

Summer in Muir Woods

Summer solstice, a day of 14-hours of sunlight, marks the beginning of summer.

Long daylight hours stimulate and activate those who live in the Redwood Creek Watershed.



black-tailed deer

Black-tail does and their recently birthed fawns graze the canyon floor for lichen, fruits, and leaves.

Sonoma chipmunk scurry over branches and under ferns. When they take a momentary rest on a redwood log to listen, smell, watch for predators, they camouflage with the red bark.

Though the sun shines longer now than any other time of year, summer days can be cold. Coastal fog is produced offshore then drifts inland. The fog, low stratus clouds, keeps the redwood forest cool and moist.

Summer flowers peak in June and July. Insects swarm to the blooms to both pollinate the flowers and gather the nectars for food.



redwood violet

Dry summer months cause Redwood Creek to slow to a trickle. This is suitable habitat for **Coho salmon** and **Steelhead trout fingerlings**, **waterstriders**, and **insect larvae**. This is also a great place for herons and egrets to fish. Their colorings and slow movements allow them to sneak up and spear their prey.

Park restoration projects are improving critical habitat for young fish. Look for them on your walk today.



J U N E

Summer solstice

Young trout in creek

Wildflowers bloom

J U L Y

Coastal fog arrives

Deer, Sonoma chipmunks, and Steller's jays active

Butterflies and insects in sunny areas

A U G U S T

Redwood Creek reduced to a trickle

Poison oak turns red

Spring in Muir Woods

Spring has sprung! The redwood forest celebrates the abundant gifts left by the winter storms.



robin

Mosaics of snagged and downed trees decorate the forest. Although they appear dead, these trees support nest-making birds, mammals, and insects.

Warm air glides through the canyon. This call to spring wakes the Sonoma chipmunk from hibernation, hatches Coho salmon and steelhead trout eggs, and prepares pregnant black-tailed deer for motherhood.



spotted owl

and female choose. In the evening hours, a spotted owl directs its attention to the forest floor. When a dusky-footed wood rat is heard, the owl will swoop down, talons outstretched, and clutch its meal.

The bountiful winter rains delivered new soil to the forest floor. Dormant plants begin peeking through the earth and rising to the sun. Dots of white and lavender redwood sorrel, yellow redwood violet, and the pinks of woodrose and clintonia shine like jewels at the feet of the redwood trees.

In spring, a pair of spotted owls search through the canopy for abandoned raven, hawk, and squirrel nests. They may also nest inside a snagged tree. Abundance of food and safety from predation determines what nest the male

Redwood sorrel, various fern fiddleheads and horsetail fern carpet the forest floor in spring. The asparagus-like plant is the horsetail fern. When full grown, its feathery branches resemble a horse's tail.



M A R C H

A P R I L

M A Y

Creek full

Deciduous trees leaf out in spring

Warmth and light

Salmon spawning in creek

Banana slugs conspicuous

Wildflowers bloom

Ferns unfurl

Oxalis, miner's lettuce, violets profuse

Fall in Muir Woods

Fall is nature's harvest! This time of year, Muir Woods is graced with warm temperatures, gold and crimson foliage, and the presence of migratory animals.



Sonoma chipmunk
chipmunks busily prepare for hibernation. They forage through the woods in search of seeds, nuts, and berries. When their cheek pouches are full, they dig a small hole, empty the food into it, and then cover it with dirt and leaves.

and emit a foul smelling odor to ward off predators. Early spring they wake up, mate, and return inland to lay their eggs.

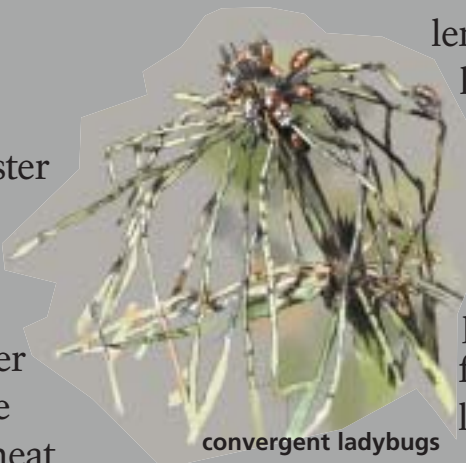
Fall foliage floats to the canyon floor like raindrops. Poison oak's "leaves of three" are flaming red, the maple leaves change from green to mustard, and the California bay-laurel leaves turn

lemon yellow. These colorful leaves are a beautiful sight, but they also provide food for the forest. Big-leaf maples nourish black-tail deer with calcium and potassium. Water striders feast on decomposing leaves in Redwood Creek.

Migratory and resident birds fuel up on ripened poison oak, and huckleberry fruits, tan oak acorns, and cow parsnip seeds.

October is optimum prescribed burn month. Since forest fires are crucial to the survival of a forest, The National Park Service Fire Management Team has developed a burn plan for Muir Woods. Fires release nutrients tied up in the soil, burn weak and overbearing trees that compete for light in the forest canopy, clear piled up debris in the understory, and kill insects or disease that can potentially harm a forest. Bare mineral soil is necessary for redwood seeds to grow and allows the forest to regenerate with new growth.

Throughout the fall, convergent ladybugs cluster on understory leafage. They have flown here to escape the hot inland temperatures. They gather in dense clusters near the creek to conserve body heat



convergent ladybugs

| S E P T E M B E R | O C T O B E R | N O V E M B E R |
|---------------------------------|----------------------|---|
| Warmest time of the year | Controlled burns | Rainy season begins |
| Ladybugs cluster | Deer rutting season | Monarch butterflies cluster at Muir Beach |
| Berries, acorns, buckeyes ripen | Height of fall color | Redwood cones mature |

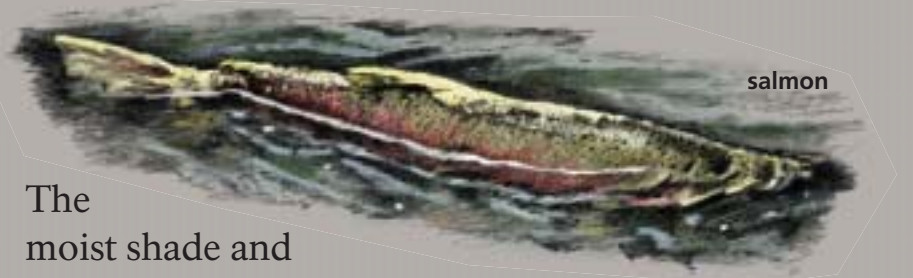


Decomposing leaves in Redwood Creek nourish insects, salamanders, birds, fish, and creekside plants.

Winter in Muir Woods

Winter brings its gift of rain to Muir Woods. Water reserves are replenished and life responds to this moisture in a number of ways.

The most dramatic is the arrival of coho salmon to spawn in Redwood Creek. Barred from entering their birthstream by a sandbar at Muir Beach, the salmon wait in the Pacific for the rain-swollen creek to burst the dam. Then they swim upstream to find shallow runs where they lay their eggs in clean gravel.



salmon

The moist shade and rich humus soil of Muir Woods create ideal conditions for ferns, moss and lichens. Look for large sword ferns arching above the forest floor, and polypody ferns decorating decaying logs. Look, too, for the early flowers like fetid adder's tongue, trillium, and miner's lettuce. Redwood sorrel appears in late winter.



vermillion mushrooms

As rainwater soaks the forest floor another type of life begins to appear— fungi push up out of the ground. Most of the organism is hidden in the soft forest soil, feeding on decomposing plant material. We see only the fruiting portion. Many of these are delicately beautiful, like the red vermilion cap mushrooms.

Winter also brings a change in the bird life. If you've noticed a tiny brown bird flitting along the streamside you've seen a winter wren.



winter wren

They live here year round, but add their lively bursts of song to the winter season. One of the more rewarding to see is the robin-sized varied thrush. They migrate here for the winter months, feeding on earthworms and insects they find on the forest floor.



D E C E M B E R

Raining season begins

J A N U A R Y

Winter Solstice

F E B R U A R Y

Sandbar at Muir Woods breached

Salmon spawning in creek

Banana slugs conspicuous

Redwoods seeds fall Colorful fungus displays

Polypody ferns unfurl

Early flowers bloom