

# BEST PRACTICES



## Hotter, Drier Summers & Winter Rains

### How Do They Affect Your Plants, Streams & Salmon?

It may be winter, but it's never too early to start thinking about summer! In fact, winter rains are important for our streams in summer.

Our streams rely on snowpack and groundwater to keep them cool and flowing during warmer months. Groundwater comes from cool, winter rains that soak into the ground and then slowly flow underground until it seeps into streams. To learn more about this, visit [streamteam.info/groundwater](http://streamteam.info/groundwater).

Most of our smaller streams experience very low flows in the summer. Hot summer temperatures can heat up the water in low flowing streams and increase evaporation, which leaves less water in streams.

Salmon need stream temperatures to be below 61°F in the summer. Summer temperatures have been steadily increasing causing streams to get closer to 61°, which can harm salmon.



### What is Evaporation?

*Evaporation is the process when a liquid, such as water, is heated and turns into a gas or vapor (think steam).*



### What can you do to help keep streams cool and flowing in summer?

1. If you live along a stream, you can help keep the water cool by planting trees along the stream. Trees help shade the stream from the hot summer sun. Make sure to plant native trees and shrubs that are well suited for growing conditions along your stream.
2. Help more water soak into the ground.
  - Remove surfaces that don't allow rain water to soak in. Water can't soak in through patios, driveways or sidewalks. The water running off of impervious surfaces also picks up heat which contributes to warmer stream temperatures. You can replace these impervious surfaces with materials that do allow water to soak in, such as permeable pavers or pathways lined with mulch or gravel.
  - Build a rain garden. Rain gardens are designed to take water that runs off your roof, driveway, patio or walkways and soak it into the ground.
  - Replace high maintenance grass lawns with native vegetation and mulch.

3. Let your lawn go “dormant” in the summer. Grasses, even the ones in your lawn, would typically go to seed in late spring/early summer. We don’t usually see our lawns go to seed because we mow them. The grasses wake up again when the fall rains return.
4. If you water your lawn, water in the early morning or late evening when it’s cooler. This will prevent less water evaporation.
5. Water slowly and deeply then use a soaker hose or drip lines to water trees, shrubs and flowers. Less water will evaporate and more water will reach your plants.

Since 2014, we’ve been seeing a trend of hotter, drier summers. This past June we broke all-time record highs when the average temperature in the Olympia area reached 111°F on June 28. Overall, we had three days that were over 104°F, along with very little rain. Thurston County had less than 1/10 an inch of rain from June 18 through September 16! To learn more about ways you can help, visit [epa.gov/sites/default/files/2015-10/documents/nps\\_urban-facts\\_final.pdf](http://epa.gov/sites/default/files/2015-10/documents/nps_urban-facts_final.pdf).

### Extreme Heat & Plants

Really hot temperatures can hurt plants. Our native plants are adapted to fairly dry summers, but they may not be adapted to the hot temperature extremes we’ve had in recent years. Water evaporates faster in hotter temperatures making it hard for plants to keep water in their leaves. Due to the higher rate of evaporation, plants may look “burnt.”

#### How can you help your plants survive the heat?

- Mulch around the base of your plants to shade their roots and keep more moisture in the soil. Spread mulch about 4–6 inches deep making sure the mulch does not directly touch trunks or stems as the heat from decomposition can “burn” them.
- If you’re planting new plants, make sure to pick plants that will do well in your site conditions (amount of sun or shade and soil type). Native plants generally grow well here. There are also many “water-wise” plants that can grow well in drier summers and wet winters.
- Plant trees and shrubs in the fall or winter, so they have time to establish roots before their first hot, dry summer. Place mulch around them after you plant them to help keep the soil temperatures warmer over the winter.
- Be sure to check your newly planted trees and shrubs if temperatures start to freeze. Freezing temperatures can cause newly planted trees and shrubs to “pop up” out of the ground exposing roots. If this happens, you may need to replant them.
- When the dry weather returns, water new plants deeply and infrequently to encourage deep root growth. Deep, slow watering allows water to soak 8–12 inches into the soil. This allows the roots to grow deeper, where the soil retains moisture longer in the drier months.

**We may not be able to control the weather, but we can do simple things to help our plants, streams and salmon survive our hotter, drier summers.**

*Source: Stream Team News, Winter 2021*

**Did you know** a dormant lawn only needs to be watered with 1" of water slowly and deeply each month if it doesn't rain in the summer?

**To help keep your sleeping lawn healthy:**

- Avoid heavy traffic on dormant lawns
- Water areas of your lawn where children and pets play
- Overseed bare areas when the fall rains return

