

CWA §319 PROGRAM


DRY CREEK RANCHERIA
BAND OF POMO INDIANS

Dry Creek Rancheria
Creek Restoration Project

Addressing Nonpoint Source Pollution
Through Habitat Restoration




PURPOSE & NEED

“Rancheria Creek”

- Primary Drainage of Dry Creek Rancheria
- Tributary to Russian River
- Endangered species
- Agriculture
- Historic tribal lands



The Problem

- Invasive species (Himalayan Blackberry, Vinca)
- Large solid waste (telephone poles)
- Assorted trash
- Waste covered by blackberries (hard to estimate volume)

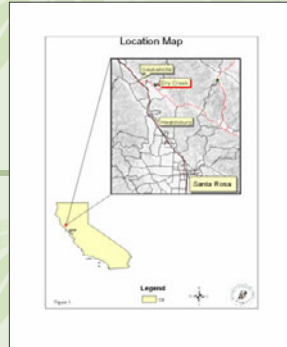
GOALS

- Improve water quality on the Rancheria and downstream
- Decrease flooding and erosion
- Improve habitat (fish and wildlife)
- Increase awareness (Tribal and public)
- As outlined in *Dry Creek Rancheria Nonpoint Source Assessment and Management Plan*

SITE DESCRIPTION

SITE LOCATION

- Northern California
- Sonoma County
- Alexander Valley (wine region)



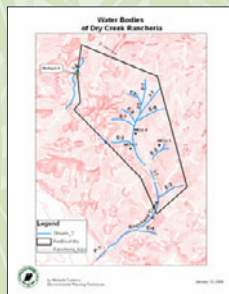
Dry Creek Rancheria

- Established in 1915
- 75 Acres
- Hillside Terrain
- Mixed oak forest
- Grassland
- Thin clay rich soils
- Franciscan series bedrock
- Prone to landslides



Project Site

- 12 miles of stream
- Ephemeral (storms)
- Intermittent (pools remain throughout the year)
- Perennial (spring fed)
- Several small wetlands
- Approximately 0.5 Acres
- 600 feet of stream
- Half the site is full sun
- Half the site has a well established riparian corridor
- Entire site is covered in blackberries and Vinca (periwinkle)



Project Planning

•Scale Drawings to help estimate number of plants needed and irrigation design

•Decide on Best Management Practices

- Heavy Equipment out of the creek
- Weed eaters and hand tools only
- Erosion control (jute netting and hydroseeding)



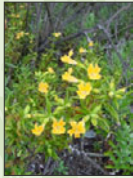
•Gather estimates

- Heavy equipment
- Invasive species removal
- Waste hauling

PROJECT PLANNING

Native Plants

- Two microclimates in the project area (full sun, and shade)
- Surveys of plants currently found on the Rancheria
- Lists of available Native Plants from local nurseries
- Compile a preliminary plant list (what's on site vs what's available)
- Submit plant list to Tribal Cultural committee for review and approval
- Order plants



Final Plant List (SUN)

Trees

California Bay
Madrone
Black Oak
Coast Live Oak
Buckeye
Big Leaf Maple

Shrubs

Manzanita
Coyote Bush
Western Spice Bush
Toyon (Christmas Berry)
Redbud
Wild Rose
Coffeeberry

Perennials and "soft plants"

Columbine
Butter cup
Yarrow
Coyote mint
Bush Monkey Flower

*Umbellularia californica**
*Arbutus menziesii**
*Quercus Kelloggii**
*Quercus agrifolia**
*Asclepias californica**
*Acer macrophyllum**

*Arctostaphylos manzanita**
*Baccharis pilularis**
*Calycanthus occidentalis**
*Heteromeles arbutifolia**
Cercis occidentalis
Rosa californica
Rhamnus californica

Aquilegia eximia
Ranunculus occidentalis
Achillea millefolium
Monardella odoratissima
Mimulus aurantiacus

Final Plant List (SHADE)

Shrubs Dogwood Snowberry Hazelnut Blue Elderberry California wild grape	<i>Cornus stolonifera</i> <i>Symphoricarpos rivularis</i> * <i>Corylus rostrata</i> var. <i>californica</i> <i>Sambucus mexicana</i> * <i>Vitis californica</i> *
Perennials and "soft plants" Angelica Wild Iris California Strawberry Western Sword Fern Giant Chain Fern California Polypody Bracken Fern Clover "Redwood sorrel" "Wood sorrel"	<i>Angelica tomentosa</i> <i>Iris douglasiana</i> <i>Fragaria californica</i> <i>Polystichum nunitum</i> * <i>Woodwardia fimbriata</i> * <i>Polypodium californicum</i> <i>Pteridium aquilinum</i> <i>Oxalis oregana</i> <i>Oxalis Corniculata</i>

IMPLEMENTATION

Removal of large solid waste

- Tribal labor and operators
- Heavy equipment kept on established roads
- Removed 30+ telephone poles and an abandoned Trailer




IMPLEMENTATION

Removal of Brush and Trash

- Tribal labor
- Hand tools and weed eaters
- Blackberries are classified as trash by local landfills (cannot be composted)
- Disposed of 36 tons of waste




IMPLEMENTATION

Erosion Control and Irrigation

- Jute netting
- Hydroseeding of native grasses
- Fresh water irrigation with well water



IMPLEMENTATION

Planting and mulching

- Tribal labor
- 1000 + plants
- Individual plants mulched with straw



LESSONS LEARNED

- Plant selection-keep it simple
- Avoid “soft plants” that can be damaged in planting
- Order plants early
- Our local Nurseries try to have their stock at planting maturity by early fall, time your planting accordingly
- If possible have the nursery care for the plants until just before planting

LESSONS LEARNED

- Hydroseed before laying erosion control
- Water several times before installing jute netting and again before planting
- Use a power auger to dig the holes

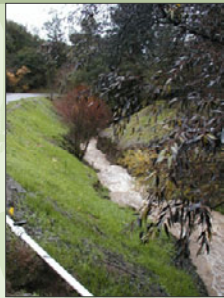
FUTURE

UPKEEP

- weeding, mulching
- Pull blackberries and other invasives as they appear (reappear)
- Replant as necessary
- Clean litter as needed
- Address erosion concerns as necessary

Site specific plant propagation

- Gathering cuttings and seeds of plants on the Rancheria
- Propagate plants on site for maintenance and future restoration



FUTURE

Continue restoration upstream

- At least another 1200 feet of stream is inundated with invasive species and trash

