

## Watershed Curriculum Overview

### Background

Back in 1990 a Wilder mom, Terry Thorsos, wrote and received the school's first grant which began the "Salmon in the Classroom" program. Wanting to expand the program to include the rest of the students, Maggie Windus, also a Wilder parent, created the Adopt-a-Watershed Program in 1994.

The goal of the Watershed Program, then and today, is to "provide an enriched educational environment where students can experience nature, hands-on science, and learn the interconnectedness of life in the watershed." The watershed curriculum, originally written by Maggie, covers grades K- 6<sup>th</sup> and incorporates both "indoor" or classroom-based lessons and "outdoor" or field-based lessons in our watershed. Wilder Elementary is fortunate to have this unique program that increases our students' scientific knowledge along with environmental awareness and sensitivity.

Watershed instruction is delivered by volunteers two to three times per year depending on the grade level. Most grades receive both indoor and outdoor lessons in the fall and spring; first graders receive lessons in the winter and spring. The indoor, classroom-based lesson takes place first. This introduces the concepts to the students and gives them practice to prepare for the outdoor lesson. The outdoor lesson follows within one-to-two weeks of the indoor instruction; this facilitates learning retention. The students conduct this lesson in the watershed providing them with the ability to experience hands-on learning in nature and awareness and respect for the environment.

### Curriculum

In order to provide our volunteers with an overall sense of the watershed curriculum and how the lessons relate from year to year, below is a brief overview of the curriculum from K – 6<sup>th</sup> grade.

Grade	Season	Lesson
Kindergarten	Fall	<b>What is a Watershed?</b> Students learn what a watershed is and take a tour in the watershed. They learn that our watershed is unique because it supports many salmon species.
Kindergarten	Winter	<b>Salmon Story</b> Students are introduced to the salmon life-cycle and release the baby salmon with the third graders in March.
Kindergarten	Spring	<b>Colors and Shapes in Nature</b> Students learn to observe and identify colors and shapes in nature and the watershed.
First Grade	Winter	<b>Air &amp; Water Temperature</b> Students are taught how to take air and water temperature and practice this in the watershed. They learn the importance of cool water to salmon and other stream life.
First Grade	Spring	<b>Seed Hunt</b> Students go on a seed hunt in the watershed after learning about how many plants grow from seeds and the different ways seeds are dispersed in the watershed.
Second Grade	Fall	<b>Wildlife Inventory</b> Students go to different sites in the watershed to observe and document what kind of wildlife may be living there.

Second Grade	Spring	<b>Photo Documentation</b> Students are introduced to the compass and visit the watershed sites to take photo documentation from the four basic directions N, S, E, W. This documents the changes over time; students look back at previous pictures to determine how the watershed has changed.
Third Grade	Fall	<b>Stream Survey &amp; Salmon Spawning</b> Students conduct a stream survey at nearby Classic Nursery's portion of Cottage Lake Creek to evaluate the health of the stream while observing wild salmon spawning. *
Third Grade	Spring	<b>Plant Studies and Leaf Press</b> Students learn how to identify plants by looking at leaf types and learn the importance of plants in the watershed. They conduct a plant inventory at each watershed site and press leaf specimens for the site plant book.
Fourth Grade	Fall	<b>Soil pH Testing</b> Students learn how to conduct pH tests on the soil at the watershed sites and determine what type of plant life the soil will support. Students learn the importance of following good scientific methods that will be applied in future watershed testing.
Fourth Grade	Spring	<b>Water pH Testing</b> Students conduct pH testing on the stream water at each of the watershed sites. They learn the importance of pH levels as it relates to the health of the stream and salmon life.
Fifth Grade	Fall & Spring	<b>Macroinvertebrate Testing</b> In the fall and spring the students learn about macroinvertebrates (stream bugs) and their tolerance or intolerance to pollution and their importance to stream life. They sample stream bugs at each site and identify them to determine the health of the stream.
Sixth Grade	Fall	<b>Dissolved Oxygen</b> Students learn the importance of dissolved oxygen to life in the stream. They perform tests to measure the level of oxygen in the stream and determine the health of the stream.
Sixth Grade	Spring	<b>Flow and Velocity</b> Students learn about the flow (how much) and the velocity (how fast) of a stream can determine the health of a stream and its ability to sustain salmon and other aquatic life. Flow and velocity tests are conducted on 5 different sites.

\*The Salmon Tank Program is also completed in the third grade and is sponsored by a different group of volunteers. Third graders receive a presentation on the complete salmon lifecycle and attend a field trip to a salmon hatchery. In November, our school tank receives Coho salmon eggs from the hatchery and fertilizes them. The whole school follows the development of the salmon from egg to fry. In March the third-graders and kindergartners have a special day where they release the salmon fry into our watershed streams. This program is integral to reinforcing the lessons learned throughout the watershed curriculum.