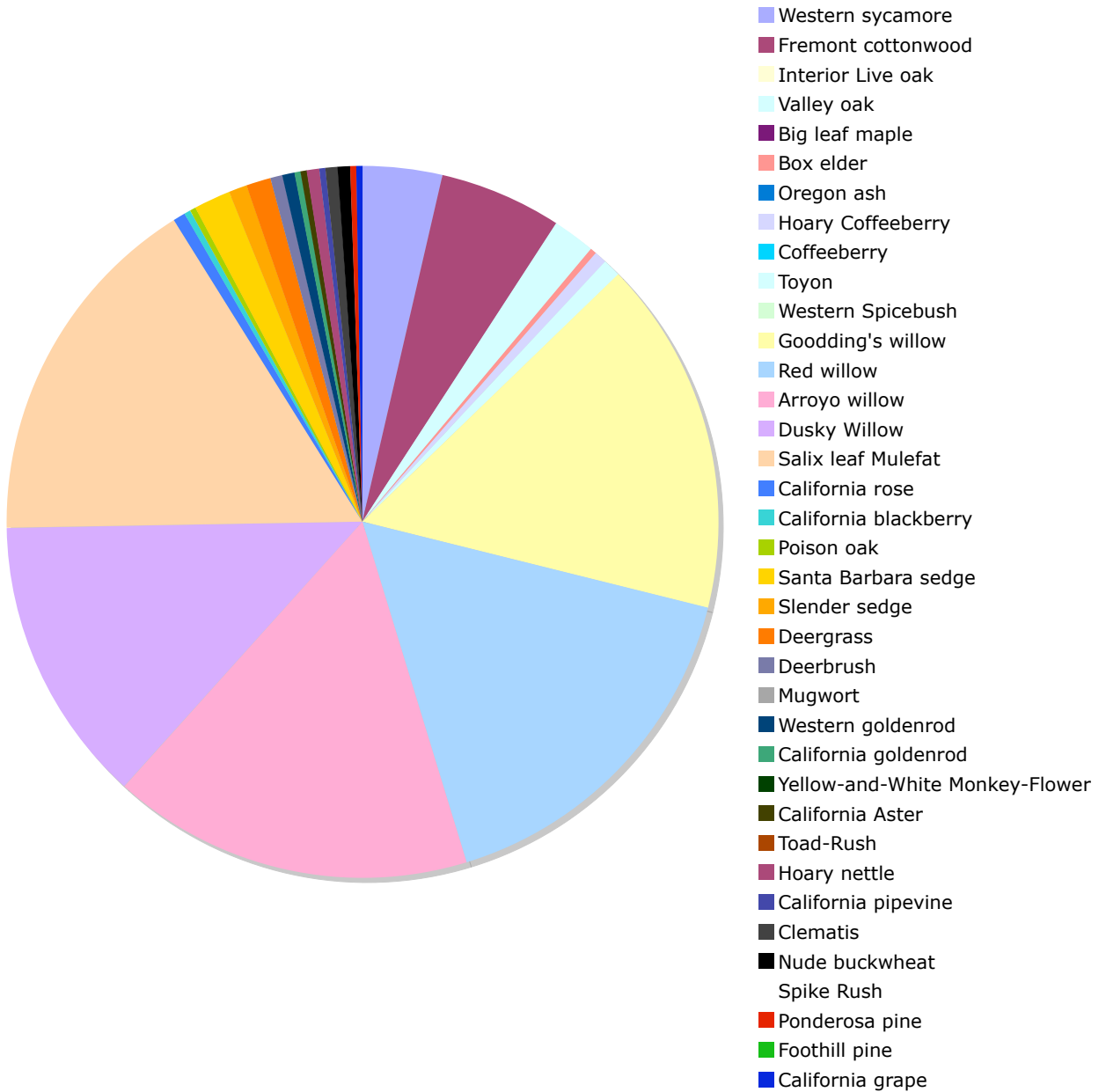


Verbena Field Total PlantsDistribution



Plant Costs

Species	Total Plants	Cost/Plant	Nursery	Total Cost
Western sycamore	722	\$2.35	FNN	\$1,696.80
Fremont cottonwood	1,104	\$0.30	cuttings	\$331.07
Interior Live oak	17	\$2.00	CSU	\$33.66
Valley oak	376	\$2.00	CSU	\$751.06
Big leaf maple	10	\$4.25	FNN	\$42.92
Box elder	49	\$2.00	CSU	\$97.39
Oregon ash	11	\$2.00	CSU	\$21.43
Hoary Coffeeberry	95	\$4.15	FNN	\$394.42
Coffeeberry	7	\$4.15	FNN	\$28.27
Toyon	126	\$4.25	FNN	\$533.51
Western Spicebush	8	\$4.15	FNN	\$34.92
Goodding's willow	3,240	\$1.00	cuttings	\$3,240.00
Red willow	3,240	\$1.00	cuttings	\$3,240.00
Arroyo willow	3,240	\$1.00	cuttings	\$3,240.00
Dusky Willow	2,592	\$1.00	cuttings	\$2,592.00
Salix leaf Mulefat	3,240	\$1.00	cuttings	\$3,240.00
California rose	130	\$2.00	CSU	\$260.26
California blackberry	72	\$1.85	FNN	\$133.97
Poison oak	30	\$1.85	FNN	\$56.41
Santa Barbara sedge	327	\$0.42	HF	\$137.34
Slender sedge	193	\$0.47	HF	\$90.77
Deergrass	205	\$0.53	HF	\$108.86
Deerbrush	83	\$1.85	FNN	\$153.85
Mugwort	35	\$1.85	FNN	\$64.10
Western goldenrod	76	\$1.85	FNN	\$140.60
California goldenrod	62	\$1.85	FNN	\$115.54
Yellow-and-White Monkey-Flower	4	\$1.85	FNN	\$6.62
California Aster	76	\$1.85	FNN	\$140.60
Toad-Rush	4	\$1.85	FNN	\$6.62
Hoary nettle	72	\$1.85	FNN	\$133.14
California pipevine	81	\$1.85	FNN	\$150.16
Clematis	112	\$1.85	FNN	\$207.58
Nude buckwheat	109	\$1.85	FNN	\$200.73
Spike Rush	14	\$1.85	FNN	\$26.47
Ponderosa pine	24	\$4.25	FNN	\$100.98
Foothill pine	24	\$4.25	FNN	\$100.98
California grape	50	\$1.85	FNN	\$92.29
	19,859			\$21,945 subtotal
				\$23,536 Total with tax (0.0725 %)
				\$1,272 cost per acre

From vicinity
of floodplain
site only

Plants only	Willow likes
\$4,306.81	\$15,552

Heterotheca oregona var. Oregon Golden-Aster

optional

Community Valley Oak Savanna newly created + supplemental planting in existing

Phase 1 - Manual Planting

Density (plant by row) 11' x 40'
 Density 198
 Acres 6 ?acre new + ? acres exist enhanced @??%
 Target Planting Date Late Fall, Winter Project Year 2
 Total Locations 1,188
 Total Plants 1,628

Canopy Structure	Species		Frequency	Total	
Overstory	<i>Quercus lobata</i>	Valley oak	30%	356	throughout
	<i>Pinus ponderosa</i>	Ponderosa pine	2%	24	hilltop
	<i>Pinus sabiniana</i>	Foothill pine	2%	24	hilltop
Midstory	<i>Aesculus californica</i>	Buckeye	10%	119	grouped use fruit
	<i>Heteromeles arbutifolia</i>	Toyon	10%	119	grouped
	<i>Rhamnus tomentella</i>	Hoary Coffeeberry	8%	95	hilltop & terrace
	<i>Baccharis pilularis</i>	Coyote brush	10%	119	grouped
Understory	<i>Rosa californica</i>	California rose	10%	119	grouped
	<i>Rubus ursinus</i>	California blackberry	5%	59	grouped
	<i>Ceanothus integerimmus</i>	Deerbrush	7%	83	hilltops & terrace
	<i>Ribes spp.</i>	Gooseberry	4%	48	hilltops & terrace
	<i>Toxicodendron diversilobum</i>	Poison oak	2%	24	grouped
			100%	1188	
Herbaceous	<i>Urtica dioecia</i>	Hoary nettle	5%	59	throughout
Forbs	<i>Oenothera hookeri</i>	Primrose	5%	59	throughout
	<i>Solidago californica</i>	California goldenrod	3%	36	throughout
Vines	<i>Eriogonum nudum</i>	Nude buckwheat	8%	95	w/ oaks
	<i>Aristolochia californica</i>	California pipevine	5%	59	throughout
	<i>Clematis ligusticifolia</i>	Clematis	8%	95	throughout
	<i>Vitis californica</i>	California grape	3%	36	
			37%	440	

Phase 2 Grass Seeding

Acres 0.86
 Seeding rate (lb/acre) 15
 Target Planting Date December, Project Year 2
 Cost/acre \$323.76

Grass Species	Ecotype	Percent		Live		Pounds / acre	Pounds needed	\$/lb	Cost
		Germination	PLS	Seeds/Lb 141000					
<i>Elymus glaucus</i>	35% Butte County: Llano Seco	0.95	0.919	80000	5.25	4.515	\$9.50	\$42.89	
<i>Hordeum brachyantherum</i>	35% *	0.85	0.826	120000	5.25	4.515	\$12.00	\$54.18	
<i>Leymus triticoides</i>	30% *	0.82	0.715		4.5	3.87	\$42.00	\$162.54	
	100%				15	12.9		\$259.61	
									subtotal
									\$18.82 tax @7.25%
									\$278.43 TOTAL

* talk to John Anderson, Hedgerow Farms to determine appropriate ecotypes.

Community	Great Valley Willow Scrub	floodplain only		
Phase 1 - Manual Planting				
Density (plant by row)	40 ft OC		40 cuttings/yard	
Density	200		540 linear yards	
Acres	1.15			
Target Planting Date	Spring, Project Year 2			
Total Locations	230	21600		
Total Plants	20,074			
Canopy Structure	Species		Frequency	Total
Overstory	<i>Platanus racemosa</i>	Western sycamore	1%	2
	<i>Quercus lobata</i>	Valley oak	1%	2
	<i>Fraxinus latifolia</i>	Oregon ash	1%	2
	<i>Acer negundo</i>	Box elder	5%	12
		subtotal		18
Midstory For cuttings in baffles	<i>Salix exigua</i>	Sandbar Willow	15%	3,240
	<i>Populus fremontii</i>	Fremont cottonwood	5%	1,080
	<i>Baccharus salicifolia</i>	Mulefat	15%	3,240
	<i>Salix gooddingii</i>	Goodding's willow	15%	3,240
	<i>Salix laevigata</i>	Red willow	15%	3,240
	<i>Salix lasiolepis</i>	Arroyo willow	15%	3,240
	<i>Salix melanopsis</i>	Dusky Willow	12%	2,592
			100%	19,872
Understory	<i>Rosa californica</i>	California rose	2%	5
	<i>Rubus ursinus</i>	California blackberry	2%	5
Herbaceous overflow channel edge	<i>Carex barbarae</i>	Santa Barbara sedge	10%	23
	<i>Carex praegracilis</i>	Slender sedge	3%	7
	<i>Muhlenbergia rigens</i>	Deergrass	10%	23
Forbs	<i>Escholtzia californica</i>	California Poppy	5%	12
	<i>Artemisia douglasiana</i>	Mugwort	15%	35
	<i>Oenothera elata</i>	Primrose	5%	12
	<i>Solidago californica</i>	California goldenrod	8%	18
	<i>Urtica dioecia</i>	Hoary nettle	4%	9
	<i>Grindelia sp</i>	Gum-Plant sp	6%	14
Vines	<i>Aristolochia californica</i>	California pipevine	8%	18
	<i>Clematis ligusticifolia</i>	Clematis	6%	14
	<i>Vitis californica</i>	California grape	4%	9
			88%	202
Phase 2 - Direct Understory Seeding			Total overstory	18
None			Total all nursery	221

Community Mixed Riparian Forest **edge of wetlands only a 30 feet wide strip**
Phase 1 - Manual Planting
 Density (plant by row) 11' x 20'
 Density 198 unmodified MR = 5.3 acres
 Acres 0.85 0.425 0.85 border+50% of wetland species for border
 Target Planting Date Spring, Project Year 2
 Total Locations 168
 Total Plants 308

Canopy Structure	Species		Frequency	Total
Overstory	<i>Acer macrophyllum</i>	Big leaf maple	6%	10
	<i>Platanus racemosa</i>	Western sycamore	5%	8
	<i>Populus fremontii</i>	Fremont cottonwood	10%	17
	<i>Quercus wislinsii</i>	Interior live oak	10%	17
Midstory	<i>Acer negundo</i>	Box elder	8%	13
	<i>Rhamnus californica</i>	Coffeeberry	4%	7
	<i>Aesculus californica</i>	California buckeye	4%	7
	<i>Fraxinus latifolia</i>	Oregon ash	5%	8
	<i>Rosa californica</i>	California rose	4%	7
Understory shrubs	<i>Calycanthus occidentalis</i>	Western Spicebush	5%	8
	<i>Rubus ursinus</i>	California blackberry	5%	8
	<i>Toxicodendron diversilobum</i>	Poison oak	4%	7
			70%	108
Herbaceous all			70%	108
wetland border @.50%	<i>Carex barbaea</i>	Santa Barbara sedge	20%	14
wetland border @.50%	<i>Carex praegracilis</i>	slender sedge	10%	72
wetland border @.50%	<i>Muhlenbergia rigens</i>	Deergrass	15%	11
wetland border @.50%	<i>Eleocharis macrostachya</i>	Spike Rush	30%	21
wetland border @.50%	<i>Artemisia douglasiana</i>	Mugwort	10%	7
wetland border @.50%	<i>Aster chilensis</i>	California Aster	5%	4
wetland border @.50%	<i>Juncus bifonius</i>	Toad-Rush	5%	4
wetland border @.50%	<i>Mimulus bicolor</i>	Yellow-and-White Monkey-Flower	5%	4
			100%	
Forbs	<i>Euthamia occidentalis</i>	Western goldenrod	4%	7
	<i>Erigonum nudum</i>	Nude buckwheat	8%	13
	<i>Oenothera elata</i>	Primrose	5%	8
	<i>Lotus purshianus</i>	Lotus	2%	3
	<i>Solidago californica</i>	California goldenrod	5%	8
	<i>Urtica dioecia</i>	Hoary nettle	2%	3
	<i>Lupinus bicolor</i>	Bicolored Lupin	5%	8
	<i>Aristolochia californica</i>	California pipevine	2%	3
	<i>Clematis ligusticifolia</i>	Clematis	2%	3
	<i>Vitis californica</i>	California grape	3%	5
			38%	200

Phase 1 - Direct Understory

Seeding
 Acres optional *Heterotheca oregona* var. c Oregon Golden-Aster
 Seeding rate (lb/acre) 1.23
 Target Planting Date 13
 Cost/acre December, Project Year 2
 \$276.06

Grass Species	Ecotype	Percent		Live
		Germination	PLS	
<i>Elymus glaucus</i>				

Community
Phase 1 - Manual Planting
 Density (plant by row) 11' x 20'
 Density 4000
 Acres 0.38 0.85 border+0.38 new wetland
 Target Planting Date Spring, Project Year 2
 Total Locations 1,520
 Total Plants 1,444

Canopy Structure	Species		Frequency	Total	
wetland & border	<i>Euthamia occidentalis</i>	Western goldenrod	5%	76	edge
wetland & border	<i>Carex barbarae</i>	Santa Barbara sedge	20%	304	
wetland & border	<i>Carex praegracilis</i>	slender sedge	8%	122	: Yolo Bypass
wetland & border	<i>Muhlenbergia rigens</i>	Deergrass	12%	182	
wetland & border	<i>Eleocharis macrostachya</i>	Spike Rush	25%	380	edge
wetland & border	<i>Artemisia douglasiana</i>	Mugwort	7%	106	
wetland & border	<i>Artemisia douglasiana</i>	Mugwort	3%	46	
wetland & border	<i>Aster chilensis</i>	California Aster	5%	76	
wetland & border	<i>Juncus biflorus</i>	Toad-Rush	5%	76	
wetland & border	<i>Mimulus bicolor</i>	Yellow-and-White Monkey-Flower	5%	76	
			95%	1,444	

0.38 ??
 13 Juncus xiphioides - iris-leaved rush, irisleaf rush
 Juncus effusus Common Rush

Phase 1 - Direct Understory Seeding
 Acres December, Project Year 2
 Seeding rate (lb/acre) \$391.09
 Target Planting Date
 Cost/acre

Grass Species	Ecotype	Germination	PLS	Live Seeds/Lb	Pounds / acre	Pounds needed	\$/lb	Cost
<i>Elymus glaucus</i>	10% Butte County- Llano Seco	0.95	0.9189					
<i>Hordeum brachyantherum</i>	40% *	0.85	0.8257	141000	1.3	0.494	\$10.50	\$5.19
<i>Leymus triticoides</i>	50% *	0.82	0.7145	80000	5.2	1.976	\$15.00	\$29.64
	100%			120000	6.5	2.47	\$42.00	\$103.74
					13	4.94		\$138.57

subtotal
 \$10.05 tax @7.25%
\$148.61 TOTAL

* talk to John Anderson,
 Hedgerow Farms
 to determine appropriate ecotypes.

Community Valley Foothill Grassland **undisturbed areas**
Phase 1 Grass Seeding **grass seeding only after weed control**
 Acres hydroseed where concrete and drill cleared areas 5.34
 Seeding rate (lb/acre) 15
 Target Planting Date December, Project Year 2
 Cost/acre \$346.28

Grass Species		Ecotype	Percent		Live	Pounds /		Pounds	\$/lb	Cost
			Germination	PLS	Seeds/Lb	acre	needed			
	35%	Butte County: Llano Seco	0.95	0.9189	141000	5.25	28.035	\$10.50	\$294.37	
<i>Elymus glaucus</i>	35%	*	0.85	0.8257	80000	5.25	28.035	\$15.00	\$420.53	
<i>Hordeum brachyantherum</i>	30%	*	0.82	0.7145	120000	4.5	24.03	\$42.00	\$1,009.26	
<i>Leymus triticoides</i>	100%					15	80.1		\$1,724.15	
subtotal										
\$125.00 tax @7.25%										
\$1,849.15 TOTAL										

* talk to John Anderson, Hedgerow Farms to determine appropriate ecotypes.