

Planting recommendations for the...

## ACTIVE CHANNEL

**Definition:** The active channel is the part of the creek which is regularly flooded. Most plants in this zone are pioneer species that colonize recently disturbed areas. They are adapted to both winter's high flows and summer's relative drought.

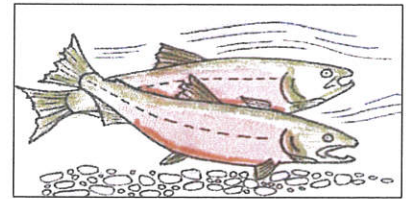
**Opportunities:** Plants in the active channel provide shade over the water, keeping temperatures cool for fish. Fallen leaves provide nutrients and food for aquatic life. Plant roots provide critical opportunities for fish to hide from predators and to shelter from fast moving water. Fallen trees in this zone, known as woody debris, also provide vital fish habitat.

**Challenges:** Establishing plantings in the active channel can be difficult due to plants being swept away in high flows, the inability to install automated irrigation, and potentially heavy browsing by deer.

**Key species to plant**

<u>Common Name</u>	<u>Latin Name</u>	<u>Plant Type</u>
Alder	<i>Alnus rhombifolia</i>	tree
Ash	<i>Fraxinus latifolia</i>	tree
Coltsfoot	<i>Petasites frigidus</i>	perennial
Dogwood	<i>Cornus sericea</i>	shrub/small tree
Horsetail	<i>Equisetum laevigatum</i>	perennial
Mugwort	<i>Artemisia douglasiana</i>	perennial
Rush	<i>Juncus effusus</i>	rush
Torrent Sedge	<i>Carex nudata</i>	sedge
Willow	<i>Salix lasiolepis</i>	tree

Refer to master plant list for sun/shade requirements, size, habit, etc.



Willow



Sedge



Coltsfoot



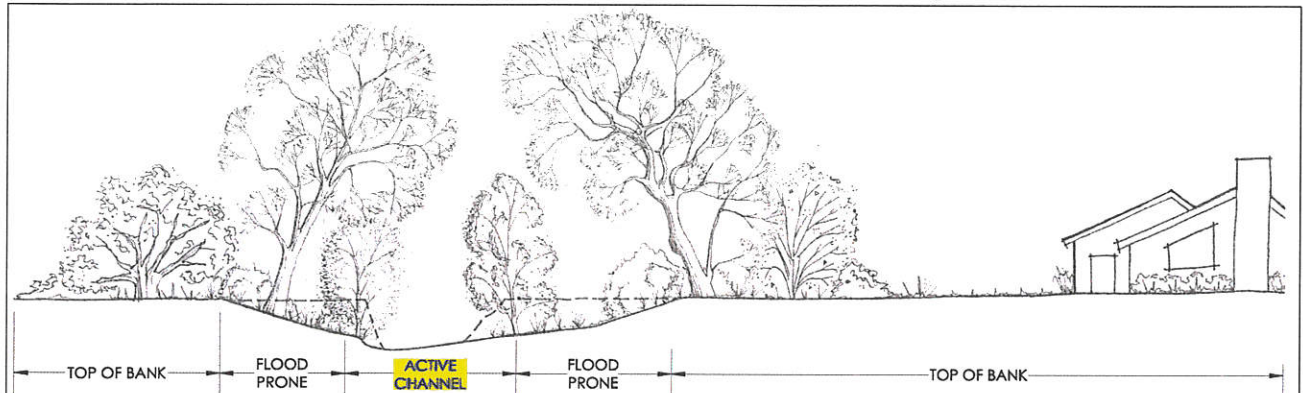
Alder



Mugwort

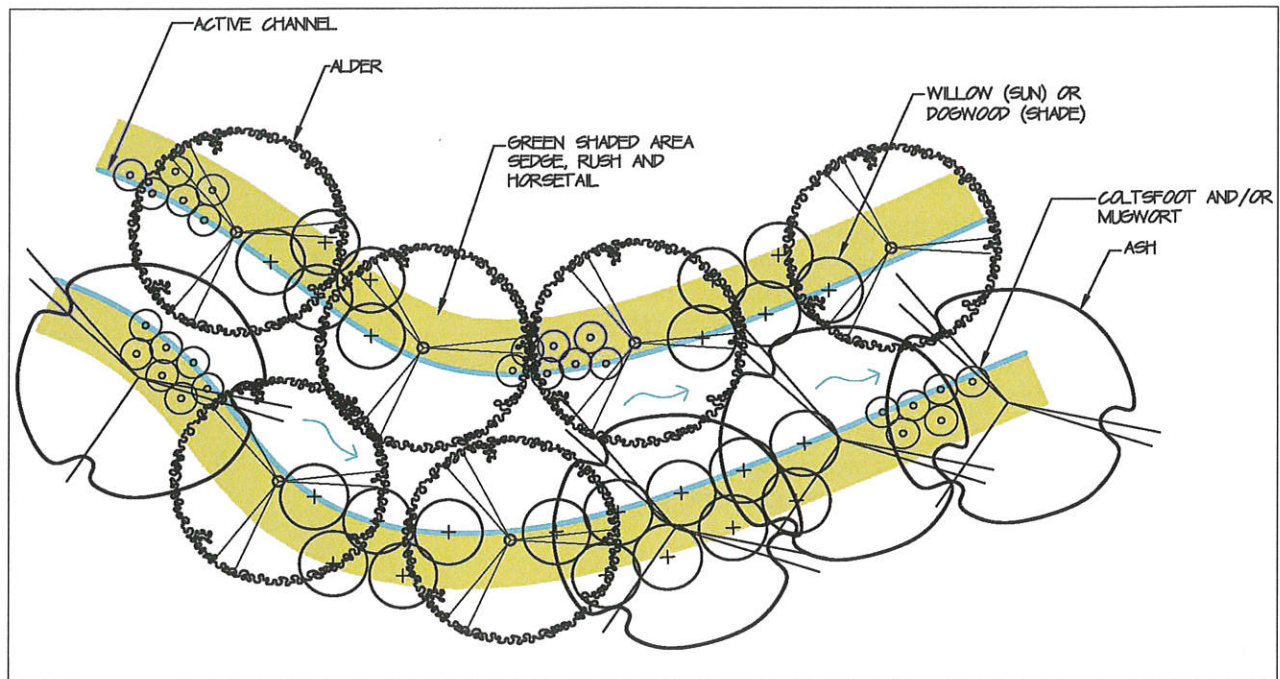


Dogwood





## SUGGESTED PLANTING SCHEME



### NOTES:

**Cuttings** such as willow and dogwood are best planted in the fall just before the rainy season (Nov 15<sup>th</sup>-March 15<sup>th</sup>) when plants are using energy to develop roots. Place cuttings deeply in the ground (as shown on the detail sheet) to access ground moisture and avoid being swept away during high flows.

**Drip irrigation** cannot be installed in the active channel because it may wash downstream. Any watering should be done by hand.

**Browse protection** should not be installed in the active channel during the rainy season because it may wash downstream. Install browse protection in the spring when plantings are beginning to leaf out and remove before the rainy season.

**Best places to plant:** In the active channel there is a natural scour line where vegetation starts to grow. This is the lower edge of the active channel planting zone, indicated by the blue line on the drawing above. Plant cuttings and plugs on slopes and look for flat benches to vegetate with plugs and container plants.

### GRASSES, SEDGES & RUSHES:

In addition to Key Species listed above, use any combination of the following from plugs.

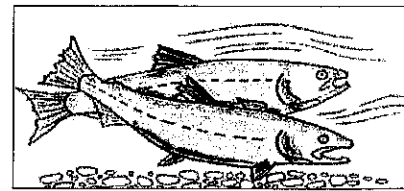
#### Common Name

Spike rush  
Santa Barbara sedge  
Tall flatsedge

#### Botanical Name

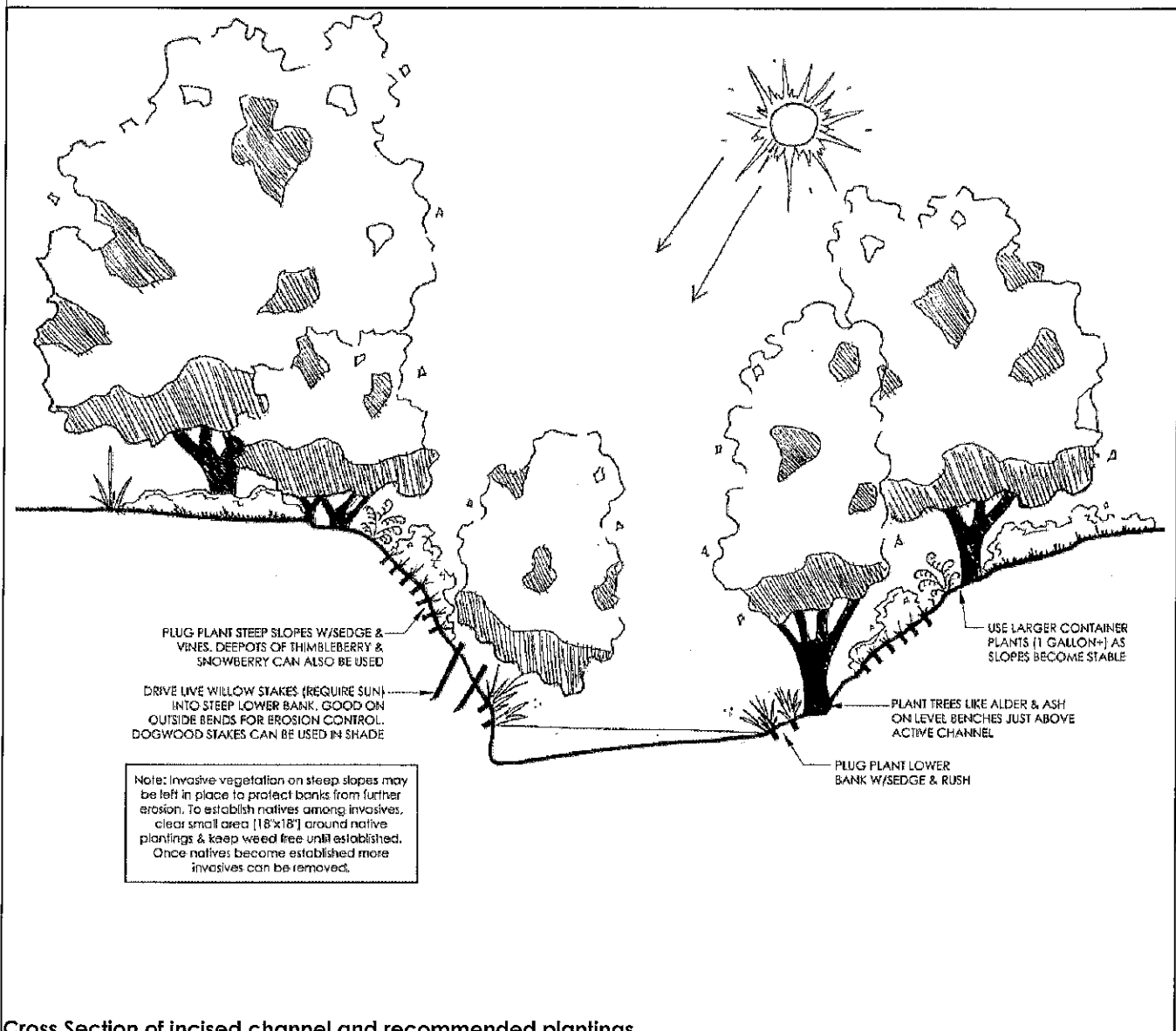
*Eleocharis macrostachya*  
*Carex barbarae*  
*Cyperus eragrostis*

**Planting recommendations for...**



## **Incised Channels**

Planting the incised channel can be very challenging. These sections of creek are often dominated by invasives such as blackberry and ivy, with steep slopes that are hard to reach. Consider using a ladder for work on extremely steep banks. Planting fast growing natives, such as alder and willow among the invasives can (in some cases) effectively out-compete them. The use of plugs and cuttings are good ways to revegetate without causing much disturbance in soils already prone to erosion. As natives become established, more invasives can be removed. Keep in mind that maintenance will be required. New container plants typically need years of watering, weeding, and browse protection to become fully established. Since drip irrigation will likely be vulnerable to storm damage, hand watering may be required at incised sites. Regular weeding is critical in areas with vigorous stands of established invasive plants. See *Plant Installation & Maintenance* for additional information.



**Cross Section of incised channel and recommended plantings**





**Planting recommendations for the...**

# TOP OF BANK

**Definition:** The top of bank is the upper area on the slope and beyond where flooding does not occur. Top of bank extends all the way to the house and beyond.

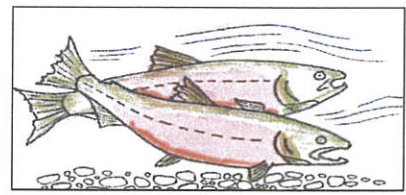
**Opportunities:** The vegetation in this transitional zone provides a buffer between the creek and hotter, dryer upland habitats. A wide variety of native plants thrive here, offering food and shelter for bees, butterflies, birds, and other wildlife. Deeply rooted native perennial plants slow runoff, encourage infiltration of water into the soil, and help prevent erosion. Many flowering natives can be used in this zone, adding beauty to the garden.

**Challenges:** Dry soil, hot sun, gophers, deer browsing

**Key species** to plant

<u>Common Name</u>	<u>Latin Name</u>	<u>Plant Type</u>
Buckeye	<i>Aesculus californica</i>	tree
California rose	<i>Rosa californica</i>	shrub
Ceanothus	<i>Ceanothus thyrsiflorus</i>	shrub
Coast live oak	<i>Quercus agrifolia</i>	tree
Coyote brush	<i>Baccharis pilularis</i>	shrub
Coffeeberry	<i>Rhamnus californica</i>	shrub
Currant	<i>Ribes sanguineum</i>	shrub
Honeysuckle	<i>Lonicera hispidula</i>	vine
Monkey flower	<i>Mimulus aurantiacus</i>	shrub
Ocean spray	<i>Holodiscus discolor</i>	shrub
Penstemon	<i>Penstemon heterophyllus</i>	perennial
Yarrow	<i>Achillea millefolium</i>	perennial

Refer to master plant list for sun/shade, water, spacing requirements, etc.



Penstemon



Rose



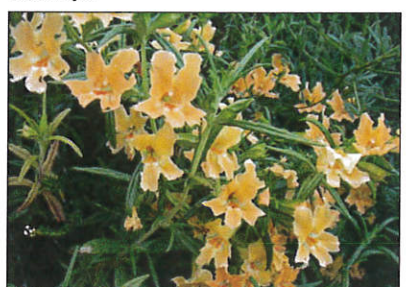
Buckeye



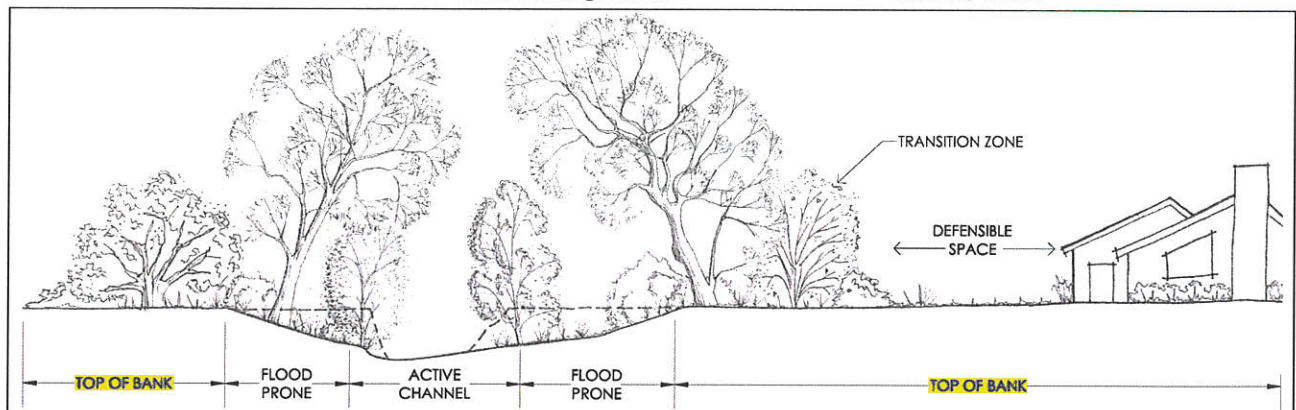
Yarrow



Pink flowering currant

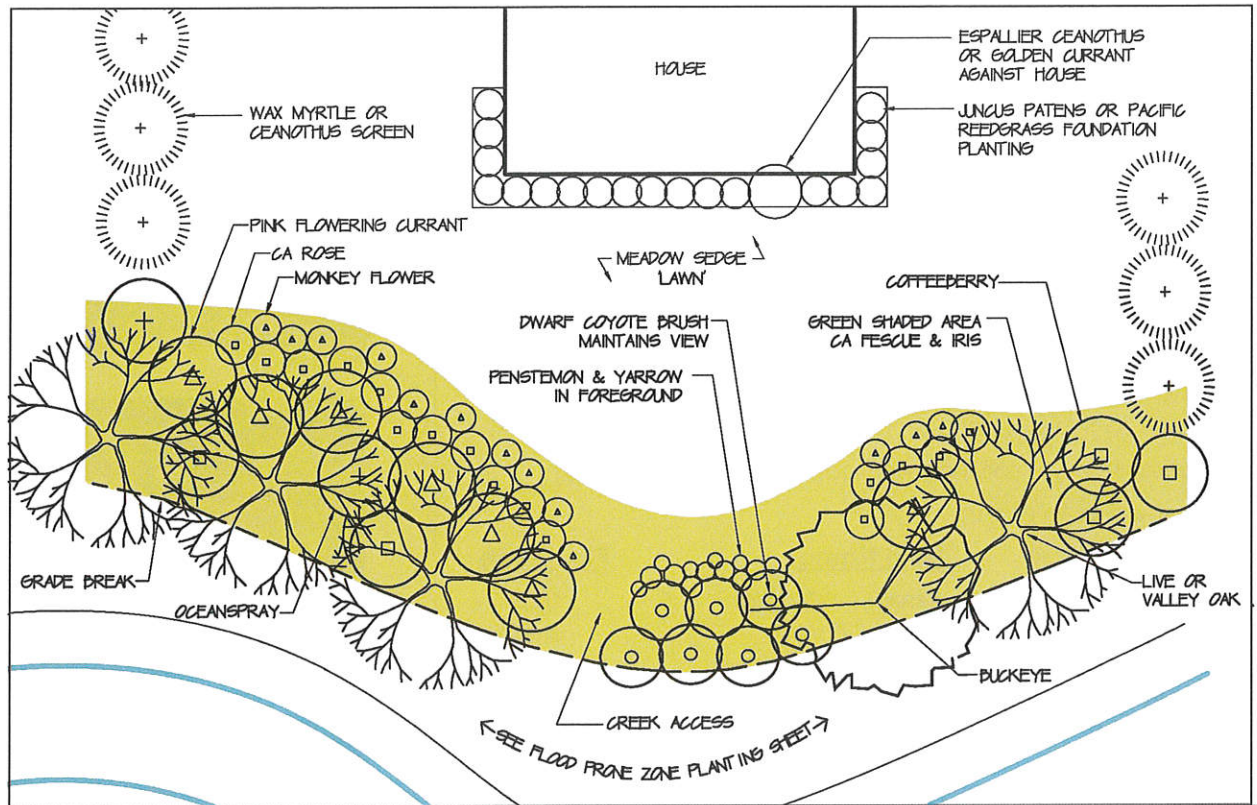


Monkey flower





# SUGGESTED PLANTING SCHEME



## Additional plants recommended:

**Vines, groundcovers, and other perennials:** alum root, bleeding heart, Douglas iris, California fuchsia, yerba buena, virgin's bower

**Shrubs:** gooseberry, mock orange, California sage, toyon

Note: some other sages, such as purple sage are not native to the watershed but can be used effectively in the garden without becoming invasive.

**Trees:** redwood & valley oak

**Wildflowers:** Spread native wildflowers seeds in the fall such as clarkia, lupine and poppy.

**Screens:** Suggested shrubs for evergreen screens are ceanothus, coffeeberry, and wax myrtle. Redwood trees can also make an attractive evergreen screen.

## GRASSES, SEDGES & RUSHES:

Use any combination of the following from plugs or seed. Grasses noted with an \* can be purchased in gallon size pots and used effectively in mass plantings or as accents

### Common Name

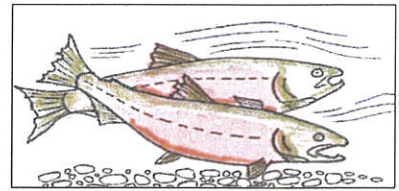
CA Brome  
CA Fescue  
Deer grass  
Gray rush  
Pacific reedgrass  
Purple needle grass  
Meadow Sedge  
Three weeks fescue  
Red fescue  
Idaho fescue  
Wild rye

### Latin Name

*Bromus carinatus*  
*Festuca californica* \*  
*Muhlenbergia rigens* \* (not native to watershed)  
*Juncus patens* \*  
*Calamagrostis nutkaensis* \*  
*Nassella pulchra*  
*Carex pansa* (can be used as lawn alternative)  
*Vulpia microstachys* (native annual will jumpstart native seed mixes)  
*Festuca rubra* 'Molate' (can be used as lawn alternative)  
*Festuca idahoensis* \*  
*Leymus condensatus* \* (Canyon Prince is a good garden variety)



Planting recommendations for the...



## FLOOD PRONE ZONE

**Definition:** The flood prone zone is adjacent to the active channel and becomes flooded during storm events. It is inhabited by plants that can tolerate occasional flooding.

**Opportunities:** The vegetation in this zone provides a protective buffer between human activity and the creek. Its diverse shrubs and trees serve as critical habitat for birds and other wildlife. The roughness of the vegetation slows fast-moving stormwater and filters sediments and pollutants before runoff enters the creek. The roots in this zone help prevent erosion, protecting adjacent properties and creek water quality.

**Challenges:** The flood prone zone is often dominated by invasive species because of access to moisture without the disturbance of the active channel. This zone can be shady because of mature trees. Deer browsing, irrigation constraints and flooding can also hinder establishment. Property use and development often decrease space available for plantings.

**Key species to plant**

<u>Common Name</u>	<u>Latin Name</u>	<u>Plant Type</u>
Hazlenut	<i>Corylus cornuta</i>	shrub
Maple	<i>Acer palmatum</i>	tree
Ninebark	<i>Physocarpus capitatus</i>	shrub
Sedge	<i>Carex barbarae</i>	sedge
Snowberry	<i>Symphoricarpos albus</i>	shrub
Sword fern	<i>Polystichum munitum</i>	fern
Thimbleberry	<i>Rubus parviflorus</i>	shrub
Twinberry	<i>Lonicera involucrata</i>	shrub
Wood rose	<i>Rosa gymnocarpa</i>	shrub



Snowberry



Ninebark



Thimbleberry

Refer to master plant list for sun/shade requirements, size, habit, etc.



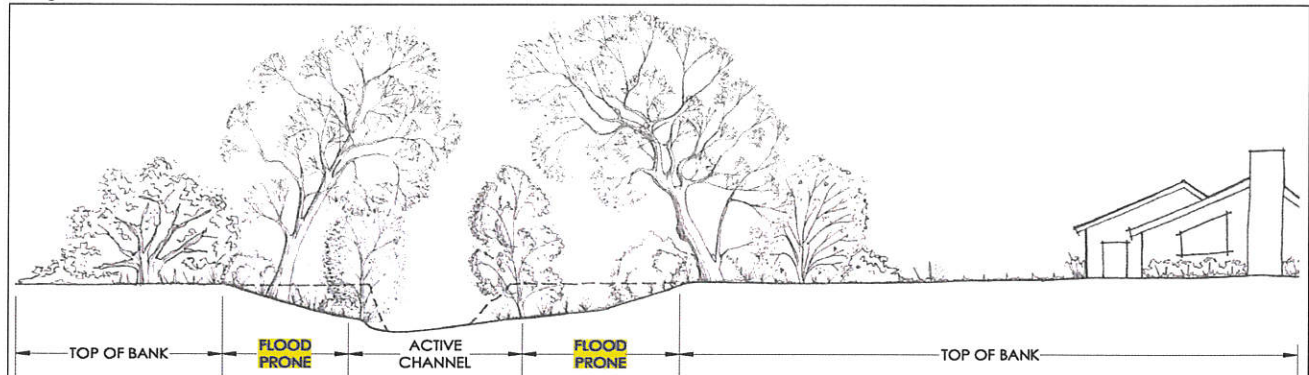
Sedge



Hazlenut

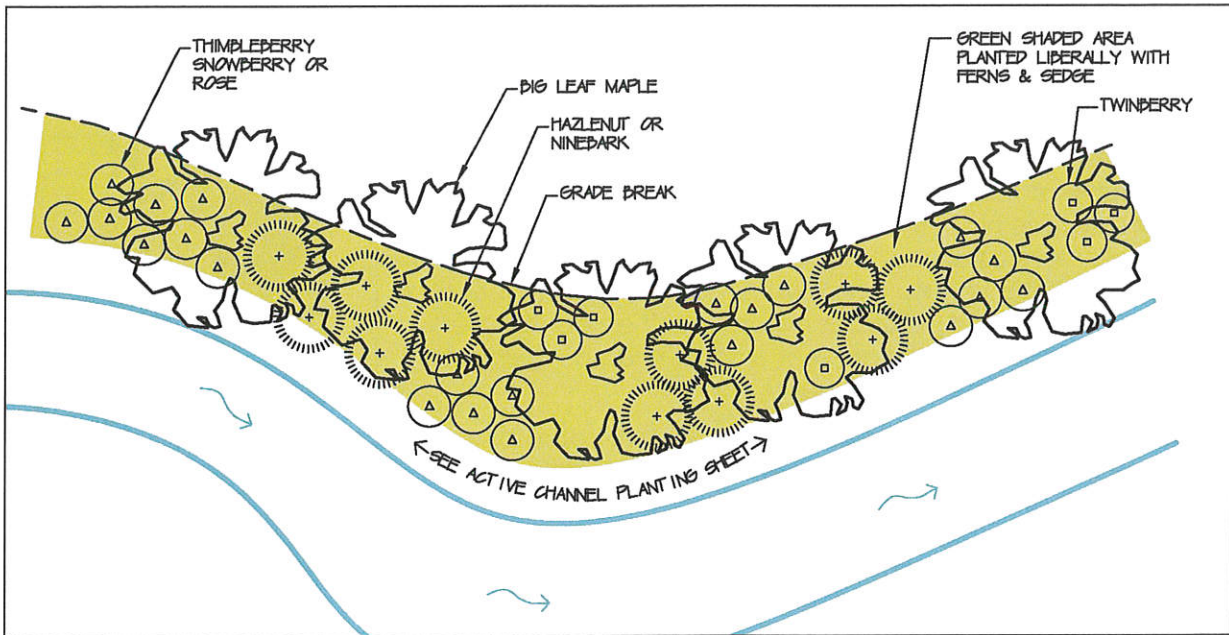


Ferns





## SUGGESTED PLANTING SCHEME



### NOTES:

**Drip irrigation** cannot be installed in the lower areas of the flood prone zone because it may wash downstream. Use common sense to determine the limits of where drip irrigation can be installed. Where drip cannot be installed, watering should be done by hand.

**Browse protection** should not be installed in the lower areas of the flood prone zone during the rainy season because it may wash downstream. Install browse protection in the spring when plantings are beginning to leaf out and remove before the rainy season. The rainy season is typically considered to be November 15 - March 15.

**Views** of the creek are important to landowners. Select view corridors where low plantings can be installed such as vines, groundcovers and grasses. Plant other areas liberally with trees and shrubs.

### ADDITIONAL PLANTS RECOMMENDED:

**Vines and groundcovers:** Douglas iris, dutchman's pipevine, fringe cup, honeysuckle, native blackberry and wild ginger

**Shrubs:** chain fern, elderberry, flowering currant, monkey flower, salmonberry, western azalea

**Trees:** bay, Douglas fir

**GRASSES, SEDGES & RUSHES:** Use any combination of the following from seed or plugs:

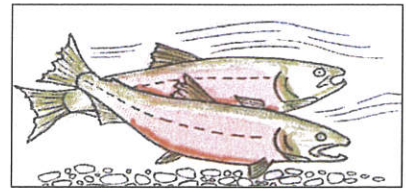
#### Common Name

Creeping wild rye  
Gray rush  
Meadow barley  
Meadow sedge  
Santa Barbara sedge  
Tufted hairgrass

#### Botanical Name

*Leymus triticoides*  
*Juncus patens*  
*Hordeum brachyantherum*  
*Carex pansa*  
*Carex barbarae*  
*Deschampsia cespitosa*





## Plant Installation & Maintenance Notes

**Start with good materials:** Using high quality native plant materials is important to your project's success. Try to purchase your planting materials locally. Plant sources should be from Marin or from the San Francisco Bay region.

**Container Sizes:** Typically shrubs, vines and groundcovers will come in 1 gallon pots. Trees can be purchased in treepots, or in gallon sizes. Installing trees that are 5 gallon or larger can give you a head start at a 'grown in' look. Herbaceous species such as sedges, rushes and grasses can be purchased as small plugs.

**Planting Time:** In most cases, the best time to plant is in November or December. Plants will be sending energy to their roots, rather than developing leaves and will be watered in naturally with winter rains. When planting the active channel or areas exposed to high flows, springtime planting (February-March) may be best (except for cuttings). The ground will still be moist, but plants will not be washed away with high flows. If planting in spring, hand watering will be required. Regardless of season, remember to water plants in thoroughly after planting to avoid air pockets in the soil.

**Installation Techniques:** See tree and container planting details for installation techniques.

**Weeds:** Planting area should be scalped and weed free; refer to sheets on invasive weed control for specifics. Create a 3' diameter weed free area around new plantings

**Fertilizer:** Native plants do not need chemical fertilizer. If planting an area that has poor soils, then amend soil with compost or use mycorrhizal fungi to help support plant health.

**Compost:** A healthy planting soil should contain approx. 5% organic matter. Compost can be mixed into existing soil at a ratio of 1/4 compost to 3/4 topsoil. Typically, a uniform layer of compost spread at a depth of 2"-3" should be enough to amend most soils. Compost can be tilled into or used as topdressing on existing soil. For landscapes adjacent to the creek it is important to use low nutrient compost. Low nutrient compost should be mature, screened, weed free and should not contain animal waste or chemical fertilizers.

**Mulch or Weed Mats:** Use wood chip mulch or natural fiber weed mats to suppress weed growth. If using mulch, be sure that it is organic and weed free. Keep mulch at least 2"-3" away from a plant's root crown to avoid rot. Mulch approx. 4" deep to suppress weeds. Remember to replenish mulch approx. twice per year. In flood prone areas, use weed mats instead of mulch. Weed mats should be made from a natural fiber, such as hemp or jute, so they can biodegrade. Using recycled jute coffee bags is a great way to suppress weeds. Pin corners securely with long nails or ground staples. Plugs and vines do not typically require weed mats.



Good quality plant materials



Browse protection & recycled weed mat



Plant installation on top of bank



**Browse protection:** Browse protection from deer is important to planting success. See tree cage detail and container planting detail for recommended browse protectors. Traditional plastic mesh protectors (e.g., Vexar) are not ideal for many container plantings as they constrain growth, but they can be effective for use on willow and dogwood cuttings.

Browse protection should not be used in the active channel or areas prone to flooding during the rainy season as they can wash away downstream. However, protection can be installed in spring and removed before the rainy season to protect new growth.

**Gopher Baskets:** Gopher baskets are recommended for all plantings outside of the active channel with the exception of plug plantings.

**Irrigation:** Most native container plantings will benefit from some irrigation while they become established. Usually, this is only needed during the dry season (April-October). Supplemental irrigation may also be required during extended dry spells in the winter.

Watering can be done by hand or, in areas that do not flood, with drip irrigation. Drip irrigation should be installed at planting time. Native plants are typically watered with 1-2 gallons each (total) per week. Split watering times up so plants get watered approx. 2 times per week. Each site is different so be sure to check the moisture levels in your soil after setting your controller. The top ½" of soil should be dry after 2 days to avoid fungus growth – this is important especially for oaks.

Use 2 gallon per hour (gph) emitters for native plants. These are less prone to clogging than ½ or 1 gph emitters. Trees should have 2 emitters spaced evenly at the edge of the rootball. Do not install emitters directly on the stem or base of a plant - this will cause rot. Be especially careful of overwatering oaks and ceanothus. If planting on a slope place emitters uphill of the plant. Do not install drip irrigation in flood prone areas because it will wash downstream.

Plug plantings do not typically receive irrigation via drip, so planting during the rainy season is important. Grass seed should also be sown at the beginning of the rainy season.

**Cuttings:** The best time to harvest willow (or dogwood) is in the fall and winter during dormancy (after leaf drop, before budding). Try to harvest cuttings from native stands. Willow stakes should be approx. 1" diameter and 3' long. Cut willow at a 45 degree angle, avoid peeling and splitting bark. Plant cuttings within two days of harvesting and keep moist, cool and shaded. See willow stake planting detail.

**Maintenance:** Typically the establishment period for native plants is 3 years. During this time the new plantings should be watered, weeded, monitored and replaced as needed. Irrigation can be phased out by the end of the 3<sup>rd</sup> year. Browse protection should be removed as the plants begin to outgrow their caging.



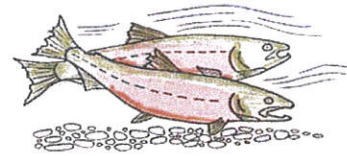
Plant establishment on gravel bar



Sprouting willow stake



## Controlling Invasive Plants



### Challenge:

A handful of invasive plant species are serious pests along streams in the San Geronimo Valley. Most of these plants were introduced as ornamental species, but soon escaped into and transformed natural habitats. With their dense and aggressive growth patterns, these plants can virtually eliminate the lowest-growing native plants. The ivy species climb into trees and shrubs, eventually smothering, weighing down, and even killing them. The sprawling ivies and periwinkle may appear to be stabilizing streambanks, but their roots are shallow and do not hold soil as securely as native trees, shrubs, rushes and sedges.

Some of the most common and problematic invasive plants in San Geronimo are shown below with notes on removal strategies and a few native species that may be appropriate as replacements. Following this table, general strategies for invasive removal are described. See *Recommended Plants for San Geronimo Riparian Landscapes* for a full detailed list of native species appropriate for these settings.

### Invasive Species Removal and Replacement Recommendations



#### **Blackberry, Himalayan**

(*Rubus armeniacus*)

Sprawling shrub (thicket-forming); spreads by seed and rooting of cane tips.

Removal by digging out rootstocks is slow but effective. Cutting stems first by hand or brush cutter can make this easier.

Potential native replacements: California blackberry, snowberry, flowering currant, cow parsnip, rushes, sedges, honeysuckle, ferns



#### **Broom, French (*Genista monspessulana*) (left)**

#### **Broom, Scotch (*Cytisus scoparius*) (right)**

Shrubs; spread by seed

For these two similar species, pull seedlings and use a weed wrench for larger plants. After removal of mature shrubs, watch for and control new seedlings. Seedbank in the soil can be large.

Potential native replacements: Hazelnut, creambush, flowering currant, toyon



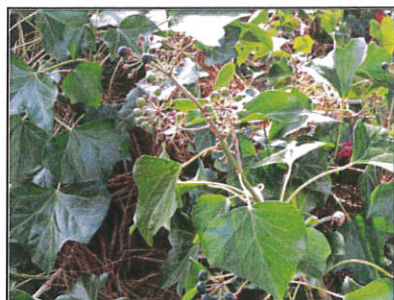
#### **Cotoneaster**

(*Cotoneaster pannosa*)

Shrub; spreads by seed (often transported by birds)

Pull seedlings; use a weed wrench for larger plants. Be sure to dispose of all seed during removal efforts.

Potential native replacements: California rose, ninebark, toyon



**Ivy, English** (*Hedera helix*)(top)

**Ivy, Cape or German** (*Delairea odorata*) (bottom)

Perennial vines; spread by rooting from stem and stem fragments; English ivy also spreads by seed.

For both of these ivies, prioritize removal from trees; they can kill mature trees and/or cause branch breakage. If vines are firmly attached to trees and cannot be pulled down, cut the vines on the trunk with pruners or loppers and let upper portions of plant die in place.



Rakes or McLeods can be useful for raking up aboveground plant parts and exposing stems for removal. Or try working inward from the edge of a patch, chopping a line into the infestation with a hoe or hoedad, then rolling the plant mat (including roots) back on itself, continuing to chop roots as you go.

These plants can sprout from stem or root fragments, so be thorough and expect to repeat removal a number of times. Very old English ivy rootstocks may need to be dug out with a shovel or mattock.

Potential native replacements: California blackberry, sword fern, Dutchman's pipevine, false Solomon's seal, clematis



**Japanese knotweed**

(*Fallopia japonica*, previously *Polygonum cuspidatum*)

Perennial herb; spreads by rhizomes and root fragments

This species prefers sunny, moist areas. Cut aboveground stems and dig out rhizomes; repeated treatments probably needed. Away from stream flows, covering infested areas with heavy tarps can help kill plants.

Potential native replacements: Elk clover, twinberry, thimbleberry, rushes and sedges, horsetail, ferns



**Periwinkle**

(*Vinca major*)

Perennial groundcover; spreads by stolons, stem and root fragments

In dense stands, use a McLeod or rake to rake up stems and stolons, then pull roots up. Be careful not to leave fragments behind.

Potential native replacements: California blackberry, snowberry, wild ginger, Dutchman's pipevine



## General Strategies for Removal

- **Prioritize new infestations**, plants at the edge of an existing infestation, or infestations within high-quality native habitat for removal. In large patches, work from the edges inward.
- During removal, **avoid impacts to existing native plants**, which, if left intact, may help suppress the invasive species.
- **Hand removal** is labor-intensive but often one of the most effective treatments. Pay careful attention to removing all plant parts capable of resprouting or germinating (e.g. root fragments, stem fragments, developing or mature seed). Remove all viable plant parts from the site.
- **Sheet mulching** can be an effective strategy or complement to hand removal for low-growing species. This entails covering infested areas with heavy layers of cardboard to deprive plants of sunlight and eventually kill them. Be sure to overlap layers of cardboard thoroughly, and pin down with 12-1 " metal pins to reduce chances that plants will find their way through. Wetting the cardboard will also help settle it into place. On level ground (but not in the flood prone zone), cover with wood chip mulch to increase effectiveness and help the cardboard blend into the landscape. This approach may not stop an invasive completely, but it can slow down reinfestation to a more manageable level. Holes can be easily cut into the cardboard for plantings.
- **Mowing or string trimming** is not generally recommended for most perennial invasive species as many resprout with vigor after being cut and new plants can grow from even tiny stem fragments. However in some cases, mowing or string-trimming can be a helpful first step to make the rooted portions of plants more visible and accessible for further removal. If you do mow or string-trim, be sure not to pile cuttings in un-infested areas.
- **Monitoring for resprouts**, removing them, and replanting the area with native plants are critical steps for successful control. The best time to plant natives is early in the rainy season, when plants can take advantage of naturally cool, moist soils.

## Special Considerations or Riparian Settings

- To minimize the risk of erosion from invasive removal on creek banks, avoid denuding large areas at once. **Work on areas of manageable size** where you can remove invasives completely and replant with natives rather than attempting to eradicate across an area too big to thoroughly treat and replant.
- **Consider the timing of invasive removal and replanting.** Generally, the safest and easiest time to remove invasives in the active channel and flood-prone zone is in spring, when ground is soft but storms and high flows have passed. However, replanting in the spring will mean that more irrigation is needed to help plants get established, and grass seed may not thrive. To protect exposed soil while waiting for plant establishment, cover bare areas with natural fiber (hemp, coir, or jute) weed mat that is securely pinned to the ground.
- Replacing invasive plants and restoring a more natural plant community is generally beneficial to native wildlife. However, some wildlife species do use some invasive riparian plants for shelter and/or food. **Schedule work outside of bird nesting season**, remove

large infestations in stages, and replant promptly with native species to minimize negative effects on wildlife.

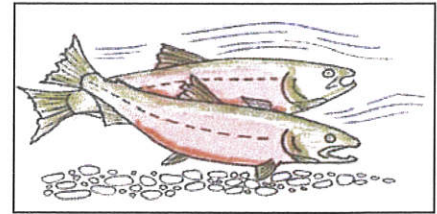
- Use of **chemical controls**, especially in a riparian setting, is usually considered a last resort but may be worth considering in some situations if contamination of water or soil can be avoided. Details on chemical control methods for these and many other species are available from [www.cal-ipc.org](http://www.cal-ipc.org) and other sources.
- **Avoid spreading invasive plants through flowing water;** many can resprout from even small fragments floating downstream. Bag and dispose of in your trash bin or at county dump.

### Ongoing Management

- If the invasive infestation extends beyond your own property, talk to your neighbors. Our efforts are much more likely to succeed if a joint effort is possible. If not, be vigilant about cutting or pulling back plants encroaching from outside. For especially difficult infestations, putting a plastic barrier in place can help slow down plants spreading in from outside your yard. These are often used to control bamboo and are typically made of heavy black polyethylene. Choose a size that will extend 12" below the roots of the plant and at least 3-4" aboveground.
- Mulching heavily with wood chips, or sheet mulching with cardboard as described above, after invasive removal can help slow the return of these plants. However, be sure not to pile mulch up against a tree; this can injure the tree and lead to fungal and insect problems. Keep mulch 12" away from the trunk of a mature tree. Wood chips are not appropriate in the flood prone zone, where they are likely to be swept into the creek.
- Unfortunately, there's no simple cure for transforming an invaded habitat into a native habitat. No single method or single replacement plant species will succeed in all settings. Consider this a chance to get to know your own landscape better. Experiment, observe, and be patient but diligent in your efforts to reduce invasive species. Once you find the native plants that are best suited to your landscape, they will grow, spread and thrive, providing beauty, wildlife habitat, and an important link to the wilder places of San Geronimo Valley.

For further information, see the California Invasive Plant Council's website ([www.cal-ipc.org](http://www.cal-ipc.org)); and additional information sheets Removing Invasive Ivy from Riparian Trees and Recommended Native Species for San Geronimo Valley Riparian Plantings.





# Controlling Invasive Ivy in Riparian Trees

## Challenge:

Two invasive vines—English ivy (*Hedera helix*) and Cape or German ivy (*Delairea odorata*)—have had serious effects on riparian habitat in the San Geronimo Valley and throughout coastal California. Both of these non-native species were introduced to the U.S. as ornamentals or houseplants, but soon escaped into and have transformed natural habitats. These ivies are sprawling, climbing perennials well-adapted to coastal California conditions. They spread rapidly by vegetative means—even from small fragments—and English ivy also reproduces by seeds, which birds readily transport. These species climb into trees and shrubs, eventually killing them by preventing access to sunlight, or weighing branches down and causing breakage.



English ivy rootlets exude a glue-like substance to adhere to tree bark, helping it climb high into the canopy.



Dead madrone covered with English ivy.

When native redwoods, oaks, bays, and alders are damaged or killed, the losses of these keystone riparian species have many repercussions for San Geronimo Valley. Stability of creek banks is diminished with the loss of deep, extensive tree root systems. Shading of creek waters for salmonid habitat is reduced. Falling limbs or trees can pose a hazard to nearby structures. And both English ivy and Cape ivy pose a host of other problems where they carpet the forest floor, crowding out native plants and reducing the diverse cover and food resources that native shrubs and herbs supply to birds and other wildlife.

The following guidelines will help you control ivy in riparian trees. Also see the *Controlling Invasive Plants* information sheet for more on how to control ivy in general.



**To remove English or Cape ivy from trees:**

- Wear protective clothing (long sleeves, long pants, and work gloves); ivies have toxic compounds and can cause skin irritation when handled.
- Where possible, pull runners down from trees. For larger vines, cut through the vine near the base of the tree to kill the upper portions. Use pruners, loppers or a pruning saw. Be careful not to wound the bark of the tree.
- Pull as much ivy as possible from around the base of the tree. The wider an area you can clear, the longer the tree will stay free of ivy. Be careful to remove all plant fragments from the site to avoid resprouting.
- Remove as much of the plant's roots and stems as possible to prevent resprouting. If this entails significant soil disturbance, protect soil with mulch or natural fiber weed mat, and/or replant with native plants, to minimize erosion.
- Do not leave removed ivy on the ground or in a home compost system. Bag it and dispose of it in trash bin or at landfill.
- If you have an extensive infestation of ivy, it will be essential to monitor the ivy for regrowth, and retreat as needed. Control of these species usually entails a multi-year or ongoing effort.
- For more information on these and other invasive species, see [www.cal-ipc.org](http://www.cal-ipc.org), the California Invasive Plant Council website.



Cape ivy. Photo by Forest & Kim Starr.



English ivy.