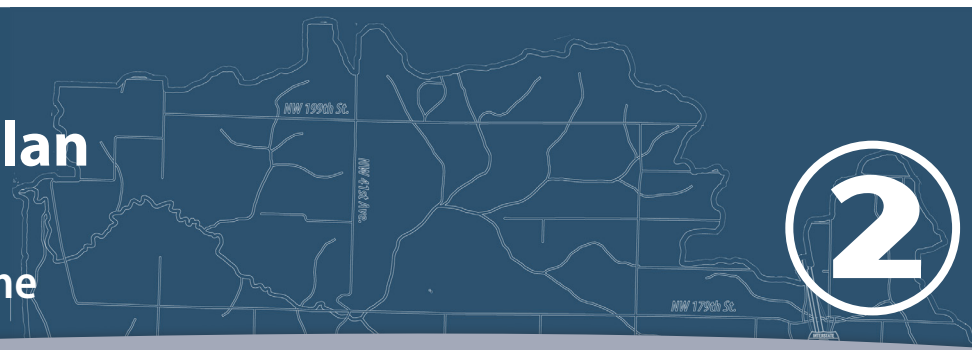
Whipple Creek Watershed-Scale Plan

A study to analyze watershed health and identify ways to protect the creek for years to come



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Between 2014 and 2017, Clark County's Clean Water Division is analyzing the watershed to answer these three questions:

1 How healthy is Whipple Creek now?

Clark County staff created an inventory of the creek for water quality and water flow data.

- "Water quality" looks at indicators of health such as senstive aquatic bugs, water samples and temperature.
- "Water flow" looks at the stability of the stream during different storms that flow to the creek and its tributaries.

2 How healthy will the creek be when the watershed is developed?

"Modeling" the creekshed, for existing and proposed "build-out" conditions. Computer models adjust the amount of impervious surfaces and green spaces based on current Clark County approved development guidelines.

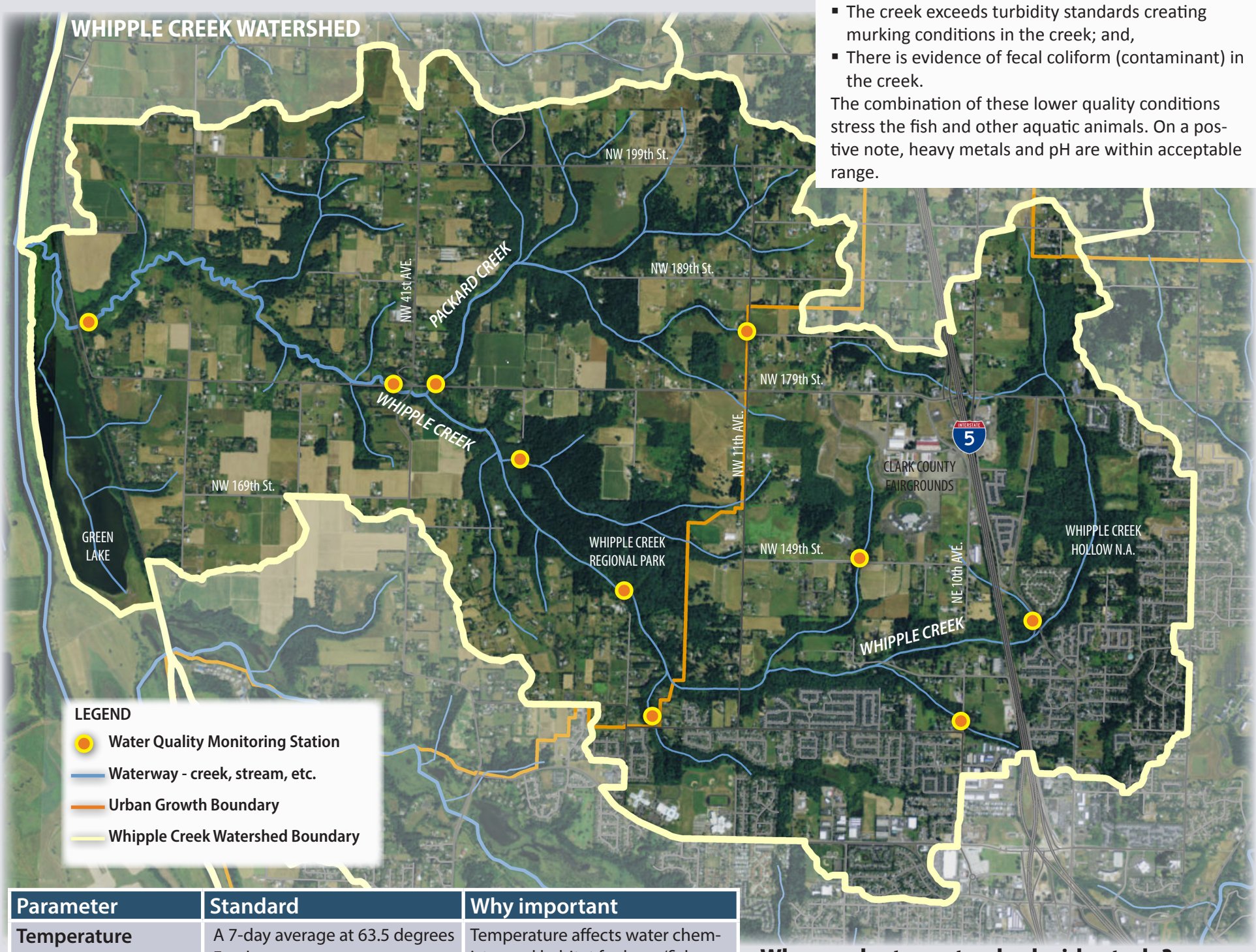
3 What changes can be made during future development to protect the creek?

Staff have developed several scenarios to reduce impacts to the creek from future development in the creekshed.

Staff inventories from 2015 highlight several areas of concern to the creek's overall health, including:

- Maxiumum temperature exceeds standards in July & August;
- Dissolved oxygen levels tend to be low;
- The creek exceeds turbidity standards creating murking conditions in the creek; and,
- There is evidence of fecal coliform (contaminant) in the creek.

The combination of these lower quality conditions stress the fish and other aquatic animals. On a pos-tive note, heavy metals and pH are within acceptable range.



Parameter	Standard	Why important
Temperature	A 7-day average at 63.5 degrees F or lower	Temperature affects water chem-istry and habitat for bugs/fish
Dissolved oxygen	1-day minimum of 8.0 mg/L	Oxygen is essential to the animals that live in the water
Turbidity	5 nephelometric turbidity units (NTUs) over the background	The amount of particles in the water that can clog habitat and cause health issues for animals
pH	Within 6.5 – 8.5 pH units	Measures how acidic / basic the water is that affects the health of animals
Dissolved copper	Acute and chronic conditions identified as a formula	Heavy metals in water can be toxic to aquatic species
Dissolved zinc		
Fecal coliform	Mean 100 colonies/100ml	Pathogens found in fecal coliform can be detrimental to aquatic species
Aquatic bugs	Target is 35 BIBI (Benthic Index of Biological Integrity)	Diversity of aquatic bugs typically indicates higher water quality. Certain species are considered sensitive and can indicate good water quality, such as stoneflies, caddisflies and mayflies.

Why conduct a watershed wide study?

The objective of watershed-scale stormwater planning is to identify stormwater management strategies that would result in hydrologic and water quality conditions that fully support uses as defined in state laws, throughout the stream system. State laws establish water quality standards for surface waters in Washington consistent with public health and public enjoyment of the waters and the propagation and protection of fish, shellfish, and wildlife, pursuant to the provisions of chapter 90.48 RCW.

For more information on this project, visit:
www.clark.wa.gov/public-works/whipple-creek-watershed-plan

The Whipple Creek Watershed-Scale Plan is a requirement of Clark County's National Pollution Discharge Elimination System (NPDES) Phase I Municipal Stormwater Permit (August 2013). The plan follows parameters outlined in the permit S.5.C.5.c.

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