TACOMA POWER
TACOMA PUBLIC UTILITIES

Cowlitz/Riffe Lake Level Fact Sheet
June 6, 2017

Based on new information about regional seismicity, the United States Geological Survey (USGS) revised its earthquake predictions for the Cowlitz River basin. Although the probability of a large earthquake is very low, the revisions showed an increase to the potential impact on the spillway piers of Mossyrock Dam (**not to the dam structure itself**).

To protect public safety, Tacoma Power has proposed to hold Riffe Lake's elevation down approximately 30 feet lower than full (778 ft.) at least into the next decade. Formal approval by the federal agency that regulates the utility is pending.

Mossyrock Dam's five spillway piers at full lake level

Public safety

- Public safety is our top priority. Although there is a very low probability of the type of seismic activity that would cause the spillways to fail, we have a responsibility to operate in a way that limits the risk to the public. Keeping the lake level lower accomplishes that. There are no modifications to the operations at Mayfield Dam.

- If we get significant rain or flooding, Tacoma Power may need to use the storage capacity of Riffe Lake to minimize downstream flooding by temporarily allowing the lake level to rise. After the risk of downstream flooding passes, we would then gradually lower the reservoir.

Seismic information

- Mossyrock Dam is a tall, double curvature arch with spillways located high in the middle of the dam. No concrete arch dams have failed due to earthquakes. However, preliminary analysis concluded that specific seismic events could cause the spillway piers to fail, which could cause the spillway gates to fail, resulting in an uncontrolled release of water and considerable downstream flooding. Lowering the lake level will limit the impact.

Close-up aerial view of the Mossyrock Dam spillway piers and gates

- Developing and implementing possible solutions involves substantial analysis, planning and federal approval. The process required for making changes to a federally licensed hydroelectric dam is long and arduous.

Recreation

Boating, swimming and fishing will remain possible on Riffe Lake, although access will be limited.

BOAT LAUNCHES

- The Mossyrock Park boat launch is open with two usable lanes: one to 723 feet, the other to 737 feet. We are exploring both temporary and permanent improvements to the boat launch. Pending permits, construction of permanent improvements will occur this winter, when the reservoir is at its lowest level.

- The Taidnapam North boat launch is open. It has two usable lanes and a dock servicing elevations down to 720 feet.

- The Taidnapam Park boat launch will remain closed. It reaches elevation 760 feet; there is no way to lengthen it due to a drop-off at the end.

- The Kosmos boat launch will remain closed. It is not usable below 747 feet.

SWIM BEACHES

- The swim beach at Mossyrock Park is not usable at the lower lake level. We have applied for permits to build a new swim beach. Once we receive the permits, we can begin construction.

- The Taidnapam Park swim beach is not usable at the lower lake level. It provided only limited use with higher lake levels. We have not identified any other suitable area for a new swim beach, but will evaluate it more under the low water conditions.

Tacoma Power plans to build a new Mossyrock Park swim beach

FISHING

- The Taidnapam Park fishing bridge will be difficult to use; we don't anticipate much fishing success at it.
- The North Shore Fishing Access area will be usable to 740 feet.

OTHER RECREATION

- Kosmos Flats may not be accessible to vehicles.

Cultural resources

- It is unlawful to remove minerals, wood and artifacts from the Cowlitz Wildlife Area and Tacoma Power lands without authorization.

More information

- Visit MyTPU.org/RiffeLake
- Email cowlitz@cityoftacoma.org

The Cowlitz River Project produces hydroelectric power from the water stored behind Mayfield and Mossyrock dams. Completed in 1962, Mayfield Dam forms 13-mile-long Mayfield Lake. Mossyrock Dam, built in 1968, stands 606 feet above bedrock and is the tallest dam in Washington state. The dam forms 23.5-mile-long Riffe Lake.