



Hedgerows and Habitat: Living Infrastructure for Farm Resilience



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Who is Farmhand Foundation?

We Back the Hands That Feed.

We exist to carry the work that often goes unseen. Work that strengthens farmers, supports healthy ecosystems, increases capacity and helps build food systems rooted in care, resilience, and longevity.

Farmers Prosper + Thriving Ecosystems +
Regenerative Business



A photograph of a vineyard with a dense hedgerow of white flowers in the foreground. The hedgerow is a thick, linear planting of white-flowered plants, likely a species of clover or similar, running along the edge of the vineyard. In the background, rows of grapevines are visible, supported by wooden stakes and trellises. The sky is a pale, hazy blue. The overall scene is a rural landscape. The text is overlaid on a semi-transparent white box on the right side of the image.

What is a Hedgerow?

Hedgerows are dense, linear plantings of diverse trees, shrubs, grasses and forbs along field and fence rows or other non-cropped areas on farms, vineyards or on grazing land



Coast Redwood, Incense Cedar, Soapbark Tree, and Giant Sequoia as windbreak in San Juan Bautista



This erosion ditch is planted with perennial grasses and Yarrow.



Zamora, CA flowering hedgerow adjacent to almonds, spring

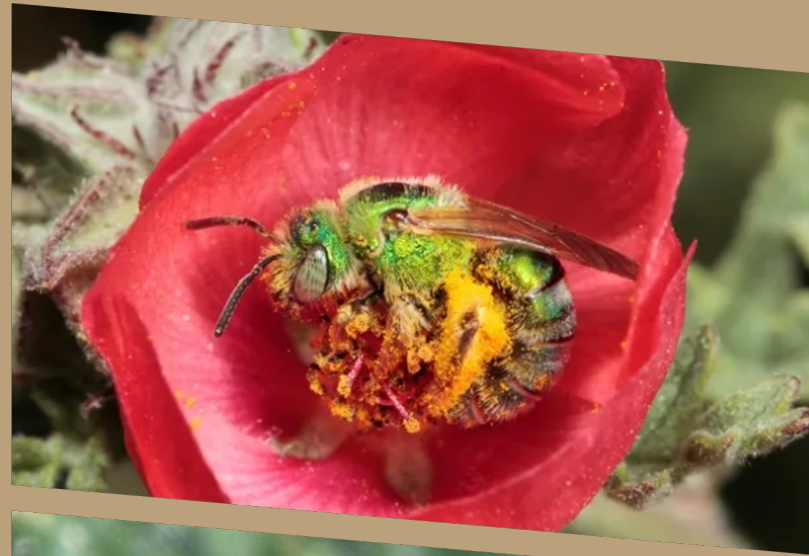


Why Hedgerows?

- Wildlife Habitat
- Pest Management
- Pollination
- Water infiltration
- Erosion Control
- Windbreaks
- Carbon drawdown
- Added income
- Aesthetics!

Do Hedgerows Work?

- One study on a Napa vineyard in 2002 showed a reduction of Pierce's disease after planting a native plant hedgerow along a field-edge drainage ditch
- Sac Valley study of hedgerow plantings showed that hedgerows attracted more beneficial insects than pests, whereas weedy field margins were more attractive to pests



Hedgerow Planning

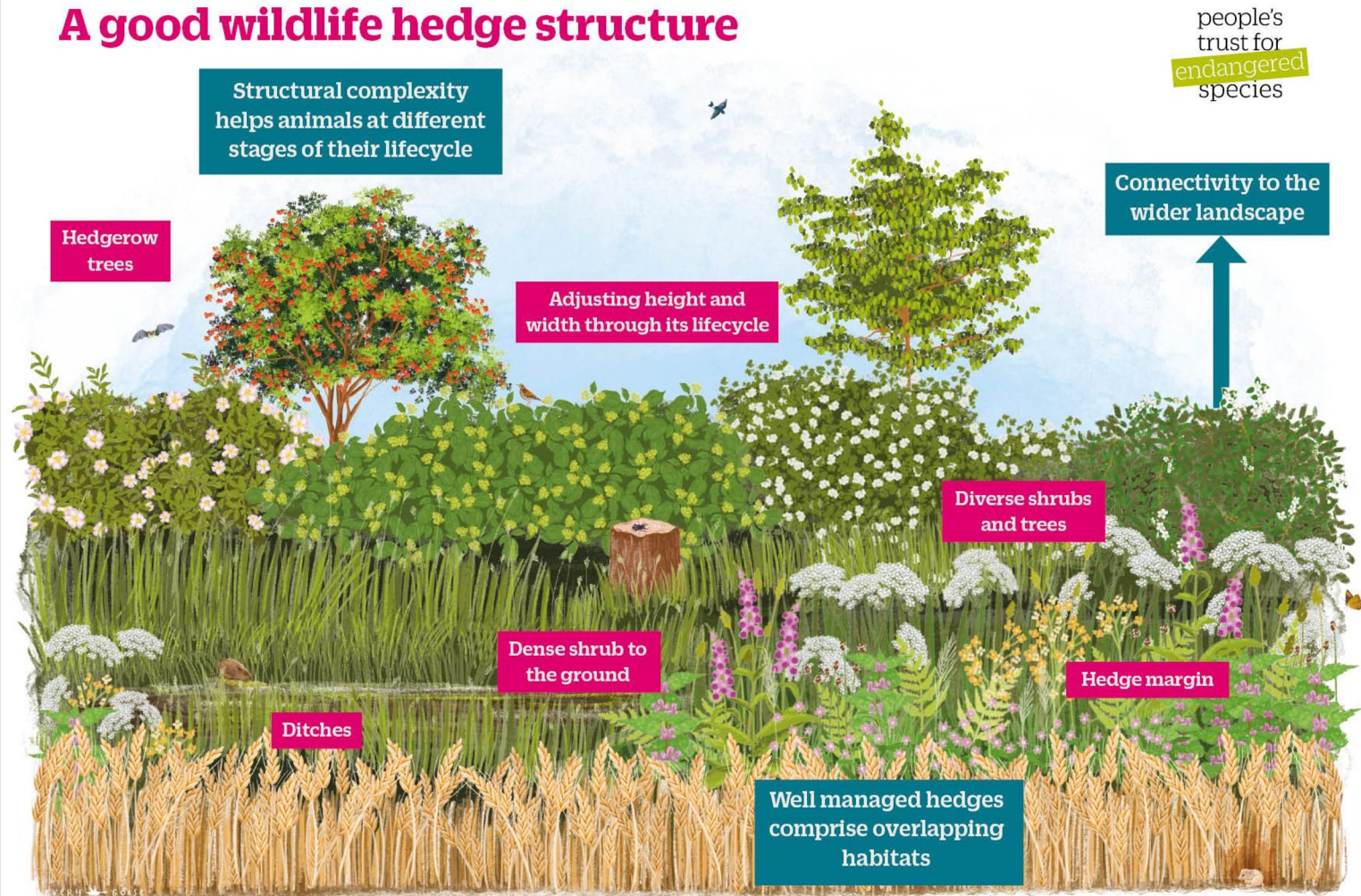
1. Define goals and success
2. Assess site
3. Design the structure
4. Select plant species
5. Build seasonal function
6. Site preparation
7. Installation
8. Long-term management and monitoring



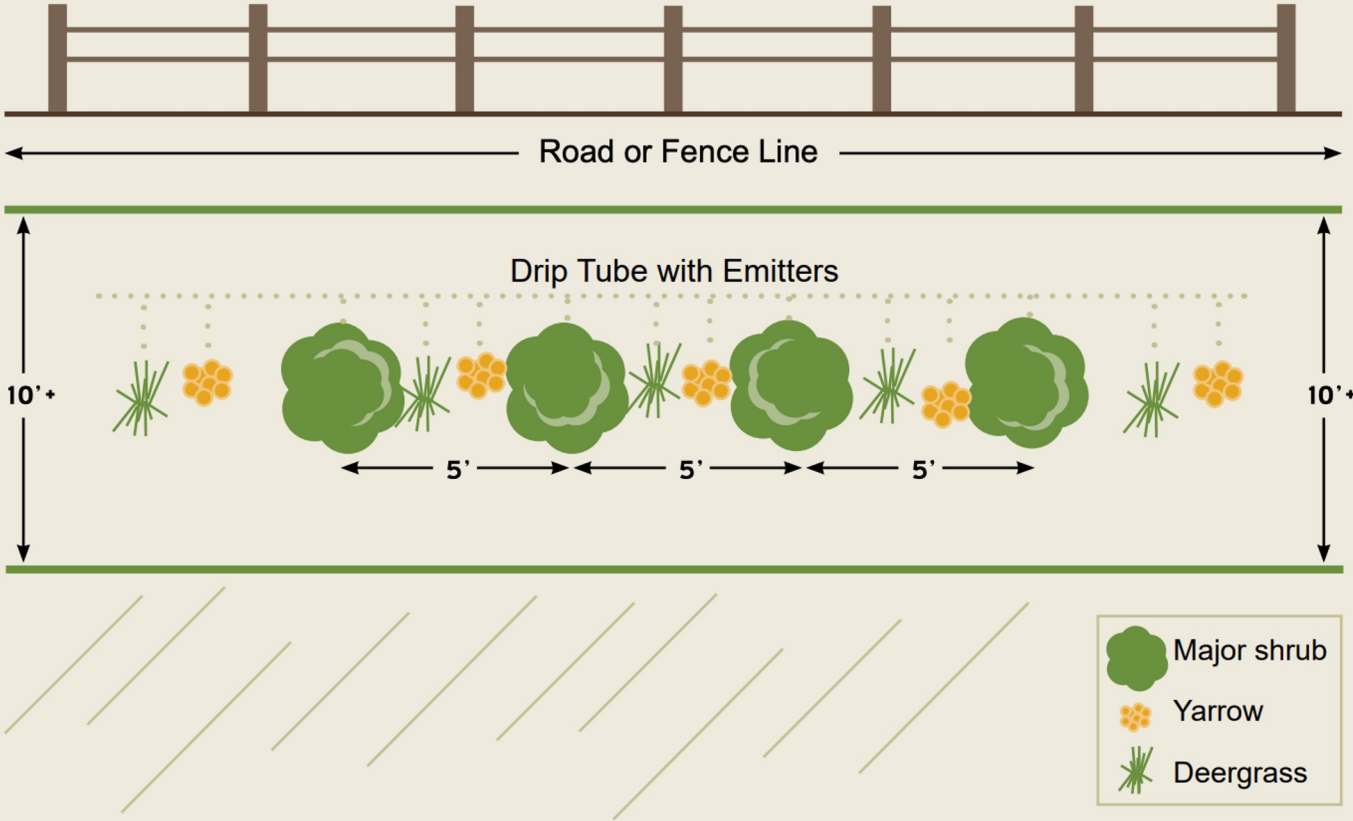
Hedgerow Design



A good wildlife hedge structure



Sample Layout for Hedgerow with Drip-emitter System



Plant Selection



Wild Farm Alliance

Percentage of Native Hedgerow Plants Supporting Beneficial Insects, Pollinators*, Beneficial Birds, and Their Flowering Periods at Moon + Oaks Farm

Number of Species	Number of plants to be used in Planting	Common Name	Genus Species	Beneficial Insect Support		Pollinator Longterm Support	Beneficial Bird Support				Flowering Periods			
				Food & Shelter		Nesting & Overwinter Plants Only*	Butterflies & Moths	General Habitat	Seeds & Nuts	Nesting	Spring Flowering Period	Summer Flowering Period	Fall Flowering Period	Winter Flowering Period
1	4	Buckwheat, California	Eriogonum fasciculatum	1		0	1	0	0	0	1	1	1	0
1	1	Buckwheat, Sulfur	Eriogonum umbellatum	1		0	1	0	0	0	0	1	1	0
1	1	Bush Sunflower	Encelia californica	0		1	0	0	0	0	1	0	0	1
1	2	Ceanothus, 'Bigpod'	Ceanothus megacarpus	1		0	1	1	0	1	1	0	0	1
1	2	Ceanothus, 'Chaparral'	Ceanothus leucodermis	1		0	1	1	0	1	1	0	0	1
1	5	Elderberry, Blue	Sambucus mexicana	1		1	0	1	1	1	1	1	0	0
1	4	Flannel bush	Fremontodendron californicum	0		0	0	0	0	0	1	1	0	0
1	1	Goldenrod, California	Solidago californica	0		1	1	0	0	0	0	1	1	0
1	6	Lemonade Berry	Rhus integrifolia	0		1	0	1	1	1	1	0	0	1
1	1	Lupine, Arroyo	Lupinus succulentus	0		0	1	0	0	0	1	1	0	0
1	1	Milkweed, Narrowleaf	Asclepias fascicularis	0		0	0	0	0	0	0	1	1	0
1	1	Mugwort	Artemisia douglasiana	0		1	0	1	0	1	1	1	1	0
1	1	Penstemon, Foothill	Penstemon heterophyllus	0		0	0	0	0	0	1	1	0	1
1	1	Phacelia, Tansy-leaved	Phacelia tanacetifolia	1		0	0	0	0	0	1	1	0	0
1	1	Poppy, California	Eschscholzia californica	1		0	0	0	0	0	1	1	1	1
1	1	Sage, Black	Salvia mellifera	1		0	0	1	1	0	1	1	0	1
1	1	Sage, Hummingbird	Salvia spathacea	1		0	0	1	1	0	1	1	0	1
1	6	Sage, White	Salvia apiana	1		0	0	1	1	0	1	1	0	1
1	6	Toyon	Heteromeles arbutifolia	1		0	0	0	0	0	0	1	0	0
1	1	Yarrow, Common	Achillea millefolium	1		1	0	0	0	0	1	1	0	0
20	48			12		6	6	8	5	5	16	16	6	9
			# of Plants	33		14	11	25	20	15	39	38	9	22
			% of Plants	69%		29%	23%	52%	42%	31%	81%	79%	19%	46%
				Food & Shelter		Nesting & Overwinter Plants Only*	Butterflies & Moths	General Habitat	Seeds & Nuts	Nesting	Spring Flowering Period	Summer Flowering Period	Fall Flowering Period	Winter Flowering Period

Notes:

1=yes; 0=no

References:

Wild Farm Alliance's (WFA) Managing Pests with Predator & Parasitoid Habitat

WFA's Beneficial Bird Native Plant Chart for California

Xerces' Recommended Plants: California Central Coast Region

Xerces' Nesting and Overwintering Habitat for Pollinators and Other Beneficial Insects

Plant Family Name	Scientific Name	Common Name	Plant Form	Native (N) or Nonnative (NN) to California
Asphodelaceae	<i>Bulbine frutescens</i>		Perennial	NN
Asteraceae	<i>Encelia californica</i>	Bush sunflower	Shrub	N
Asteraceae	<i>Gaillardia aristata</i>	Blanketflower	Perennial Herb	NN
Asteraceae	<i>Gaillardia x grandiflora</i> 'Oranges and Lemons'	Blanketflower	Perennial	NN
Asteraceae	<i>Grindelia camporum</i>	Great Valley Gumweed	Perennial Herb	N
Asteraceae	<i>Grindelia stricta</i>	Coastal Gumweed	Perennial Herb	N
Asteraceae	<i>Leucanthemum x superbum</i>	Shasta daisy	Perennial	NN
Boraginaceae	<i>Echium candicans</i>	Pride of madeira	Shrub	NN
Dipsacaceae	<i>Scabiosa atropurpurea</i>	Pincushions	Annual Herb	NN
Lamiaceae	<i>Lavandula x heterophylla</i>	Sweet lavender	Evergreen Shrub	NN
Lamiaceae	<i>Lavandula x intermedia</i> 'Provence'	Hedge lavender	Evergreen Shrub	NN
Lamiaceae	<i>Ocimum kilimandscharicum</i> <i>x basilicum</i>	African blue basil	Annual	NN
Lamiaceae	<i>Perovskia atriplicifolia</i>	Russian sage	Shrubby Perennial	N
Lamiaceae	<i>Salvia brandegeei</i>	Santa Rosa Island Sage	Shrub	N
Lamiaceae	<i>Salvia mellifera x</i> <i>sonomensis</i> 'Dara's Choice'	<i>Salvia</i> 'Dara's Choice'	Perennial	N
Lamiaceae	<i>Salvia uliginosa</i>	Bog sage	Perennial	NN
Malvaceae	<i>Sphaeralcea ambigua</i>	Desert globemallow	Perennial Herb	N
Montiaceae	<i>Calandrinia grandiflora</i> (<i>Cistanthe grandiflora</i>)		Perennial	NN
Plantaginaceae	<i>Penstemon x gloxinoides</i> 'Midnight'	Midnight border penstemon	Perennial	NN
Rhamnaceae	<i>Ceanothus griseus</i> var. <i>horizontalis</i> 'Yankee Point'	<i>Ceanothus</i> 'Yankee Point'	Shrub	N
Rhamnaceae	<i>Frangula californica</i>	California coffeeberry	Shrub	N
Rosaceae	<i>Heteromeles arbutifolia</i>	Toyon	Shrub, small tree	N
Verbenaceae	<i>Verbena lasiostachys</i>	Western verbena	Perennial herb	N
Verbenaceae	<i>Vitex agnus-castus</i>	Lilac chastetree	Tree or shrub	NN

Main Native Bee Plants Installed in Avocado Orchards 2014-2019 (UC ANR)

Known Pollen and Nectar Sources for Beneficial Insects

[illegible]

Site Prep, Installation, Maintenance



Funding Opportunities

- NRCS EQIP
- CDFA Healthy Soils Program,
Pollinator Habitat Program
- Zero Foodprint Restore Program
- Xerces Society Pollinator Habitat Kit
Program
- Project Apis m. Seeds for Bees

Resources and References



United States Department of Agriculture

Natural Resources Conservation Service

CONSERVATION PRACTICE STANDARD

HEDGEROW PLANTING

CODE 422

(ft)

DEFINITION

Establishment of dense perennial vegetation in a linear design to achieve a conservation purpose.

PURPOSE

This practice is used to accomplish one or more of the following purposes—

- Provide habitat including food, cover, shelter or habitat connectivity
- Provide cover for beneficial invertebrates as a component of pest management
- Filter, intercept, or adsorb airborne particulate matter, chemical drift, or noise
- Provide visual or physical screens and barriers.
- Increase carbon storage in biomass and soils.

CONDITIONS WHERE PRACTICE APPLIES

This practice applies wherever it will accomplish at least one of the purposes listed above.

Linear plantings to treat erosion, to reduce nutrient transport, or to reduce sediment transport are eligible for the Conservation Practice Standard (CPS) Windbreak/Shelterbelt Establishment Forest Buffer (Code 391), CPS Filter Strip (Code 393), CPS Vegetative Wind Trap Strips (Code 589C), or CPS Alley Cropping (Code 311).

CRITERIA

General Criteria Applicable to All Purposes.

Hedgerows must retain sufficient vertical structure throughout the year to provide the desired function. In all cases, the width of the hedgerow must be sufficient to achieve the stated purpose. Hedgerows that necessitate the establishment of more than one row of plants.

HEDGEROWS AND FARMSCAPING FOR CALIFORNIA AGRICULTURE

A RESOURCE GUIDE FOR FARMERS 2ND EDITION



Thank you!

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