



US Army Corps  
of Engineers®  
Engineer Research and  
Development Center

# Pentwater, MI Wave Absorbers Effectiveness Study

## Description



Field Data Collection and Analysis Branch (FDCAB) deployed 5 wave gauges in the vicinity of Pentwater, MI in support of a Monitoring Completed Navigation Projects (MCNP) effort studying the effectiveness of the two pocket wave absorbers installed in Pentwater Channel.

**Issue** Pentwater Channel's vertical sheet pile walls reflected tremendous wave energy from Lake Michigan storms adversely impacting the local pleasure fishing and boating industry. US Army Engineer District, Detroit (CELRE) installed pocket wave absorbers in order to dissipate the wave energy. CELRE contracted with FDCAB to deploy wave gauges in the open lake and on either side of the pocket wave absorbers in order to quantify the effectiveness of the wave absorbers.

**Products** Transmission coefficients are computed based on comparisons of the measured changes in wave energy. This information is provided to CELRE. The actual wave data has been posted to the FDCAB web site at <http://sandbar.wes.army.mil>.

**Supporting Technology** Five bottom mounted internally recording wave gauges were installed at Pentwater, one in the open lake and one at either end of wave absorbers on north and south sides of channel. Lake gauge collected directional wave data, channel gauges were non-directional.

**Benefits** From the results of this study, CELRE can determine effectiveness of pocket wave absorbers.

**Sponsors** CELRE, MCNP

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