

Wyoming Valley Levee System



FEMA



Levee Benefits

The Wyoming Valley Levee Project has significantly reduced the risk of river flooding on the community. Since 1968, it is estimated that over \$7.6 billion dollars in damages have been avoided because of the Wyoming Valley Levee Project. The project consists of three levee systems: 16 miles of levee and floodwalls, 13 storm water pumping stations, and 20 closure structures. All three levee systems will continue to do their job — reducing flood damages.

Levee Performance

In 2013, the U.S. Army Corps of Engineers evaluated the Wyoming Valley Levee Project. This evaluation showed the project is structurally sound and sufficiently maintained.

During Tropical Storm Lee, the levee project successfully contained the river, estimated by USGS at a peak flow of 310,000 cubic feet per second. This is the highest discharge event that the raised levee project has experienced. While there were some damages, which were repaired, the levee systems were not overtopped and did not fail.

What's Changed?

A recent Corps of Engineers analysis that incorporated Tropical Storm Lee data verified that peak flow estimates have increased for the Susquehanna River. The main cause points to the increase of the frequency and severity of storms causing floods over the last 25 years. Given the probability of future flooding is based upon historical events, this trend has increased the predicted flood risk.

In addition to more rain, flood risk has also increased with land development that creates impenetrable surfaces that prevent water saturation into the ground and removes natural features like wetlands, which help contain water. Additionally, natural and development changes to the river channel has reduced how much water is contained within the river banks during peak flow periods, thus increasing flood risk.

Levee Accreditation

In order to map the flood risk in areas where there are levees, FEMA and the Corps of Engineers requires a levee system to meet a set of performance standards. When these standards are met, FEMA accredits the levee as protecting properties behind the levee from river flooding during the 1% annual chance flood event. This protection is depicted on Flood Insurance Rate Maps (FIRMs). When these performance standards are not met, the levee is not accredited and not shown on the FIRMs as providing protection from the 1% annual chance event. This performance

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Levee Accreditation (continued)

standard for mapping risk is currently undergoing changes with the introduction of a new Levee Analysis Mapping Procedure (LAMP), being pilot tested by FEMA. LAMP is designed to recognize some risk reduction by a levee under some conditions that would not allow it to be accredited.

The Wyoming Valley Levee Project, when raised between 2001-2006, met the FEMA performance standards and was depicted on the FIRMs as providing protection from river flooding at the 1% annual chance event. In 2011, based upon the need to periodically verify previous levee accreditations, FEMA issued a request to the Luzerne County Flood Protection Authority for levee evaluation data necessary to confirm that the levee systems remain accredited. In 2013, the Corps of Engineers, on behalf of the Luzerne County Flood Protection Authority, initiated this evaluation, which resulted in a set of levee evaluation reports. These reports were completed in March 2014 and provided to FEMA and the Luzerne County Flood Protection Authority.

The report recommended that FEMA accredit the Kingston-Exeter levee system, but not the Wilkes-Barre/Hanover Township or Plymouth systems because there was not enough height on the levees to maintain a required safety factor of protection, referred to as freeboard.

Flood Insurance

Flood Insurance is an important tool for those living with a moderate to high risk of flooding. Many floods remain local and do not reach the level of a Presidential Declaration, leaving homeowners to fund necessary repairs. For that reason, FEMA encourages homeowners to purchase and maintain flood insurance coverage. Your insurance professional can advise you regarding coverage limits and how to obtain flood insurance. An excellent resource for flood information is available at www.FLOODSMART.gov. Residents may also wish to read the brochure Top 10 Facts for Consumers: https://www.floodsmart.gov/floodsmart/pdfs/Top_Ten_Facts_For_Consumers.pdf.

Next Steps

Flood risk management is a shared responsibility. The Corps of Engineers and FEMA remain committed to working with the Luzerne County Flood Protection Authority to ensure public safety during flood events.

Over the next several months, FEMA will begin to institute the first of the four-step Levee Analysis and Mapping Procedures (LAMP), leading to mapping of the level of protection from flooding risk that each de-accredited levee provides. This process is new and will include a Local Level Partnership Team (LLPT) comprised of federal, state and local officials and levee owners. The LLPT will enable FEMA to make a better-informed final decision regarding the final mapping.

Additionally, the Corps of Engineers will continue to carrying out tasks associated with the Levee Safety Program. This includes completing annual inspections, risk assessments (levee screenings), and periodic inspections (more in-depth assessment completed every five years). All inspections are done in coordination with the Luzerne County Flood Protection Authority, who operates and maintains the Wyoming Valley Levee Project.

Questions?

U.S. Army Corps of Engineers, Baltimore District, 410-962-2809 or cenab-pa@usace.army.mil

OR

FEMA, Region III, 215-931-5949 or peter.herrickjr@fema.dhs.gov



What Can You Do?

Before Flood

- Sign up for emergency alerts
- Put together a supply kit
- Practice an evacuation route
- Purchase flood insurance

During Flood

- Stay up-to-date on evacuation notices
- Know evacuation guidelines
- Stay away from floodwaters, storm drains and sewers

Reduce Flood Damage

- Check sump pump
- Move valuables to higher location
- Install storm shutters
- Discuss safe emergency procedures
- Check for leaky windows and doors and seal any cracks
- Meet with flood insurance agent

Additional Resources

Levee Information

How Levees Work

http://www.floodsmart.gov/floodsmart/pages/flooding_flood_risks/levee_simulator.jsp

“So You Live Behind A Levee”

<http://content.asce.org/files/pdf/SoYouLiveBehindLevee.pdf>

Flood Awareness and Preparedness

Monitor Flood Conditions

<http://www.noaawatch.gov/floods.php>

Sign Up For Emergency Alerts

<https://alert.pa.gov/index.php?CCheck=1>

Create A Flood Plan

<http://focusonfloods.org/flood-plans>

Disaster Supply Kit

http://www.weather.com/life/safety/homesafety/article/disaster-supply-kit_2011-10-10

During A Flood

Evacuation Guidelines

<http://www.ready.gov/evacuating-yourself-and-your-family>

Reducing Future Flood Damage

Ways To Protect Your Home

<http://www.fema.gov/news-release/2009/04/24/protect-your-home-future-flood-damage>

Reduce Flood And Water Damage

<http://www.extension.org/pages/13242/floods:-steps-to-reduce-flood-and-water-damage>

Prevent Water Damage

http://www.weather.com/life/safety/flood/article/floods-preventing-water-damage_2011-10-06

