

# Union City Dam

Union City Dam is a unique member in a series 16 of flood control projects in the Pittsburgh District. Located on French Creek among the rolling hills of Erie County, the Union City project is the only dry-bed reservoir in the District.

Authorized by the Flood Control Act of 1962, the dam was completed in 1971 and provides flood protection for the French Creek Valley and to a lesser degree the Allegheny River below Franklin, Pa. Union City Dam has the capability of storing the equivalent run-off of 4.08 inches of precipitation from its 222 square mile drainage area. The flood prevention benefits provide by the project since its completion are estimated to be over \$80 million.

Although Union City does not provide for typical lake-related activities, it does offer visitors the unusual opportunity to observe the process by which this dry-bed reservoir becomes a lake. The dam functions as an uncontrolled detention structure that automatically stores and releases water during period of peak flow. A 520 foot long concrete conduit, 4.5 feet wide by 8 feet high, runs through the base of the dam to allow for uncontrolled discharge of waters. The conduit permits normal flows of French Creek to pass through unimpeded. When the amount of water entering the reservoir, however, exceeds the dam's capacity to discharge it through the drainage conduit a temporary lake is formed.

If the flow of waters into the lake fills the reservoir to capacity the excess waters are then discharged into a side-channel spillway constructed through the right abutment of the dam. The spillway was designed with a discharge capacity capable of handling the maximum flow of record at the dam site (14,900 cubic feet per second on April 5, 1947). At maximum flood pool Union City Reservoir will extend 7.4 miles up French Creek and cover 2,290 acres. As the water inflow decreases, the stored water gradually drains out, and once again the reservoir becomes dry.

The lake forming process usually occurs during later winter and early spring as a result of melting snow and spring rains. The resulting lake usually lasts only for two or three weeks. However, if ever authorized by Congress the present outlet facilities at Union City Reservoir could be modified to permit the creation of a summer pool of 580 acres.

## Lake and Dam Statistics

<b>Location: On French Creek, about 71.5 miles upstream from its junction with the Allegheny River at Franklin, Pa. The reservoir is located entirely in Erie County.</b>	
<b>Project area, acres:</b>	<b>2,684</b>
<b>Drainage area above dam, square miles:</b>	<b>222</b>
<b>Construction cost:</b>	<b>\$14,559,000</b>

## Dam

<b>Type of structure:</b>	<b>rolled earth embankment</b>
<b>Height above streambed, feet:</b>	<b>88</b>
<b>Length, feet:</b>	<b>1,420</b>
<b>Width at base, feet:</b>	<b>560</b>
<b>Outlet Works: concrete lined tunnel 19' in diameter and 1,875' in length. The tunnel passes through the hill near the right abutment of the dam.</b>	

## Lake

<b>Length at maximum pool, miles:</b>	<b>7.4</b>
<b>Area at maximum pool, acres:</b>	<b>2,290</b>
<b>Elevation, feet above sea level:</b>	
<b>Maximum (reservoir full):</b>	<b>1,210</b>
<b>Streambed at dam:</b>	<b>1,278</b>