INCODEL

PROCEEDINGS
TENTH ANNIVERSARY
SHAWNEE-ON-DELAWARE, PENNSYLVANIA
JULY 10-12, 1946

DEPOSITORY COPY
Do Not Remove From Library

974.901
I49

NEW JERSEY STATE LIBRARY
3 3009 00044 7245

PROPERTY OF
RECEIVED
MAY 26 1947
NEW JERSEY STATE LIBRARY
TRENTON

974.901
I 49
c. 1

THE INTERSTATE COMMISSION ON THE DELAWARE RIVER BASIN

PROCEEDINGS

TENTH ANNIVERSARY

CONSERVATION CONFERENCE

SHAWNEE-ON-DELAWARE, PENNSYLVANIA

JULY 10-12, 1946.

N.J. STATE LIBRARY
P.O. BOX 520
TRENTON, NJ 08625-0520

****

THE INTERSTATE COMMISSION ON THE DELAWARE RIVER BASIN

TENTH ANNIVERSARY
CONSERVATION CONFERENCE
SHAWNEE-ON-DELAWARE, PENNSYLVANIA
JULY 10-12, 1946

TABLE OF CONTENTS

THE INTERSTATE COMMISSION ON THE DELAWARE RIVER BASIN

CONTENTS

Foreword

Proceedings Of Conference Jointly Sponsored by Interstate Commissions On Delaware And Potomac River Basins And The Council Of State Governments - July 10, 1946.

Proceedings Of Incodel Opening Session - Wednesday Evening, July 10, 1946.

Proceedings Of Incodel Session On Water Conservation, Thursday Morning, July 11, 1946.

Proceedings Of Incodel Session On Soil And Forest Conservation, Thursday Afternoon, July 11, 1946.

Proceedings Of Incodel Session On Federal-State Relationships, Friday Morning, July 12, 1946.

Appendix - Newspaper Clippings.

****

THE INTERSTATE COMMISSION ON THE DELAWARE RIVER BASIN

TENTH ANNIVERSARY
CONSERVATION CONFERENCE
SHAWNEE-ON-DELAWARE, PENNSYLVANIA
JULY 10-12, 1946

F O R E W O R D

THE INTERSTATE COMMISSION ON THE DELAWARE RIVER BASIN

TENTH ANNIVERSARY
CONSERVATION CONFERENCE
SHAWNEE-ON-DELAWARE, PENNSYLVANIA
JULY 10-12, 1946.

FOREWORD

The Interstate Commission on the Delaware River Basin held its Tenth Anniversary Conservation Conference at Shawnee Inn, Shawnee-On-Delaware, July 10-12, 1946. The Incodel program began Wednesday evening, July 10, and was carried out in accordance with the program appended hereto.

A preceding conference, jointly sponsored by Incodel, the Interstate Commission on the Potomac River Basin and the Council of State Governments, was held throughout the day on Wednesday, July 10, the program for which is also appended to this memorandum.

The meetings were attended by 104 persons. Their names and affiliations are given on a separate list also appended hereto.

The purpose of this memorandum is to present a summarized record of all the proceedings. This has been done by dividing the report into sections covering the individual Conference Sessions. Under each section are included a summary of the discussions and, where available, copies of prepared papers given at the sessions covered thereby. An appendix to the report contains a reproduction of a set of newspaper clippings relative to Conference activities.

****

THE INTERSTATE COMMISSION ON THE DELAWARE RIVER BASIN

TENTH ANNIVERSARY
CONSERVATION CONFERENCE
SHAWNEE-ON-DELAWARE, PENNSYLVANIA
JULY 10-12, 1946.

PROGRAM

Wednesday, July 10, 1946

Evening Session

Presiding: Hon. M.P. Catherwood, Commissioner, Department of Commerce, Albany, New York, and Vice Chairman of Incodel.

8:30 P.M. - "Welcome to Incodel's Tenth Anniversary"
Hon. Ellwood J. Turner, Chairman, Interstate Commission on the Delaware River Basin.

9:00 P.M. - "Clean Waters"
An interesting film in technicolor and sound on stream pollution abatement.

Remarks by Mr. W. P. Hearsman, General Electric Company, Philadelphia, Pennsylvania.

9:30 P.M. - "This Is Our Land"
An inspiring movie on soil conservation.

10:00 P.M. - Summarization
Hon. Ellwood J. Turner, Chairman, Interstate Commission on the Delaware River Basin.

Thursday, July 11, 1946

Morning Session - CONSERVATION OF WATER RESOURCES

Presiding: Hon. Duane E. Minard, Jr., Member of New Jersey Assembly, and Member of Incodel.

10:00 A.M. - "Stream Pollution Control with Special Reference to Pending Federal Legislation"
Mr. Richard C. Beckett, State Sanitary Engineer of Delaware and Member of Incodel.

10:30 A.M. - General Discussion.

10:45 A.M. - "Schuylkill River Restoration Program"
Mr. James H. Allen, Executive Secretary of Incodel.

11:00 A.M. - "Water Supply Diversion Projects"

A. "The Incodel Program"
Hon. Edward L. Ryan, Assistant Attorney General of New York State.

B. "New York City's Delaware Project"
Mr. Roger W. Armstrong, Chief Engineer, New York City Board of Water Supply.

C. "Philadelphia Water Problem"
Mr. Frank B. Murdoch, Special Counsel, Philadelphia Water Commission.

D. "New Jersey's Interests"
Hon. Walter D. Van Riper, Attorney General, State of New Jersey.

E. General Discussion
James H. Allen, Executive Secretary, Incodel.

12:30 A.M. - Summarization
Hon. Ellwood J. Turner, Chairman, Interstate Commission on the Delaware River Basin.

1:00 P.M. - Luncheon.

Afternoon Session - SOIL AND FOREST CONSERVATION

Presiding: Hon. Ellwood J. Turner, Chairman, Interstate Commission on the Delaware River Basin.

2:00 P.M. - A. "Soil and Forest Conservation - A Key To Future Prosperity"
A few observations by the presiding officer.

B. "U.S. Soil Conservation Service Activities"
Dr. Austin L. Patrick, Regional Conservator, U.S. Soil Conservation Service, Pennsylvania.

C. "U.S. Forest Service Activities"
Dr. Verne L. Harper, Director, U.S. Department of Agriculture Northeastern Forest Experiment Station.

D. "Functions of State Soil Conservation Committees"
Hon. Miles Horst, Secretary of Agriculture of Pennsylvania and Chairman of Pennsylvania State Conservation Committee.

E. "Problems in the Lehigh River Basin"
Mr. Alvin A. Shumann, Vice President of the Lehigh River Valley Flood Control Council.

F. "Problems in the Brandywine"
Mr. Clayton M. Hoff, Executive Vice President of the Brandywine Valley Association.

G. "Incodel's Program For the Delaware Basin"
Mr. F. A. Pitkin, Executive Director, Pennsylvania State Planning Board and Member of Incodel.

H. General Discussion.

7:30 P.M. - Picnic and Entertainment.

Friday, July 12, 1946

Morning Session - FEDERAL-STATE RELATIONSHIPS

Presiding: Mr. R. C. Beckett, State Sanitary Engineer, Dover, Delaware and Member of Incodel.

10:00 A.M. - "Federal Regional Authority Issue"
Hon. Franklin H. Lichtenwalter, Pennsylvania House of Representatives and Member of Incodel.

10:30 A.M. - "Flood Control and Navigation"
Colonel F.F. Frech, District Engineer of the United States Army Engineers, Philadelphia.

11:00 A.M. - "New Jersey Ship Canal"
Colonel William F. Heavey, District Engineer of the United States Army Engineers, New York City.

11:30 A.M. - Adjournment.

WATER RESOURCES CONFERENCE

Sponsored jointly by the Interstate Commission on the Delaware River Basin, The Council of State Governments and the Interstate Commission on the Potomac River Basin.

Shawnee Inn — Shawnee-on-Delaware

July 10, 1946.

Morning Session

Presiding, Honorable L. Harold Sothoron, Chairman, Interstate Commission on the Potomac River Basin

10:30 AM - Formation and Scope of Water Resources Committee, Frank Bane Executive Director, Council of State Governments.

10:45 AM - Report on Activities of Water Resources Committee, Hon. Ellwood J. Turner, Chairman, Water Resources Committee, Council of State Governments

11:15 AM - Report of Water Conservation Conference, Alban Parker, Chairman, Water Conservation Conference

11:45 AM - General Discussion: Water Resources Problems of the Nation

12:30 PM - LUNCHEON

Afternoon Session

Presiding, Honorable Ellwood J. Turner

2:00 PM - Federal Stream Pollution Legislation, R. C. Beckett, State Sanitary Engineer of Delaware and Member of Incodel

3:00 PM - Functions of the Commissions on Interstate Cooperation, Harold Ostertag, Chairman, Joint Legislative Committee on Interstate Cooperation

3:30 PM - Water Resources Problems in the Potomac Basin and the Activities of the Potomac River Basin Commission, Hon. L. H. Sothoron, Chairman

4:15 PM - Adjournment

THE INTERSTATE COMMISSION ON THE DELAWARE RIVER BASIN

REGISTRATION LIST

INCODEL TENTH ANNIVERSARY CONFERENCE AND ANNUAL MEETING
Shawnee Inn, Shawnee-on-Delaware
July 10-12, 1946

Allen, James H.	Executive Secretary, Incodel	Philadelphia, Pa.
Anderson, Floyd E., Senator	Member, Incodel	Binghamton, N.Y.
Armstrong, Roger W.	Chief Engineer, N.Y.C. Board of Water Supply	New York, N. Y.
Bailey, Fred S.	Dealware State Senate	Harrington, Del.
Bane, Frank	Director, Council of State Governments	Chicago, Illinois
Beckett, R.C.	Department of Health	Dover, Delaware
Beckett, R.C., Jr.		Delaware
Berger, Mr.	Morning Call & Chronicle	Allentown, Pa.
Bevan, Arthur E.	U.S. Dept. of Agriculture	Washington, D.C.
Boardman, John	Engineer, Incodel	Philadelphia, Pa.
Bollier, Walter	Lehigh Valley Flood Control Council	Allentown, Pa.
Brandchain, Herman	Philadelphia Record	Philadelphia, Pa.
Burger, Jr., C. C.	Potomac River Commission	Washington, D.C.
Burke, Richard H.	Secretary, New York City Board of Water Supply	New York, N.Y.
Capen, Charles H.	North Jersey District Water Supply Commission	Wanaque, New Jersey
Catherwood, Dr. M.P.	Commissioner, Dept. of Commerce and Member of Incodel	Albany, New York
Clearwater, Winfield	Lehigh Valley Flood Control Council	Allentown, Pa.
Conant, L. C.	Lehigh Valley Flood Control Council	Bethlehem, Pa.

Cotton, Edwin R.	Engineer-Secretary, Potomac River Basin Commission	Washington, D.C.
Crowe, Montgomery F., Sen.	Pa. Senate and Member, Commission on Interstate Cooperation	Stroudsburg, Pa.
Daniels, P.N.	Board of Health	Trenton, N. J.
Dent, Mr.		New Jersey
Eaton, Charles A., Jr.	State Chamber of Commerce	Newark, New Jersey
Fox, Mrs. Cyril G.	Pres., Pa. Roadside Council; Friends of the Land	Media, Pa.
Fox, Robert L.	City Engineer	Bethlehem, Pa.
Frech, Colonel F.F.	District Engineer, U.S. Army Engineers Office	Philadelphia, Pa.
Freeburn, Harry M.	Philadelphia Suburban Water Co.	Bryn Mawr, Pa.
Fry, J.M.	Pennsylvania State College	State College, Pa.
Gallagher, Hubert R.	Associate Director, Council of State Governments	Washington, D.C.
Harmer, Harden,R., Senator	W. Va. State Senator and Member Commission on Interstate Cooperation.	Washington, D.C.
Harper, Dr. V.L.	Northeast Forest Experiment Sta.	Philadelphia, Pa.
Harrier, Robert A.	Director, Lehigh Valley Flood Control Council.	Bethlehem, Pa.
Hearsmann, W.P.	General Electric Company	Philadelphia, Pa.
Heavey, Colonel W.F.	District Engineer, U.S. Army Engineers Office	New York City, N.Y.
Hein, George	Borough Manager and Lehigh Valley Flood Control Council.	Lehighton, Pa.
Hess, Seth G.	Interstate Sanitation Commission	New York, New York
Heyburn, Weldon B., Senator	Incodel	Concordville, Pa.
Heydecker, Wayne D.	Atlantic States Marine Fisheries Commission	New York, N.Y.
Heydrich, Mr.	Monroe Co. Chamber of Commerce	Stroudsburg, Pa.
Hittinger, N.J.	Lehigh Valley Flood Control Council	Bethlehem, Pa.

Hoff, Clayton M.	Executive Vice Pres., Brandywine Valley Association, Inc.	Wilmington, Del.
Horst, Miles	Secretary, Dept. of Agriculture	Harrisburg, Pa.
Hughes, Senator James W.	Potomac Basin Commission	Elkton, Maryland
Immel, John	Borough Manager; Lehigh Valley Flood Control Council	Northampton, Pa.
Kemp, Harold A.	Potomac Basin Commission	Washington, D.C.
Klockner, Lewis J.	Board of Health	Trenton, N.J.
Knowles, J.C.	Lehigh Valley Flood Control Council	Allentown, Pa.
Krisher, Lolen C.	Delaware Valley Protective Association	Philadelphia, Pa.
LaBrum, Harry	Chamber of Commerce and Board of Trade	Philadelphia, Pa.
Lehr, Charles E.	Lehigh Valley Flood Control Council	Bethlehem, Pa.
Leonard, Raymond F.	Phila. Planning Commission	Philadelphia, Pa.
Lichtenwalter, F. H.	Pa. House of Representatives and Member, Incodel	Center Valley, Pa.
Lightwood, M.H.	City Planning Commission	Philadelphia, Pa.
Littell, Senator Alfred B.	Senate	Franklin, N.J.
Magruder, Senator J.M.	Commission on Interstate Cooperation	Virginia
Mangan, J.W.	U.S. Geological Survey, Water Resources Branch	Harrisburg, Pa
Mayer, Dr. Harold M.	Phila. Planning Commission	Philadelphia, Pa.
McDonough, George V.	North Jersey District Water Supply Commission	Wanaque, N.J.
McGifford, Robert	Easton Express	Easton, Pa.
McKendrick, W.B.	State Highway Department	Dover, Delaware
Miller, Spencer, Jr.	New Jersey State Highway Dept.	Trenton, N.J.
Minard, Jr., Esq., Duane E.	Incodel, NJ Assembly	Newark, N.J.
Minard, Sr., Esq., Duane E.	Incodel Advisory	Newark, N.J.

Mitchell, Robert B.	City Planning Commission	Philadelphia, Pa.
Murdoch, Frank B., Esq.	City Planning Commission	Philadelphia, Pa.
Nolen, John, Jr.	Potomac Basin Commission	Washington, D.C.
Ostertag, Harold C.	N.Y. Legislature; Chairman Joint Legislative Committee on Interstate Cooperation	Attica, New York
Panichelli, A.J.	General Electric Company	Philadelphia, Pa.
Parker, Alban J.	Attorney General	Montpelier, Vt.
Patrick, Dr. Austin L.	U.S. Soil Conservation Service	Upper Darby, Pa.
Paul, Joseph C.	Incodel	Newark, N.J.
Peil, Norman A.	Lehigh Valley Flood Control Council	Easton, Pa.
Peters, Percy R.	Lehigh Valley Flood Control Council	Weissport, Pa.
Pierce, Frank	Newark Evening News	Newark, N.J.
Pitkin, F.A.	State Planning Board	Harrisburg, Pa.
Powell, Amos L.	Incodel	Phoenixville, Pa.
Rementer, N.M.	Incodel	Philadelphia, Pa.
Ricker, Joe	Morning Call and Chronicle	Allentown, Pa.
Rightor, Virginia	Potomac Basin Commission	Washington, D.C.
Robinson, David W.	Regional Representative, Council of State Governments	New York, N.Y.
Roper, Roswell M.	Water Department	East Orange, N. J.
Ryan, Edward L	Assistant Attorney General	Albany, N.Y.
Schraga, Saul	Philadelphia Inquirer	Philadelphia, Pa
Seib, Charles B.	Pa. Power & Light Company	Allentown, Pa.
Selby, Earl	Philadelphia Bulletin	Philadelphia, Pa.
Sheble, Adelaide	Civic Club of Philadelphia	Philadelphia, Pa.
Shumann, Alvin A.	Lehigh Valley Flood Control Council	Easton, Pa.
Shutler, Philip	Director, State Planning Board	Montpelier, Vt.
Silvers, Harry	Corporation Counsel	Port Jervis, N.Y.

Sklar, Albert	Commission on Interstate Cooperation	Maryland
Sothoron, Senator L.Harold	Potomac Basin Commission, Chn.	Maryland
Taylor, Elbert J.	Bureau of Water	Philadelphia, Pa.
Thompson, Jack B.	Chester Times	Chester, Pa.
Thuerk, H.C.	N.J. Power and Light Company	Dover, New Jersey
Trend, Harry K.	Lehigh Valley Flood Control Council	Bethlehem, Pa.
Tropp, Reba B.	Incodel	Philadelphia, Pa.
Turner, Ellwood J.	Incodel, Chairman	Chester, Pa.
Vanderlipp, William T.	Dept. of Economic Development and Member of Incodel	Trenton, N.J.
Van Riper, Walter D.	Attorney General	Trenton, N.J.
Wade, Dr. Francis A.	Delaware Valley Protective Assn.	Mt. Airy, Phila.
Warner, Earle S.	Ex-Incodel	Philps, N.Y.
Watson, Alvin C.	U.S. Soil Conservation Service	Upper Darby, Pa.
Wilenski, Oscar	Counsel, North Jersey District Water Supply Commission	Wanaque, N.J.
Wills, H.W.	Chamber of Commerce and Board of Trade	Philadelphia, Pa.

THE INTERSTATE COMMISSION ON THE DELAWARE RIVER BASIN

PROCEEDINGS OF CONFERENCE JOINTLY SPONSORED BY
INTERSTATE COMMISSIONS ON DELAWARE AND POTOMAC
RIVER BASINS AND THE COUNCIL OF STATE GOVERNMENTS

JULY 10, 1946

THE INTERSTATE COMMISSION ON THE DELAWARE RIVER BASIN

PROCEEDINGS OF CONFERENCE JOINTLY SPONSORED BY
INTERSTATE COMMISSIONS ON DELAWARE AND POTOMAC
RIVER BASINS AND THE COUNCIL OF STATE GOVERNMENTS
JULY 10, 1946.

The Chairman of the Interstate Commission on the Potomac River Basin, Maryland State Senator L. Harold Sothoron, acting as presiding officer, opened the meeting with a few words of greeting to the group and expressed gratification for the attendance. Chairman Sothoron then introduced Frank Bane, Executive Director of the Council of State Governments, who spoke on the formation and scope of the Water Resources Committee of the Council of State Governments.

Mr. Bane: The Water Resources Committee was established at the annual meeting of our Board of Managers at St. Louis a year ago January with the idea that the Committee would study the subject, do some research, and gather information in the field of water resources. The Board of Managers of the Council voted a year ago to continue the Committee, and developed a special program for its work. In general and briefly the program called for three major lines of activity. 1) The Committee should develop general information and material as to the water situation in the various river basins in the country. 2) To do everything possible to encourage and persuade all the states to set up agencies and pass legislation in accordance with the program. 3) To expedite the work of the Commissions on Interstate Cooperation in the development and program of the state's activities in the various river basins.

Under Number 1, a considerable library has been developed upon a basin-by-basin basis. We have accumulated and tabulated all of the material we could get on the various river basins in the country. With respect to current and present activities, this information is quite complete. We have also devoted much time to developing an educational and publicity program. We have devoted one issue of State Government (September 1945) to Water Resources and we have made arrangements to have associated with us in consultant and advisory capacities certain appropriate men who will advise the Council here and there on developing research and in formulating our program.

With respect to Number 2, we have urged action on the part of all states and 36 have set up some kind of agency, or they had an agency, to collaborate and cooperate with the Federal Government with respect to any federal agency working with the states on water resources laws and problems.

With respect to Federal-State relations under Number 3: We have kept very closely in touch with the situation in Washington and have kept the Commissions informed as to what is happening, with suggestions as to what should be done by them.

This is our progress to date. I would like to mention briefly the work in the river basins in the country which are not represented here.

In the Columbia River Basin the set up is much like that in the Missouri River Basin. We are working with the Northwest Development Association. They have been talking about a plan which would be comparable to Incodel and the Potomac River Commission, and also that the Missouri River Basin organization might be a compromise between the two. So far, 4 of the 5 states are of one opinion, and the other state of another opinion.

In the Colorado Basin the problem is immediate and acute, having to do with the diversion of water. A certain part of the water has been assigned to the upper four states but it has never been allocated to these states.

In Missouri there has been as much activity as in any river basin in the country. They have begun construction upon flood control works in the lower part of the valley and three agencies are working together there. Uniform state legislation is under study and advisement for this project. We hope that they can use the legislative reference bureaus to get acceptable statutes, which, after they are written, will be recommended to the four states.

The work of the Delaware and Potomac Commissions is more familiar to you.

I might add that we are considering also the possibility and desirability of setting up a regular, continuing state-federal cooperative agency to implement the present state-federal cooperative machinery, but nothing specific has been done as yet.

Mr. Sothoron: Thank you, Mr. Bane. From his outline we can see the work of the Council of State Governments is returning to the states their authority in respect to the development and conservation of water resources in the various basins.

Mr. Sothoron then introduced Honorable Ellwood J. Turner, Chairman of the Water Resources Committee and Chairman of the Interstate Commission on the Delaware River Basin. Mr. Turner reported on the activities of the Water Resources Committee.

Mr. Turner: Frank Bane is in a better position to tell you about the work of the Water Resources Committee because the actual work of that Committee has been carried on by the staff of the Council, and he has very good progress to report.

We felt that a serious situation was developing in this country when there was much thought and pressure given to the development of Valley Authorities and we wanted to preserve the sovereignty of the states. We felt that we should develop an agency through which we could disseminate information and state the problems of river basins and see how, in a broad way, we could bring the states into the picture and protect their interests. The Continuing Committee as developed at the meetings in Chicago and Boston with the National Reclamation Association, Incodel, etc., had effectively stopped the rapid development of authorities without thought as to what was best for the basins. Greater understanding among Congressmen and broader understanding by the proper officials of the states was achieved. Our drive was towards the creation of interstate agencies and interstate cooperation. We tried to bring about the comprehension of the multiplicity of the problems of the states in considering the development of a committee of some kind. If you bring into consideration interstate problems for cooperative solution, there is bound to arise some sort of interstate agency, beginning at the grass roots in the states, and when they discover the problems in their proper balance they will discover the best way to treat them.

One of the defects in the contemplation of river basin problems is that too often the people who are creating an agency think only in terms of one thing. What Incodel has aimed at has been the solution to the problem of pollution, but we ought not lose sight of the fact that we are dealing with more than one problem, that we always have problems in cooperation and combination. We must have a unified program, with the state and federal officials sympathetic, and we must think of the over-all program for the basin. We must get them to realize the human and economic values at the state and federal levels so that we can get the advantage of broader thinking and think of one problem in relation to other problems. We will then begin to get a better conception of how to handle all the problems.

Mr. Sothoron: Thank you, Mr. Turner. Groups like this should determine the instrumentality for consideration of state and federal problems in respect to water resources conservation.

Mr. Sothoron then introduced the Honorable Alban J. Parker, Attorney General of Vermont and Chairman of the Water Conservation Conference.

Mr. Parker; I feel like a neophyte in this group since my real introduction to water resources development began in the fall of 1943. In that short space of time the development of ideas and programs has been kaleidoscopic in effect. My words will be in the nature of a review since most of us are thinking in terms of our present situation rather than how this has developed.

It seems to me of value to review the activities which summarize my experiences in these problems, in other words, on the legal side. Other emphasis has been placed on the administrative side.

We became acquainted with Judge Stone, Floyd Hagie and others through conferences, and tried to work out some definite program and policy to be, if possible, written into the Flood Control Act. There was developed some opposition to passing the measure without recognizing states' rights, and eventually the O'Mahoney-Millikin amendments were endorsed, so that since 1938 there has been some recognition of the interest of the states in water resources development. The work of the Continuing Committee has gone on and I think it has done much good if we consider the programs and recommendations from the belief that in order to get proper river basin development it must not be done from the top down, but rather working from the grass roots and working with other interested organizations on various pertinent activities. In order to effectuate a policy we should defeat the establishment of regional authorities which would practically exclude all possibility of development from the other side.

It came as a great surprise to me that in the past the development of river basins has been so lopsided. Since I have become interested in the problems, I think one of the most valuable things I have learned is the realization that the development of a river basin and valley is, after all, an integrated thing and all interests should be given their part as Ellwood Turner and Frank Bane have said. The next thing is the development of a policy and program which will satisfy this group. We do not need to be further convinced of its responsibility, and if we are going to occupy the place we should in our government, the Water Resources Committee of the Council of State Governments can do much to educate the state officials and this bids fair to bear fruit. We are started on the right track.

Mr. Sothoron: Thank you, Mr. Parker.

General discussion followed on several of the points raised by the speakers and the meeting was adjourned for luncheon at 12:15 P.M.

Afternoon Session

The Chairman of the Interstate Commission on the Delaware River Basin, Honorable Ellwood J. Turner, presided at the afternoon meeting.

Mr. Turner introduced Mr. R. C. Beckett, State Sanitary Engineer for Delaware and a member of Incodel, who presented an analysis of the important features of the federal stream pollution bills, H.R. 519, H.R. 587, H.R. 4070, and H.R. 6024. He circulated typed sheets on which he had indicated, on a comparative basis, the administrative agency, the administration appropriation, the appropriation for state assistance, the appropriation for loans and grants-in-aid, the enforcement authority, the effective date as to existing pollution, the time extensions after

effective date, the date effective against any new pollution, and the jurisdiction (protection of states' rights) as presented in each bill.

The suggested changes in the legislation, as proposed by Incodel and the Potomac Commission, were presented by Mr. Beckett and Mr. Cotton and detailed consideration was given to several points. The discussion culminated in the decision that the group would hold off any further recommendations until final action is taken, one way or the other, on the latest bill, H.R. 6024. Should it not pass, the group will attempt to formulate definite recommendations, in conjunction with other interested parties, to be included in any such legislation presented next January.

Honorable Harold C. Ostertag, Chairman of the Commission on Interstate Cooperation of the State of New York, then spoke about the Functions of the Commissions on Interstate Cooperation.

Mr. Ostertag: I hope that I can give a brief statement on the machinery and purposes of the Commissions, and what they can do. We are speaking about a body which we created ourselves for interstate action. The development and growth of the movement can be attributed to the work of the Council of State Governments. The Commissions on Interstate Cooperation are part of the machinery of the Council and work with the Governors' Conference. They have a very definite part to play in the work of interstate cooperation. It seems to me that we need more stimulation and activity in the work of the Commissions because they are the backbone of the cooperative movement in the states. The Commissions on Interstate Cooperation, by and large, are agencies which bring together in a state the administrative and legislative members of the state government. I believe that the more these two work together, the better it will be for each and the better understanding each will have of the ideas of the other. The legislative branch reflects the feeling of the state, and the administrative branch must not forget the legislators are responsible to the people.

It is about time that we realize that the position of the states will be as strong as the states are collectively. We are only as strong as they are. It behooves us to influence and point the way, if necessary, to the states that need our help. We realize that such a program lends itself to solidifying the states in doing a job. As an agency of the state, we function in getting information on laws and reciprocal agreements. If we can accept responsibility, we should assure ourselves of doing the right thing. Our objective is to do a job, do it well, and serve the people. Our greatest problem is the turnover in membership.

Mr. Bane: What you say is true. However, turnover sometimes has strengthening features. As in the Commissions on Interstate Cooperation, turnover conditions apply all the way through the Government. All the way along there is the problem of the right people participating. It can be overcome with a good program with dynamic leadership. As soon as the Commissions do a job, the problem of financial support generally takes care of itself.

Mr. Turner thanked Mr. Ostertag and Mr. Bane and introduced the Chairman of the Interstate Commission on the Potomac River Basin, Honorable L. Harold Sothoron, who presented the following statement on Water Resources Problems in the Potomac River Basin and the Activities of the Potomac River Basin Commission.

Mr. Sothoron: Water has been a major factor in the development of civilization in this country. Its abundance, or the ability of man to make it abundant, has given the country a high economic development. In the Potomac River Basin the abundant precipitation and run-off have provided large amounts of relatively pure water which has been used for domestic and industrial purposes. In the past, before the development of the area became as complicated as it now is, there was no particular need to consider the effect which one use of water might have upon a downstream neighbor. Present uses, however, make such consideration imperative and bring into prominence the interdependence of many factors in so far as water resources are concerned.

A. Physical Factors

The amount of rainfall in any portion of the Basin may seriously affect the run-off in some other section of the Basin. The removal of forest cover or the farming practices used in any area may seriously affect the downstream land owners through heavy floods and low water flow or through the deposit of silt eroded from upstream areas.

B. Use Factors

Not only do the physical features of the Basin affect the water resources, but also the uses to which man puts these resources may adversely affect them downstream. Thus if the upstream waters are used for industrial purposes, the resulting wastes discharged to the streams may seriously injure the downstream users and provide water unfit for domestic water supplies.

C. Common Responsibility and Need for Common Action

Because of the unity of physical factors in any river basin and the unity of man's interest in the use of water, there is a common interest in the regulation of water resources. All of the inhabitants of a river basin have a common interest in and a common responsibility for such factors as the reduction of erosion, the maintenance of ground water tables at serviceable levels, the control of pollution of surface and underground waters, the maintenance of navigability of streams and the utilization of water power where desirable. These joint interests compel a united responsibility of all persons and agencies within the Basin, and in a like manner the united responsibility requires joint action. Thus it seems undesirable that individuals and public agencies, local, state, and Federal, should work at cross-purposes and interfere with each other in the regulation or development of resources of a basin.

A Central Planning Agency

There seems to be only one way to eliminate this hodge-podge of cross-purposes in the development of our resources and that is by the establishment of some agency for the coordinated planning of the water resource development of entire drainage areas. In such an organization there is danger, but the benefits seem well worth the complications which may arise. Several means have been suggested for the unified planning for an entire river basin. Valley Authorities have been proposed for the basin-side planning of river basins, based principally upon the success of the TVA in partially developing a river basin plan.

It does not, however, seem to the Potomac River Basin Commission that Valley Authorities are the solution to this problem, and the Commission favors the joint solution of such problems through a compact, or understanding, between the states involved, similar to that under which it is set up, in which the coordinating and planning agency has both Federal and State representation and has no authority to proceed with the plans it may develop, but must depend upon state and local agencies for definite action.

It is the Commission's belief that the principles cited should be demonstrated in some basin to be sound and to be the desirable method for the land and water resources problems throughout an entire basin. It is attempting, in the Potomac Basin, to carry forward such a program of planning and coordination of water resources development insofar as they affect or are affected by pollution.

The Commission was formed under a compact of the states of Maryland, Pennsylvania, Virginia and West Virginia and the District of Columbia as a result of a recommendation of the National Resources Planning Board for the study, planning and coordination of a program of pollution abatement within the Potomac Basin. It is unique in the pollution abatement field in that it has Federal Representation as well as representatives from the signatory bodies. The Commission is supported by funds from the signatory bodies in proportion to the population within the Basin and the wastes discharged to the streams. The Commission's powers and dutues are: To coordinate the activities of the various signatory bodies and Federal agencies having to do with pollution control and abatement; To collect and summarize technical data and to carry on investigations, research and surveys on all matters which affect or may affect pollution control; To make, and if needful from time to time, recommend to the signatory bodies reasonable minimum standards for the treatment of sewage and industrial wastes throughout the Basin; and, lastly, To disseminate to the public information upon the aims and objectives of the Commission.

The compact gives the Commission no police powers and it cannot carry on its pro gram of pollution abatement except through the existing Federal, state and local agencies. The Commission thus becomes a planning, fact-finding and coordinating agency for the Basin.

In attacking the problems of pollution within the Potomac River Basin, the Commission has come to the conclusion that because of the bewildering array of problems which are common to pollution abatement, it was necessary to consider all of the problems which affect or are affected by wastes discharged to the streams of the Basin.

As you no doubt realize, the Commission's funds are limited, and they are not nearly sufficient to carry forward an elaborate program. It has, therefore, been necessary to divide the planning for the abatement of pollution in the Basin into an immediate program, aimed principally at pollution abatement, and a long-range program which would take into account factors which are inter-related with pollution and pollution control. For the present the Commission is limiting itself to the immediate program.

The immediate program consists of a study of Federal and state pollution legislation, with a view to determining any changes which may be desirable in state legislation for each state within the Basin in order that a program of adequate pollution abatement may be carried forward in the near future. It is the Commission's intention that after such a study is complete, reasonable recommendations will be made to the pertinent state agencies for any changes or additions which might be desirable in their pollution legislation or in the administration of existing laws. Such a recommendation will be made to the proper state officials and it will then be up to the individuals in the states to make the necessary changes if considered advisable. The Commission has no intention of interfering with intrastate activities.

In the administration and study of a pollution abatement program, one of the most necessary factors is to have a uniform measure for determining the degree of pollution in any stream and the amount of treatment necessary before wastes can be discharged. In the past, each of the state agencies concerned has had its own method of determining the purity of any stream and the degree of treatment necessary to obtain a given purity. The Commission, through its Advisory Technical Committee, which consists of the heads of the state planning boards and the chief engineers of the state health departments, has spent much time in the study of this problem and has recently formulated a uniform set of standards for water quality which it is recommending to the states for their adoption and use. The standards set up four types of water use throughout the Basin and the Basin has been zoned into areas of principal water use. Thus there has been set up a means for indicating the water quality of local streams in a uniform manner and yet provide standards which are flexible so that any new development or change in water use can be made by simply rezoning the various areas of the Basin. There is every indication that the states will adopt and use these standards for the abatement of pollution throughout the Basin.

The Commission proposes to promote the establishment of local planning agencies, whose object would be the planning of water resources problems in localized areas. These agencies would consider water resources and pollution problems on the basis of sectional planning and not on the basis of a single locality. Thus it is hoped that planning

of water resources problems can be carried forward by the people of the Basin to a large degree rather than by a Basin-wide agency which would carry on all the planning activities.

In studying the pollution problems within the Basin it was found that a surprisingly small amount of basic information on water quality was available on water quality. There is a need for the assembling of much additional data. The Commission itself cannot do this work, since it has neither sufficient funds nor personnel. It is hoped, however, that pertinent Federal, state, and local agencies will formulate a co-operative program for the obtaining of such information. It has been already suggested to the U.S. Public Health Service that a survey, similar to that carried on in the Ohio River, be carried on in the Potomac Basin. If and when such a survey is carried on, it is the intention of the Commission to promote the establishment of regional water quality sampling stations upon the major streams of the Potomac so that the quality of water in these streams can be kept current and in detailed form. Such a program will be of real aid in determining the most economical plan for the treatment of wastes and pollution control throughout the Basin. There are, of course, many related programs for the conservation of water resources which either affect or are affected by pollution control and abatement. The Commission proposes to integrate and encourage the carrying forward of such programs by other agencies as may seem desirable for the conservation and expansion of the water resources of the Potomoc Basin. However, it proposes to carry forward such work only to the degree which a program affects or is affected by pollution control and abatement.

In any planning of this nature, it cannot be successfully carried on unless the public at large is acquainted with the objectives and aims which are proposed, and the public interest is aroused in the work. In order that residents of the Basin may be advised upon the pollution control program of the Commission, it plans to carry on educational activities, bringing before the public information on the conditions within the Basin and the needed remedies. It is proposed that such a program will be carried on through the issuance of reports, news releases, and by informing the public, through personal contact, at civic and general discussion meetings.

The final objective of the Commissionis, of course, the physical construction and operation of remedial works for the abatement of pollution, and it is toward this goal that the Commission is working. In this respect the Commission is working with the related state agencies in planning, coordinating and encouraging the construction program. Such a program is based upon the treatment of wastes or the increase in low water flow necessary to meet the newly-formed criteria which the Commission has recently approved. The Commission, with the states, proposes to carry forward this program on an educational basis, with the hope that offenders can be made to realize the damage they are doing rather than by using any police powers of the various agencies.

Finally it is proposed to develop a research program on new and better methods for the treatment and disposal of industrial and sanitary wastes. In such a program the Commission would act as a clearing

house for information and as a coordinating agency, with the actual work being done within the industries or pertinent state agencies throughout the Basin.

Existing Problems

Like any other river basin in the country, present-day problems in the Potomac Basin are many and varied. In as far as pollution abatement is concerned, the Washington Metropolitan area presents the biggest problem, with its waste discharges coming from a million and a quarter persons, with either treatment or additional treatment of sewage necessary for the City of Washington, Arlington and Fairfax Counties and Alexandria in Virginia, areas within the Washington Suburban Sanitary District in Maryland, and in many small, scattered communities.

Above Washington's water supply, the Monocacy River discharges into the Potomac, carrying wastes of communities along its banks. While these wastes are already partially treated, consideration must be given to further treatment so that there will be no possibility of pollution of Washington's water supply.

On Opequon Creek the cities of Winchester and Martinsburg discharge sanitary and industrial wastes to a degree greater than this stream is able to absorb. Both cities at the present time treat a portion of their wastes, but it will be necessary to treat all of them and to a degree more complete than at the present time if the present polluted area is to be cleaned up.

Within the Shenandoah River Valley, industries at Front Royal, Halltown, Elkton, Waynesboro and Verona discharge wastes which pollute certain stretches of the stream. It will be necessary to find methods for the treatment of these wastes and to so plan for the industrial development of the area that the discharge of treated wastes from increased or new industry will not overload the stream in any one local area. Within this river valley the streams are relatively clean at present, but there is a marked tendency for new industries to locate in the area. Here, the greatest problem is one of planning for future development and controlling such industrial growth. Local regional planning groups can be of aid in such cases.

Probably the most difficult problem of pollution abatement from a technical viewpoint is in the Luke-Cumberland area, on the North Branch of the Potomac. Here pollution consists of a combination of acid mine waters from the coal mining regions, principally in the Georges Creek area, wastes from a paper company, a rayon plant, breweries, and the sanitary sewage from innumerable communicies within the area. The flow in the North Branch during the dry summer and fall months is so low that the industries which use the flow for process water do not have a supply sufficient to operate, and pollution becomes so bad that odors from the decay of organic material in the stream are carried by prevailing wind several hundred yards in either direction from the banks, destroying the property values in the entire area. Even from

the air the pollution of the stream is noticeable, particularly so at the point where the North and South Branches form the main Potomac Here there is a distinct line of demarcation between the relatively pure waters of the South Branch and those of the North Branch which are highly polluted.

In the tidewater section of the Potomac, while there is no great degree of pollution in any one area, there are many localized problems where small communities or industries pollute the streams for short distances.

One of the big problems which this Commission has found in the control of pollution in the Potomac Basin is the maintenance and operation of existing treatment plants. This problem is particularly noticeable in the smaller communities where a plant has been built and then forgotten by city officials and allowed to run down and deteriorate to such an extent that large sums of money are necessary to bring them back into proper working condition.

So much for the problems of pollution abatement.

Related Problems

There are other problems which it is necessary to consider with the problem of pollution and its abatement. The first is land use. Uses of the land, whether for farming, forest areas, or mining operations, or for urban and industrial development, vitally affect the water resources of streams. In the Monocacy and Goose Creek areas of the Potomac, farming practices cause a considerable amount of land erosion, which, in turn, causes high turbidity in the reaches of the river below. This is a type of pollution just as serious as that from sanitary or industrial wastes. In a like manner, the cutting of forest area with no thought of protecting the soil brings about a similar condition in the mountainous areas of the Basin. The mining of coal without proper safeguards provides a discharge of acid mine drainage to streams while urban areas, which in many cases have been built upon flood plains, have caused high damages in flood losses and danger to health from waterborne diseases. The location of industrial developments upon streams which do not have any adequate supply of water have in some cases caused grossly polluted streams.

In a basin as large as the Potomac, consisting of approximately 14,500 square miles, there are many political units. These consist not only of the States and their local political subdivisions, but also many Federal agencies which have jurisdiction over certain areas throughout the Basin. In carrying on a program for pollution abatement and control, there is a need for rational and effective coordination of the activities of all governmental units, Federal, state, and local. Our Commission is attempting to coordinate these activities insofar as they may affect pollution control and abatement. It is our hope that in so doing a Basin-wide plan for water resources control can be developed.

One of the difficulties in carrying forward any multiple-purpose project in conjunction with water resources is that political subdivisions and private organizations have a reluctance to assume their rightful share of the cost of these projects, wanting to receive the benefits but refusing to share the cost, desiring that funds be provided by the Federal Government. It is the Commission's belief that much study can be given to this problem and that where benefits occur, local and private agencies should share the cost of an improvement. The Commission plans to give considerable study to this problem upon measures connected with pollution control and abatement.

As stated previously, the Potomac River Basin Commission has neither funds nor powers, nor does it wish to carry forward the above outlined program alone. It needs the help of all the public agencies and inhabitants of the Basin. There is much which the state Commissions on Interstate Cooperation can do to aid the progtam. In view of their position with a direct contact with all the agencies in their own state, and with the means for the interchange of views with other state Commissions on Interstate Cooperation. Our Commission requests your aid in the formation and execution of its important work and in helping to obtain adequate funds for the administration of its business.

Particularly I am anxious to bring to your attention the need for an increase in contributions to this Commission from each of the states within the Basin. In the past the Commission has carried forward its work with a budget of approximately $12,000. This year we hope to receive about $15,000 from the states, and we are asking the legislatures for a 50% increase for the next biennium. If you believe this work is desirable and necessary, we will appreciate your aid in putting our request before the proper authorities.

Mr. Turner: Thank you, Mr. Sothoron. I know that we are all interested in the work of the Potomac Commission, and that we all have benefited from the discussions we have had here today. If there is no further business, we will now stand adjourned.

There being no further business, the joint conference was adjourned at 5:20 P.M.

* * *

THE INTERSTATE COMMISSION ON THE DELAWARE RIVER BASIN

PROCEEDINGS OF INCODEL OPENING SESSION, WEDNESDAY EVENING, JULY 10, 1946.

THE INTERSTATE COMMISSION ON THE DELAWARE RIVER BASIN

PROCEEDINGS OF INCODEL OPENING SESSION, WEDNESDAY EVENING, JULY 10, 1946.

The opening session of the Incodel meeting held Wednesday, July 10, was presided over by Hon. M. P. Catherwood, Commissioner, Department of Commerce, Albany, New York, and Vice Chairman of Incodel.

The address of welcome was given by Hon. Ellwood J. Turner, Chairman of Incodel, a copy of which is appended to the section of the statement devoted to this session of the meeting. Mr. Turner made special reference to the booklet which had been prepared for the meeting and for subsequent general distribution, summarizing the activities and accomplishments of Incodel during the 1936-1946 decade. A copy of this booklet is made a part of these proceedings.

After the welcoming address, Dr. Catherwood, in behalf of the members of Incodel, presented a certificate of appreciation to Chairman Turner in recognition of his outstanding services and leadership to the Commission during its first decade of operation.

The next part of the program was devoted to the showing of two films; the first entitled "THIS IS OUR LAND," and the second "CLEAN WATERS." Mr. W. P. Hearsman, a representative from the General Electric Company, producers of "Clean Waters," made a few remarks both before and after the showing of the picture stressing the importance and the tremendous efforts necessary to carry out an effective stream pollution abatement program.

Attorney-General Duff, who was scheduled to present a brief summarization of the opening session, was unable to be present and the meeting was concluded by a brief statement by Chairman Turner.

****

ADDRESS OF WELCOME

THE INTERSTATE COMMISSION ON THE DELAWARE RIVER BASIN
TENTH ANNIVERSARY CONFERENCE

HON. ELLWOOD J. TURNER
Chairman

Shawnee Inn
Shawnee-On-Delaware, Pennsylvania
July 10-12, 1946.

This is one of the happiest moments of my life!

Ten years ago, as Vice Chairman, I had the honor of taking part in the first regional conference of Incodel convened at this same place by its first chairman, Thomas A. Logue, then Secretary of Internal Affairs of Pennsylvania. Little did I realize then that I would have the good fortune and great pleasure of welcoming you to its Tenth Anniversary, a decade later.

At that time, the cynics scoffed at our temerity in undertaking, as our first objective, a program to clean up the Delaware. But we had more than a "pious hope" that our experiment in interstate cooperation would demonstrate a capacity for achievement. Our enthusiasm and optimism were based on the fact that the Commission was blessed with practical men of vision with a determination to make it work.

I would not be truthful, of course, were I to say that we then envisioned all the potentials of Incodel. What we have achieved has been through a process of steady growth accomplished by plodding forward, program by program, as we found the necessity and saw the light.

For a moment, I am sure you will pardon a few reminiscences of our early days and humble beginnings. I will start by telling you that the Commission was conceived late in November of 1935 when a group of some fifty men, members of the newly formed Commissions on Interstate Cooperation of New York, New

Jersey and Pennsylvania, met in New York City to discuss what steps to take and what interstate problems to tackle in beginning work programs of common interest.

Members present as representatives of the Pennsylvania Commission indicated that they would proceed with plans for holding an Interstate Stream Pollution Conference in Philadelphia during the Spring of 1936.

The date was set for March 20, 1936; the place, the Bellevue-Stratford in Philadelphia.

Regional Conference

In as fine a display of supernatural "timing" as it has ever been my privilege to see, the great and destructive floods of the Spring of 1936 were raging through the East and Middle West during the third week of March in 1936. As if to call attention to themselves--and to their inter-related problems--the rising rivers ruined the March 20 conference by preventing the attendance of more than a score of participants. Those men took nature's not-so-subtle hint and rescheduled their regional conference for April 3, extending its scope to include other land and water resources problems of the Basin--including, of course, flood control and water diversion.

Out of the April 3 meeting--a highly successful conference--grew the Interstate Commission on the Delaware River Basin. Its pattern of organization, to include state legislators and administrators from the membership of the State Commissions on Interstate Cooperation, was agreed upon; its functions were defined; its initial objective "to evolve a program for the abatement of pollution of the Delaware River" was established.

The Beginnings

Speaking from my personal vantage point at that time, "behind the scenes,"--I might say here that the simplest part of the job--drafting a set of Articles of Organization--was out of the way. But the practical problems involved in Operation Incodel were untouched.

As a new, quasi-public agency, of course, we had no funds. Yet we needed office space and office equipment, administrative and secretrial help, perhaps some technical engineering assistance.

And so we set to work--with a chisel! We "borrowed" office space in the Franklin Trust Company Building at Fifteenth and Chestnut Streets in Philadelphia; we picked up a couple of desks, some chairs, and a typewriter "on loan" from The Pennsylvania Company.

As a really important "break," the Council of State Governments gave us a grant of funds sufficient to cover the salary of an Executive Secretary, a stenographer, and the cost of essential office supplies.

Incodel was in business by June 18, when its second meeting was held, a meeting which undertook the planning and management of our first Regional Conference, held here at Buckwood Inn, Shawnee-on-the-Delaware, in October of 1936.

Many of you, I am sure, have pleasant memories of that meeting; it marked Incodel's first major move from the "organization" into the "operating" stage.

For ten years we have kept at this job and you have before you tonight a report which briefly, so very briefly that I hope you each will read it, points out the Incodel record during this decade. In ten fields of major interest to

us we have tried, in just a couple of paragraphs, to give you a "flash-back" to the problems we found in 1936 and the action we achieved by 1946.

That that is a very editorial "we" should be perfectly plain, but may I emphasize its broad usage, from our records and from my memory, by paying tribute to some of the people and governmental agencies that have played a substantial part in Incodel history.

(1) To the Council of State Governments we owe much, especially during the early and difficult years. To Henry Toll and Frank Bane, the Council's Executive Directors during this decade, to Hugh Gallagher and his successors in the New York Regional Office of the Council, our obligation is great.

To Dave Robinson, who was lent to us by the Council during our formative years, we are deeply indebted. Dave's assistance to the Commission in the development and execution of public relation activities has been most valuable.

(2) To the Commissions on Interstate Cooperation in the States of New York, New Jersey, Pennsylvania, and Delaware, and especially to Harold Ostertag of New York and Judge Richard Hartshorne of New Jersey, who have chairmaned their state Cooperation Commissions throughout this period, we are most grateful for continuing interest and support.

These agencies are, in effect, our God-parents, and we are thankful for it.

(3) At the state level, we have always received our full share of encouragement from the Governors who have served their states during the years 1936-1946; Governors Lehman and Dewey of New York; Hoffman, Moore and Edge of New Jersey; Buck, McMullen and Bacon in Delaware; and Earle, James, and Martin in Pennsylvania.

(4) We have done a job on water pollution in this period. That job has

been the result of time and effort spent by representatives of the State Departments of Health. I am thinking, particularly, of Harry Croft of New Jersey, Charlie Holmquist of New York, Dick Beckett of Delaware, and Ted Moses of Pennsylvania.

(5) The states' water supply experts during this period, Russell Suter of New York, Howard Critchlow of New Jersey, and Charlie Ryder of Pennsylvania (since retired) surprised even themselves with the success of their long and patient negotiations leading to a solution of this 25-year-old problem.

(6) Representatives of the State Planning Boards have made substantial contributions to our work programs. Over the years we have had close associations with Wayne Heydecker, Russell Black, Charlie Messick, and, of course, our two Commissioners in this field, F.A. Pitkin of Pennsylvania, and M. P. Catherwood of New York, who is presiding at this session.

(7) I should like to acknowledge and to name two wholly unofficial advisors who have given us immeasurably of their valued time, and who, because of their purely voluntary readiness to serve us when called upon, have performed high services of good citizenship: Dr. Abel Wolman of Maryland, and the Honorable Duane Minard, Sr., of New Jersey.

(8) The Attorneys General of the states, Walter Van Riper and his assistant, Dominic Cavicchia, of New Jersey; Nat Goldstein and his right-hand man, Ed Ryan of New York; and Jim Duff of Pennsylvania and two of his associates, Harrington Adams and Miss Burr, have performed great services for us. As a Pennsylvanian I am a bit closer to General Duff than to the others. His interest, his enthusiastic energy in behalf of pure streams and conservation generally, is a story in itself.

(9) A special line is reserved for the United States Senator from Pennsylvania--the Junior Senator,--Francis J. Myers. Frank has been of the greatest possible help to us on the Schuylkill River Restoration program. Without his aid we could not have advanced this job so spectacularly. Frank also has gone to bat for us in advancing other conservation programs in which there is a federal interest.

(10) The Federal Government, through the National Resources Committee, later to be the National Resources Planning Board, was especially active with drainage basin problems and programs during Incodel's early years. The late Isaac Walker served as a joint engineering consultant for the NRC and Incodel during 1936-37, at which time Morton L. Wallerstein of Virginia and Nathan B. Jacobs of Pittsburgh also aided us in consulting capacities.

Representatives of other federal agencies also have worked hand-in-hand with us. I think now of Jack Mangan and Oliver Hartwell of the United States Geological Survey, and of Dr. Patrick and Alvin Watson of the Soil Conservation Service.

I understand that the Northeastern Forest Experiment Station has been in charge of a new director since the first of this month. Our relations with that agency have been close. We certainly are happy to welcome Dr. Harper to this region, also his assistant, Arthur Bevan, an old friend of ours, recently returned from foreign scenes.

At all times during this ten-year span our relations with the Corps of Engineers of the War Department have been really "something to write home about." The group of engineers that have been assigned to the Philadelphia District, through which most problems in which we have a common interest are

routed, have been of the finest. We pay our greatest respects to General Lee who was General Eisenhower's right bower during the past war; to Major Burlin whose life unfortunately was cut short by illness before he had an opportunity to reach the peak of service; to General Vaughan who during World War II, saw that services and supplies reached the United Kingdom when and where most needed; to Colonel Burton who was only with us a few months before he was advanced to the position of division engineer; and to our very dear friend Colonel Renshaw, who has very recently been put in charge of the brand new district office at Manila in the Philippines.

We are happy indeed to have in attendance at this meeting the newly appointed Engineers for the Philadelphia and New York City District Offices, Colonels F. F. Frech and W. F. Heavey. We welcome both of these officers and look forward to working closely with them, as we have with their predecessors.

The Navy, too, has been an invaluable Incodel ally. No one worked harder and more effectively in advancing programs to relieve the Port of Philadelphia of its unenviable reputation of being one of the most foully polluted harbors in the world than Admiral Draemel, who has just recently retired to civilian life. We have assurance from his successor, Admiral Kauffman, whom we hoped we would have the pleasure of greeting at this meeting, that he will continue to push for this accomplishment.

(11) Many individuals, and many organizations--both public and private--have been official or unofficial members of this ten-year team. Mr. Guy Moffett, Executive Director of The Spelman Fund of the Rockefeller Foundation was responsible (through the Council of State Governments) for getting us underway, financially, in 1936.

Mr. R. D. Forbes; Dr. W. Brooke Graves of Temple; Dr. Frank A. Heacock of Princeton; Dr. Frank B. Howe of Cornell; Dr. William S. Pardoe of Pennsylvania; Dr. William Rudolfs of the New Jersey Agricultural Experiment Station; and Dean Thorndike Saville of New York University have constituted our Advisory Committee on Information and Research.

We have had fine relationships with the New York City Board of Water Supply; its Chairman, Irving V. A. Huie, its Chief Engineer, Roger Armstrong, and their predecessors.

(12) Among the cooperating private agencies, I should include the Schuylkill River Valley Restoration Association and especially its Chairman, Judge Grover C. Ladner; the Lehigh Valley Flood Control Council; the Brandywine Conservation Association; the Pennsylvania Roadside Council and its charming spark plug Mrs. Cyril Fox; the Friends of the Land; local chapters of the Isaak Walton League--these and many more.

(13) And last, but by no means least, we acknowledge the wonderful services of the Incodel staff, and particularly those of Jim Allen, our executive secretary, chief engineer, treasurer and general all around handy man. I am positive that no group of public employees anywhere works so faithfully, so tirelessly and so effectively as the members of our staff. Any success which we have attained in a great measure, has been due to their fine work.

And now--at the very great risk of having slighted many people in this enumeration of our own Roll of Honor--I am going to close this section of welcoming remarks with--again--an expression of a deeply personal feeling to that small, loyal, faithful band of men who have served their states so well during

these past ten years through their membership and their energetic participation in the work of this Commission.

In many, many years of public life this has--I want you to know--been my most pleasant and constructive association.

At your leisure I hope you will turn to the second page of the Appendix in the Incodel Report handed you tonight and "pay your respects" to the 44 men who have served on this Commission since 1936.

Permit me to present these men to you personally--as many as are here with us tonight:

(Introduce Commissioners for a bow)

Conclusion

In nearing the close of this opening statement, I am going to take just a few minutes to give you my impressions of the larger implications of the work upon which we have been engaged for the past ten years.

Beginnings are always small, and very often we fail to appreciate the significance of our own activities. Add to that the fact that we are just now painfully trying to pull out of an intense period of world warfare, during which our domestic problems were submerged under the stress of international chaos.

Among these prewar problems there was--you will remember--a fundamental governmental difficulty: the problem of proper adjustment between our forty-eight state governments and our Federal Government.

That problem is still with us; it has not evaporated into One World. It must be continuously reviewed and re-studied with every successive stage of our political and economic development.

I say to you that Incodel has found an effective route by which four Central Atlantic States--New York, New Jersey, Pennsylvania, and Delaware--can cooperate in the conservation, the development, and the enjoyment of the natural resources of the Delaware River Basin.

Amazing and incredible as it may sound, Incodel represents the first regional group of states that has ever organized effectively for the conduct of any mutual undertaking. New York and New Jersey have joined in the operation of the Port of New York; we have the two-state Palisades Park Commission; we have other scattered examples of multi-state cooperation for the operation of particular public works projects or the development of interstate plans and programs in specific fields.

But--until the organization of Incodel--never, in the century and a half of our national existence, had a group of several states set up a continuing organization in order to effectuate a long-term and comprehensive program for the benefit of a region.

We began by thinking primarily about dirt in the Delaware. But we soon found that to be a single part of a much larger Delaware Basin problem of interstate, federal-state, and state-local cooperation.

As Incodel proceeded with its work, as it developed programs for regional progress and for cooperative action on the parts of its states, it had back of it definite lines of communication and of official sanction and support with the legislative, executive, and administrative agencies in each of the participating states.

Under its pattern of organization--which we are, in effect, re-christening on this occasion--such lines of communication and inter-relationship <u>are</u>

assured. Incodel derives its being from the Commissions on Interstate Cooperation of the participating states, and each of those Commissions is made up of five Senators chosen by the Senate, five Representatives chosen by the House, and five administrative officials chosen by the Governor.

The experience of the past ten years has demonstrated that these Commissions, forming collectively from among the forty-eight states the Council of State Governments, are practical, and that they have life.

We have been trail-blazing these ten years; we have been pioneering.

We have made a contribution to a major structural problem of our federal system by capturing the potential values of the states and providing the machinery through which the local impulses and desires of the people may be translated into action by the voluntary cooperation of their public agencies.

For many decades millions of citizens have been talking about the need for an alternative to federal centralization. In one decade Incodel has been engaged in actually providing such an alternative. One of our greatest sources of satisfaction is the knowledge that our method of planning for the development of the resources of a great interstate river basin has captured the attention of the entire nation. In the Missouri River Basin, in the great Columbia Valley, in the Connecticut River watershed, in the historic Potomac Basin, in the valleys of many other interstate streams, agencies have been created which employ the Incodel principles of voluntary and harmonious governmental administration in various ways and degrees.

In ten years we have built a strong foundation which will permit the states in our region and, by example, those in the other regions within our forty-eight states to continue their rightful status of responsible sovereign

agencies of American government. In the next ten years we hope to make our work even more effective. By this, we will surely be doing our part in helping democracy to thrive in America.

May I, on behalf of Incodel, thank you for working with us in what we have accomplished in the past and in what we aspire to achieve in the future.

****

INCODEL

THE INTERSTATE COMMISSION
ON
THE DELAWARE RIVER BASIN

A Decade of Planned Progress

1936-1946

PHILADELPHIA, PENNSYLVANIA



FOREWORD

TEN years in the life of a governmental agency is—or should be—a conclusive period. Either the agency proves itself in practical terms of value and utility, or it is found wanting for one reason or another.

The Interstate Commission on the Delaware River Basin is this year completing a decade of work as a joint governmental agency of the States of Delaware, New Jersey, New York, and Pennsylvania.

It invites your attention to this brief summary of its activity and accomplishment.

N.J. STATE LIBRARY
P.O. BOX 520
TRENTON, NJ 08625-0520

INTERSTATE COOPERATION

THE story of Incodel is a story of interstate cooperation. This project, begun in 1936, was designed as a demonstration of the willingness and the capacity of a group of state governments to work together toward a solution of problems extending beyond the boundaries of a single state.

This experiment in intergovernmental relations was undertaken and has been conducted largely without the benefits of precedents, wholly without the benevolence of great appropriations of public funds, and, simply, without substantial grants of political power and authority.

Voluntary cooperation has been its only tool. It has endeavored to supplement, not supplant, those agencies of the four state governments in this region which have been charged with the responsibility for state administration of land and water resources programs. It has tried to broaden their scope, to blend their efforts into a unified plan and program for the conservation and development of the natural resources of the interstate Delaware River Basin.

Important beginnings have been made.

Important results have been achieved.

WATER POLLUTION

The Problem in 1936

The causes and effects of water pollution are regional in scope and include a wide variety of interests and communities. No single locality, no single state, can adopt the means of public control necessary to put and maintain the waters of the Delaware River Basin in a clean and sanitary condition. It is an interstate problem on an interstate stream.

The Action by 1946

OUTSTANDING among achievements in water pollution control in the Delaware River Basin during the past ten years has been the preparation and official adoption of an interstate agreement for the correction and control of pollution in the waters of the interstate Delaware River.

This Reciprocal Agreement, drafted and negotiated by Incodel, establishes basic standards of cleanliness or purity for the main stream and for its tributaries at their points of confluence. In addition to the pledge of administrative cooperation by each State Department of Health, the provisions of the agreement have been enacted into law in each of the four states of the Basin.

For the first time, the States of Delaware, New Jersey, New York, and Pennsylvania—through their appropriate administrative departments—have agreed to act in unison toward the common end of abating and preventing excessive pollution in the interstate Delaware River and its tributaries.

Since the adoption of this interstate plan, forty-seven Pennsylvania and New Jersey communities have spent more than 10 million dollars building sewage collection and treatment facilities. The facing cities of Philadelphia, Pennsylvania, and Camden, New Jersey, contributors to the most grossly polluted water area in the nation, have completed engineering surveys and plans for projects placed first on their priority programs for postwar construction. Port Jervis, New York, trouble-spot of the upper Delaware Valley, is set to build sewage treatment facilities, with the required assistance of New York City, as decreed in the Delaware River Case.

WATER SUPPLY

The Problem in 1936

For twenty years the States of New York, New Jersey, and Pennsylvania have been at odds over their right to draw upon the flows of the Delaware River Basin for public water supplies. Two extensive efforts toward arriving at an agreement as to how these waters could be divided and allocated among the states were made, in 1925 and 1927. Both failed. Subsequently, two years of litigation, at a cost to the states of well over a million dollars, provided only a partial answer to one phase of the problem when, in 1932, the United States Supreme Court authorized a diversion of Delaware River waters for use in New York City under a specified set of conditions. Future needs in the three states faced the same entangled and costly procedure. These needs were growing.

The Action by 1946

THE states, through Incodel, approached this problem jointly, not independently; cooperatively, not competitively. Starting with the principle of "equitable division," established in the Delaware River Case, the states first undertook a study adapting the rules established by the Supreme Court to other water supply projects, proposed or assumed. After more than three years of careful co-operative study and analysis, the states arrived at an agreement as to the conditions under which any state, at any time, can take the water it needs from the Delaware River Basin for public water supply purposes. This agreement was then incorporated into a concurrent legislative bill, now a law in each of the participating states.

This method of providing for the future diversion of Delaware River Basin waters, drafted and negotiated by Incodel, constitutes a new and pioneering procedure for the distribution of interstate waters.

The statutory interstate agreement, now in effect among the states, will make it possible for the states to avoid controversy. Public water projects may be undertaken as public necessity demands, without conflict, without economic loss, and without the tremendous cost of legal controversy.

WATER CONSERVATION
(A War Emergency Activity)

The Problem in 1942

The five Pennsylvania counties in the Philadelphia Metropolitan District comprised an important nerve center in the nation's network of industrial war production. Planes, tanks, jeeps, guns, ships, and shells—these and thousands of other materials and instruments of war—were manufactured in this District.

These war industries required a tremendous supply of water in their manufacturing processes.

Public and private water systems operating in this District had a combined maximum capacity of 460 million gallons of water a day. The combined domestic and industrial demand for water, in the summer of 1942, was estimated at 500 million gallons a day.

A breakdown in the water supply systems of the area was threatened.

The Action in 1942

UPON the request of the Philadelphia Metropolitan District Council of Defense, strengthened by the appeals of the major water companies, Incodel undertook the organization and administration of an extensive water conservation campaign in the five-county district.

Five hundred thousand printed leaflets, pointing out several specific ways of avoiding waste, were distributed house-to-house by Air Raid Wardens; more than a hundred thousand poster displays and window cards were placed through the District; a series of fourteen radio addresses and round-table discussions on Water and the War in the Philadelphia Metropolitan District was presented; full newspaper coverage was secured.

The results: the voluntary adoption and practice of water conservation measures throughout the District reduced daily demands upon the systems by more than 30 million gallons. Under war emergency conditions the increased industrial usage and heightened home consumption would have raised daily demands upon the system by more than 40 million gallons.

SCHUYLKILL RIVER RESTORATION

The Problem in 1936

The Schuylkill River and its tributaries are an important segment of the Delaware River system. For more than a century these streams have been the depository for wastes resulting from the operation of collieries in the coal fields, more than 30 million tons of coal culm line the bed and the banks of the river.

Increasingly serious damage has accrued over the years by the silting of channels, water works intakes, and sewage treatment plant outfalls. Flood heights have been raised by this clogging of the stream. The navigable channel of the lower Schuylkill River has needed constant dredging, at an annual cost of almost a half-million dollars. Recreational facilities along the river have been destroyed, and property values substantially reduced.

The Action by 1946

CONVINCED that sufficient facts on the Schuylkill problem had been accumulated over the years, the Interstate Commission on the Delaware River Basin set out in 1943 to develop a coordinated plan for restoring the Schuylkill through suggesting the assignment of specific responsibilities to the Federal Government, the Commonwealth of Pennsylvania, and the anthracite coal industry.

Responsibility for dredging operations was divided between the Federal Government and the Commonwealth of Pennsylvania; the coal operators were charged with the installation of works to prevent further deposits in the stream; a desilting basin project to provide additional protection in the stream was assigned for construction by Pennsylvania. Cost allocations indicate that the 34 million dollar estimated total will be borne in the following proportions: coal operators, $6,000,000; Commonwealth of Pennsylvania, $15,000,000; the Federal Government, $13,000,000. This project is now under way.

For the first time during the many years of discussion of this problem, a definite action program has been developed and accepted by the responsible agencies, both public and private.

FLOOD CONTROL AND NAVIGATION

The Problem in 1936

Primary responsibility for navigation projects in river basins throughout the nation rests with the Federal Government. The interests of the states were restricted to an analysis of the effect of federal proposals on the utilization and control of land and water resources as a whole. In 1936, the United States War Department—through the Army Engineers—was proceeding with its program of surveying river basin areas and recommending improvements for navigation and protection from floods to the Rivers and Harbors and Flood Control Committees of the Congress. The problem was one of intergovernmental relationships: how to protect the interests of the states in the preparation and official adoption of federal programs? (See Federal-State Relations: Section 8.)

The Action by 1946

HAVING resolved the basic difficulty by specific amendment to the 1944 Federal Flood Control Act and to the 1945 Federal River and Harbor Act, the states and the federal agencies are now working cooperatively on flood control and navigation programs.

Incodel lends its assistance to the states in support of such urgently needed flood control projects as have been proposed for the Lackawaxen and Lehigh Rivers in Pennsylvania, recently authorized by the Congress.

The Schuylkill River Restoration Project (see Section 5) is a prime example of a navigation project, to be cooperatively financed, which will have benefits far and beyond its immediate objective.

A proposed New Jersey Ship Canal was put before the Congress in 1943 for immediate and emergency authorization. Incodel undertook a special survey of this proposal because of its possible effects upon the quality of the water of the Delaware River below Trenton. It continues to maintain that the use of Delaware River waters for public water supplies is paramount and that construction of the ship canal across New Jersey, as proposed, might seriously jeopardize that use.

SOIL CONSERVATION AND FORESTATION

The Problem in 1936

In the Delaware River Basin, millions of tons of top soil have been washed from agricultural lands into streams. While depleting the productivity of farms, this erosion clogs the waterways with earth and silt and has caused the additional loss of low-lying lands because of the resultant poor drainage. On the average, more than fifty per cent of the growth-producing cover of agricultural areas in the Basin has been washed away, and a substantial proportion of land, formerly used for farming, is almost beyond redemption.

Closely coupled with erosion is the problem of the Basin's woodlands. Ruthless cutting of the forests and the destruction of the ground cover and humus layer have developed conditions unfavorable to tree growth—one of nature's most effective flood control and stream flow regulation measures.

The Action by 1946

GOVERNMENTAL agencies, state and federal, have investigated these conditions and have developed corrective measures which would restore most lands to their proper use and productivity. Private organizations, too, have done splendid work in educating the farmer to the wisdom of sound soil conservation practices.

Soil conservation districts have been authorized by each of the state legislatures in the Basin with powers to provide assistance to the farmers.

Public control of cutting on private forest lands has been urged but not enacted.

Incodel is prepared to direct a major portion of its attention to developing a unified program—federal, state, and local—on the problems of soil conservation and the development of forest resources. It proposes to follow its established pattern of seeking the voluntary cooperation of all interested agencies, both public and private, in the development of a practical program of action during the year 1946-1947.

FEDERAL-STATE RELATIONS

The Problem in 1936

Federal jurisdiction and control over the interstate water resources of the nation was well under way in 1936. With the Tennessee Valley Authority as the impetus, the control of interstate river systems was being looked upon more and more as a federal function, to be directed by federal appointees, to be paid for with federal funds. In 1938 the Congress arbitrarily removed the states from participation in flood control matters. In 1941 decisions of the United States Supreme Court, in the New River and the Red River Cases, informally amended the Commerce Clause of the Constitution by holding that a river need not be navigable in fact to be navigable in law. Thus every stream is clothed with a federal interest and susceptible of development by federal agencies. Congressional legislation to blanket the nation with federal regional authorities was pending.

The Action by 1946

As a joint governmental agency of the states, Incodel opposed the federal proposal to compartment the nation into regional areas for "Authority" development; it counseled caution to a general acceptance of the Authority device by suggesting that the states, generally, back up their "rights" to land and water resources control by a demonstration of their "competence."

In cooperation with other state water resources agencies, Incodel took a position of leadership in diverting the trend of Congressional-Judicial moves toward federal centralization. The 1944 River and Harbor Bill was pending in the Congress and the 1945 Flood Control Bill was in an early stage of preparation. The states took their stand on an amendment to these bills, and that stand met with success. The amendment, now law, declares a policy on the part of Congress to recognize and protect states' interests, their rights and responsibilities in the development of rivers and their watersheds; all future navigation and flood control projects must be submitted for authorization to the Congress, only after cooperative federal-state investigation.

STATE-LOCAL RELATIONS

The Problem in 1936

Accomplishment of Incodel's first major objectives in the fields of water pollution control and water supply distribution requires cooperation from municipalities, from private industries, and from individual citizens. These state-local relationships were severely handicapped in 1936 by a lack of coordination and cooperation among the states. Compulsive anti-stream pollution action against municipalities along one side of the stream was not feasible, rigid enforcement of stream purification laws among private industries was unreasonable as long as the public's problem was prevalent. Similarly, future water supply needs by local public and private developing agencies in the states suffered from a lack of synchronized planning.

The Action by 1946

WITH the crystallization of interstate agreements on the water pollution and water supply problems of the Delaware River Basin, state-local relations have perceptibly improved. Uniform standards are now applied to the municipalities and industries of the Basin, irrespective of geographical location. In addition, the states—through Incodel—have agreed upon a coordinated program of domestic and industrial treatment plant construction.

To assist state and municipal government officials in making this program effective, Incodel has continuously encouraged communities to accept their responsibilities through a direct public relations program; it has supported state enforcement through court actions, as in the legal action brought by the State of New Jersey against the Cities of Camden and Gloucester, in New Jersey; it has appeared and submitted legal briefs "as a friend of the court" in test cases involving the validity of the Pennsylvania Municipal Authorities Act and the Philadelphia sewer rental ordinances.

In the pending New York City-Delaware River water supply project, now nearing completion, and the proposals for a new source of water supply for the City of Philadelphia, Incodel has served as an active and effective liaison agent, harmonizing interstate policy and strengthening state-local relations.

MISCELLANEOUS ACTIVITIES

The Problems in 1936

Incodel's plans for the development of an orderly land and water resources control program in the Delaware River Basin involved, from the beginning, a broad concept of the inter-relationships of water pollution, water supply, soil conservation, forestation, recreation, flood control, navigation, and other land and water uses and abuses. While major attention and effort have been given to a solution of those specific problems which were of regional importance, which were most urgently needed, and which would be immediately useful, many allied studies were carried along concurrently. A sampling of the scope and variety of this activity is indicated below.

The Action by 1946

RECREATION: The potentially tremendous recreational area in the Upper Delaware Valley has been subjected to special study by Incodel. A carefully drafted program of planned development (as opposed to exploitation) was prepared and has been locally sponsored.

SALINITY IN THE DELAWARE: During summer periods of low-flow in the Delaware, the salt content of the water in the tidal section of the river below Philadelphia impairs the quality of the water and damages industrial equipment. Incodel has investigated several alternative proposals and, in cooperation with the industries in the affected area, it has found a practical solution.

MULTIPLE PURPOSE RESERVOIRS: An exhaustive investigation of a proposal to construct a large dam and reservoir in the Delaware River Basin led Incodel to conclude: (1) the "highest use" of the waters of the Delaware watershed is for public water supply and this use has precedence over all others; (2) the development of the Delaware for hydro-electric power *alone* would not be economically attractive; and (3) while power developments *might* be combined advantageously, under public control, with a joint water supply project for Philadelphia and northeastern New Jersey, there appears to be no need for such a joint supply, and the advisability of its development is questionable.

INCODEL

MEMBERSHIP

HON. ELLWOOD J. TURNER
Chairman

HON. M. P. CATHERWOOD
Vice Chairman

MEMBERS OF COMMISSION

Delaware

MR. R. C. BECKETT
State Sanitary Engineer

HON. GEORGE R. CLARK
Member of House of Representatives

HON. GEORGE P. EDMONDS
Member of the Senate

HON. BURTON S. HEAL
Recorder of Deeds, New Castle Co.

MR. W. B. MCKENDRICK
State Highway Department

New York

HON. FLOYD E. ANDERSON
Member of the Senate

HON. M. P. CATHERWOOD
Commissioner, Dept. of Commerce

HON. GEORGE W. FOY
Member of Assembly

HON. NATHANIEL L. GOLDSTEIN
Attorney General

HON. JOHN S. THOMPSON
Member of Assembly

New Jersey

HON. ROBERT C. HENDRICKSON
State Treasurer

HON. DUANE E. MINARD, JR.
Member of Assembly

HON. JOSEPH C. PAUL
Comm. on Interstate Cooperation

HON. JOHN G. SHOLL
Member of the Senate

MR. WILLIAM T. VANDERLIPP
Dept. of Economic Development

Pennsylvania

HON. FLOYD CHALFANT
Secretary, Department of Commerce

HON. WELDON B. HEYBURN
Member of the Senate

HON. FRANKLIN H. LICHTENWALTER
Member of House of Representatives

MR. F. A. PITKIN
Director, State Planning Board

HON. ELLWOOD J. TURNER
Member of House of Representatives

JAMES H. ALLEN
Secretary-Treasurer

INCODEL

A ROSTER OF COMMISSIONERS

1936–1946

Delaware

R. C. Beckett	1936–	W. B. McKendrick	1943–
Charles H. Gant	1936–1941	Henry M. Canby	1939–1941
Burton S. Heal	1941–	John M. Conway	1941–1943
Chauncey P. Holcomb	1936–1939	Harold W. T. Purnell	1939–1941
George R. Clark	1943–	Norris N. Wright	1937–1939
George P. Edmonds	1943–	Walter Dent Smith	1936–1937

New Jersey

Robert C. Hendrickson	1936–	Crawford Jamieson	1936–1938
Joseph C. Paul	1936–	John G. Sholl	1943–1945
Charles P. Messick	1936–1945	Harry Roye	1937–1938
Mary G. Roebling	1938–1942	William T. Vanderlipp	1945–
Duane E. Minard, Jr.	1943–		

New York

Martin P. Catherwood	1939–	Earle S. Warner	1941–1943
Mario J. Cariello	1938–1943	Julius S. Berg	1936–1938
John S. Thompson	1941–	Benjamin F. Feinberg	1939–1941
Emerson D. Fite	1938–1941	Rae L. Egbert	1938–1939
George W. Foy	1943–	Maurice A. Fitz Gerald	1937–1938
Nathaniel L. Goldstein	1943–	Robert Whitten	1936–1937
Wayne D. Heydecker	1937–1939		

Pennsylvania

Elwood J. Turner	1936–	Richard P. Brown	1939–1941
F. A. Pitkin	1936–	Thomas A. Logue	1936–1938
Weldon B. Heyburn	1939–	Mark S. James	1941–1943
Franklin H. Lichtenwalter	1943–	George A. Rupp	1936–1938
Floyd Chalfant	1943–	Robert Lee Jacobs	1938–1939

INCODEL

STATE-INTERSTATE LAWS

Interstate Cooperation

An Act to Facilitate the Cooperation of This State with Other Units of Government and to Establish an Unpaid Commission for That Purpose . . .

DELAWARE.....*Chapter 202, Laws of 1939*
NEW JERSEY.....*Chapter 21, P.L. 1936*
NEW YORK.....*Annual Concurrent Resolutions*
PENNSYLVANIA.....*Act No. 35, Laws of 1937*

Interstate Water Pollution

An Act to Promote Interstate Cooperation for the Conservation and Protection of Water Resources in the Delaware River Basin . . .

DELAWARE.....*Chapter 93, Laws of 1941*
NEW JERSEY.....*Chapter 146, P.L. 1939*
NEW YORK.....*Chapter 600, Laws of 1939*
PENNSYLVANIA.....*Act No. 123, Laws of 1945*

Interstate Water Supply

An Act to Promote Interstate Cooperation for the Conservation, Protection, and Equitable Diversion of the Water Resources in the Delaware River Basin . . .

NEW JERSEY.....*Chapter 121, P.L. 1944*
NEW YORK.....*Chapter 709, Laws of 1943*
PENNSYLVANIA.....*Act No. 193, Laws of 1943*

N.J. STATE LIBRARY
P.O. BOX 520
TRENTON, NJ 08625-0520

INCODEL

SELECTIVE PUBLICATIONS

WATER POLLUTION. *First printing of the Interstate Agreement for the conservation and protection of water resources. Contains introductory sections on general problems of land and water use: 19 pp., tables, maps, charts, November, 1938.*

MUNICIPAL AUTHORITIES. *Reprints the Incodel legal-economic brief in support of the Pennsylvania Municipal Authorities Act and includes the Pennsylvania Supreme Court's decision upholding the validity of that Act: 22 pp., January, 1939.*

THE PHILADELPHIA POLLUTION PROBLEM. *A series of mimeographed reports and analyses of the Basin's major problem area 1938–1946.*

THE UPPER VALLEY. *Outlines a conservation and development program for the states, counties, municipalities, and citizens: 20 pp., illustrated, map, chart, March, 1939.*

PLANNED PROGRESS IN POLLUTION CONTROL. *Covers three years of planned progress, 1936–1939, toward the restoration and maintenance of the quality of water in the Delaware River Basin: 20 pp., illustrated, maps, tables, charts, January, 1940.*

PHYSICAL FACTS. *A graphic compendium, depicting some of the major physical facts with which the state governments are concerned in facing land and water resources problems in the Delaware River Basin: loose-leaf format, maps, charts, graphs, tables, commentary, January, 1940.*

WATER SUPPLY. *A series of mimeographed chronologies of water supply problems, surveys and reports on specific projects, abstracts of the Delaware River Case, salinity studies, the New Jersey Ship Canal, technical reports on background material, tests, and formulae leading to Delaware River Basin Water Supply Acts: 1936–1946.*

OFFICIAL DOCUMENTS

ANNUAL REPORTS. *Summaries of activities and accomplishments for the fiscal years 1936–1946, printed, illustrated, tables, maps, charts. Mimeographed reports for the years 1936-41.*

Legislative Acts authorizing the creation of Incodel, Articles of Organization, Reciprocal State-Interstate Laws on stream pollution and water supply: cumulative, 1936–1946.

THE INTERSTATE COMMISSION ON THE DELAWARE RIVER BASIN

PROCEEDINGS OF INCODEL SESSION ON WATER CONSERVATION
THURSDAY MORNING, JULY 11, 1946.

THE INTERSTATE COMMISSION ON THE DELAWARE RIVER BASIN

PROCEEDINGS OF INCODEL SESSION ON WATER CONSERVATION
THURSDAY MORNING, JULY 11, 1946.

In the absence of State Treasurer Hendrickson, Duane E. Minard, Jr., member of Incodel from New Jersey, presided at the Thursday morning session on conservation of water resources.

STREAM POLLUTION CONTROL

The program was opened by a discussion of stream pollution control with special reference to pending federal legislation, presented by Mr. Richard C. Beckett, State Sanitary Engineer of Delaware and Member of Incodel. A copy of a prepared paper from which Mr. Beckett read is appended hereto.

SCHUYLKILL RIVER RESTORATION PROGRAM

Mr. James H. Allen, Executive Secretary of Incodel, presented a brief report covering the development of the Incodel program for the restoration of the Schuylkill River. Mr. Allen stated that the problem was of long standing and pointed to the fact that the despoliation of the river began with the opening of the anthracite mine fields located at its headwaters 140 years ago. No constructive effort, he said, was made to correct the situation until Incodel undertook a special investigation of the problem in 1943, after observing that other agencies interested or affected were following the futile process of trying to place the blame upon each other. He complimented the Army Engineers for presenting a practical physical plan in 1938 but stated that the plan was deficient in that it did not allocate the responsibilities for carrying it out and particularly because the Engineers had concluded that there was no

economic justification for federal participation, despite the fact that they were spending about $500,000 a year for maintenance dredging to remove silt from the navigable section of the Schuylkill River below Fairmount Dam.

Mr. Allen then referred to the 1943 Incodel recommendations calling upon the coal operators, Commonwealth of Pennsylvania and the Federal Government to join hands in the prosecution of a $35,000,000 project to restore the river. After referring to the acceptance of these responsibilities by each of the agencies involved, as evidenced by the adoption of the programs by the 1945 legislature of Pennsylvania and by the approval of the project by Congress in 1946, he criticised Pennsylvania for not pushing the construction phases of the project vigorously.

Chairman Turner supplemented the remarks of Mr. Allen about the lack of action on the part of the State with an attack on the penurious policy of the State as to expenditures for engineering services required to advance the Schuylkill project. As an example, he referred particularly to the penny-wise, pound foolish attitude that had been followed in letting a difference of $500 in annual salary for the services of a project engineer interfere with the prosecution of the entire program.

WATER SUPPLY DIVERSION PROJECTS

The Incodel Program

Assistant Attorney General of New York State, Edward L. Ryan, representing Attorney General Goldstein, presented a brief report on the Incodel program on water supply diversion projects. Mr. Ryan explained that the acts which had been passed by New York, New Jersey and Pennsylvania had not become operative because the Secretaries of States, whose certification to the substantial

similarity of the acts is required, were advised by the Attorneys General that a prerequisite to certification was the settling of the fundamental question as to whether the Supreme Court retained jurisdiction over all water supply projects in the basin. Mr. Ryan explained that General Goldstein was preparing a petition to the Court in reference to this question and would submit it to the Attorneys General of New Jersey and Pennsylvania for their review within a short time. It is the intent of the three states to join in the presentation of this petition to the Supreme Court at its October 1946 term. Following the ruling by the Court, the States, through Incodel, would then be in a position to determine upon a program to have the acts become fully operative.

New York's Delaware Project

Mr. Roger W. Armstrong, Chief Engineer, New York City Board of Water Supply, explained the New York City project for tapping the upper tributaries of the Delaware in New York State. He complimented Incodel for its work in devising conditions under which future water supply diversion projects could be undertaken in any of the states without it being necessary to resort to time consuming and costly litigation in the Courts. He stated that the Incodel rules, in contrast to those contained in the United States Supreme Court decree, were more practical and less subject to varying interpretations.

Philadelphia's Water Problem

Mr. Frank B. Murdoch, Special Counsel, Philadelphia Water Commission, presented a historical account of the Philadelphia water problem leading to the creation of Mayor Samuel's Water Commission in 1946. He reviewed the findings of the Board of Consulting Engineers employed by the Water Commission and explained that the Board had concluded that the present sources could be made

safe and palatable by the expenditure of approximately $60,000,000. As to a new upland source, he reported that the engineers had studied seven possibilities and had concluded that, if the city decided to secure a new supply from the upland region of the Delaware, the most advantageous project would involve the development of a reservoir on the main channel of the Delaware by the construction of a dam at Wallpack Bend. He explained that as special counsel to the Commission, one of his first tasks was to determine whether the interstate aspects of the Wallpack Bend project would be insurmountable. Stating that he had been informed that New Jersey would take a "dog-in-the-manger" attitude in the matter, he undertook to analyze this situation at the outset. He stated that because of the existence of Incodel he had concluded that New Jersey would be fully willing to cooperate, but would, of course, insist upon the preservation and protection of its rights to the use of the waters of the river. Mr. Murdoch closed his report by pointing out that the city had not yet endorsed any project to secure water from upland regions.

New Jersey's Interests

After a few preliminary remarks, Hon. Walter D. Van Riper, Attorney General, State of New Jersey, called upon Russell E. Watson, Assistant Attorney General, to make a statement to the conference as to New Jersey's interests in water supply diversion projects. Mr. Watson briefly reviewed the urgent need of New Jersey to secure future additional supplies of industrial and municipal water, particularly for northeastern New Jersey. He indicated that the State would jealously protect its rights to secure water from the Delaware River but would not arbitrarily raise issues to prevent Philadelphia from proceeding with a project for the development of new sources of supply, provided New Jersey's

rights were adequately protected.

Philadelphia Chamber of Commerce and Board of Trade

Mr. J. Harry LaBrum, Chairman of the Philadelphia Chamber of Commerce Pollution Abatement Committee, briefly warned the conference that any plan for future water supply for Philadelphia must be operated in such a manner as to not diminish stream flows in the navigable section of the Delaware below Trenton or adversely affect the Port of Philadelphia.

Summarization

Mr. Allen, Executive Secretary of Incodel, concluded the session on water supply diversion projects by pointing out that Incodel was the joint governmental agency of all four states in which the Delaware watershed is located and that one of its responsibilities was to assist New Jersey in the protection of its interests in the use and enjoyment of the resources of the basin.

****

STREAM POLLUTION CONTROL WITH SPECIAL REFERENCE * TO PENDING FEDERAL LEGISLATION

Mr. Richard C. Beckett
State Sanitary Engineer of Delaware and Member of Incodel

Ralph Waldo Emerson said many years ago, "Every institution is the lengthened shadow of a man." We can say truly on this Tenth Anniversary of the fourding of the Interstate Commission on the Delaware basin that it is the lengthened shadow of our chairman, Mr. Ellwood Turner. I might say there are many types of shadows and, in this particular case, I would have to admit it is quite a broad one. Nevertheless, it is a real shadow with substance. There are other shadows which have flitted across the scene during the last decade and one of these is that of Doctor Abel Wolman, whom many of you will remember ten years ago drew a word picture of the Delaware River Basin and in which he likened the efforts to control the streams in this basin to the similar efforts of the Balkan states to control their political and economic lives in Europe. I am sure that if Mr. Byrnes, our Secretary of State, were here, he would object to Doctor Wolman singling out the Balkans as one of the bad spots in the world. To Mr. Byrnes, the little squabble in the Balkans must seem as quiet and still as this little valley in which we are now nestled waiting to hear about the strides made during the past ten years. He has found out that the Balkans are but one problem making up the huge problem of the world-wide control of men and goods as we have found that our little problem in the Delaware River Basin is just one of the many involved in the attempt to control the gigantic problem of stream pollution in these United States.

---

* Delivered at Tenth Anniversary Meeting of the Interstate Commission on the Delaware River Basin at Shawnee-On-Delaware, July 11, 1946.

I am going to draw a little on Doctor Wolman's testimony last year before the House Rivers and Harbors Committee in order to give you an overall picture of the pollution problem that confronts us throughout the United States and to indicate to you that there are many different groups of people interested in this problem from many different angles, such as health authorities, fish and wild life groups, recreational groups, and others, as well as the large groups connected with industry and further that these same groups find different problems in different sections of the nation. As he indicated before the members of the committee, this is not a simple problem that can be controlled by a policeman's club. Many agencies and institutions have been working on this problem for decades and certainly as far as industrial wastes are concerned, not all the answers have been found. As chairman of the National Resources Committee for eight years, Doctor Wolman was familiar with the entire picture and it was the committee's opinion in the late thirties that the cost of correcting the stream pollution would be in the neighborhood of something like $2,500,000,000. While that was a staggering sum then, the war has somewhat dwarfed our former conception of digits. In the allocation of responsibility for pollution he stated half of it would go to public bodies and the other to the industrial groups. The reports issued by the National Resources Committee further indicated that pollution was of national interest, but not necessarily of national geographical distribution. It depended on the presence of large cities and also on the intensification of industrialization. Furthermore, as his testimony brings out, there are many gradations in the mechanics of solving the problem, namely those of the intrastate waters, the interstate waters which concern small areas, and the interstate streams which cover areas as large as Europe.

Another problem posed by Doctor Wolman was the theory and philosophy about grants-in-aid to municipalities and loans to industry. He questioned the blanket use of grants-in-aid, on the other hand admitted that our experience of the thirties did give an impetus to public works projects of this type. As to loans to industry, I believe he is opposed to this as are many others. Certainly, I believe he would be opposed to financial aid to so-called natural resources, industries and even Mother Nature probably would object to monies being loaned to industries to help them remove the industrial wastes they have already contributed to pollute Mother Nature's own streams. On the other hand, some say we have subsidized practically all groups in the United States and why should we draw a line here. The principle argument in both the case of public bodies and private industry is that the use of grants-in-aid and loans keeps the subject before the two great groups day by day and year by year.

Prior to the depression of 1933, the rate of construction of sewage pollution abatement plants on the municipal level for the two decades averaged annually from 100 to 150 million dollars a year whereas the grants-in-aid, in principle at least, lifted this volume up for a short period of time to something approaching 250 to 275 million dollars per year. From the over-all national viewpoint, perhaps it is a good investment. The speaker also agrees with Doctor Wolman in that if the Federal Government can give grants-in-aid as is contemplated in the several bills, why does not the state follow in the same pattern, particularly those states which are in excellent financial condition at the present time. This community of interest should extend from the municipal, to the state and thence to the federal level. In conclusion, Dr. Wolman further states that this same problem of stream pollution will be found

in Germany, England, France and all the other countries; furthermore, that so far it has not kept pace with industrial development, with the growth of population, and with the absence in industry of technilogical answers. As he puts it: "I wish it were possible to say to the committee after twenty-eight years' struggling with this particular field, at various levels of government, municipal, state, federal and inter-national, that there is an easy road to the solution-I have not found it." That is the paragraph that should be engraven on all the strong states-righters, the central government advocates, the Izaak Walton Leaguers and the more conservative state departments of health throughout certain sections of this country.

What has been done about the problem of stream pollution as indicated by statistics now available?

In 1860, according to Hyde, and I am quoting from the testimony introduced by Doctor Thomas Parran, Surgeon General of the United States Public Health Services, about 1,000,000 people out of a total urban population of 6,000,000 were provided with some kind of sewerage, representing 17% of the total population. In 1900, this population increased to 25,000,000 representing 35% of the total urban population. By the end of 1942, according to recent surveys of sewerage facilities conducted by the United States Public Health Service and in cooperation with the several state health departments, the total population of 8,430 communities, both incorporated and unincorporated, with one hundred or more persons, had reached approximately 81,000,000 of which 70,900,000 or 87% were estimated to be connected to sewers.

Referring only to incorporated communities of 200 population or more, a total of 7,480 such communities having a population of 78,906,000 are now provided with sewerage facilities, either wholly or in part. These figures

indicate broadly that during the past four decades, the total population connected to sewer systems has increased more than three times and its percentage of the total urban population is about two times and a half. This, of course, is only a picture of the public aspects and the pollution occasioned by industry located outside of these incorporated areas must be added to this. In many cases, this pertains to an entire industry by itself, and in many cases also no solution has been found for certain particular types of industrial wastes.

In the year 1900, also according to Hyde, there were roughly sixty municipal sewage treatment plants serving a total population of about one million, or 4% of the population living in sewered communities. In 1935, there were approximately 3,700 municipal treatment plants serving a total population of 28,500,000 or 41% of the population resident in sewered communities. During the five years, 1935 to 1940, under the stimulus of federal aid projects, the number of treatment plants increased phenomenonally. In 1942, according to the United States Public Health Service surveys, some 5,126 incorporated and unincorporated communities having one hundred and more persons connected to sewers were wholly or partially served by 5,600 treatment plants. The estimated population connected to treatment plants was about 42,200,000 or 60% of the population connected to sewers. As the latter was about 70,900,000 the total population discharging untreated sewage through public sewerage systems thus approximated 28,700,000 that year.

During the past few years, because of the war effort, construction has been definitely suspended but there is a sizeable backlog of deferred projects. A so-called "Needs" program of sanitation facilities has just now been completed by the several states and forwarded to the U. S. Public Health Service. These

figures when compiled will give an up-to-date picture of sewage treatment facilities as they exist as of June 30th, and further will show in the opinion of the several states, just where and what towns will need certain types of sewage treatment.

The foregoing description of the national problem of stream pollution and the statistics quoted indicate the magnitude of the work to be done and the reason for the national interest which has been so widespread throughout the nation. The arousing of this interest has been a slow, up-hill job and all of us are indebted to the enthusiasts, be they the so-called "Wild Lifers", the "Fish and Game" fanatics or just ordinary public health officials and politicians.

This national interest has culminated in the consideration of three bills now before the Congress and extensive hearings were held on both proponents and opponents were given full opportunity to testify.

Judge Mansfield who was chairman of the House Rivers and Harbors Committee was a very fair chairman and expressed the keen interest of one who has spent twenty years following this problem. As he expressed it, he wanted to see some group or groups make a real attempt to at least keep pace with the pollution problem and someday to overtake it.

The Committee, after hearing the discussion on the three bills, by request then submitted a new bill to Congress. However, before discussing this new bill, I am going to ask your indulgence while the main features of the three bills are outlined.

MUNDT BILL - H.R. 519

The Mundt bill - HR-519, provides for a National Board of Water Pollution Control, consisting of the Secretaries of Interior, Agriculture, War and Navy, the Surgeon General of the United States Public Health Service and the chairman, and ranking minority member of the Senate Commerce Committee and similar ranking members of the House Rivers and Harbors Committee. The operating Commission consists of two commissioned officers of the Public Health Service, experienced in engineering, two officers of the Corps of Engineers, experienced in river development, and one representative each from the following: the Fish and Wild Life Service, Bureau of Mines Bureau of Reclamation, Soil Conservation Service and Forest Service. The senior officer appointed from the Public Health Service shall serve as chairman of this operating commission. The Commission shall cooperate with the appropriate agencies authorized by law or duly designated to deal with water pollution, to cooperate with municipalities and industries involved, prepare comprehensive plans for the elimination or reduction of pollution of navigable waters and their tributaries, due consideration being given to the necessity for the conservation of such waters and to promote their use of public water supplies, propagation of fish and aquatic life, recreational purposes, agriculture, industrial, and other uses. The Commission shall encourage cooperative action by the several states for the prevention and abatement of pollution; encourage the enactment of uniform state laws; encourage compacts between the several states; make available to state agencies, municipalities, industries, and individuals, the results of such surveys, studies, investigations and experiments. The Commission shall classify the navigable waters into sanitary districts and fix and determine the boundaries with power to alter such boundaries with the

areas conforming to water sheds irrespective of state boundary lines. The Board shall fix standards of cleanliness in each sanitary water district. Where compliance with standards of cleanliness fixed by the Board be impossible or impracticable before two years from date of enactment of this act because (1) no suitable method of treatment is known; (2) or because of financial inability or statuatory limitations on borrowing power, an extension of time, not exceeding five years from such effective date, may be given, the burden of proof resting on the industry, municipality, or other public body seeking it at public hearing. The Board may grant additional time beyond the five year period. A sum of $250,000 is appropriated for necessary expenses. The Commission may submit findings to the Board for loans and grants to municipalities or other public bodies, and for loans to industry under conditions and amounts prescribed by Congress for other public works.

The bill further definitely states that it is the policy of Congress in the administration of this Act to encourage state and interstate compact agencies to exercise their statuatory authority in the prevention and abatement of pollution and that action by the Federal Board will be taken only after such existing authorities have been given an opportunity to act, and six months after receipt of written notice from the Board have failed to do so.

The most controversial portion of the bill is the following paragraph:

"Pursuant to the powers of the United States to regulate interstate commerce and navigation; to extend, change, and amend the admiralty and maritime law; to give due effect to the migratory bird treaties; and to protect the fisheries, Congress hereby declared the discharge or deposit, directly or indirectly, of any waste, except the normal discharge of sewage from toilets of boats, or from the galley sink drains, or the normal amount of oil that may be discharged from the exhaust pipe of a motor boat, or other substance, whether in a solid, gaseous, or liquid state, into any of the navigable waters of the United States in violation of regulations promulgated by the Board if such waste or other substance is or may be injurious to human health or to any form

of life, including aquatic life, or to migratory birds as defined in the Migratory Bird Treaties of August 16, 1916, and of March 15, 1937, or impairs in any manner the utility of such waters for navigation purposes, to be against the public policy of the United States and to be a public and common nuisance. An action to prevent or abate any such nuisance shall be brought in the name of the United States by any United States Attorney when requested to do so by the Board: Provided, That when a duly constituted State Agency or Interstate compact agency with authority to enforce the provisions of this Act is in existence, action by the Federal authority will be taken only after such existing authorities have been given an opportunity to act, six months after receipt of written notice from the Commission, have failed to do so. Such action shall be brought as an action in equity and may be brought into any court in the United States having jurisdiction to hear and determine equity cases."

The most distinguishing feature of this bill is the following, namely, that polluters are given a two year period of time before action can be taken but, on the other hand, no pollution from new sources, either sewage or industrial wastes, shall be permitted to be discharged after the passage of this act, into navigable waters of the United States and tributary thereto, unless and until approved by the Board. Finally, nothing in the act limits the right of any person or public body to bring action in law or equity for damage on account of the pollution of any waters or for the abatement of such pollution.

SMITH BILL - H.R. 587

In the Smith Bill, HR-587, there would be established in the U.S. Public Health Service, a Division of Water Pollution Control with a Director who shall be a commissioned engineer officer of the Public Health Service detailed by the Surgeon General and who would hold the rank of Assistant Surgeon General. The Division would, in cooperation with the Chief of Engineers of the War Department, other federal agencies and the agencies of the several states, authorized by law or duly designated by the governors of said states to deal with water pollution, prepare comprehensive plans for the reduction of pollution in navigable waters of the United States and tributaries thereto, due consideration being given to

the use of same for public water supplies, etc. The Division shall likewise encourage among the several states, cooperative studies, uniform laws and make available such surveys, reports and experiments. The Division, upon request of any state health authority and subject to the approval of the Surgeon General shall conduct investigations and make recommendations for the correction and elimination of pollution. It may also, at the request of any municipality make periodic tests of the water at any bathing beach within the limits of such municipality and shall make recommendations for corrections. Any state, municipality, or other public body now discharging untreated or inadequately treated sewage or wastes is declared eligible for federal grants-in-aid and or loans, such to be made upon such terms and conditions as the President, upon recommendation of the Secretary of the Treasury, may prescribe subject to limitations: (1) certification by the state health authority having jurisdiction and upon approval by the Surgeon General; (2) no grants to be in excess of 33-1/3 percentum of the cost of the project, including preparation and cost of plans.

All loans shall be adequately secured, interest at 5% and not to exceed 10 years. In the Division referred to above, a Board of five members is established: four to be commissioned engineer officers of the Public Health Service, the majority of whom shall be experienced in sanitary engineering. All reports, investigations and applications for grants shall be referred to this Board. The fifth member shall be the Chief of Engineers of the War Department or a member of the Corps designated by him. The Board shall submit to the Surgeon General, recommendations for grants-in-aid and or loans and may investigate proposed localities where treatment plants are to be located. The Board likewise shall classify the navigable waters and establish sanitary water districts and extablish standards of purity and recommend minimum requirements as to the treatment

of polluting material entering said streams. A common nuisance is defined as a lowering of the standards of purity of said streams as established by the Board. Action by the United States District Attorney, however, shall be taken in equity only after expiration of three years from the date the act takes effect. Such action shall not limit the rights of any person to bring action for damages. All special reports ordered by Congress shall be submitted by said Board and the Board also, on request by resolution of the Committee on Commerce of the Senate or the Committee on Rivers and Harbors of the House of Representatives as submitted to the Surgeon General, shall examine and review all reports, examinations and projects for the elimination or reduction of pollution or for the construction of treatment works and shall report through the Surgeon General who in turn shall submit his conclusions on through to the Secretary of Treasury and to the President, as in other cases. The Board shall make yearly estimates of the cost of approved applications for grants-in-aid and or loans and shall determine the priority of individual projects, and the Surgeon General shall submit such recommendations on or before July 1st through the Secretary of Treasury for incorporation in the Presidential budget. The act appropriates $50,000,000 for grants-in-aid and/or loans. The sum of $300,000 is appropriated for the necessary expenses of the Division and the sum of $700,000 annually to be allocated and paid to the states by or under the direction of their respective health authorities, and necessary studies for the prevention and control of pollution.

SPENCE BILL- H.R. 4070

The Spence bill, or HR 4070, specifies that the Surgeon General of the U.S. Public Health Service, under the supervision and direction of the Federal Security Administration shall have the responsibility and duties relating to water pollution control provided by the act. He likewise is authorized, in cooperation with federal agencies, state health authorities, interstate agencies, municipalities, and industry, to prepare comprehensive programs for the elimination of pollution and improving of the sanitary condition of the surface and underground waters in or adjacent to any state, to the various uses of water as prescribed in the previous laws. This bill introduces for the first time the question of underground waters, a most important problem in many of our states. He shall further encourage the enactment of uniform state laws, compacts, disseminate information and make available to the several groups the results of any and all such investigations. The consent of Congress is given to states for agreements or compacts for the abpve purpose.

When is the opinion of the Surgeon General as revealed by surveys or reports that the health and welfare of citizens is being jeopardized by the pollution of waters, the Surgeon General may give formal notification thereof to the proper state health authority or interstate agency and may outline remedial measures and specify a time regarded by the Surgeon General as reasonable to secure abatement. If action to abate such pollution is not taken within the time specified, this failure shall again be brought to the attention of the authorities and may be accompanied by recommendation that suit to abate the pollution be initiated by said state or interstate agency in the court of proper jurisdiction.

The Public Health Service upon request to any state health authority or interstate agency and subject to the approval of the Surgeon General, may make investigations and surveys of any specific pollution problem. The Service shall prepare and publish such reports and studies made under the authority of the act.

The Federal Security Administrator is authorized to expend Federal aid in the form of grants-in-aid, loans, or both, to any state, municipality, or other public body, to prevent wastes from being discharged into surface or underground waters and for the preparation of said plans and specifications. Such loans or grants-in-aid or loans shall be made upon terms and conditions as prescribed by the President, subject to the following limitations: (1) shall be made only with respect to projects approved by the appropriate state health authority and the Surgeon General; (2) no grant to exceed 50 percentum of the reasonable cost, as determined by the Surgeon General, including preparation of the plans and the carrying of same into execution (3) All loans to bear interest rates as determined by the President. Loans may be made to industrial enterprises subject to the following conditions, (1) shall be made only with respect to projects approved by the appropriate state health authority and the Surgeon General; (2) all loans made shall be fully and adequately secured and shall bear interest at the rate prescribed by the President and (3) loans not be exceeded ten years.

The Surgeon General shall prepare and list all projects agreed upon by the several states and shall list them as to priority, the same to be presented to the President for incorporation in his Annual Budget.

There is established in the Service, a Water Pollution Control Advisory Board, composed of the Surgeon General or a sanitary engineer officer designated by him, who shall be chairman of the Board, representatives of the War, Interior and Agricultural Departments, designated respectively by the Secretaries and

four persons (not officers or employees of the federal government) to be appointed annually by the Surgeon General. One such person shall be an engineer expert in sewage and industrial waste disposal, one who has taken an active interest in wild life conservation, one person representative of municipal government, and one of affected industry.

The sum of $100,000,000 dollars shall be appropriated each year for grants-in-aid. The sum so appropriated so far as any project is concerned shall remain available until expended. The sum of $1,500,000 is appropriated and allotted for use by state health authorities or to interstate agencies for the promotion of investigation, surveys, and studies necessary in the prevention and control of water pollution. The Surgeon General may also use said monies for advance planning by states, municipalities, and other political sub-divisions, the same to be allocated to state health departments for distribution for such purposes.

The Spence bill, as well as its predecessors, has been looked upon with favor by most of the state health agencies as well as certain interstate agencies since it would enlarge the present scope of the U. S. Public Health Service in its cooperation with the various health agencies throughout the nation. The adherents of a strong federal pollution control bill have in the main objected to the Spence bill due to the lack of any strong enforcement provision. Those who attended the hearings before the Rivers and Harbors Committee and who have since read the printed testimony, could sense that many members of the Committee felt that the states had not even kept pace with the increase of pollution that has occurred in this country. Furthermore, the objection was raised to the fact that no provision is provided in the bill that would take care of new pollution, such as it is incorporated in the Mundt bill.

There have been changes, however, occurring in this country which have altered the picture insofar as a sound approach to the solution of the pollution problem is concerned. One of these is the impetus given to the construction of sewage treatment plants by the policy of the federal grants-in-aid. All of the bills so far considered have accepted this policy which ten years ago would have been anathema even to all opponents of stream pollution control. We have grown up a little since then. Furthermore, under the Social Security, the U.S.Public Health Service, through additional grants by the federal government, has enormously expanded health work in the states and as a fortunate by-produce a greater cooperation exists between one arm of the federal government; namely, the U.S. Public Health Service and the various states, than was ever considered possible ten years ago.

Many of us who have been connected with state health departments for years know the U. S. Public Health Service and are not afraid of it. Speaking as one who had had relationships with this agency for nearly two decades, I have never known an instance where arbitrary action has been taken or any unreasonable demands made. The U.S. Public Health Service has been a good prodder and has initiated programs throughout the country, many of them long overdue but which the states were powerless or unwilling to initiate. Their position with respect to the states has been analogous to our relationship as a Commission to the several states in the Delaware River Basin. Another important factor, viewed in the light of the reasons given above, is that under the Spence bill it would enable both the states and the U.S. Public Health Service, working cooperatively, to have the privilege of picking out those problems and projects which are the most urgent and which both agencies may designate as eligible for federal aid.

While many persons disagree with the philosophy in back of the grants-in-aid, a great many of these objectors are rather deficient in their knowledge of American history, particularly when the long history of subsidy, which word merely condenses a three letter phrase into one word, is outlined. Very few movements in this country have been initiated without subsidy and I do not believe the principle will be dropped overnight. Another factor tending to break down the barriers between federal and state relationship has been the prodigious war effort handled jointly by the Federal Government and the states. The necessity of war has caused all of us to take a broader viewpoint as to these very relationships.

The war reference brings up the point and gives one an opportunity to use a military simile - whether we want pin-point bombing or atomic bombing. My son has just returned home from Japan and he states that they knocked out nearly everything around the Imperial Palace. They saved certain hotels as well as dams, showing that selective destruction can be planned also. Many of us believe the pin-point solution of solving the pollution problem, particularly one exercised by the experienced personnel, both of the U.S. Public Health Service, the various states and interstate agencies, will in the long run be much more effective than the atomic bomb type of pollution control which is being advocated by the "Izaak Walton Leaguers and other groups. We who have been in this work for a good many years know that when certain problems would have to be handled in a strong federal set-up that the atomic bomb would most likely either go off in mid-air or miss the target entirely. The progress made by the Federal agencies in eliminating oil pollution from our navigable streams gives one pause as to the effectiveness of Federal control in this much larger field as envisaged by the several bills.

During the past decade, still another movement affecting our Federal-State relationship has occurred within the United States and I refer to the Council of State Governments which has accomplished during this period, the establishment of Interstate Commissions on Cooperation primarily for liaison purposes in order to keep the states, their officials and agencies and political representatives cognizant of what is going on in other states and particularly with reference to the relationship of the states one to another and with the federal governments. Thrcugh the work of the Council of State Governments and their Secretariat and the various Commissions, certain agencies have been set up to deal with certain problems and the one with probably the longest history and best record is that created by the four states - New York, New Jersey, Pennsylvania and Delaware, in the establishment of the Interstate Commission on the Delaware River Basin. Since then, a sister commission; namely, The Interstate Commission on the Potomac River Basin has also been created. Two weeks ago, the New York Joint Legislative Committee received a report and outline of the work to be done by its Water Pollution Committee dealing with intrastate activities. During this decade, much work has been done by other commissions in breaking down the rigid barriers or shall we call them iron curtains, which separate the states one from another and also facilitated needed cooperation between the states and the federal government.

The men who have been primarily responsible for the work accomplished by the Interstate Commission on the Delaware River Basin during the past decade have demonstrated during this period that the four states which were as widely divided in their fields of cooperation as the states and the federal government, have changed in about the same degree. We feel that Incodel, to use the shortened term, has demonstrated that four states with the cooperation of their

several agencies, can through the guidance of an over-all Commission, created by the four states, successfully plan and solve the problems of this area and this without resort to coercive measures. Many of us feel that these same states and their creature Interstate Commissions on Cooperation working with the established federal agencies, can also solve the pollution problems of today with each group taking its fair share of responsibility and doing it as a matter of duty and of pride of accomplishment.

By mutual action of the states and the Commissions, many accomplishments have been made. Over the period dating from 1939 to the outbreak of the war, more than $10,000,000 worth of construction of sewage collection and treatment facilities was made in some 47 municipalities principally in the Pennsylvania and New Jersey section of the watershed. Similarly, great progress has been made in the problems facing the Philadelphia-Camden area. The war has interfered with all programs but in the meantime many preliminary steps have been taken. The log jam was permanently broken in the Philadelphia area two months ago when the citizens of Philadelphia, by a vote of ten to one, authorized the city to borrow $34,000,000 to complete its project of removing the sewage wastes from the Delaware. Camden likewise has followed in Philadelphia's footsteps and under the terms of a consent decree filed in the courts of New Jersey, Camden is required to keep pace with Philadelphia in the construction of plants for the collection and processing of municipal and industrial wastes. The city is now making a detailed investigation of the steps necessary to prepare such a program. Upstream and in the New York area, Port Jervis and other communities are preparing to take care of their wastes, the former according to the agreement made by New York City in the diversion case and the latter fulfilling the agreement made by the four states in the zoning of that part of the river. Here are cases where, working with the

municipal authorities and the state department of health, a state has fallen in line with the recommendations of an agency created by itself and three other states.

Going west of Philadelphia, one encounters the Schuylkill River, and to anyone who has not seen this stream for several decades, a disagreeable surprise will await him. As a child, I used to cross the Delaware River between Camden and Philadelphia for the purpose of seeing Connie Mack's hopefuls and later in the summer used to spend my school vacations north of Valley Forge and used the Schuylkill as the old swimming hole. One would not likely have the hardihood to plunge once more into the Schuylkill. During the past forty years, millions of tons of silt have been deposited in this stream and one might say that it has actually been appropriated by one of the great natural industries of this country. It has, in fact, become a coal washing sluice on a large scale, so much so, that as it flows through the beautiful Fairmount Park of Philadelphia, which Park incidentally is a tribute to the planners of that day, it reminds you of a dull pastel shade of molten lead flowing through the heart of that great city. The efforts to restore this stream will be dealt with more fully by the next speaker.

Further down from Philadelphia, we encounter a large industrial area which contributes enormous amounts of industrial wastes. In this area, however, is one bright spot and that is the area which gave birth to our chairman, or at least he has spent many years of his life there. Many of these communities have cooperated as a unit and collectively taken care of their wastes which may be a tribute to the chairman or not - perhaps it is just one more of those misplaced advances of progress.

Still further down the river, we encounter the City of Wilmington contributing practically all of its waste as raw sewage. Wilmington, as well as the other towns in Delaware, can rightfully object to standing at the portal of entrance of all the sewage from the other three states, but I am sure when the time schedules set prior to the war period are again reset, Wilmington and the other towns will be prepared to go along. The actions of the Delaware State legislature in accepting the zoning of the Delaware River by Incodel gives proof of this.

This short view of the work accomplished by the states in this basin in cooperation with Incodel further indicates the change of thought which has occurred in this country during the past decade and is one more illustration of the joint assumption of responsibility by the states in assuming some of their local and interstate responsibilities.

MANSFIELD BILL - HR 6024

This bill introduced by request by Chairman Mansfield, follows closely the pattern of the Spence bill, has been studied by Health authorities, sanitary engineers, and other groups interested in this work and their feeling in the main is to the effect that such a bill should be accepted on the basis that it is a compromise bill and that some bill which will at least give a federal aspect to stream pollution control should be forthcoming and this particular one seems to be the least innocuous.

The non-controversial parts of the other bills previously discussed are in general included in this compromise bill. The Water Pollution Advisory Board does not include members representing certain diversified interests, but is confined solely to representatives of the Federal agencies. The bill provides $100,000,000 yearly for grants-in-aid and loans, and $1,500,000 annually to state

health authorities or others for the preparation of plans, investigations and surveys. Loans may be made to industries with interest at not less than 4% and not to exceed 10 years. Such loans shall be made subject to approval by the appropriate State Board of Health Authorities, and by the Surgeon General. The Surgeon General shall classify the navigable waters of the United States into districts, shall fix and define the boundaries, shall establish reasonable standards of cleanliness and reasonable minimum requirements as to the treatment of wastes before discharge into such waters. The definition of nuisance is practically the same as in the other bills.

The principal provision of the bill and which has been debated the most, of course, is that one having to do with the enforcement of violations of the act. Action may be taken by an U.S. Attorney at the request of the Surgeon General but only after interstate, state and local authorities have been afforded an opportunity to prevent or abate such nuisance and have failed to do so within six months after receipt of written notice from the Surgeon General stating that if the nuisance is continued beyond a date specified in the notice an action will be brought in the name of the United States to prevent or abate such nuisance. No action shall be brought, under this act within two years after the date of its enactment, against any who have deposited wastes in waters prior to the date of the enactment. Furthermore, if no known methods are available or financial inability is the contributing factor, construction may be delayed at the instance of the Board for a period not exceeding five years. The Board may grant after a public hearing a further extension of time.

HR-6024 has been considered by the staff of Incodel and it would propose certain changes primarily to give effect, by wording in law, of the crystallization of the thoughts expressed in the forepart of this paper as to the change in

viewpoint of the necessity for cooperation by all the states, interstate commissions, and the federal government if pollution is not to continue to drag along year by year without appreciable diminution.

The Interstate Commission on the Delaware River Basin believes that such legislation at the very outset should clearly set forth a Congressional declaration of policy stating that the primary responsibility in controlling stream pollution rests with state and local governments. The declaration then may add that, because of the benefits accruing to the federal government from the reduction of damages to interstate commerce and navigation by the prosecution of practical stream pollution programs, the federal government stands ready to assist the states by providing technical service and financial aid. The Commission further believes that the Water Pollution Advisory Board should be further increased so that eight persons (not officers or engineers of the Federal Government) be appointed annually by the Surgeon General from a list prepared and furnished by the Council of State Governments after consultation with interested technical and engineering societies and with State health authorities and interstate agencies. One of the persons appointed by the Surgeon General shall be an engineer who is experienced in sewage and industrial waste treatment problems, one shall be a person who shall have shown an active interest in the field of wild life conservation; one shall be a person representative of State Government, and except as the Surgeon General may determine that the purpose of this act will be better furthered by the different representation, one shall be a person representative of municipal government and one shall be a person representative of affected industry.

Finally, as to the provisions concerning administration and enforcement, the Commission recommends a procedure which would authorize the proper Federal agency to notify States which are backward in prosecuting effective programs and to request such states to institute action to correct the situation. Incodel believes that after a lapse of a reasonable period in order to give alleged backward states an opportunity to take action on their own initiative and to suggest remedial measures as well as a time limit. If such action proves ineffective, the Surgeon General shall request the proper state health authorities or interstate agencies to bring suit forthwith in a court of proper jurisdiction. If such suit is not initiated within a reasonable time, not to exceed two years, an action should be brought through any U. S. Attorney on request by the Surgeon General. In this way the states have ample opportunity to take care of their own problems and having failed to do so the Federal government would be permitted to take the necessary action in order to provide equality of action on the part of other and competing states.

In conclusion, I would like to express the feeling of the speaker, who is not a strong central government advocate nor a bitter-ender states-righter, but who has been in a position as a state sanitary engineer for more than two decades and who also has been associated rather intimately with the Council of State Governments and their work, to the effect that we should take to heart the viewpoint of the communications sent out by certain state health officers and the chief engineers of their respective health departments that the time has come to accept a compromise bill and that HR-6024 more nearly fits the needs of today than any one yet presented. If a few minor changes can be made, particularly those suggested by the staff of Incodel, so much the better. The time for action

is now and the way to overcome the clamor of the atomic bombers is for the states and the interstate commissions to get down to work and prepare for the construction programs that are waiting to be brought to fruition as soon as the usual post war battle between capital and labor is settled and they seek their resting place on a still higher plateau, ready to lead this nation to the highest plane of sanitation ever reached by any nation.

****

THE INTERSTATE COMMISSION ON THE DELAWARE RIVER BASIN

PROCEEDINGS OF INCODEL SESSION ON SOIL AND FOREST CONSERVATION
THURSDAY AFTERNOON, JULY 11, 1946.

THE INTERSTATE COMMISSION ON THE DELAWARE RIVER BASIN

PROCEEDINGS OF INCODEL SESSION ON SOIL AND FOREST CONSERVATION
THURSDAY AFTERNOON, JULY 11, 1946.

Hon. Ellwood J. Turner, Chairman of Incodel, presided over the session on Soil and Forest Conservation. He opened the session by stating that the future economy of the nation and, in fact, the world, depended to a great extent upon the adoption of wise and effective programs for the conservation not only of water resources but of soil, forest and mineral resources as well.

U.S. Soil Conservation Service Activities

Dr. Austin L. Patrick, Regional Conservator, U.S. Soil Conservation Service, Pennsylvania, presented a report outlining the scope and functions of the U.S. Soil Conservation Service. Dr. Patrick stated in strong terms that the assistance of the Conservation Service could only be secured after the formal creation of a soil conservation district in accordance with State Laws and then only upon specific request of the local people within such a district. He said that the Service would provide technicians under such conditions to assist the local people in developing a program for their area. He pointed out that this would in no way impose a program upon the local people; that they are free to either adopt, modify or entirely disregard the Service's recommendations. A copy of a prepared paper upon which Dr. Patrick based his remarks is appended hereto.

U.S. Forest Service Activities

Dr. Verne L. Harper, Director, U.S. Department of Agriculture, Northeastern Forest Experiment Station, Philadelphia, presented a report outlining programs in the Delaware watershed which would be under the jurisdiction of the Northeast

Forest Experiment Station. He stated that the upstream watershed survey had been authorized for the Lehigh sub-basin and that the Department had authorization and funds for the initiation of a survey of timber resources in that basin. He expressed regret that the Congress had not approved the establishment of an experimental forest station in the Delaware Basin for the current year, although it had been requested. He offered to cooperate fully with Incodel in the prosecution of its programs. A copy of the prepared paper read by Dr. Harper is appended hereto.

Functions of State Soil Conservation Committees

Hon. Miles Horst, Secretary of Agriculture of Pennsylvania and Chairman of Pennsylvania State Conservation Committee stated that since the passage of a new soil conservation committee law by Pennsylvania in 1945, the territory within formerly constituted soil conservation districts had increased more than threefold. He pointed out, however, that no districts had been established in the Pennsylvania section of the Delaware basin. The Secretary fully explained the provisions of the new law and laid stress to the fact that the administration and management of programs in soil conservation districts rested largely in the hands of local interests.

Although no reference was made to the constroversy which exists between the U.S. Soil Conservation Service and the State Agriculture Extension Service in Pennsylvania, a newspaper account of this situation which appeared in the Philadelphia Record on July 5, 1946, is appended as part of the record of these proveedings.

Problems in the Lehigh River Basin

Mr. Alvin A. Shumann, Vice President of the Lehigh Valley Flood Control Council read a prepared paper, a copy of which is appended, on the problems and needs for soil and forest conservation programs in the Lehigh River

watershed. He pointed out the urgency of having Incodel assist the Council in prevailing upon the Federal Government to make special surveys in that region covering upstream flood control and timber resources, and also to institute a long-range watershed research program. These needs were later discussed at greater length at a joint Executive session of the Lehigh Valley Flood Control Council and Incodel.

Problems in the Brandywine

Mr. Clayton M. Hoff, Executive Vice President of the Brandywine Valley Association, Inc., spoke briefly as to the problems which this newly created agency had encountered in the Brandywine Valley. Later in the evening Mr. Hoff gave an illustrated lecture on this subject.

Incodel's Program for the Delaware Basin

Mr. Frank A. Pitkin, Executive Director, Pennsylvania State Planning Board and Member of Incodel, explained the Incodel program on soil and forest conservation for the Delaware Basin. A copy of the peper upon which he based his remarks is included herewith.

* * *

SOIL CONSERVATION SERVICE ACTIVITIES

In discussing my topic, "The Activities of the Soil Conservation Service", I shall try to give you a brief picture of how the Soil Conservation Service Operates, what it does, why this work is important, and what its benefits are. I hope to show those of you who are primarily interested in the prevention of pollution of the streams in the Delaware Watershed and in the improvement of the Watershed, how the Soil Conservation Service can help.

The Soil Conservation Service was created by an act of the 74th Congress in 1935. This act is spoken of as Public No. 46. The purpose of the act is "To provide for the protection of land resources against soil erosion, and for other purposes".

The Soil Conservation Service is an action agency which has as its objective the conservation of soil and water and the sound use of land. Our basic policy is this: The use of every acre of every field, pasture, and woodlot of every farm according to its individual capabilities; the treatment of every acre of every field, pasture, and woodlot of every farm according to its individual needs.

Necessarily, in order to carry out this idea, inventories of the physical characteristics of each acre must be obtained. Consequently, the kind of lands, the percentage of slope, the kinds and extent of soil erosion and the present use of land have to be obtained farm by farm and field by field. This information is basic in order to work out a plan with each individual farmer whereby he may reorganize his farm operations in such a way that he will obtain the maximum returns with the least loss of soil and water.

---

[1] Talk by Austin L. Patrick, Regional Conservator, Soil Conservation Service, Upper Darby, Pa., at a meeting of the Interstate Commission on the Delaware, at Shawnee-on-Delaware, July 11, 1946.

To carry out the provisions of Public 46, the Soil Conservation Service adopted the following policy with reference to the manner in which it would extend assistance to private landowners in carrying out its objective: The Soil Conservation Service does not give any assistance except in those states with laws which permit the formation, by the will of the local people, of legally constituted soil conservation districts. Even then we do not give assistance unless the local people take advantage of the law to form their own soil conservation districts, set up their own governing bodies in accordance with their state law, and request our aid. Prior to our signing a memorandum of understanding with the local governing body as to the types of assistance that we will be expected to give, the district governing body has to prepare a program. If the program is such that we believe we can give worthwhile assistance under the provisions of Public 46, we supply technically trained employees to help the district governing body carry out its program.

This, as you can see, is a very democratic procedure. In effect it means that we, as a Federal agency, assist in carrying out programs prepared and managed by the local people. In setting up their programs, the governing bodies call upon many agencies to help them. Among the group are usually the Extension Service and the Soil Conservation Service. The extension Service has the responsibility of taking the leadership in the educational phases of carrying out the program and the Soil Conservation Service employees make the farm to farm plans and assist in putting them into effect. In addition to personal services, in so far as our appropriations permit, we make available certain heavy types of machinery such as bulldozers, draglines, terracers, etc., which usually are not standard farm equipment. District Supervisors loan this equipment to farmers who pay for its use on an hourly rate basis. With the proceeds, the District Supervisors maintain the equipment, operate it, and in some cases are able to lay aside a small sum for replacing it. In addition to equipment and personnel, we make available a small

amount of woody planting material, trees and shrubs, in order that the landowners may become better acquainted with how to handle materials of this sort and thus encourage them to purchase and revegetate all of the areas of the farm that should be treated in this way.

Additional assistance may be given some districts under the provisions of the Omnibus Flood Control Act. This act, which was passed June 22, 1936, shows the place of the United States Department of Agriculture in the flood control picture together with the Army Engineers. It is a recognition of the fact that the retardation of run-off and soil erosion prevention measures help to control floods. Since the passage of the original act, other acts have been passed which place the Department of Agriculture even more definitely in the picture of flood control.

The flood control acts give the above mentioned authority to the Secretary of Agriculture, who in turn has asked the Soil Conservation Service and the U. S. Forest Service to assume the responsibility for this type of work. Under these authorities the first steps are preliminary examinations and detailed surveys. Favorable survey reports are those which show that the benefits exceed the costs. Favorable surveys are authorized by Congress and when appropriations are made work is begun. On privately owned land the work is carried on through legally formed soil conservation districts just as under Public 46. It means that additional sums of money may be expended and the private land owner is given additional assistance. Work under these acts must be completed within a definitely stated period.

The Delaware and its tributaries have been authorized for surveys. A preliminary survey was made in the Lehigh (1938) which indicates the need for a detailed survey.

All 48 states and Puerto Rico have passed some type of soil conservation districts legislation. As of June 1 there were 1,576 soil conservation districts in the United States. These include over 860 million acres and almost 4 million farms. Almost half of the land area and over 60% of the farmland in the United States now lies in the borders of soil conservation districts. There are 137 districts in the 12 Northeastern States. In New York State there are 30 districts; all of Maryland is in districts but two counties; all but three counties in New Jersey are covered with soil conservation districts. Forty-four counties in West Virginia are in districts. There are 10 counties or parts of counties in districts in Pennsylvania - 4 of these have been created within the past six months. In Pennsylvania the law was changed by the last legislature and districts are formed now by action of the County Commissioners.

The importance of carrying on a systematic soil and water conservation program throughout the United States and how this work is being done is best explained in a recent publication prepared by Hugh H. Bennett, Chief of the Soil Conservation Service, and entitled "Our American Land - The Story of Its Abuse and Its Conservation". This little leaflet I am sure will be of interest to all of you and I have a number of copies of it here which will be left on the Speakers' table for any of you who desire to obtain one. In this leaflet, under the statement "What has happened to our land?", Dr. Bennett points out that "In the United States we have let erosion ruin or badly damage about 282 million acres of crop and grazing land. And 775 million acres more of our crop, grazing, forest, and other lands have eroded to some extent. This is tragic, because productive land is the basic resource from which future generations must live. The cropland, on which we depend for most of our food and clothing, has suffered most.

About 100 million acres of once-good cropland have been ruined or nearly ruined by erosion for profitable cropping. Another 100 million acres have been badly damaged. And still another 100 million acres are eroding too fast."

According to the most recent census, the population of the United States is now about 140 million people. The Department of Agriculture census authorities have estimated that by 1970 the population of this country will reach 165 million. Other authorities claim it will be 170 million. We have never produced enough food or fiber to sustain a population of 165 million persons. Consequently, it is imperative that we preserve the fertility of our land.

What becomes of soil particles that are washed from our land? You people who are interested in the prevention of stream pollution know the answer. The Army Engineers, whose responsibility it is to prevent floods and keep harbors navigable, also know the answer. In one of the issues of the Friends of the Land publication I noticed a statement to the effect that a fleet of dredges was constantly operating in Delaware Bay in order to keep this water course navigable.

The weekly magazine section of The Philadelphia Inquirer of January 10, 1943 contained an article about the sediment basin at the Torresdale Filtration Plant, one of the plants which Philadelphia depends upon for its city water supply. At that time the basin had not been cleaned out in 27 years. One article estimated the basin was clogged with 350,000 tons of silt, and that every day the scraping machines that crawl underground in the filter beds and the workmen who follow flush out an additional 60 to 75 tons. This material is not all soil, of course; some of it is waste from individual plants. But a large proportion of it is soil particles washed from once fertile fields.

The Soil Conservation Service technical experts have gathered some interesting information concerning the Schuylkill Watershed. They state that a large portion of the cleared land from the watershed is deteriorating at a rapid rate. Detailed conservation surveys have been made of numerous farms in each county in this natural resource area and give a good idea of the watershed as a whole. Over 90% of the land used for crops is sloping, much of which is very steep. Soil erosion has developed to severe proportions on more than one-fifth of the cropland and on another three-fifths enough soil has been lost so that the land is in danger of rapid deterioration.

Our experts feel that they are reasonably conservative in saying that at least one quarter billion tons of soil have been removed in this watershed from its original location. On the average the cropland has lost an equivalent of over 500 tons of soil per acre. It is true that some of this soil never gets into the Schuylkill River yet I believe we are conservative when we say that a large proportion of it does. Much of the remainder is in a position so that it is easily moved by heavy rains into contributing streams, and much of it that does not reach the river impairs the lower lying farmland by deposition.

Here is another angle for those of you who like to fish or to eat fish. Dr. Ira N. Gabrielson, former Director of the Fish & Wildlife Service, made the following statement in a talk which he gave November 3, 1945 before the Conservation Forum in Cumberland, Maryland:

"You have heard a great deal about pollution destroying fish life from many hundreds of miles of stream that might be productive. But the greatest destroyer of fish life, if you examine all of the streams on this continent,

would not be domestic sewerage or disposal waste, but common, ordinary silt, which is the result of erosion of our lands. When the soil conservation services of the state and the federal government and agricultural interests talk about soil conservation, they are starting into one of the greatest things that leads to a restoration of fish life.

"For every mile of stream that has been destroyed as a fish producing stream by other pollution, I can show you ten miles on this continent that have been destroyed by nothing but silt, which has destroyed and covered up areas that produce your food coming from the streams. So that if we are interested in the building up of our fish life in the streams, we are interested in soil conservation."

From this you can see that the job of stream improvement will not be completed when the industrial pollution is cured.

Experiments definitely show that as topsoil is washed away and more and more raw subsoil is exposed soil erosion is accelerated. Rain drops falling on rich, loose fertile lands are quickly absorbed. Raindrops falling on hard, compact subsoil must run off and in running off carry great quantities of soil particles to be deposited in places where it is not wanted.

In the few minutes allotted to me I have attempted to point out why it is imperative that soil erosion in each watershed and on each acre of each farm, should be prevented.

I have attempted to show that it is possible to accomplish soil and water conservation in a very democratic way through soil conservation districts organized and controlled by the local people under state laws.

Finally, I have attempted to show those of you who are especially interested in the prevention of pollution of the Delaware Watershed that you have a very great stake in the solution of this problem.

****

U. S. FOREST SERVICE ACTIVITIES *

By V. L. Harper, Director
Northeastern Forest Experiment Station

I have been asked to comment on Forest Service activities with special reference to forest problems and programs in the Northeast.

1. The war has emphasized the importance of forests.

First, however, I want to mention a few highlights of the war and their significance for the future as they bear upon forestry in the United States.

The war emphasized the vital importance of forest products in national defense. Despite drastic restrictions in civilian use, it was only with great difficulty that the most essential military requirements for wood are met. The drain on our forests was heavy. In many sections of the country the forests were depleted at an accelerated rate.

The war needs for wood and the publicity given to lumber shortages have resulted in a general awareness of the important role of wood in our economic life. This has served to drive home the fact that we face serious problems of timber supply and has caused thoughtful people to consider ways and means of remedying the situation.

Such thoughts are further stimulated by the clear need for abundant supplies of timber in the post-war period. The critical need for new urban housing is an example of the importance of lumber and of the fact that great quantities of wood could well be used. Aside from the much publicized post-war housing needs, there is the pent-up demand for lumber and other forest products representing not only unfilled civilian requirements of the war

---

* Talk by V. L. Harper, Director Northeastern Forest Experiment Station, at a meeting of the Interstate Commission on the Delaware River Basin, at Shawnee-on-Delaware, July 11, 1946.

period, but long deferred needs carried over from the depression of prewar days.

In fact, our studies show an indicated timber market at a high quantity level in the years ahead. It seems a certainty that a healthy and vigorous national economy, such as is visualized under a high gross national product and reasonably full employment, could well use a great deal of wood. Whether we will have the wood supplies to meet the demand is another question.

Our studies lead us to the conclusion that we will probably have great difficulty in producing all the lumber and other forest products to fill the great need for wood in the years immediately ahead. Certainly, we cannot meet the full need over the next few years without serious further sacrifice of growing stocks — the trees upon which we depend for annual growth or wood increment. Yet we must produce as much as is at all practicable in order to build the new houses and to maintain our nation's industries in a manner commensurate with a healthy economy. The over-all problem, then, is how to do this in a way to minimize the sacrifice to timber growing stocks lest there be even more serious shortages in the more distant future.

The above is a problem of timber supply. There are other problems of forest resources equally as serious. I will mention here only one more—water values and the increasing awareness that forest watersheds are in great need of protection. In many respects, the problems of adequate watershed protection are linked with the problems of assuring future timber supplies. In some respects, special problems are involved. These will be briefly covered subsequently.

So much for the general situation in the Uniged States. How about the Northeast?

II. The great need in the Northeast is to build up forest producitivity.

The Northeast, including the New England and Middle Atlantic States, has a total land area of 128 million acres. Nearly 60 percent is forest land, that is, about 75 million acres.

In 1944, the saw-timber drain on Northeast forests was 4.7 million board feet. The annual growth in saw-timber size material was 4.5 million board feet. Thus less was grown than was taken from the forest.

It is poor forest economy to overcut the annual growth. It is poorer forest economy to be satisfied with such low growth for such an important forest region as the Northeast. Here, markets, accessibility of stands to logging and other economic and physical factors all favor the growing of timber as a crop. Our preliminary studies indicate that these forests could at least double their annual growth under proper forest management. The job ahead then is not to scale down the region's wood using industries in order to live within a meager budget of forest growth from unmanaged forest lands, but to build up the forests through proper care and harvesting to yield a larger and continuous crop of good quality material on a regular and permanent basis.

Bettering the timber supplies is only one side of a many-sided problem of making the Northeast 75 million acres of forest land produce adequately. Part of the job is to develop and manage the forests for a better environment for wildlife and recreation and for better protection to watersheds. In many localities these services of forest resources far outweigh their timber-use value.

In many respects, what is done to safeguard the Northeast's wood supplies will also enhance the capacity of its forest to yield these other

useful products. Fire protection and a good forest cover go far in this regard. Special problems, however, are involved in furthering some of these other uses. Good watershed management, for example, usually requires more intensive fire control than would be justified on the basis of timber growing alone. Moreover, many watersheds are in need of restoration measures in order to stabilize forest soils and retard runoff. These include, among other things, planting and the building of water-control structures.

III. Forest activities in the Northeast.

Against this background of problems, what forest activities are in progress in the Northeast? I will attempt to list only the main Forest Service activities. In many instances they are carried out in cooperation with other Federal, and state and private agencies. In addition these agencies carry on independent forest activities; they are highly important.

1. Many of the activities are aimed at problems of the private owner. Several Forest Service activities are designed to furnish aid and services to private owners. The reason is simple. Ninety-one percent of the commercial forest land in the northeast is in private ownership. The remainder is in state, county and municipal ownership (6 percent), in National forest lands (less than 3 percent), and in other Federal ownership (less than half of one percent). Moreover, 50 million acres out of the 65 million in private ownership are held by small farm and non-farm owners. These small holdings are all less than 5000 acres each; the great bulk of them are less than 50 acres each. Despite good progress in forestry by some, much the larger number of private owners still give their holdings little management.

There are four main kinds of such aids and services to private owners.

a. Fire protection is being widely applied through Clarke-McNary cooperative fire protection on state and private land, handled through the state foresters. Relative to some of the other regions, the Northeast is now fairly well protected. Nevertheless, there is still need to strengthen the fire control effort, particularly in a few localities where fires burn excessively.

b. Advice and technical assistance in forest management and in the harvesting and marketing of forest products is being given a limited number of small woodland owners in cooperation with states. The largest phase of this work is the so-called farm forestry and marketing projects. Each project extends over a county or so and employs one resident forester. Out of the 12 states which I refer to as the Northeast, relatively a small number of the counties are represented. This is only a small start in reaching the million or more small owners in the Northeast.

c. Adequate protection against forest insects and disease is one of our big problems. Currently the spruce budworm is seriously threatening the spruce-fir forests of New England and New York. We are convinced that more effective protection than we now have is essential. Some of this must await improved forest management.

d. Finally, but very important under aids to private owners, forest research activities have been accelerated in the Northeast since the war.

(1) A start has been made on a system of coordinated, decentralized work centers to make more efficient the forest management studies conducted on experimental forests, and to demonstrate application of results. Three such Forest Service research centers are located in New England and New York

with current programs aimed at developing more effective forest-management methods of abating the budworm hazard in spruce-fir forests. Another is located at Alfred, Maine, on the Massabesic Experimental Forest; here the research program deals with management problems of the valuable white pine forest type. Last year we established a center at Kingston, Pa. for forest management research in the Anthracite region of Pennsylvania. One of our most urgent needs for additional work centers is in the Delaware River basin with a research program aimed directly at watershed studies. So far, the Northeastern Station has not been able to give this phase of forest resources the attention it deserves.

(2) Recently a utilization unit was added to our activities. We have 3 experts to assist on problems of improving methods of processing and of developing new uses and markets for forest products. The work of these men is closely correlated with that of our Forest Products Laboratory at Madison, Wisconsin and with work being done by state and private agencies in the Northeast.

(3) Following a complete shutdown during the war, we are now resuming flood control surveys. The Forest Service and the Soil Conservation Service both participate in this activity.

(4) We are starting this year the long delayed timber inventory of Northeast forests. The results of this Forest Survey are eagerly awaited by many regional, state and local agencies, who are anxious to get ahead with more adequate forest programs.

2. A second category of Forest Service activities covers development of the national forests and steps to improve their management. These activities are being pushed as rapidly as conditions permit. They include more intensive timber management, development of more adequate recreational facilities, and safeguarding and improving water values.

3. Public regulation is a third category. Many public and private agencies in the Northeast consider public control of cutting and other forest practices very important. The Forest Service view on this has been widely discussed and needs no detailed elaboration here. As you know, the Forest Service visualizes requirements that will stop forest deterioration and keep forest lands reasonably productive. Several states have made some progress. I am personally convinced that public regulation of forest practices in all our states ought not to be unduly delayed. Delay will only increase the difficulties of providing reasonably adequate timber supplies and of assuring other values and service from forests.

So much for the list of activities. Before closing, I should add that it is encouraging to see the new and renewed interest in forest resources since the war. There is a tremendous job ahead. The job involves more efficient and versatile utilization of timber. It involves greatly improved management of forests, and more attention to recreation values, and to water values. It calls for vigorously pushed forest research and for the broadest kind of forest planning and of action programs.

****

Copy of Story in July 5, 1946 Issue
of The Philadelphia Record

STATE PARLEY TO CRACK OPEN SOIL DISPUTE

By Edwin Kemp
Farm Editor of The Record

WILLIAMSPORT, July 4— Why do the State Grange and State headquarters of the Extension Service oppose soil conservation?

A mong agricultural groups that question usually is asked in lowered tones, never openly. Now the lid is about to come off the subject, which is scheduled for discussion at a flood control conference to be held here later this month.

The conference is being sponsored by groups which have fought for organized soil conservation as a means of flood control in Pennsylvania's northern counties, which suffer almost annual flood damage.

COLLEGE ISSUES ORDERS

Chief of these groups consists of the farmer-elected county and community committeemen of Triple-A. Also interested are the Friends of the Land, National Farmers Union and urban civic organizations.

For about the first time, State College will be called upon to explain why it sends out orders to its county agents telling them to promote active but undercover campaigns to obstruct any local efforts to organize soil conservation districts.

Many county agents resent such dictation from State College. But what they resent worse is having to resort to underhand politics in order to hold their jobs. Although they have Federal Civil Service protection, being paid jointly by Federal, State and county Governments, State College has ways of punishing any agent who incurs its anger.

Why the State Grange fights soil districts is a mystery that will have to be cleared up before much headway can be made with creation of new districts under the revised soil conservation law.

Seldom is there any disagreement between State Secretary of Agriculture Miles Horst and State College. But there is on this subject.

NEW LAWS WRITTEN

Until last year, State College objected to the penalty provisions in the former conservation law, which compelled farmers in an established soil district to do their part in a conservation plan. So Horst's department wrote a new law to suit State College. It was enacted last year. Never, however, has it received the blessing from State College.

Horst has addressed farmer meetings all over the State, urging the creation of soil districts under the new law. But he has met with continual opposition. Under this law the districts are set up by County Commissioners.

When the Commissioners contemplate this action in some county, they usually are beleaguered by a delegation of Grangers and protest visits from farmers who by coincidence happen to be close friends of the County Agent. Meanwhile a whispering campaign starts up. All sorts of dire consequences are conjured.

The Commissioners, finding themselves in a hot dispute, seek their own deliverance the safe and easy way: By doing nothing.

The forthcoming Williamsport conference, at a date soon to be announced, is not designed to embarrass the Grange or the Extension Service, but merely to put the facts together. Both will be asked to state their position.

What has prompted the conference is increasing demand from Chambers of Commerce, civic organizations and newspapers for flood control in this part of the State.

Since a regional soil conservation program treats the problem of floods at their source, those who favor such an undertaking want to know who's against it--and why.

****

PROBLEMS OF THE LEHIGH RIVER BASIN *

By George P. Kingsley, President

Lehigh Valley Flood Control Council, Inc.

Mr. Chairman, members of the Interstate Commission on the Delaware River Basin and guests:

Several members of the Executive Committee of the Lehigh Valley Flood Control Council have found it possible to accept your kind invitation to meet with you on this Tenth Anniversary of the founding of "Incodel". We are pleased to note the comprehensive and forward looking program you have undertaken to preserve and develop the vitally important water, soil and forest resources of the Delaware River Basin.

I am happy to speak for the representatives of a large segment of the population of the Lehigh River basin, a major sub-drainage of the Delaware River Basin, who have a similar interest in problems that demand the intelligent consideration of all good citizens of the area. In order that you may better understand our interest in these problems I would like to review briefly the nature and extent of our organization and some of our activities to date.

Following the disastrous Lehigh River flood of May, 1942 which caused tangible damages approaching $15,000,000, all organizations and municipalities in the Valley previously concerned with the flood problem organized in the Lehigh Valley Flood Control Council. Our Council is composed of more than 1,000 representatives of all elements of the population who are faced with the problem of freeing our Valley from the scourge of destructive

---

* Paper read by Alvin A. Shumann, 1st Vice President of Lehigh Valley Flood Control Coucil at Incodel Tenth Anniversary Conference, Shawnee Inn, Shawnee-on-Delaware, July 10-12, 1946.

floods which periodically take their toll, bringing commerce and industry to a standstill, disrupting travel and communication, destroying life and property, and in recent decades coming too often for our security and peace of mind. This active organization is comprised of representatives of: county and municipal governments; industries - both heavy and consumer; utilities of all types including communication, power, railroad and other transportation; also farmers, timber owners, individual home owners, tenants and civic-minded citizens interested in the welfare of the Valley in which an intense concentration of commerce and industry has developed since the turn of the Century.

Our major flood problem is primarily due to the role of the river valley as a vital transportation gateway because two main line railway routes, that provide access to all parts of the Nation, closely parallel the river within reach of its major floods. More than one-half of the Lehigh River floodway is a comparatively narrow trough and the many industries in the area, located here because of the abundance of raw materials and excellent transportation facilities, were logically sited as close to the railroads as possible. Industrial water supply from the Lehigh Canal and the Lehigh River was another contributing factor to the development of this diversely industrialized area. The need for flood protection in the Lehigh Valley is imperative. The damages have been tremendous and can be much greater. The remedy is in sight. We have energetically pursued our objective since inception of the Council. Our primary aim has been to secure the enactment of enabling legislation, the appropriation of necessary funds and completion of essential flood control and prevention projects in the Lehigh River watershed.

Our major flood problem has been investigated by the War Department and has been reported to Congress. The Army Engineers formulated a plan of improvement for the main stem of the Lehigh River involving a flood control reservoir in the headwaters and local protective works at two principal damage centers downstream. This will afford partial protection against floods in the area immediately adjacent to the river where the total value of property is over one-half billion dollars and average annual flood damage amounts to $722,000. The Lehigh River project was the first item embraced by the 1946 Omnibus Flood Control Bill now awaiting Congressional authorization. The recommended project involves the expenditure of approximately $12,500,000 by the Federal government and approximately $500,000 by local interests. In this connection the cities of Bethlehem and Allentown, where local protective works are proposed, as well as the Commonwealth of Pennsylvania, have already committed themselves to meet the non-federal costs and obligations. I would like to say at this point that our Council is grateful for the interest and support of Hon. Franklin H. Lichtenwalter, Majority Leader of the State House of Representatives and a member of your Commission, who saw to it that legislation enacted by the General Assembly in its last session provided for the appropriation of flood control funds. He also saw to it that the State Department of Forests and Waters made adequate allocation of monies to permit State participation in the contemplated Federal flood control project for the Lehigh River.

The Commonwealth of Pennsylvania through the Department of Forests and Waters has also agreed to establish the necessary floodways and to keep them free from encroachments and obstructions. Encroachments that add to the natural flood hazards from the Lehigh River are frequent due to the industrial value of the land in the extensively developed areas. These channel lines are to be established after the Federal project is adopted.

Although the Lehigh River flood problem has been our primary concern, as our study of the situation progressed we became increasingly aware of contributing factors that are closely related to the land problems of the basin.

It is to be noted that the recurring damage from Lehigh River floods, which has approached $25,000,000 in the last 45 years, does not reflect the flood damage in areas drained by the numerous small tributary streams that feed the Lehigh and are subject to freque ntly severe local storms. Nor does it reflect agricultural losses sustained on the land. For example, a local storm on July 9, 1945, covering the drainage area of five tributary streams, resulted in widespread damage estimated to exceed $3,500,000.

Defensive measures against this type of flood and agricultural damage obviously go beyond the scope of engineering works employed by the Army Engineers. We recognize this to be a problem in land-use measures for run-off and water-flow retardation. It involves the control of factors critically related to run-off and erosion, particularly the influence of vegetation on water behavior both from the standpoint of protective forest cover and agricultural practices.

I should point out that the geology and physiography of the Lehigh watershed are unusual in that there are striking differences and many abrupt changes which occur as distinct areas. More than one-half of the watershed lies in a rugged plateau and ridge section and over 50 per cent of the entire watershed is in forested land, much of which is brush. The remainder of the area is characterized by rolling hills and valleys and much cultivated land is on steep slopes. Erosion is quite prevalent. Slopes in the tributary streams average 50 feet per mile and drainage into the

streams is rapid. The river gradient is also steep in the upper two-thirds of its course. Consequently the river is subject to sudden rises, and records show that flood crests in the Lehigh River are of short duration. It is reasonable to expect, therefore, that control measures that will reduce and retard run-off for even a short period of time will reduce flood peaks as well as establish more uniform stream-flow. For this reason we are intensely interested in a conservation program. This condition suggests the desirability of asking the man who lives in the upstream areas where flood waters collect to help solve the problem. We know he can do this to good personal advantage because it has been demonstrated that proper landuse practices on his part serve to retain productive and irreparable top soil on his land.

First of all we are interested in knowing the exact condition of our watershed from the standpoint of forest cover and land management methods, ways of overcoming deficiencies in the management of our watershed, and means of enlisting the cooperation of upstream land owners who may contribute to and benefit from the proper solution. This calls for a comprehensive analysis of all factors involved by qualified technicians.

Since April 1945 the Committee on Conservation within the Council, consisting of well qualified men in various phases of the subject has concentrated attention on the availability of technical aid from State and Federal agencies to study the problems known to exist.

We have been particularly interested in one provision of House Bill 68 enacted by the last session of the State Legislature which provides "for the encouragement by demonstration or otherwise of proper forest practices by private land owners". Since the greater portion of the Lehigh River watershed is in private ownership we are hopeful that at least one farm forester will be assigned to this area soon under the State program.

A 27,000 acre tract of land along State Highway 115 in the Tunkhannock Creek watershed, in the general vicinity of Blakeslee, consisting of scrub oak barren, from which fire protection was withdrawn by the State in 1942, has been singled out by the Committee as providing a splendid opportunity to demonstrate what can be done by way of reforestation in an instance where complete rehabilitation of an area is required. An effort is being made to establish an experimental forest in this area under a cooperative arrangement between the State Department of Forests and Waters and the U.S. Forest Service.

Our Council has also endorsed the establishment of County Soil Conservation Districts in the basin and means to take steps to encourage this program under the State Soil Conservation Act. It does not appear that present facilities are promotional enough to accomplish effective results.

A preliminary examination of the Lehigh River watershed was made by the U.S. Department of Agriculture in 1938 under terms of the National Flood Control Act of 1936. This examination by the U.S. Forest Service and U.S. Soil Conservation Service resulted in the recommendation that a detailed upstream watershed flood control survey be undertaken. This activity was interrupted by the war. It is now being reinstituted. In November 1945, following discussions with officials of these Federal agencies, the Council submitted a formal request to the Secretary of the U.S. Department of Agriculture for this detailed survey. Indications point to its getting underway about July 1947. Briefly, the major purpose of this survey is to develop specific plans for watershed rehabilitation. It evaluates the causes leading to floods and erosion, and flood and sedimentation damages in relation to the character, use and condition of the upstream areas. It recommends a

N.J. STATE LIBRARY
P.O. BOX 520
TRENTON, NJ 08625-0520

detailed program and evaluates it in terms of benefits produced.

The Council has also requested that the National Forest Survey authorized by the McSweeney-McNary Act of 1928 be extended into this area. The Forest Survey provides a complete inventory of timber and forest resources, a comprehensive analysis of existing conditions, and reports on improvements needed. The present Congress has appropriated funds to extend the forest survey into the Northeast. We know that "Incodel" is very much interested in this type of survey and will assist in making available up-to-date aerial photographs which must be furnished by local agencies for the purpose.

The Council has also sought a long term research program in the area by the U.S. Forest Service. This is accomplished by the establishment of an Experimental Forest Research Center, the major objectives of which are to develop sound methods for handling forest or brush vegetation under different soil and climatic conditions so that this vegetation can, (1) contribute most effectively to the quality and seasonal distribution of stream-flow; (2) minimize or prevent erosion or other forms of soil losses, particularly from sloping lands; (3) minimize destructive sedimentation of stream channels, storage reservoirs, etc; (4) help maintain the most satisfactory conditions of soil and ground moisture for plant growth.

Our interest in these conservation programs and the recommendations of our Committee on Conservation were made known to Mr. James H. Allen, Executive Secretary, prior to the "Incodel" meeting on January 25, 1946 and we were delighted to learn that "Incodel" pledged its wholehearted support of our views and proposed activities. The cooperation pledged by "Incodel" was immediately forthcoming. During the period from early February to the middle of June, Mr. Allen, together with Mr. Robert A. Harrier, our Managing Director, worked energetically to secure the establishment by the U.S. Forest Service of an Experimental Forest Research Center in the Delaware

River Basin this year. With the splendid cooperation of Representative Francis E. Walter and Senator Francis J. Myers, first in Committee and on the floor of the House, and then in Committee and on the floor of the Senate, an attempt was made to increase the appropriation above the Budget Estimate to provide for this much needed program in our region. When the matter reached a Conference Committee it collapsed, but the effort was not fruitless. Plans of the Department now point to the establishment of such a center in the Delaware River Basin next year. In fact, a preliminary examination and study of the needs to which the research program may be applied to greatest advantage will be started in the near future, and work is definitely being scheduled to undertake research leading to better knowledge of the re-establishment of productive forests in the scrub oak type I have referred to. Under the cooperative plan I have already mentioned, the State Department of Forests and Waters is being urged to establish a purchase unit in the 27,000 acre scrub oak tract to permit a long term agreement with the U.S. Forest Service in order that the continuity of the proposed program may be assured. This project, for which we suggest a name that will denote our mutual interest and participation, i.e.: "The Delaware-Lehigh Experimental Forest", will be devoted to studies in planting, preparation of the soil, seed spotting, natural regeneration, etc., and can later be tied in with the effect of such work on run-off and quality of water.

Providing full cooperation is obtained from the State, this will be the first tangible result of all our effort and discussion relative to a program in forest conservation for both "Incodel" and the Lehigh Valley Flood Control Council.

This sums up our problems in the Lehigh River Basin in a general way and gives you some idea of our effort to solve them.

This occasion seems to present an excellent opportunity to express the appreciation of our Council for the helpful interest of your Commission in the past, and to ask for your continued cooperation in the future. It will certainly simplify the problems we are all confronted with and speed the day when our objectives will be attained.

* * * *

(Stenciled Incodel Office)

THE INTERSTA

...TE COMMISSION ON THE DELAWARE RIVER BASIN

...CODEL'S SOIL AND FOREST CONSERVATION PROGRAM

...F. A. PITKIN, EXECUTIVE DIRECTOR, STATE PLANNING BOARD

INCODEL TENTH ANNIVERSARY ANNUAL BUSINESS MEETING
Shawnee-on-Delaware, Pennsylvania
July 10-12, 1946

Today it is generally agreed that wise use and conservation of our basic resources is one of the major problems confronting our nation. To formulate coordinated plans and programs for the protection and development of the natural resources of the Delaware basin is Incodel's reason for existence. Problems of stream pollution abatement and water supply diversion, being most urgent, received its initial attention. However, from the very beginning it was recognized that these tasks and those concerned with flood control and stream flow regulation were but part of the over-all problems; that water conservation projects are indivisibly correlated with those for saving the land and forests.

BACKGROUND

Because of this clearly apparent relationship between land and water problems, and in order to attain its goalof developing unified programs for the conservation of all the resources of the Delaware watershed, the Commission decided at its annual meeting of July 18, 1945 to undertake, among its other tasks, a program for the conservation of soil and forest resources of the region by integration of the activities of federal, state and local agencies dealing with these problems.

A preliminary discussion was held on December 4, 1945, when the Executive Committee met with the chairmen of the Soil Conservation Committees of New York, New Jersey, Pennsylvania and Delaware. Two of their recommendations were immediately adopted by Incodel. An Advisory Committee on Soil and Forest Conservation was created, and an additional staff member was engaged for

continuous application to the problems of soil and forest conservation.

The Incodel Soil and Forest Conservation Advisory Committee represents the best brains and the greatest aggregate of experience in conservation activities that exists in this region. Its membership consists of representatives of the Agricultural Extension Service of each of the four basin states, of the four state Soil Conservation Committees, of the four state Forestry Departments, of a representative of the United States Soil Conservation Service and one of the Federal Forest Service, and one of the Northeastern Forest Experiment Station.

This committee met with members of Incodel and its staff on April 5, 1946. The meeting culminated in a general agreement that Incodel has a very definite place to fill in promoting soil and forest conservation in the Delaware basin.

COMMITTEE RECOMMENDATIONS

Specifically it was recommended that Incodel should concentrate upon a publicity program:

1. To promote soil and forest conservation throughout the basin.
2. To emphasize the over-all job of conservation in the watershed including soil, water and forest conservation, stream pollution abatement and flood control.
3. To emphasize the immense proportions of the total job.
4. To point out that the responsibility is everybody's, cityman's and countryman's alike.
5. To indicate the great and urgent need for erosion control measures.
6. To discuss and explain the program of the Agricultural Extension Service.

7. To show how farmers and landowners if they choose, may organize and manage soil conservation districts under the terms of the State Soil Conservation District acts, and to point out that districts may call upon the services of any or all of the pertinent public agencies.

It was also agreed that Incodel could best accomplish its objective by not specifically recommending the adoption of the program or services of any particular agency, but to encourage the use of all the pertinent agencies.

INCODEL SOIL AND FOREST CONSERVATION PROGRAM

As a direct result of this meeting, an Incodel program was drawn up, in line with the specific recommendations of the Advisory Committee. It is designed to get the facts of conservation and its need to the people of the basin.

This can be accomplished best by informing them through as many media as possible, placing special emphasis on the causes and wastefulness of soil erosion, the shortsightedness of ordinary forest management, and the benefits which will accrue from the employment of sensible and practical conservation measures on the farms and in the forests.

In order properly to carry out the program's directives, it was considered fundamental to assemble, catalogue and depict the status of existing conditions in the basin as a whole and in each individual county. This work has been started and will be advanced as rapidly as the information can be obtained. Such an array of background facts will be effective in helping to bring about a clearer understanding of the over-all conservation endeavor.

Much effort will be devoted to the preparations of newspaper and magazine releases; and leaflets telling the story pictorially and concisely will be widely distributed.

Incodel will offer the services of members of its staff to attend and participate in meetings of organizations to promote conservation by personal word and contact.

The use of radio for making spot announcements and for round table discussions on conservation will not be overlooked. This method may be used as a public service as the Incodel program develops, and gains character and momentum. By these procedures the Incodel program is now being brought to the people of the basin.

To carry out this program and secure more rapid acceptance of soil and forest conservation practices the following points will be repeatedly emphasized in written articles and in formal and informal talks.

1. That the effectuation of the total conservation job, including soil, water and forest conservation, stream pollution abatement and flood control, is a large-scale, long-range task. The job will take years to accomplish. It will require the unstinting energy of every pertinent agency and resource. The understanding cooperation of all the people, cityman and countryman alike, will be required. The farmer must learn that on him lies the direct responsibility of holding the soil; the cityman must understand the urgent need for conservation and his stake in its accomplishment so that the various agencies supported by his taxes may be staffed, and equipped to aid an ever-increasing number of farmers in their fight to hold the soil and control water runoff.

2. That most agricultural land is still losing soil and water at an excessive rate. Much crop land has already lost one-half of its original topsoil. It is merely a matter of time when, under present methods of cultivation, the readily erodible lands of the basin can no longer produce commercial crops. Thousands of farms in the basin have already been abandoned. Now is the time to save the farms, not later when the need will be more urgent and acute, and the task more difficult.

3. That soil erosion on farmland is generally the direct result of now outmoded farming practices which give no thought to methods of water runoff control.

4. That badly eroded soil, such as that found on the thousands of idle fields in the basin, cannot be restored to economical productivity except by action of nature's forces operating over a period of hundreds of years.

5. That an ample area of productive soil and an adequate supply of pure water are essential to the health and prosperity of individuals, agriculture and industry.

6. That understanding and love for the land must become a part of the everyday thinking of all the people.

7. That city people are rapidly coming to realize their stake in the land and are giving their active support to conservation in thousands of communities throughout the whole country.

8. That the job is up to the people, city and country people alike. It is their responsibility to act.

These points of emphasis deal chiefly with the urgent need for adoption of conservation practices. Of equal importance in the promotion of Incodel's program is a careful enumeration and description of the benefits that will be derived from its accomplishment.

Among the benefits to be described in detail at every opportunity will be:

A. <u>To the Farmers</u>

1. Reduced cost of machine operation.
2. Maintained and increased capital assets.
3. The effect of drought minimized.
4. More efficient use of labor, machinery, seed and fertilizer.
5. Higher yields. Twenty per cent average increase. Forty per cent average increase for hay.

6. Increased farm income.

B. To the City People

1. Greater business as the result of greater farm income.

2. Better nutrition: better health.

It has recently been scientifically established that the general health and well-being of the people are directly related to the foods they eat and the mineral and vitamin content of their food. Proper nourishment can come only from grains, vegetables, meats and other animal products that have grown on fertile soils which contain in abundance the elemental minerals which man requires.

3. Flood Control

Conservation farming alone will not control flood, but reforestation of thousands of acres of now idle land will enable those acres to soak up many thousands of tons of water that now runs off into the streams after every storm.

4. Higher Water Tables

Increased absorption resulting from proper forest practice, from reforestation of idle land and from retarded runoff on farms will increase underground water supplies.

5. Improved Surface Supplies

Conservation farming will keep much of the silt out of the streams. This, coupled with abatement of pollution by industries and municipalities, will greatly improve the quality of surface water supplies.

6. Stream Flow Regulation

Soil and Forest Conservation tends to level off the violent fluctuations of stream flow in periods of flood and drought.

PROGRAM'S BROAD AIM

With this program Incodel will meet the challenge of our time in the Delaware basin. It is our recognition, interpreted in action, of the fact that our natural resources are the foundation of our wealth. Our natural resources represent the capital wealth upon which our standard of living is based; and, as a direct consequence, our national and individual security are dependent upon them. Our country and our region can remain rich and powerful only as long as the supply of resources is sufficient to meet the needs of our people. Past civilizations and races have disappeared because unwise living destroyed or exhausted their natural resources. Depletion and erosion of farmland, short-sighted practice of clear cutting forests, and pollution of streams are the factors, which history has clearly indicated, lead to individual and regional disaster. The Incodel conservation program is designed to give the facts to the people of the basin so that their birthright shall not be lost by the head-long waste and depletion which prevails. All our citizenry must be interested in the over-all conservation of our region if we are to continue to enjoy the standard of living to which we have become accustomed.

Public recognition of the need for conservation of our basic resources, land and water, cannot come too soon. America stands at the crossroads. The old ruts of thoughtless and selfish exploitation of resources leads only down-hill to economic ruin; our program strives to lead upward to sustained yields and increased prosperity.

We are now carrying out the provisions of our program in complete harmony and cooperation with the soil conservation district directors and super-visors, with the Soil Conservation Committees of each state, with the four state Agricultural Extension Services, and with the Federal Soil Conservation Service and Forest Service.

* * *

THE INTERSTATE COMMISSION ON THE DELAWARE RIVER BASIN

PROCEEDINGS OF INCODEL SESSION ON FEDERAL-STATE RELATIONSHIPS
FRIDAY MORNING, JULY 12, 1946.

THE INTERSTATE COMMISSION ON THE DELAWARE RIVER BASIN

PROCEEDINGS OF INCODEL SESSION ON FEDERAL-STATE RELATIONSHIPS
FRIDAY MORNING, JULY 12, 1946.

The Friday morning session of Federal-State relationships was presided over by Mr. Richard C. Beckett, State Sanitary Engineer of Delaware and Member of Incodel.

FEDERAL REGIONAL AUTHORITY ISSUE

A discussion of the Federal regional authority issue was given by Hon. Franklin H. Lichtenwalter, Pennsylvania House of Representatives and Member of Incodel. He reviewed the movement that has been going on in this country during the past seven or eight years to blanket the nation with federal regional authority agencies patterned after TVA. He referred particularly to bills which had been introduced in the 1946 session of Congress for the creation of such organizations in the Missouri, Columbia, Ohio and Savannah River watersheds. He referred also to the Rankin bill which would divide the country into nine such regional agencies. Mr. Lichtenwalter claimed that this movement was dangerous, unnecessary and wrong because it began at the Federal level instead of at the grass roots. He predicted that if the movement was ever successful, either through a slow process of establishing a new agency one at a time, or by a more rapid process of doing it in one stroke, the end result would be to place control over the economic social and political destinies of the nation in a handful of men neither responsible to Congress nor to the people.

Dr. Raymond F. Leonard, Philadelphia City Planning Commission, took issue with this statement and claimed that state and local governments had been

strengthened in the Tennessee Valley and not weakened.

Mr. Lichtenwalter countered by pointing out that while the early effects of placing control in the hands of a few was benevolent and usually appeared to be beneficial, in the long run it was always disastrous.

FLOOD CONTROL AND NAVIGATION

Colonel F. F. Frech, District Engineer of the United States Army Engineers, Philadelphia, gave an account of the functions of the Army Engineers with specific reference to their programs in the Delaware basin. He told of the constant progress being made in providing adequate channels for navigation in the section of the river below Trenton. He reported that only one flood control project, that at Mount Holly, New Jersey, had been completed, but that two additional projects, one on the Lehigh and one on the Lackawaxen, were presently before Congress and undoubtedly would be authorized.

Colonel Frech made special reference to the Schuylkill River restoration project and warned the Commonwealth of its obligation to prosecute its part of this program with vigor and speed. He criticised the State for not having provided sufficient engineering services for this purpose.

NEW JERSEY SHIP CANAL

Colonel William F. Heavy, District Engineer of the United States Army Engineers, New York City, read a prepared paper on the New Jersey Ship Canal, a copy of which is appended with the proceedings for this session.

****

ADDRESS BY COL. W. F. HEAVEY - DISTRICT ENGINEER, N. Y. CITY

ANNIVERSARY MEETING OF INCODEL, DELAWARE WATER GAP, PENNA.

12 JULY 1946

LADIES AND GENTLEMEN:

I am sure that most of you require no introduction to the Cross Jersey Canal which I have been asked to discuss with you this afternoon. This waterway is officially known as the New York Bay-Delaware River Section of the Atlantic Intracoastal Waterway. Most small boat operators know that this project is a nearly continuous series of inland waterways behind the barrier beaches of the Atlantic Coast extending from Key West to Boston. This waterway has been under continuous improvement by the Federal Government, with depths in various sections, depending upon the needs of navigation, varying from 8 feet along the Florida Coast to 40 feet in the New York-Philadelphia area. About 250 million dollars have been spent by the Federal Government in improving this waterway; and in 1942 it carried about five percent of the entire inland water-borne commerce of the United States. I have said that this waterway is nearly continuous. In point of fact, the only break in its continuity is the section now under discussion from the Delaware River to New York Bay. This most important missing link would extend approximately 33 miles across the State of New Jersey and would connect Bordentown on the Delaware River with Sayreville on the Raritan Bay, an arm of Lower New York Bay. The course of this canal is through an agricultural region of central New Jersey, where some 60 per cent of the lands actually affected are unproductive or woodlands. There would be no large cities directly affected by land takings for the route selected. The construction of this canal, as planned and recommended by the Chief of Engineers, would complete a continuous deep-water route from Norfolk to Boston and would strengthen materially the New York-Philadelphia axis of trade.

N.J. STATE LIBRARY
P.O. BOX 520
TRENTON, NJ 08625-0520

We have estimated that the benefits of this canal by extension of connecting inland water routes on the Hudson River, the Great Lakes, the Mississippi Valley, Lake Champlain, and the St. Lawrence, would indirectly affect over 80,000,000 persons doing an annual business of over fifty billions of dollars.

Some of you may ask why an inland canal is needed from New York to Philadelphia when vessels can make the trip outside in the Atlantic Ocean. The proposed canal would save 185 statute miles of ship travel from Philadelphia to New York. It would make possible the transfer of merchandise regardless of storm conditions, and at small cost. It would provide a large increment of bulk transport capacity over that now available. What this capacity would have meant during the recent war can hardly be overemphasized. Most particularly, the coal and oil shortage in New England during the winters of 1943 and 1944 would have been prevented. A large block of railroad rolling stock would have been released for transcontinental transport thereby relieving our most serious wartime bottleneck. And a number of sinkings by enemy action, with attendant loss of life, would have been averted.

The peace-time role of the canal would be no less significant. It has been estimated that over 10 million tons of through freight would pass through this waterway annually. The project was originally submitted to Congress on this basis. This is a very conservative estimate. In my opinion much more through traffic would be realized on a waterway connecting such two great cities as New York and Philadelphia. For example, the original estimate of traffic through the Cape Cod Canal, before its improvement by the Federal Government, was 9.8 million tons annually. Prewar traffic in 1941 rose to nearly 11 million tons, with a peak war-time traffic of nearly 19 million tons, or more than double the original estimate. Similarly on the Chesapeake and Delaware Canal, traffic originally estimated at one million tons, actually attained a prewar value of four million tons and a war-time peak of 10.8

million tons. I cite these figures to show how, according to our experience, waterways which we have recommended almost without exception, have actually been utilized considerably in excess of our conservative estimates. Of even greater significance to the State of New Jersey than the through traffic just mentioned would be the so called "intraport" movements which would originate or terminate along the route of the canal as new industries develop locally under the stimulus of cheap water transport. I do not feel the least bit visionary in predicting a large volume of such traffic and a great increase in property values and in industry along the route of the canal with the passage of time.

This project is still in the report stage. It has persisted in this status for the past 30 years. It cannot be built until authorized by Congress. The Chief of Engineers, in his report dated 14 July 1942 (Sen. Doc. 139, 79th Cong., 2nd Sess.), recommended the construction of this canal along the Sayreville-Bordentown route with a minimum depth of 27 feet, generally in accordance with a prior report published as House Doc. 93, 74th Cong., 2nd Sess. The latest plan would provide a canal with a bottom width of 250 feet and a depth of 32 feet at normal pool level. This normal pool level would be 7.5 feet above mean tide level in Raritan Bay and about 10 feet above low water in the Delaware River. This level would be maintained by a dam and twin ship-locks at each end of the canal, to prevent the intrusion of salt water from Lower New York Bay to the Delaware River. Each lock would be 90 feet wide and 960 feet in overall length. The locks at Sayreville would be designed to maintain the canal in a salt-free condition by the provision of flushing and scavenging works in the lock structure.

This project was submitted to Congress in 1943. Public hearings were held before the House Committee on Rivers and Harbors from 9 to 12 March of that year. You will recall that objections were raised to the

canal on the part of many local interests in New Jersey and Pennsylvania because it was feared that the canal would create conditions adverse to local water supplies.

My report on the effect of the canal on local water-supplies has just been submitted. Our findings are most assuring. In conducting our investigations, we have spared no expense in order to obtain fair and unbiased answers to the engineering problems at issue. We have obtained consulting advice outside the Corps of Engineers to assure that the best engineering talent in the country concurred in our views. We have consulted widely with representatives of the affected States and local governments in an effort to solve the local water supply problems. The Governors of New York, New Jersey and Pennsylvania will have a further opportunity to review our report in detail before it is submitted to Congress.

It is obvious that any project of the magnitude of the Cross Jersey Canal cannot be consummated today without causing major social and economic adjustments. Similarly, there may be some minor adjustments required in certain local water supplies as a result of the canal construction. I am convinced, however, that the adverse effects of the canal upon local water water supplies will be slight, and that in comparison with the State and national benefits to be derived, these adverse effects will be negligible. On the other side of the ledger, there will be a material betterment in the flow of the Delaware River, and in the ground-water supplies in the vicinity of Sayreville.

My present purpose is not to "sell" the canal, but rather to bring you up to date on the engineering studies connected with the water-supply aspects of the canal, and to assure you that for all practicable purposes local interests in this regard have been fully protected against damage.

The basic problem considered in our most recent study was the formulation of a plan of canal water-supply which would satisfy the objections

of local interests, first to the use of the Raritan River as a primary source of canal water-supply, and second to the possible contamination of canal waters by salinity intrusions from Raritan Bay. Salt intrusion into the canal would quickly contaminate the Delaware River, including the present potable supplies of Philadelphia and Trenton; and would moreover adversely affect the groundwater supplies of part of northern New Jersey as well. All agree that this condition would be intolerable.

Possible salt water intrusion from Raritan River (which is 40 per cent sea water) through the Sayreville lock into the canal, arises out of the ability of salt water to "climb" upstream through any lock system unless special precautions are undertaken to prevent such occurrence. The most noteworthy example of such uncontrolled saline intrusion has occurred in the Panama Canal, where, over a period of years, sea water from the ocean termini of the canal has moved up through the locks to the canal summit level (55 foot rise) and contaminated Miraflores Lake, originally a freshwater body. Similarly, in the case of the New Jersey Ship Canal, despite the average difference in level of about 7.5 feet between the upper and lower pools, salt water from the lower pool in Raritan Bay would enter the Sayreville lock by under-running and displacing the lighter-weight fresh water whenever the lower gates are left open. The volume of salt water thus entering the lock would depend upon the length of time the gates are left open and the extent to which passing traffic assists in displacing the fresh water and agitating the pool through propeller action. When the lower lock gates would then be closed and the upper lock gates opened, a similar interchange would occur between the salt water in the lock and the lighter fresh water in the upper pool assisted by drag and turbulence of passing vessels.

Effective measures for the control of salt water intrusion would involve

"flushing" and "scavenging" operations either separately or in combination. The flushing operation consists of closing the lock gate after a vessel has entered from the lower pool, and then discharging through the lock-filling and emptying systems a volume of fresh water from the upper pool in an amount sufficient to wash out of the lock practically all of the salt water which entered with the vessel. The scavenging operation is dependent upon the observed tendency of salt water to retain its identity as a heavy liquid which settles to the bottom of any body of fresh water into which it may be injected. Thus any salt water which may enter the upper pool through the lock would be drawn by gravity to a low point or sump in the upper pool and thence returned through a suitable conduit back to the lower pool. Flushing and scavenging requirements constitute an important component of the total water requirements of the canal.

With a view to solving the salt-water intrusion problem, extensive tests were conducted in 1944 and 1945 on several model locks constructed at the U.S. Waterways Experiment Station at Vicksburg, Miss. Some of those present here this afternoon attended the demonstration of these model tests in April of 1945. These tests were carefully conducted under expert guidance and in accordance with well-established hydraulic laws. As a result of these tests it was concluded that the prevention of salt water intrusion through the Sayreville locks into the canal could be accomplished by flushing the lock chambers with fresh water at each transit. It was found that a volume of fresh water for flushing, in an amount equal to one-half the volume of the lock, would hold the salt intrusion in the canal to within tolerable limits. A number of other features including facilities for scavenging from the upper pool would be provided in the design of the locks to insure against salt intrusion through accident or otherwise. Full details of these features are contained in our report which will be published and available

for public examination on its submission to Congress.

With regard to the effect of the canal on the ground-water supplies of northern New Jersey, it is to be expected that some local lowering of ground-water levels contiguous to the canal would occur, and that a limited number of private wells would have to be replaced at Government expense. This effect would be limited to the sections of deep cut, and in no case would extend beyond a few miles of the canal route. However, based upon careful investigation by the U.S. Geological Survey and others, no major industrial or municipal groundwater supply would suffer damage of consequence. On the contrary, at the ends of the canal, at Sayreville and Bordentown, some benefits will accrue to the local well fields by reason of the fact that they will draw increased yields by tapping the water of the canal.

With regard to the fresh water required for canal operation, we have estimated that the maximum requirement, for a short period and under the most adverse conditions of operation, would be 710 cubic feet per second, exclusive of lockage water at Bordentown which would be obtained from the Delaware at Bordentown and returned directly thereto. There are two principal sources from which this water might be obtained, namely the Delaware River and the Raritan River. We have examined a very large number of reservoirs within both watersheds, always with the consideration in mind that our requirements should be satisfied with a minimum of interference with the sources of water supply available for local potable use. As a result of our studies it was decided to abandon the Raritan River as a source of canal water-supply, thus leaving this stream available for future potable and industrial water-supply use. To prevent the creation of new flood and pollution problems in the lower reaches of this stream, and particularly at New Brunswick, our present plan provides that the Raritan River

be by-passed below the Sayreville locks by the construction of a cut-off channel at Sayreville. This will straighten the river and benefit navigation as well as the pollution and flood problems on this stream.

Our present plans are based upon obtaining the necessary freshwater supply for canal use from the natural flow of the Delaware River, supplemented by water stored in a reservoir at Cannonsville, New York, on the West Branch of the Delaware. Diversion of water for canal use would be accomplished by the construction of a pumping plant at Bordentown at the southerly end of the canal. The reservoir at Cannonsville would have a storage capacity of 442,000 acre-feet. This volume was determined as that necessary to satisfy our needs, to give preference to future water-supply plans of the City of Philadelphia, to permit diversions for industrial water-supply through the old Delaware and Raritan Canal, and to permit diversion of the flow of the Little Delaware River by the City of New York should this be desired at some future date. Allowances were also made for release of compensating flows during periods of low water in accordance with local regulations, and for substantial contingencies. It is anticipated that use of all of the water stored in the Cannonsville reservoir for canal purposes alone will be very infrequent if ever. Consequently, there will almost always be available for increasing the flow of the Delaware River, a sizable portion of the Cannonsville supply. This will materially reduce pollution on the lower river and make additional flow available to riparian owners downstream of the dam.

The canal project, if adopted, would probably be paid for in its entirety by the Federal Government. The last estimated cost submitted to Congress was $187,000,000. The cost today would doubtlessly be higher. The magnitude of this project may be adjudged by the fact that the

excavation alone in an amount of 295 million cubic yards, would exceed that required for the Panama Canal by 40 per cent. Such a project cannot be lightly considered or lightly dismissed. It represents a very high cost; but it also represents a tremendous commercial and military asset to the State of New Jersey and to the nation at large. The Corps of Engineers stands ready to undertake the project if and when authorized by the Congress.

* * *

THE INTERSTATE COMMISSION ON THE DELAWARE RIVER BASIN

APPENDIX - NEWSPAPER CLIPPINGS.

THE PHILA. EVENING BULLETIN

JULY 10, 1946

States Must Take Over Improving of River Valleys, Incodel is Told

By EARL SELBY

(Of The Bulletin Staff)

Shawnee-on-the-Delaware, July 10.—States must replace Federal agencies by assuming responsibility for construction programs in the great river valleys of the Nation, Ellwood R. Turner, chairman of Incodel, the Interstate Commission on the Delaware River Basin, declared today at the opening of a three-day meeting of various interstate river agencies.

Chairman Turner's comment followed a three-way panel discussion of Incodel members with those of the Interstate Commission on the Potomac River and the State Commissions on Interstate Co-operation, in the Shawnee Inn here.

The national meeting celebrates ten years of successful operation of Incodel in the Delaware River valley, with New York, New Jersey, Pennsylvania and Delaware co-operating in matters of policy.

"The time has come when the states must actually consider setting up an agency to go into the field of construction in interstate river projects," said Turner.

'People Will Demand Action'

"Thus far the states have been content with planning agencies but now that the war is over the people will demand action and if the states do not give it to them the Federal Government will. Thus far the states have done an effective job in quieting the propagandized drive for the creation of Federal river valley authorities."

Pointing out that interstate co-operative agencies have been set up in the valleys of the Delaware, Potomac, Hudson, Missouri, Columbia and Ohio River basins, Turner added: "While none of these co-operative arrangements are identical, each is developing specific sets of plans and programs for a particular area.

"Federal centralization is a diminishing threat as long as the states continue to accept their rightful responsibilities."

Frank Bane, executive director of the Council of State Governments in Chicago, said that states are "alert and alive" to their responsibilities in the field of water resources use and control.

Alban Parker, Vermont's attorney general, said that in New England plans are under way for harnessing the Connecticut River.

140 Attending Meeting

Today's discussion preceded the formal sessions which begin tomorrow. Approximately 140 members are attending the meetings which seek to demonstrate to the Nation how states can work together, as exemplified by Incodel.

In a quarter-century, Pennsylvania, New Jersey, Delaware and New York had an unbroken record of bickering over who was going to do what to the river, and the dispute took them in and out of courtrooms stretching all the way to the U. S. Supreme Court.

And while this quarreling was going on, extending into the first years of the New Deal, the Federal Government was showing that its approach to interstate river problems—the Tennessee Valley Authority—was a workable solution; the question was, should Authorities be created for all river basins?

Started on Shoestring

When it was formed in 1936 in a Philadelphia office building, Incodel staked out what it hoped was to be its future, an existence in the no-man's land between do-nothing policies by the states, and control by the Federal Government.

Incodel had no funds; it persuaded the Pennsylvania Banking Department to give it office space, it borrowed second-hand furniture. The Council of State Governments in Chicago paid for the executive secretary, stenographer and office supplies. And it had no power to compel the states to get together.

All it had was an idea. Its members believed they could avert Federal domination of the Delaware if the states proved they could handle the river problem in their own back yards. Would the idea work? Let the commission tell you:

Reciprocal Legislation

1. For the first time it got the four member states to pass reciprocal legislation agreeing to act in unison toward the common end of cleaning up the Delaware by stopping excessive pollution. More than $10,000,000 has been spent by 47 Pennsylvania and New Jersey cities for sewage collection and treatment facilities; Philadelphia and Camden have completed engineering surveys and plans for their similar projects.

(2) Instead of letting water diversion problems be settled in litigation which only makes the loser angry, the commission spurred the states into adoption of diversion laws. Now, Incodel says, "public water projects may be undertaken as public necessity demands, without conflict, without economic loss, and without the tremendous cost of legal controversy."

(3) Where once there was no hope of united action—the odoriferous, silt-scabbed Schuylkill—the commission helped bring the Federal Government, the state of Pennsylvania and coal operators into agreement on a $34,000,000 program for cleaning up the river. This is already under way.

Other Achievements

There have been other achievements, of course, such as helping the five-county Philadelphia area conserve 30,000,000 gallons of water in 1942 when war production was threatened by a potential water shortage, but the anti-pollution, diversion agreements and Schuylkill projects have occupied most of the commission's time.

THE PHILA. RECORD

JULY 11, 1946

UPLAND WATER PLAN IS RAPPED

Incodel's Head Declares Delaware Will Yield Good Supply

By HERMAN BRANDSCHAIN

Record Staff Correspondent

SHAWNEE-ON-THE-DELAWARE, July 10—There is no reason for Philadelphia to obtain water from an upland source because it will be getting good water from the Delaware River in five or six years.

That view was expressed here today by State Rep. Ellwood J. Turner, of Chester, who is chairman of the Interstate Commission on the Delaware River Basin (Incodel).

The organization, through which Pennsylvania, New York, New Jersey and Delaware handle all matters relating to the Delaware River Basin, opened a three-day conference here today.

Opposes Upland Source

Turner, who has consistently opposed an upland source for Philadelphia, said he thought the expenditure of some $300,000,000 for the proposed Wallpack Bend project is unnecessary.

The first $10,000,000 phase of a $63,000,000 program to rehabilitate the Philadelphia water works will soon get under way, Turner said, and the result will be progressively better drinking water. That program, he asserted, will have to go forward regardless whether the Wallpack Bend plan is approved.

"Any water the city gets will have to be treated," Turner said. "Even the cleaned-up Delaware won't deliver water so pure that it will be safe enough to dip a pail into it and drink it."

Could Change Later

If, after the rehabilitation program is completed, Turner continued, the city still thinks an upland source is needed, then it can go ahead with the plan. Meantime, nothing will have been lost by delay, he said.

Turner also pointed out that City Council still has done nothing about the $34,000,000 sewage disposal loan—approved by the voters in May by a 10-1 vote—although Philadelphia's sewage is an important source of river pollution. .

The Wallpack Bend and other water plans will be discussed at tomorrow's session by Frank B. Murdoch, counsel for the Philadelphia Water Commission.

THE PHILA. EVENING BULLETIN

JULY 11, 1946

SCHUYLKILL DELAY BLAMED ON STATE

Penny-Pinching Charged by Turner in Plans to Clean up River

By EARL SELBY
(Of The Bulletin Staff)

Shawnee-on-the-Delaware, July 11.—The whole Schuylkill River restoration project is being endangered by a penurious, penny-pinching attitude on the part of the state, it was charged today by Ellwood J. Turner.

Turner is chairman of the Interstate Commission on the Delaware River Basin. He spoke at the commission's 10th annual meeting in the Shawnee Inn here.

After his address, Turner in an interview blamed Governor Martin for the delay. He said that the Governor had failed to take proper action to break a financial log jam in connection with the state's multimillion-dollar program for dredging and cleaning the upper Schuylkill.

Case of Employing Engineer

Turner, a state representative from Chester for the last 22 years and recently a political opponent of Martin, cited as an example of what he meant by "penny-pinching," the proposed employment of an engineer by Pennsylvania to help get the program under way.

After the Commonwealth had failed, he said, to employ an engineer, the commission found an engineer who was willing to go to work for the state at $6,000 a year.

But, Turner continued, the state would go only to $5,500, with the result that the engineer was not hired.

The commission then stepped in, Turner said, and offered to loan John Boardman, one of its own engineers, to the Commonwealth, and this was accepted, at $5,000 a year. However, Turner said, he was in favor of recalling Boardman to the commission and forcing the state to drop its "dilly-dallying attitude" and get to work by itself on the Schuylkill restoration.

De-Silting Basins Wait

Pennsylvania should have started construction of two de-silting basins in the upper Schuylkill at least a month ago, Turner asserted. Yet, he continued, nothing has been done.

If Pennsylvania continues its "do-nothing" atttiude, Turner said he would not blame the Federal Government if it withdrew from the Schuylkill project. Getting the Federal Government interested in the program, he said, was one of the river commission's major accomplishments, the U. S. Army Engineers having ruled in 1938 that it did not have an economic role in any rehabilitation project.

The Army engineers later modified their opinion and supported a $12,895,000 project which has been approved by Congress, to dredge the Schuylkill from Norristown to the Delaware River. The appropriations bill is awaiting President Truman's signature.

Not Criticising Duff

Turner said he was not criticising James H. Duff, Attorney General and Republican nominee for Governor. Duff, he said, did a wonderful job in resisting pressure brought upon him to sabotage the Schuylkill program in the 1945 Legislature.

Frank B. Murdoch, special counsel for the Philadelphia Water Commission, explained to the group that raw Delaware water at Philadelphia has six-and-one-half "bugs" per drop while the Schuylkill has 16 per drop.

At the proposed Wallpack Bend dam site, he added, there is only one per drop.

Murdoch said that if the present "taste and odor" plan adopted by City Council last Tuesday does not yield satisfactory results he then would urge adoption of the report in which the Water Commission's Board of Engineers endorsed the Wallpack Bend dam plan.

Expressing the opinion that Wallpack Bend would not affect the New Jersey oyster beds, Murdoch said he believes New Jersey will co-operate in any such project—"largely due to Incodel."

Earlier James H. Allen, secretary of the commission, declared: "We are bitterly disappointed at the lack of action by the Commonwealth of Pennsylvania. It does not seem willing to accept and prosecute any practical program."

Allen said that an organized effort is being made to determine whether any upland diversion of water from the Delaware River, such as the proposed Wallpack Bend projcet, would need U. S. Supreme Court approval.

THE NEWARK EVENING NEWS

JULY 11, 1946

Incodel Head Condemns Philadelphia Water Plan

Declares Cleaning Delaware and Schuylkill Rivers Will Solve Problem

BY FRANK H. PIERCE JR.
Staff Correspondent.

SHAWNEE ON DELAWARE, Pa.—Philadelphia will abandon its plans to build a $300,000,000 reservoir at Walpack Bend in the Upper Delaware River near here if it follows the suggestion of Elwood J. Turner of Chester, Pa., chairman of the Interstate Commission on the Delaware River Basin.

Turner told Incodel today he would advise the city to "forget about an upland water supply" either in the Delaware or Lehigh river.

Turner said it would take the city from five to six years to develop either project and that by that time both the Delaware and Schuylkill, where Philadelphia now gets its water, should be cleaned of pollution. If the city overhauled its treatment system, Turner said, it should be able to get good drinking water out of both rivers without spending anything like the amount that would be entailed in constructing a huge new reservoir and a tunnel or pipeline from it to the city.

Turner last night welcomed about 150 delegates and their wives to the 10th anniversary conference of Incodel at Shawnee Inn and Country Club. The commission's membership includes representatives of New Jersey, Pennsylvania, New York and Delaware. One of its major concerns has been pollution of the river.

Philadelphia voters are expected to decide at the November election whether they favor development of the Upper Delaware as a water source. Before the reservoir could be built, however, New Jersey would have to agree to the proposal under the terms of a 1783 compact between that state and Pennsylvania. Strong opposition to the reservoir has developed in North Jersey, especially in Sussex County.

Turner said Incodel has been trying for 10 years to have the Delaware cleaned up and that, with the war over, progress should be marked within the next few years. He said it may take longer to clean up the Schuylkill, but that until that work is completed the Delaware should be able to meet most of Philadelphia's water needs and that thus the city's supply would be vastly improved.

Chester (Pa.) Example

According to Turner, a member of the Pennsylvania Assembly and counsel to the Chester Municipal Authority, Chester now is getting better water from the Delaware than is Philadelphia, despite the fact it is downstream, because it has a better treatment plant. He said Chester also is seeking an upland supply, but that this is because of the salinity in Delaware Bay in times of drought and not because the Delaware water is otherwise unsatisfactory, Salinity should not be a problem in Philadelphia, he said.

Turner said the cost of improving Philadelphia's water treatment system should be $60,000,000, as compared with the estimated $300,000,000 that a major reservoir at Wallpack would cost.

One thought Turner expressed was that, if Philadelphia does obtain a new upland water supply, the city's people will lose a large amount of their interest in having the section of the river below Trenton cleaned up.

Turner declared the ports of Camden and Philadelphia are "going to hell" because of pollution. He said industrial and sewerage waste eat the paint off ships and houses near the river and damage the boilers and pumps of the vessels.

Turner asserted that the $60,000,000 Philadelphia would spend on its treatment system must be spent whether or not an upland water supply is constructed. He reasoned that, if the city goes ahead with this expenditure first, it may find that it will have a satisfactory water supply without the Walpack Bend reservoir. On the other hand, he said, if, after the treatment plant improvements have been made, the city still desires an upland supply, nothing will have been lost.

Favors New Bills

Pending federal legislation to clean up polluted rivers was discussed at the conference yesterday afternoon. None of the bills before Congress is entirely satisfactory to Incodel and the consensus of the conference was that the commission should meet with other groups and organizations interested in a cleaner Delaware and draft legislation for the next session of Congress which would have the backing of these groups. The feeling was that none of the pending bills will be adopted before Congress adjourns this year.

Incodel would like to see the problem handled by agreement between the states, rather than by federal legislation.

In his welcome to the delegates Turner declared that in the last 10 years Incodel has made tremendous strides in providing the alternative to federal centralization of control where problems have involved two or more states. He said similar commissions have been created to handle water problems on other rivers—the Missouri, Connecticut, Columbia and Potomac—and that all have progressed and led the way back toward state control.

Cleanup Value

The delegates last night saw moving pictures showing the economic improvement that comes to communities along a river when it is cleared of pollution.

Today's discussions, at which State Treasurer Hendrickson of New Jersey is presiding, include federal anti-pollution legislation, the Schuylkill River restoration program, water supply diversion projects and a discussion of New Jersey's interests in the Delaware by Attorney General Van Riper.

Tomorrow the proposed trans-Jersey ship canal will be one of the subjects discussed.

THE PHILADELPHIA INQUIRER

JULY 11, 1946

Turner Favors Delaware Water Over Upland Plan

By SAUL SCHRAGA

Inquirer Staff Reporter

SHAWNEE - ON - THE - DELAWARE, Pa., July 10.—Declaring that the Delaware River will be delivering a satisfactory drinking water supply to Philadelphia's doorstep within the next five or six years, Ellwood J. Turner, of Chester, chairman of the Interstate Commerce Commission of Delaware River (INCODEL), today advised the city to "forget about an upland water supply."

"It will take at least five or six years before the Wallpack Bend or Lehigh supply could be developed," he added, "and by that time the Delaware will have been cleaned up. If the water treatment system is overhauled, Philadelphians will be getting good drinking water without spending nearly $300,000,000.

THREE-DAY MEETING

Turner is presiding at the three-day 10th annual meeting of the four-State commission through which Pennsylvania, New Jersey, New York and Delaware handle all matters affecting joint interests in the Delaware River basin.

The Delaware as a water supply, and the program for ending pollution in that stream and the Schuylkill are two of the principal topics coming before the meeting. More than 150 State legislators, representatives of agencies interested in smaller streams that flow into the Delaware, officials of four States and Philadelphia City officials attended.

ABOUT TO BEAR FRUIT

Turner, in an interview preceding the meeting, said that it was his opinion that Philadelphia need not seek more expensive sources of water, now that the 10-year campaign of INCODEL to clean up the river is about to bear fruit.

"INCODEL has battled for 10 years to clean up the Delaware," Turner said. "With the political situation as it is, the new program is going to go right ahead and will be vigorously prosecuted for the next few years."

The Schuylkill will take longer than the Delaware, he said, because the program while going forward "is not moving as fast as I would like to see it." The Delaware, he added, will be able to take care of all the city's needs.

Turner, counsel for the Chester Municipal Authority, said Chester was even now getting "good" water from the Delaware because it has a better treatment plant.

EXCESSIVE SALINITY

Chester is now seeking an upland water supply, he added, but that is because of the excessive salinity produced during drought and not because the supply is otherwise unsatisfactory. Salinity would not be a problem in Philadelphia, he said.

He cited the $60,000,000 estimated total cost of rehabilitating the Philadelphia water treatment system as compared with the estimated $284,000,000 required to bring water from Wallpack Bend, a short distance from where INCODEL is holding its meeting.

WILL DESCRIBE PLAN

The Wallpack and Lehigh plan will be described here tomorrow by Frank B. Murdoch, special counsel of the Philadelphia Water Commission, who has been investigating sources of water for the city.

Turner said that one danger of an upland water supply from the Commission's standpoint is that Philadelphia, once assured of a good water from a distant source, would lose interest in ending pollution of the Delaware at its own doorstep.

PORT DETERIORATING

He declared that the great Port of Philadelphia was deteriorating because of the waste, both human and industrial, pumped constantly into the river where it not only eats the paint off ships' hulls, but damages boilers and pumps.

"Philadelphia's City Council has a mandate to build sewer treatment plants" and "should be giving more attention to the prosecution of the sewerage program," Turner said. "In May the citizens of Philadelphia voted 10 to one for a $34,000,000 loan for this purpose. So far nothing has been done about it."

FIRST INSTALLMENT

"As for the water supply, the $60,000,000, of which $10,000,000 was appropriated Tuesday, is the first installment on the new program and will have to be spent whether or not Philadelphia gets an upland source of water. If later they decide they want water from Wallpack they can go ahead with it and nothing will have been lost.

"Any water the city gets will have to be treated. Even the cleaned up Delaware won't deliver water so pure that it will be safe enough to dip a pail into it and drink it," Turner said.

The INCODEL meeting was preceded today by a conservational conference sponsored jointly by INCODEL, the Council of State Governments and the Interstate River Commission for the Potomac River Basin.

THE PHILADELPHIA

EVENING BULLETIN

JULY 12, 1946

PENNA. GETS ARMY WARNING TO BEGIN ON SCHUYLKILL

Engineer says Program Must be Started Before Dredging by U. S.

$12,895,000 APPROPRIATED

By EARL SELBY

(Of The Bulletin Staff)

Shawnee-on-the-Delaware, July 12.—The Army in effect served notice on the State of Pennsylvania today to put up or shut up in its Schuylkill River anti-pollution program.

Colonel Frederick F. Frech, the Army's district engineer in Philadelphia, told the tenth annual meeting of the Interstate Commission on the Delaware River Basin that the Commonwealth's program for restoring the river must be "well under way before we start on our work."

He referred to the $12,895,000 appropriation which has passed Congress and is awaiting the President's signature, and under which the Army would dredge the Schuylkill from Norristown to the Delaware.

Three Necessary Considerations

Frech said that three considerations must be met by the State before the Army engineers will act.

They are: stopping of industrial waste from polluting the headwaters, construction of a dam at Auburn, Schuylkill County to hold back the silt now in the upper river, and elimination of at least half of the silt now in the river between Auburn and Norristown.

"The time involved in doing this could be anywhere from two to ten years, depending on the State," he added. "I hope that it is within three years."

State Staff Criticised

Frech said the Commonwealth could expedite the program by establishing a suitable engineering force. The present engineering staff, he declared, is inadequate to handle the situation and get full utilization of the millions of dollars which must be spent.

Franklin Lichtenwalter, a state representative and member of Pennsylvania's delegation in the Commission, expressed opposition to Federal authorities, esuch as TVA, for controlling an interstate river.

He said TVA organizations are "dangerous, unnecessary and wrong" because they start on the Federal level and not on the "grass roots of the people."

Leonard Defends TVA

An unscheduled speaker, Raymond Leonard, a member of the Philadelphia Planning Commission and former TVA staff official, disagreed with Lichtenwalter. He pointed out that a valley authority is responsible to popular control, and that in the TVA area there has been no weakening of State or local government.

The Commission heard a discussion of the proposed New Jersey canal which would connect Bordentown on the Delaware with Sayreville, on Raritan Bay. Colonel W. F. Heavey, district engineer for the Army in New York City, told the group that he did not believe the canal would affect any proposed plans by Philadelphia to obtain an upland water supply.

Ladner for Local Source

Orphans Court Judge Grover C. Ladner was reported today to have thrown his support to the proposal that Philadelphia avoid committing itself to any upland source for a water supply.

His views, it was disclosed here, were incorporated in a statement which he sent to his fellow members of the Philadelphia Water Commission.

Observers here said they wondered whether a movement is growing whereby any report by the commission would reflect the action of City Council, which adopted on Tuesday a ten million dollar interim program providing for the first test of "taste and odor" technique to improve Philadelphia's water.

Should the water commission follow the recommendation of its five-man board of engineers and approve the Wallpack Bend site for upland diversion, then it was considered very possible that a minority report might be forthcoming.

Judge Ladner, for instance, already has avowed his opposition to Wallpack Bend, and by telephone today he said he had reiterated this position in his statement to other commission members.

THE PHILADELPHIA INQUIRER

JULY 12, 1946

Dispute Over $500 Pay Stalls Anti-Silt Work

By SAUL SCHRAGA

Inquirer Staff Reporter

SHAWNEE-ON-THE-DELAWARE, Pa., July 11.—A haggle over $500 difference in an engineer's salary is endangering the $34,000,000 program for ending Schuylkill pollution, the 10th annual meeting of the Inter-State Commission of the Delaware River Basin was told today.

Laying responsibility for this "squarely on the doorstep of Governor Martin," the Commission chairman, State Representative Ellwood J. Turner (R., Del.) declared, "this penuriousness" has delayed the start of the work by several months.

NO TIME FOR HAGGLING

"Construction of two desilting bases on the Schuykill should have been started at least two months ago," Turner said. "This is no time to haggle over a few hundred dollars. It is high time that the Commonwealth of Pennsylvania got over the idea that it can't get something for nothing."

The State offered the job to a professor of engineering at an engineering college, according to Turner and James H. Allen, executive secretary and chief engineer for the Commission, but balked at the professor's salary demand of $6000 a year. The Governor, they said, offered $5500 a year and because of the difference the place has not been filled.

ENGINEER 'LOANED'

"About two months ago, to keep the project from lagging too far behind, INCODEL (short name for the Commission) loaned our engineer, John Boardman, to the State," Turner told the meeting, "but now we have to take him back because our own work requires his attention.

"As long as we take no action to force the State to get ahead with the program, it will continue to dilly-dally with this important project in order to save a few dollars.

REFERS TO APPROPRIATION

"I wouldn't blame the Federal Government if it got tired of the delay and decided not to bother any more with the program."

He referred to the $13,000,000 appropriation voted by Congress for the Corps of Engineers to clean up the silt-laden Schuylkill as far upstream as Norristown. The State has approved a $15,000,000 program from Norristown north.

Another $6,000,000 must be spent by the mine owners to install equipment for removing silt from waste water and preventing erosion of culm banks.

He made abundantly clear in his speech that he intended no criticism of Attorney General James Duff, whom he praised profusely for helping put through the pure streams bill "in the face of the most terrific pressure I have seen."

NO POLITICAL MOTIVES

Turner insisted there is no political motivation behind his attack on the Governor's failure to start the anti-pollution program rolling.

"I regret to have to talk as I do," he said, "but I am not speaking as a Pennsylvanian, but as a member of Incodel."

The State Legislature passed the anti-pollution measure more than a year ago, he said, "and the work could have gotten off to a good start, particularly since the Army engineers save the State hundreds of thousands of dollars" in blueprints and data. He added that Engineer draftmen, loaned to the commission, worked overtime on their own time to help prepare preliminary plans.

ALSO CRITICIZES PENNA.

Allen also criticized the State's failure to act, declaring that if vigorous steps were taken it was still possible to advance the date the Army can start on its part of the Schuylkill dredging job.

"The river can be reclaimed and restored to at least an acceptable utilitarian purpose in the next six years," Allen said.

Frank B. Murdoch, special counsel for the Philadelphia Water Commission, discussing the city's water supply problem, said the $10,000,000 voted by City Council to improve the city's water treatment system would include the tryout of three types of treatment to remove objectionable tastes and odors—ozone, activated charcoal and breakpoint chlorination.

If the face-lifting job does not work and the city has to go up-State for a water supply, he said he believes the city should accept the engineers recommendation of the Wellpack Bend plan. He said there should be no difficulty in getting New Jersey's consent to the project.

Deputy Attorney General Russell Watson of New Jersey declared that the heavy industrialized North Jersey's water needs might require a Delaware River supply, too.

THE PHILADELPHIA

INQUIRER

JULY 12, 1946

Long Wait for Clean Rivers

Ellwood J. Turner, chairman of the Interstate Commission on the Delaware River Basin, advises Philadelphia to "forget about an upland source of water supply" because the Delaware River will be satisfactorily cleaned up "within five or six years."

In the next breath, however, he points to the delays in the various projects intended to divert sewage from the Delaware, and is especially critical of the State's tardiness in removing pollution from the Schuylkill, another major source of our water supply.

The truth of the matter is that neither Mr. Turner nor anyone else knows when the Delaware or the Schuylkill could be made fit water sources.

The city of Philadelphia recently authorized a loan of $34,000,000 for sewage disposal plants that will divert from the Delaware much of the waste now emptying into it.

But even when that project is finished, the river will still reek of pollution. Other communities along both banks of the stream will still be discharging raw sewage and industrial waste into our water supply, and it is anybody's guess when this dumping can be halted. Is Philadelphia to wait until then to obtain water from unpolluted sources?

Water supply and river clean-up are separate improvements, both essential but not interdependent. The two rivers should be cleansed, even if we stop taking our drinking water from them, as a matter of public health, of port development, of flood control and of expanding our recreational facilities.

But improved sewage disposal methods should not prevent this city from obtaining better water from sources other than the Delaware and Schuylkill, if so desired.

THE PHILADELPHIA RECORD

JULY 12, 1946

MARTIN BLAMED FOR DELAY IN RIVER CLEAN-UP

Salary Dispute Imperils Schuylkill Clean-up, Republican Says

By HERMAN BRANDSCHAIN

Record Staff Correspondent

SHAWNEE - ON - THE DELAWARE, July 11—Gov. Martin was blamed today for holding up the $34,000,000 Schuylkill River clean-up program over a $500 salary dispute. The blast was a double-barreled one.

His fellow-Republican, Rep. Ellwood J. Turner, Delaware county, fired the loudest shot at the Governor. Martin's "dilly-dallying," he warned, threatened the "whole program." He was afraid that if this State didn't "soon get up off its feet and do something," the Federal Government would withdraw its $13,000,000 share in the program.

No Engineer Hired

Turner explained that construction should have begun several months ago but said that failure of the Martin administion to hire a project engineer has prevented that.

He said Martin had failed to hire the engineer—a professor of civil engineering — because that expert had refused to take the job for less than $6000 a year. The State offered $5500.

Turner, the chairman of the Interstate Commission on the Delaware River Basin (Incodel), which is holding its 10th annual meeting here, said his organization had gone so far as to lend its own engineer, John Boardman, to the State in an effort to get the work started.

"Incodel Is Disappointed"

Turner spoke after James H. Allen, executive secretary of Incodel, had said in a prepared address on the Schuylkill pollution program: "Incodel is bitterly disappointed by the lack of action on the part of the Commonwealth of Pennsylvania."

Allen did not name Gov. Martin in his address; when Turner addressed the meeting, he didn't name the Governor, either. After the meeting, however, Turner put the blame for the delay in the clean-up program on the Governor.

He explained that Incodel was especially interested in the Schuylkill program, because Incodel had "prodded" the project into being. The six-year project calls for: (1) the spending of $15,000,000 by the State on the dredging of the Schuylkill above Norristown and the building of two de-silting basins, (2) the expeding of $13,000,000 by the Federal Government for the dredging of silt as far up as Norristown; and (3) the spending of $6,000,000 by mine operators on the removal of silt from waste waters and the prevention of erosion in culm banks.

The State Must Begin

Turner further explained that the State must begin cleaing out the upper Schuylkill before the Federal Government can tackle the downstream problem.

"It was apparent that, to get the job started, the State would have to get a project engineer on the job," he said. "Yet, we labored in vain for months to get an engineer appointed or an engineering firm hired.

"It is a penurious consideration of a few hundred dollars in a $34,000,000 project which has held the progress up."

Heroic Effforts

He told of Incodel's efforts to get the project started. Allen went to the Army Engineers and had placed Incodel's disposal plans valued at hundreds of thousands of dollars. He said Army Engineers worked for the project on their own time. To cap all, Incodel lent its own engineers to the State when the Administration continued to bicker over a full-time paid engineer.

"But I think the time has now come," said Turner, "to take back our engineer, for we need him on Incodel work; and as long as he is being lent to the State, the State won't be compelled to hire a project engineer."

Philadelphia's drinking water program also came up at the meeting.

Drinking Water Discussed

Frank Murdoch, special counsel for the Philadelphia Water Commission, criticized Philadelphians for their lack of interest in the recent hearings of City Council on the water problem and consideration of an upland source for the city's water.

And he dismissed the argument of opponents of the Wallpack Bend project that it would be difficult to get the necessary co-operation of New Jersey and New York in the plan. He said the ground had already been pretty well cleared for such co-operation.

New Jersey Cautious

But, after his talk, Russell E. Watson, Deputy Attorney General of New Jersey, said his State would have to be careful how much water it let other States divert from the Upper Delaware.

He said the entire North Jersey industrial area, which he described as greater than any other comparable area in the world, was using up its entire daily supply—350 million gallons of water a day. That, he said, left no room for expansion or accident. He said, however, that there wasn't sufficient data available to tell how the Wallpack Bend project might affect the North Jersey supply

THE NEWARK EVENING NEWS

JULY 13, 1946

Jersey Ship Canal Grows

Project Becomes 35-foot, $500,000,000 Job in New Army Plans

BY FRANK H. PIERCE JR.

Staff Correspondent.

SHAWNEE ON THE DELAWARE—The trans-Jersey ship canal has grown. It's no longer the 27-foot deep, $200,000,000 project the Army engineers were discussing two years ago.

Its depth, as planned now, is 35 feet and the cost estimate, always believed to be on the most conservative side, now might well approach a $500,000,000 state and federal outlay.

Speaking here before the 10th anniversary conference of Incodel, the Interstate Commission on the Delaware River basin, Col. William F. Heavey, district engineer of the Army Engineers in New York, said complete plans for the canal now are ready and soon will be sent to the governors of New Jersey, New York and Pennsylvania for study.

Opposed to Canal

Like most New Jersey and Pennsylvania interests, Incodel has been opposed to the canal on the basis of cost, the destruction it would do with its 200-foot deep cut across the state and the fresh water resources it would use up, leaving them unavailable for future potable purposes.

The $200,000,000 cost estimate for the 27-foot deep canal was a conservative prewar figure. Heavey admitted yesterday that because of the advances in labor and material costs, the estimate probably would have to be materially increased today. Beyond that the estimate always was considered low, even on a prewar basis, and impartial engineers said it should have been closer to $300,000,000 or $400,000,000. In addition to the cost of actual construction, the state would be expected to furnish the right-of-way for the canal, for which there are no estimates, plus $100,000,000 to relocate highways and build new bridges across the waterway.

Heavey stressed that he was not trying to "sell" the idea and indicated that if the people of the three states oppose it, it will not go through. He did, however, present argument for the waterway. He said that in a direct or indirect way it would serve 80,000,000 people because of its connections with the Erie, St. Lawrence, Great Lakes and Mississippi waterways.

Prosecutor Minard of Essex, an Incodel member, questioned some of Heavey's assertions and particularly challenged the colonel's claim that there is water in the Delaware and Raritan rivers to supply the waterway and also carry out the lock-flushing process which the Army contends would keep salt water out of the canal and thus keep it from infiltrating into municipal and private ground water supplies.

Heavey acknowledged that salt water has risen 55 feet through the Panama Canal to Lake Miraflores and caused serious damage to that inland lake. He contended, however, that experiments the Army engineers have conducted at Vicksburg, Miss., show that salt water can be kept out of the trans-Jersey canal through a flushing process.

Question in the minds of New Jersey water experts always has been whether the flushing of the locks would not require more water than New Jersey could provide. There would be the normal amount necessary to fill the 33-mile long canal, plus the additional amount necessary to flush the locks. Heavey acknowledged the flushing operation would have to be performed every time a ship went through the Sayreville lock.

Short of Potable Water

Russell E. Watson, deputy attorney general in charge of water problems, told Incodel Thursday that North Jersey is short of potable water and that it must protect every available source it has, even to the detriment of Philadelphia's seeking a new supply in the Upper Delaware at Walpack Bend.

Jerseyans who have been "living with" the proposal of the Army engineers to build a canal across the waist of the state were nearly convinced that the project was dead.

But with Heavey's announcement yesterday that the plans are ready and about to be submitted to the three governors, state interests again concerned themselves with the idea that the canal might still become a reality unless the opposition reorganizes.

Heavey presented the canal as an economic and defense "must." He declared that the entire cost of the waterway would have been written off in lives saved and tankers not sunk had it been built before Wold War II and been available against German submarines.

Lower Mortality

Shipping, he said, would not have had to go "out to sea" between New York and Philadelphia and thus the coastwise mortality record of the war would have been lower.

Heavey suggested that the canal would have great economic value to New Jersey through creation of new shipping points along its route. He said its right-of-way would pass mainly through unproductive wasteland and would cause no serious damage to municipal and private underground water supplies.

Heavey said the Army proposes to build a huge reservoir at Cannonsville, N. Y., and that the reservoir will take care of the canal's water needs. The canal operators would release water from the reservoir, let it flow into the Delaware and then have it pumped out of the river into the canal somewhere near Trenton.

From Reservoir

Heavey's contention was that the upper reaches of the Delaware would be able to furnish enough water for a 35-foot deep canal across New Jersey from a reservoir at Cannonsville, even though Philadelphia and North Jersey may later put additional demands on the river for drinking water.

Minard told the conference he was not looking for a debate with the colonel. After reviewing Jersey's reasons for opposition to the waterway, Minard said he was sure the Army engineers never have approached the project from "a Jersey viewpoint."

THE NEWARK EVENING NEWS

JULY 12, 1946

Jersey Warns On Reservoirs

Tells Philadelphia It Won't Cede Rights—Incodel Hits Project

BY FRANK H. PIERCE JR.

Staff Correspondent.

SHAWNEE - ON - DELAWARE, Pa.—Philadelphia had substantive notice from New Jersey today that it is not going along on the city's plan to build a huge reservoir on the Delaware River a short distance above here unless the state has every assurance that its rights are preserved.

The Quaker City's proposal to build a 30-mile long reservoir that would stretch from Wallpack Bend in Sussex County to Port Jervis, N. Y., has been meeting increased opposition from North Jersey interests and the Interstate Commission on the Delaware River Basin now is definitely opposed to the project.

Incodel, meeting here for three days to observe its 10th anniversary, says in a booklet specially prepared for the occasion that there appears today to be no need for even a joint reservoir supply project that would serve Philadelphia and New Jersey. Always before it had been considered a strictly Philadelphia proposal.

Gives Jersey Views

Russell E. Watson, special deputy attorney general who has been handling water problems for New Jersey, told Incodel yesterday about New Jersey's stake in the Delaware. He spoke after Frank B. Murdock, special counsel to Philadelphia Water Commission, had inferred that New Jersey was willing to go along with most of Philadelphia's water demands so far as the Delaware is concerned.

Watson, speaking for Attorney General Van Riper, who introduced him, did not deny that statement, but he emphasized that a lot of Pennsylvanians do not seem to understand "New Jersey is an awfully small state geographically, but its North Jersey area is the most intensely industrialized in the world; it has huge industries that need water for expansion and even to continue in business."

Watson said:

"New Jersey has been neglectful and improvident in thinking about the future when it came to water supply and today its North Jersey supplies have a demand upon them of from 300,000,000 to 350,000,000 gallons daily and that is all these reservoirs and ground water sources can supply. That is their limit. There is no margin for safety.

"It's been a case of procrastination and there has been lack of vision, but it is a situation the state has to face, so today New Jersey can not cede away any of its rights without full guarantees."

THE PHILADELPHIA RECORD

JULY 13, 1946

STATE BLAMED FOR DELAY ON RIVER CLEANUP

Army Cites Shortage of Engineers; U. S. Will Not Begin Work

By HERMAN BRANDSCHAIN

Record Staff Correspondent

SHAWNEE-ON-DELAWARE, Pa., July 12—Pennsylvania has an inadequate staff of engineers to get the Schuylkill River clean-up project started.

That report was made today by Col. F. F. Frech, Philadelphia district engineer of the U. S. Army, at the final session of the 10th anniversary conservation conference of the Interstate Commission on the Delaware River basin ("Incodel").

State Short 60 Engineers

He also revealed that because of a 15 percent rise in prices, the cost of the project would now be about $40,000,000 instead of $34,000,000.

In an interview after his report, Col. Frech said the State had only 20 engineers for the project, whereas he understands 80 are needed.

His report followed disclosure yesterday by Rep. Ellwood J. Turner, Incodel chairman, that failure of the Martin Administration to appoint a works projects engineer because of a $500 salary dispute prevented actual construction from being started.

The colonel, in answer to questions, said the Federal Government would pay such an engineer between $7500 and $10,000. Turner said the State was offering only $5500.

Await Cleanup by State

"The State can greatly expedite this project by establishing a suitable and capable engineering force," said Col. Frech in his report. "Right now the State has an inadequate force. I'd like to see them get started."

He explained that the Federal Government could not begin its part of the project to dredge the lower Schuylkill up to Norristown until the State does its part—cleaning up the Schuylkill above Norristown. He pointed out there is no use dredging the lower river if silt accumulated upstream keeps washing down.

Another Army engineer, Col. William F. Heavy, head of the New York district, said his report on the New Jersey ship canal, which would connect Philadelphia and New York by water, has been finished and will be submitted to the Governors of New York, New Jersey and Pennsylvania before being sent to the chief of the corps of engineers.

The proposed canal, from Bordentown, N. J., on the Delaware, to Sayreville on the Raritan Bay, an arm of Lower New York Bay, would be 33 miles long, 250 feet wide and 32 feet deep, requiring excavation of 295 million cubic yards, 40 percent more than in building the Panama Canal. Ocean-going vessels including some battleships but excluding the largest tankers, could use it.

Col. Heavey, describing it as the "missing link" in the Atlantic intracoastal waterway, from Key West to Boston, said it would save 185 statute miles of ship travel from Philadelphia to New York and would carry 10 million tons of freight annually.

Members of Incodel, on record against the project, gave the report a chill reception, New Jersey commissioners particularly raising questions about its present need and defense from the air. Col. Heavey replied that the canal, if it had been built for wartime use, would have paid for itself and would have prevented submarine sinkings along the Jersey coast. He added that it would have been defensively sound for World War II, but admitted it would not be in an atomic war.

THE PHILADELPHIA INQUIRER

JULY 15, 1946

State Must Speed the Schuylkill Cleanup Job

Slow motion, and in some respects no motion at all, on the part of Pennsylvania threatens long and serious delays and may imperil the vital task of cleaning up the coal-silted Schuylkill. It is imperative that this situation be overcome without delay.

Nothing must be permitted to jeopardize this important project and particularly to risk the loss of nearly $13,000,000 of Federal aid which Congress has provided. Anyone passing along the River Drives in Fairmount Park can see in the silt shoals blocking and disfiguring the once beautiful Schuylkill what the huge cleanup job means to Philadelphia.

But the Federal appropriation carries requirements for action by the Commonwealth to halt silting and other pollution from up-State and to clean up the river above Norristown, the Federal Government having agreed to handle the work below that borough.

Colonel Frederick F. Frech, the Army's district engineer at Philadelphia, prodded State authorities last week for inactivity in a talk before the Interstate Commission on the Delaware River Basin, and pointed out the conditions that must be met before the Government will begin its part of the work.

The State must bring industrial waste pollution at the headwaters to a halt. And that means in the hard coal regions whose powerful coal operators' lobby is still as much opposed to the river cleanup as when it fought so violently against the Brunner anti-silt bill.

Another Government condition calls for construction of a dam at Auburn in Schuylkill county to hold back the silt now in the upper river, and removal by the Commonwealth of at least half of the silt in the river between Auburn and Norristown.

The conditions are not unreasonable. There would be little sense in spending $13,000,000 of Federal funds on the lower Schuylkill if the silt flood from up-State continues.

Governor Martin's administration made a fine record in fighting the clean streams battle in the Legislature. It should cap it now by going into vigorous action to get the State's part of the Schuylkill cleanup under way and hastening toward completion in the shortest possible time.