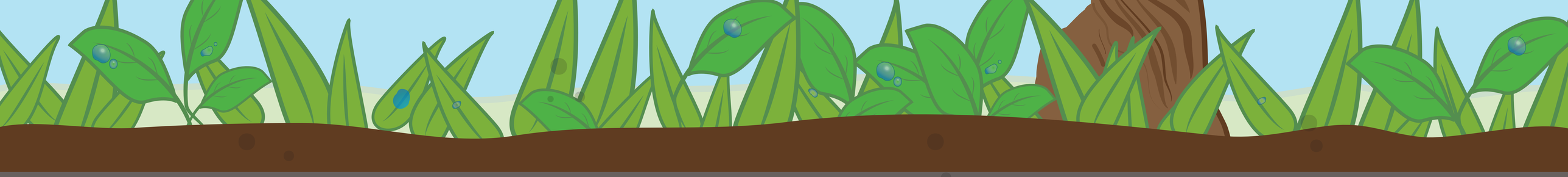
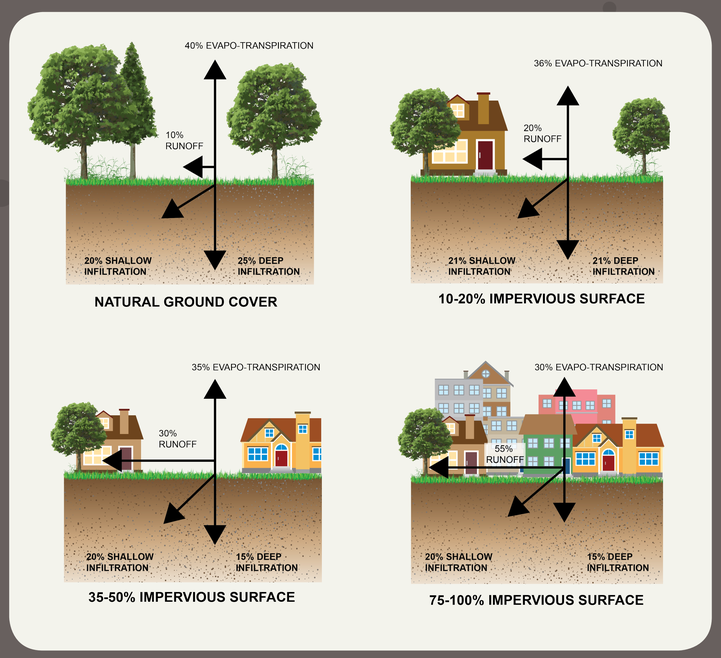


Limiting Hard and Impervious Surfaces Protects Water Quality

Why do Hard and Impervious Surfaces Matter?

Hard and impervious surfaces such as roads, rooftops, sidewalks, patios, and even compact gravel provide less infiltration of stormwater than forests and other undisturbed natural ground surfaces. As development increases, so does the amount of hard surfaces, which leads to changes in the hydrology of a drainage basin.

Stormwater runoff resulting from increased development reduces both the quality and quantity of water entering natural water bodies. Excess stormwater runoff may cause flooding, habitat loss, erosion, channel widening, and streambed alteration. The less stormwater that infiltrates, the lower the groundwater supplies. Sufficient ground water is critical to wildlife dependent on streams, wetlands, and lakes, especially during the dry months.



As a general rule, impervious surfaces in excess of 10% for an entire basin (the area that drains into a stream) can result in measurable adverse environmental impacts to a stream — although impacts can occur in rural basins at impervious surface thresholds as low as 2%. Stream basins with 25% or greater impervious area generally have degraded water quality. Low-Impact Development (LID) practices reduce the amount of impervious surfaces on new construction to reduce such problems.

How Much Impervious Surface is in Thurston County?

To assess actual impervious surface area within Thurston County, Thurston Regional Planning Council digitized the impervious area for almost 100 properties that contained a single residential dwelling unit built after 1995 and was considered fully developed based on zoning density. Impervious surface and lot coverage limits — which range as high as 60% — exist in various chapters of Thurston County's zoning code. As the photos below show, that number is much higher than the actual impervious area on an average developed rural residential lot.

This 1-acre property contains a large home, detached garage, and driveway. The impervious area is 19%, or 8,200 square feet. Photo circa 2012

The average impervious area coverage on small lots — 0.9 to 1.8 acres — was 15%, according to TRPC's analysis. The range was 7-28%.

This 2.2-acre property contains a large home, detached garage, and driveway. The impervious area is 10%, or 9,900 square feet. Photo circa 2012

The average impervious area coverage on small- to medium-sized rural lots — 1.8 to 4.6 acres — was 8%. The range was 3-14%.

This 7-acre property contains a primary residence, garage, and driveway. The impervious area is 6.6%, or 21,000 square feet. Photo circa 2012

The average impervious area coverage on medium-sized rural lots — 4.6 to 9.5 acres — was 5%. The range was 2-12%.

This 15-acre property contains a primary residence, driveway, and access road. The impervious area is 3.9%, or 25,000 square feet. Photo circa 2012

The average impervious area coverage on large resource and residential lots — 9.5 to 40 acres — was 5%. The range was 2-12%.