

# Hidden Lake Project Frequently Asked Questions

## What is Hidden Lake?

Hidden Lake is an artificial waterbody created by damming a section of Boeing Creek just upstream of NW Innis Arden Way, located partially within Shoreview Park. It was constructed by King County in 1996 as an environmental mitigation project and includes a sediment forebay to trap sediment as it moves into the lake.

## What happens to sediment deposited in the lake?

Sediment deposition has occurred within Hidden Lake at a rate approximately six times greater than estimated by the facility's designers; in order to maintain the lake as an open water feature from 2002 to 2013, the City's Surface Water Utility spent over \$600,000 to implement seven separate dredging projects which removed a total of nearly 13,000 cubic yards of material. No sediment removal has occurred since the summer of 2013.

## Where does all the sediment come from?

Sediment moving into the lake primarily comes from upstream ravine slope failures. Most deposition within Hidden Lake occurs infrequently as a result of large storm events. Major development within the upper Boeing Creek basin, concentrated in the 1950s through 1970s and especially along Aurora Avenue N, has greatly increased stormwater peak flows, leading to erosion issues throughout the Boeing Creek ravine.

## Why has the City stopped dredging Hidden Lake?

The [Hidden Lake Management Plan Feasibility Study](#) analyzed alternative surface water management approaches for the Hidden Lake facility with the goal of reducing long-term costs to the utility while meeting other criteria. On September 8, 2014, City Council discussed the results of the study and authorized staff to cease dredging the lake and begin a phased approach to remove Hidden Lake Dam and re-establish Boeing Creek at Hidden Lake.

## What will happen to Hidden Lake now that dredging has stopped?

Without dredging, Hidden Lake is expected to gradually fill itself in with sediment. Once the lake fills, the existing lake outlet system is vulnerable to being blocked or bypassed by natural processes, which could cause flood flows to overtop and erode the existing

dam spillway and block the NW Innis Arden Way culvert inlets. This scenario could lead to a sudden washout of the road embankment and/or other major flooding damage. Accordingly, a “no action” alternative is not a viable long-term option. This City is actively monitoring sediment deposition in the lake and committed to implementing improvements to address this potential issue in a timely manner, prior to the lake filling with sediment.

## What water quality issues exist at Hidden Lake?

Hidden Lake has elevated fecal coliform levels in the summer months. Investigations have found the main source of this bacteria to be waterfowl which is exacerbated by the feeding of ducks.

## Does the Hidden Lake Dam block fish passage within Boeing Creek?

Yes, Hidden Lake Dam is a complete barrier to fish passage, one of four major barriers on lower Boeing Creek identified in the 2013 [Boeing Creek Basin Plan](#) (the other three barriers are the Seattle Golf Club diversion dam, riprap cascades below NW Innis Arden Way, and the NW Innis Arden Way culverts). The basin plan recommended taking advantage of any opportunities from Hidden Lake-related work to improve Boeing Creek fish passage (under Recommended Project BC-Hab-1). However, it is unclear which species may have been most affected by this loss of fish passage, other than resident cutthroat trout. In pre-developed “wild” conditions, the steepness of the channel slope and likely intermittent natural fish passage barriers created by old-growth treefall may have prevented upstream passage of the anadromous species (coho, chum, sea-run cutthroat) found in lower Boeing Creek for much of the channel upstream of the Seattle Golf Club Dam.

## What long-term improvements will be implemented to Boeing Creek in the vicinity of Hidden Lake? When will these improvements be constructed? What kinds of impacts should be expected?

The exact extents and configurations of such improvements are still under development. See the webpage for the [Hidden Lake Dam Removal](#) for current project status and contact information.

## How will these improvements be funded?

The 2018 Surface Water Master Plan Update prioritized the Hidden Lake Dam Removal Project alongside all other recommended surface water projects. This project and other

priority projects were allocated funding from the Surface Water Utility Capital Improvements Budget.

The project has been awarded multiple grants, including a \$300,000 Flood Reduction Grant from King County Flood Control District, a \$448,000 Land and Water Conservation Fund (LWCF) grant from Washington State Recreation and Conservation Office (RCO), and a \$50,000 King County WaterWorks Grant. We are seeking additional funding sources for this project to help offset the need for utility funds.