



How Lake Projects Operate

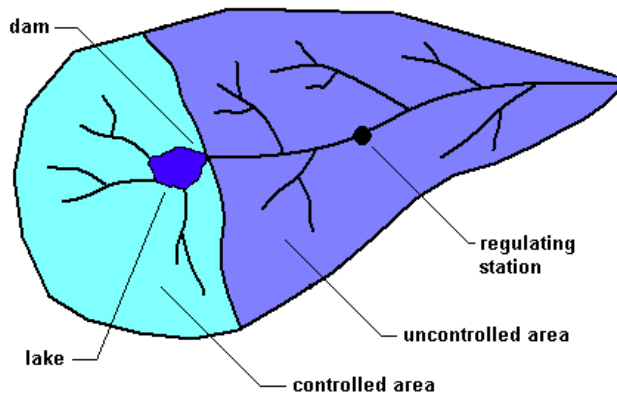
Projects and Purposes

- Congress authorized in law projects for specific purposes
- Corps assures compliance with law with water control plan
- The water control plan establishes the guidelines by which project are operated to best meet the authorized purposes of the projects.

The SWD Reservoir Control Sections monitor and direct the release of water from 90 water resource projects in an attempt to meet the competing needs of many purposes.

Those Purposes Include:

- Flood Risk Management
- Hydropower
- Water Supply
- Recreation
- Fish and Wildlife



This is a schematic of a TYPICAL river basin showing a lake in the upper portion and its associated drainage area, and a point some distance downstream that we call a regulating station.

Controlled Area: area upstream of a dam. Runoff from rain falling upstream of a dam is stored in flood pool and released at a controlled rate to reduce flood peaks.

Uncontrolled Area: area downstream of a Dam and upstream of a regulating station. Dams cannot reduce runoff in this area.

Regulating Station: designated location to which flood control releases are sized and timed with uncontrolled runoff to reach a set stage/elevation

How Flood Risk Mgmt Works

- During/after rain releases are curtailed

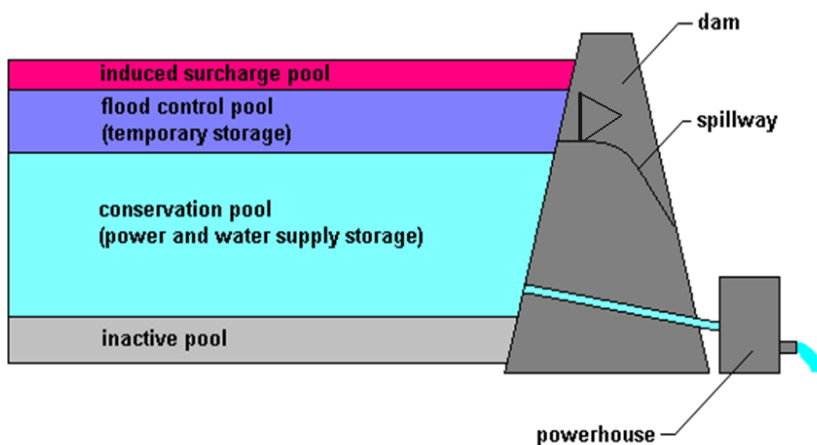


- After rain, stored water is released in controlled fashion, according to pre-determined fashion (Water Control Plan)
- Object is to restore available flood storage as quickly as channel capacity allows

How Flood Releases are made

- District Water managers determine release requirements
- Required releases are normally made from turbines
- If turbines can't release enough, spillway gates are used to supplement
- Requirements for how much turbine release are coordinated daily

Typical Multi-Purpose Project



The lake has four zones:

INACTIVE POOL: defined by the river channel on the lower side and by the lowest elevation at which generation can occur on the upper side;

CONSERVATION POOL: defined by the top of the inactive pool on the lower side. The top of the conservation pool is determined based on the volume water required to sustain the authorized purposes during the Drought of Record. In the case of the White River Projects, those purposes are hydropower and water supply; while operating in this range of the pool, the Corps' water management responsibilities are primarily to monitor how the resource is being used and ensure each user has access to their purchased storage.

FLOOD POOL: sized based on certain hydrologic criteria and economics. The flood pool consists of two zones - the lower zone is where we intentionally hold water during an event until the downstream conditions allow us to release it in a controlled manner. The top of this zone is typically defined by the top of the spillway gates in their closed position.

INDUCED SURCHARGE ZONE: an area where we actually add to the storage of the project by opening the spillway gates - raising the top of the gates. We do everything we can....without endangering life or property.....to avoid operating in this zone.