.

2. The decisions reached in this case shall be implemented in accordance with Opinion and Order No. 90-23 in Case 89-W-1151, Proceeding on Motion of the Commission as to the Rates, Charges, Rules and Regulations of Spring Valley Water Company, Inc. for Water Service.

3. A proceeding will be instituted to consider a change in the rules applicable to transfers and sales of utility assets.

4. This proceeding is closed.

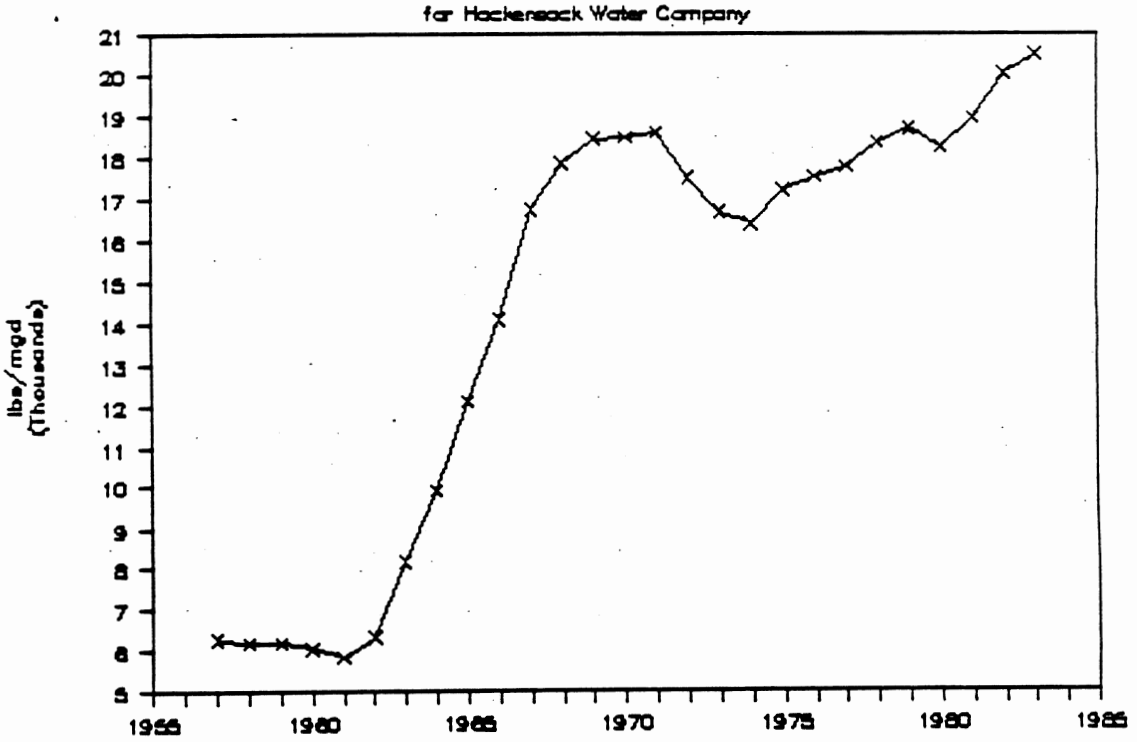
By the Commission,

(SIGNED) JOHN J. KELLIHER
Secretary

Submitted by Tim Searchinger, Environmental Defense Fund

dosage/mgd was most apparent for the Hackensack and Monmouth Consolidated Water Companies (Figures 21 and 25, respectively). The same secular increase is shown for the Elizabethtown Water Company (Figure 22) and the Passaic Valley Water Commission (Figure 23), but the dosage decreased in most recent years. The sharp decrease shown for the Middlesex Water Company (Figure 24) is easily explained by the change in raw water source from the Robinson's Branch Reservoir in the Rahway River watershed in 1969 to the Delaware and Raritan Canal. Middlesex began diversions from the canal at its intake point in New Brunswick in 1969 and totally phased out Robinson's Branch Reservoir in 1972.

Figure 21. Chlorine: 5yr Moving Average



37X

Figure 22. Chlorine: 5yr Moving Average

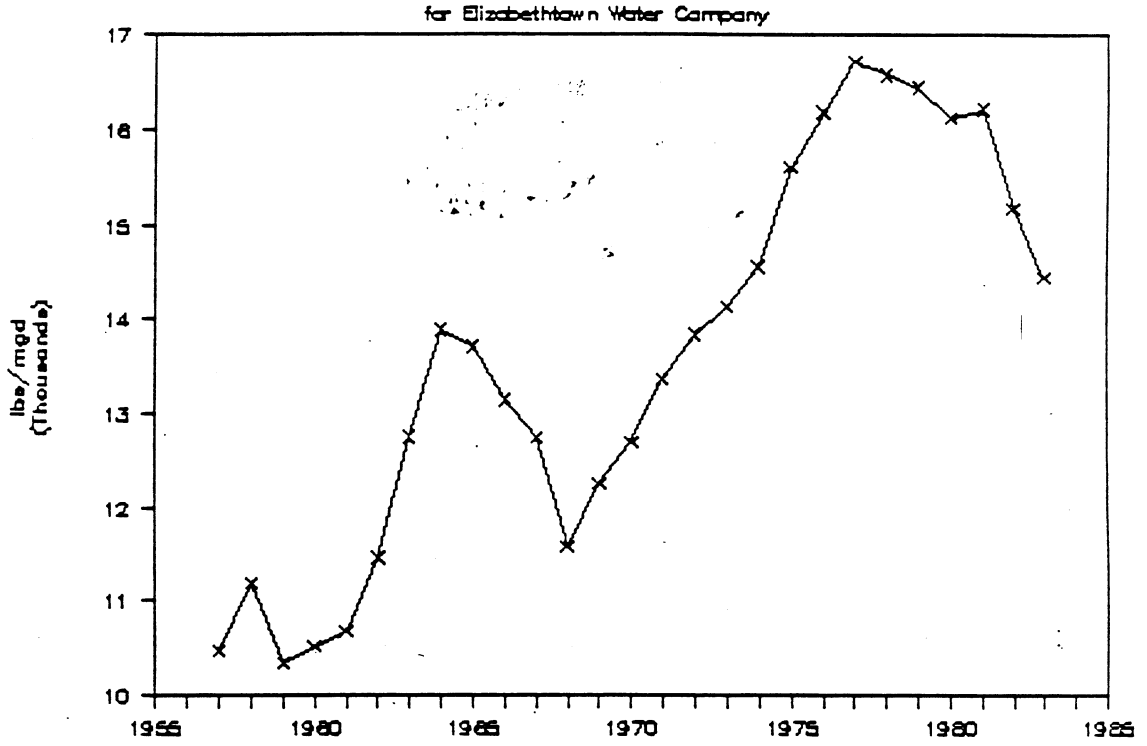


Figure 23. Chlorine: 5yr Moving Average

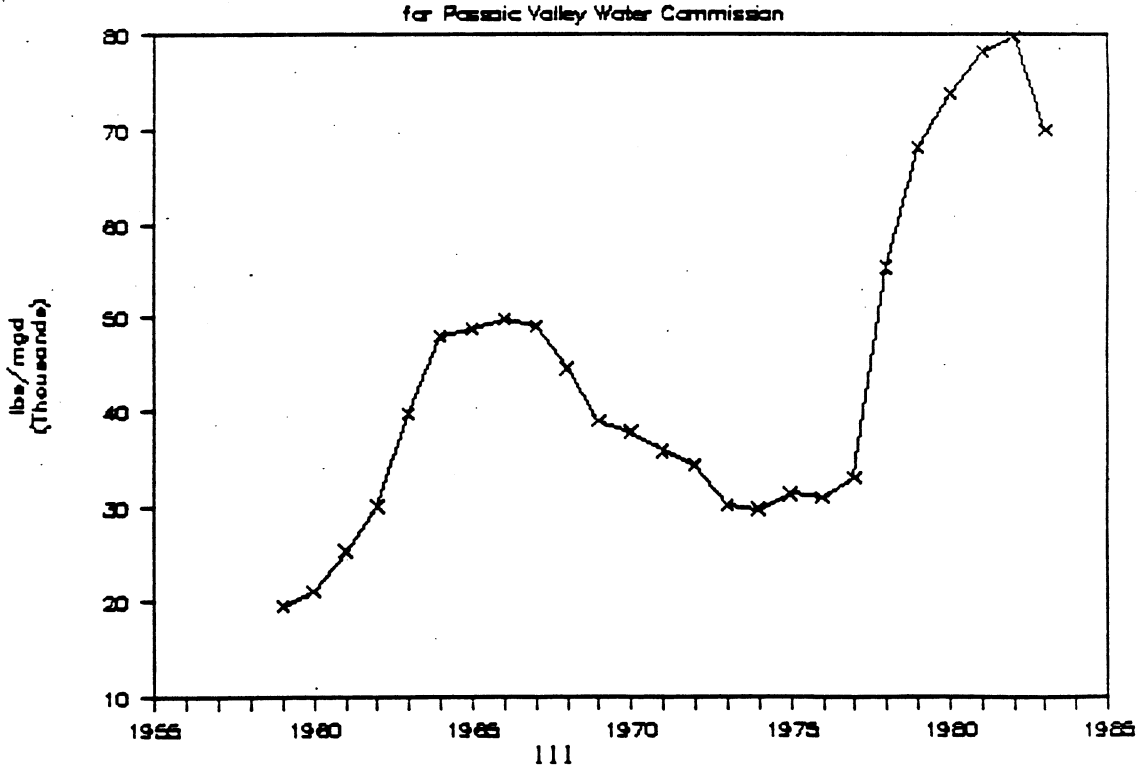


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Figure 24. Chlorine: 5yr Moving Average

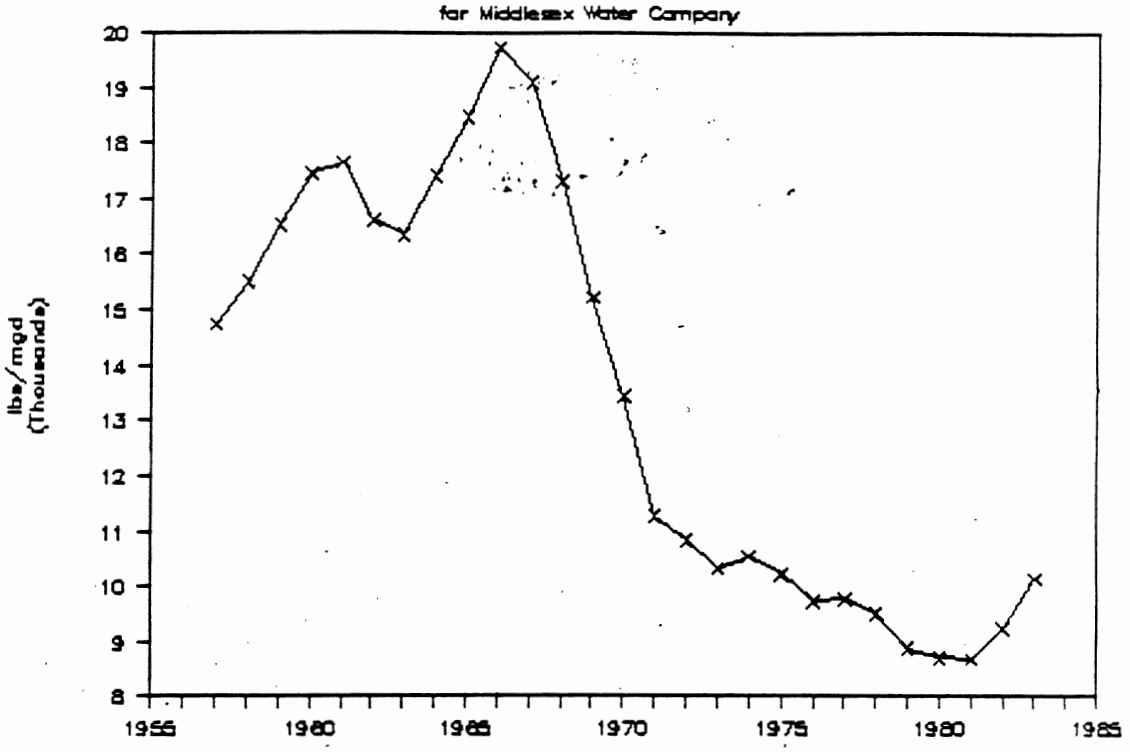
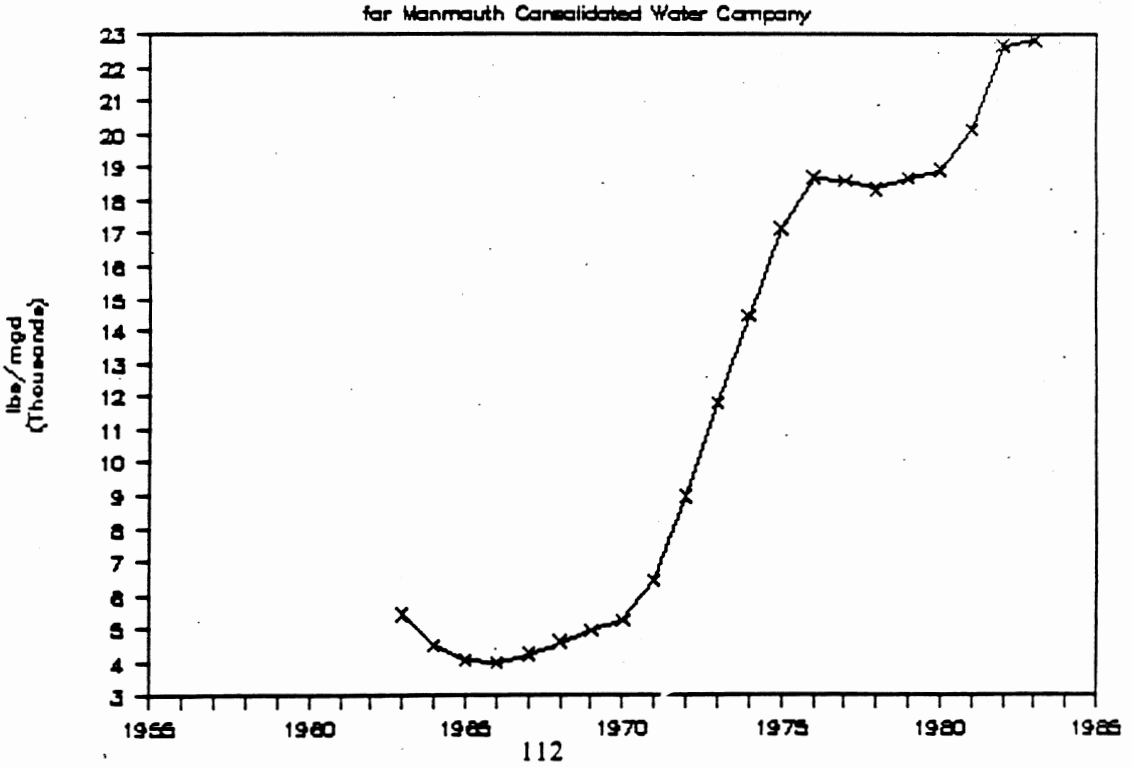


Figure 25. Chlorine: 5yr Moving Average



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It is also interesting to compare the chlorine dosages/mgd for the most recent period. The 5-year moving average for 1983 included data from 1981 to 1985. The 5-year moving average in pounds/mgd for 1983 arranged in descending order for the five purveyors was as follows:

Passaic Valley Water Commission	*70,000*
Monmouth Consolidated Water Company	*22,828*
Hackensack Water Company	*20,508*
Elizabethtown Water Company	*14,447*
Middlesex Water Company	*10,130*

The application rate for the Passaic Valley Water Commission (PVWC) was considerably larger than the other purveyors and reflected the recognized differences in raw water quality in the various watersheds. The watershed area above the PVWC intake point is 762 square miles, and includes many point and nonpoint pollution sources.

The fact that the chlorine dosage rate for the Monmouth Consolidated Water Company was the second highest on the list may be attributed to the presence of high coliform bacteria counts in the Navesink watershed above Swimming River Reservoir. There are no point sources discharging into the reservoir, therefore, the deterioration in water quality must have been from nonpoint sources such as agricultural runoff.

Water purveyors are required by state regulation to maintain a constant chlorine residual throughout their distribution system and at the tap. Recent concern about trihalomethanes and changes in regulations are bringing about changes in standard chlorination practice. This notwithstanding, the chlorine utilization records at the BPU provide an accurate measure of total chlorine usage over the last 30 years. The BPU data clearly demonstrate increasing

40×

chlorine usage over time. Because chlorine reacts chemically with many components of raw water, it is a good indicator chemical for water impurities. While the available data source does not allow any inference as to what generates the additional chlorine demand, the increases are consistent over time and across all the watersheds studied. The evidence is convincing that the quality of raw water entering public supply systems has been deteriorating. One hypothesis is that the most likely cause of this deterioration is the gradual conversion of New Jersey's hitherto rural watersheds to more intensely developed land uses, a topic examined in the next section.

REFERENCES

Gilbert, B.K. and T.J. Buchanan. 1982. Water-Data Program of the U.S. Geological Survey. USGS Circular 863.

41X

The previous sections suggest that the quality of New Jersey's surface waters is being negatively impacted by land use changes and attendant nonpoint sources of pollution which are accompanying growth and development in the state. It can be hypothesized that the gradual conversion of New Jersey's watersheds from more rural to increasingly developed land uses is a major causal factor in the decline of surface water quality. In order to further assess the relationship between land use and water quality a case study was sought. The ideal case study would be a valley that served as a surface source of water supply, that was transferred from rural to urban, and that had consistent water quality data predating the period of transformation. In addition, there should be a reliable way of reconstructing land use in the watershed. Finally, land uses that would complicate the analysis such as Superfund sites, large point dischargers, or heavy industry should be absent.

After reviewing all 95 of New Jersey's watersheds, Pascack Brook, a tributary of the Hackensack River (Figure 26) was chosen. This 29.6 square mile watershed lies in Rockland County, New York and Bergen County, New Jersey. Because of its proximity to New York City, land was converted from rural to urban uses during the 1950s and 1960s. The Hackensack Water Company has sampled water quality in this watershed since the late 1920s, and aerial photographs of the region were available for 1940 and 1972, facilitating identification of land uses.

Development in the watershed consists primarily of single family detached homes. Very little commercial or industrial development exists (Laurino et al,

42x

Figure 26

Pascack Brook

43x

1986). There are no municipal or industrial discharges in the watershed. All of the watershed is sewered and the treated effluent is conveyed outside the basin. Consequently, land use changes in Pascack Brook represent a "best case" scenario of conventional development. Many suburbanizing communities seek to attract the affluent single family housing that characterizes this watershed.

The Physical Setting of Pascack Brook Watershed

Pascack Brook is a part of the Hackensack watershed which lies entirely within the Newark basin, where virtually all of the underlying bedrock consists of the Brunswick formation of Triassic age (Tedrow, 1987). The Brunswick formation stratigraphically is the uppermost member of the Newark group of rocks. It consists of reddish brown feldspathic mudstone, micaceous siltstone, and shale. The Brunswick beds have an estimated thickness of 6,000 to 8,000 feet. In a few places the beds are carbonate bearing. Laminated lake clay is present along the Hackensack river, and is believed to belong to a Glacial Lake Hackensack, which existed during the Pleistocene Epoch or "Ice Age." The lake clays in the extinct Lake Hackensack are generally overlain by stratified sands.

Soils in the Hackensack watershed are divided into nine groups (Tedrow, 1987); the groups generally consist of clusters of soils with similar characteristics. The subwatershed of Pascack Brook in New Jersey consists mainly of three groups.

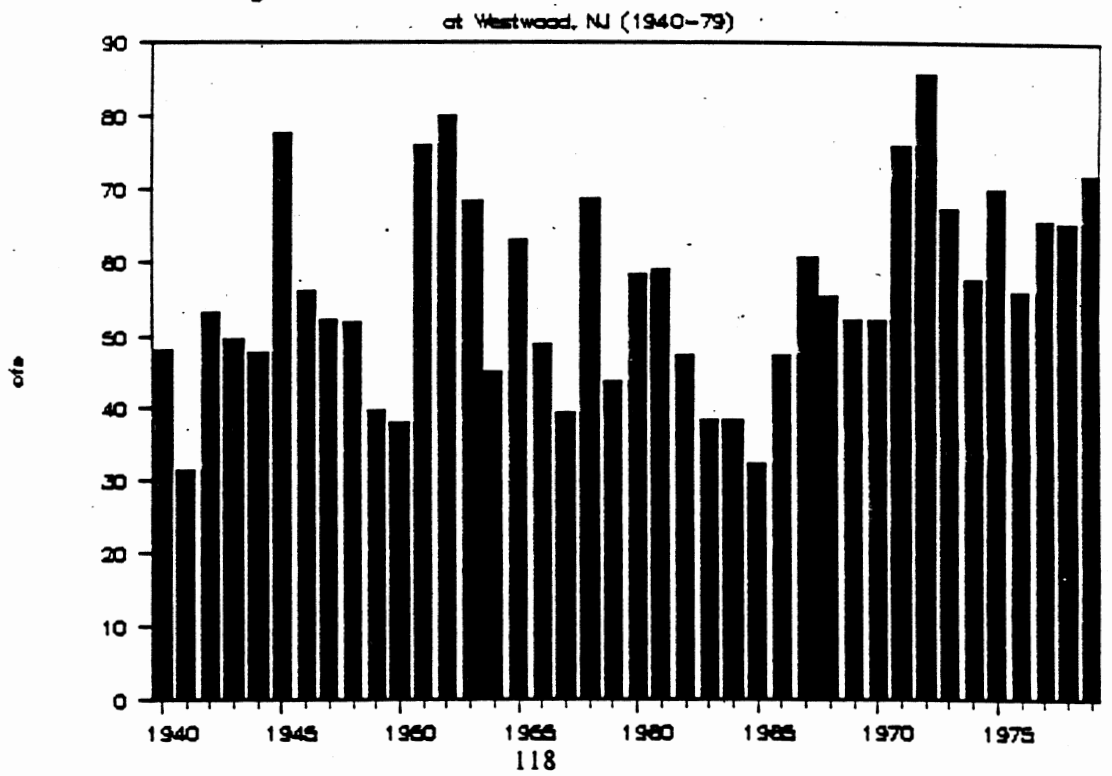
The upper part of the watershed in New Jersey belongs to a soil series called Gloucester. It is a deep well-drained soil formed on gneissic glacial drift. The surface soil consists of a brown loam underlain by a yellowish-brown stony loam with a fragipan (a hard indurated layer which becomes softer during wet periods). Relief is rolling to steep. The soil is strongly acidic.

The soils along the flood plain of Pascack Brook constitute a group of poorly and very poorly drained soils of diverse composition. The group represents the wet area along flood plains, some lake deposits and a few upland till areas. These soils, although of small areal extent, are important sites for the recharge of groundwater.

The portion of the watershed lying below Woodcliff Lake is dominated by soils that are open textured and porous in nature. Although their permeabilities are high, their sorptive capacities are low. They usually occupy low positions.

The northeastern part of New Jersey has a moderate climate. The long term average of summer temperatures is approximately 70 degrees F while the daytime minimum temperature in the winter is close to the freezing point. Average annual rainfall is about 45 inches and is almost evenly distributed year-round. The long term streamflow is about 55 cfs. The historic annual flows are shown in Figure 27.

Figure 27. Mean Flow For Pascack Brook



45X

Data Sources

The water quality data used in this section were collected from the archives of the Hackensack Water Company, Harrington Park, New Jersey. As part of the monitoring program, the Company sampled this stream (station 304) continuously since 1926. The United States Geological Survey established a flow measuring station at the site in 1934. The database includes weekly measurements of color, nitrate and nitrite nitrogen, chloride, alkalinity, pH, dissolved oxygen and percent saturation, and agar and coliform bacteria. The monitoring of water temperature began in 1946 testing for BOD, iron, manganese were included in the mid 1970s. Phosphate and copper parameters were included beginning in the 1980s. Sampling for coliform bacteria started in 1949. Testing for Agar bacteria was discontinued in 1962. The daily sampling between 1955 and 1973 was reported to be fairly strict (around 9:00 a.m.). However, in other years during the period of study, daily sampling time varied from 8:00 a.m. to 12 noon, with occasional sampling in the early afternoon.

Based on the long term availability of the data, ten parameters were chosen for analysis. These are temperature, color, nitrate and nitrite nitrogen, chloride, alkalinity, pH, dissolved oxygen, and agar and coliform bacteria. The parameter analysis in this section was confined to data years between 1940 and 1980. Monthly average values for the parameters were available from the data record; these were translated to annual average values for analysis.

Land cover data came from aerial photographs taken during 1940 and 1972. The 1940 overflight was analyzed using black and white 9" by 9" photographs, while the 1972 data were taken from quad-centered imagery on a stable base. Land cover discrimination was made by a trained aerial photograph interpreter and the land cover classification was transferred to a geographical information

system using ERDAS software running on an IBM PC-AT. Overflight imagery from 1960 was examined but not processed in the analysis. The most recent overflight (March, 1986) was not available for analysis.

Data Analysis

Land Use Changes

The data for land use changes were generated from 1940 and 1972 aerial photographs. The prevailing land use areas under various categories for these two benchmark years were digitized to determine the area under each category as well as percent of the total watershed. The land use categories and their respective percentages of the watershed are shown in Table 24. It is interesting to note that in 32 years time, the watershed experienced a 203% increase in developed areas. In 1940 the watershed was nearly an undeveloped area with only 16% area occupied by residential, commercial or industrial developments, while in 1972 approximately 50% of the watershed was developed. This change in development took a heavy toll on agricultural land, which diminished from 14% in 1940 to just over 2% in 1972. Wetlands were also significantly diminished. One notable change in the watershed is that in 1940 there was no major highway in the basin, whereas approximately 275 acres of land were under this category in 1972. The forest land made a modest contribution to the urbanization process. Given the magnitude of these shifts, and the absence of confounding water pollution sources such as manufacturing, hazardous waste sites, treatment plant discharges, and septic systems, land cover change would appear to be the dominant factor influencing water quality changes. The next sections review the changes observed in the various water quality parameters.

47X

Table 24. Land Cover Change in the Pascack Brook Watershed

Land Cover	1940 Acres	1940 Percent of Total	1972 Acres	1972 Percent of Total	1940-72 Percent Change
Wetland	345.0	2.9	50.5	0.4	-85.4
Water	404.5	3.4	399.5	3.4	- 1.2
Agriculture	16417.9	13.8	252.5	2.1	-84.6
Orchards	487.8	4.1	35.1	0.3	-92.8
Scrub	2034.5	17.1	1077.7	9.1	-47.0
Forest	3700.3	31.1	3334.5	28.0	- 9.9
Recreation	1142.2	9.6	492.8	4.1	-56.9
Developed Land	1951.3	16.4	5912.7	49.7	203.0
Individual Buildings	190.4	1.6	68.3	0.6	-64.1
Total Developed Land	(2141.7)	(18.0)	(5981.0)	(50.3)	(179.3)
Major Highway	0.0	0.0	274.3	2.3	--
Total	11897.9	100.0	11897.9	100.0	

Source: Peter J. Pisor, Rutgers University

Temperature

The variation in annual mean temperature of the stream water is shown in Figure 28. Although there is a great deal of smoothing due to the averaging process, there appears to be considerable fluctuation in the yearly mean temperature caused by the random nature of the weather. However, a general upward trend is quite clear. Since global temperature change for the 40 year period of record is negligible, it can be assumed that the generation and storage of heat in developed areas elevated the thermal regime in the environment and consequently water temperatures.

Color

The fluctuation in the annual average values of water color is shown in Figure 29. Color is primarily a function of turbidity i.e., the suspended or dissolved solids per unit volume of water. Construction activities in a developing watershed and erosion from agricultural or bare soil contribute to the sediment

48X

Figure 28. Annual Temperature Trend

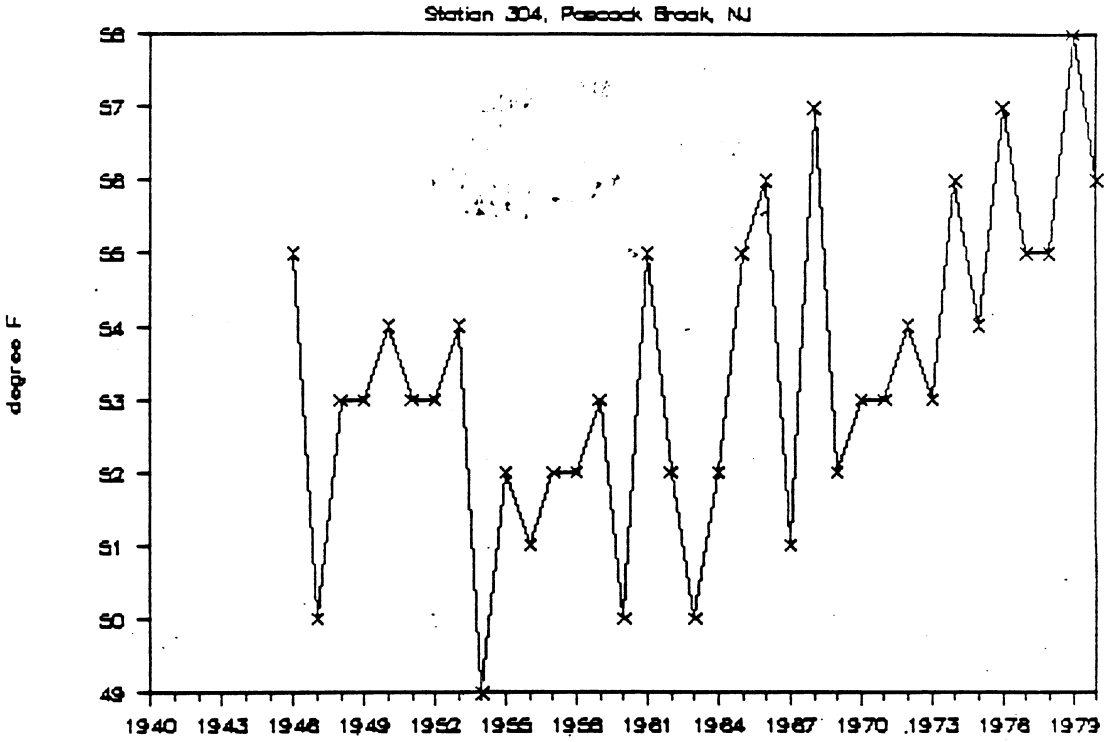
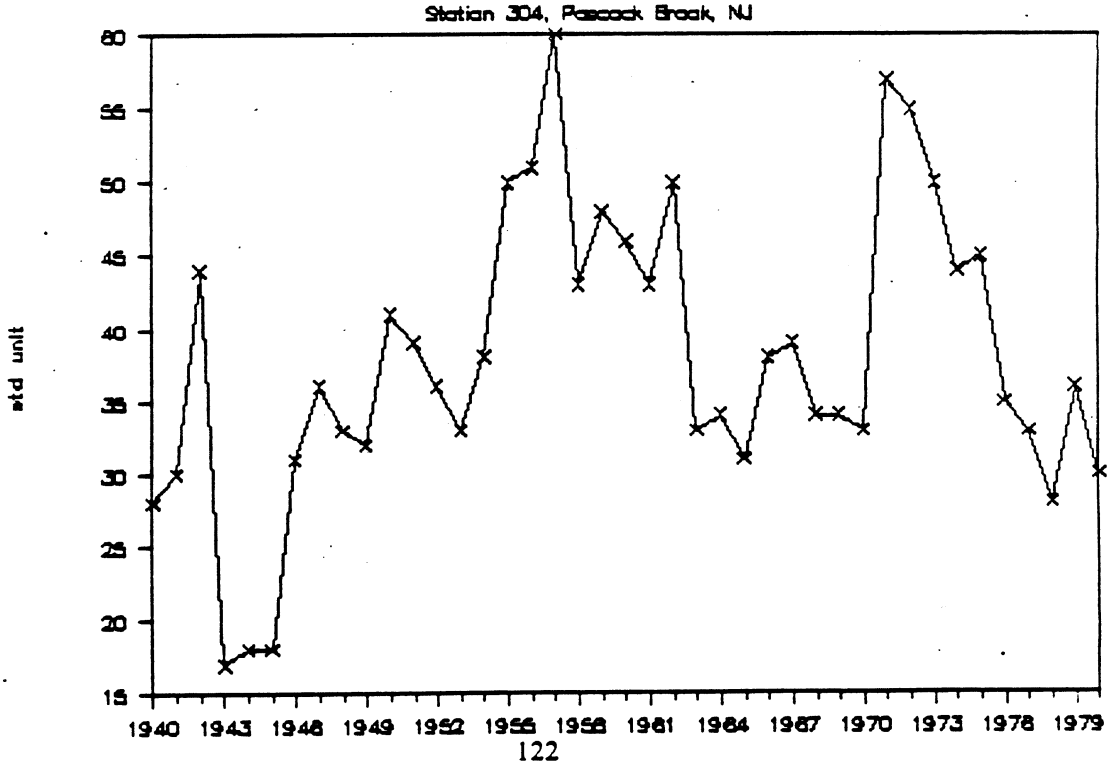


Figure 29. Annual Color Trend



49 X

load in a stream. Figure 29 shows an increase in color from the early 1940s to a peak by the end of the 1950s. The color dropped to a median level in the 1960s (lower sediment loads are generally transported to a stream during drought years) and peaked again in early 1970s. After the early 1970s, color sharply dropped. Color seems to follow the development pattern and the hydrological dry and wet cycle. Construction and agricultural activities (albeit on a diminishing scale) appear to have degraded water color before the onset of the drought of the 1960s. High rainfall and accelerated development may have contributed to the second peak in early 1970s. The color parameter continued to drop after this peak which corresponds with the fact that most of the development took place by 1970.

Nitrate- and Nitrite-Nitrogen

The changes in the annual average values for nitrate- and nitrite-nitrogen are shown in Figures 30 and 31. The general increasing trend is obvious in both of these figures with some variation in peaking times. Nitrate-nitrogen appears to have a locally high reading at the beginning of the data period, possibly from agricultural areas. As agricultural lands diminish, the residential areas that take its place apparently generate an increasing nitrogen load from lawns and perhaps from septic system overflows. The nitrate load gathered momentum in 1960, possibly due to more residential and industrial lawns and lack of dilution in the drought years. Loads reached a peak in 1968. From there they registered a fall and stabilized at a fairly high level. The peak coincides with the year before all the residential units were sewered in 1969. Sewering may have removed contributions from septic systems. Also, due to the end of the drought there may have been an increased level of dilution settling the nitrate concentrations at the final level in the 1970s.

50X

Figure 30. Annual Nitrate-N Trend

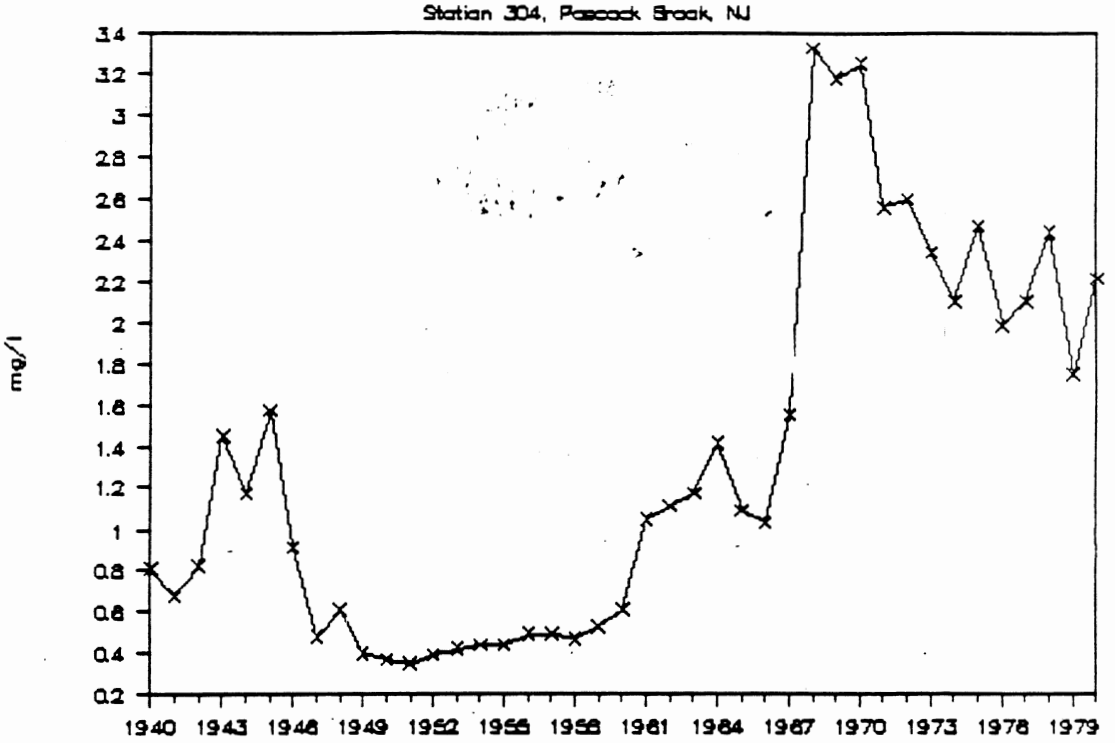
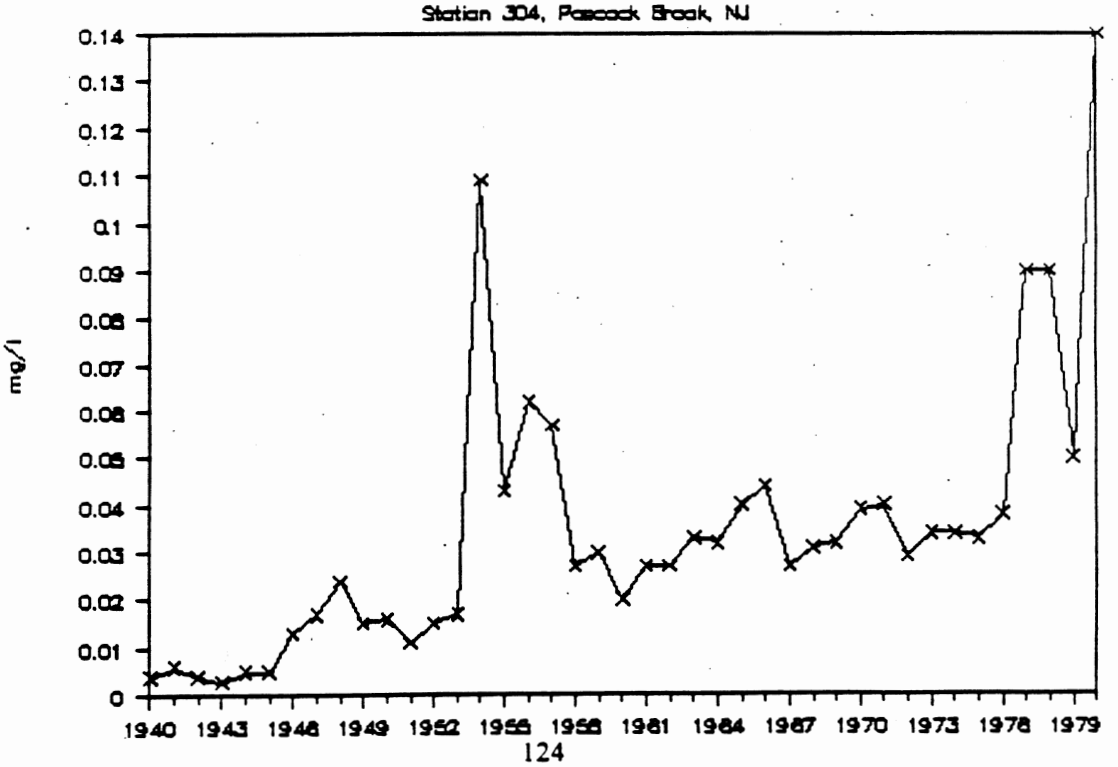


Figure 31. Annual Nitrite-N Trend



51X

Nitrite-nitrogen seems to follow a general rising trend with two periods of abruptly elevated levels. The first began around 1953 and lasted about five years; the second pulse appears to start around 1977 and reaches the all time high in 1980. However, even without these abrupt elevations, the nitrite concentration recorded about a 10-fold increase between 1940 and 1972. The nitrate concentration on the other hand has stabilized at a level three times above that in 1940.

Chloride

The changes in the chloride content of the stream water are depicted in Figure 32. It appears that the chloride concentration, although increasing, maintained a low profile between 1940 and 1955. This may be due to a relatively modest rate of development during this period, especially with respect to roadways and walkways that contribute to the chloride content through salting. From 1955 on, the combined effects of an accelerated rate of development with more walkways, development of highways, and the reduced flow during the droughts of the 1960s contributed to the steep rise of the curve through 1971. The fluctuation since 1971 may be due in part to a variation in annual precipitation. The peak concentration of 1971 is about seven times higher than the concentration recorded in 1940. The somewhat diluted concentration of 1972, the year for land use reference, is more than five times the 1940 value.

Alkalinity

A very similar trend is observed in the alkalinity of the stream water as shown in Figure 33. The alkalinity values grow at a modest rate from 1940 to the late 1950s, and at an accelerated rate from 1958 to a peak in 1968. Alkalinity begins a slow decline after the peak and continues the decline through

52X

Figure 32. Annual Chloride Trend

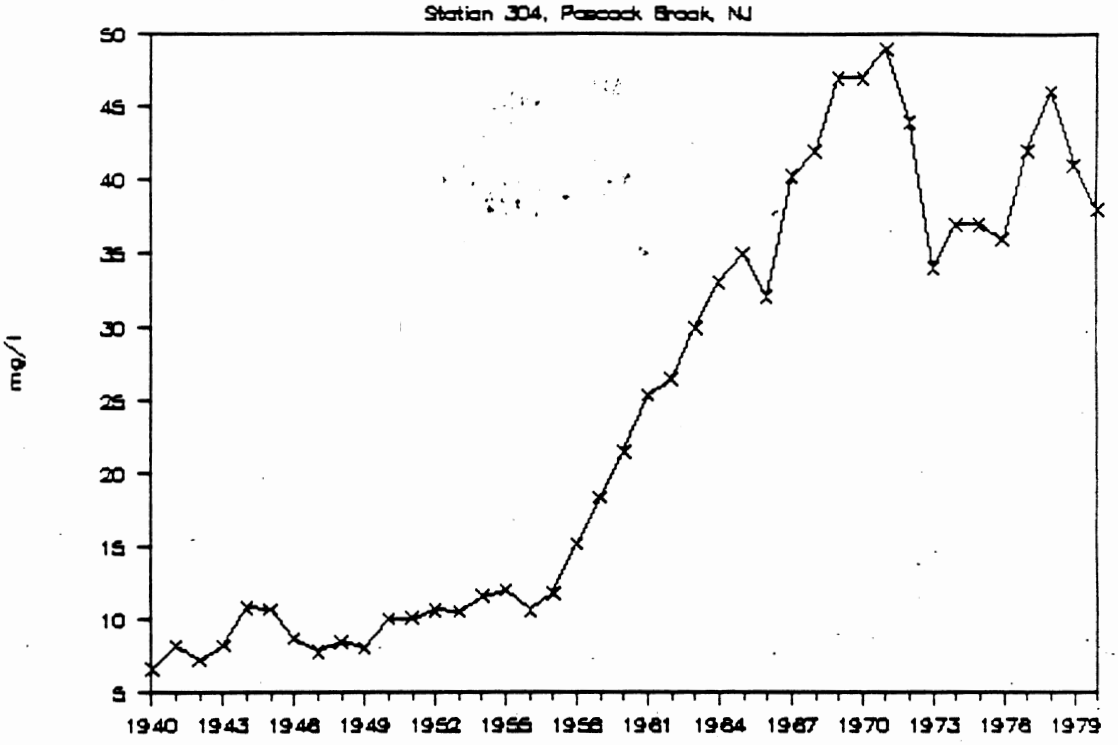
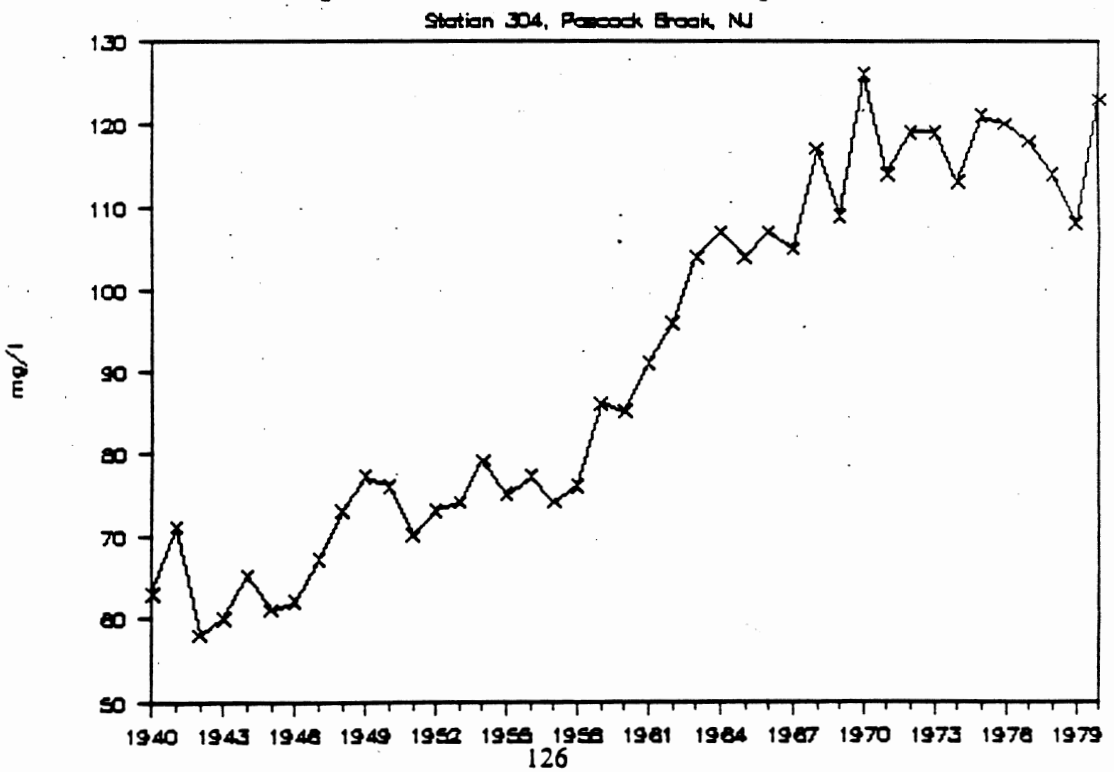


Figure 33. Annual Alkalinity Trend



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the end of the data record. In absolute terms, the alkalinity increased by approximately 60 mg/l (100%) in the 32 years between 1940 and 1972. In the absence of any municipal discharge, liming of lawns may be a major reason for this change.

pH

The long term changes in pH in the Pascack Brook are shown in Figure 34. The values range from a low of 6.6 in 1945 to a high of 7.8 in 1968. There appears to be a depression in pH values earlier in the data record but the trend is promptly reversed and continued till the end of the study period. Apart from a slight dip in 1969, the pH remained above neutral (7.0) after 1946. Although acid rains are reported to prevail in the northeast, data from the Pascack Brook do not seem to be impacted by this phenomenon. Rather, a slight trend toward the alkaline range indicates the progressive input of lime or other alkaline substances in the watershed. This may be due to the liming activities on the lawns in residential and industrial units. Because there is no point source discharge in the watershed, pH values are not expected to be influenced by the municipal discharges.

Dissolved Oxygen

Dissolved oxygen (DO) is an important water quality parameter from the perspective of aquatic life. Oxygen demanding pollution depresses DO in a stream. A DO value of 5 mg/l or more is desirable for maintaining a healthy aquatic ecosystem. Annual average DO in the Pascack Brook, however, does not drop below 6 mg/l as shown in Figure 35. This may be misleading since very low summer DO values may be offset by high winter values in annual averaging. For this reason seasonal trends of selected water quality parameters should also

Figure 34. Annual pH Trend

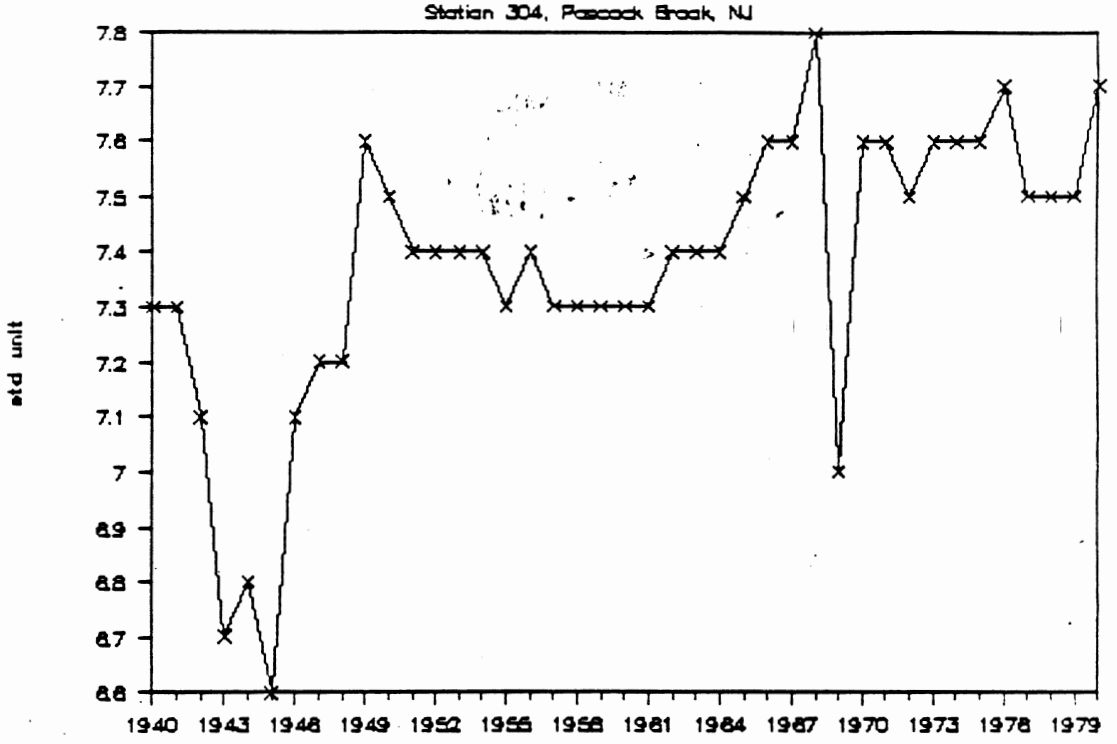
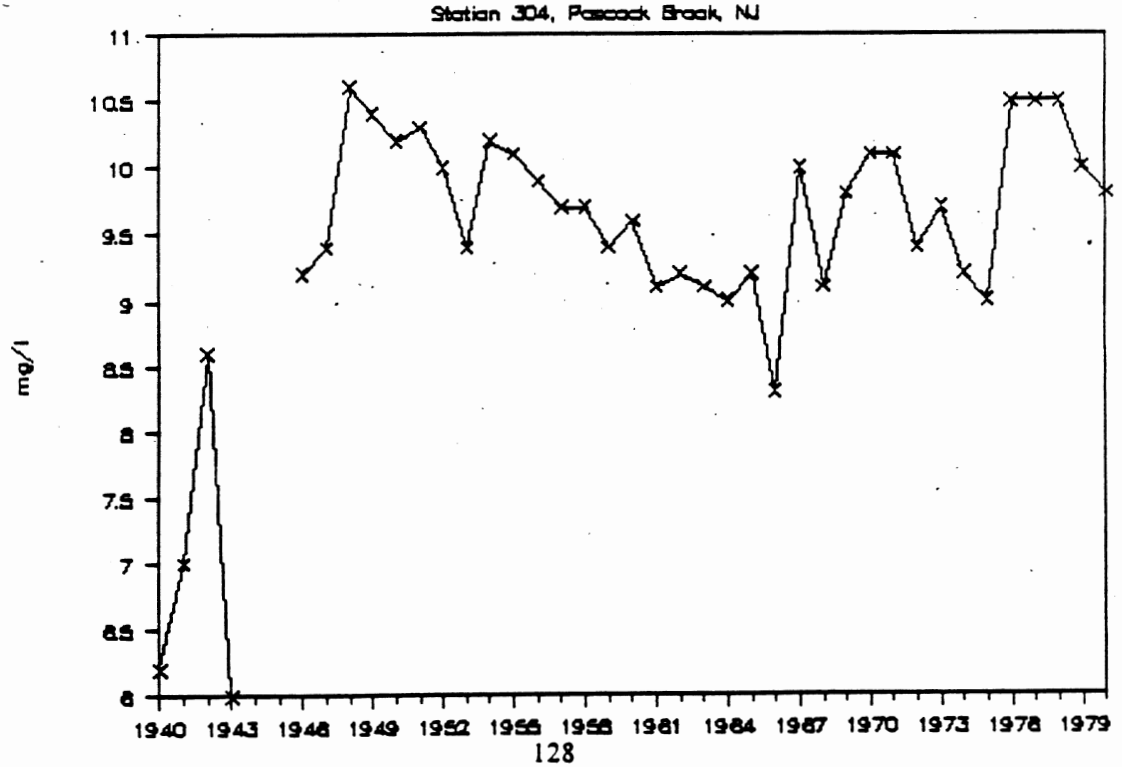


Figure 35. Annual Dissolved Oxygen Trend



55X

be examined. Generally, it is expected that the impact of urbanization is to depress DO in a stream. This expectation is supported for the period from 1948 to 1966, but the trend then unexpectedly reverses and fluctuates around a higher value until the end of the data record. There may be several reasons for these variations. First the flow in the stream is influenced by the release from Woodcliff Lake located upstream from station 304. During drought or low rainfall years the release from the lake is minimal, while during wet years excess water is released with DO enhanced during the drop down the spillway. Increased streamflow from runoff in wet years, augmented by reservoir releases can also be expected to dilute the pollutant load. This results in lower BOD and in turn higher DO. Another explanation for higher DO levels may be the photosynthetic activities of aquatic plants and algal blooms. Aquatic plants grow in waters rich in nutrients, and there is evidence that the stream was fairly rich in nitrogen. Phosphorus records are not available for the stream, but lakes in the Hackensack watershed are reported to be highly eutrophic. Thus, there is a good possibility that the stream water was conducive to the growth of aquatic plants and algal blooms. Such growth would have, of course, depressed DO in the evening due to respiration, but because our data were sampled only during the daytime, any such depression would not be reflected.

Bacteria

Figures 36 and 37 describe the variation of bacteria counts in the stream water samples. Initially, bacteria sampling was conventionally limited to Agar counts of bacteria; later coliform counts were found to be a better indicator of bacterial contamination and replaced the former method. Figure 36 shows that the general bacterial population was very low until 1951; this is also supported by the coliform group in Figure 37, although overlapping records existed for only

56X

Figure 36. Annual Bacteria Trend

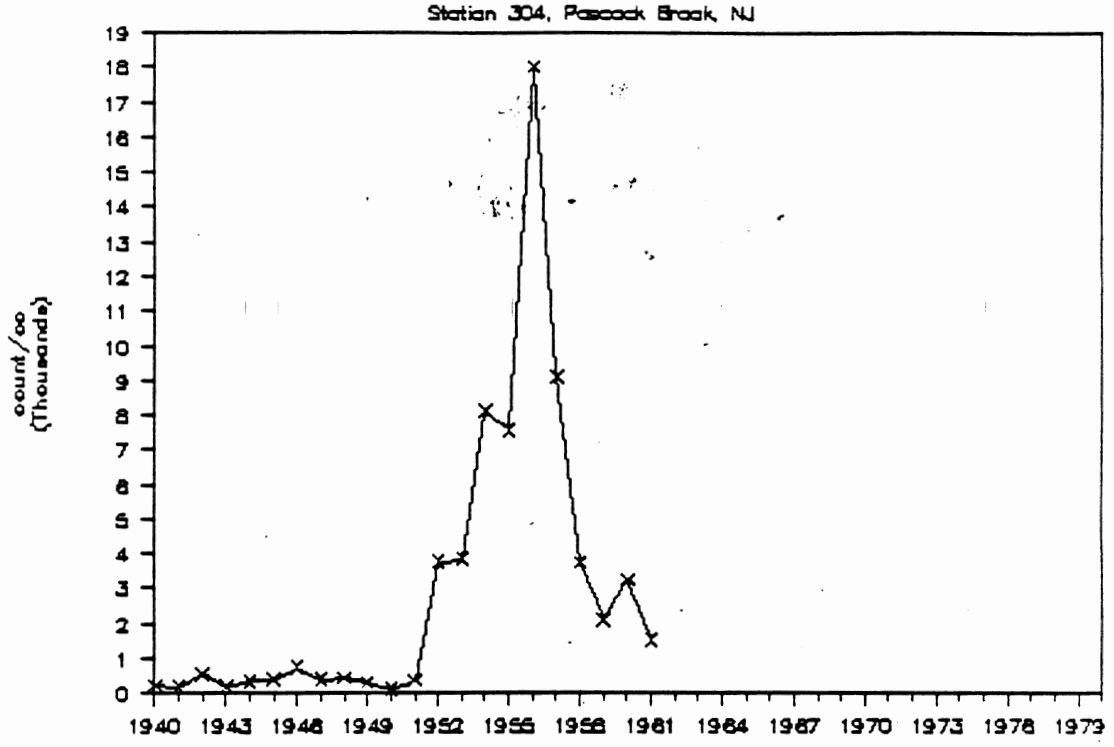
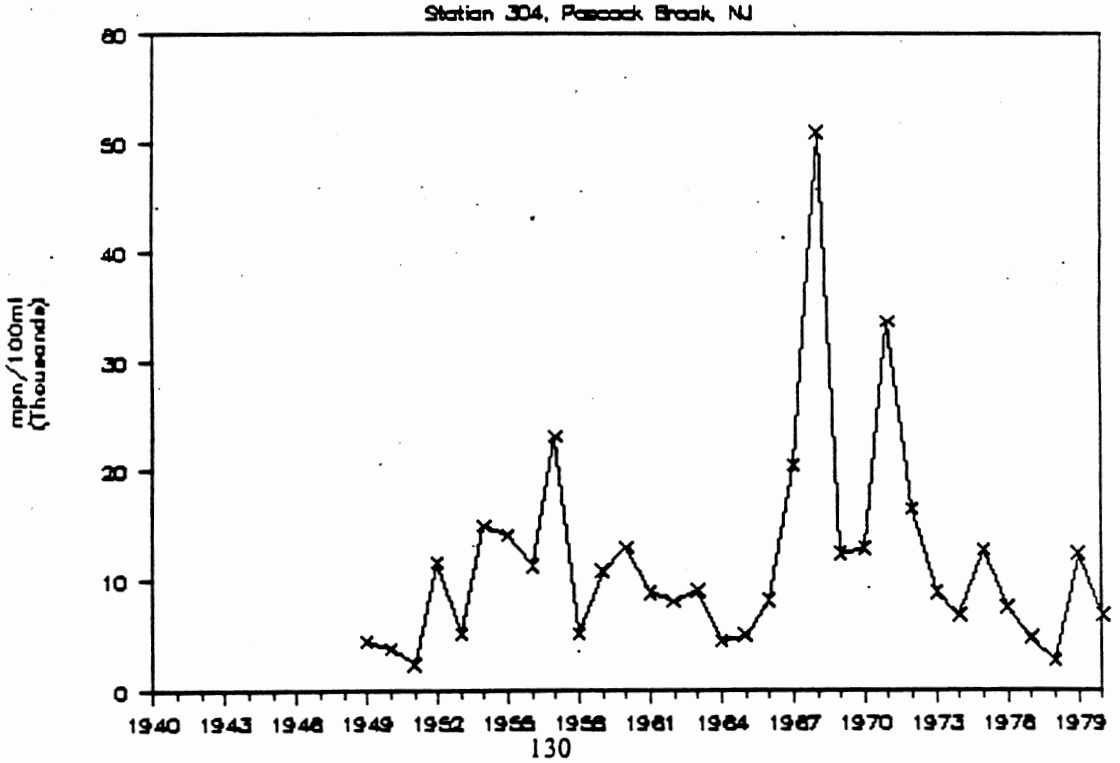


Figure 37. Annual Coliform Trend



57 X

a few years. Bacterial population increases rapidly from 1952, reaches a peak in 1957, and decreases to a lower level at the beginning of the 1960s. Both figures illustrate this pattern. Sampling of Agar bacteria was discontinued in 1961, but sampling of the coliform group continued. Coliform counts register two very high peaks in 1968 and 1971. Low bacteria counts prior to 1951 were probably due to the low level of residential development in the watershed. The subsequent trend in the data suggests that the bacterial population in the stream was regulated by septic system overflows before 1969 and by sanitary sewer removals after 1969, when all the residential units were connected to regional sewers.

In summary, it should be emphasized that even a "best case" scenario of conventional development, such as that seen in the Pascack Brook watershed, can lead to significant degradation in stream water quality. Considering that the majority of New Jersey's watersheds, which are depended on as surface sources for water supply, are subject to much more complex and continuing development demands with their attendant impacts on land use and water quality, the imperative for the development and implementation of effective watershed management strategies to safeguard the state's water resources takes on an added urgency.

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Association of State and Interstate Water Pollution Control Administrators (ASIWPCA), 1985. America's Clean Water: The States' Nonpoint Source Assessment 1985. Executive Summary, 25 pp.

Baker, D.B., 1985. "Regional water quality impacts of intensive row-crop agriculture: A Lake Erie basin case study," Journal of Soil and Water Conservation, 40,1 (January-February): 125-132.

58X

Henry J. Gripenburg
34 Terrace Street
Haworth, New Jersey 07641

June 12, 1991

Assembly Conservation and Natural Resource Committee
Public Hearing - Paramus - 6/12/91 (East Brook School Auditorium)
A-3103 Duch/Jacobson The " Watershed Protection Act."
A-4204 Duch/Rooney The " Watershed Restoration Act."

Committee members:

I wish to express my full support for passage of Bills A-3103 and A-4204. We must do everything possible to fully protect our most precious resource, our water supply. It must be fully safeguarded, so present and future generations may live healthy lives. All watershed systems in the State must have maximum protection.

Please allow me to quote from a building contract magazine. INTERIORS -November 1989- " ... There has been more degradation of the environment in the last 30 years than in the last one million," I wish to repeat that shocking statement; There has been more degradation of the environment in the last 30 years than the last one million. Continuing the quote " ...and more built in the last four decades than in the more than three hundred years between the settlement of Jamestown and 1949 all put together. And the way we have built of late is unprecedented in our use of land. In 1959 we had 24 million acres of developed land in this country, and in 1989 we have nearly 50 million acres. Unrestrained development is casting a shadow over our landscape. So it must be in this context that we come to an agenda for the closing decade."

Since the late 80's when Bergen County had approximately 12% open land, we have now decreased to approximately half that number. It includes land buildable and non buildable. All this rapid construction and development with ever decreasing safeguards. No one fully understands the effects of all chemicals used by our society. Pesticides, herbicides, fertilizers, petroleum products, and sewerage. Many of the compounds are so new, their residual effect is really unknown. Many such items that were common usage just a few years back, have been banned. Extreme long term health problems have since been attributed to their usage. Birth defects, cancers, to name a few. Yes better living through chemistry. Love canal is an extreme example. When we add any contaminate to the environment, we are creating an unknown. The real frightning part is we do not know the danger for the future. We do not know the persistence concerning the danger of these chemicals. The real distance or time required for water flow to neutralize the chemical. Also method or methods of contracting the substance via inhalation, skin surface or oral greatly adds to the risk factor. We know the water usage can include all three. Showering - both vapor and skin contact. Food - drink - oral.

Not part of the problem? A single gallon of gasoline can contaminate approximately 750,000 gallons of water. Pesticides are toxic to humans, animals and aquatic organisms and plants. Sewer spills and excessive fertilizers can create algae bloom. Not an uncommon occurrence with our reservoirs. Part of the connecting link between the Wanaque and Oradell Reservoirs is the Passaic River. Don't worry

about the sewer treatment plants that are upstream. Don't worry about toxins, sewerage, or heavy metal as we now have on line the world's most advanced water treatment plant.

Hackensack Water Company claims it can filter any water. They do not tell you the full cost of treatment. Even with the new plant, we have had days, last year of unsatisfactory water. We still do not know how it deals with ALL the possible danger items. We do not even know how effective it is on the known problems. WHY DO WE HAVE TO SETTLE FOR ARTIFICIALLY CLEANED WATER? attached is a chart " Major Sources of Groundwater Contamination " source - EPA Overview of State Ground-Water Program Summaries. New Jersey has a problem in ALL categories except one. With all the groundwater problems, why add to the risk of our limited surface supplies. Where will we get our future water?

The Hackensack Water Company has paid dividends since 1886, surpassed by only 35 NYSE-listed companies. That is a record to be proud of. Recently the company has been allowed to divide into multiple companies. Not being satisfied with the old record, greed has prompted the creation of companies in order to sell watershed land. Land bought by RATEPAYER dollars. RATEPAYERS also maintained the property. Ratepayers paid its taxes. Now the stockholders demand that it is their right to sell and profit off RATEPAYERS land. All land originally bought for the protection of the watershed. Much of the land was purchased through subterfuge. Some of it via condemnation. Now the stockholders want to develop it via Rivervale Realty. As stated at a River Vale Planning Board Meeting in December 1990 (seeking a soil removal permit) Rivervale Realty and Hackensack Water Company are two separate and distinct companies. Only common link is United Water Resources, the parent company. Yet, over the two year ownership of the property in question, as claimed by Rivervale Realty (stockholders); Hackensack Water Company (ratepayers) paid the property taxes. They claimed, "internal bookkeeping." The development in River Vale did not strictly adhere to property boundary lines. They were in slight violation of the buffer and wetland lines. Imagine, a company that was set up for the sole purpose of protection of our water (to manage safe and proper development of the "excess?" land sold), and it cheated on the boundaries to maximize profit.

In Old Tappan, housing was built over the past few years. No sewers, just septic tanks. Several long used wells became unsafe and had to be closed. Never fear. Sewers are coming to Old Tappan. Sewers leak but they would have you believe that the system is the total perfect solution. United Water Resources is claiming assistance with these sewers. Who is paying -ratepayers or stockholders? I remember the answer was the ratepayers. This is to enable land sold by Rivervale Realty (stockholders profit) to build single family cluster housing 250 feet from the reservoir. In order for them to add to the density, a special drainage system is being proposed. It must be maintained (cleaned out) four times a year. Toxic material is to be removed upon cleaning. Effectively it is allowing a toxic dump to be built just 250 feet from the reservoir.

Just some of what I mentioned makes me worry about our future water supply. Remember Hackensack says - "We can filter any water." It seems they are out to prove it, no matter the cost to the ratepayer.

Their interest in areas other than water, seem to be reflected in their bills and meters. They are pushing the remote "Homer" system by

60 X

extreme pressure upon the consumer. The Water Company "requested" "Homer" to be installed in my home. I stated reasons for not accepting it. (Years prior I twice requested an outside meter to be placed at my home; with no response.) They then changed my home meter to a new regular meter. After the meter was installed, I received a shut off notice unless I changed the meter. They didn't know they installed a new meter. Just weeks after the new meter was installed I started to receive phone calls that I must accept the "Homer." A friend had "homer" installed and months later, they came to read the old nonexistent meter. After installing the meter, the installer rang the Hackensack Water Company phone for 20 minutes awaiting the meter "sign on." He said the phone call verification took longer than the meter installation.

Now at my place of business, my water bills have gone crazy. From steady monthly cost, they have gone erratic. We have less employees and no knowledgeable change in water usage. We had the water company check for leaks. They found none. They changed the meter, although the costs have gone down, bills still seem strange. At the water meter change, I requested to be present for the testing of the meter. They said I would be told when. They never called me. Now I received the test results saying the meter works fine. Our facilities charge, which was $3.59/month, jumped to $5.11 for April. For June it jumped to $10.98. Anyone know the reason?

Three percent of the Earth's water is fresh, but only one percent is available for human consumption. How much of that one percent is really pure? How much is really safe for human life? Why are we risking our limited water supply by allowing greed to profit from our watershed land. Maximize our protection. Don't risk less by allowing irreversible land development. The exact same amount of water exists today as did 3 billion years ago.

We have lost what was once an excellent utility company, via political glad handling; I do not wish to lose my water supply via additional errors. The entire State must have maximum protection of its water sources.

Thank you

Henry J. Gripenburg

Henry J. Gripenburg

Yes to Bills A-3103 // A4204

61X

Major Sources of Groundwater Contamination

States	Septic Tanks	Municipal Landfills	On-Site Industrial Landfills	Other Landfills	Surface Impoundments	Oil and Gas Brine Pits	Underground Storage Tanks	Injection Wells	Abandoned Hazardous Waste Sites	Regulated Hazardous Waste Sites	Saltwater Intrusion	Agriculture
Alabama		•	•	•	•	•	•	•	•	•	•	•
Alaska	•	•					•					•
Arizona		•		•	•		•		•		•	
Arkansas				•		•					•	
California		•	•		•		•		•	•	•	•
Colorado	•		•	•	•	•	•		•			•
Connecticut		•	•		•		•					•
Delaware		•	•	•			•				•	•
Florida	•	•	•	•	•		•	•	•		•	•
Georgia	•				•			•			•	•
Hawaii	•							•				•
Idaho	•				•		•	•				•
Illinois	•		•				•	•		•		•
Indiana			•				•	•	•			•
Iowa	•	•			•		•	•	•			•
Kansas						•				•		
Kentucky		•	•	•	•			•	•	•		
Louisiana				•	•	•	•			•		
Maine	•	•	•		•		•		•		•	•
Maryland	•	•	•	•	•	•	•		•	•	•	•
Massachusetts	•	•	•		•		•		•			•
Michigan		•	•	•	•	•	•		•			•
Minnesota	•	•	•	•	•		•	•	•	•		•
Mississippi	•	•	•		•	•	•	•			•	•
Missouri	•				•					•		•
Montana	•	•		•		•	•	•			•	
Nebraska	•	•			•	•	•		•			•
Nevada	•				•		•					
New Hampshire	•	•	•		•		•					
New Jersey	•	•	•	•	•	•	•	•		•	•	•
New Mexico	•				•	•	•		•			•
New York	•	•	•	•			•		•			•
North Carolina		•	•		•		•				•	
North Dakota	•	•	•	•	•	•	•	•	•			
Ohio	•		•	•	•	•				•		
Oklahoma							•				•	
Oregon	•	•	•				•	•	•	•		•
Pennsylvania	•	•	•	•	•	•		•				
Puerto Rico	•	•					•			•	•	•
Rhode Island	•	•	•		•	•	•		•			•
South Carolina		•	•	•	•		•		•	•	•	•
South Dakota	•	•	•	•	•	•	•					•
Tennessee	•		•		•	•	•	•	•	•		•
Texas	•	•	•		•				•		•	•
Utah				•		•	•					
Vermont	•	•	•		•		•		•			•
Virgin Islands	•										•	
Virginia	•				•		•					
Washington	•	•			•		•	•	•		•	•
West Virginia			•		•	•						
Wisconsin	•						•		•			•
Wyoming	•					•	•					
Total	36	31	30	20	36	21	41	18	25	15	19	33

Source: EPA Overview of State Ground-Water Program Summaries

THE NATIONAL TOXICS CAMPAIGN

America's Water Crisis...Fact?...Or Fiction?

"It's Much, Much greater than anyone ever thought"

- Lee Thomas
Former Director - EPA

We have something like 300,000 toxic waste dumps across the country. We've got about 800,000 underground storage tanks, 30% of which are probably structurally impaired, potentially capable of leaking. We've got no regulations on pesticide run-off. We've got a national water pipe system full of lead, which is extremely dangerous. We've got sewage treatment plants that don't work very well, effectively discharging raw sewage into our lakes, streams, and rivers. We have landfills that we dump solid waste garbage and hazardous waste into. So you can see that there is a potential for contaminating our drinking water that has just grown up as a result of sloppy ways of doing things.

- Congressman James Florio
Co-Sponsor, "1986 Safe Drinking Water Act"

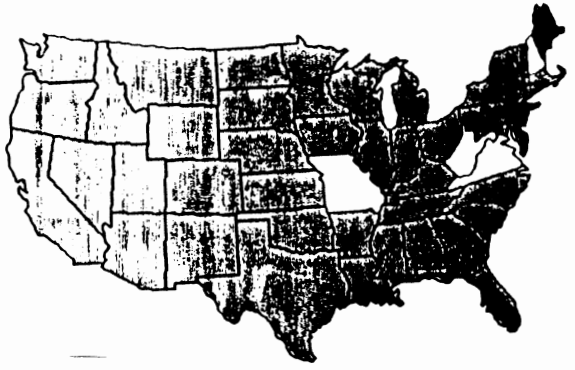
"In general, look out for yourselves, and don't think that "Big Brother" is looking out for you...because he's not".

-Bill Sanjour-EPA

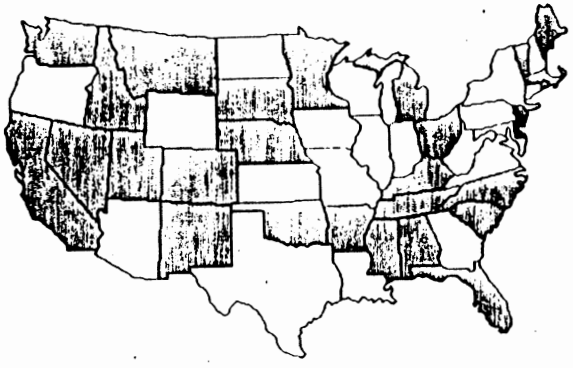
States Reporting Serious Groundwater Contamination From:

Source: EPA Overview of State Ground Water Program Summaries

Organic Chemicals



Inorganic Chemicals



Toxic Metals

Pesticides

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Original (Was given as testimony)

TESTIMONY OF CHAIRPERSON NANCY KAMEN ON BEHALF OF THE HAWORTH ENVIRONMENTAL COMMISSION ON AUGUST 17, 1989 TO THE WATERSHED PROPERTY REVIEW BOARD

SUBJECT: REQUEST BY HACKENSACK WATER COMPANY FOR EXEMPTION FROM THE WATERSHED PROTECTION BILL

The Haworth Environmental Commission strongly urges the Watershed Property Review Board not to grant the Hackensack Water Company an exemption from the Watershed Protection Bill. The "Evergreen Formula" is the Water Company's response to the public outcry for preservation of the watershed properties as open space, recreational facilities, and water supply protection areas. Our Commission would like to emphasize the need to utilize the full moratorium period to adequately survey the environmental sensitivity of the lands that the Water Company would like to transfer to Rivervale Realty Company.

As part of our effort to study the land in our town, our Commission members have reviewed U.S. Geological Survey Maps, National Wetlands Inventory Maps, Soil Survey Maps and Flood Plain Maps. Within our borders there are critical areas such as wetlands, 100 and 500 year floodplains, acquifer recharge areas, streams that run directly into the reservoir, steep slopes, and perhaps some endangered species habitats. Many of the aforementioned factors are located within the approximately 85 acres of land owned by the Water Company. These critical environmental factors put constraints that must be respected on the use of these lands .

The Havens and Emerson Report was commissioned by the Hackensack Water Company in 1983 to delineate properties which needed to remain as watershed buffer areas. Wetlands and other properties subject to flooding were described as "particularly critical areas requiring protective control. During flood conditions, surface and subsurface contaminants have direct access to reservoir and tributary stream waters." (pg.VII-5) In addition, the authors indicated that construction in these areas would result in the loss of a significant number of animal species that depend on these habitats for sustenance. (pg.III-32)

"The Preliminary State Development and Redevelopment Plan for the State of New Jersey" prepared by the New Jersey State Planning Commission, designated properties in Haworth,

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including the approximately 85 acres of land owned by the Water Company, as Tier 7. This classification is used for environmentally sensitive lands in the State. Therefore, the moratorium should remain in place in order for the New Jersey Department of Environmental Protection and other appropriate parties to adequately study these properties.

Since the lands in question are watershed, a major concern of our Commission is water quality. Once again, I refer to the Water Company's own document, The Havens and Emerson Report which indicates that there is considerable debate regarding appropriate standards for protective buffer lands. (pg.VII-4). After a review of available literature on the subjects of watershed management and water quality, the authors indicated that "in general, the need to protect water quality in reservoirs through restricted use of perimeter lands was emphasized in the literature and with those State agencies involved with environmental control and health." (pg.V-2) In addition, the authors noted that discussions were held with the New Jersey Department of Environmental Protection regarding reservoir protection regulations and "the opinion was expressed that any sale of land could be detrimental to water quality and that water purveyors should attempt to obtain as much land as possible to protect their water supply." (pp.VI-1, VI-2).

The golf course properties that the Water Company would like to tranfer to Rivervale Realty Company serve as protective buffers for a reservoir that is referred to in The Havens and Emerson Report as a critical supply source within the Water Company system. This is because "the Oradell Reservoir is the terminal point for all present raw water supplies and will be the receiving reservoir for the Wanaque-South Project. Water intake to the Haworth Plant is directly from this reservoir." (pp. VII-4, VII-5) Due to the crucial role that the Oradell Reservoir plays in the water delivery system, our Commission believes that adequate time for full study of water quality protection is needed.

Open space contributes significantly to the aesthetic nature of our County. One of our Commission members expressed her hope that the same foresight that was used to prohibit development along the Palisades north of the George Washington Bridge will be employed in your decisions tonight and in the future. One only has to compare the New York and New Jersey shorelines in that area to see the value of planning for open space preservation. The Havens and Emerson Report refers to the scarcity of wooded areas in

Bergen County given the considerable amount of residential development in the area. (pg.III-32) The aforementioned report goes on to describe the communities in the Water Company's watershed "as dependent upon a certain aesthetic character in which the Company properties contribute. The properties also act as a natural, aesthetic buffer to these highly developed residential areas. Therefore, significant development of the Company property would diminish the aesthetic character of the area. Valuable green areas and open space would be lost as well as a natural resource buffer." (pg.111-33)

In closing, our Commission asserts that the properties under discussion are a unique and irreplaceable resource for the citizens of Bergen County and the State of New Jersey. The sensitivity of these lands as natural habitat, watershed protection, and aesthetic resource require that exhaustive efforts be made to obtain adequate data and public input before changing the status of these lands. Allowing the full course of the moratorium is the least we can do for our fellow citizens and for future generations.

PASSAIC RIVER COALITION

246 MADISONVILLE ROAD, BASKING RIDGE, NJ 07920 (201) 766-7550

Testimony before the Assembly Conservation and Natural Resource Committee on A-3103, The "Watershed Protection Act," and A-4204, The "Watershed Restoration Act," Paramus, New Jersey, June 12, 1991.

Presented by: Ella F. Filippone, Ph.D., Executive Administrator

The Passaic River Coalition, a watershed association, welcomes the opportunity to comment on this very important legislative concept. The watersheds in the Passaic River Basin are very important to the well-being of this state, as they provide drinking water to the most urban areas of the state. Over 2.5 million people are dependent on it as well as countless commercial and industrial facilities. It cannot be emphasized enough that a high quality water supply is the basis for a strong and healthy economy and critical for the public good.

A-3103 - The Passaic River Coalition has long recognized the need to establish a program related to watershed protection. However, while we support the proposals in this bill, we maintain that at least two categories of reservoirs should be established. One category should refer to those reservoirs which have substantial protection, such as those which have been so well managed by the City of Newark, and those which are in an urban environment. The Legislature should enact generic legislation, keeping in mind that the original legislative response was reactionary to the selling of land, which had been considered necessary by members of the public to protect water supply sources.

In our research regarding watershed lands, we must also point out that we have two types of watershed lands in New Jersey, i.e., the type being discussed in A-3103 which obtains its water from surface supplies and also lands which have been set aside to protect major groundwater resources, such as the lands owned by the City of East Orange. Ironically, these critical lands which have been dedicated to water protection and preservation and managed for the public good, are taxed at whatever level the local towns desire. At this point, we should also add the wellfields owned by the City of Garfield in Elmwood Park fall into the same category. As we recall, when the Legislature exempted parkland from paying property taxes, it did not afford the same status to watershed lands, even though such lands now must be recognized as having a higher public value than parkland. Because the Legislature is now dealing with the subject of watershed lands, it may be unlikely that it will revisit this subject soon after this legislation is enacted. Thus, we recommend that the issue of taxing these lands be addressed at this point.

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With reference to the current text of A-3103, we suggest that the phrase "using scientific parameters based on soils, flow, slope, and indigenous flora" be included on page 2, line 17. Note that the wellhead protection program, which has been developed during the past three years, and has a long record of success in Europe, uses similar scientific parameters. The use of arbitrary numbers may or may not do the job expressed in the introduction to this legislation.

Also add a similar guidance statement as number (4) under Section 4. a.

Finally, having worked in watershed management for many years, may we remind the Legislature that the job you are giving the N.J. Department of Environmental Protection requires proper funding and staffing. An appropriation of $1 million would bring the project into focus and should deliver an acceptable response within the one-year timeframe established for the task.

Also keep in mind that if buffer areas are to be used to protect feeder streams, reservoirs, etc., funds may be needed to acquire such lands. The Passaic River Coalition has previously advocated a surcharge on water use to be used for acquisition of land for surface and groundwater protection/preservation only. We have recommended precisely that such a surcharge be used only for the acquisition of watershed lands, groundwater recharge areas, groundwater protection lands (such as the expansion of the wellhead), and buffer areas needed for reservoir protection.

A-4204 - When the moratorium legislation was enacted, the "Watershed Property Review Board" was established. It placed authority in a triumvirate, which can be swayed by political pressure. We would like to see this Board structured so that decisions are made with minimum political influence. Thus, the make-up should be reconsidered and perhaps expanded.

Under definitions, "Public water supply reservoir" relates to the 39 public water supply reservoirs identified in the Rutgers study. Note that not all reservoirs used for public water supply are owned by a "public water supply purveyor." This legislation seems to use the term "public water supply" in relation to all water suppliers, when in fact we in New Jersey include in our water supply program, utilities owned by the public and by investor-owned companies.

With regard to Section 4, one must raise the question of equity to the stockholders of the investor owned utilities. If property taxes are to be paid on these lands, then stockholder interests

are affected. At the same time, when income is earned either from the sale of water or land, consideration must be given to the interests of the investors. This is an issue which was discussed at great length during the deliberations on the State Water Supply Master Plan in the early 1980's and was never resolved. It is extremely difficult to provide the same benefits to investor-owned utilities as it is to publicly owned utilities.

In Section 5 and thereafter, the directive involves "a public water utility." This term is not defined in the legislation, and as commonly understood would not apply to privately held corporations.

In Section 7 related to the selling off of golf courses, it would be highly desirable to include a first turndown clause, requesting that the land first be offered to state, county, and local government.

Section 10, regarding ownership and business interests in real estate and development, we believe may violate free trade laws. It might also be perceived to violate a person's civil rights. This section should be thoroughly researched as to efficacy.

If on the other hand, the Legislature places such a caveat on the operations of a water utility, the violation of rights may not be as acute or existent at all.

Please note that only in the "Statement" at the end of this bill is their any reference to the "investor-owned public water utilities." We must emphasize that because of the difference between investor-owned and publicly-owned, the Legislature must remain cognizant of the structural corporate and financial differences.

The Passaic River Coalition understands and supports the intent of this legislation; however, we conclude that major changes must be made in order for it to accomplish in a legal and equitable manner the goals it has established.

Hackensack Water Company
200 Old Hook Road
Harrington Park, N.J. 07640
201-767-9300

April 1991

WATER QUALITY STANDARDS CHART

The attached Water Quality Standards Chart details more than 100 substances that Hackensack Water Company monitors in its drinking water. The chart also gives the Maximum Contaminant Levels (MCLs) allowed in drinking water by the Federal Environmental Protection Agency (EPA) and/or the New Jersey Department of Environmental Protection and the levels measured in your water. Hackensack Water monitors raw and finished water and ensures compliance with ever-increasing requirements stemming from the Federal Safe Drinking Water Act.

The numbers measure the concentration of each substance in a sample of water. They represent milligrams per liter (mg/L), or parts per million (ppm). As a comparative measure, one part per million is roughly equal to one inch per 16 miles.

As an example, the EPA standard for silver is 0.05 mg/L, or 1/20 part for every million parts water. Hackensack Water's silver concentration is well below this level. In fact it is below the detection limit of 0.0005 mg/L, or 1/2000 part for every million parts water. In comparison to the EPA standard, Hackensack Water's concentration of silver is at least 100 times better.

These parameters apply to both organic and inorganic chemicals. Other terms used in the chart include:

The Primary Standards of Drinking Water Regulations. These standards are related to health-based information and must be met by all public water suppliers. If any Primary Standard is exceeded, the water supplier is mandated by law to issue a public notice to all of its affected customers using local newspaper, radio/TV stations or a mailed written notice to each customer. Hackensack Water Company met or surpassed all drinking water regulations during 1990 and has never been required to make a public notice of non-compliance.

Turbidity. The presence of suspended particles in the water is measured by Turbidity Units (TUs). One TU, the MCL established by the EPA, measures the amount of light reflected by suspended particles in water. The higher the TU, the more suspended particles are present. Hackensack's turbidity measure of 0.2 TUs means that its turbidity level is five times clearer than the level mandated by the government. This TU characteristic is measured continuously.

Microbiological. In monitoring for coliform bacteria, two MCLs are used: first, coliform should not be found in more than 10 percent of the total portions tested during a one-month period; second, looking at each sample taken during a one-month period, coliforms should not be present in three or more portions in more than 5 percent of the individual samples examined. Hackensack Water collects more than 360 samples per month and each sample has 5 portions tested for a total of 1,800 portions each month.

Radioactivity. The presence of radioactive materials in the water is measured in picoCuries per liter (pCi/L). In all four substances measured, Hackensack Water's levels of concentration are significantly safer than those mandated by the EPA.

The Secondary Standards of Drinking Water Regulations. These standards (including copper, iron, sodium and zinc) are measures of substances affecting such qualities as taste and color. These MCLs are not mandated levels, but rather suggested guidelines for maintenance of water with good taste, odor and appearance.

WATER QUALITY STANDARDS OF THE SAFE DRINKING WATER ACT

Figures Based on Laboratory Statistics for 1990

Primary Standards

Directly Related to the Safety of Drinking Water

Substance Type and Name	EPA Standard*	HACKENSACK WATER COMPANY Actual Level or Average*
Inorganic Chemicals:		
Arsenic	0.05	Less than 0.003**
Barium	1.0	0.05**
Cadmium	0.01	Less than 0.0005**
Chromium	0.05	Less than 0.0005**
Fluoride	4.0	Fluoride is not added
Lead	0.05	Less than 0.002**
Mercury	0.002	Less than 0.0005**
Nitrate	10.0	0.64
Selenium	0.01	Less than 0.005**
Silver	0.05	Less than 0.0005**
Organic Chemicals (Pesticides):		
Endrin	0.0002	Less than 0.00005**
Lindane	0.004	Less than 0.00005**
Methoxychlor	0.1	Less than 0.0001**
Toxaphene	0.005	Less than 0.0005**
Organic Chemicals (Herbicides):		
2, 4-D	0.1	Less than 0.0002**
2, 4, 5-TP (Silvex)	0.01	Less than 0.00005**

Notes about this chart:

* Unless otherwise indicated, these measurements are given in milligrams per liter, which is the same as parts per millon.

** These figures show the lowest detection limits of our instrumentation. The substance cannot be detected below this quantity and could also be marked "none detected" (N.D.).

WATER QUALITY STANDARDS OF THE SAFE DRINKING WATER ACT

Figures Based on Laboratory Statistics for 1990

Primary Standards (continued)
Directly Related to the Safety of Drinking Water

HACKENSACK WATER COMPANY

Substance Type and Name	EPA Standard*	Actual Level*
Total Trihalomethanes (THMs) 4-Qtr. Avg.	0.1	0.038
THMs are created by the reaction of chlorine with natural organics and result in the formation of chloroform, bromoform, dichlorobromomethane, and dibromochlorometjane.		
Turbidity (Suspended particles)	1.0 TU (Turbidity Unit)	0.2 TU
Microbiological (Coliform Bacteria)	Not more than 5% of total samples with 3 or more portions containing positive Coliform count	0.17%
	Not more than 10% of portions containing any Coliform	0.48%
Radioactivity (these standards are expressed in picoCuries per liter, or pCi/L)		
Gross Alpha Particle Activity	15	0.69
Gross Beta Particle Activity	50	2.34
Tritium	20,000	110
Strontium 90	8	0.07

(The radioactivity samples are tested by the New Jersey State Laboratory)

Notes about this chart:

* Unless otherwise indicated, these measurements are given in milligrams per liter, which is the same as parts per millon.

** These figures show the lowest detection limits of our instrumentation. The substance cannot be detected below this quantity and could also be marked "none detected" (N.D.).

WATER QUALITY STANDARDS OF THE SAFE DRINKING WATER ACT

Based on Laboratory Statistics for 1990

Primary standards (continued)

Directly Related to the Safety of Drinking Water

EPA Standards are not established for all of these compounds at the present time.Those substances without a standard are called unregulated organics, requiring monitoring only.

HACKENSACK WATER COMPANY

Substance Type and Name	EPA Standard*	N.J. Standard*	Actual Level*
Organic Chemicals:			
			Less than:
Benzene	0.005	0.001	0.0005**
Bromobenzene			0.0005**
Bromochloromethane			0.0005**
Bromomethane			0.0005**
n-Butylbenzene			0.0005**
sec-Butylbenzene			0.0005**
tert-Butylbenzene			0.0005**
Carbon Tetrachloride	0.005	0.002	0.0005**
Chlordane		0.0005	0.0005**
Chlorobenzene		0.004	0.0005**
Chloroethane			0.0005**
Chloromethane			0.0005**
2-Chlorotoluene			0.0005**
4-Chlorotoluene			0.0005**
1,2-Dibromo-3-chloropropane			0.00002**
1,2-Dibromoethane			0.00002**
Dibromomethane			0.0005**
1,2-Dichlorobenzene		0.6	0.0005**
1,3-Dichlorobenzene		0.6	0.0005**
1,4-Dichlorobenzene	0.075	0.075	0.0005**

Notes about this chart:

* Unless otherwise indicated, these measurements are given in milligrams per liter, which is the same as parts per millon.

** These figures show the lowest detection limits of our instrumentation. The substance cannot be detected below this quantity and could also be marked "none detected" (N.D.).

WATER QUALITY STANDARDS OF THE SAFE DRINKING WATER ACT
Based on Laboratory Statistics for 1990

Primary standards (continued)
Directly Related to the Safety of Drinking Water

EPA Standards are not established for all of these compounds at the present time.Those substances without a standard are called unregulated organics, requiring monitoring only.

HACKENSACK WATER COMPANY

Substance Type and Name	EPA Standard*	N.J. Standard	Actual Level*
Organic Chemicals:			
Dichlorodifluoromethane			0.0005**
1,1-Dichloroethane			0.0005**
1,2-Dichloroethane	0.005	0.002	0.0005**
cis-1,2-Dichloroethene		0.01	0.0005**
1,1-Dichloroethene	0.007	0.002	0.0005**
trans-1,2-Dichloroethene		0.01	0.0005**
1,2-Dichloropropane			0.0005**
1,3-Dichloropropane			0.0005**
2,2-Dichloropropane			0.0005**
1,1-Dichloropropene			0.0005**
cis-1,3-Dichloropropene			0.0005**
trans-1,3-Dichloropropene			0.0005**
Ethylbenzene			0.0005**
Hexachlorobutadiene			0.0005**
Isopropylbenzene			0.0005**
p-Isopropyltoluene			0.0005**
Methylene Chloride		0.002	0.0005**
Naphthalene			0.0005**
Polychlorinated Biphenyls (PCBs)	0.0005		0.0005**

Notes about this chart:

* Unless otherwise indicated, these measurements are given in milligrams per liter, which is the same as parts per millon.

** These figures show the lowest detection limits of our instrumentation. The substance cannot be detected below this quantity and could also be marked "none detected" (N.D.).

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WATER QUALITY STANDARDS OF THE SAFE DRINKING WATER ACT

Based on Laboratory Statistics for 1990

Primary standards (continued)
Directly Related to the Safety of Drinking Water

HACKENSACK WATER COMPANY

Substance Type and Name	EPA Standard*	N.J. Standard*	Actual Level*
Organic Chemicals:			
n-Propylbenzene			0.0005**
Styrene			0.0005**
1,1,1,2-Tetracholorethane			0.0005**
1,1,2,2-Tetracholorethane			0.0005**
Tetrachloroethene		0.001	0.0005**
Toluene			0.0005**
1,2,3-Trichlorobenzene			0.0005**
1,2,4-Trichlorobenzene		0.008	0.0005**
1,1,1-Trichloroethane	0.2	0.026	0.0005**
1,1,2-Trichloroethane			0.0005**
Trichloroethene	0.005	0.001	0.0005**
Trichlorofluoromethane			0.0005**
1,2,3-Trichloropropane			0.0005**
1,2,4-Trimethylbenzene			0.0005**
1,3,5-Trimethylbenzene			0.0005**
Vinyl Chloride	0.002	0.002	0.0005**
Xylene(s)		0.044	0.0005**

Notes about this chart:
* Unless otherwise indicated, these measurements are given in milligrams per liter, which is the same as parts per million.
**These figures show the lowest limits of our instrumentation. The substance cannot be detected below this quantity and could also be marked "none detected" (N.D.).

WATER QUALITY STANDARDS OF THE SAFE DRINKING WATER ACT
Figures Based on Laboratory Statistics for 1990

Secondary Standards
Related to the Aesthetic Quality of Drinking Water

HACKENSACK WATER COMPANY

Substance Name	Secondary Standards*	Actual Level*
Chloride	250	65
Color	10 CU (Color Unit)	3
Copper	1.0	0.02
Corrosivity	Noncorrosive	Noncorrosive
Foaming Agents (Surfactants)	0.5	<0.01 **
Hardness (as $CaCO_3$)	250	117
Iron	0.3	0.02
Manganese	0.05	0.03
Odor	3 TON (Threshold Odor No.)	1
Sodium (guideline)	50	39
Sulfate	250	24
Total Solids	500	220
Zinc	5.0	<0.01**

Notes about this chart:
< Means "less than"
$CaCO_3$ = calcium carbonate

The Sodium guideline is significant only for consumers requiring a low sodium diet.

* Unless otherwise indicated, these measurements are given in milligrams per liter, which is the same as parts per million.
** These figures show the lowest limits of our instrumentation. The substance cannot be detected below this quantity and could also be marked "none detected" (N.D.).

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Additional Chemical Tests (No Existing Standards)

Used as Indicator for Monitoring Water Purification Process

HACKENSACK WATER COMPANY

Test Type and Name	Actual Level*
Inorganic Chemicals:	
Acidity (pH)	8.0 pH units
Alkalinity ($CaCO_3$)	83
Aluminum	0.13
Ammonia	0.20
Calcium	35
Carbon Dioxide	2
Chloramine residual	3.6
Conductivity	430 µmhos/cm ^{2}
Dissolved oxygen	10.5
Magnesium	7
Nitrite	<0.01**
Ozone residual	None
Phosphate-total	0.06
Potassium	2
Silica (SiO_2)	2.7

Notes about this chart:
< Means "less than"
$CaCO_3$=calcium carbonate
µmhos/cm^2=micromhos per square centimeter

* Unless otherwise indicated, these measurements are given in milligrams per liter, which is the same as parts per mill

** These figures show the lowest limits of our instrumentation. The substance cannot be detected below this quantity and could also be marked "none detected" (N.D.).

77X

101 MORGAN LANE, PLAINSBORO, NEW JERSEY 08536 ● (609) 275-8888 ● FAX (609) 275-4411

C.

FAX MEMO 609
Pages 6 Date 6/12 Fax # 984-8441
To
From MARIANNE RHODES
Co.
Ph. # Fax #

June 12, 1991

OFFICE OF LEGISLATIVE SERVICES
JUN 12 3 49 PM '91

The Honorable Thomas J. Duch
113 DeWitt Street
Garfield, NJ 07026

RE: A-3103, Watershed Protection Act
A-4204, Watershed Restoration Act

Dear Assemblyman Duch:

We regret that we are unable to attend the June 12th public hearing of the Assembly Conservation and Natural Resource Committee in Paramus, New Jersey regarding the two aforementioned legislative proposals. Nevertheless, we would like to share with you our concerns with these watershed protection and restoration bills that we originally forwarded to you in October of 1990 (see attached letter).

As you know, a similar bill sponsored by Senator Contillo (SCS-2339) was debated in the Legislature over the last year. The NJBA was a very active player in these debates, and we are pleased to report that Senator Contillo made several significant changes to SCS-2339. The most notable of these changes was to limit the scope of the bill to publicly owned lands for the protection of water supply reservoirs. The history and dialogue on this issue is long, and we would be happy to share it with you if you desire.

Despite the changes that were made to SCS 2339, there are four remaining issues that we believe need to be addressed:

- Lack of state pre-emption - Section 14 allows counties and municipalities to adopt more restrictive buffer standards and to regulate additional activities to provide for greater water quality and "environmental protection" around public water supply reservoirs and feeder streams. We request that this section be deleted so that the standards contained in the bill will be uniform statewide and not minimum standards.

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"No man has the moral right to withhold his support from an organization [illegible]"

78X

* Protective zone buffers are excessive and unjustified - Although the 1500 foot protective zone buffer is confined to lands held by public water utilities, there still is no scientific basis for its use. Rather, the 1500 foot figure is arbitrary and not supported by any of the reports prepared by Rutgers, DEP or the private consultants.

  The NJBA had suggested a minimum buffer of 300 feet with a maximum buffer of 750 feet. If an applicant wishes to obtain a buffer of less than 750 feet, they would have to demonstrate to the DEP that the proposed activity would not have any adverse impact on the water quality of the reservoir and the feeder streams. This test would be met by demonstrating compliance with best management practices as promulgated through regulation by DEP.

* The "findings" section of this bill has been expanded to state that "technological methods for improving and maintaining water quality are imperfect, unreliable and prone to failure". This language denies that there are presently technical solutions to remediate water pollution, which is not true.

* Also, Section 6 has been modified to allow the DEP or Pinelands Commission to apply more restrictive standards (where overlapping regulatory programs exist) in order to protect water quality and "the environment". We object to expanding the scope of the bill to protect "the environment" when the focus of the bill is clearly to protect water quality.

Regarding the proposed Watershed Restoration Act, although the NJBA has never engaged in any active debate on this proposal, we must object to it for the same reasons that we objected to the original Watershed Protection Act sponsored by Senator Contillo. Specifically, this proposal is far too expansive as it could affect private land holdings in nearly 38% of the state. Additionally, we are concerned that the bill may apply to developers that are in some way associated with a water company, and the bill applies to all land transfers after January 1, 1990.

We look forward to working with you on these issues of importance to all citizens of New Jersey.

Very truly yours,

Robert H. Karen
President

RHK/mm/hb
Enclosure

cc: Jeff Climpson, OLS
Dana Burley, Assembly majority
Judy Jengo, Assembly minority
Marianne Rhodes
Michael McGuinness

A3103.611

101 MORGAN LANE, PLAINSBORO, NEW JERSEY 08536 ● (609) 275-8868 ● FAX (609) 275-4411

NEW JERSEY BUILDERS ASSOCIATION

October 22, 1990

FAX MEMO

Pages___ Date_____ Fax #_____

To_____

From_____

Co._____

Ph. #_____ Fax #_____

The Honorable Thomas J. Duch
113 DeWitt Street
Garfield, NJ 07026

RE: A-3103, Watershed Protection Act

Dear Assemblyman Duch:

Our purpose in writing you is to state our concerns regarding A-3103 The Watershed Protection Act. As you may recall, Michael McGuinness, NJBA's Director of Environmental Affairs testified on behalf of the New Jersey Builders Association on October 18th at the meeting of the Assembly Conservation and Natural Resources.

While we share your goal of protecting our surface drinking water supplies from non point source pollution and degradation, we have serious concerns with the extent of land within which buffer areas are to be required (38% of the State according to a Department of Environmental Protection, December 1989, report) and with giving the Department virtually unlimited authority to devise a multi-zone buffer system around waterways in this area.

We recommend that the bill be revised to focus the program on protection of public water supply reservoirs, and not any waterways (i.e. rivulets, streams, trickles, etc.) within the watershed. These 39 reservoirs are listed in the December 1989 DEP report entitled "Evaluation and Recommendations Concerning Buffer Zones Around Public Water Supply Reservoirs" and should be referenced in the bill. Without this change, the DEP could theoretically require buffers around all waterways in the State without any scientific justification simply because the waterway (even if it is an intermittent one) eventually drained into a river along which there is a water supply intake. We also suggest that the legislation state that the width of the buffer areas will generally decrease as one gets farther away from the water supply source, which is consistent with scientific principles.

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"No man has the moral right to withhold his support from an organization that is striving to improve [illegible]"

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We also suggest that the terms "tributaries" and "water supply intakes" be defined and that the legislation specifically list those tributaries and water supply intakes around which buffers are to be placed so as to provide DEP with clear direction.

Regarding the unlimited authority to DEP, we believe that the Department's discretion should be limited. Our concern is based on the fact that nowhere in the legislation are the size of the buffer areas, or the activities that are to be regulated, identified. The Legislature should place limitations on the size of these buffers. We should not readily forget the years of debate that centered around the Freshwater Wetlands Act in which a delicate compromise was reached on buffers. Even with this care, this program has run into numerous problems, not the least of which are several law suits in which the courts have struck down DEP's regulations. Unlike recent environmental legislation, this bill gives too much discretion to DEP.

With the enactment of New Jersey's Freshwater Wetland Protection Act in 1987, all state open waters that are surrounded by wetlands (including reservoirs and their tributaries) automatically have a buffer ranging from fifty to one-hundred and fifty feet.

We also urge you to include a provision to provide for legislative oversight so that the Legislature is aware of the regulations that result from this effort and to this end, we recommend that:

* The DEP be required to hold two legislative hearings as was done with the State Highway Access Management Code in addition to the usual public hearings on the proposed buffer regulations. These hearings should provide for at least 30 days notice after publication in the N.J. Register; and

* A DEP Watershed Advisory Committee be created on which representatives of various interests will be represented, including builders and developers, to assure that balanced rules are adopted.

We believe that the legislative oversight is critical to assure that the regulated community has ample opportunity for input and that the DEP is responsive to public comments.

The NJBA recommends that further changes be incorporated as follows:

* Extend the timeframe within which the DEP is to adopt rules to two years to allow for sufficient public notice, legislative hearings and resolution by the Advisory Committee;

* Add a provision that states the DEP is not to establish a new permit program but is to simply require compliance with certain best management practices that are to be developed;

* Require DEP to identify the amount of land that will be removed from development potential due to the imposition of the multi-buffer zones;

* Require DEP to review its current regulatory programs to determine ways in which they can be revised to accomplish the objectives of this bill, for example, encourage the use of centralized wastewater treatment systems as opposed to individual septics;

* Require DEP to explore the use of voluntary incentive programs to minimize non point source pollution by promoting clustered housing, etc.; and

* Revise Section Two to clarify that there are presently several regulatory programs that presently exist in New Jersey for regulating non point source pollution considered to be a major cause of water quality degradation in the state including, but not limited to standards related to septic systems, underground storage tanks, soil erosion and sediment control, freshwater wetlands and their transition areas and others.

In closing, there is no question that an adequate and safe water supply is essential to the home building industry and the public. We also do not dispute the fact that buffer zones around water supply reservoirs serve a useful function and are a necessary component to a sound watershed management strategy. I have enclosed for your review a list of recommended revisions, along with an excerpt from the December 1989 DEP Public Water Supply Reservoir Report.

We respectfully request that the NJBA be included in working group meetings on this legislation. We look forward to working with you and the members of the Committee on this issue of vital concern.

Very truly yours,

Wayne Karnell

Wayne Karnell
President

cc: Senator Paul Contillo
Chris Daul, Senate Majority staff
Jake Genovay, Assembly Majority staff
Jeff Climpson, OLS staff
Marianne Rhodes, NJBA Director of Government Affairs
Michael McGuinness, Director of Environmental Affairs

LTRDUCH

New Jersey Environmental Lobby

204 West State Street, Trenton, N.J. 08608 (609) 396-3774

Marie A. Curtis, *Legislative Agent*

Testimony before Assembly Natural Resources Committee

June 12, 1991 Re: A.3103

The New Jersey Environmental Lobby, representing close to 1200 organizations and individuals concerned about our state's environment, has some very real worries with both the quantity and the quality of the water supply in this state. As more and more aquifers suffer ground water intrusion and leachate pollution, an ever greater reliance is placed upon our surface water supply. This source of water supply is even more susceptable to contamination in some respects. A.3103 is a very welcome measure from our point of view.

Watershed protection is basic common sense. Water is essential for all living beings and assuring a quality supply is necessary. We know that nonpoint sources of pollution are a major concern in this state and that stormwater run-off carries these pollutants to streams, rivers and reservoirs. We know that highway run-off, agricultural run-off, commercial and industrial center run-off and even residential development run-off all pose contamination problems to a greater or lesser degree. Buffering our streams and reservoirs is a small, but essential, first step in controlling this non-point degradation of our drinking water supply.

Stream buffers are especially important. Buffers along the length of any stream leading into a reservoir are needed if only to protect from soil erosion and sedimentary contamination. Pollution recognizes no geographical or political boundaries. If contaminants reach a stream at any point, they will proceed into the reservoir supply and contaminate the whole.

That protection around a reservoir is necessary should be obvious. In many areas people have instinctively sought to establish parks or some sort of insulation around these bodies. Aware of the danger from non-point sources as we are today, such insulation becomes an element of survival.

Assemblymen Duch and Jacobson are to be commended. The time to start combatting non-point source pollution is now. We urge the committee to act favorably and release A.3103 for a full floor vote as soon as possible.

Hackensack Water Company
200 Old Hook Road
Harrington Park, N.J. 07640
201-767-9300

JUL 1991
RECEIVED

July 1, 1991

The Honorable Thomas J. Duch
Assemblyman
117 Midland Avenue
Garfield, NJ 07026

Dear Assemblyman Duch:

Enclosed is the information I promised to provide to the Assembly Conservation & Natural Resources Committee on the improving quality of Hackensack's raw water supply.

As the report indicates, the positive trends reflected in the Havens and Emerson report are even more positive when viewed from a slightly different light. Water quality has indeed improved from every respect in terms of our raw water. This is why we testify with such confidence that the watershed is clean and getting cleaner.

Also enclosed is a copy of a water newsletter discussing a research project testing the effectiveness of various sizes of buffer strips in removing contaminants from water.

I also thought you might find interesting a recent speech delivered by Bob Gerber, our chairman (whom you met at Congressman Torricelli's lead event). I think he makes some interesting points about the future issues that will face the water industry. It also shows you a lot of Bob's personal insight.

Sincerely,

Martha Green

Martha Green
Vice President—
Public Affairs

MG:ccm

Enclosures

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Hackensack Water Company

Water Quality Changes - Raw Water - 40-Year Trend

Donald L. Hoven, Assistant to the President
Environmental Regulations
June 3, 1991

There have been major spills on the watershed in the past 40 years. In the early 70's there was a major oil spill into Lake Tappan and there have been numerous major sewer pump station failures in the 70's in which large quantities of raw sewage overflowed into the upper reservoirs. Fortunately, oil spills are tightly controlled now with stringent spill control procedures now required before a spill occurs and sewage pump stations are now required to have working backup facilities in case of equipment failures. Minor oil spills used to be contained by company personnel until state mandated spill response teams took over this function. Regulations put in force since the 1980's by the New Jersey Department of Environmental Protection must be credited with providing much of the protection that has improved the raw water quality now received by the new Haworth Water Treatment Plant on the Oradell Reservoir. Waste oil is now recycled, underground storage tanks must be leakproof, soil erosion is controlled by local Soil Conservation Commissions, stream discharges by industry are under control, used chemicals are controlled by RCRA, pesticide usage is controlled by licensing operators, the right-to-know laws locate potentially harmful chemicals, and wastes of all types that used to be dumped on watershed buffers are under very stringent controls. Almost all of the hazards that used to impact stream quality have been minimized or eliminated for the future.

This report is an update on the water quality trends discussed in the original Havens and Emerson 1983 "Report on Watershed Management", which used data from 1951 to 1982. The Havens and Emerson (H&E) report listed 27 parameters that are related to the raw water quality that is received by the water treatment plant located on the terminal reservoir (Oradell). An additional parameter, rainfall, was added to this list of parameters, and all were brought up to date to calendar year 1990, which covers a total of 40 years. The data entered is an annual average of numerous tests taken during each year (see Table 1).

The original H&E Table 4.11 started with 1951 and ended with 1982, with a few pieces of data missing for year 1979. This information was extended to year ending 1990, graphed for trending, and further summarized in 4-year intervals (with graphs). The 4-year interval was chosen because the Havens & Emerson study used the first four-

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year average, or the first available 4 years, compared against the last four-year average as a measure of trends in the watershed water quality, and this comparison apparently gives rise to the present public concern in deteriorating water quality (see Table 4.12, H&E Study) and the perceived need for buffer strips.

In reviewing the total data, one must be cautioned against comparing two time-frames which may or may not reflect similar conditions, such as a dry weather period against a wet weather period. The H&E report chose two time intervals, 1951-54 versus 1979-82. The rainfall average for those two periods was 48.69 and 39.48 inches respectively, a 21% difference compared to the 106 year average rainfall of 43.00 inches. Therefore, a very wet weather period (1951-54) was compared to one of the driest periods on record (1979-82). That last 4-year period in the H&E Study was a drought period, which required water rationing in 1981. Only the middle 1960's had a drier four-year period (See Table 2 or Fig. 1).

Table 1 tabulates all 40 years of data for all 28 parameters. Included is a short term summary comparison of the first four years versus the last four years for all water quality data. Some chemical parameters were not tested in the early years, such as Sodium, Suspended Solids, Potassium, Aluminum, Copper, Detergents, and Phosphates. The actual years such testing started are shown in Table 1. For example, Suspended Solids and Copper testing started in 1976, and Sodium started in 1965.

The H&E Report, Table 4.12, lists all the parameters and whether they are increasing or decreasing. If the study period is updated to 1990, and a comparison is made between the first 20 years versus the last 20 years, then we have very few significant changes. Rainfall, as an example, appears to be increasing when comparing the first 20 years versus the last 20 years, or decreasing if comparing the 1st 4 years versus the last 4 years. Yet the 40-year average is equal to the 106-year average. By using long term time periods, the overall trends are more indicative of what is happening throughout the watershed. Both comparisons are shown in Table 3 for the long term, the short term, and the H&E comparison. If the parameter increased by any given percentage, it does not necessarily follow that the change was detrimental. Each parameter must be evaluated for its own properties, and in relation to the treatment process capabilities.

Rainfall, Total Solids, Hardness, Alkalinity, and Calcium increased, and these are beneficial. Magnesium, Sulfates, Color, Turbidity, Silica, Potassium, Iron, Nitrite, Detergents, Fluoride, and Phosphate decreased and this is beneficial. A total of 16 beneficial moves in the trends over the last 19 years. Aluminum decreased but this may be detrimental because studies have shown that some aluminum compounds can remove phosphates from the water column, thereby controlling algae growth.

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Chlorides, Sodium, Carbon Dioxide, Manganese, Nitrate, and Ammonia increased, but only Sodium, Chloride, and Carbon Dioxide show an upward trend over the last 10 years of record. The increase in Sodium Chloride is most likely a result of the urban area due to the use of salt in the cold weather as a deicer. The Sodium portion is only half the value of that considered safe for a person who is on a restricted salt diet (50 ppm is the health guidance level). Since the large increase in watershed development occurred from 1951 to the present, the use of salt will not increase significantly because of the small amount of land available for development. In addition, salt usage has already been replaced by a more beneficial chemical for deicing purposes in some municipalities.

Temperature, Dissolved Oxygen, and pH did not change (no deterioration of water quality).

The Total Solids is merely an indirect measure of the dissolved salts in the water (Hardness, Chlorides, Sulfates, Sodium, and Calcium, Etc.). In today's health picture, the increase in Hardness is a benefit, especially since almost all the Hardness increase is due to the Calcium Carbonate increase, a beneficial mineral to human health and a benefit to controlling the corrosiveness of the water. The increase in the Alkalinity is a direct result of the increase in the Hardness. More alkaline water certainly indicates no acid rain problem. So changes in Total Solids does not always indicate a positive or negative benefit. Each constituent needs to be evaluated separately.

Phosphate went down, and this is a good trend, but the concentration is still too high to limit algae growth. Algae depends on Nitrogen and Phosphate nutrients to sustain its growth in warm weather. With surface water it would be impossible to limit the Nitrogen whether it be in the form of Nitrogen gas, Nitrite, Nitrates, or Ammonia. So, the only way to control algae is to treat the reservoir with Copper, add a chemical to bind up the Phosphate, or limit the sunlight. Since the Suspended Solids, Color, and Turbidity are improving, the algae is further stimulated by deeper light penetration into the water. To prevent the algae growth, Phosphate concentrations would have to be brought down to less than 0.015 ppm before the algae growth would be limited. Present Phosphate concentrations are in the 0.02-0.04 range. Phosphate is a result of non-point pollution, it is very soluble in water, and the only way to reduce it is to limit its use as a lawn fertilizer in the entire watershed, probably an impossible goal.

Chlorides and Sulfates are not health related at such low levels (present concentrations are in the 55 and 20 ppm range respectively). The Taste threshold for Sodium Chloride is about 300-400 ppm, and the Secondary Maximum Contaminant Level (MCL) for

88X

Chloride and Sulfate is 250 ppm each.

The Carbon Dioxide yearly average is increasing most probably due to the algae activity in the warm weather, and the algae activity is increasing due to the improved clarity of the water - lower Color, Turbidity, Suspended Solids - greater penetration of sunlight into the water column.

Figure Nos. 1a through 9a plot the 4-year averages of the various parameters. Four-year plotting was found to discern a more visible trending of where things are going. Comparing time frame snapshots can be deceiving. For example, Ammonia (Fig. 7) increased greatly in the 70's but dropped down to a very low trend in the 80's. This is probably caused by the construction of sewers of the watershed coincident with all the large sewer pump station failures that occurred during that time frame (1970's).

Figure Nos. 1b through 9b plot individual year averages versus the year of occurrence. Some detail here is helpful in understanding more discreet events that would not be seen in yearly averaging.

Figure No. 1, Rainfall and Turbidity, shows the severity of the 1965 drought versus the milder 1981 drought. Both of these droughts required water rationing. It's important to point out here that the major decreases in Turbidity came after the mid-50's installation of Lake DeForest Dam and, again, after the mid 60's installation of Lake Tappan Dam. The turbidity trend is now at its lowest level in the past 40 years.

Figure Nos. 2 and 3 show the Total Solids and Dissolved Solids relationships versus the parameters directly related to each of them. Figure No. 2 shows large increases in Total Solids with a decrease in the last two-year period. Total Solids are composed of Suspended Solids and Dissolved Solids. Suspended Solids are silt particles that relate directly to Turbidity, an indirect, more accurate method of tracking particulate matter in the water. In fact, Turbidity is the measurement used to track the performance of the water treatment plant filters, because of its good sensitivity and ease of use. The Suspended Solids data did not start until 1976. Therefore, the trend is indicated by the Turbidity records. The increase in Total Solids is attributed totally to the increases in the dissolved solids (common salts). This trend is shown in Figure 2. The dissolved solids are composed of Hardness, Alkalinity, Chlorides, Sulfates, Sodium, Potassium, and Silica. Hardness is a measure of Calcium and Magnesium carbonates, so Figure 3 graphs all the variables affecting the Dissolved Solids. Magnesium is also constant, and Sulfates, which varied slightly throughout the years, ended up with a decreased trend. Therefore, the only water parameters affecting the Dissolved Solids and, thereby, the Total Solids, are the Calcium and Sodium salts. Alkalinity is a measure of the bicarbonate salts of Calcium Magnesium, and Sodium. Calcium increased only

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slightly but Sodium almost doubled in the last 30 years. So the main compound affecting the Total Solids is Sodium Chloride (common table salt) which is known to be used for deicing.

Figure No. 4 shows the decreasing trends for Color and Suspended Solids along with a slightly increasing trend for Carbon Dioxide. As mentioned above, Carbon Dioxide is generated by algae growth. Color, which has a major affect on water treatment, is at its lowest level in 40 years.

Figure No. 5 shows a decreasing trend for Iron and Manganese. Iron is at its lowest level in the past 40 years and Manganese is approaching its 1950's level. Aluminum shows a high variation with no trend discernible. Iron and Manganese have a direct affect on the treatment cost.

Figure No. 6 shows a distinct decrease in Silica, no changes in Dissolved Oxygen, and a slight decrease in pH (an effect of Carbon Dioxide increases) and Potassium. An oxygenated stream is a healthy stream. The Silica and Potassium levels are so low over the entire period that they would not affect the treatment process.

Figure No. 7 shows only a low detectable level for Nitrite, and large peak increases for Nitrate and Ammonia in the 60's and 70's, followed by sharp decreases in the late 80's. The Nitrate may be tracking the high development in the watershed until all sewage discharges were exported out of the watershed in the mid-1970's. Ammonia is at its lowest level for the last 10 years and the peaking in the 1970's might be due to those large sewage spills mentioned above.

Figure No. 8 shows the decreasing trend in Detergents, most likely a result of exporting all sewage out of the watershed in the early 70's and the conversion of laundry detergents to biodegradable types. The Detergent levels have been so low in the past 10 years that the analysis was discontinued in 1990. The Copper history is too short to trend.

Figure No. 9a shows sharply decreasing Fluoride and Phosphate levels.The Fluoride levels are too low to be of any consequence, and the decrease in Phosphate is a definite improvement in water quality, though still high enough to support algae growth.

The overall assessment of the water quality in the watershed is that the quality has been, and continues to improve as time goes on.

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TABLE 1

HACKENSACK WATER COMPANY - NEW MILFORD PLANT - YEARLY AVERAGES OF RAW WATER ANALYSES (HAWORTH PLANT AFTER 1/1/90)

Year	Residual Ammonia Nitrogen	Temperature F	Total Solids	Hardness	Alkalinity	Calcium	Magnesium	Sulfates	Chlorides	Sodium	Color	Turbidity	Suspended Solids	Carbon Dioxide
51	52.92	57	173	70	56	27.6	5.2	35	24		44	21.0		4
52	48.48	57	135	66	54	25.2	5.0	24	15		42	36.0		3
53	48.44	56	146	61	55	22.7	5.2	28	11		37	18.0		2
54	43.92	55	136	76	54	28.1	5.3	30	11		42	15.0		2
55	45.24	56	139	74	55	30.0	4.5	25	12		46	15.0		3
56	40.44	54	148	61	65	24.8	5.7	35	13		39	11.0		2
57	40.68	55	149	84	65	36.8	5.7	37	13		47	21.0		2
58	44.52	54	145	74	58	24.2	5.5	35	15		44	17.0		2
59	40.70	56	154	85	65	36.9	5.8	27	18		44	14.0		2
60	43.92	54	154	84	63	36.5	6.1	23	17		44	14.0		2
61	38.88	54	174	89	70	36.7	6.2	33	19		42	9.0		3
62	41.88	54	183	90	66	38.1	6.3	29	21		41	12.0		3
63	33.00	54	176	96	74	36.6	7.1	29	36		37	11.0		3
64	29.88	54	190	104	78	33.7	7.3	32	37		42	11.0		2
65	36.04	55	197	114	82	34.8	8.0	34	34	16	52	13.0		2
66	35.88	55	208	110	80	31.5	8.0	33	31	16	50	8.1		3
67	43.20	54	213	111	80	33.7	6.8	32	35	19	42	3.7		2
68	38.12	56	221	122	82	35.7	7.5	39	38	20	43	3.2		1
69	36.76	56	221	117	82	34.7	6.1	28	29	23	42	4.2		1
70	29.52	55	227	113	80	33.5	7.4	29	40	23	40	5.7		3
71	38.60	55	249	112	81	34.2	6.7	31	42	26	49	5.7		3
72	65.52	54	235	108	80	33.1	6.2	30	35	19	53	7.1		3
73	53.64	56	199	105	81	33.2	5.3	28	31	17	46	6.9		3
74	41.68	56	208	102	78	30.8	5.9	26	35	20	40	3.4		3
75	57.12	55	236	101	82	32.6	5.7	25	33	18	41	2.9		3
76	41.16	55	187	102	78	32.1	5.1	28	37	24	31	3.2	5	4
77	56.52	56	237	103	77	32.5	5.3	27	36	25	34	4.8	8	5
78	45.24	54	228	108	78	33.2	6.2	28	44	22	30	4.5	7	5
79	49.56	55	219	101	77	36.0	4.3	25	35	17	36	5.4	8	4
80	34.44	55	215	114	85	34.8	5.3	27	31	19	39	4.9	13	3
81	37.44	56	217	132	92	43.8	5.5	33	37	22	40	4.7	10	4
82	36.48	54	226	119	82	39.7	5.6	25	50	25	35	3.9	12	2
83	37.84	57	211	108	79	34.8	4.6	27	37	22	39	4.0	6	3
84	50.40	57	197	100	74	32.4	4.7	25	40	27	37	4.1	6	5
85	36.00	53	194	110	85	34.3	5.9	24	49	28	33	3.5	8	8
86	38.16	54	221	115	87	35.6	7.6	18	51	30	33	3.0	6	10
87	46.32	56	246	115	80	35.1	6.8	20	55	25	28	2.4	6	11
88	42.36	58	177	116	81	34.3	7.2	18	60	32	27	2.6	4	6
89	48.99	57	170	117	85	34.0	7.0	22	49	26	30	2.9	4	8
90	48.81	60	200	107	79	33.7	5.5	19	54	29	27	2.6	6	3
COUNT	40	40	40	40	40	40	40	40	40	26	40	40	15	40
Maximum	65.52	60	249	132	92	43.8	8.0	34	60	32	53	36.0	13	11
Minimum	36.04	53	135	66	54	24.2	4.3	18	11	16	27	2.4	4	1
Average	43.56	55	195	101	75	32.9	6.0	27	33	23	40	8.4	7	4
Short term comparison														
1st 4yrs	48.69	56	148	73	55	28.7	5.2	27	15	17	41	4.8	N.A.	3
Last 4yrs	39.48	55	229	117	84	34.6	5.2	28	38	21	38	4.7	11	3
% change	-19	-2	49	59	53	21	0	3	149	23	-9	-2	N.A.	0

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TABLE 1 (continued)

HACKENSACK WATER COMPANY - NEW MILFORD PLANT - YEARLY AVERAGES OF RAW WATER ANALYSES (HAWORTH PLANT AFTER 1/1/90)

Year	Dissolved Oxygen	pH	Silica	Potassium	Iron	Manganese	Aluminum	Nitrate	Ammonia	Nitrite	Copper	Detergents	Fluoride	Phosphate
51	8.9	7.3	6.9		0.32	0.12		0.18	0.59	0.024			0.10	
52	9.2	7.4	7.5		0.32	0.08		0.17	0.32	0.013			0.12	
53	9.1	7.5	8.1		0.30	0.07		0.16	0.19	0.015			0.12	
54	9.8	7.5	8.3		0.30	0.11		0.17	0.02	0.013			0.21	
55	9.7	7.4	8.3		0.39	0.07		0.21	0.15	0.015			0.17	
56	9.8	7.5	8.6		0.30	0.09		0.27	0.17	0.025			0.15	
57	9.5	7.6	11.3		0.41	0.09		0.25	0.19	0.018			0.20	
58	9.6	7.5	8.4		0.28	0.10		0.23	0.12	0.021			0.23	0.09
59	9.6	7.6	7.3		0.27	0.22		0.25	0.18	0.018			0.16	0.15
60	10.1	7.6	7.9		0.30	0.10	0.12	0.36	0.16	0.017		0.10	0.16	0.19
61	9.6	7.6	7.3		0.30	0.10	0.11	0.63	0.19	0.023		0.10	0.12	0.09
62	9.7	7.7	7.6		0.30	0.20	0.17	0.58	0.27	0.025		0.10	0.14	0.04
63	9.7	7.7	7.6		0.50	0.25	0.16	0.58	0.30	0.022		0.12	0.11	0.12
64	9.2	7.8	6.9		0.50	0.30	0.30	0.64	0.12	0.020		0.15	0.11	0.18
65	9.6	7.9	7.6	3.2	0.50	0.25	0.16	0.69	0.17	0.024		0.16	0.14	0.12
66	10.2	7.9	8.5	2.8	0.55	0.25	0.11	0.79	0.11	0.021		0.13	0.12	0.25
67	10.5	8.0	7.6	2.7	0.29	0.22	0.06	0.91	0.27	0.033		0.14	0.04	0.35
68	10.7	8.1	8.2	2.7	0.29	0.15	0.05	1.51	0.40	0.041		0.11	0.06	0.24
69	11.2	8.1	10.5	2.5	0.20	0.17	0.03	1.33	0.15	0.032		0.15	0.08	0.16
70	10.4	7.9	8.3	2.6	0.50	0.19	0.02	1.72	0.18	0.034		0.07	0.10	0.12
71	10.3	7.8	10.5	2.6	0.32	0.19	0.02	1.30	0.23	0.035		0.05	0.07	0.16
72	10.4	7.8	9.9	2.9	0.46	0.24	0.02	1.15	0.14	0.023		0.03	0.05	0.15
73	10.5	7.9	8.1	1.7	0.49	0.24	0.02	1.04	0.15	0.022		0.03	0.11	0.19
74	10.8	7.9	9.0	2.3	0.37	0.19	0.02	0.97	0.15	0.020		0.05	0.12	0.08
75	10.2	7.8	8.6	1.9	0.45	0.15	0.03	0.87	0.20	0.025		0.02	0.09	0.17
76	10.1	7.7	4.8	2.0	0.38	0.16	0.04	0.89	0.04	0.023	0.12	0.03	0.08	0.17
77	9.9	7.6	4.2	1.8	0.50	0.19	0.06	0.84	0.69	0.023	0.12	0.01	0.07	0.04
78	8.9	7.6	5.4	1.7	0.26	0.17	0.05	0.94	0.42	0.023	0.08	0.02	0.08	0.04
79	9.4	7.7	6.3	1.4	0.32	0.16	0.11	0.71	0.09	0.021	0.09	0.02	0.10	0.01
80	9.6	7.8	4.0	1.9	0.28	0.15	0.11	0.70	0.53	0.020	0.10	0.03	0.06	0.05
81	9.7	7.8	2.4	2.5	0.30	0.16	0.22	0.72	0.52	0.020	0.07	0.02	0.08	0.08
82	9.4	7.9	6.8	2.2	0.24	0.18	0.13	0.62	0.76	0.020	0.09	0.02	0.07	0.05
83	9.4	7.9	5.6	2.0	0.31	0.19	0.19	0.62	0.16	0.022	0.12	0.02	0.08	0.03
84	9.7	7.6	5.7	1.9	0.27	0.15	0.18	0.56	0.11	0.030	0.09	0.02	0.09	0.02
85	9.6	7.6	5.8	3.9	0.21	0.13	0.04	0.63	0.08	0.020	0.11	0.01	0.09	0.02
86	9.7	7.3	4.8	2.4	0.19	0.11	0.05	0.48	0.09	0.019	0.10	0.02	0.07	0.03
87	9.3	7.2	4.3	2.1	0.35	0.10	0.10	0.57	0.19	0.029	0.10	0.03	0.10	0.02
88	9.3	7.3	2.8	2.1	0.15	0.13	0.15	0.53	0.07	0.020	0.06	0.03	0.01	0.02
89	9.8	7.3	5.0	2.0	0.19	0.15	0.12	0.66	0.11	0.020	0.05	0.02	0.01	0.04
90	8.5	7.7	3.3	2.1	0.15	0.13	0.11	0.57	0.070	0.018	0.07	N.A.	0.01	0.03
COUNT	40	40	40	36	40	40	31	40	40	40.000	15	31	40	33
Maximum	11.2	8.1	11.3	3.9	0.50	0.28	0.30	1.51	0.76	0.041	0.12	0.16	0.23	0.24
Minimum	8.5	7.2	2.4	1.4	0.15	0.07	0.02	0.16	0.02	0.010	0.05	0.00	0.01	0.01
Average	9.8	7.7	7.0	2.3	0.30	0.16	0.10	0.66	0.22	0.022	0.09	0.06	0.10	0.10
Short term comparison														
1st 4yrs	9.3	7.4	7.7	2.9	0.31	0.10	0.14	0.17	0.28	0.016	N.A.	0.13	0.14	0.13
Last 4yrs	9.5	7.8	4.9	2.0	0.29	0.16	0.14	0.69	0.48	0.020	0.09	0.02	0.08	0.05
% change	2	5	-36	-31	-6	60	0	306	71	25	N.A.	-85	-43	-63

TABLE 2

HACKENSACK WATER COMPANY - NEW MILFORD PLANT - 4 YEAR AVERAGES OF RAW WATER ANALYSES (HAWORTH PLANT AFTER 1/1/90)

Year	Residual Ammonia Index	Temperature F	Total Solids	Hardness	Alkalinity	Calcium	Magnesium	Sulfates	Chlorides	Sodium	Color	Turbidity	Suspended Solids	Carbon Dioxide
51-54	48.69	56	148	73	55	28.7	5.2	27	15**		41	20.0		2.8
55-58	42.72	55	145	79	61	26.5	5.4	25	13		44	16.0		2.3
59-62	41.22	55	166	87	67	27.1	6.1	28	19		43	12.3		2.5
63-66	31.20	55	195	106	79	32.7	7.6	32	30	16	45	10.8		2.5
67-70	37.65	55	226	113	81	34.9	6.5	30	38	21	42	4.2		1.8
71-74	52.41	55	223	107	80	32.5	6.0	29	36	21	47	5.8		3.0
75-78	58.01	55	222	104	79	32.6	5.6	27	38	22	34	2.5	7	4.4
79-82	39.48	55	229	117	84	34.6	5.2	28	36	21	36	4.7	14	3.1
83-86	45.60	55	206	108	81	34.3	5.7	24	44	27	36	3.7	7	6.5
87-90	46.62	58	198	114	81	34.3	6.6	29	55	28	28	2.6	5	7.0
Average	43.56	55	195	101	75	32.0	6.0	27	33	22	40	8.4	5	3.6

HACKENSACK WATER COMPANY - NEW MILFORD PLANT - 4 YEAR AVERAGES OF RAW WATER ANALYSES (HAWORTH PLANT AFTER 1/1/90)

Year	Dissolved Oxygen	pH	Silica	Potassium	Iron	Manganese	Aluminum	Nitrate	Ammonia	Nitrite	Copper	Detergents	Fluoride	Phosphate
51-54	9.3	7.4	7.7		0.31	0.10		0.17	0.28	0.02			0.14	
55-58	9.7	7.5	9.2		0.25	0.09		0.24	0.16	0.02			0.20	0.09
59-62	9.8	7.6	7.5		0.29	0.16	0.13	0.46	0.20	0.02		0.10	0.15	0.12
63-66	9.7	7.8	7.7	1.8	0.36	0.23	0.18	0.68	0.15	0.02		0.14	0.12	0.16
67-70	10.7	8.0	8.7	2.6	0.27	0.18	0.04	1.24	0.25	0.04		0.12	0.07	0.18
71-74	10.5	7.9	9.4	2.1	0.41	0.22	0.02	1.14	0.17	0.03		0.04	0.09	0.12
75-78	9.8	7.7	5.8	1.9	0.35	0.17	0.05	0.89	0.34	0.02	0.08	0.02	0.08	0.11
79-82	9.5	7.8	4.9	2.0	0.29	0.16	0.14	0.69	0.48	0.02	0.09	0.02	0.08	0.05
83-86	9.6	7.6	5.5	2.6	0.25	0.15	0.12	0.57	0.11	0.02	0.11	0.02	0.08	0.08
87-90	9.2	7.4	3.9	2.1	0.16	0.13	0.12	0.58	0.09	0.02	0.07	0.02	0.03	0.03
Average	9.8	7.7	7.0	1.6	0.30	0.16	0.08	0.66	0.22	0.02	0.03	0.05	0.10	0.09

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TABLE 3

H&E CHANGES VERSUS LONG TERM AVERAGE CHANGES

	SHORT TERM CHANGE		H&E CHANGES		LONG-TERM CHANGES		S-T	H&E	L-T
	1st 4yrs	Last 4yrs	1st 4yrs	Last 4yrs	1st 20yrs	Last 20yrs	% Change	% Change	% Change
Rainfall	48.69	39.48	48.69	39.48	40.30	46.82	N.A.	N.A.	16
Temperature	56	55	56	57	55	56	-2	N.S.	1
Total Solids	148	219	148	222	175	214	49	50	22
Hardness	73	117	73	109	92	110	59	49	20
Alkalinity	55	84	54	80	68	81	53	48	19
Calcium	28.7	36.6	28.7	38.4	30.0	34.1	28	34	14
Magnesium	5.2	5.2	5.2	5.7	6.1	5.8	0	10	-5
Sulfates	26.8	27.7	26.8	29.0	28.3	25.3	3	8	-11
Chlorides	15	38	15	37	23	42	149	142	84
Sodium	17.5	21.4	17.5	22.7	19.4	23.8	23	30	23
Color	41	30	41	36	43	36	-9	-12	-15
Turbidity	4.8	4.7	4.8	4.9	12.6	4.1	-2	N.S.	-67
Suspended Solids	N.A.	11	N.A.	N.A.	N.A.	7	N.A.	N.A.	N.A.
Carbon Dioxide	3	3	3	3	2	5	11	0	104
Dissolved Oxygen	9.3	9.5	9.3	9.3	9.8	9.7	3	0	-1
pH	7.4	7.8	7.4	7.8	7.7	7.7	5	N.S.	0
Silica	7.7	4.9	7.7	4.7	8.1	5.9	-37	-39	-28
Potassium	2.87	1.99	2.87	2.06	2.75	2.12	-31	-28	-23
Iron	0.31	0.29	0.31	0.29	0.32	0.29	-8	N.S.	-8
Manganese	0.10	0.16	0.10	0.16	0.15	0.16	71	60	9
Aluminum	0.14	0.14	0.14	0.11	0.12	0.09	0	-21	-25
Nitrate	0.17	0.69	0.17	0.73	0.56	0.77	304	329	39
Ammonia	0.28	0.48	0.28	0.34	0.21	0.24	71	21	14
Nitrite	0.016	0.020	0.016	0.021	0.023	0.021	25	30	-6
Copper	N.A.	0.09	N.A.	N.A.	N.A.	0.09	N.A.	N.A.	N.A.
Detergents	0.13	0.02	0.10	0.02	0.12	0.02	-83	-80	-80
Fluoride	0.14	0.08	0.14	0.07	0.13	0.07	-44	-50	-46
Phosphate	0.13	0.05	0.13	0.06	0.15	0.07	-63	-54	-56

H&E values taken from Table 4.12, page IV-22, H&E report.

N.S. - Not a significant change.

Note: Short term values are true values for the H&E changes, corrected for original typos.

FIG. 1a
4-Year Variations

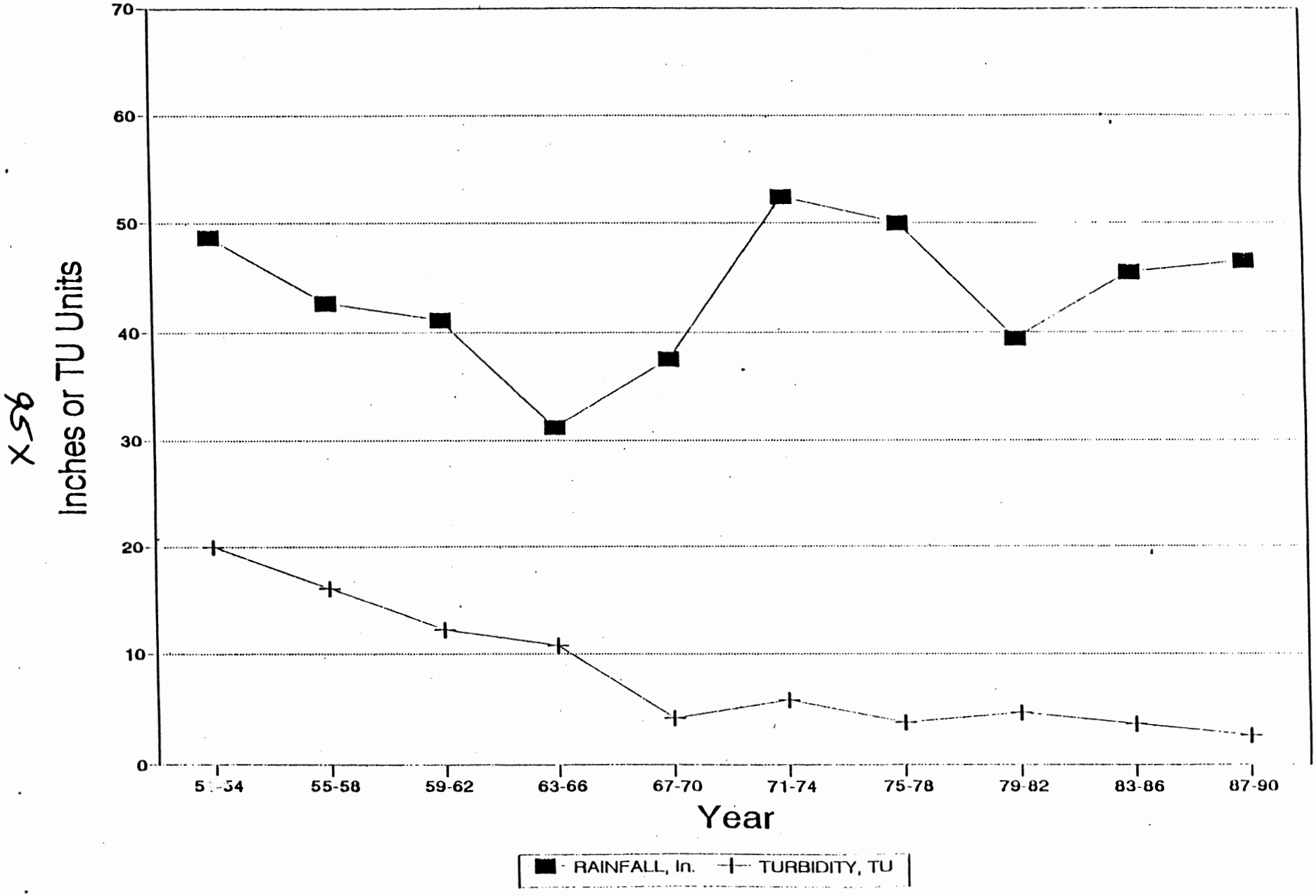


FIG. 1b
Yearly Variations

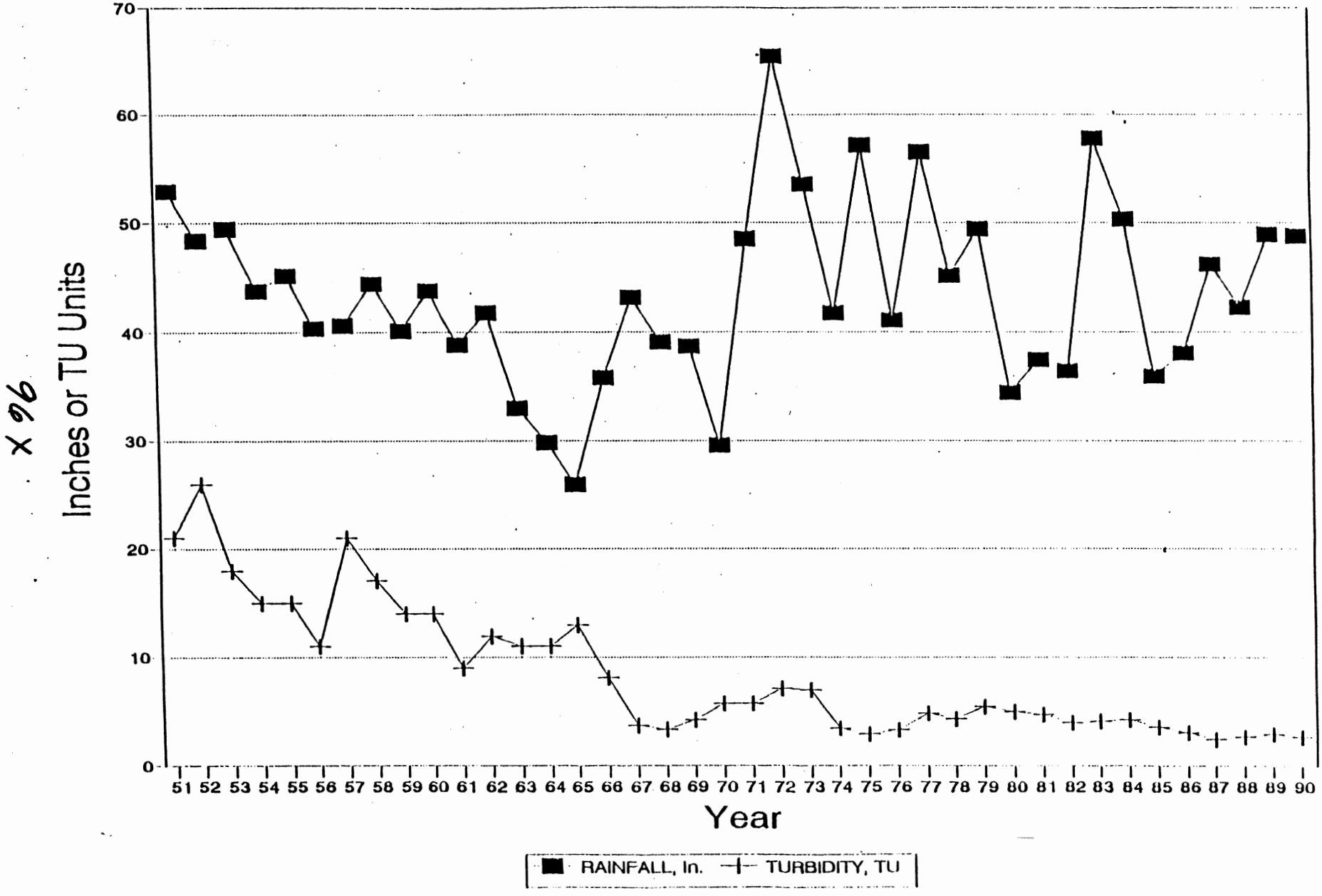
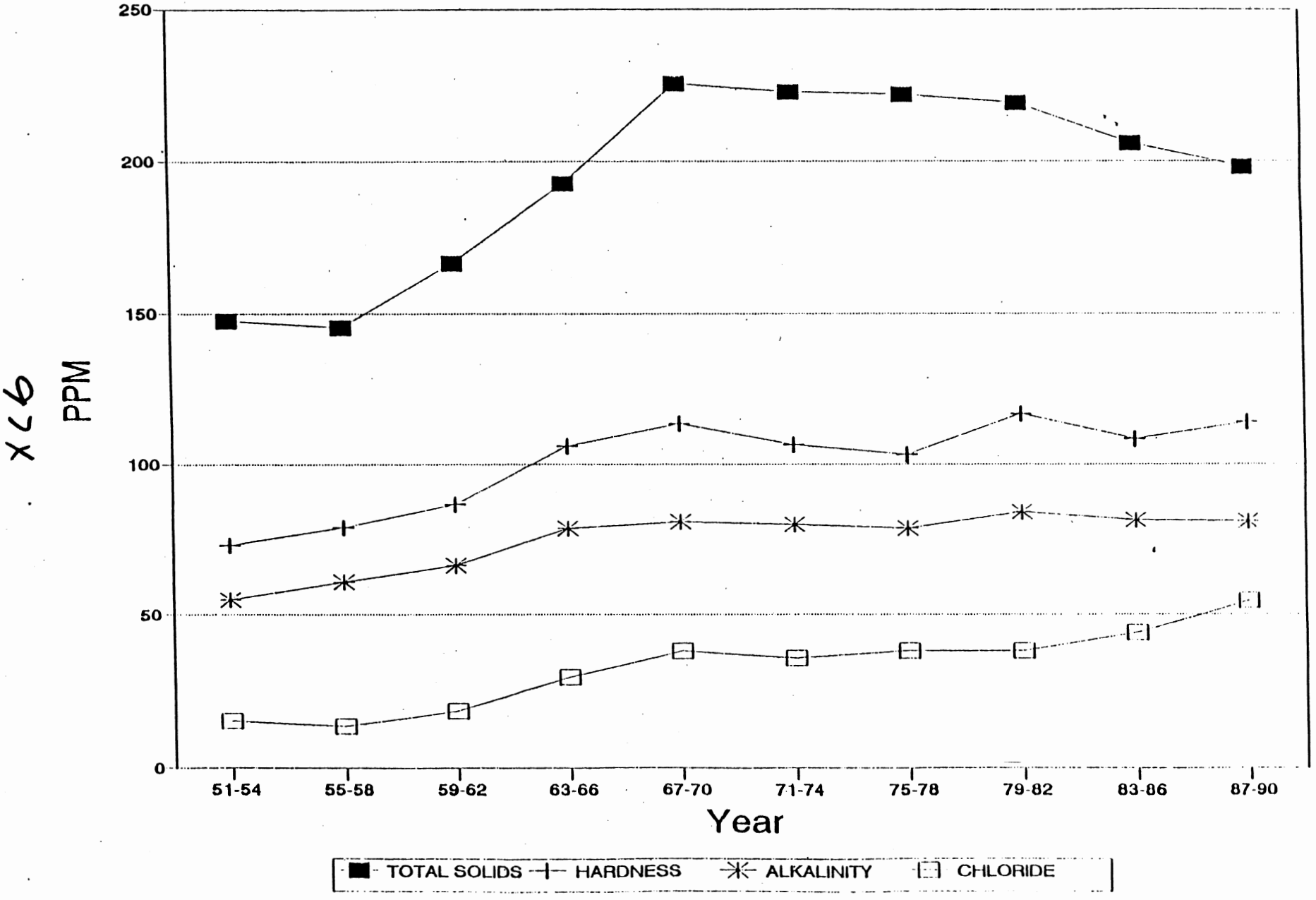
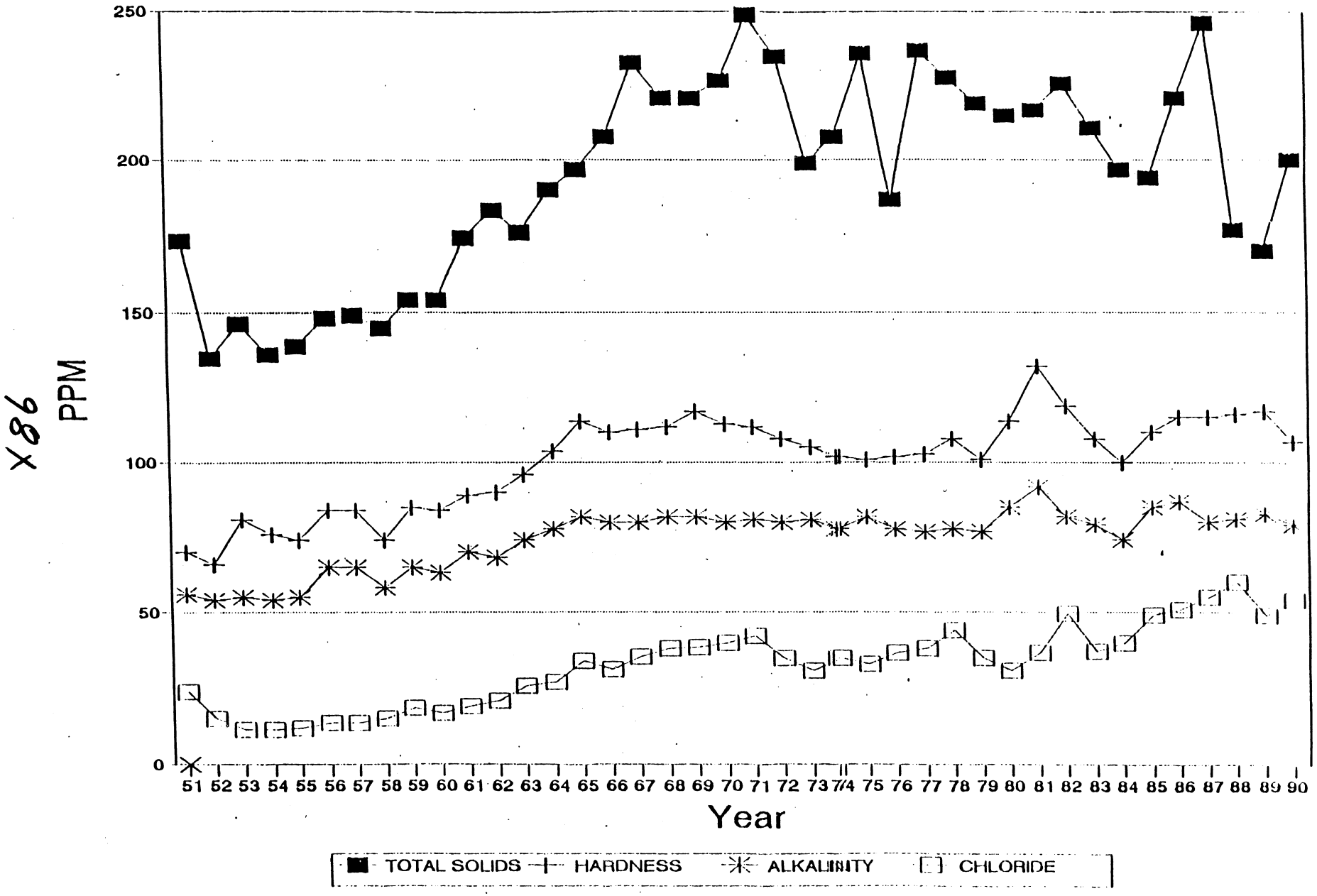


FIG. 2a
4-Year Variations



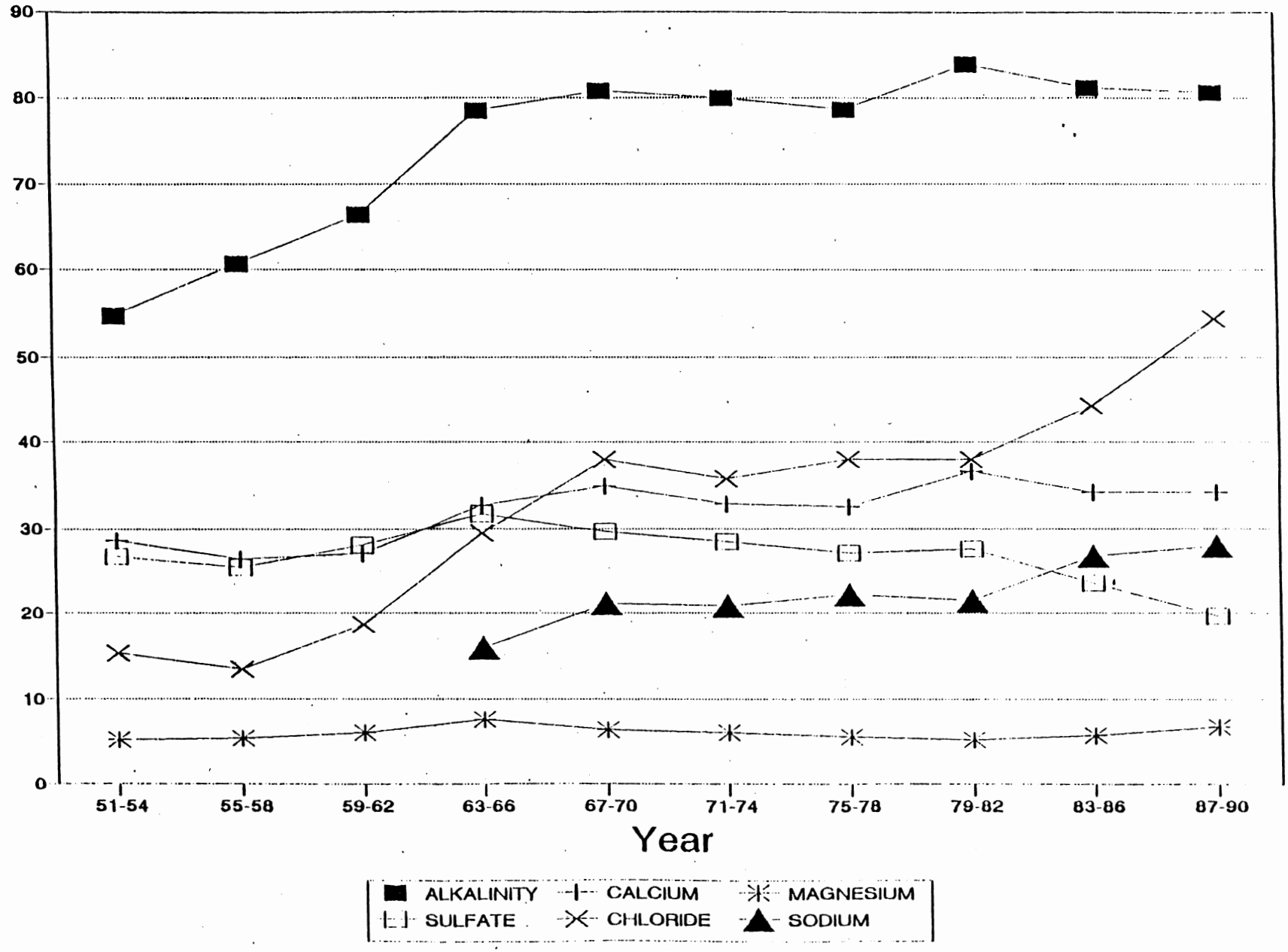
X26

FIG. 2b
Yearly Variations



X86

FIG. 3a
4-Year Variations



X66

FIG. 3b
Yearly Variations

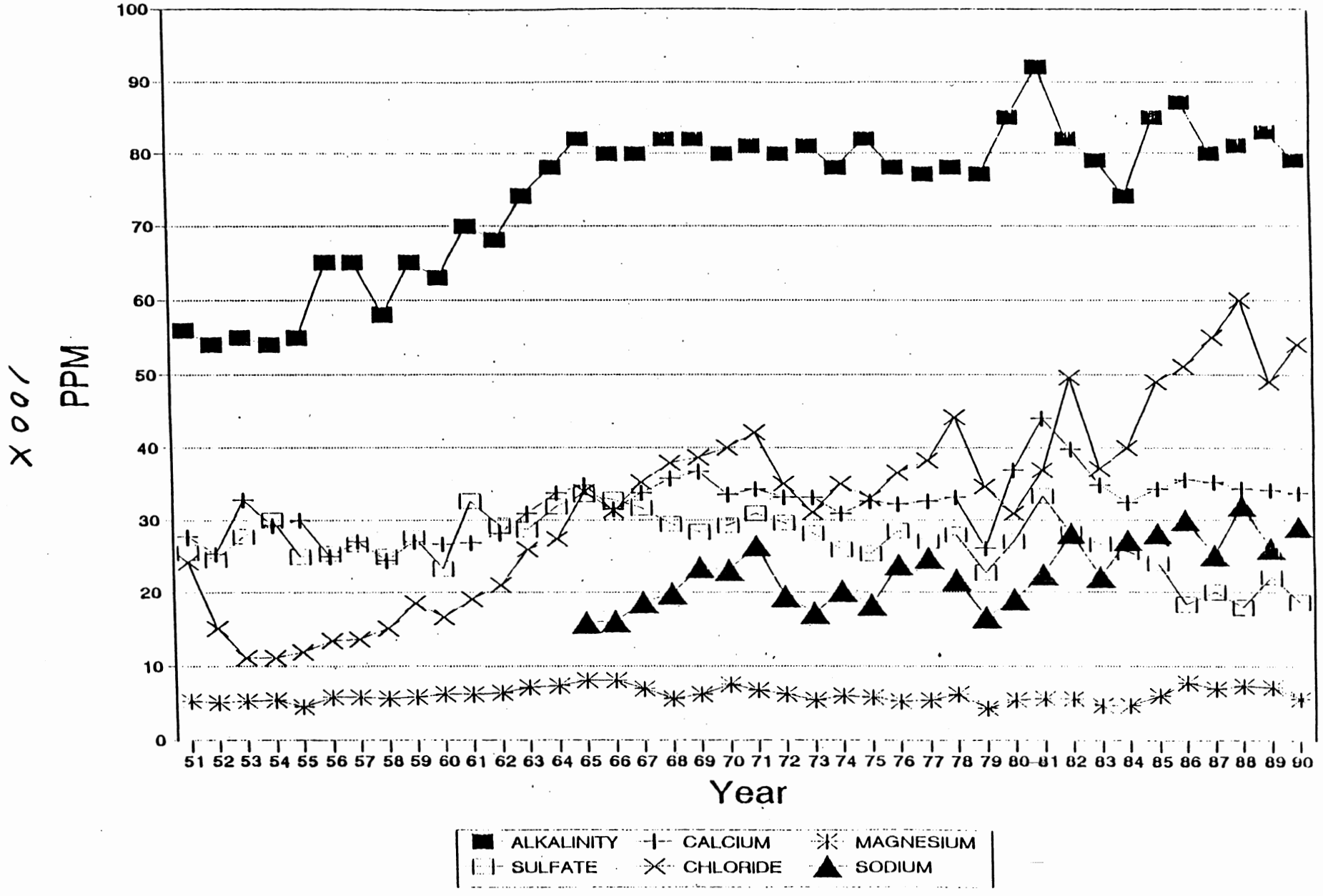
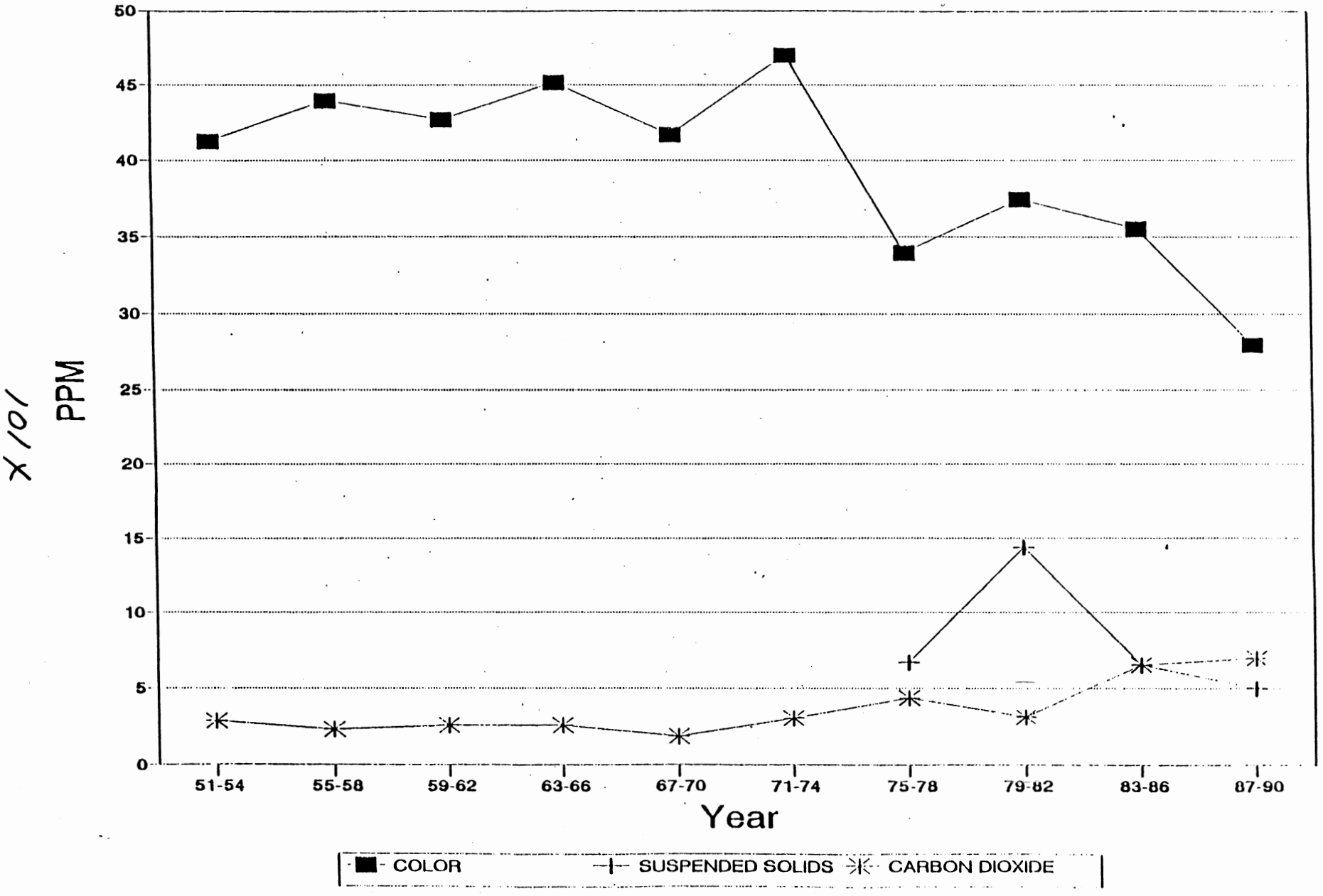
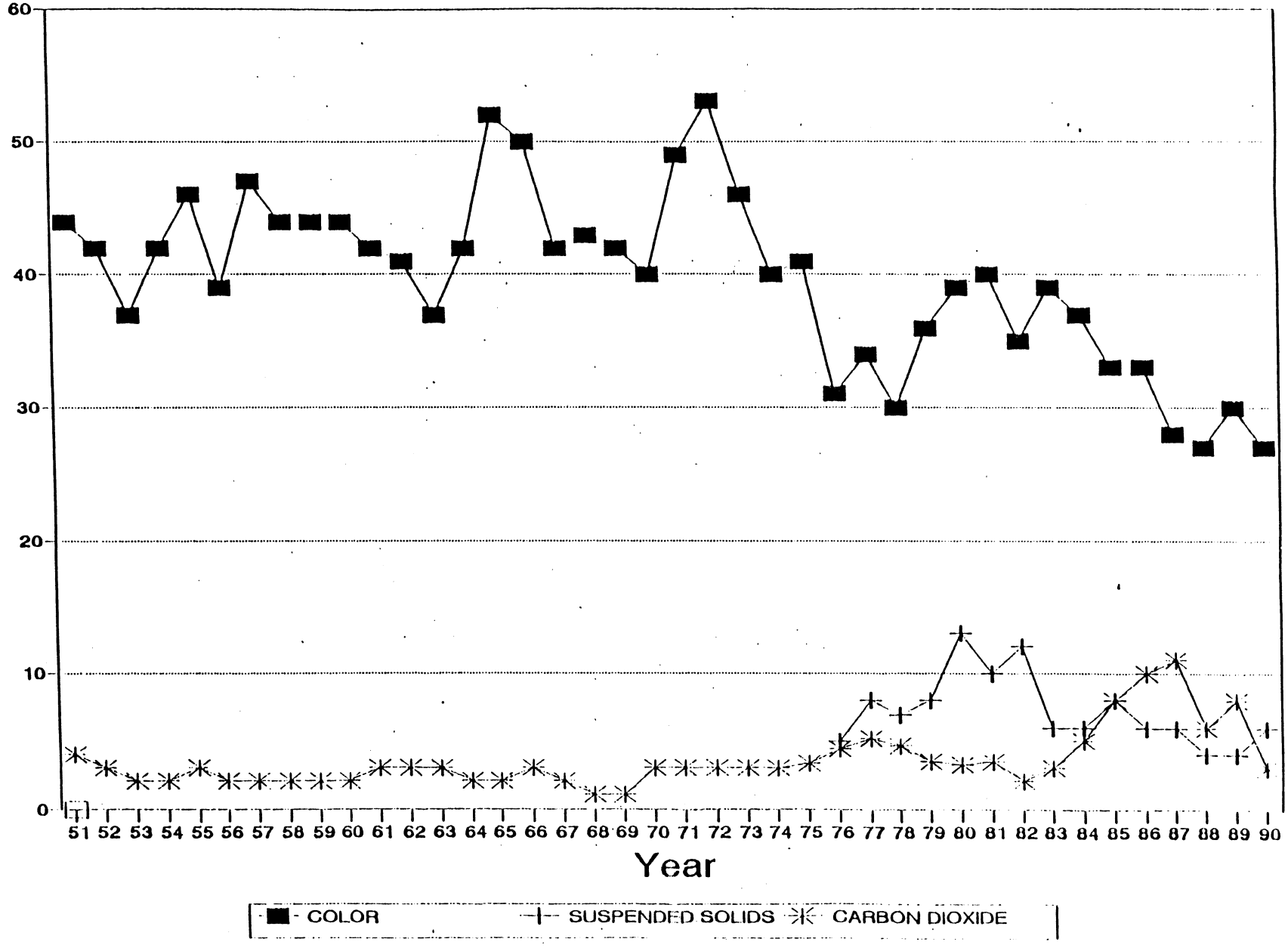


FIG. 4a
4-Year Variations



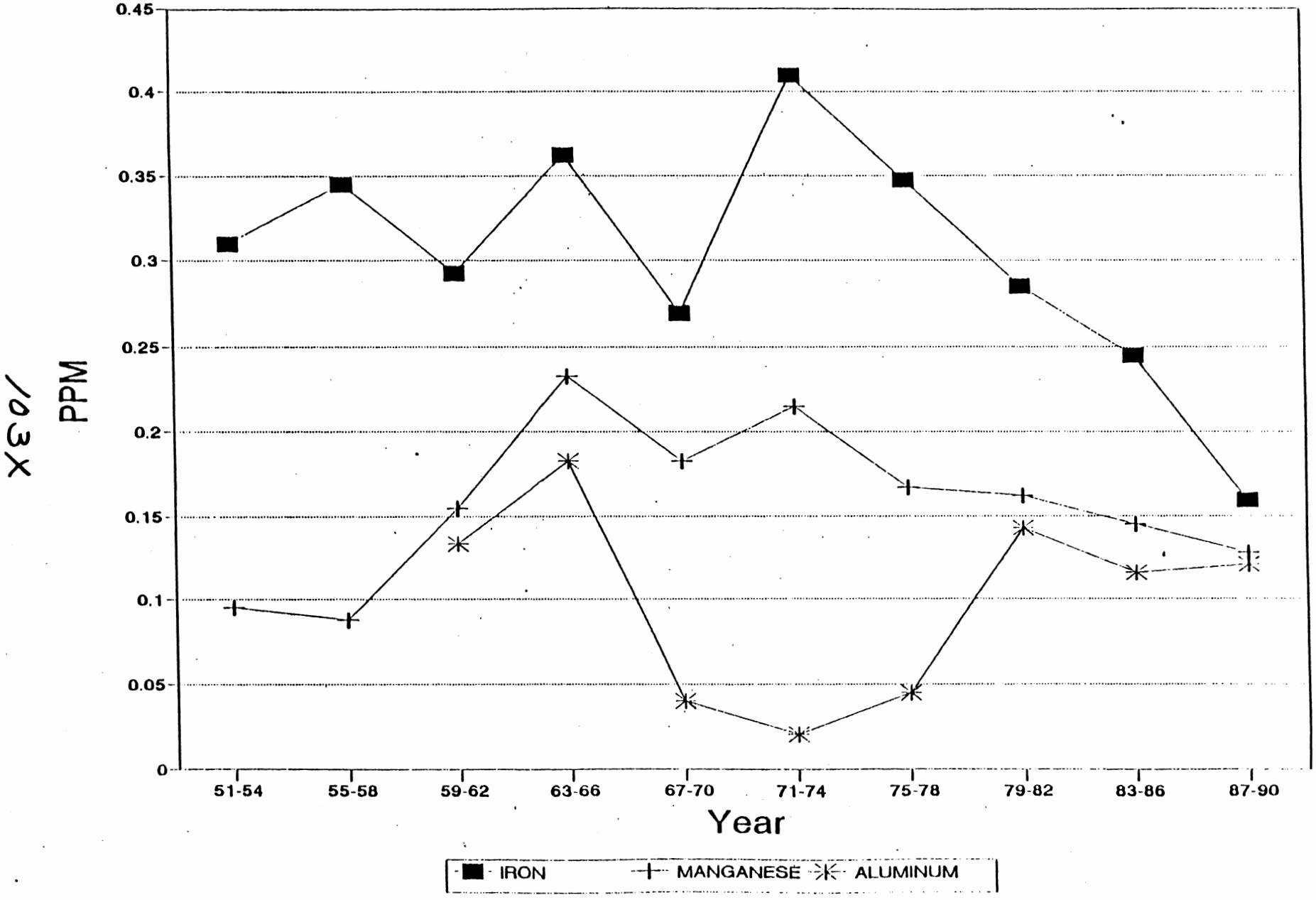
X 101

FIG. 4b
Yearly Variations



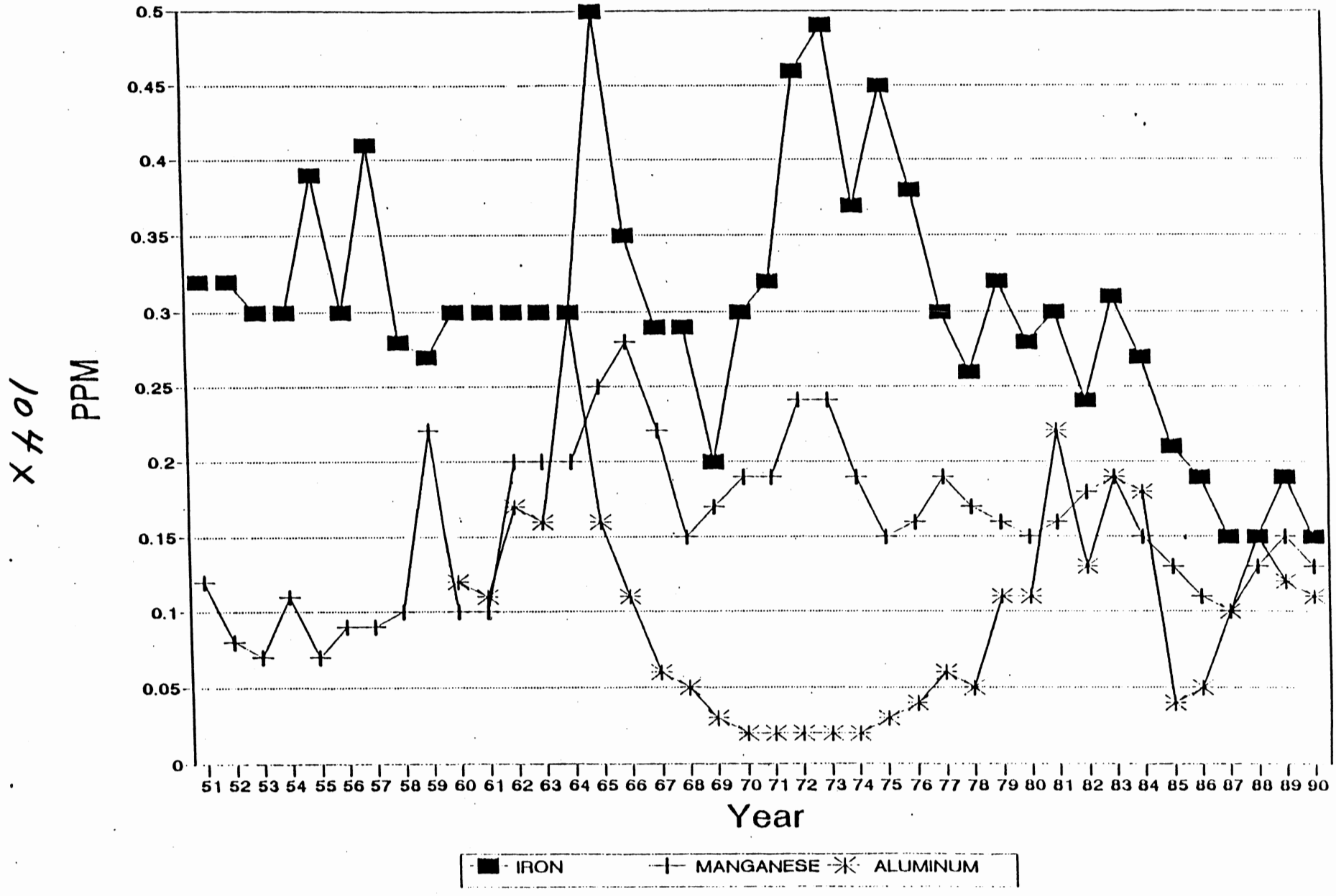
X201

FIG. 5a
4-Year Variations



X30/

FIG. 5b
Yearly Variations



X401

FIG. 6a
4-Year Variations

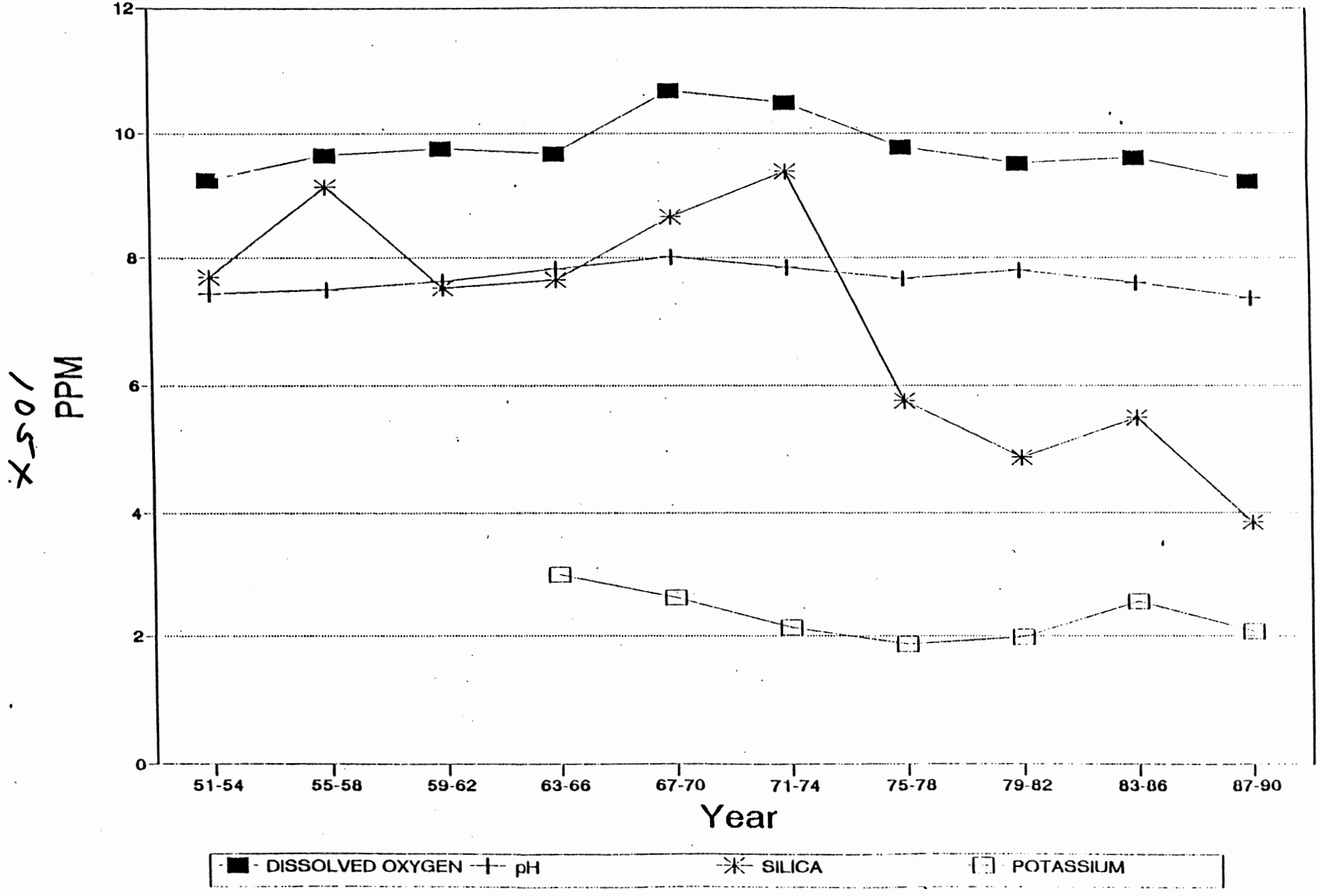


FIG. 6b
Yearly Variations

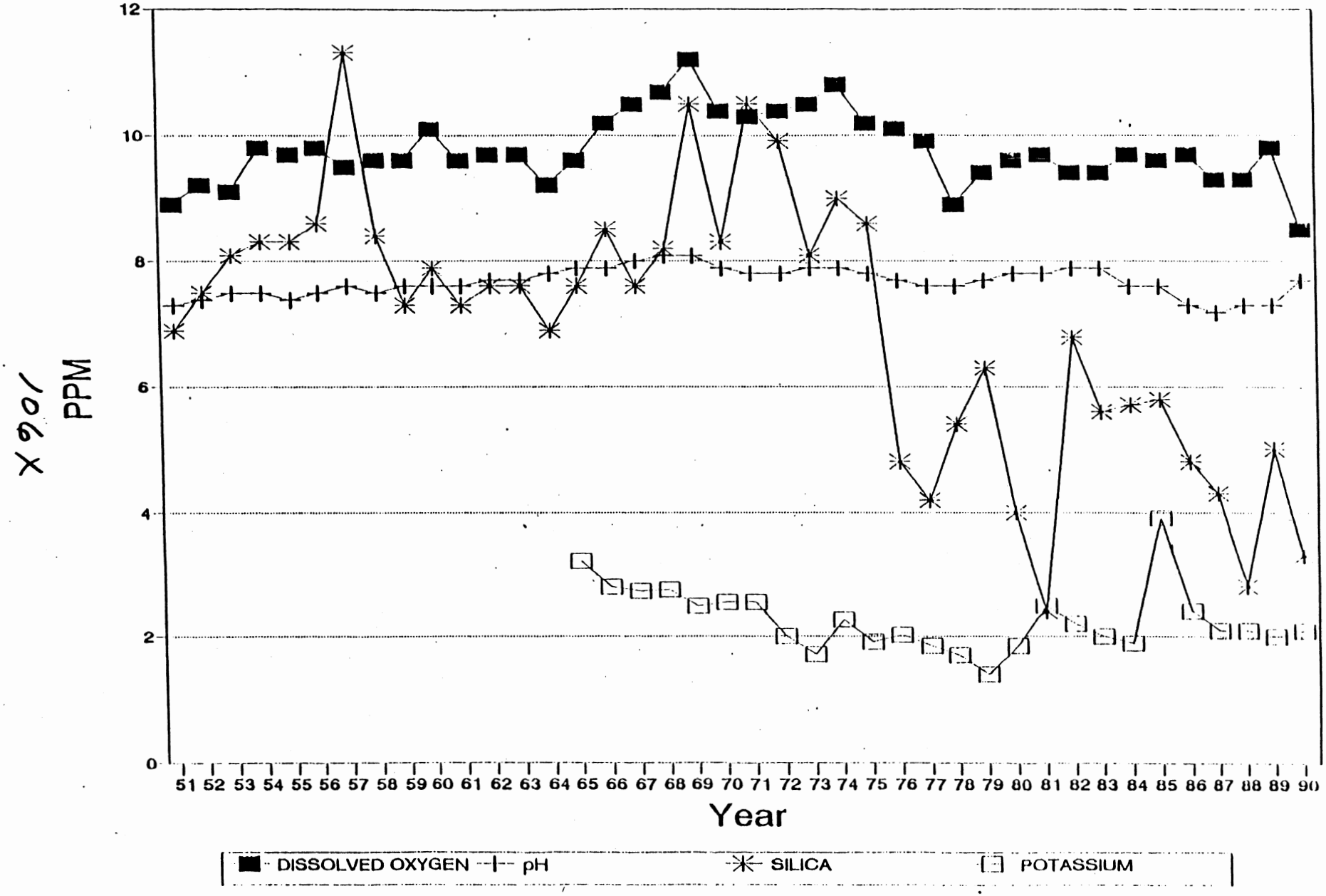
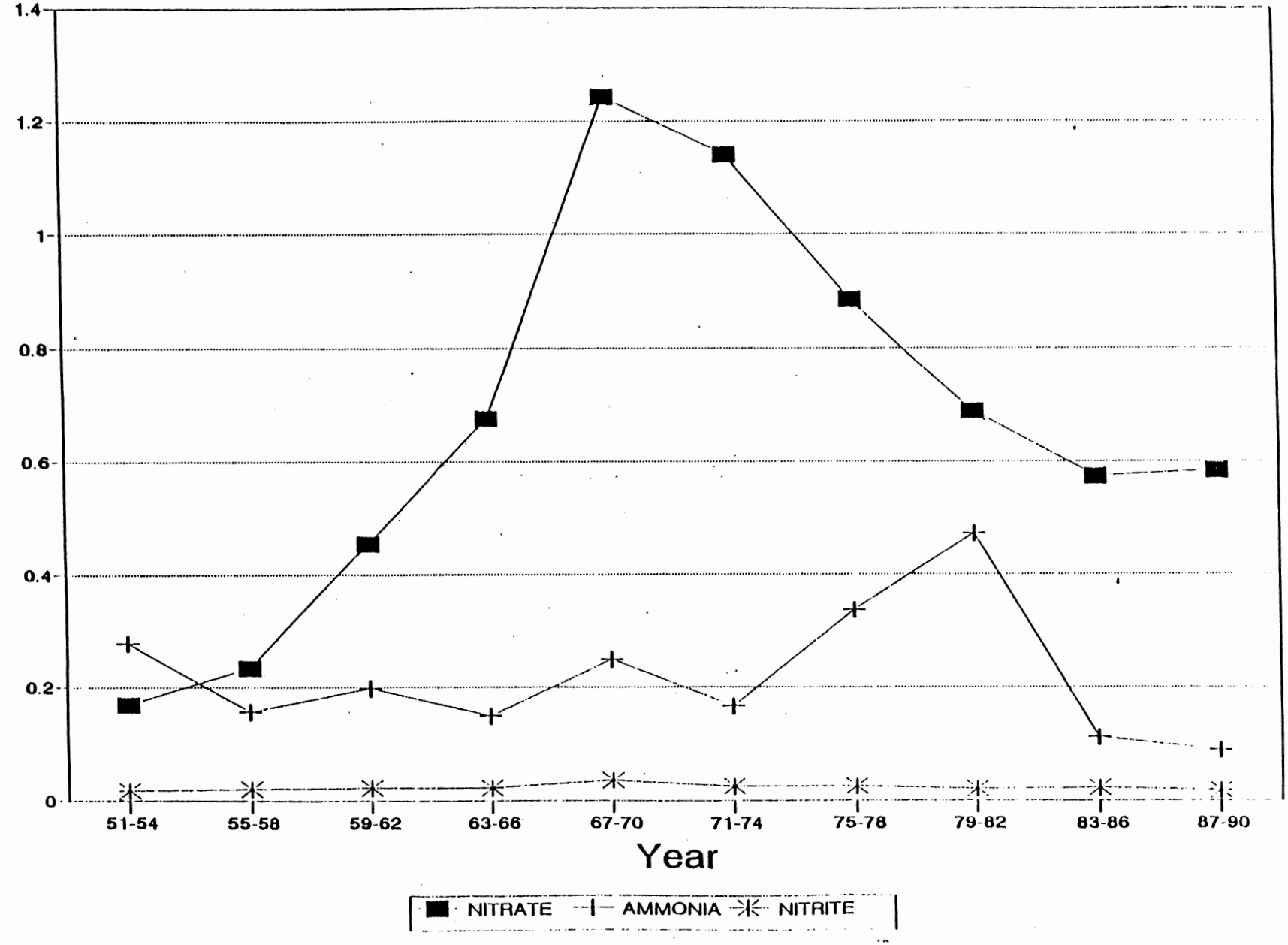


FIG. 7a
4-Year Variations



X401

FIG. 7b
Yearly Variations

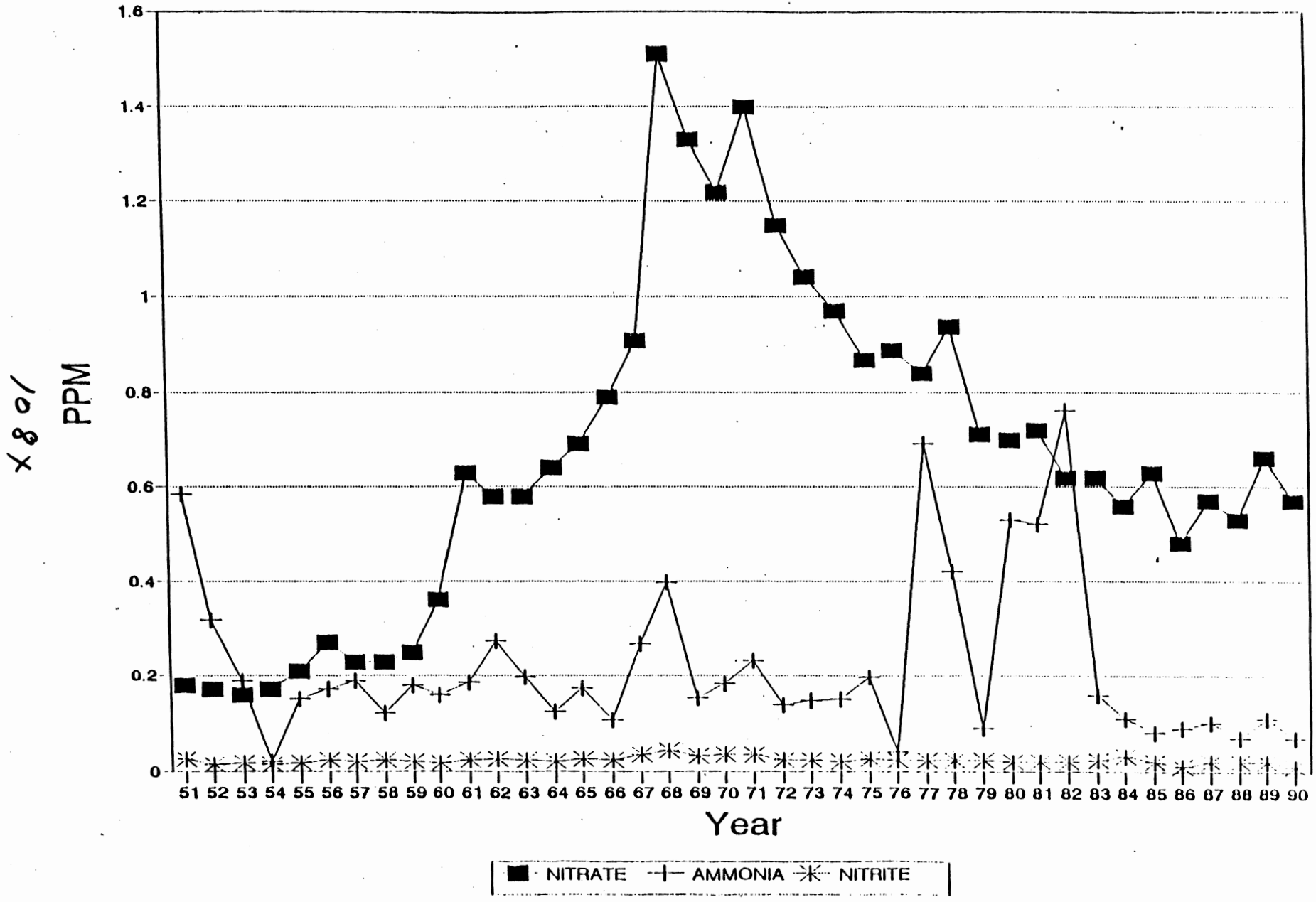
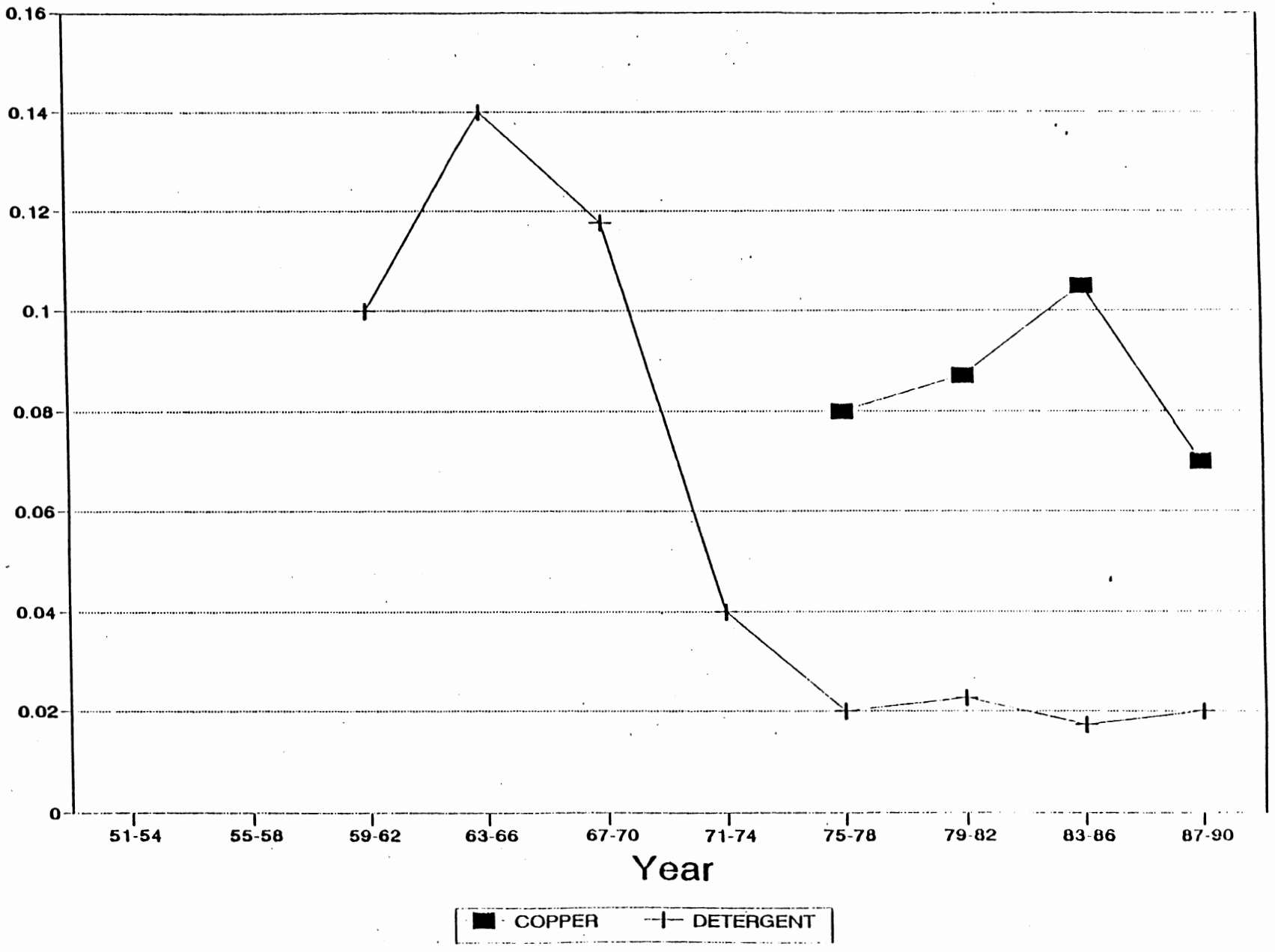


FIG. 8a
4-Year Variations



X601

FIG. 8b

Yearly Variations

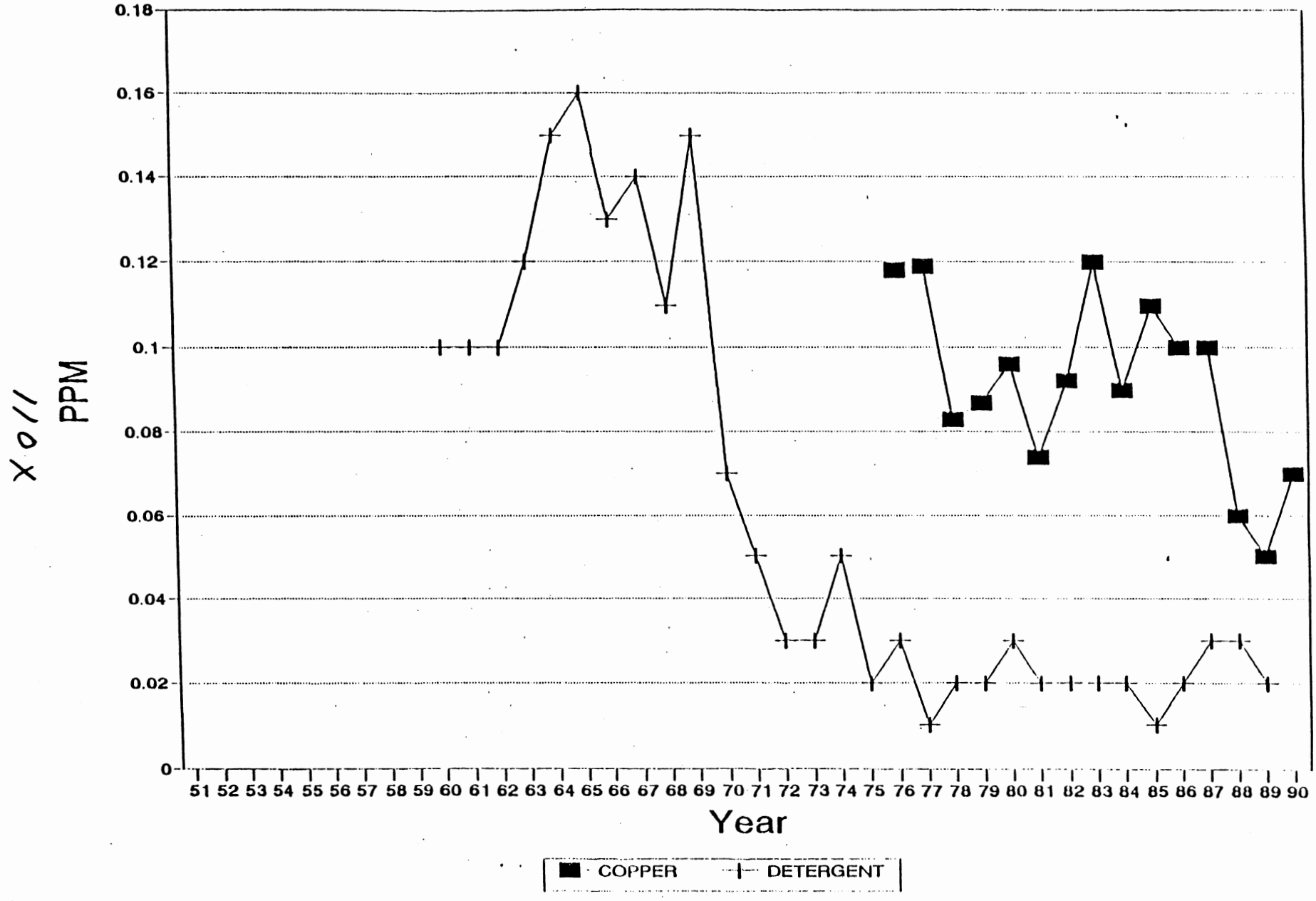


FIG. 9a
4-Year Variations

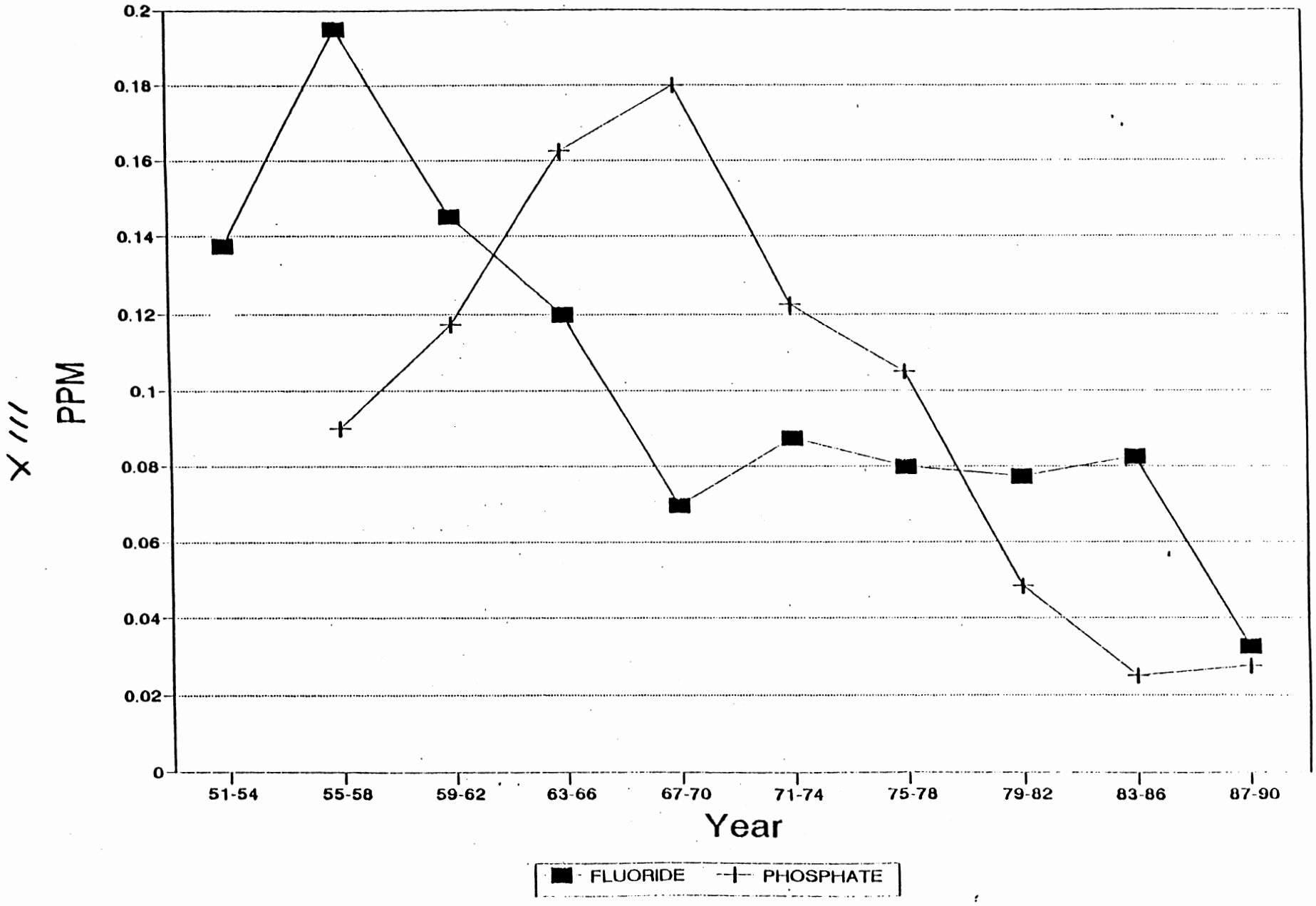
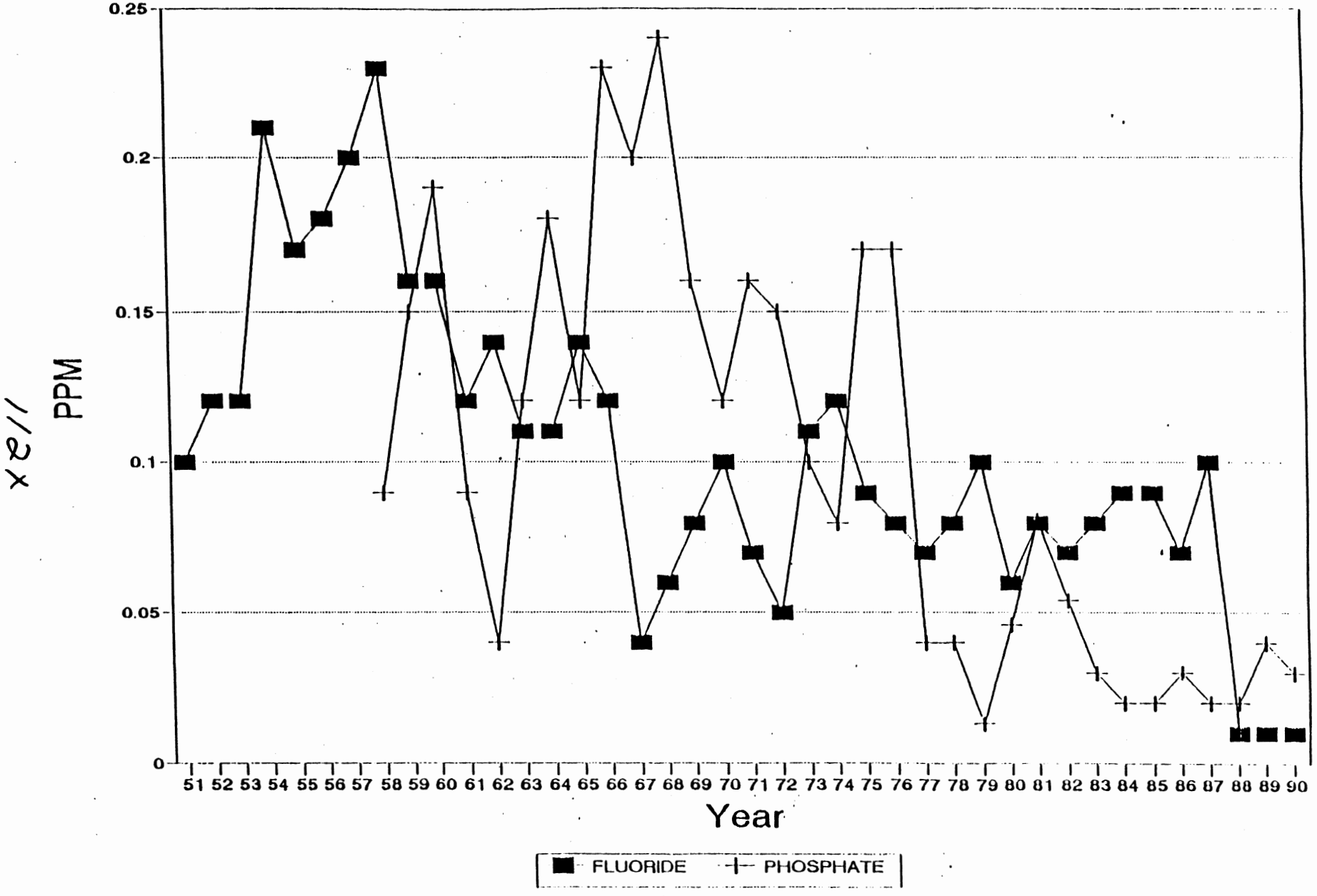
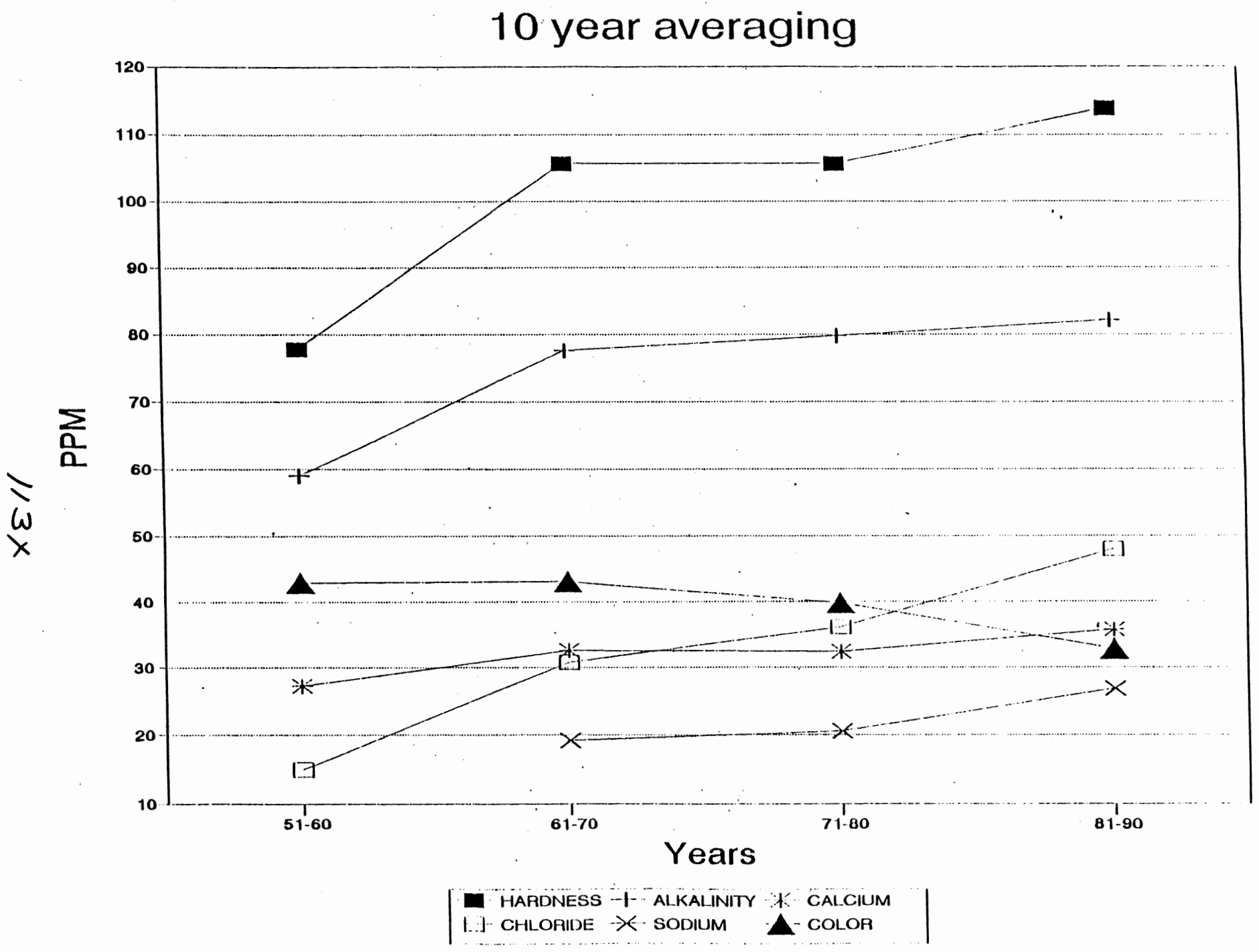


FIG. 9b
Yearly Variations



X211


10 year averaging
120
110
100
90
80
70
60
50
40
30
20
10
PPM
51-60
61-70
71-80
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OUR 33rd YEAR

Water NEWSLETTER

Water Supply • Waste Disposal • Conservation

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A DEMONSTRATION PROJECT TO DREDGE 1,000 CUBIC METERS OF CONTAMINATED SEDIMENT FROM A RIVER NEAR NIAGARA FALLS may serve as a model for similar cleanup activities around the Great Lakes. Specifically, the project at an industrial site on the Welland River in Canada aims to determine the effectiveness of the dredging technology and its potential for cleaning up the remaining contaminated sediment found between a sewer outfall and the City of Welland's water pollution control plant.

The project is partially funded by Environment Canada through its Great Lakes Cleanup Fund. The year-old, $5.8-million initiative consists of the Contaminated Sediment Removal Program and the Treatment Technology Program. According to Eco-Log Week (5/3/91), the programs are attracting both cleanup firms and companies whose past activities may have contributed to sediment contamination. The fund aims to encourage the development of advanced methods and technology for removing and treating contaminated sediments, which are recognized as both a pollution source and a repository for the Great Lakes.

MORE THAN 200 MUNICIPALITIES HAVE TO PREPARE STORMWATER PERMIT APPLICATIONS AND POLLUTION MANAGEMENT PLANS under EPA's new rules. Because they usually have multiple discharge pipes, these cities and counties can expect to pay between $50,000 and $75,000 in permit application fees. They may then be required to upgrade storm drains and treatment facilities, find alternative ways to de-ice roads, and locate illegal stormwater discharges.

Bellevue, Washington, is one city that developed a comprehensive stormwater management plan years before EPA issued regulations, reports Environment Today (January/February 1991). In 1975, Bellevue's Storm and Surface Water Utility (one of the nation's first) instituted a system that includes a drainage fee along with property owners' water and sewage bills. The bimonthly charge is about $13, but property owners with large paved areas contributing to stormwater runoff pay higher fees than those whose property is mostly vegetation. The money is put towards capital improvements, such as pipes and reservoirs.

According to Pam Bissonnette, Deputy City Manager, planning for Bellevue's stormwater utility took five years. Inquire to Bissonnette at City of Bellevue, Box 90012, Bellevue, WA 98009.

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VEGETATIVE BUFFER STRIPS PLANTED ALONG THE BANKS OF STREAMS CAN PREVENT AS MUCH AS 97% OF NUTRIENT POLLUTANTS from entering the streams, according to results of a two-year project. Researchers David Kovacic from the University of Illinois (Urbana) Department of Landscape Agriculture, Lewis Osborne from the Illinois Natural History Survey, and Bruce Dickson from the University of Illinois Department of Urban and Regional Planning examined the role of vegetation in serving as a natural barrier to the subsurface movement of nitrates-nitrogen from agricultural fields into streams. They note that the study is the first to document the influences of different riparian vegetation on nutrient absorption, in particular, its efficacy on soils derived from wind-blown silt known as loess. Vegetative buffer strips have already proven to be effective barriers for erosion.

To learn what types of vegetation and what sizes of buffer strips would be most effective, the researchers established three study sites in the highly cultivated Corn Belt region of central Illinois. One of the sites was planted in row crops directly adjacent to the river; at the second site, the row crops were separated from the stream by 52 feet of mature cottonwood forest, and the third had 128 feet of reed canary grass between the crops and the stream. According to their measurements, concentrations of NO_3-N at 2-foot and 4-foot depths were reduced by 94% when they filtered through 32 ft of forested buffer. When it filtered through an additional 20 ft, the removal rate reached 97%.

In the grass area, at the 2-ft depth, NO_3-N concentrations were reduced by 50% after filtering through 45 ft, but were reduced by 90% after 128 ft. At the 4-ft depth, 97% of the NO_3-N was removed after filtering through 128 ft of grass.

Plans are underway to investigate the influence field tiles may have on the effectiveness of riparian strips. The group pointed out that tiling systems that underlie farm fields may catch the leached nutrients and funnel them into the stream, thereby circumventing the buffer strips.

WATERGRAMS

///Nearly 20 million gallons of oil were released into U.S. waters during the 1980s from land-based pipelines, according to the General Accounting Office (GAO)--almost twice as much as the amount released during the Exxon Valdez oil spill. The Department of Transportation is responsible for preventing pollution from petroleum pipelines, GAO said, but rather than establish a program, it has delegated responsibility to the Coast Guard. The Coast Guard, in turn, has a program to stop water pollution from ships, but not from pipelines. Although both agencies have taken steps to plan for and respond to oil spills in general, the Coast Guard cannot adequately plan for or ensure a timely response to pipeline spills because it is generally unaware of specific pipeline locations and operators.

///EPA is developing a guide for assessing and controlling bioconcentratable contaminants in surface waters. A draft guidance recently released by the agency is designed to assist state and federal regulators in the identification of specific organic compo nds that can accumulate in effluents and fish tissue at concentrations that pose a threat to human health and aquatic life. The guidance addresses EPA's recommended approach to the assessment of the chemical contaminants, as well as principles of bioconcentration control, reference chemical concentrations, exposure assessment and wasteload allocation development, and permit limits. Inquiries on the draft document should be directed to EPA's William Morrow at 202/475-9531.

RESEARCH INDICATES THAT MANY NORTH AMERICAN AQUATIC SPECIES ARE IMPERILED. Recent information from The Nature Conservancy's central zoological database shows that 34% of North American fish species are extinct, imperiled, or rare. In addition, 65% of crayfish species and 73% of mussel species also are extinct or possibly extinct, critically imperiled or imperiled, and rare but not imperiled. In comparison, 13% of mammals, 11% of birds, 14% of reptiles, and 28% of amphibians are so affected.

The Conservancy's Chief Zoologist Larry Master notes that the diversity of North American fish and aquatic invertebrates far exceeds that of European fresh waters, although it does not approach that of tropical rivers in South America, Africa, or Asia. The Conservancy tracks all North American fish, crayfish, mollusks, and other selected aquatic invertebrates. Individual data centers work closely with the academic and museum communities to continuously update the information.

In an article in Nature Conservancy (March/April 1991), Master also reports on a 1989 review of North American fish by a team from the American Fisheries Society's Endangered Species Committee (Water Newsletter, 2/28/90). Extinction for 40 species and subspecies of North American fish during the last century was caused by habitat loss in 74% of the cases. Other extinction factors included introduced species (in 68% of the cases), pollution (38%), hybridization (38%), and overfishing (15%). The most important factors contributing to native mollusk declines appear to be pollution and stream impoundment.

Between 1979 and 1989, 139 additional species of fish were listed as endangered, threatened, or "of special concern," but no aquatic creatures were removed from the lists because of improved status. One researcher said, however, the lists would be much longer without the efforts of private, state, and federal groups.

A PROTEIN SUBSTANCE ISOLATED FROM OYSTER SHELLS LOOKS PROMISING FOR USE AS AN ANTI-SCALANT INSIDE METAL WATER PIPES. Biologist Eric Mueller and colleagues from the Mineralization Center at the University of South Alabama in Mobile say this chemical, called polyaspartate, may not only prevent corrosion, but also may eliminate the scaly white buildup inside water pipes, tanks, and pumps. Industries that utilize water for cooling can sometimes have plumbing that becomes clogged with deposits of calcium carbonate and other minerals. Chemicals currently in use to prevent this from occurring can pollute the environment. According to Science News (5/4/91), Mueller says that "polyaspartate is just amino acids, and when they break down, they are usable in the environment."

WATERGRAMS

///EPA has issued a final rule that amends U.S. regulations carrying out Annex V of the International Convention for the Prevention of Pollution from Ships (MARPOL 73/78). The rule adds two amendments that recently became effective internationally. The update eliminates an exemption for the loss of synthetic material incidental to the repair of fishing nets, which is aimed at reducing the amount of plastic or synthetic materials entering a water body. In addition, the North Sea has been designated as a special area, joining the Mediterranean Sea, the Baltic Sea, the Black Sea, the Red Sea, and the Gulfs area (including parts of the Persian Gulf). More stringent restrictions are imposed on discharges into waters designated as special areas. EPA's rules cover foreign ships operating in U.S. waters and U.S. ships operating anywhere.

EPA'S NEW STANDARDS FOR LEAD IN DRINKING WATER ARE TEN TIMES MORE STRINGENT THAN EXISTING REGULATIONS. Currently, the allowable level for lead in drinking water is an average of 50 parts per billion (ppb), measured anywhere in the water distribution system. The goal of the new standards is for at least 90% of monitored household drinking water taps to have lead levels of 15 ppb or less, which corresponds to a 5 ppb average. Monitoring requirements will go into effect in 1992. The standards also set a maximum contaminant level goal (MCLG) of zero for lead in drinking water. MCLGs are nonenforceable, optimal health-based targets.

The new standards will require 79,000 public water suppliers (serving nearly 220 million people) to monitor for lead at household taps, where the highest concentrations of lead are found, at a cost to water users of $500 million to $800 million a year. EPA Deputy Administrator F. Henry Habicht said the rule will result in the most significant reduction of lead exposure since the agency phased out leaded gasoline.

Large water systems--serving more than 50,000 people--will have to begin developing corrosion control programs by 1993. If smaller systems discover that more than 10% of monitored household taps contain lead concentrations over the action level of 15 ppb, those systems will be required to install or improve corrosion control by 1994. Corrosion control treatments include using substances such as lime and soda ash to reduce water acidity. Inhibitors can also be added to help form protective coatings inside pipes.

If a water system continues to exceed the action level after corrosion control has been in effect for three years, the system would have 15 additional years to replace all lead service lines. EPA estimates that 8,000 water systems, mostly located in the Northeast and Midwest, may have to replace lines at a cost of $3 billion to $4 billion.

FIVE PUBLIC AUTHORITIES, INCLUDING LOS ANGELES, AND SIX COMPANIES ARE CHARGED WITH FAILING TO CONTROL PRETREATMENT of industrial toxic wastewater discharges into sewage treatment systems. The recent Department of Justice and EPA enforcement actions are part of an ongoing federal effort under the Clean Water Act's National Pretreatment Program that has cited 255 other public entities and companies for violations since 1989.

The five authorities are charged with failure to implement and enforce approved pretreatment programs, while the six firms are charged with discharging to sewage treatment plants in violation of standards. EPA says the five public entities, which are also located in New Jersey, New York, Louisiana, and Texas, receive discharges from more than 835 significant industrial sources, while the six firms (one in Pennsylvania, five in California) discharge over 75 million gallons per year of wastewater containing toxic pollutants.

Meanwhile, a federal judge levied a $3-million fine against San Diego in March for 3,700 sewage spills noted since 1983. The city was said to be in violation of the Clean Water Act since its enactment in 1972. EPA sued San Diego after the city had not updated plans for secondary treatment, required under a waiver from the Act that extended its deadline for updating. If, however, the city now requires water saving devices in all new construction and offers rebates for voluntary installation of the devices, it will only be responsible for $500,000.

Current Water Industry Challenges*

By Robert A. Gerber, Chairman and CEO, United Water Resources

The recent White House water testing episode is a good example of what drives continuing speculation about the safety of tap water. Even if there were some reason to believe that the President's ailment is water related, the G-men probably have the wrong suspect. For it seems clear that bottled water is drunk there, not tap water.

Funny how bottled water always seems to command the high ground! I guess if it's in a bottle, it must be good--something like a drunk's choice: "I'd sooner have a bottle in front of me than a frontal lobotomy."

I will expand on the quality issue in a few moments. First, I want to list three major challenges facing the water industry.

Most important is gaining and maintaining financial strength. You might say the dog in me is showing through--always returning to an old haunt. But I am more convinced than ever that none of our industry's objectives will be achieved without financial strength. I don't intend to harp on return on equity. ROE is an important ingredient, of course. But financial strength is a whole lot more. And its regulatory context is changing inexorably. Our industry is moving from one dominated by economic regulation to one dominated by the dynamics of social regulation. And we find ourselves in the vortex. More on this later.

The next challenge is water quality. And the third is customer and employee education.

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*Presented at the Annual Meeting, New Jersey Utilities Association, June 13, 1991.

Financial Strength

Returning to financial strength, the water industry is excessively capital intensive--four dollars of investment for one dollar of revenue. A saving grace until now is that the larger companies have a lot of old, low original cost plant to dilute the cost of new plant. New additions did not cause large increases in rates. But now with many of these larger, older companies facing new large expenditures, the increase in rates will no longer be gradual. Small new systems already have rates up to two times those of older systems.

As an aside, these small systems, many of them related to a single real estate development, are under enormous pressure today. First, they have little rate base because most plant is booked as a contribution; next they have little borrowing ability on their own; and finally the owners are often under severe financial pressure relating to their own real estate activities. Heaven knows how these systems would cope with any mandated expenditure. Some are already in bankruptcy.

The problems of the larger systems are different and more complex. For one, the federal tax on contributions in aid of construction is implying itself as a competitive force. Here's how that happens: say, water service is required to serve new housing located between a municipal system and an investor-owned company. And for the extension to be economically feasible, the developer must make a contribution to the project. Until a few years ago that contribution was not a taxable item. Now it is, even though the regulator denies any earning power to the contribution.

As a practical matter, the developer will opt to make his contribution to the municipal system and save the gross-up in taxes. For the investor company, an opportunity is lost for favorable marginal growth in revenues.

Now take note that nearly all of the larger water companies here and across the U.S. will be ratcheting up their capital spending over the next 3-5 years. Estimates are in the range of 9 percent per year, as a percent of gross plant, even higher in the northeast, and much higher than projections for electric and gas companies. This means that equity must be sold, which again implies the necessity for strong financial performance and its companion--quality of earnings.

Water utilities, historically, are highly leveraged. The usual explanation is that their business risk is comparatively low. But this is no longer true. Contaminated aquifers, droughts, mandated quality safeguards and plant replacement have changed the picture. This will add to the equity problem.

In recent years much water utility construction has been pre-financed using tax-exempt bonds. With continuance of tax-exempt financing a bit dubious, what with caps and the deficit, we all may be back at the banks. Surprise--banks have a heightened sense of credit risk. We cannot count on 1980 treatment in 1991.

Regulation, too, may be expected to be different. Organizational change and initiatives in companies will be echoed in the regulatory agencies.

Quality

Water quality at the tap looms higher and higher in the customer's hierarchy of demands on water suppliers. Satisfying her on this count may be our industry's leading new challenge. In a nation so thoroughly health conscious and risk averse, the basis for the problem is understandable.

Of the products provided by utilities, water companies uniquely provide the only one for human consumption. Its quality is judged mainly by

subjective means--does it taste or smell bad? How many customers complain of a bad batch of electricity or gas? Even telephone quality is easily measured objectively.

Water quality is also the principal force involved in the vortex slide from economic to social regulation. Sometimes quality legislation spurts ahead of science--making rational policy development impossible.

Here are some examples of why the quality issue is so stubborn and difficult. Part of the problem is semantics. Thirty years ago we reserved the word contaminant in water for a foreign agent of health significance. Now it is used to describe every constituent in water except hydrogen and oxygen. For example, calcium, which causes hardness in water, is now considered a contaminant rather than a natural constituent deriving from limestone rock formations.

Risk assessment is also bent out of shape because it depends on toxicological findings. But "... toxicology is a very immature science, which bases itself on one-time experiments and linear extrapolation models." These experiments utilize rodent bio-assays. And now we are finding that the nature of administering the substance to the animal may grossly affect the result.[1]

Detection Limits

Another problem arises out of the fact that technology permits us to find contaminants in ever-decreasing amounts. Dioxin, for example, is now measured in parts per quadrillion. Translated, that is one part in one thousand trillion or 10^{-15}--far below our risk assessment knowledge. Still, the reported presence of any dioxin will incite fear in some. Yet, just

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[1]Lehr, Jay H., "A New Measured Risk." Ground Water Monitoring Review, Spring 1991.

last week it was reported by the Director of Environmental Health of the Center for Disease Control that, knowing what scientists know today about dioxin, the evacuation of Times Beach, Mo. was unnecessary.[2]

Just to digress for a moment. The maximum number of molecules that may be contained in a quantum of a pure compound has a limit. If our instruments could test down to 10^{-23} we would be able to account for a single molecule in a sample. If that sounds like science fiction, researchers from the Los Alamos National Laboratory told the recent Quantum Electronics and Laser Science Conference how they were able to detect single DNA molecules 85 percent of the time.[3] Now just suppose that someone reported that cyanide molecules were found in water. What to you suppose the reaction would be other than panic?

Going back a moment, a detection level of 10^{-15}, the dioxin limit, corresponds to finding one missing link in a chain reaching from here to the sun where the links are shorter than the thickness of two sheets of paper. Exponentially, we are more than half-way to the single molecule detection threshold. Progress in this area compares to progress in computer speed. Thus, we are close to that point where we will be able to say that water can be tested for the presence of any compound on earth. But what does that mean in terms of risk? As a rule, a person's judgement on subjective matters is not bound by rules. So we can expect a wide range of opinion--some of it helpful and some silly. Worst of all, we may be held hostage by environmental alarmists.

(If I may be permitted a personal experience: For two decades the subject of building another reservoir for a New York subsidiary has

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[2]Chemical & Engineering News, June 3, 1991.

[3]Chemical & Engienering News, May 27, 1991.

periodically occupied both the State and ourselves. The issues are economic and environmental, with economics now more important. The accord reached provides that construction cannot start until predetermined water demand triggers it. Contrast that with a conference called a couple of years ago by state agencies to discuss guidelines for new construction along the Hudson River and Long Island based on computer runs of a global warming model. In both cases, the anti-development element of the environmental groupings played a major role.) Instances like those make me reflect on Alan Bloom's observation[4]: "The same people who struggle to save the snail-darter bless the pill, worry about hunting deer and defend abortion. Reverence for nature, mastery of nature ... whichever is convenient."

Social Regulation

This shift from economic to social regulation is observed mostly in the water quality matters of our industry. But it is evident in many businesses. Nationally, here are some examples of ascendancy in social regulation using as a surrogate the growth of several regulatory agencies accountable for societal matters: EPA, OSHA, EEO, Fish and Wildlife Service, Comptroller of the Currency, Nuclear Regulatory Commission. For comparison, here are some examples of descendancy in economic regulation, using as a surrogate agencies which have shrunk in size: SEC, ICC, CAB, FCC, Anti-Trust Division of the Department of Justice.[5]

We need only pick up the morning newspaper for the latest from the USSR

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[4]Bloom, Allan, The Closing of the American Mind. New York: Simon and Schuster (1987).

[5]Yandle, Bruce and Young, Elizabeth. "Regulating the Function, Not the Industry." Public Choice 51:59-70 (1986).

to gain insight into the tumult of the regulatory process in those republics and the central government.

Nor is New Jersey immune to the national trend. The proposed reorganization of the BPU and DEP reflects public interest as well as the matter of efficient government. If there weren't public interest, it's hard to imagine how a handful of people in an old house in Trenton could have grown into a force of 4,000 in 30 years.

But in spite of these shifts to social regulation, it would be a serious mistake to assume for a minute that economic force has diminished. In the end, it counts much more than social or political theory. Ask Gorbachev.

Federal Regulation

Federal regulation of our industry got off to a slow start 17 years ago. It is done through what is called "state primacy," a kind of handoff to the NJDEP from the quarterback, EPA. Unfortunately, the ball carrier has few options and is not always provided with the resources necessary to carry out the play. That is why some states are saying no to Washington unless they get more money. On the other hand, state fees and fines as a source of program funding is becoming more and more attractive. To me this is questionable public policy. It's not unlike dedicated taxes.

Today our industry must meet standards for 53 contaminants. That will increase by 25 next year and 25 more three years after that and three years after that, another 25 and so on. In addition, we now monitor for 45 other contaminants.

As an example of the complexity of some of those standards, the new lead rule establishing 15 parts per billion as the maximum permissible limit represents an interesting problem in sampling. The standard applies to

"first draw" water from the customer's tap. Presumably, the water company man will be in your bathroom before you have a chance to brush your teeth. Obviously, no one is sure how to proceed.

Compared with water, paint and gasoline are much greater sources of lead in the environment. Solder in plumbing is the main source of lead in water. And even there, any lead dissolved can be controlled by letting the water run to waste for a short period. But not so easy to alibi will be the 5 to 10 percent of lead service lines that older utilities still maintain, even though they may not constitute a source of dissolved lead because of their age and the non-corrosive quality of the water. Nonetheless, customers may take a Gertrude Stein view of this and say that lead is lead is lead is lead. Replacing these services before their time would cost millions.

Cost of Safeguarding

Commissions across the U.S. are faced with establishing policy on how these costs for compliance are to be recovered. For small systems, the savvy and dollars needed could be overwhelming.

We all live life dangerously, that is, to live at all we must face some risk. Twenty thousand years ago a spirit took the blame when a downed mastodon rolled over on us; today we are almost paranoid in search of direct cause and effect for every state of the human condition, just as our tribal ancestors connected every misfortune to an evil spirit.

Just a few days ago, a neighborhood mother of one of three young men suffering from diabetes asked me if water might be the cause. Her thinking was sound because she had just talked to the doctor about recent scientific speculation that diabetes might be virus-induced. And so it goes.

Education

Learning customers' demands is the crux of marketing. Much of what we know already about the customer is internalized and we don't talk about it. I am referring to a presumption of system reliability, safety, response to service failure, low cost, adequate pressure. But it would be helpful to know more about attitudes toward water quality, conservation, pricing and overall services. Perhaps just as important is keeping the customer informed about how the company is performing and what it plans to do. The hazard here is that we don't overdo it and jade the customer with trivialities. She is already saturated with mail and phone calls.

A few weeks ago, I ran into resistance for a utility initiative in, of all places, my own household. The letter sent outlined an offer to conduct an energy survey of my house, stating that a representative of the survey company would call to make an appointment. My roommate's response was quick and pointed: "I don't want another phone call; I don't want anyone marching through my house and telling me what light bulbs to use; I am perfectly happy with my electric company; I just want to be left alone; eat your lasagna."

The temptation today for company and commission alike is to think of customers monolithically. For the water industry nearly every piece of customer information is aimed toward a universal residential user, whoever she is. Certainly, commercial and industrial customers need more attention.

Employees must understand that customers continually improve their knowledge of level of service because of their exposure to our sister utilities. And this tends to increase expectations all around.

It's no wonder that commissions, for example, have had to deal with our failure to keep customer appointments given those expectations. What's

more, much of our future contact will be in the form of written communication. We are now in the age of the facsimile machine. And we may have some problems there if we can't do better with simple declaratory sentences.

All told, commissions and utilities are doing a good job. Self-improvement is evident and the quality of help improves continuously. I am a certified optimist. But if I am perplexed by a matter of the moment, I am refreshed by two short items that expose our foibles and bring me down to earth.

> "Burnley, England, Jan. 2 (AP)--Public utilities crews were working on Mrs. Meagan Shackleton's street when she thought she smelled gas and called a repair crew.
>
> The gas men dug up the road and cut the electric cables. The electric workers dug up the sidewalk and smashed water pipes and the water crew dug another hole, leaving Mrs. Shackleton without gas, power or water for 22 hours."

And finally from the minutes of September 16, 1886, to show that some things never change:

> "The President reported progress in the matter of Hoboken arrearage for water rent."