Explore the Watershed

Polypody Ferns on the Bridgeview Trail

We've gotten little rain so far, but it's been enough to wake up the polypody ferns (*Polypodium californicum*) on the side of the Bridgeview Trail. As you walk along, check out the nearly vertical banks and gullies on the east side of the trail for small fiddleheads just starting to emerge from the soil.

Polypody fiddleheads emerging from their summer slumber.

Polypodies like to have their feet wet in the winter and thrive in neutral to slightly acidic soils. However, they'll grow directly on rocks if there is a little soil that they can capture. They like growing under oaks, so the beginning of the Bridgeview Trail before you get to the redwoods is perfect for them.

You're not going to see them in the summer when their habitat dries out. To survive the dry times, they shrivel up into brown leaf remnants and just go away.

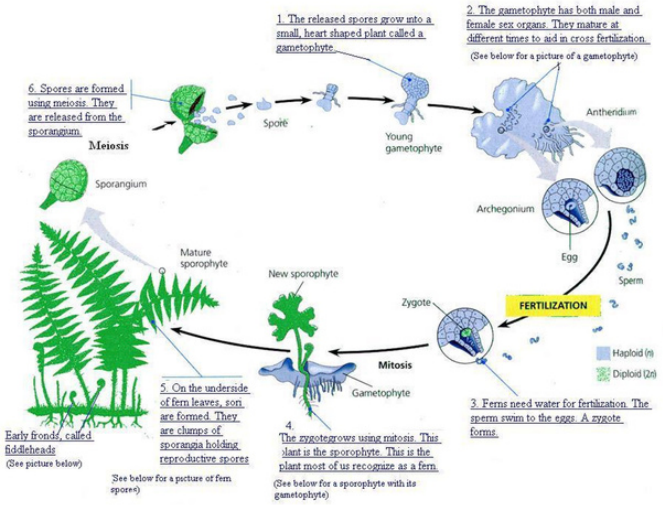
Midwinter polypodies cover a bank on the trail.

A network of "roots" holds them in place, ready to emerge the next year. Ferns aren't vascular plants—they don't have roots like flowers or trees. But they lay down a mat of fibers that can help retain soil on the banks and steep slopes that they prefer, aiding in erosion control.

They do need some light to photosynthesize. So when the banks are covered with invasive ivy, they can't thrive. Fortunately for us, if you remove the ivy, the ferns make a comeback. We've been attacking the ivy for a while now and are making some real progress.

We've found that you can "transplant" the ferns. We find a spot where the ferns are growing thickly, cut through their fibrous mat, and pull out a group of fronds. We move them to a section of the bank that has no polypodies and hope for the best. We've had success with this method and are going to continue it this winter.

Ferns reproduce via a complicated strategy of using one generation to produce gametes (haploid, or with only one set of chromosomes) and the next one to produce spores (diploid, or with a full set of paired chromosomes).



The life cycle of the fern has two different stages; sporophyte, which releases spores, and gametophyte, which releases gametes. Gametophyte plants are haploid, sporophyte plants diploid. This type of life cycle is called alternation of generations.

Spores on the back of a polypody fern in late spring.

There are five types of ferns that can be seen along the Bridgeview Trail: polypody, sword fern, maidenhair fern, golden-back fern, and wood fern. Now is the time to look for them, just as the rainy season is starting up. Check out the trail but also the switchback running down to the creek in Dimond Canyon. See if you can locate all five types of ferns.

—Kathleen Harris,
FOSC Volunteer and Bridgeview Trailhead Site Leader