

# Clematis vitalba:

## Best Management Practices

### Description

*Clematis vitalba* is an extremely aggressive, invasive, non-native plant that grows quickly and spreads easily, creating thick tangled vining vegetation that covers the ground and climbs upwards along the trunks of trees, eventually outcompeting native vegetation and threatening native biodiversity. The vine can grow up to seven times faster than ivy and each plant can produce over 100,000 seeds, which are then spread by wind, water, wildlife, and human interaction. *Clematis vitalba* can also sprout from stem fragments, making control and eradication particularly challenging. The California Invasive Plant Council (Cal-IPC) lists *Clematis vitalba* as a “Moderate-Alert”, but because the species is not yet widespread in California, regional treatment protocols and best practices for control of the plant have not been well documented.

### Identification

Due to the difficult nature of distinguishing *Clematis vitalba* from the two native *Clematis* species of Northern California, it is essential to consult with a botanist familiar with the various *Clematis* species to positively confirm the correct identification.

*Clematis Vitalba*  
Non-native

*Clematis ligusticifolia*  
Native

*Clematis lasiantha*  
Native

Generally **cordate**, leaflet **base** that is **broadly two lobed**. Margins are **often entire**, but may also be crenate or dentate

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Cordate leaflets with entire margins



Cordate leaflets with crenate margins



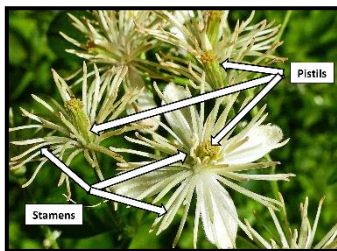
*Clematis ligusticifolia* – leaves not cordate

[Credit:](#) Keir Morse, 2009



*Clematis lasiantha* – leaves not cordate

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Individual flowers are **bisexual**, with each flower containing both male parts and female parts. Summer blooming (June-Aug/Sept)



Individual flowers are **unisexual**, containing only male parts or female parts.

--*C. lasiantha*-Summer blooming (June-Aug/Sept)

--*C. ligusticifolia*- Winter/Spring blooming (Jan-June)

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Older climbing stems can reach **heights of up to 40 feet**, and woody stems may be **4 inches or more in diameter**



Stems are generally less than 20 feet long

## Key Vectors of Spread



### Vegetative Growth

*Clematis vitalba* can grow vines that extend up to 100 feet and up into tree canopies, sometimes extending across creeks or roads in the canopy



### Wind

In the canopy, the increased sunlight spurs seed development, so prevailing wind patterns can be a major vector for spread



### Water

*Clematis vitalba* thrives in riparian habitats, so portions of vines or leaves can be carried downstream and take hold on clear banks

## Effective Management Strategies



### Bulk Hand Removal

While starting treatment with hand removal in dense areas requires large amounts of effort as opposed to working in from the edges, when resources allow it immediately activates the existing underlying seed bank (both for native species and to allow treatment of non-natives), and where roots cannot be dug out or erosion is a concern, it exposes the underlying root structure for herbicide treatment



### Creating "air gaps"

An efficient and effective initial action is to cut any climbing vines to help stop blooming and seed development – stems should be cut about six feet above the ground, and trimmed back to ground level so that new growth cannot reach the old vines. The cut vines will wither and die off within the year



### "Cut-stem" Herbicide

The stem was cut as close to the root crown as possible, and the fresh cut was painted shortly after with a mixture of 50% Garlon 3A or 10% Milestone VM. This technique resulted in no overspray, minimal exposure to soil, and was allowed to be used within 5 feet of water. Over 100 cut stems were flagged after treatment and checked each year afterward, and efficacy was 100% with no resprouting found

## San Vicente Redwoods Results – Metrics of Success

### 2018

- **Pre-treatment 2018 baseline survey:** Riparian Vegetation Quadrat monitoring exhibited *Clematis vitalba* constancy in 95.75% of the sets and an average coverage class of 25-50%
- **Pre-treatment 2018 baseline survey:** presence of 32 plant species along the transect lines, 16 of which were native and 16 non-native (50:50)



### 2021

- **Post-treatment 2021 survey:** Riparian Vegetation Quadrat monitoring exhibited *Clematis vitalba* constancy in 0% of the sets, with cover classes of 0% over all transects (excluding controls)
- **Post-treatment 2021 survey:** presence of 38 plant species, 25 of which were native and 13 non-native (66:34)

### Acknowledgements

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