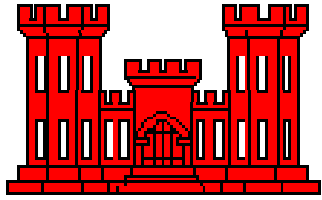


Reservoir Regulation

April 2-4, 2005 Event

U S Army Corps of Engineers

Philadelphia District



Reservoir Projects

Schuylkill River Basin

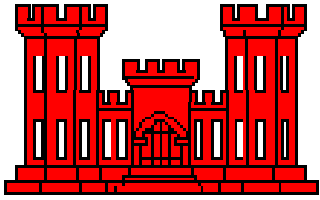
Blue Marsh Lake

Lehigh River Basin

F.E. Walter Dam, Beltzville Lake

Lackawaxen River Basin

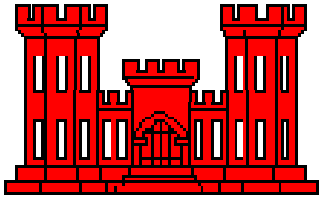
Prompton Dam, Jadwin Dam



How are Release Decisions Made?

Near Real Time Data Processing System

- Gage Network - Precipitation, River Stage, Lake Levels
- Satellite Downlink Station
- Two Redundant Sun Workstations
- Dam Personnel Reports
- Internet
- Weather Radio



Francis E. Walter Dam

Project Purposes

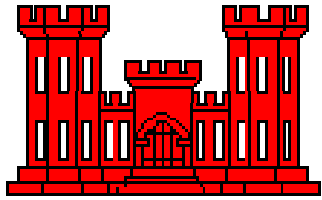
- Flood Control

108,000 AF

- Recreation

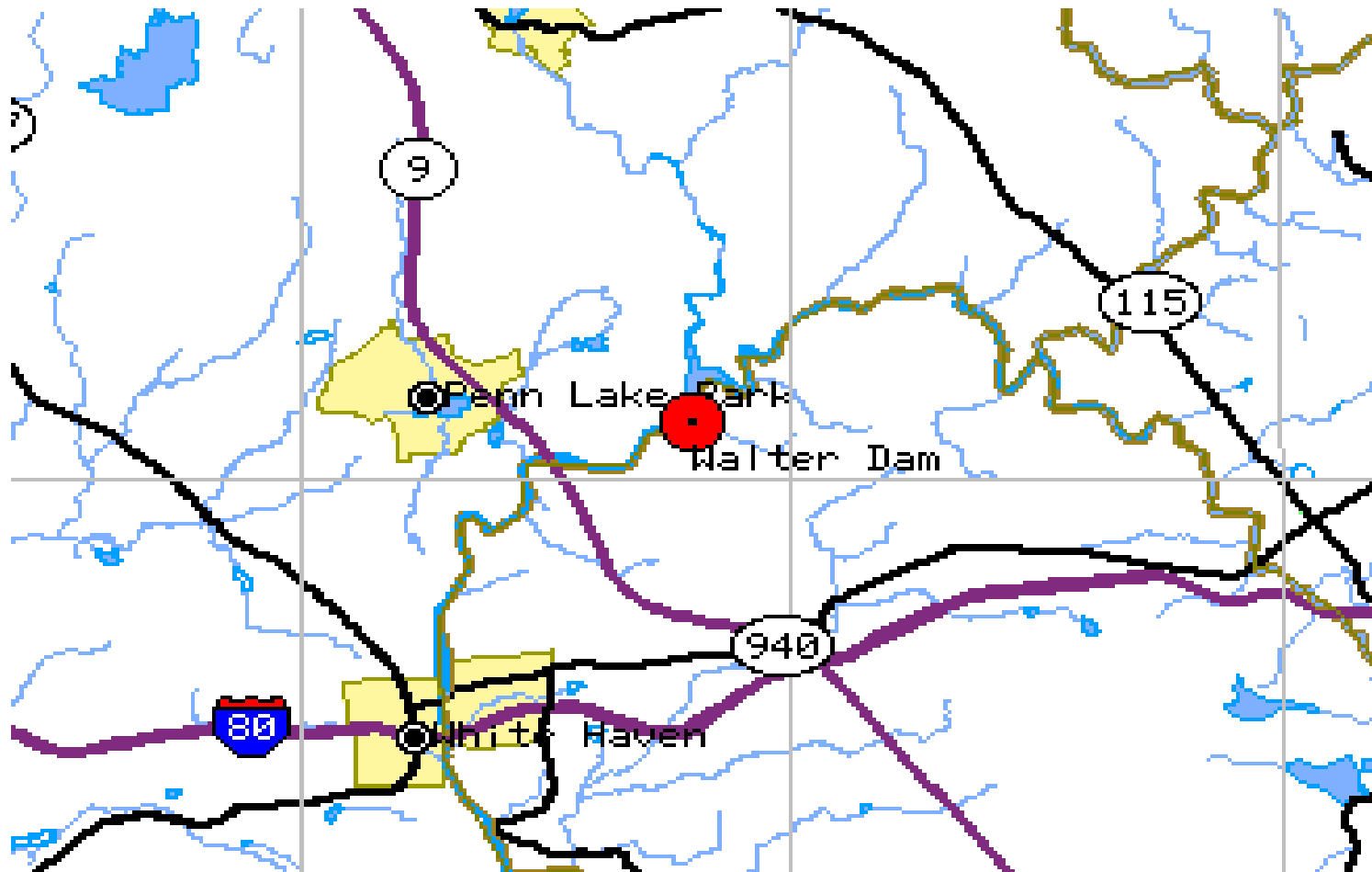
- Drought
Contingency

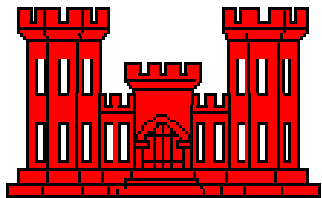




F. E. Walter – Location

Lehigh River, 77 miles above confluence with the Delaware River





Lehigh River Gages

Leighton

Drainage Area 591 Square Miles

Stage, Precipitation

Flood Stage 10.7 Feet

Walnutport

Drainage Area 889 Square Miles

Stage, Precipitation

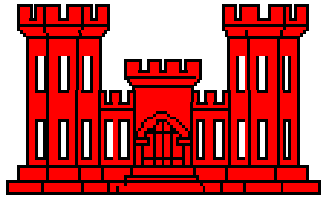
Flood Stage 8 Feet

Bethlehem

Drainage Area 1279 Square Miles

Stage, Precipitation

Flood Stage 14.25 Feet



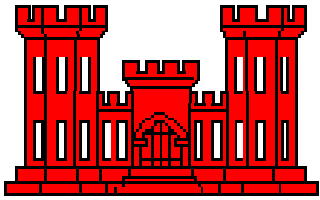
F. E. Walter - Flood Protection

Accumulative Damages Prevented Since 1961
\$133M (2004 Price Levels)

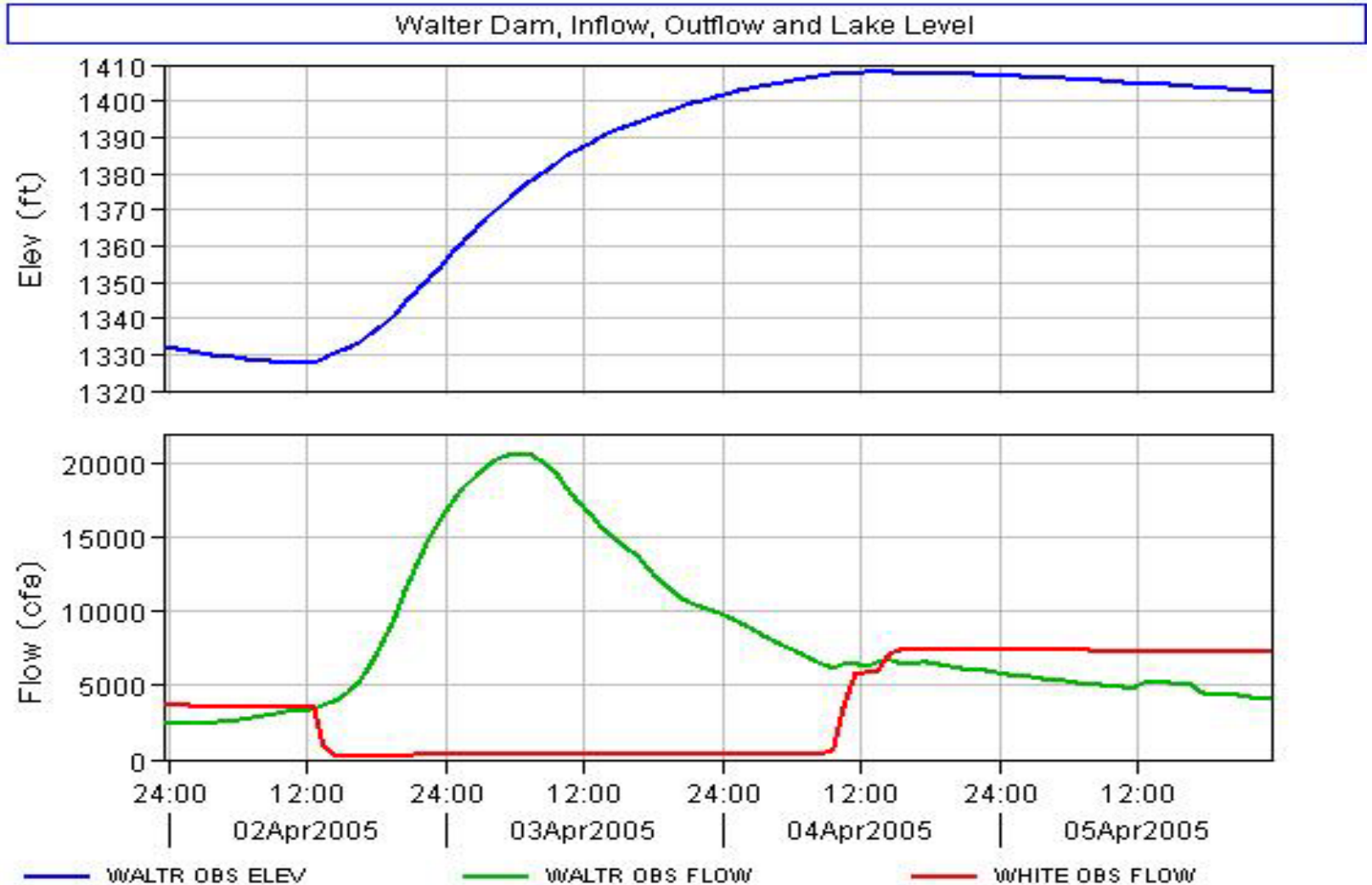
Drainage Area 288 Square Miles

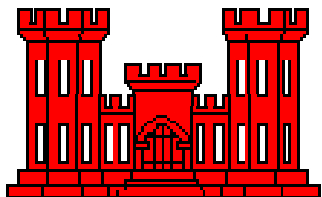
Approximate Drainage Area Controlled by F.E. Walter

Lehigh River at Lehighton	49%
Lehigh River at Walnutport	32%
Lehigh River at Bethlehem	23%
Delaware River at Riegelsville	5%

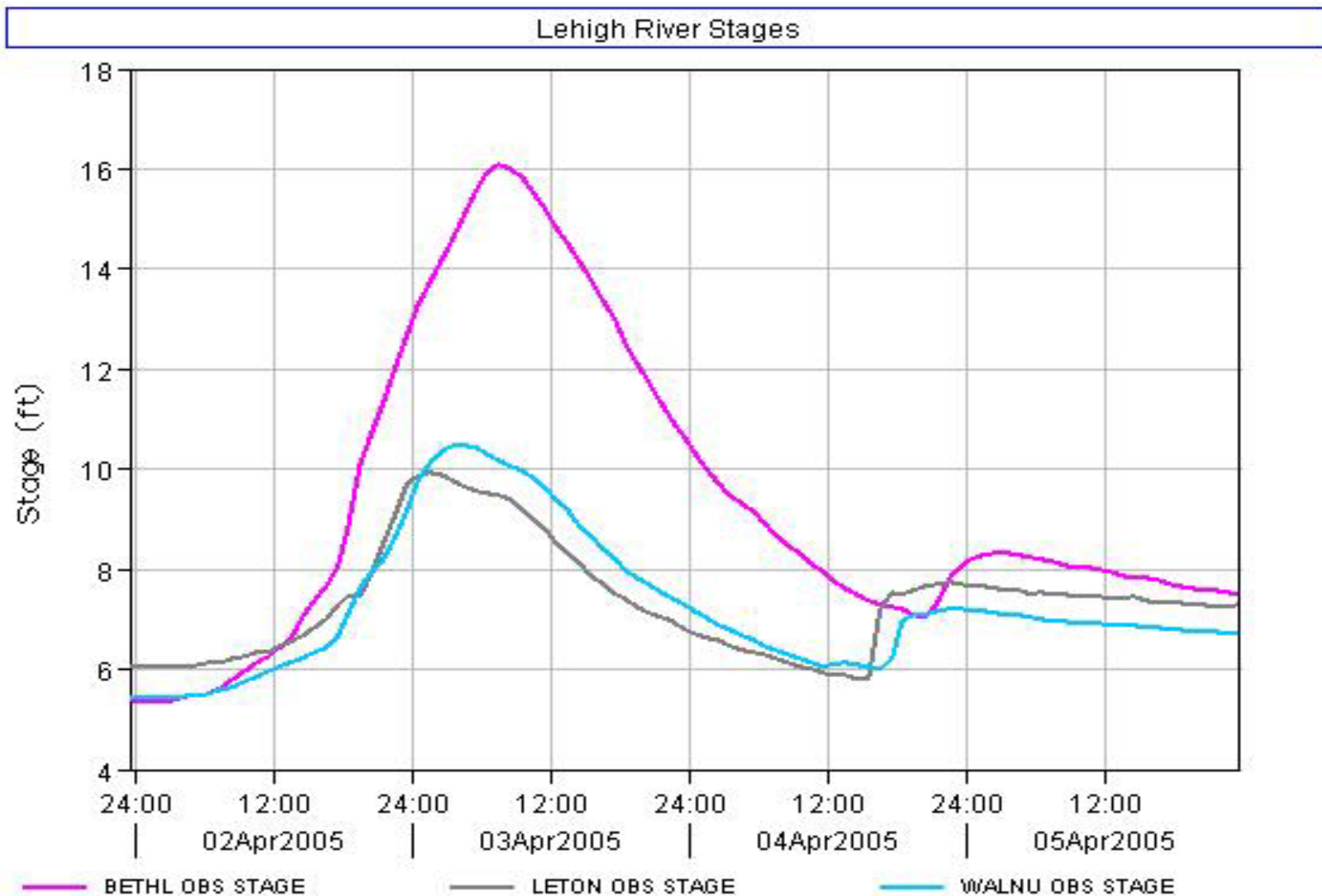


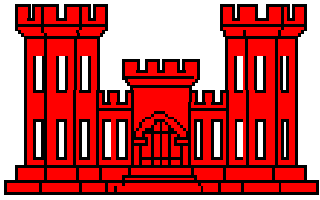
April 2-4, 2005 Event



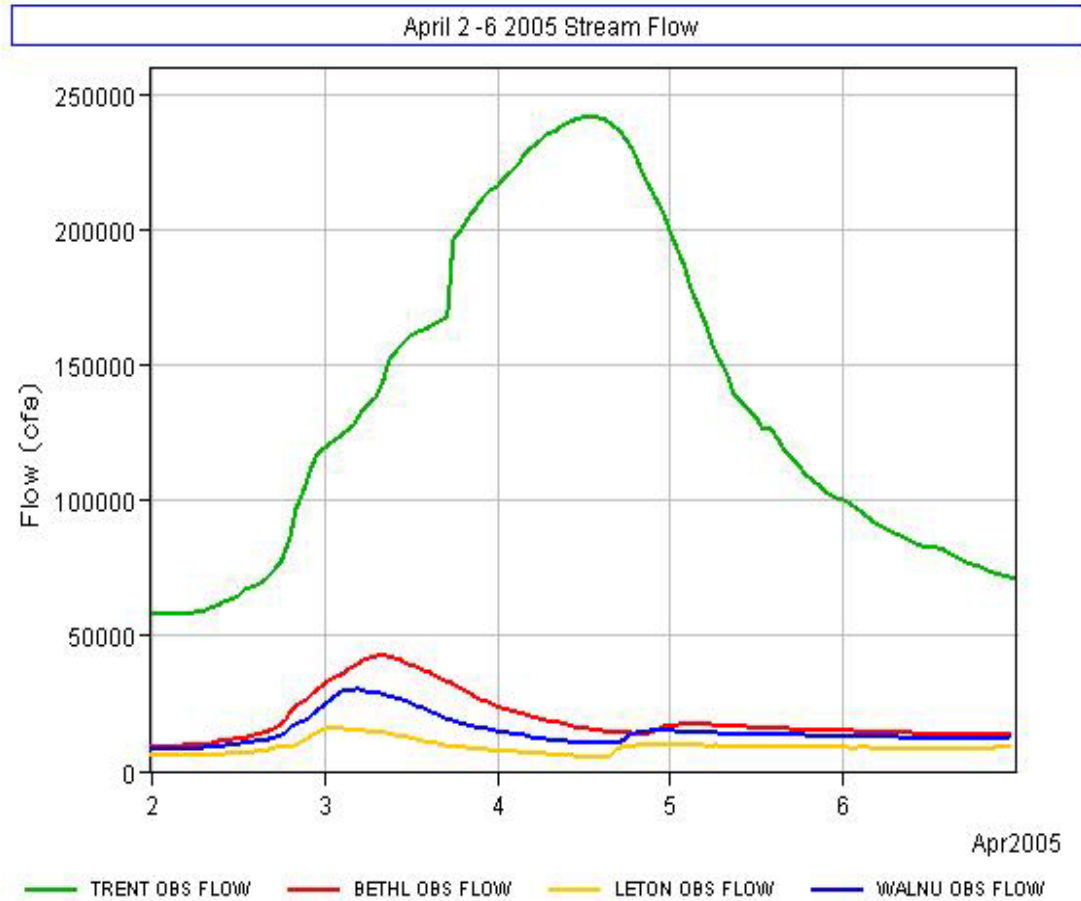


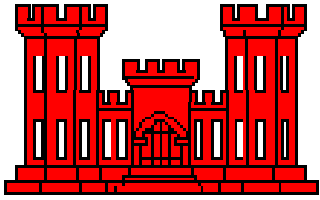
April 2-4, 2005 Event





Lehigh & Delaware River Flows



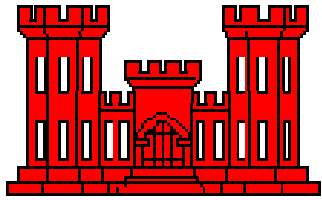


Blue Marsh Lake

Project Purposes:

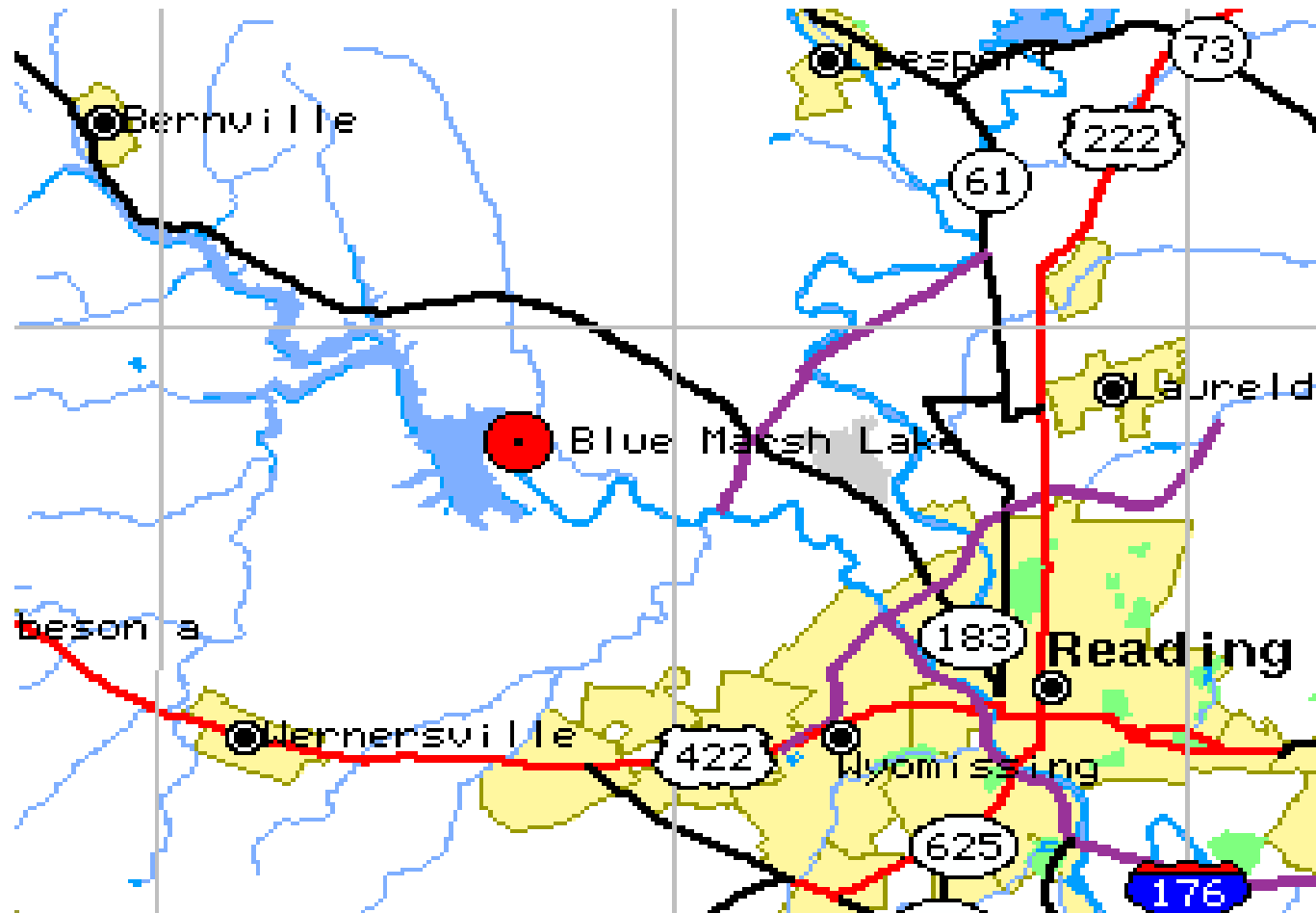
- Flood Control
32, 400 AF
- Water Quality
- Water Supply
- Recreation

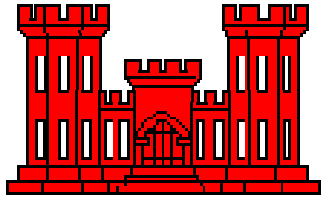




Blue Marsh - Location

Tulpehocken Creek, 6.4 miles upstream of Reading





Blue Marsh - Flood Protection

Accumulative Damages Prevented Since 1978
\$42,000,000 (2004 Price Levels)

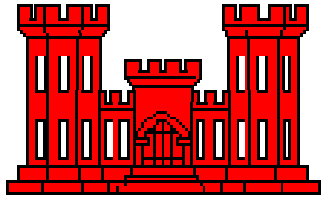
Drainage Area 175 Square Miles

Approximate Drainage Area Controlled by Blue Marsh

Schuylkill River at Reading 20%

Schuylkill River at Pottstown 15%

Delaware River at Philadelphia 2%



Key Schuylkill River Gages

Reading

Drainage Area 880 Square Miles

Stage, Precipitation

Flood Stage 13 feet

Pottstown

Drainage Area 1147 Square Miles

Stage, Precipitation

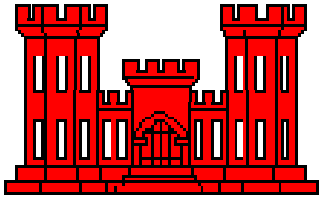
Flood Stage 13 feet

Philadelphia

Drainage Area 1893 Square Miles

Stage, Precipitation

Flood Stage 11 feet

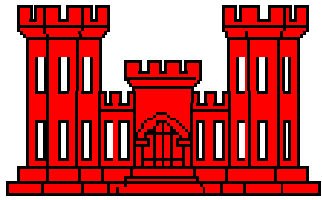


Beltzville Dam

Project Purposes:

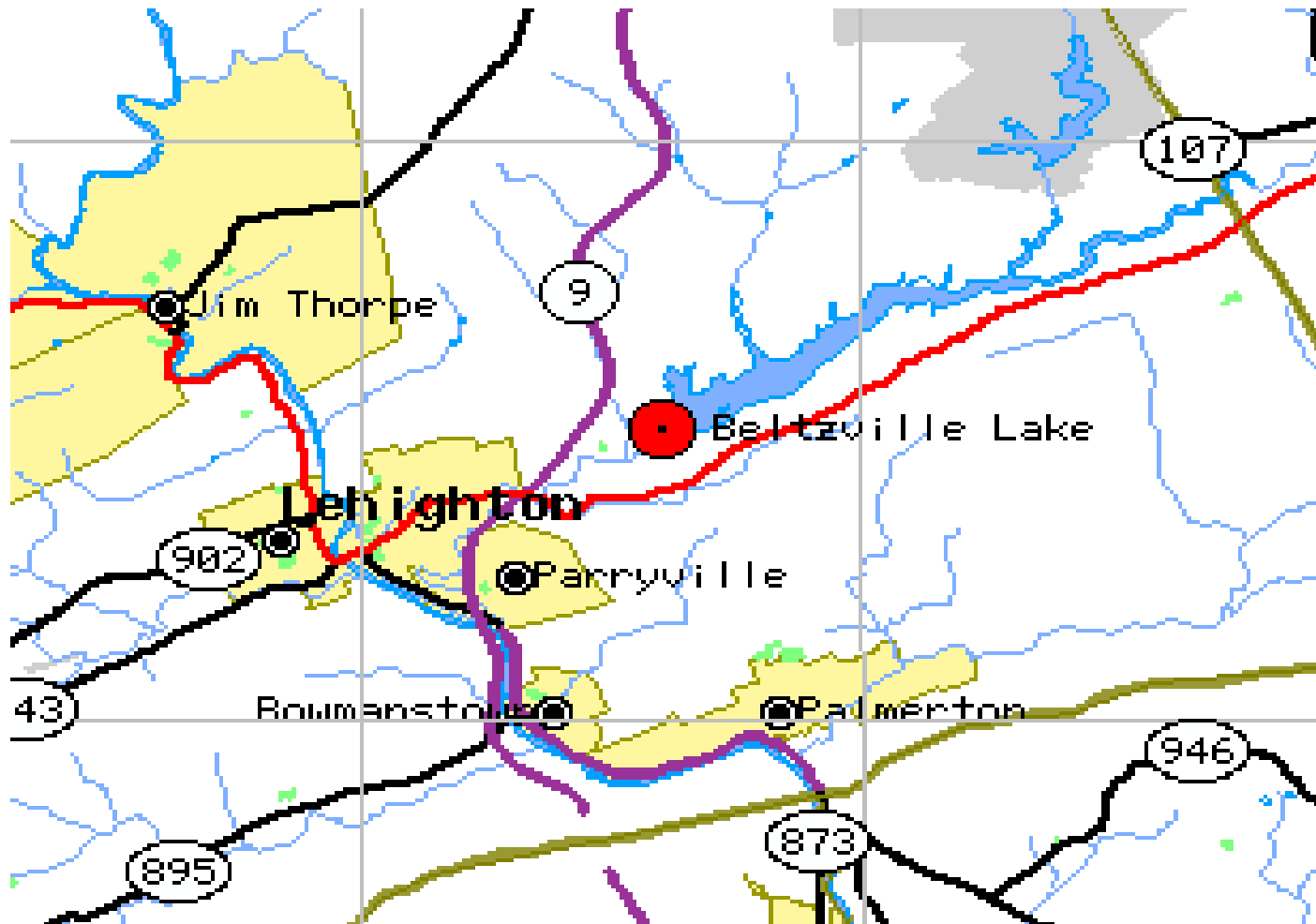
- Flood Control
- 27,031 Acre-Feet
- Water Quality
- Water Supply
- Recreation

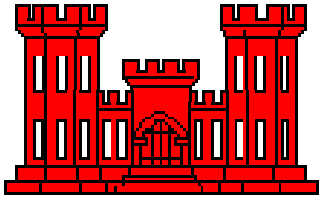




Beltzville - Location

Pohopoco Creek, 5.2 miles above confluence with the Lehigh River





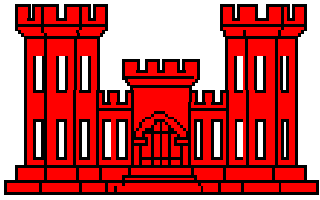
Beltzville - Flood Protection

Accumulative Damages Prevented Since 1972
\$20M (2004 Price Levels)

Drainage Area 96 Square Miles

Approximate Drainage Area Controlled by Beltzville

Lehigh River at Walnutport	11%
Lehigh River at Bethlehem	8%
Delaware River at Riegelsville	2%

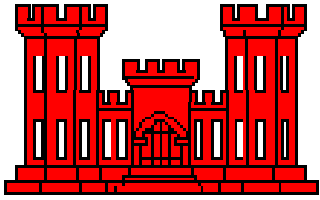


Prompton Dam

Project Purposes

- Flood Control
- 48,500 Acre-Feet
- Recreation

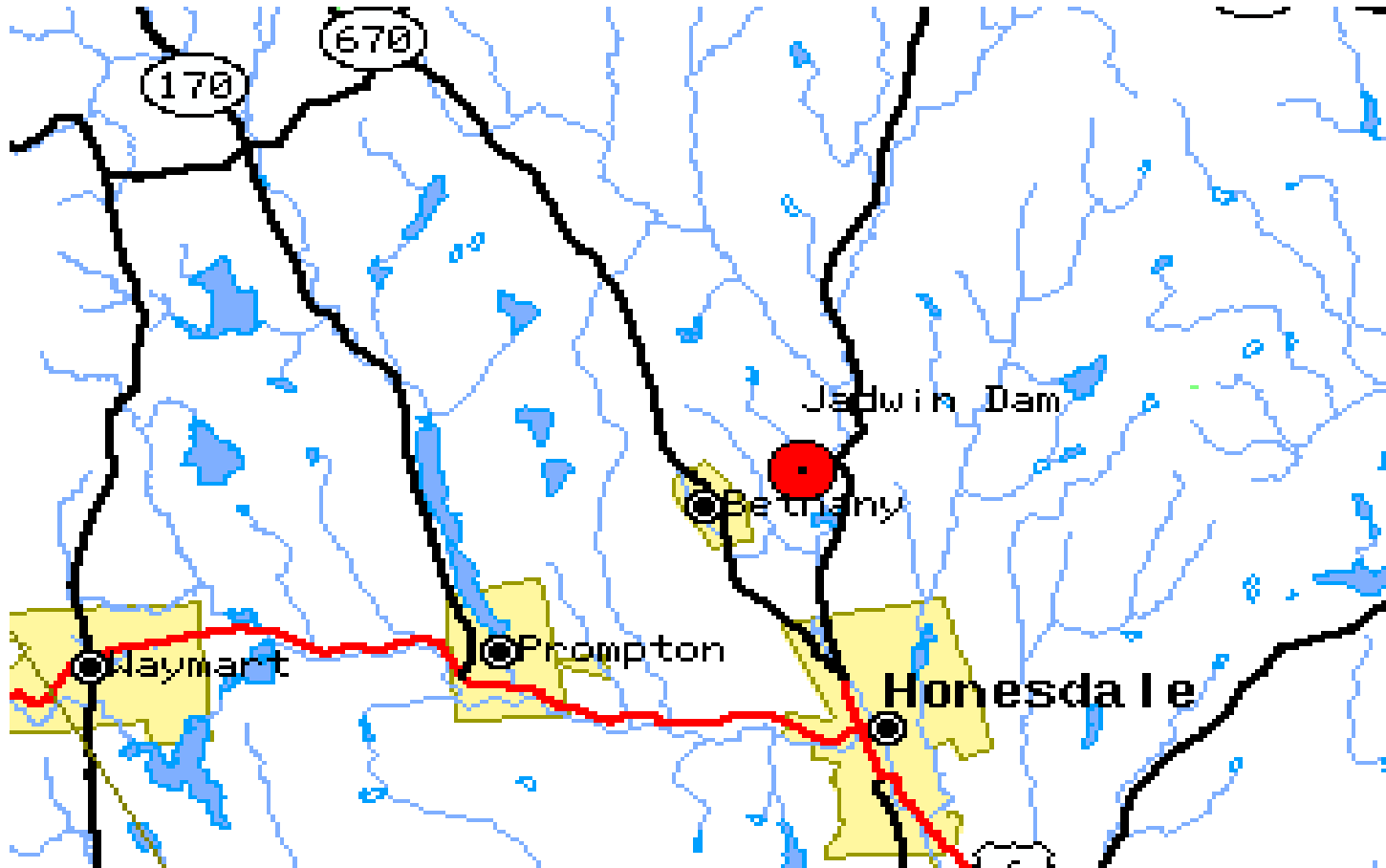


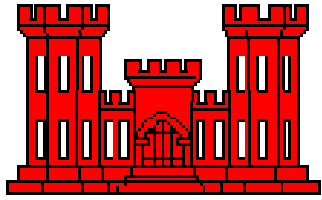


Prompton and Jadwin - Location

Prompton – W.Br. Lackawaxen 4.7 miles Upstream of Honesdale

Jadwin – Dyberry Creek, 2.9 miles Upstream of Honesdale





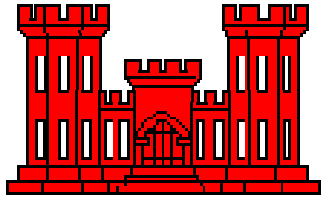
Prompton - Flood Protection

Accumulative Damages Prevented Since 1960
\$12M (2004 Price Levels)

Drainage Area 59.6 Square Miles

Approximate Drainage Area Controlled by Prompton

Lackawaxen River at Honesdale	37%
Lackawaxen River at Hawley	21%
Delaware River at Montague	2%

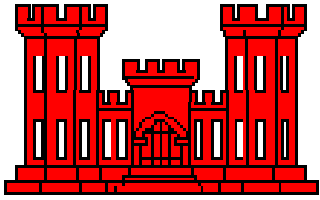


General Edgar Jadwin Dam

Project Purpose:

- Flood Control 24,500 Acre-Feet





Lackawaxen River Basin Gages

Dyberry Creek, downstream of Dam, near Honesdale

Stage, Precipitation

Lackawaxen River near Honesdale

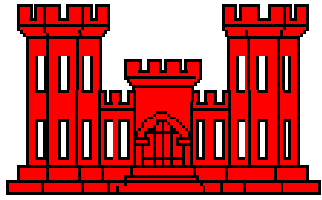
Flood Stage 10.5 Feet

Stage, Precipitation

Lackawaxen River at Hawley

Flood Stage 11 Feet

Stage, Precipitation



Jadwin Dam - Flood Protection

Accumulative Damages Prevented Since 1960

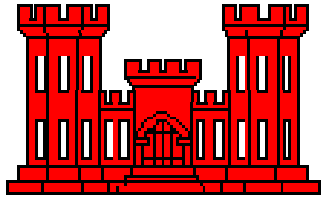
\$12M (2004 Price Levels)

Approximate Drainage Area Controlled by Jadwin Dam

Lackawaxen River at Honesdale 40%

Lackawaxen River at Hawley 22%

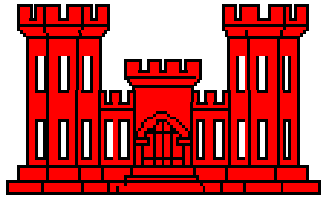
Delaware R. at Montague 2%



Summary of Dam Performance

April 2-5, 2005 Event

<u>Project</u>	Flood Control Storage Utilized			Estimated Flood Benefits
	<u>(BG)</u>	<u>Inches</u>	<u>(%)</u>	<u>(Dollars)</u>
Prompton	1.9	1.8	12	\$200,000
Jadwin	2.5	2.2	32	\$2,800,000
Beltzville	2.9	1.7	34	\$900,000
Blue Marsh	4.7	1.5	45	\$400,000
Walter	16.2	3.2	46	\$6,200,000



Summary of Dam Performance

April 2-5, 2005 Event

Location

Stage Reduction
(Ft.)

Lackawaxen River, Honesdale

3.5

Lackawaxen River, Hawley

2.0

Schuylkill River, Reading

1.3

Schuylkill River, Pottstown

0.2

Lehigh River, Lehighton

6.2

Lehigh River, Walnutport

3.4