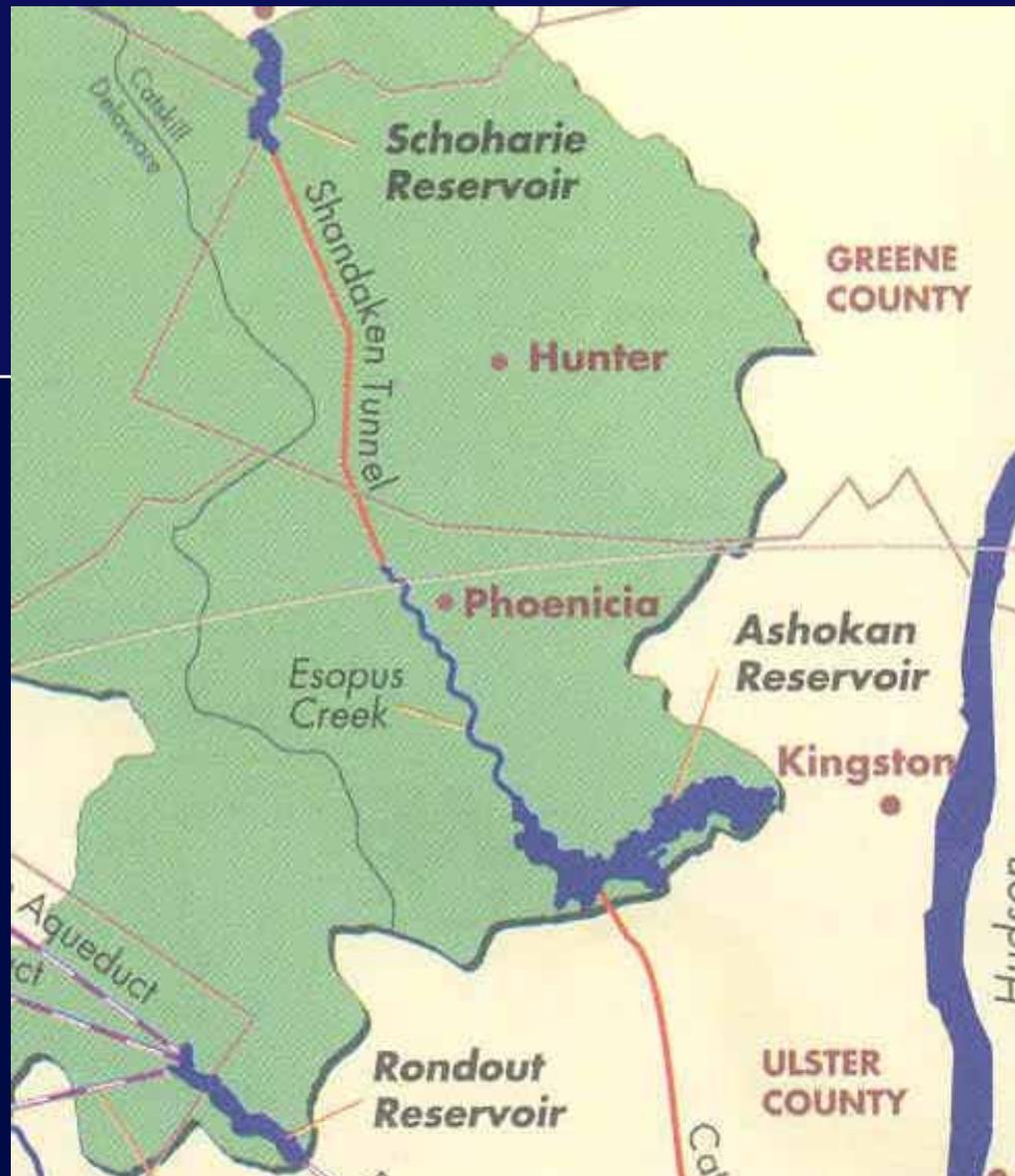


Gilboa Dam Safety Improvements

Upper Esopus Impacts



Catskill/Delaware Watersheds

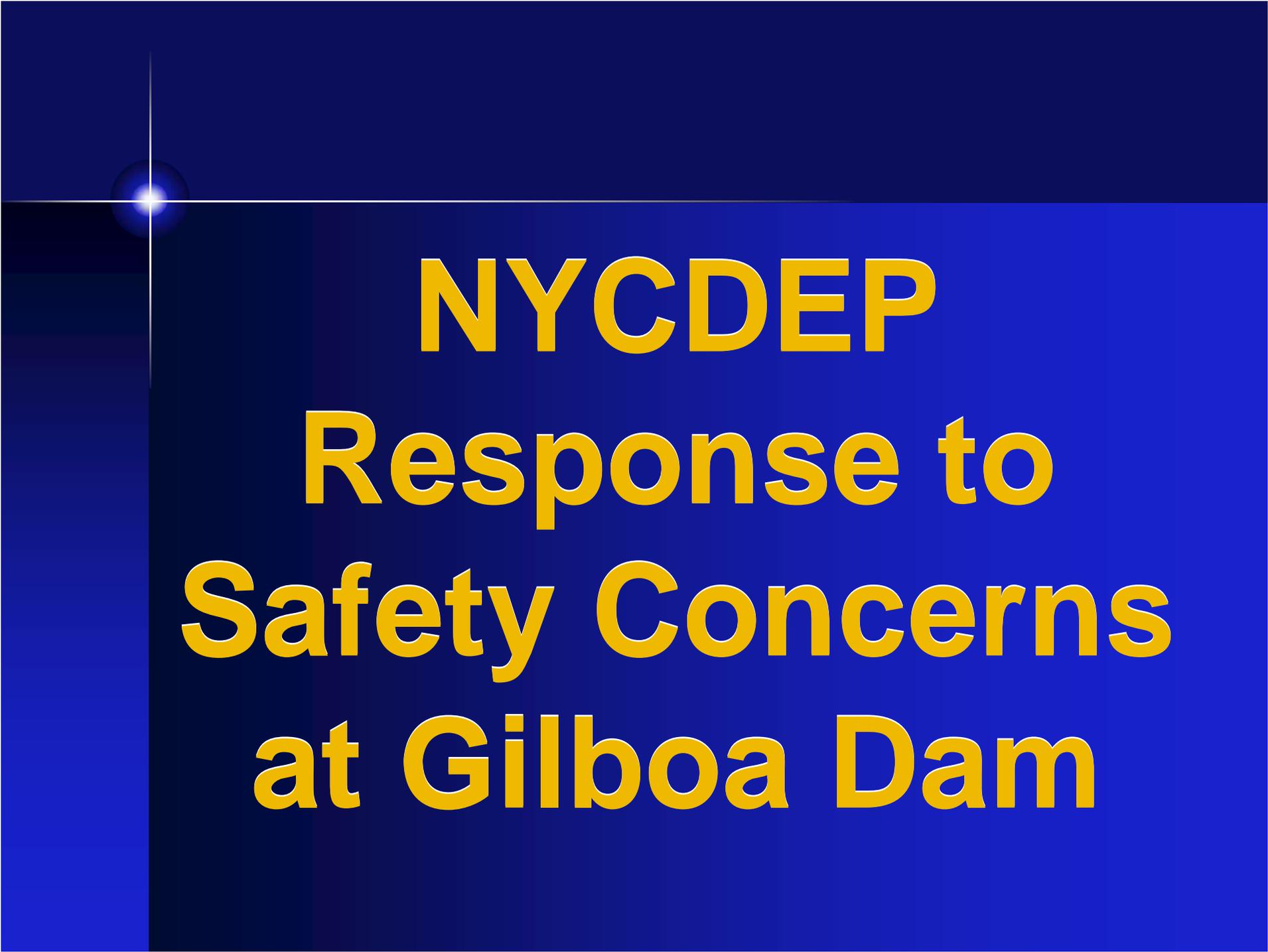


New York City Water Supply System

GILBOA DAM



DAM IS COMPRISED OF AN EARTHEN EMBANKMENT AND CONCRETE SPILLWAY



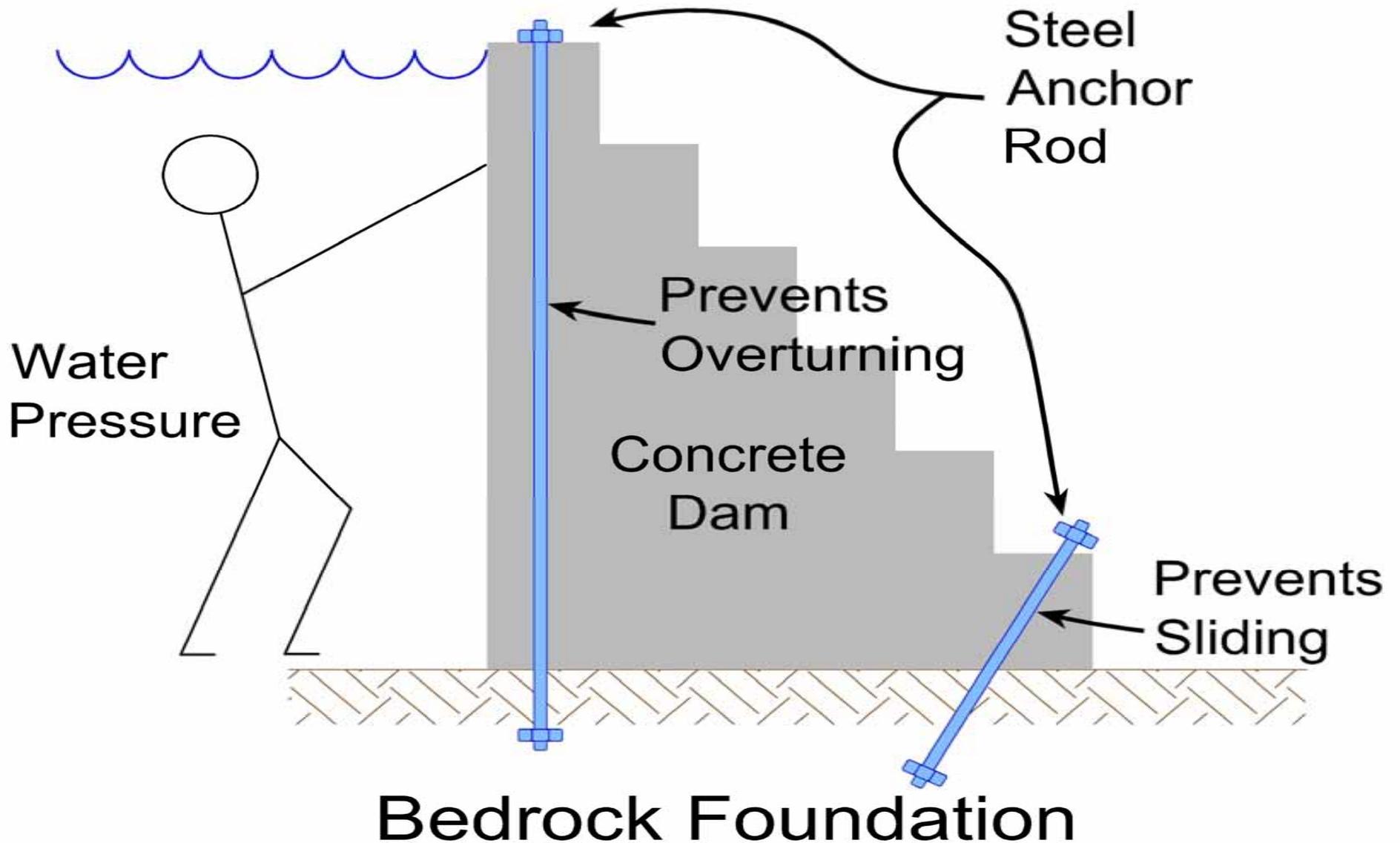
NYCDEP
Response to
Safety Concerns
at Gilboa Dam

Operational Impacts on Upper Esopus

- Increased Diversions through Shandaken Tunnel into Esopus Creek

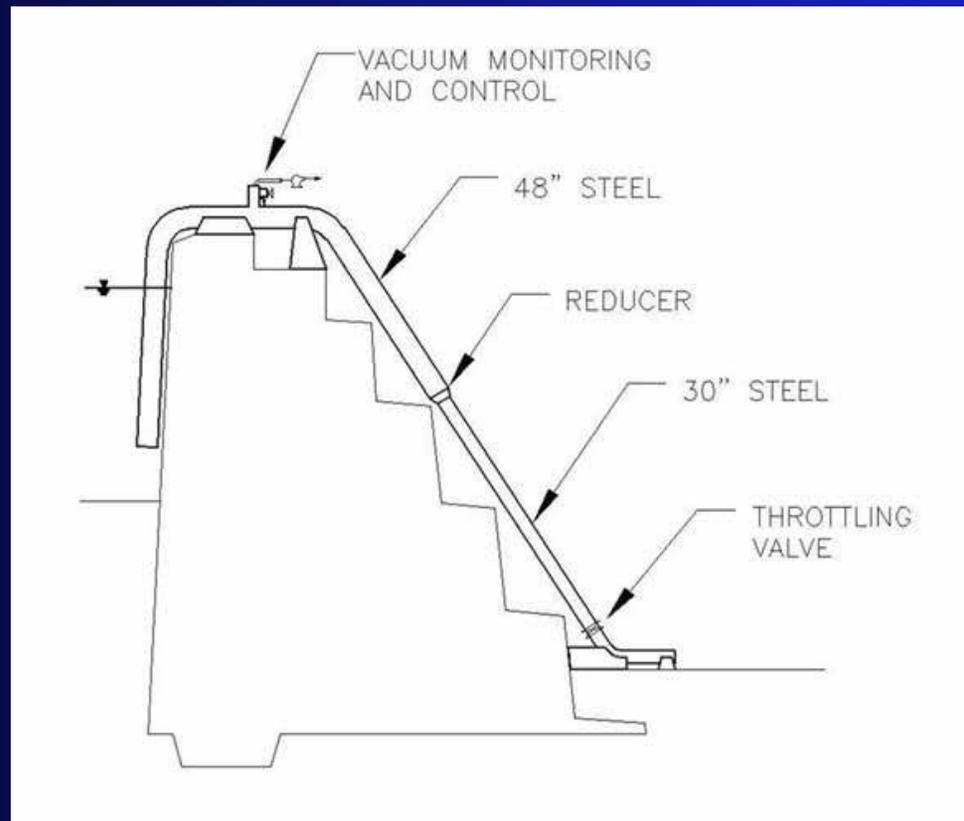


Gilboa Dam Interim Repair Design



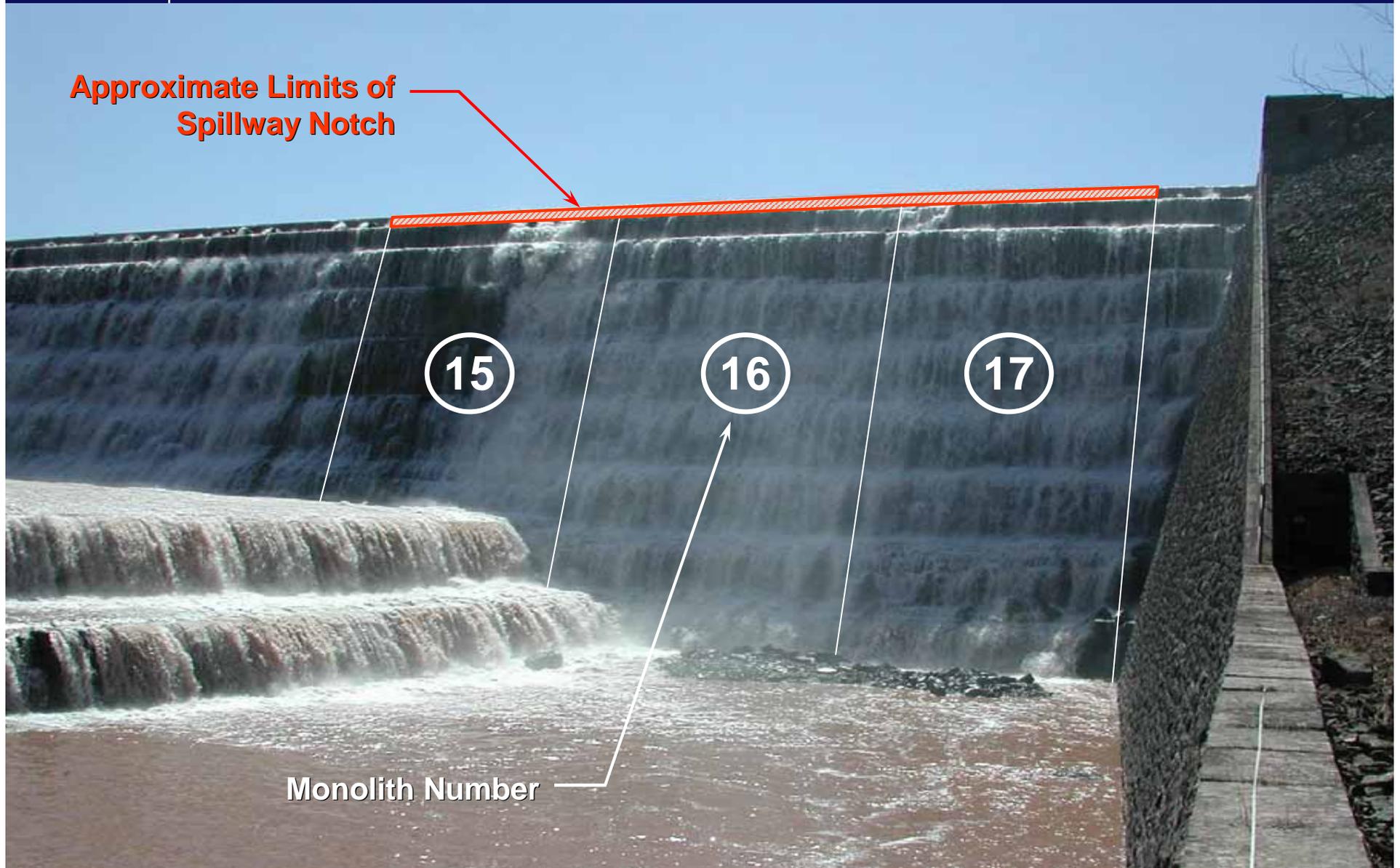
Operational Actions to Reduce Flooding Risk

- Siphons



- Notch in Gilboa Dam

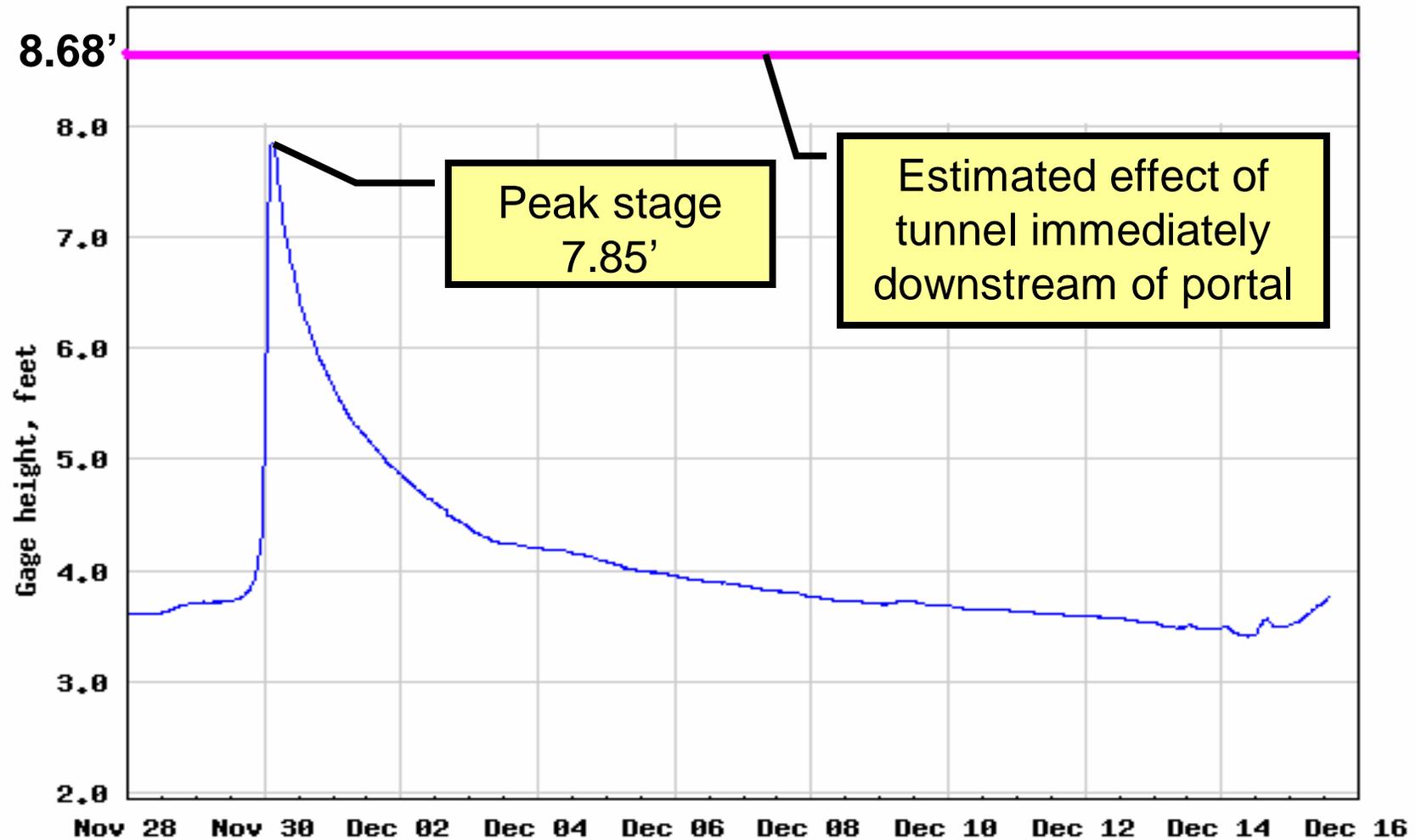
Gilboa Dam Notch Design



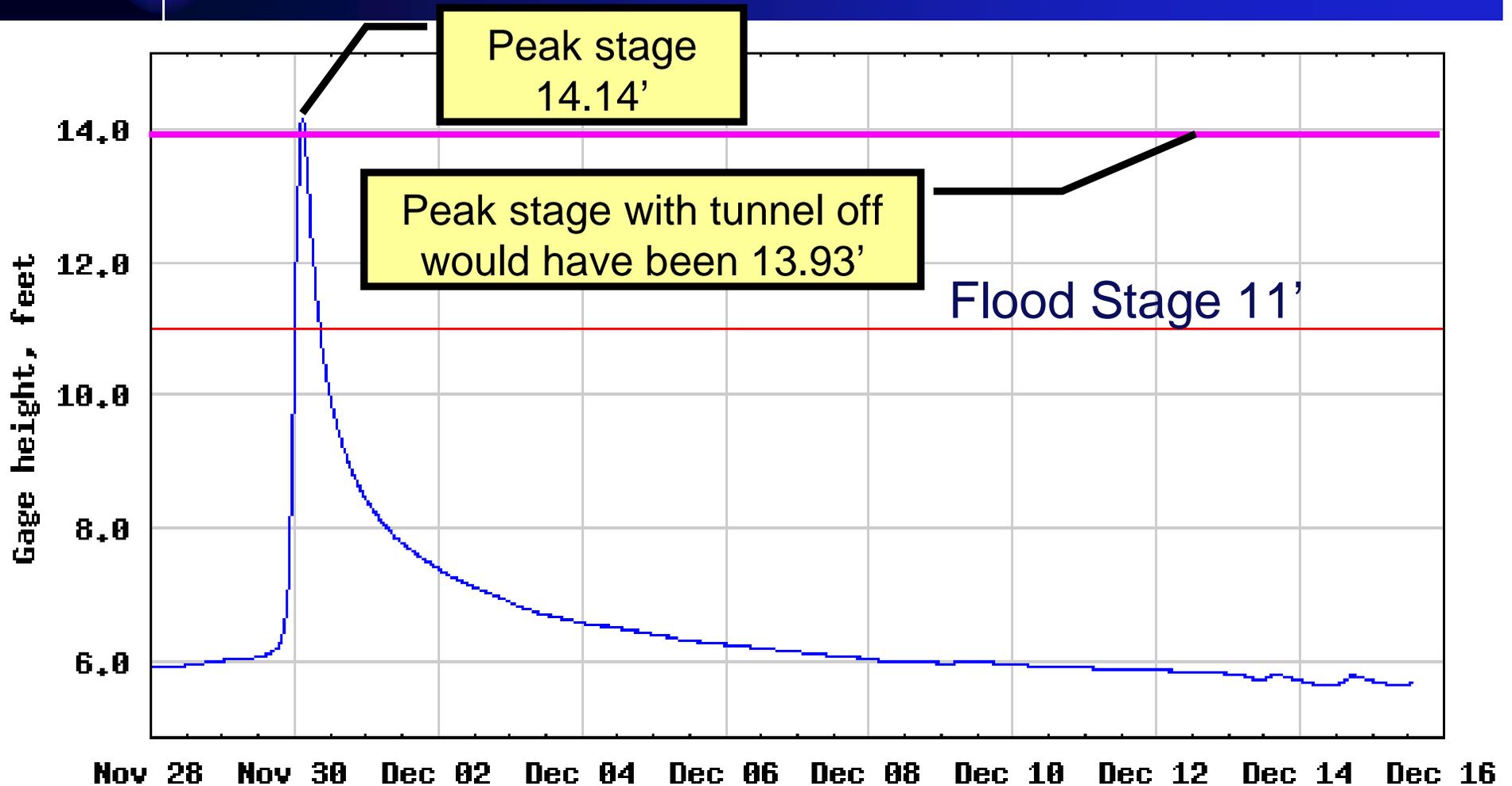
Effects of Increased Diversions on Upper Esopus

| Cold Brook Gage Height | Impacts on Upper Esopus | Stream Flow (cfs) | Impact of 550 MGD Tunnel Flow |
|------------------------|--------------------------------------|-------------------|-------------------------------|
| 6.0' | Normal Spring flow | 1,150 | 11.0" |
| 9.0' | Esopus is 2/3 bank full | 5,010 | 5.25" |
| 11.0' | Begins to overflow banks | 9,550 | 3.5" |
| 13.0' | 2' over banks | 15,700 | 2.75" |
| 16.0' | Begins to flood roads | 28,200 | 2.0" |
| 18.0' | Water reaches Phoenicia trailer park | 38,800 | 1.7" |

Esopus Creek Stage at Allaben November 30, 2005 Event



Esopus Creek Stage at Cold Brook November 30, 2005 Event



Summary

- Engineer analysis shows Gilboa Dam does not meet current safety standards.
- Water Supply operations must be altered to allow emergency repairs.
- While emergency construction underway, Shandaken Tunnel will be operated at maximum diversion to maintain drawdown.