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MAPS - CHARTS - GRAPHS

by  
The Interstate Commission  
on the Delaware River Basin  
1941

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# THE DELAWARE RIVER BASIN

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## INCODEL

MAPS : CHARTS : GRAPHS



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THE INTERSTATE COMMISSION  
ON THE DELAWARE RIVER BASIN  
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**I.**

**BASE MAPS**

**THE DELAWARE RIVER BASIN:**

1. Scale: 1 inch = 2 miles (in two sections)
  - a. County lines; municipal lines and names of selected places; all streams. **B—1**
  - b. County lines; township lines and names; municipal lines and names; all streams. **B—2**
  - c. County lines; municipal lines and names of selected places; principal streams. **B—3**
2. Scale: 1 inch = 4 miles
  - a. County lines; municipal lines and names of selected places; principal streams. **B—10**
  - b. County lines; municipal lines and names of selected places; all streams. **B—11**
  - c. County lines; township lines; municipal lines; all streams. **B—12**
  - d. County lines; township lines and names; municipal lines and names; all streams. **B—13**
3. Scale: 1 inch = 11 miles
  - a. County lines and names. **B—30**
  - b. Principal streams and names. **B—31**

**B. THE DELAWARE RIVER BASIN ABOVE PORT JERVIS, NEW YORK:**

1. Scale: 1 inch = 2 miles
  - a. County lines; town lines; municipal lines and names; principal streams. **B—50**

**C. THE DELAWARE RIVER BASIN ABOVE DELAWARE BAY:**

1. Scale: 1 inch = 8 miles
  - a. Names of larger municipalities; Delaware, Lehigh and Schuylkill Rivers. **B—20**

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### II.

## FACTUAL MAPS, CHARTS, AND GRAPHS

### A. GOVERNMENT:

#### 1. Political Subdivisions.

All governmental units named. Municipalities shaded, with distinction shown between cities and boroughs, towns and villages. 4 miles. B13

### B. INDUSTRY:

#### 1. Industrial Development.

Distribution of industrial workers by counties shown as a percentage of total population. 11 miles. B30—8

#### 2. Location of Industrial Establishments, Trenton to Delaware Bay.

Shows location of industrial plants which discharge industrial wastes into the Delaware River or its tributaries. Each plant is identified by a number which refers to a descriptive tabulation. Approximately 1300 feet. B51—1

#### 3. Mineral Resources.

Shows location and type of extractive industries both active and inactive. 4 miles. B10—2

### C. LAND:

#### 1. Existing Use of Land.

Shows urban and industrial areas, forest cover, tidal marsh and open areas. B1—1

Prepared at two scales: 2 miles

4 miles

B11—10

#### 2. Existing Use of Land Above Port Jervis, New York.

Shows urban-industrial areas, forest cover, and open areas for the portion of the Basin above Port Jervis. 2 miles. B50—1

### C. LAND (continued)

#### 3. Soil Erosion.

Shows types of erosion by areas in which more than 25 per cent of the land has been affected. 8 miles. B20—4

### D. POLLUTION:

#### 1. Pollution Status of Interstate Delaware River.

Shows type and degree of pollution; also water supply intakes and points of discharge of domestic and industrial wastes. 4 miles. B11—3

#### 2. Zones in which Minimum Standards Apply for the Control of Pollution in the Delaware River Basin.

Shows geographical-areal divisions which serve as the basis for the interstate plan of pollution abatement and control. 8 miles. B20—1A

#### 3. Location of Stream Sampling Stations.

Places where samples of water are taken periodically for chemical and bacteriological analysis. 11 miles. B30—6

### E. POPULATION:

#### 1. Population by Political Subdivisions.

Shows distribution of population by municipalities and townships, based on the 1930 census. 4 miles. B12—1

#### 2. Population Trends.

Shows change in population by states and for the Basin as a whole for the years 1910, 1920, and 1930. Graph. B64

### F. POWER:

#### 1. Location of Existing Power Plants.

Shows location of hydro-electric and steam generating plants with the installed generating capacity of each. 11 miles. B30—7

#### 2. Water Supply and Power Development Possibilities in the Upper Basin.

Reproduced from Army Engineers' "308" Report. Shows project designated as Combination Project No. 2. 11 miles. B30—4

## THE DELAWARE RIVER BASIN

### G. PUBLIC PROPERTIES:

1. Principal Transportation Facilities and Public Properties.  
Prepared at two scales: 2 miles B3—1  
4 miles B10—3
2. Principal Transportation Facilities and Public Properties above Port Jervis, New York. 2 miles. B50—2

### H. SEWERAGE:

1. Status of Sewerage Systems.  
Indicates the degree of treatment for each sewered community. Also indicates which communities have no sewerage systems. 4 miles. B13—1
2. Sewerage Systems and Sewage Treatment Works: Status as of June, 1939. 8 miles. B20—2
3. Sewerage Systems and Sewage Treatment Works: Record of Progress, 1936-1939. 8 miles. B20—3
4. Plan for the Collection, Treatment, and Disposal of Sewage for the City of Philadelphia. B53—1

### I. TOPOGRAPHY:

1. Relief map of the Basin; contour interval 500 feet. 4 miles. B10—1

### J. TRANSPORTATION:

(See Public Properties)

### K. WATER:

1. Possible Sources of Water Supply from Tributaries of the Delaware River.  
Shows the important proposals which have been advanced for the development of water supplies for the region's metropolitan areas. 4 miles. B11—1
2. Status of Water Supply.  
Indicates ownership and source of water supplies by municipalities. 4 miles. B13—3

## THE DELAWARE RIVER BASIN

### K. WATER (continued)

3. Water Supply Projects Involving Diversions of Delaware River Waters.  
Shows the New York City project which is now under construction and Governor Moore's proposed project for the New Jersey metropolitan area. 8 miles. B26—1
4. Water Supply and Power Development Possibilities in the Upper Basin.  
Reproduced from Army Engineers' "308" Report. Shows project designated as Combination Project No. 2. 11 miles. B30—4
5. Location of Stream Gaging and Precipitation Stations.  
Shows location of existing and proposed stream gaging stations and existing precipitation stations classed as recording and non-recording. 4 miles. B11—2
6. Location of Existing Stream Gaging Stations.  
Includes all stations in operation in 1940. Stations are identified by number and described in separate tabulation. 11 miles. B30—1
7. Periods of Operation of Stream Gaging Stations in the Delaware River Basin.  
Includes all stations which have been in operation at some time. Chart, 2 sheets. B76
8. Principal Drainage Areas.  
The drainage area in square miles and average run-off in million gallons per day per square mile are given for each principal drainage area. Also shows location of existing and proposed stream gaging stations. 4 miles. B11—9
9. Location of Existing Rainfall Stations.  
Includes all stations in operation in 1940. Classed as recording and non-recording stations. Each is identified by number and described in a separate tabulation. 11 miles. B30—2
10. Mean Annual Rainfall.  
Reproduced from Army Engineers' "308" Report. 11 miles. B30—3

**K. WATER (continued)**

11. Series of hydrographs showing daily flows in the Delaware River as follows:
  - a. Port Jervis, August through December, 1931. B56
  - b. Trenton, August through December, 1931. B57
  - c. Port Jervis, July through December, 1930. B56A
  - d. Trenton, July through December, 1930. B57A
  
12. Currently maintained hydrographs showing daily flows by calendar years for the following gaging stations:
  - a. East Branch Delaware River at Fishs Eddy, New York.
  - b. West Branch Delaware River at Hale Eddy, New York.
  - c. Delaware River at Port Jervis, New York.
  - d. Delaware River at Belvidere, New Jersey.
  - e. Delaware River at Riegelsville, Pennsylvania.
  - f. Delaware River at Trenton, New Jersey.
  
13. Graphs showing cumulative flows:
  - a. Cumulative total number of days that flow in the Delaware River fell below 0.50 c.s.m.; 1922-1928, inclusive. B61—1
  - b. Cumulative total number of days that flow in the Delaware River fell below 0.50 c.s.m. and the flow of certain tributaries fell below the rate of flow which corresponds to 0.50 c.s.m. in flow duration frequency, 1929-1937, inclusive. B61—2
  - c. Cumulative total number of days that releases are required from proposed water supply diversion projects on tributaries of the Delaware River in the upper basin in New York state under the Supreme Court rule and under the proposed modification involved in Rule A, 1930 to 1935, inclusive. B61—3
  - d. Cumulative total number of days that releases are required from proposed water supply diversion projects on tributaries of the Delaware River in the lower basin in Pennsylvania and New Jersey under the Supreme Court Rule and under the proposed modification involved in Rule A; 1930-1935, inclusive. B61—4

**K. WATER (continued)**

14. Comparison of yields, storage requirements and compensating water:
  - a. Under various rule of release provisions; tabulation, 2 sheets. B62
  - b. Under various rule of release provisions expressed as a percentage of the results with the Supreme Court Rule, Case 1 results equal to 100; tabulation. B62—3
  
15. Chart showing improvement of critical low flows in the Delaware River at Trenton, New Jersey, under the Supreme Court Rule and under various modifications of the Supreme Court Rule. B75
  
16. Flow duration curves:
  - a. Delaware River at Trenton for the periods of low flow during 1930 to 1936, inclusive, under various assumed methods of control of developments. B67—1
  - b. East Branch of Delaware at Fishs Eddy, New York, for the ten year period 1929 to 1938, inclusive. B67—2
  - c. Neversink River at Oakland Valley, New York, and at Godeffroy, New York, for the ten year period 1929 to 1938, inclusive. B67—3
  - d. Pequest River at Pequest, New Jersey, for the ten year period 1929 to 1938, inclusive. B67—4
  - e. Delaware River at Trenton for the ten year period, 1929 to 1938, inclusive. B67—5
  - f. Delaware River at Trenton, for the 27 year period February 24, 1913, to September 30, 1939. B67—6
  - g. Delaware River at Trenton, critical year of low flow, 1930. B67—7
  - h. Beaver Kill at Cooks Falls, New York, for the ten year period 1929 to 1938, inclusive. B67—8
  - i. Lehigh River at Tannery, Pennsylvania, for the ten year period 1929 to 1938, inclusive. B67—9
  
17. Hydrographs showing a comparison between the observed daily flow of the Delaware River at Trenton and the results of the application of the Supreme Court Rule, Case 1, and the proposed modifications involved in Rule A for the periods of low flow, 1930 to 1936, inclusive. 7 sheets. B68

## K. WATER (continued)

18. Hydrographs showing a comparison between the observed daily flow of the Delaware River at Trenton and the results of the application of the Supreme Court Rule, Case 1, for the periods of low flow, 1930-1936, inclusive, and for 1939. 8 sheets. B68A

19. Mass diagrams based upon monthly average daily flows in c.s.m. for the period October, 1928, through December, 1934, for the following streams:

East Branch of Delaware at Fishs Eddy, New York.  
Beaver Kill at Cooks Falls, New York.  
Neversink River at Neversink, New York.  
Lehigh River at Tannery, Pennsylvania.  
Pequest River at Pequest, New Jersey.

On each diagram, as a base, are plotted two curves, one representing observed flows and the other available flows after providing releases in accordance with the Supreme Court Rule, Case 1. Superimposed upon these are curves representing available flows after providing releases in accordance with the following proposed modifications of the Supreme Court Rule:

- a. Rule A
- b. Rules B, C and 3D
- c. Rules D and 3E
- d. Rules E and 3F
- e. Rule 3G

20. Comparison of flows in the Delaware River at Trenton, New Jersey, under various rules governing diversions, for the periods July, 1930, through February, 1931; August, 1931, through December 15, 1931; July, 1932, through September, 1932; and June, 1939, through September, 1939. Graphs, 6 sheets. B70

## 21. Salinity Graphs

- a. Comparison of computed positions of upper limits of brackish water in the Delaware River; December 1, 1939 to February 29, 1940. B71
- b. Probable line of stationary limits of brackish water. B72
- c. Comparison of probable positions of lines of no movement of salinity. B73
- d. Conversion chart for computing the fresh water addition to the tidal prism above Marcus Hook, Pennsylvania. B74

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## III.

## MISCELLANEOUS

- A. Map showing the location of the Delaware River Basin with respect to the northeastern states; no scale. B55—2
- B. Chart showing the organization of Incodel and its advisory committees. B56
- C. Map showing the portion of the Delaware River Basin above Trenton, New Jersey, in relation to the principal centers of population. The map points out potential recreational advantages to the people within these population centers. B59

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## IV.

## REFERENCE MATERIAL

- A. Set of topographic sheets at a scale of one mile to the inch covering the Delaware River Basin on which have been plotted areas of publicly owned lands; principal highways; reservoirs; stream gaging stations; precipitation stations; and stream sampling stations.
- B. Set of hydrographs upon which are shown comparisons of the effect of the operation of projects upon the flow of the Delaware River at Trenton under the provisions of the Supreme Court Rule with those resulting from the operation of projects under the following modifications of the Supreme Court Rule:
1. Rule A, for the period 1930 through 1936.
  2. Rule B, during 1930.
  3. Rule C, for the period 1930 through 1936.
  4. Rule D, for the period 1930 through 1933.
  5. Rule E, for the period 1930 through 1933.
  6. Rule F, for the period 1930 through 1933.
  7. Rule 3D, for the period 1930 through 1936.
  8. Rule 3E, for the period 1930 through 1933.
  9. Rule 3F, for the period 1930 through 1933.
  10. Rule 3G, for the period 1930 through 1933.

## C. Calendar charts:

1. Series of Calendar Charts for the period 1929 through 1937 showing a comparison between the days when flows in the Delaware River at Port Jervis, and at Trenton, and at both, fell below 0.50 c.s.m. and the days when the flow of:

Delaware River at Trenton fell below 0.588 c.s.m.  
 East Branch at Fishs Eddy fell below 0.460 c.s.m.  
 Neversink River at Oakland Valley fell below 0.585 c.s.m.  
 Beaver Kill at Cooks Falls fell below 0.535 c.s.m.  
 Lehigh River at Tannery fell below 0.550 c.s.m.  
 Pequest River at Pequest fell below 0.490 c.s.m.  
 Lackawaxen River at West Hawley fell below 0.320 c.s.m.  
 Bushkill Creek at Shoemakers fell below 0.460 c.s.m.

## C. Calendar charts (continued)

2. Series of Calendar Charts for the period 1930 through 1935 showing a comparison between days when flows in the Delaware River at Trenton fell below 3400 c.f.s. and below 4600 c.f.s., and the days when the flow of:

East Branch fell below 0.460 c.s.m. and below 0.565 c.s.m.  
 Beaver Kill fell below 0.535 c.s.m. and below 0.635 c.s.m.  
 Neversink fell below 0.585 c.s.m. and below 0.685 c.s.m.  
 Lehigh fell below 0.550 c.s.m. and below 0.650 c.s.m.  
 Pequest fell below 0.490 c.s.m. and below 0.560 c.s.m.

3. Series of Calendar Charts for the period 1929 through 1939 showing a comparison of days when flows in the Delaware River Trenton fell below 2500 c.f.s. and below 4000 c.f.s., and the days when the flow of:

East Branch fell below 0.233 c.s.m. and below 0.460 c.s.m.  
 Beaver Kill fell below 0.308 c.s.m. and below 0.535 c.s.m.  
 Neversink fell below 0.347 c.s.m. and below 0.585 c.s.m.  
 Lehigh fell below 0.309 c.s.m. and below 0.550 c.s.m.  
 Pequest fell below 0.325 c.s.m. and below 0.490 c.s.m.

4. Series of Calendar Charts for the period 1929 through 1938 showing a comparison of days when flows in the Delaware River at Trenton fell below 2500 c.f.s., and below 3400 c.f.s., and below 4000 c.f.s. and the days when the flow of:

East Branch fell below 0.233 c.s.m.; 0.370 c.s.m.; 0.513 c.s.m.  
 Beaver Kill fell below 0.308 c.s.m.; 0.443 c.s.m.; 0.585 c.s.m.  
 Neversink fell below 0.347 c.s.m.; 0.487 c.s.m.; 0.637 c.s.m.  
 Lehigh fell below 0.309 c.s.m.; 0.452 c.s.m.; 0.600 c.s.m.  
 Pequest fell below 0.323 c.s.m.; 0.430 c.s.m.; 0.528 c.s.m.

# THE DELAWARE RIVER BASIN

## D. Flow Duration Curves:

1. Flow duration curve of the East Branch of Delaware River at Fishs Eddy, New York, for the ten year period, 1929 to 1938, inclusive.
2. Flow duration curve of Neversink River, at Oakland Valley, New York, and Godeffroy, New York, for the ten year period, 1929 to 1938, inclusive.
3. Flow duration curve of Pequest River at Pequest, New Jersey, for the ten year period, 1929 to 1938, inclusive.
4. Flow duration curve of the Delaware River at Trenton, New Jersey, for the ten year period, 1929 to 1938, inclusive.
5. Flow duration curve of the Delaware River at Trenton, New Jersey, for the 27 year period, February 24, 1913, to September 30, 1939.
6. Flow duration curve of the Delaware River at Trenton, New Jersey, for 1930.
7. Flow duration curve of the Beaver Kill at Cooks Falls, New York, for the ten year period, 1929 to 1938, inclusive.
8. Flow duration curve of the Lehigh River at Tannery, Pennsylvania, for the ten year period, 1929 to 1938, inclusive.
9. Flow duration curves of the Delaware River at Trenton, New Jersey, for periods of low flow during 1930 to 1936 (952 days) under various assumed methods of controlled development.

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