Rewild Watering a Native Garden Guide

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Watering philosophy

Water is essential for life. For plants, it allows them to move energy and nutrients. Water is your way to communicate with your plants. Taking time to water allows you to create a relationship with your garden. Plants adapt to their environment and learn to expect specific patterns. Depending on how and when you water, your plants will learn to expect it. Therefore, sudden changes in watering can be detrimental to plant survival. Any changes should be gradual.

Plant Physiology

Roots

1. Types of roots
    a. Succulent: these roots store water and are thick, white, and go very deep into the ground
        i. Certain shrubs, trees, perennials
    b. Fibrous: these roots create mats of thin, woven, and connected roots
        i. Herbaceous plants, and grasses tend to be fibrous
    c. Pairing these types of roots together can help create subterranean microclimates that raise the water table and maintain temperature
        i. This is why successionary planting for restoration is important. Baby oaks are more likely to survive with other established native plants (sage scrub) rather than invasive weeds.
2. How roots work
    a. Plants intake water through osmosis (this means that roots have a lot of salts inside them, so water will naturally travel into their roots) → this is a passive process, so the plant doesn't directly intake water like animals do
        i. If you put a plant into dry soil, the water will leave the roots, killing the plant.

        1. This is why you ALWAYS water the hole before planting
    b. Roots have root hairs where osmosis takes place
3. Most of a plant's energy is stored in the roots! Though they may not be showing, having healthy roots is essential for healthy plants
4. What roots do
    a. Anchor plant, reduce erosion (hang onto soil around it), and store nutrients
5. It is important plants are planted correctly to ensure health. Read our planting guide for more details!

Native Plants Throughout the Year (aka managing your expectations)

Late fall through Winter

As rains begin, native plant roots begin to grow. Plants may not be putting on green leaves, but they are growing underground to prepare for the hot and dry summer.

Winter through Spring

After the majority of the rain, native plants put on new growth and start to produce flowers.

Spring through early summer

Native plants put on seeds and focus energy on developing those.

Late summer

Native seeds mature and disperse.

Late summer through fall

Plants fall dormant during the hottest time of the year, often losing leaves or dying back completely.

Dormancy is an important part of the year for native plants. These plants have evolved to live in the relatively harsh conditions of the Ojai Valley. To do this successfully, they retreat to their roots during the hottest time of the year. Enjoy and marvel at this ingenuity and let the plants rest.

Signs of Over Watering

1. Yellowing leaves with red dots (this can be caused from cells bursting with too much water)
2. Rotting parts of the plant
3. What to do
    a. Don’t water it and wait for proper dry back
    b. Check for leaks in your irrigation system
4. Sages and buckwheats are adapted to very arid conditions, so they are high over-watering risks. Some can even be overwatered just from heavy rain years.

Signs of Under Watering

1. Drooping - this means there is not enough water (specifically water pressure) to get water/nutrients to the top of the plant
2. Yellowing, dry or crispy leaves
3. What to do
    a. Give the plant a deep soak.
    b. The plant may have grown too big for its roots. If the plant hasn't started flowering, you can prune it. During later summer/fall, you can prune as well.
        i. Don't prune plants during their first year in the garden.

Watering Schedule

1. Water plant when you plant it. See our planting guide for more details.
2. Adjust watering based on seasonal rains
    a. Give plants a deep soak (2-5 gallons) at the base of the plant during the first water. Wait 2-3 weeks for next water to allow for dry back. Adjust based on rain.
        i. If it rains, no need to water!
        ii. By hand or irrigation system
        iii. Use a nurse rock to prevent erosion (pour water onto rock or stick to prevent the water from digging up the soil around the plant).
        iv. New plants in particular will need supplemental water. Established plants (in the ground more than 1-2 years) may not need any water except rain fall.
    b. If winter rains are late or a drought occurs, you can give more supplemental water. Give each plant a deep soak once every 2-3 weeks in the beginning of 3-5 gallons. After a couple of months, reduce the frequency to 4-6 weeks.
3. Reduce water in spring and allow for proper dry back. Not quantity, frequency!
    a. Proper dry back - 3-5 inches of dry soil before it gets wet
4. Soil type!
    a. Clay soil: clay retains moisture, so it will take longer to dry back.
    b. Sandy soil: water moves through sand quickly, so it will need more moisture more frequently.
5. Watering during summer
    a. If you plant at the right time, you do not need to water.
    b. If you choose to water, you risk over watering your plants.
    c. If you want more lush plants, you can water, but reduce to once per month.
    d. NEVER WATER DURING A HEAT WAVE
        i. If a heat wave is forecasted, water your plants at least 1 week before late at night or early in the morning.
        ii. Heat plus water can be deadly to native plants
        iii. Water on leaves during the summer can give your plants a sunburn too.
    e. Avoid watering California buckwheat, ceanothus, or manzanita during the summer

Types of irrigation

1. Hand watering
    a. Pros: overall best method, precise, exact amount necessary for each plant, no wasted water
    b. Cons: time consuming, concentrated water can be a target for gophers
    c. Tip for hand watering: pour water onto a nurse rock or log to prevent soil erosion next to the plant
2. Drip
    a. Pro: precise, exact amount of water necessary, more time efficient
    b. Cons: more expensive, breaks more easily (risking over or underwatering and leaks), concentrated water can be a target for gophers
3. Overhead
    a. Pro: fast and easy, good for wildflowers (because it simulates rain)
    b. Cons: not precise (risk over or under watering or watering weeds), too much water on native plant leaves can lead to sunburns

Dry Back

Dry back is necessary so plants don't get too much water.
Check for dry back

1. Dig in your soil until it is moist/damp
2. During winter, if it's dry 1-2 inches down, your plants will need some water
3. During spring, summer, or fall, if it's dry 5-6 inches down, your plants may need water

Watering Annuals

Establish annuals from seed. Though you can buy annuals from nurseries, it is more cost effective and faster to grow them from seed. There are two methods for establishing annual wildflowers in the garden:

1. Sow seeds in late fall
    a. Water them in deeply with an overhead shower. Supplementally water overhead until the rains begin and continue to supplement as necessary.
    b. Pro: you get earlier blooms
    c. Con: you must become their rain (more time and water)
2. Sow during a rainstorm
    a. Earlier in the season is better
    b. When it begins to rain, sprinkle your seeds. The rain will drive the seeds into the ground.
    c. If supplemental water is necessary (late rains, dry winter, etc.), water overhead/become the rain

Herbivory: your seedlings got munched by a critter
Birds love seeds, so to prevent your wildflower seeds from becoming bird seeds, sow during rain. You can cover seeds with a very thin layer of mulch or hay (less than 1 inch) or rake them into the soil to help reduce herbivory as well.

Planting for success

If you are struggling to get a plant to thrive, it may be because it is not adapted for the area you have chosen. When selecting a planting palette for your garden, consider the following:

1. Soil
2. Aspect/Slope
3. Sun

Pick plants that are adapted to the conditions in your garden. Sample palette for combinations of the above coming soon.

You can't force nature! Enjoying the experiment of finding what thrives in your garden is part of the fun. The best advice I can give is to find somewhere in nature that has similar conditions to your garden and use those plants.

Weed management

If you are trying to seed in an area with heavy non-native weed cover (especially non-native annual species, such as ripgut brome, mustard, curly dock, plantain, wild radish, etc.), we recommend spending the first year removing weed species. Here are a few options for remove non-native weed species:

1. Hand pulling: this is the most precise option, but most time intensive. Good for small areas.
2. Mow/Weed whack: this is faster and more cost effective, but not precise. Seeds can still develop in cut plants, so you will need to remove non-native plant materials (this may not be possible on larger sites). This will not kill plants with deep roots (ex: mustard, curly dock)
    a. Consider high density planting instead. Plant native plants slightly closer together than their size at maturity to create a closed canopy, which will outcompete non-native plants. Sage scrub species will be most effective.
3. Solarize: this method is most effective. Get a large 4-6 mm plastic sheet. Thoroughly water the area you want to solarize, then lay down the sheet. Tuck the sides into a trench and leave over the summer. In fall, the seed bank should be killed and you can seed directly into your soil.
4. Grow kill cycles: this method is also very effective, but labor intensive. Hand pull the weeds in an area. Then, water that area well and cover it with a tarp. The seeds will germinate and then die without sun. Repeat this process until no more seeds are sprouting. The seed bank should be killed and you can seed directly into your soil.
5. Prescribed burning: research is ongoing, but this may be a method in the future!

FAQs

1. Mulch! Where to source? How much?
    a. 1-2 inches of mulch is a great way to retain moisture in your native garden. Leave an unmulched ring around the base of your plants.
    b. Sourcing mulch
        i. Be cautious of where you source your mulch. Mulch can contain weed seeds, diseases, etc.
        ii. A trusted arborist or agroman are good places to get mulch.

    c. Cardboard Mulching is a great tool to remove your lawn. Read more about different lawn removal methods here.
2. What do you mean water until established?
    a. This means give your plant supplemental water (not just rain) until it has deep enough roots to live on rain water alone. This usually means 1 year in the ground (or 2 if you planted later in the season).
    b. In other words, baby your plants for their first year by giving them additional water during spring and summer.
3. I have hydrophobic soil and the water just runs off instead of soaking in. What should I do?
    a. Create a well around the plants for water to collect and then try drip irrigation or hand watering
    b. Be careful with selective watering, animals may be attracted to the water
4. How do I keep gophers from eating my plants?
    a. Gophers are attracted to water, so water frequently can attract gophers. Be strategic about when you plant to avoid supplement watering and attracting these critters to your garden.
5. Should I break up the roots when planting?
    a. NO! Native plant roots are very, very sensitive. Breaking up roots will often kill your plant. See our planting guide for more details.
6. I want my plants to be as big as soon as possible. What size of plant should I use?
    a. The younger the plant, the better!
    b. Younger plants are better able to adapt to their new environment. Though they may be smaller at first, they will quickly outgrow older plants planted at the same time.
    c. This is especially true for trees. A tree grown from an acorn on a site will likely outgrow a sapling planted at the same time in 5 years.
7. Why are some native plants grey-green?
    a. Ashy-leaved plants are adapted to harsher, sunny conditions. They have a waxy coating to protect their chlorophyll because it degrades in harsh sun.
    b. Plants with grey leaves are therefore more successful in sunny areas. Whereas, leaves with very green leaves tend to do better with shade.

Rewild Garden Calendar

Fall: prune any dead material in early Fall, plant and seed in late Fall
Winter: plant, supplemental watering every few weeks if there is no rain, weed
Spring: supplemental watering every few weeks if there is no rain, but reduce frequency, weed
Summer: let the plants go dormant, reduce water for new plants and stop watering completely for established plants, weed, plan for the planting season