

Ecesis



ece-sis \V-'se-sus, i-'ke-sus\ noun [from Greek *oikesis* meaning inhabitation]: the establishment of an animal or plant in a new habitat.

The Quarterly Newsletter of the California Society for Ecological Restoration
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In this issue of Ecesis, we are highlighting just a few of the most thought-provoking articles we've brought you over the years.

**Celebrating
15 years
of SERCAL**

Revegetation following pipeline construction in San Diego County

by Tim Cass, Senior Water Resources Specialist, San Diego County Water Authority; originally published Spring 2002.

Introduction

The San Diego County Water Authority supplies ninety percent of the potable water used in San Diego County's coastal and foothill regions. This water — imported from northern California (via the California Aqueduct) and the Colorado River (via the Colorado River Aqueduct) — is delivered to the San Diego metropolitan region through five large-diameter buried pipelines.

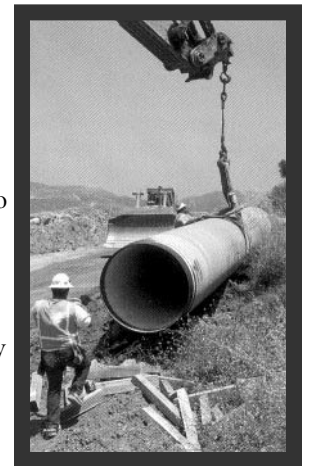
Pipelines are typically constructed using a cut-and-cover technique where a trench is excavated and the pipe placed in the trench which is then backfilled. Many of the pipeline alignments are covered by coastal sage scrub vegetation, habitat to several federal threatened and endangered species, including the California gnatcatcher. Mitigation for disturbance to California gnatcatcher habitat includes onsite revegetation after construction and purchase of high quality habitat offsite.

Onsite Habitat Restoration

Onsite revegetation is primarily directed at the re-establishment of native vegetation including coastal sage scrub, a low brushland vegetation type in coastal southern California and northern Baja California. Dominant drought-hardy deciduous species include coastal sagebrush (*Artemisia californica*), flat-topped buckwheat (*Eriogonum fasciculatum*), black sage (*Salvia mellifera*), white sage (*Salvia apiana*), deer weed (*Lotus scoparius*), San Diego sunflower (*Viguiera laciniata*), bush sunflower (*Encelia californica*) and monkey flower (*Mimulus aurantiacus*). Evergreen dominants consist of scattered laurel leaf sumac (*Malosma laurina*), lemonade berry (*Rhus integrifolia*) and toyon (*Heteromeles arbutifolia*).

Revegetation Techniques

The three primary elements of the Authority's onsite revegetation efforts include topsoil salvage, hydroseeding, and post-construction weed control. Each element is defined in the Authority's standard construction specifications for revegetation. The specifications, which include direction on clearing and grubbing, earthwork, and specific revegetation procedures, are tailored to meet the particular revegetation requirements and expectations for a given project. A copy of the Authority's revegetation specifications can be requested by contacting the author.



Ecesis is published quarterly by the **California Society for Ecological Restoration**, a nonprofit corporation, as a service to its members. Newsletter contributions of all types are welcome and may be submitted to any of the regional directors (see page 2). **Articles should be sent as a word processing document; and accompanying images sent as jpg or tif files.**

ABOVE Hedgerow Farms' John and Marsha Anderson in a field of one of the many native grasses they farm for restoration projects throughout California. *Courtesy Dan Imhoff (see article page 8).*

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mbusnardo@harveyecology.com

Administration: **Susan Clark**
smclark@lightspeed.net

2701 20th St., Bakersfield 93301
tel. 661.634.9228 fax 661.634.9540

Newsletter Editor: **Julie St. John** gui@igc.org

Webmaster: **Steve Newton-Reed**
webmaster@sercal.org

CONTINUED: Revegetation following pipeline construction in San Diego County

Topsoil Salvage

Topsoil salvage has been found to be one of the best methods of increasing revegetation success. Topsoil salvage is the first task performed by the contractor after construction equipment is brought onsite — it precedes project excavation work.

Topsoil salvage includes mulching existing vegetation into the topsoil by track rolling with construction equipment.

Incorporating mulched native vegetation not only adds organic matter and native seed to the soil, but also saves the contractor disposal costs.

Once the existing vegetation is mulched into the topsoil, the upper 6 to 12 inches of soil is scraped from the surface and stockpiled in linear rows — known as windrows — along the pipeline easement. Procedures and equipment used for stockpiling vary, but typically a steel-tracked dozer scrapes topsoil into windrows. The windrows are marked with pipeline station limits to assure the topsoil is replaced in the same area it was removed, thus preventing the mixing of vegetative types. After the trench is backfilled, topsoil is evenly spread over the disturbed areas. Because the heavy equipment used in this work often compresses the soil, it is often necessary to decompact topsoil by ripping to a depth of 12 inches.

Seeding

The second key element to revegetation success is the application of supplemental seed immediately after topsoil placement. Even though salvaged topsoil contains some native plant seed, seeding the site ensures coastal sage scrub establishment by allowing the desired species to take advantage of any rainfall that may occur. Otherwise, non-native weed seed would germinate with the first rainfall and have an increased advantage over native species.

The coastal sage scrub seed mix is designed to include those dominants naturally found onsite and also native annual wildflowers and cover crop annuals. Fortunately, many of the dominant shrub types germinate readily from applied seed.

The seed mix composition is based on data collected from preconstruction biological surveys. Local seed collection is highly preferred and often required. All collected seed is cleaned, tested for purity and germination prior to use on the site. The most commonly used method for seed application is hydroseeding. The hydroseeding mixture includes specified seed, wood fiber and tackifier.

When slopes are greater than 2:1, blown straw is one of the most effective and least expensive temporary erosion control materials available. Straw is applied, most often by pneumatic blowers, at the rate of two tons per acre, followed by a tackifier to prevent dislodging. Rice straw is typically used due to the reduced weed seed content as compared to barley or wheat straw. Although the primary function of straw is erosion control, straw appears to reduce drying of soil containing seed, thus increasing germination success.

Weed Control

The third key element of revegetation is weed control. While salvaged topsoil contains native plant seed and important biological microorganisms, it also can include significant non-native weed seed. The desired native shrub seedlings grow more slowly and are easily suppressed by the rapidly growing non-native weeds. Even so, the benefits of salvaged topsoil outweigh the drawbacks.

The most troublesome weeds are the non-native species. Weeds are categorized into two groups based on their potential to compete with native plants and ability to persist over time. The first category is annual weeds. Examples are wild mustard and radish (*Brassica* sp. and *Raphanus* sp.), non-native brome grass and wild oats (*Bromus* sp. and *Avena* sp.), and filaree (*Erodium* sp.). In most situations, annual weeds tend to diminish after the second year following application.

The second category of weeds is the perennial invasive type including fennel (*Foeniculum vulgare*), tree tobacco

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Restoring Natural Riparian Processes at Keeney Preserve in Butte County

by Cliff Feldheim, Center for Natural Lands Management, from the Summer 2003 issue

In late 2002, the California State Resources Agency released *Removing Barriers to Restoration: Report of the Task Force to the Secretary for Resources. Among the barriers or impediments to habitat creation or*

restoration are potentially conflicting land uses and special interests. The following article provides an illustration of these two types of barriers facing restoration ecologists in California today. You can find the full task force report at resources.ca.gov/reports_and_publications.html

Project Background

In 1997, the Center for Natural Land Management (Center) purchased the 57-acre Keeney Ranch almond orchard. Located in the northern Sacramento Valley near Durham, California, the Keeney Preserve includes nearly a mile of creek frontage along Butte Creek. Steelhead and three of the four salmon races are found in Butte Creek: fall-run, late fall-run, and spring-run. Funding was provided by the U.S. Fish and Wildlife Service's Anadromous Fish Restoration Project and the Butte County Fish and Game Commission. In 1997, the Center began the process of removing the existing orchard, conducting a soil and hydrologic study, and

applying for a California Reclamation Board permit to restore the property. Two years later, following a very contentious process, the permit was finally issued.

Land Use Conflicts

Although the term "reclamation" might suggest a sense of environmental responsibility, the primary mission of the Reclamation Board is protection of public health and safety and protection of property from flood-related impacts. As part of this mission, the Reclamation Board is tasked to regulate activities within the primary flood plain to prevent creation of structures which can or are likely to impede flows during flood events. Unfortunately, installation of riparian shrubs and trees within the primary flood plain, and especially dense stands of vegetation will typically impede flood flows.

As a result of this inherent conflict, the Reclamation Board issued a permit with 55 conditions, including some which negated the biological value of the restoration (e.g.,

#37, "all trees shall be trimmed and maintained to provide 5 feet of vertical clearance above the ground surface;" #38, "the understory (up to 5 feet above the ground) shall be kept clear of growth;" #43, "trees shall not be planted within 30 feet of the stream bank;" and #47, "areas of bank or stream erosion shall not be restored"). In addition, permit condition #33 required the Center to be liable for any possible impacts of the restoration actions on the floodway as they related to public safety. Despite communicating to the Reclamation Board the biological ramifications of these conditions, as well as the fact that the Center could not incur liability for the entire 92-mile floodway because of a 50-acre restoration project, nothing could be resolved.

In addition, restoration projects can create additional land use conflicts if the restoration sites border agricultural operations. Among the potential problems are crop predation by wildlife existing within the restored area, weed and insect problems stemming from the restored area, and limitations on farming activities if threatened or endangered plants or wildlife species become established in the restored site.

The fact that the Reclamation Board was permitting orchards within the Butte Creek primary flood plain, but would not allow restoration projects without substantial restrictions seemed inconsistent. In fairness, however, it should be noted that most of the flood-flow-impediment-related restrictions (with the exception of #33) could be applied to orchards and still allow a viable agricultural enterprise. However, for the Keeney Ranch Project, the 55 permit conditions would have negated the whole purpose of the proposed restoration effort.

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(*Nicotiana glauca*), pampas grass (*Cortaderia* sp.), and artichoke thistle (*Cynara cardunculus*). These perennial weeds are invasive and long-lived, often increasing in abundance unless intensive weed control is promptly implemented. Perennial invasive weeds should be given priority for weed control early in the project's revegetation efforts.

Conclusions

Thorough planning and proper implementation are essential for a successful revegetation project. Incorporating detailed revegetation specifications into the construction documents allows for enforceable construction compliance. Describing the revegetation process as three key elements

— topsoil salvage, seeding and weed control — has been helpful. This approach takes into consideration the need to plan for activities and materials necessary to accomplish the revegetation tasks. Postponing revegetation concerns until the end of construction may result in missed opportunities to increase success and reduce overall revegetation costs.

The benefits of a successful revegetation project go beyond basic mitigation compliance. Positive community and resource agency relations can lead to expedited project permitting and reduced mitigation requirements. Today, the public expects construction projects to consider the interests of the community, as well as the environment.



Spring run on Butte Creek.
Photo by John Iconberry, USFWS.

Special Interest Conflicts

The possible incompatibility with existing agricultural activities and the fear of loss of farm income from local and state economies have resulted in the formation of special interest farm advocacy groups that oppose conversion of agricultural lands to “natural lands” or habitat. This can be a very difficult barrier to overcome. Since 1992, with the creation of the Family Water Alliance (FWA), a 501(c)3 nonprofit organization, many counties in the Sacramento Valley have taken a more active stand against habitat restoration if it involves conversion of agricultural lands. The FWA is “a coalition of people who are concerned about the future of agriculture, private property rights, rural communities, and a balance between man and nature” whose mission is “to educate the people regarding rural issues.” They take a strong stand against any type of farmland conversion, especially in the Sacramento Valley where all of the organization’s current Board of Directors reside. The FWA and many Sacramento Valley counties have expressed concern over the conversion of agricultural lands to habitat and the resulting loss of tax income, loss of Williamson Act financial assistance, impacts on agriculture-dependent business, and impacts from newly created habitat. According to the FWA’s *Green Ribbon Report* (January, 2002), newly restored habitat brings with it a litany of problems including crop depredation, weeds, flooding or seepage, and the introduction of endangered species which could accidentally be harmed

during normal farming practices or could curtail farming practices as a result of being found on adjacent habitat.

One simple method in discouraging habitat conversion is to change the General Plan designation of any type of agricultural land to *not* include habitat conversion as a permitted use. Such measures were adopted by Colusa (1992), Sutter (1997), and Butte (2003) counties. Further, in 2002, the Board of Supervisors of Colusa and Sutter Counties, and the City/Town Councils of Gridley and Paradise (in Butte County), each voted unanimously to write a letter to Governor Davis asking him to declare a moratorium on habitat restoration in flood channels until flood hazard and economic impacts could be determined (*Green Ribbon Report*, July, 2002).

Also in 2002, the Colusa County Farm Bureau (CCFB) filed a lawsuit charging the California Wildlife Conservation Board and the California Department of Fish and Game (CDFG) with failure to conduct required environmental reviews on farmland that would be converted into wetland, upland, and riparian habitats for the benefit of wildlife. The Farm Bureau told the court it strongly objected to the state’s use of a class 13 categorical exemption in the California Environmental Quality Act (CEQA) to circumvent what would otherwise be a required environmental impact review. Guidelines under CEQA allow acquisitions of existing habitat and wetlands, with exemptions from the customary environmental review, when the land is

already in its natural condition. When the land is in agricultural use, as in this case, it’s the Farm Bureau’s contention that it is no longer in its natural state and an exemption should not apply. In November 2002, a Colusa County Superior Court judge granted an injunction to immediately stop CDFG from completing any more work on the project (CA Farm Bureau, *Ag. Alert*, November 27, 2002). As of April 2003, this case is still in litigation and is expected back in court in July (L. Eveland, Executive Manager, CCFB, pers. comm.).

Agricultural land use advocates were among those in opposition to the proposed Keeney Ranch Project before the Reclamation Board.

Impediment Avoidance Strategy

Because no permit is required if one does not actively plant or create potentially flood-impeding structures within a primary flood plain, the Center opted for a different strategy — restoring the riparian habitat on the Keeney Preserve with “naturally occurring vegetation” — which does not require a Reclamation Board permit. Of course, with this solution it would be impossible to predict what species of trees and shrubs would become established... or how quickly, or how many.

Restoration Efforts

FORMER SITE CHARACTERISTICS:

Soils on the Preserve are classified by the Natural Resource Conservation Service as Govstandford Loam, a sandy and silt loam with clay encountered at anywhere from 34 to 72 inches and classified as occasionally flooded. With average weather, the Preserve floods during the winter every 7-10 years. The last large flood event occurred in 1997 during which time the depth reached at least 10 feet and standing water was present for up to 3 weeks. Flooding events, like the one that occurred in December of 2003, are more typical of the Preserve and occur at least once a year in all but the driest years. During that particular event, the water reached a maximum depth of 2 feet at the southern end of the site and standing water was present for less than 2 days. The changes in

topography within the Preserve affect the flooding duration within the property. The southern end of the property is about 1 foot lower in elevation than the northern end and stays wet longer. In addition, a high area — about 150 feet wide and running north to south in the center of the property — is, on average, 10 inches higher than the boundaries to the east (Butte Creek) or west. As the water flows from north to south, the northern end and center of the property dry first, followed by the eastern and western borders, and finally by the southern end. Because water remains in Butte Creek during the summertime, ground water is maintained at an average of 4 feet during the summer.

In 1997, the existing riparian vegetation comprised approximately 1.2 acres and was described as “a thin patchy corridor along the edge of the property fronting Butte Creek” (Draft Restoration Plan, 1/23/1998). The overstory vegetation in the riparian corridor consisted of five species: cottonwoods (*Populus fremontii*), narrowleaf willow (*Salix exigua*), black willow (*Salix goodingii*), valley oak (*Quercus lobata*), and black walnut (*Juglans hindsii*).

CHANGES AND CURRENT CONDITIONS:

In 2003, the existing riparian vegetation encompasses approximately 7.4 acres. The overstory now consists of eight species. The three species that have become established since 1997 are arroyo willow (*Salix lasiolepis*), box elder (*Acer negundo*), and white alder (*Alnus rhombifolia*). Box elder and white alder seedlings were first seen in 2001 and arroyo willows were first observed in 2003. Additionally, the first valley oak seedlings were observed in 2003. Similar to 1997, the overstory is still dominated by cottonwoods and willows. The majority of new riparian vegetation has established adjacent to existing vegetation along the Butte Creek side of the property, and at the northern and southern ends of the property.

In 1997, the understory was dominated by blackberries (*Rubus discolor*) and Johnson grass with “a full complement of the common agricultural weeds” (Draft Restoration Plan, 1/23/1998). In the spring of 1998, the Center implemented a weed control plan on the approximately 46 acres of upland that included mowing and

selective spraying to target primarily yellow starthistle (*Centaurea solstitialis*) and Johnson grass (*Sorghum halepense*). Mowing was conducted once a year in late May through mid June when the starthistle was beginning to bloom (<10% of flowers in bloom), and then twice a year in 1999 and 2000 when the remaining starthistle plants began to bloom. Mowing height varied from 3 to 6 inches. In 2001, spot spraying with Roundup® was used on small patches of Johnson grass, starthistle, and other persistent common agricultural weeds. In 2002, more intensive discing and spraying was used to prepare approximately 40 acres to be seeded with native perennial grasses.

In 2003, blackberries and Johnson grass are still present, but wild rose (*Rosa* spp.), mulefat (*Baccharis* spp.), mugwort (*Artemisia douglasiana*), bentgrass (*Agrostis exarata*), and annual hairgrass (*Deschampsia danthoniodes*) have all volunteered and become established. The native perennial seed mix, seeded in the fall of 2002, and comprised largely of creeping wildrye (*Leymus triticoides*), annual hairgrass and bentgrass, is now 4-6” inches tall.

Natural recruitment has occurred at a rate of about 1.1 acres per year. Since 2000, there has been a shift towards taller trees, however, 73% of the trees on the preserve are still under 11 feet tall (see Table 1, above).

Year	Tree Height (Feet)					Total
	<5	5-10	11-20	21-30	>30	
2003	221	149	109	7	8	494
%	0.43	0.30	0.22	0.02	0.02	1.00
2000	235	101	61	4	4	405
%	0.58	0.25	0.15	0.01	0.01	1.00

Table 1. Natural recruitment of 8 tree species by height at the Keeney Preserve.

Conclusion

Although the natural recruitment and restoration process is relatively slow, results from the Keeney Preserve suggest that the amount and diversity of riparian habitat can be increased over time through natural establishment and weed management. If this is the case, the increase in the number and height of trees and the development of a native understory along Butte Creek has a greater potential to provide shaded riverine habitat for anadromous fish and provide habitat for a greater diversity of neotropical migratory birds and resident wildlife.

In terms of overcoming impediments, this restoration strategy is a major success. As is generally known, the physical characteristics of each site are unique. It is the same with regulatory characteristics. Each site will have regulatory parameters which must be considered. Development of a regulatory strategy can be just as important to a project’s success as the development of a physical restoration plan.

For Sale S.D. Environmental Consulting Firm specializing in habitat restoration. \$175K with \$75K down. Net \$100 K+/yr. & existing long-term contracts. Easily expandable. Call 619.291.0808.

Hiring Victor Valley College will be hiring a full time Environmental Studies Specialist in the Agriculture and Natural Resource Department. This individual will serve as an instructional assistant to support classes, labs and student projects under the Mojave Sustainability Project in ecological restoration, water conservation, soil science, GIS and sustainable building practices. More information available at www.mojavesustainability.org Applications will be accepted after 20 August, with a projected hiring date of 15 October. Please contact Cindy Wilson (Human Resources) at wilsonc@vvc.edu

Notes on Managing the Aftermath of Southern California's Wildfires

by Mike Evans, Tree of Life Nursery, San Juan Capistrano; originally published in Winter 2003.



The 2003 fires were unprecedented because of the extensive area, intense heat (in certain parts), timing, and the complexity of the fire events. There is no single jurisdiction responsible for land and resource management after the fires. A concerted effort by all affected land managers should address the potential for localized erosion problems (as necessary) without compromising the integrity of the ecosystem. Decisions and actions taken now could severely affect the natural lands — immediately, long term, and permanently. We need to be very careful.

Here are some thoughts on land management, especially regarding “seeding” or “planting” after a fire. I am founder and co-owner (with Jeff Bohn) of Tree of Life Nursery. We sell native plants, but this is not an opportunity for us to promote sales. My family was directly affected by the Cedar Fire. We lost our brand new cabin, the “Cuyamaca Rose” on the north face of North Peak. It has been a twelve-year project, the house-construction taking place over the last three years. A lot of heart went into this.

“Hope deferred makes the heart sick, but desire fulfilled is a tree of life.” Proverbs 13:12

It had a metal roof, thick plaster adobe style (straw bale) walls, no exposed wood, boxed in eaves (Hardyplank), dual pane windows, no curtains, 100’ clearance to mineral soil in all directions, and the forest understory cleared for hundreds of yards all around. The Cuyamaca Rose had the best chance for survival on the mountain. Yet it burned to the ground. It was in a tall old-growth mixed evergreen forest, and a very hot fire, obviously a “firestorm” in the tree crowns. It appears that with the heat, the structure fire started on the inside; a piece of furniture, a pillow, a towel, the tablecloth (who knows?) ignited, perhaps

spontaneously — and it was all over. Unbelievable, but unfortunately, true.

About six weeks before the loss, our friend Betty Birdsell told me, “It’s the most beautiful home I have ever seen.” All the elements of the surrounding wilderness were used inside... stone, milled woods, timbers, logs, adobe, red clay, earth-tone tiles, western decor. As a family, we had big dreams for many good times in that place.

So we had a rough week.

But others have had a rough week too and my heart goes out to everyone who lost a home. And my heart breaks for those who lost their loved ones in this fire. Tears will be shed for quite some time in those cases. Our prayers: that families and lives will heal quickly. And I am certain of the land’s ability to heal as well.

These notes on land management are not written from an academic high horse. I have had a life-long love affair with the back-country of San Diego County and an intimate relationship with a certain 10 acre parcel of wilderness, my “North Peak Canyon Ranch.” My place is surrounded by tens of thousands of wild acres. The land is burnt, but still wild. I pray that it will stay wild, but I know that indiscriminate tree cutting, grading, planting, and seeding could change the face of the landscape and not for the better.

Big fires start as small fires. Big impacts on the land can start as small mistakes made by people who mean well, trying to help the land heal, but without knowledge of long term ecological consequence.

At Tree of Life Nursery, we have received numerous calls and inquiries about “What to do after a fire.”

It’s simpler than you think.

The Cedar Fire moved through several vegetation types and ecosystems in a huge, contiguous area. Migration patterns, wildlife movement, and many factors will affect plant colonization from seed. Latent (dormant) seed on site or new seed imported by animals (from where?) will begin the early stages of herbaceous cover as the ecosystem starts to heal. Many woody shrubs will sprout from the base, though they are burned to the ground or have only dead branches. Many trees, especially oaks may appear dead, but will actually sprout new leaves and branches from old wood. In most cases, the best thing to do is NOTHING. Seeding will not help the land and it could actually be very harmful. The soil surface should not be disturbed, as valuable seed, bulbs, and root systems in addition to many beneficial microorganisms lie just below the surface. The above-ground vegetation relies on a healthy below-ground ecosystem, especially after a catastrophe.

Southern California’s coastal, chaparral, woodland, and forest vegetation is flammable for a reason. Fire is an integral part of these ecosystems. The natural plant communities evolved with fire and cannot exist without fire. As a society, we need to learn to live safely in this environment. A big part of this realization is learning to cope with the problems on and around our land after the fire.

Q: Will the natural plant communities recover?

A: Yes, and in most cases, they will be healthier than before the fire.

Q: How long will it take?

A: Recovery happens in stages and each stage is important. The first stage is perhaps the most important. Full recovery of coastal stage scrub and chaparral is about 5-10 years, woodland, 10-15 years, mixed

evergreen forest (mountains) 20-30 years to achieve new, immature stands with good composition, a few old fire survivors still present. A healthy forest full of healthy wildlife will continue for at least another 30-50 years. At 100 to 120 years, it begins to resemble "old growth."

Q: What can I do to speed the process?

A: Nothing. In fact, this is a wonderful opportunity to observe and document the process. Each stage is beautiful in its own way.

Q: What about erosion?

A: If the first rains are gentle, much of the ash will compact and glue to the surface. If heavy rains come first or very early, a lot of ash may be transported down the slopes.

Q: Will seeding immediately after a fire help?

A: No. Even if there were no ecological consequences, seeding is a bad idea. The seed is left on the surface of ash where it will not germinate. The soil is too cold, the days are too short for germination. Wildlife, especially birds, (though perhaps scarce) are all too ready to eat the seed, since the local resource has been burned. Any seed that survives the winter usually ends up at the toe of the slope when spring germination begins.

Q: What about grasses?

A: Most grass species for "erosion control" are cool season annuals. They are inexpensive, and therefore popular after a fire. If they germinate at all, they will choke out native species, interrupting the first (most important) stage in recovery. The grasses will die in the spring/summer heat and be unsightly, weedy, and flammable. They are of little value to wildlife. They may even re-seed, making the problem worse year by year. In addition, the seed lot may be contaminated with noxious weeds, which you will never get rid of.

Q: Wouldn't it be OK to seed with native species?

A: In theory, yes, and in some cases, yes. If the area to be seeded was a weed lot before the fire, this might be a good chance to try to get natives back on the site. If it was native vegetation that burned, native seed, bulbs, and roots are in the soil and will come back on their own. In that case, seeding is not necessary. In fact, the wrong composition of species, or the wrong genetic make-up could cause a lot of damage to the natural area in its early stages of recovery.

Q: Are there cases when native seeds or plants should be planted after a fire?

A: Yes, usually in instances where native plants were absent before the fire and the new goal is to create a naturalistic plant community on bare earth. This would be a step in the right direction.

Q: What are the advantages of not seeding?

A: You get to watch and marvel as nature's processes unfold. Nature's results are always a success. You will have a healthy landscape. You save a lot of money and effort.

Q: What about landscape plants?

A: Of course, we promote the idea of naturalistic garden design. For landscape areas (as opposed to wild lands), native plants and seeds are ideal for all the same reasons it is best to leave wild lands alone. Beauty, wildlife habitat, involvement in self-sustaining plant community-based design, and cost savings will reward all who appreciate native plants in the garden or in the field.

SERCAL Board of Directors Election Candidates

PRESIDENT ELECT: Karen Verpeet, 2007-08

...Karen Verpeet has a broad background in the environmental sciences and specializes in landscape architecture with an emphasis on ecosystem enhancement and restoration. Her undergraduate career at UC Davis provided a wide-scale understanding of biological and environmental issues as they relate to planning and policy-making. While at the University of Michigan, her Master of Landscape Architecture coursework focused on integrating environmental and ecological principles into site design. She received her MLA in 2003 and immediately began working for H.T. Harvey & Associates as a restoration landscape designer. Her position allows her to prepare conceptual master/management plans for open space and redevelopment areas and prepare detailed construction documents and coordinate construction and oversight of both small and large-scale restoration projects in the greater Bay Area. Karen has served on the SERCAL Board for one year as Riparian Guild Chair and is currently Region 3 Director (Bay Area).

SECRETARY & REGION 9 DIRECTOR: Paul Kielhold

...Paul Kielhold has 28 years of experience in environmental analysis, resource management, and regulatory compliance working for both private industry and government agencies. His most recent experience includes providing private and public agency clients with U.S. Army Corps of Engineers and California Dept. of Fish & Game Permitting Services. Previous experience includes project review, permitting and compliance with the National Environmental Policy Act/ California Environmental Quality Act, the federal and state Endangered Species Acts, as well as the California Surface Mining & Reclamation Act. He has prepared numerous resource assessments, habitat mitigation and monitoring plans, as well as mine reclamation plans. His current work is focus on implementation of the Riverside County Multiple Species Habitat Conservation Plan and riparian impact mitigation. Paul has served on the SERCAL Board for 5 years as both a So. Calif. Regional Director and President (2005).

Next page for ballot >>

SERCAL Board of Directors Election Fall 2006 Ballot

The candidates listed below have accepted nomination to the SERCAL Board of Directors in the positions indicated. Please review the candidate profiles on page 3 and complete the ballot below.

**Mail to: SERCAL Administrative Office
2701 20th St., Bakersfield, CA 93301.**

Ballots must be received by 13 October 2006. Ballots postmarked after that date will not be accepted.

ALL CURRENT MEMBERS may vote for the offices of Secretary and President-Elect.

☛ A Regional Director may be elected ONLY by those members residing in that specific region. Regional information is listed with the candidate profile.

☛ If you enter a write-in candidate on your ballot, please provide contact information for that person. The candidate must be a current SERCAL member.

The Presidential candidate elected on this ballot will take over the position at the 2007 SERCAL Conference. In the interim, he will serve on the Board as President-elect.

YOUR COUNTY: _____

PRESIDENT ELECT - (All vote)

Karen Verpeet

CONTACT INFO: _____

SECRETARY - (All vote) - 2-YEAR TERM

Paul Kielhold

CONTACT INFO: _____

REGION 9 DIRECTOR - SOUTHERN INTERIOR - 2-YEAR TERM

(Vote only if you reside in one of the following counties: Imperial, Riverside, San Bernardino)

Paul Kielhold

CONTACT INFO: _____

Making the Connection

by Dan Imhoff, co-founder of the Wild Farm Alliance; originally published Fall 2004



On a rural roadside just north of Winters, California, with the summer sun so hot the air shimmers like a mirage, we stand between two radically different farming philosophies. Miles away to the west are the tawny and creviced hills that drain the wet-season rainfall of the Pacific Coast Range. Those waters eventually make their way to the Union School Slough, now actually a volume-controlled ditch, which meanders eastward through the irrigated row crops, orchards, and livestock pastures of Yolo County. On the western side of the road, you get a sense of time travel, a feeling of what the land may have looked like in a former era. The bunch grasses and sedges that line the canal banks are bushy, tall, and luminous. Farther out, above the understory, rises a canopy forest of willow, cottonwood, and oak. In the water, young mallards shadows their mother as she zooms for cover behind a curtain of grass.

Directly across the road to the east is a scene more typical of industrial agriculture in California's Central and Sacramento Valleys. The 180-degree shift is so dramatic that it almost takes your breath away. Between the field edge and the slough, a distance of perhaps 20 feet that includes a single-track dirt lane, the soil is sprayed and scraped bare, and in contrast to the scene just on the other side of County Road 89, looks like scorched earth. Both sides of the road are working farm operations that depend upon the slough's water for production. It is early summer, and both farmers are in high production mode, weeding, irrigating, and managing a hundred tasks. Just a few decades ago, I am told by John Anderson, the farmer on the west side, he too practiced "clean" farming and viewed weeds and non-crop vegetation as mortal enemies of modern agriculture. But as a Boy Scout leader Anderson had studied conservation principles, and as a wildlife veterinarian he had visited hedgerows in England during a trip abroad. Not long after, he and his wife, Marsha, decided to begin improving wildlife habitat on their 500-acre property, Hedgerow Farms, bringing its edges back to life. Anderson devoted himself to studying California's original oak savanna and local ecosystems and began to establish seasonal wetlands and tailwater ponds to filter runoff. Eventually, some 50 species of native perennial grasses, forbs, rushes, shrubs, and trees were planted around field borders, roadsides, riparian areas, and other unused strips of the farm. Two decades later, beavers, carnivores, dozens of bird species including three types of owls, and up to ten threatened or endangered species find haven there. What Anderson didn't realize at the time, was that he was also sowing the seeds for a change in agriculture itself. What looks like a move backward in time allowed him to move forward as both a farmer and lover of the land. Due in large part to his initiative, a community of conservation-minded farmers, local agencies and extension officers, and nonprofits has slowly been building the expertise, resources, and momentum necessary to forge a new approach to farming throughout the county.

Across the country over the past decade, similar discoveries, similar commitments, similar reversals of vision were occurring in widely separated areas. The essential role of native pollinators in local ecosystems and in agriculture and the crisis of their rapidly vanishing habitat were being researched in the Arizona desert. Native plant aficionados were seeking out remnants of prairies and beginning to collect, save, and grow out seed for local restoration projects. After decades of clearing, draining, and attempting to

*Photos of Hedgerow Farms
courtesy the author.*

render marginal lands suitable for cultivation to “feed the world,” federal agencies were working with farmers to return those same fields to wetlands, grasslands, and bottomland forests through perpetual easements. Partnerships between farmers, rod and gun clubs, land trust organizations, and environmentalists were forming to carefully time farming practices with the migratory pulses of waterfowl and fish. Natural processes of flood and stream flow were being reintroduced into a few select riverside agricultural areas in California while lightning-ignited wildfires were being welcomed on a million-acre tract of grasslands in the New Mexico-Arizona-Mexico Bootheel region—both as means of restoring the land. A few ranchers were making peace with large carnivores, while some dairy and beef farmers were bucking the livestock feedlot model and perfecting the art of small-scale rotational pasture systems. A Kansas geneticist was pursuing a vision of creating, through classical plant breeding, a self-seeding prairie of perennial grains that would require little fertilizer and no tilling, ideally adapted to its place on the land. The reassemblage of former free-roaming grassland species such as the bison, prairie dog, ferret, wolf, and elk was beginning to take nascent shape in fragmented areas of the Great Plains. Throughout the mid-elevation coffee farms of Central America, biologists were discovering the critical link between habitat remaining on forest shaded coffee farms and declining populations of migratory songbirds. There are more examples, many more, of people tuning in to both the small picture of their own farms and ranches and to the broader landscape, working in partnership with, rather than against, the surrounding natural world. One name to described this gathering movement is *farming with the wild*.

Clearly the conventional approach to modern industrial agriculture is not based upon such a profound integration of the domestic and the wild. Quite the contrary. Agriculture is a dominant force on the U.S. landscape, with nearly two-thirds of the Lower 48 states’ landbase engaged in some form of farming and ranching activities.



Habitat destruction and fragmentation, the displacement of native species and the introduction of exotic species, pollution of terrestrial and aquatic ecosystems, soil erosion, the persecution of predators, the release of genetically modified organisms, and the overexploitation of nonrenewable resources for food production and distribution are among the many devastating consequences of modern agriculture. According to the USDA’s own 1996 statistics, farming activities contributed to 46 percent of species listed as threatened or endangered, and ranching to 26 percent.

And while industrial agriculture’s ecological impacts undoubtedly rank among humanity’s most destructive activities, it bears asking how long conservationists and farmers and ranchers can remain either on opposing sides or in ignorance of one another’s efforts and potential for restoration. With the proper incentives, assistance, and resources, farmers and ranchers should be supported to manage their lands more sustainably, and profitably, while protecting conservation values. Practices such as pasture-based meat production and floodable farming systems, establishing wildlife corridors along river systems, incorporating critical farm and ranch habitats within regional wildlands recovery efforts, have already shown great environmental and economic promise.

There are also tangible benefits to producers from farming and ranching with the wild. These include: (1) yield

enhancement (pollination and biological pest control from native species); (2) reduction of yield losses (wind protection, erosion control from reestablished habitats); (3) water quality improvements (sediment filtration, streambank stabilization, water table recharge); (4) biodiversity enhancements (seed dispersal, breeding opportunities, aquatic and terrestrial habitat linkages for native and migratory species); (5) agrotourism opportunities (bird and breakfasts, fishing and hunting opportunities, farm visits).

As battles over available water, open space, and the general decline of our rural landscapes escalate, it behooves both the conservation and farming and ranching communities to see one another as potential allies in the restoration movement. Beside the fact that we all—conservationists, farmers, ranchers, and everyone else—need to eat a few times a day, we also need viable farms and ranches that embrace wildness as an integral part of rural communities. Whether we like it or not, the domestic and the wild are tightly interwoven in the human economy. Our challenge is to develop ways in which that integration can be suitably maintained. Those answers may begin to surface in some seemingly simple yet profound questions. What is our common ground? What are our common foes? What is needed to create a matrix of wildlands, healthy watersheds, and viable human communities that contribute to a healthy California food culture and conservation ethic?

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