

Ecesis



ece-sis \-ˈse-sus, i-ˈke-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
Fall Equinox Volume 15, Issue 3

In this issue...

- Landscape Architecture & 2... the Scientific Approach to Restoration
- 4... Ecosystem Restoration
- 5... the Role at Caltrans
- 7... Translating Science to In-the-Ground Projects
- 9... Habitat Restoration

And as always...

- 3... SERCAL Board list, & 2005 Elections & Ballot
- 8... Noteworthy Natural Resource Events
- 10... Job Hotline
- 11-12... Membership

The Role of Landscape Architects in Ecological Restoration

by Joe Donaldson, ASLA

A few months ago at one of our SERCAL Board of Directors meetings, I suggested that it might be fun and interesting for each of our nine regional directors to take a turn as “guest editor” for upcoming issues of *Ecesis*. Not surprisingly, the Board decided to give it a whirl and I got the call to kick things off.

Our idea is that each director would choose the theme for their issue—subject to overall Board buy-in—and solicit articles to support that theme. Any given newsletter may also include other articles that don’t necessarily support the theme but which are pertinent and timely. And of course we will continue to publish all the other usual information that we believe is important to keep you, our readers, up-to-date and well-informed. For upcoming issues of *Ecesis* you will see a variety of themes as diverse as our Board members’ interests.

As a landscape architect involved in ecological restoration for, dare I date myself, over 20 years, I thought it would be interesting to focus this issue of *Ecesis* on the role of landscape architects in ecological restoration. The association goes back to at least the mid-1800s when Frederick Law Olmsted developed a plan for the Back Bay Fens in Boston to improve drainage and water quality and provide a green corridor for people to use. Although not what we may think of as ecological restoration in today’s terms, the project was an attempt to restore the function and character of the natural system, albeit for the benefit and enjoyment of people.

Over the years, the vast majority of restoration projects that I’ve been involved with have had a public use component and required some level of management and maintenance by people to keep them healthy. Human use considerations have often included environmental education, trails, recreation, aesthetics, vandalism, public access management, and maintenance built in as part of the project purpose. Most projects that I’ve worked on have been located

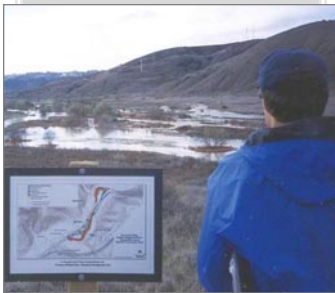
in or near urban areas or on agricultural lands. I don’t believe that I have ever worked on a project in an area that might be regarded as a pristine natural area untrammelled by human influences. Almost all have entailed dealing with natural systems vastly altered by human activity. And, I regret to say, far too many of these projects have been fostered as mitigation for damaged or destroyed natural systems and areas.

I say all of this because I believe that landscape architects can bring a lot to the table when it comes to conceiving, designing, and implementing ecological restoration projects. Leaving behind that prevalent mis-image of landscape architects capable of only designing yards for rich people and “shrubbing up” corporate headquarters and sprawling subdivisions, our profession is grounded in understanding the value and function of natural systems and how to integrate the human component with these systems in order to restore some level of ecological function. My criticism of our profession is that too much emphasis is placed on aesthetics over ecology and meeting human interests over maintaining healthy natural systems.

All of that aside, I’ve solicited articles for this issue of *Ecesis* from a cross-section of landscape architects involved in a broad spectrum of work in the realm of ecological restoration in and beyond California. I thought it might be interesting to see what other members of my profession are up to in this realm, what they’re thinking about, and how they view their contributions to the world of ecological restoration. And quite unabashedly, I hope to learn some things and I hope all of you will too.

Lastly, I would like your feedback. I would especially like to hear from landscape architects and others trained in landscape architecture about your perspectives on ecological restoration and our

continued on page two



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 3). **Articles should be sent as a word processing document; and accompanying images saved as jpg or tif files.**

Above: Flooded floodplain and overview. See page nine for accompanying article.



Landscape Architecture and the Scientific Approach to Restoration

Kobold Creek reconstruction.

other project engineers and contractors. Whether creating large scale grading plans, detailing smaller scale restoration features (e.g. breeding habitats, wildlife exclusion barriers, fish passage features, etc.), or tackling any number of highly specialized design problems, a landscape architect can provide an important connection in translating scientific concepts into projects that are easily understood and properly built by contractors.

The proper translation of the conceptual design into the final construction documents is a critical component of any restoration project. The landscape architect, working collaboratively with scientists, can successfully convey the important biological design factors into a successfully installed and properly functioning restoration site.

—Joe Howard ASLA, is the Senior Landscape Architect at the ecological consulting firm H.T. Harvey & Associates, California license number LA#4598. Joe received both a Bachelor of Science in landscape architecture and a Master of Landscape Architecture concentrating on forest ecology at the University of Michigan's School of Natural Resources & Environment. He is an instructor in landscape design at the University of California Berkeley Extension and has been practicing based out of the San Francisco Bay area for over eight years.

by Joe Howard, ASLA

The ecologically-oriented landscape architect can be a critical link between the sound scientific understanding of ecological processes and a biddable and constructable restoration project. Along with restoration planting and irrigation design, the landscape architect, when working closely with the scientific community, can offer much broader expertise. Landscape architects' experience in site-specific analysis and problem solving through a design methodology is a natural complement to ecologists' insight into biological opportunities and constraints. Working collaboratively, the landscape architect and the ecologist can develop biological design criteria to create feasible restoration approaches and design solutions that provide significant biological functions and values.

As design concepts are developed, the landscape architect can graphically communicate them so they can be shared with a greater scientific/project team, regulatory agencies, clients, and funding sources as well as stakeholder and community groups. In addition, a landscape architect's training in public presentation and group facilitation can be an asset when generating input from a broad audience or to building consensus around an idea or design.

Continuing to collaborate with the biological experts, the landscape architect

can create the construction documents required to build a project that responds to the ecological potential of a site. An example of this would be the Kobold Creek Reconstruction project in Dublin, Contra Costa County, California. At this site H.T. Harvey & Associates biologists and landscape architects collaborated to transform an eroded, debris filled ravine into a natural creek channel with boulder and log weirs, pools, and riparian habitat. The ecological goals of the project were primarily provided by the biologists, the design criteria (how to achieve the ecological goals) were a collaboration between the biologists and the landscape architects, and the construction drawings were developed by the landscape architects with oversight by the biologists. This project will provide habitat for the Federally endangered California red-legged frog (*Rana aurora draytonii*) and specific instream features to provide frog habitat were dictated by the biologists; the landscape architects then worked with a hydrologist (Clearwater Hydrology) to develop construction plans and specifications that would guide the landscape contractor in bidding and implementing those specific features, as well as riparian revegetation of the creek banks.

Once the conceptual design has been finalized, the landscape architect can convert design concepts into construction plans and details, specifications, and estimates. These construction documents are in a standard format that is used by

Introduction from page one

curious profession's often overlooked (at least by other landscape architects) role in this realm. I would like to hear about the restoration work you're involved in and your role in projects. I would also like to hear from those of you in other disciplines about your perspectives on the role of landscape architects in ecological restoration. Please email me directly at jdonaldson1@sbcglobal.net.

I hope you enjoy this and our future themed issues of *Ecesis*. Your thoughts and comments are always welcome. After all, that's what we're here for. I hope to see you all at our conference at Bass Lake in a few weeks. —Joe Donaldson, SERCAL Region 6 Director

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Dunes **Vince Cicero**, California Department of Parks & Recreation vcice@parks.ca.gov

Riparian **Karen Verpeet**, H.T. Harvey & Associates kverpeet@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

SERCAL Fall 2005 Election Ballot

While ALL CURRENT MEMBERS may vote for the office of President-Elect; a Regional Director may be elected ONLY by those members residing in that specific region.

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

Please review the candidate profiles, complete this ballot, clip it out and mail to:

SERCAL Administrative Office
2701 20th St., Bakersfield CA 93301

**Ballots must be received by
10 October 2005.**

*Ballots postmarked after that date
will not be accepted.*

The Presidential candidate elected on this ballot will take over the position at the 2006 SERCAL Conference. In the interim, he will serve as President-elect.

YOUR COUNTY: _____

PRESIDENT ELECT - (All vote)

Mark Tucker



CONTACT INFO: _____

REGION 3 DIRECTOR - BAY AREA - 2-YEAR TERM

(Vote only if you reside in one the following counties: Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, Sonoma)

Karen Verpeet



CONTACT INFO: _____

REGION 4 DIRECTOR - BAY AREA - 2-YEAR TERM

(Vote only if you reside in one the following counties: Amador, Calaveras, Fresno, Kern, Kings, Mariposa, Madera, Merced, San Joaquin, Stanislaus, Tulare, Tuolumne)

Virginia Mahacek



CONTACT INFO: _____

PRESIDENT ELECT: Mark Tucker, 2006-07

...SERCAL's current Region 9 Director, Mark Tucker, has over 10 years experience in wetland science and policy. He has worked for Pacific Estuarine Research Laboratory, the National Biological Service, the U.S. Army Corps of Engineers and for EDAW, Inc. as a Wetland and Restoration Ecologist. Mark is currently the Southwest Regional Manager and Senior Ecologist for the Southern California office of Wildlands, Inc., focusing primarily on the establishment of wetland mitigation banks in Riverside and San Bernardino counties. He has developed award-winning research projects, wetland training courses, and mitigation plans. Mark recently completed his Master's Degree in Geography at San Diego State University.

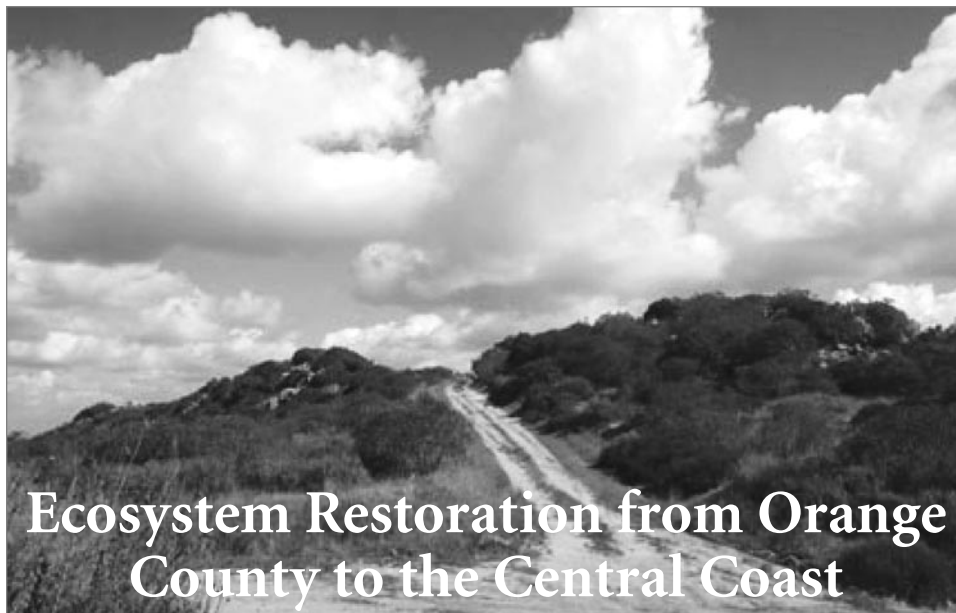
REGION 3 DIRECTOR: Karen Verpeet

...Currently SERCAL's Riparian Guild Chair, Karen is a landscape designer in H.T. Harvey & Associates' San Jose office in the habitat restoration division. Karen specializes in landscape architecture with an emphasis on ecosystem enhancement and restoration. Her work focuses on design and planning of restoration sites as well as construction coordination and installation oversight.

Karen's educational background is rooted in both ecology and design—a broad-scale understanding of biological/environmental issues (UC-Davis), and the integration of ecological principles into site design (MLA from the University of Michigan).

REGION 4 DIRECTOR: Virginia Mahacek

...Virginia Mahacek is a geomorphologist specializing in river, wetland, and watershed analysis and management. Virginia has over 20 years of professional experience, including several years focused on regulatory compliance, and a decade covering the full range of technical, design, permitting, management and administrative roles. In 2004, she established Valley & Mountain Consulting to provide technical, management, and strategic services in environmental compliance, habitat restoration design, monitoring, and environmental interpretation/education. Virginia's long-standing regional specialty is the Sierra Nevada, Lake Tahoe Basin, and the Mono Basin-White Mountains area. Virginia values integrated, interdisciplinary team approaches to the complex questions surrounding stream and watershed restoration.



Laguna Coast Wilderness Park. Courtesy of Laguna Greenbelt, Inc.

by Kathie Matsuyama

I've been working on ecosystem restoration projects as California Registered Landscape Architect # 2277 for almost 25 years. This includes 21 years at the County of Orange—first as a Regional Park Planner and then as a Watershed Planner—and most recently as the Watershed and Natural Resources Coordinator for the Guadalupe-Nipomo Dunes Center in Guadalupe, California. Unlike many traditional landscape architects, I'd don't spend much time designing great fence details, working out complicated grading plans, or creating urban garden planting schemes. Instead, my work facilitates consensus with diverse watershed stakeholders interested in developing innovative and appropriate solutions to complex ecosystem restoration problems.

Working as a Regional Park Planner in the County of Orange Landscape Architecture Department was my introduction to ecosystem restoration work. Site planning for county park facilities was done hand in hand with development of restoration plans for the park's natural resources, including the Laguna Coast Wilderness Park General Development Plan & Resource Management Plan. As the County's project manager, I worked with Bob Mueting of RJM Design Group and internationally famous landscape architect Lawrence Halprin on development of the projects. The 10,000-acre regional Laguna

Coast Wilderness Park lies within some of the last remaining coastal canyons in Southern California. Lush, sycamore-shaded canyons and high ridges offer incomparable views of the Pacific Ocean. The park ecosystem is primarily Coastal Sage Scrub, with Maritime Chaparral, Oak Woodlands, Riparian habitats, and the ONLY natural lakes in Orange County.

A significant component of planning for the wilderness park included conducting "site awareness" tours and community participation workshops to form consensus on park issues that in turn provided a foundation for design solutions. The park is part of the Natural Community Conservation Planning (NCCP) program, one of the first NCCP programs approved in the state. It established a 37,380-acre reserve system in a 208,000-acre planning area. The plan protects significant areas of 12 major habitat types and covers 39 sensitive plant and animal species (including the California gnatcatcher, Cactus wren, and Orange-throated whiptail).

When a watershed planning department, the first of its kind in the state, was created at the County of Orange, I was quick to join. As the only landscape architect in the department, I employed many of the same skills required for regional park planning including analysis of hydrology, hydraulics, geomorphology, geology, economics, plant and animal habitats, cultural and aesthetic features, etc.

Strong problem-solving skills were used to facilitate consensus among diverse stakeholders on maintenance, restoration and enhancement activities that contribute to healthy watersheds. I worked closely with Army Corps of Engineers staff in the Los Angeles District office that have earned a national reputation for generating innovative solutions to complex ecosystem problems and are uniquely positioned to design and significantly fund ecosystem restoration work. Federal legislation passed in 1990 established environmental protection as one of the primary missions of Army Corps water resources projects—along with navigation and flood control. My work with the Army Corps included the 152 square mile Newport Bay-San Diego Creek watershed which contains several threatened and endangered species (Big-leaved crownbeard, Riverside fairy shrimp, Arroyo toad, Southwestern willow flycatcher and Coastal California gnatcatcher). The Newport Bay-San Diego Creek watershed was one of the first areas in California with TMDL limits. These regulations will limit the "Total Maximum Daily Load" of sediments, nutrients, pathogens and toxics entering waters of San Diego Creek and Newport Bay.

My current ecosystem restoration work involves the Guadalupe-Nipomo Dunes Complex, the second largest coastal dune system in California. Of California's original 13 dune complexes, only 4 remain relatively intact. The dunes are located in a transition zone between northern and southern California plant communities resulting in high degree of habitat diversity, with a high number of local endemics, and a high susceptibility to disturbance. The Dunes is composed of a complex mosaic of terrestrial, semi-aquatic and aquatic plant communities containing 18 species of rare, endangered, or sparsely disturbed plants. Habitats of the Dunes include beach and riparian forest, ephemeral dune swale wetlands, and open and deepwater wetlands.

The single biggest threat to the fragile dunes ecosystem is invasive weeds, particularly Veldt grass (*Erharta calycina*), Beach grass (*Ammophila arenaria*), and Pampas/Jubata grass (*Cortaderia jubata*).

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Veldt grass has the potential to obliterate the dunes rare ecosystem by out-competing native plants at a phenomenal pace.

Since 2001 the Dunes Collaborative, a multi-agency partnership composed of landowners and managers, has been working together across jurisdictional boundaries to manage invasive weed species, develop and implement restoration projects, and promote visitor serving education, recreation, and access programs. Determining where application of invasive weed treatments should occur in the shifting, erosive and wind blown environment of the sand dunes is difficult at best. To more accurately define the dunes landscapes one member of Collaborative, the Land Conservancy of San Luis Obispo County, spearheaded development of a unique and highly sophisticated GIS data management system. Landscape Management Units (LMUs) were devised as the baseline conditions for the GIS system. The delineation of LMUs was based on topography, geomorphology, dominant plant community, degree of weed infestation, and the presence of sensitive resources. The resulting GIS map and interrelated database details multiple characteristics for hundreds of LMUs in the 22,000-acre Dunes Complex. This GIS system is the principle tool used in setting criteria for prioritizing restoration activities in the dunes.

As the Chairman of the Dunes Collaborative, I convene monthly meetings with Collaborative partners to discuss ecosystem integrity, increasing coalitions, practicing adaptive management, and growing public awareness of natural resource issues. Currently, I am writing an Ecosystem Management Plan for the Guadalupe-Nipomo Dunes Complex.



Guadalupe-Nipomo Dunes.



Ecosystem Restoration: *The Role of the Landscape Architect at Caltrans*

Preliminary Excavation of Site, 2003.

by Steve Nawrath, California Landscape Architect, CPESC, Caltrans North Region Office of Landscape Architecture

Many opportunities exist for Landscape Architects interested in working in the expanding field of ecological restoration. Ecological restoration offers a unique opportunity and challenge to integrate diverse aspects of ecology, botany, hydrology, horticulture and agriculture with the technical and design skills we are taught as Landscape Architects such as site engineering, irrigation design, land use and aesthetics. Bringing together this broad range of information, understanding it and developing a project that integrates all the pieces into a cohesive design that restores ecological function to a disturbed site, "lets face it" is rarely 100% successful. Yet it is immensely gratifying and the challenge to make the next project better and to use lessons learned from the previous projects is what DRIVES us in this specialized field.

Public Sector

Working in the public sector for the Department of Transportation has afforded me many opportunities to design, implement and monitor restoration projects that mitigate for negative impacts associated with state highway improvements. In today's world, public agencies are more scrutinized than ever when designing

projects that negatively affect the environment. Water quality and impacts to sensitive habitats in many cases drive much of the design process, making knowledge of erosion control, bio-technical treatments, revegetation and ecological restoration valuable skills. Landscape Architects are uniquely qualified to bring together engineers, biologists and project managers in this agency because we are trained to speak all languages. Landscape Architects have great influence on projects when they make an effort and bring these disciplines to the table in order to think creatively. Ecological restoration and revegetation have become a large part of the workload in our regional office, with landscape architects teamed with biologists leading the effort.

Case Study: Truckee Bypass Floodplain Mitigation

Over the past several years I have been involved with the Truckee Bypass project in Nevada County, California. This project posed an array of design and environmental challenges where Landscape Architects have played a valuable role. Landscape architects were involved with many aspects of the design including; roadside design, aesthetics, erosion control, revegetation, environmental mitigation and water quality treatment measures (constructed wetlands). For the purposes of this article I will focus on environmental mitigation, which

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LEFT Stockpiled rootwads to be used in final grade.

ABOVE *Deschampsia caespitosa*, *Hordeum brachyantheum* meadow, 2005.

The Role of the Landscape Architect at Caltrans *continued from page five*

included floodplain and wetland restoration along the Truckee River.

As part of mitigation requirements for the newly constructed bypass project completed in 2002, Caltrans was obligated to restore two acres of high elevation wetland and floodplain meadow habitat. Years of looking for quality off-site mitigation locations to purchase had gone nowhere; biologist Carolyn Brown and myself were on site one day along the river under a newly constructed bridge and noticed a small remnant meadow. After doing some research with historic photos we noticed that a larger complex once existed within the river's floodplain. In the 1950s through 1960s several wetland and meadow areas along the Truckee River east of the town of Truckee were filled with spoil from new sewage treatment ponds adjacent to the site. We had found an opportunity to restore some historic floodplain habitat within the project limits!

Next we began digging test pits, installing monitoring wells, studying the sites hydrology and developing conceptual grading plans. Once we determined the site had potential we sold the concept to the project manager (\$) and commenced with the design and implementation. From this

point the landscape architect played the primary role in developing the grading, planting and erosion control plans, developing a budget, coordinating a growing contract for locally collected ecotypes and working with construction staff to implement the project.

Construction of an ecological restoration site is much different than constructing a roadway project, in fact they are polar opposites. My challenge in directing a grading contractor (that was already on the job) and the resident engineering staff was to get them to think against their best judgment. Things such as minimizing soil compaction, fine contour grading, groundwater hydrology, and aesthetics were some major challenges. The key to success in this case was to be onsite often during implementation and to clearly explain to the engineers the ecological processes that we were attempting to restore through construction. Once they understood the basic goals and nuances it became a challenge and they really started to enjoy the work. I feel that attempting to understand ecological process is an inherent human trait (survival?) that comes out when given the opportunity to do this type of work, regardless of your background or profession.

Once grading was complete in the fall of 2003, the site was hydroseeded with appropriate grass and forb species based on specific hydrologic zones. The first phase of container plants were installed the following spring and irrigated by hand through the first summer. Planting and supplemental seeding will continue over a 3-year period. Monitoring and adaptive management efforts will continue for 5 years to meet permit obligations. To date the project appears to be successful—overall plant survival is high, surface water is present in the wetland areas year round and the meadow areas are thick with grass species. One unforeseen issue that is requiring changes to the planting palette and minor grading modifications is the wetland area is prone to greater surface water fluctuations than predicted. Monitoring wells were in place during drought years and gave us false data when it came to a high precipitation year like 2005. Spring and early summer groundwater levels were higher than anticipated, submerging vegetation in some areas for longer periods of time resulting in higher mortality in some plant species. We are currently developing strategies to deal with this issue and learning at the same time in order to make the next project better....

Translating Science to In-the-Ground Projects

by John Zanzi, Senior Landscape Architect, EDAW, Sacramento

As a restoration landscape architect, I have attended many conferences and workshops over the years in which it was clear that the old “us against them” mentality is alive and well. Although the finger-pointing varies depending on the conference bias, the various disciplines are often critical of one another and blame one another for breakdowns or poor project performance: designer vs. contractor, scientists vs. engineers, landscape architects vs. scientists, and the list goes on. In reality, restoration projects need the whole team: biologists, ecologists, and other scientists, as well as engineers, contractors, and landscape architects.

With respect to landscape architects, not all have the same skill set. Some focus on traditional urban design, while others practice a more ecological approach. Ecologically driven landscape architects often have a strong appreciation of the balance of science, engineering, and land stewardship. Two ways that landscape architects can help to ensure the successful completion of ecosystem restoration projects are: 1) facilitating the many disciplines through the design process; and 2) preparing user-friendly construction drawings (plans) and construction manuals

(specifications, or “specs”) to implement projects.

Landscape architects can facilitate the many disciplines through the design process, breaking down perceived barriers between disciplines. Restoration projects require the participation of the whole team: scientists, engineers, contractors, and landscape architects. It is important that the team of experts be involved as the project evolves and that their expertise be reflected appropriately in the final built project. Many disciplines can provide their expertise during various steps of a project, as shown in Table 1.

Ecologically-driven landscape architects may serve as the common thread throughout the design process, ensuring that all parts of restoration projects come together efficiently and consistently. By facilitating a holistic approach to projects, landscape architects can ensure that the project’s goals and objectives, as well as the planning and design efforts of the scientists, do not get weakened during the design process and construction. Use of a strong, science-driven design that incorporates the necessary and appropriate expertise often results in high-quality habitat that is innovative, functional, and sustainable. Landscape architects can ensure that this team approach is cost and time-efficient, is

defendable and documented, and results in a built product. As an added benefit, each discipline can learn from each other throughout the process. For example, scientists, planners, and designers can learn a lot from contractors in terms of field innovation, constructability, and cost efficiencies, and designers can benefit from feedback provided by biologists during postconstruction monitoring. This enhanced knowledge can be applied to future planning and design projects.

Conducting Revegetation Construction Oversight

Ecologically driven landscape architects can prepare user-friendly plans and specs to implement restoration projects. Plans and specs (also known by the legal term “construction contract documents”) are the drawings and text required to bring a construction contract to satisfactory completion. The plans are a precise graphic representation of the elements of a project, including their sizes, shapes, and spatial relationships to one another, as well as the topography at the project site. The specs, which are the verbal component of construction documents, complement the drawings and indicate the level of quality required during construction of the project. They can be prepared as notes on the drawings or as a project manual. For restoration projects, plans and specs often incorporate grading and revegetation design, and their production is typically overseen and endorsed by a licensed landscape architect, registered engineer, or both.

Plans and specs are essentially instructions for the successful completion of a construction project. They detail what work is to be conducted, what materials will be needed, and how they should be put together. Effective plans and specs are specific, thorough, clear, and consistent with design and construction industry standards. They consist of “black-and-white” information to facilitate competitive bids, they are legally defensible, and the details they present are measurable. While the design team may work on a project for several months, or even years, contractors

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Table 1. Simplified Design Process for and Common Disciplines Involved with Restoration Projects

Step	Suggested Common Disciplines
1 Develop project program, including goals & objectives	Ecologist, engineer, landscape architect
2 Conduct site inventory & analyses	Ecologist, wildlife/fisheries biologist, botanist, soil scientist, geologist, geomorphologist, hydrology/hydraulics engineer, water quality specialist, cultural resource specialist, landscape architect
3 Develop restoration concepts & alternatives	Ecologist, engineer, environmental compliance specialists, landscape architect
4 Conduct detailed design	Engineer, environmental compliance specialists, landscape architect, contractor
5 Prepare plans, specs, and estimates	Engineer, landscape architect
6 Conduct construction bidding & implementation	Engineer, landscape architect, contractor
7 Conduct postconstruction monitoring	Ecologist, wildlife/fisheries biologist, botanist, soil scientist, water quality specialist, geomorphologist, geologist, hydrology/hydraulics engineer, landscape architect



Do you know of an upcoming event that would be of interest to SERCAL members? Send specifics to *Ecesis* via gui@igc.org.

Noteworthy Natural Resources Events

Sep 1: Reservation Deadline for Sep 14 Orientation BBQ for volunteer opportunity with The Student and Landowner Education and Watershed Stewardship Program (SLEWS), engaging high school students in habitat restoration projects that enhance classroom learning, develop leadership, and make a difference on the land. *Info:* www.landbasedlearning.org or Nina Suzuki, The Center for Land-Based Learning (Winters) 530.795.1544, 530.510.0546 or nina@landbasedlearning.org.

Sep 14: Early registration deadline for SERCAL's 12th Annual Conference See listing Oct 18-22.

Oct 4-6: 7th Biennial State of the Estuary Conference (Oakland) Sponsored by San Francisco Estuary Project & California Bay-Delta Authority. *Info:* www.abag.ca.gov/abag/events/estuary or 510.622.2398 (SFEPP)

Oct 6-8: Cal-IPC's 14th Annual Symposium, "Prevention Reinvention: Protocols, Information, and Partnerships to Stop the Spread of Invasive Plants" (California State University, Chico) *Info:* www.cal-ipc.org

Oct 7-9: Fall Festival at Theodore Payne Foundation for Wildflowers & Native Plants, Inc. (8:30a-4:30p, 10459 Tuxford Street, Sun Valley) *Info:* info@theodorepayne.org or www.theodorepayne.org

Oct 10: Ballot Submittal Deadline for SERCAL Board Election

Oct 15: Native Plant Sale (10a-4p, Hidden Villa Ranch, CNPS Nursery, miles west of I-280 at 26870 Moody Road, Los Altos Hills; free parking) Sponsored by Santa Clara Valley Chapter of California Native Plant Society. *Info:* cnps_scv@yahoo.com, 650.691.9749 or www.cnps-scv.org

Oct 18-22: SERCAL's 12th Annual Conference, "Restoring the Heart of California" (The Pines Resort & Conference Center, North Shore, Bass Lake) *Info:* www.sercal.org

Nov 7-9: California Nonpoint Source Conference: Measuring Water Quality Improvements (Sacramento) Sponsored by State Water Resources Control Board, CA Coastal Commission and U.S. EPA. *Info:* Tina Yin 415.972.3579 or Yin.Christina@epa.gov; Kim Wittorff 916.327.9117 or KWittorff@waterboards.ca.gov; and www.waterboards.ca.gov/nps/fall2005.html

Translating Science to In-the-Ground Projects *continued from page 7*

often have only 2 or 3 weeks to digest the project when bidding. Because of this short turnaround, plans and specs must be an almost instantly understandable presentation of the project design and regulatory and construction requirements; money will change hands over these particulars. The clarity and thoroughness of well-prepared plans and specs provide an important foundation for good communication and simplify interpretation of the project design, which in turn lead to greater success in the field, minimizing the chances of finger pointing.

Unlike reports or other planning and compliance documents, effective plans and specs facilitate in-the-ground results by:

- ✿ *Identifying the preferred alternative concept as it relates to exact conditions at specific locations on the project site, in concert with other design decisions for the project;*

- ✿ *Communicating clear and precise technical and legal, recourse-binding contract requirements, including the level of quality expected during construction, for agency approvals, competitive bidding, and project construction;*

- ✿ *Helping to secure a competent contractor to perform the construction work in conformance with permits and other compliance documents; and*

- ✿ *Ensuring that the project design protects the health, safety, and welfare of the public who visit the site.*

As part of a team, landscape architects can bridge the science with construction. Several years ago, while working on a wetland mitigation project with an excellent scientist, I had a "light bulb moment" about plans and specs for restoration projects. I had been provided several tables of data that could be "worked right into the plans and specs." Although the technical information was accurate and well founded, the presentation of the data was cumbersome and not easily interpreted for construction. I had to rework the data into biddable information, without losing the intent and context of the science. It was then that I realized that I was translating science into user-friendly plans and specs that would be the basis for construction of the project.

We all share a common goal of being involved with high-quality restoration projects. All disciplines on a restoration design team bring an important expertise toward projects planned, designed, and built. This diversity improves project creativity while increasing the chances of a functional and sustainable project. Ecologically driven landscape architects can serve as a catalyst—maintaining the intent of the science of restoration, while enabling projects to come to life in-the-ground rather than dying on a shelf.

John Zanzi is a Senior Landscape Architect in EDAW's Sacramento office, and is licensed in California (RLA No. 2933), as well as in 5 other western states. He has over 20 years of professional experience in design implementation for diverse natural resource and landscape architecture projects, including oak woodland, riparian, and wetland mitigation and habitat restoration projects, as well as parks and bicycle trails.



ABOVE View looking west over revegetation area towards old El Cuervo Adobe, September 2004.

Habitat Restoration From a Landscape Architect's Perspective

by John L. Minchin, RLA #2225,
Dudek & Associates, Inc., Encinitas

Over fourteen years ago I changed my professional direction in landscape architecture by joining a multidisciplinary environmental firm, with the goal of refocusing my career towards native habitat restoration and mitigation projects. Up to that point I had focused primarily on conventional landscape architectural work in the San Diego, with several of the largest L.A. firms in the area. Throughout my career I had always had a more naturalistic bent to my landscape design philosophy, which seemed to be propelling me in this new professional direction. Since that time I've worked for two of the largest environmental firms in San Diego and have found the work to be both challenging and extremely rewarding!

The road down this path has been very interesting and at times humbling. I've learned a tremendous amount from interaction with fellow colleagues—ecologists, botanists, field biologists, wildlife specialists, environmental analysts, planners—all of whom have helped me change my perspective on how I view my niche in landscape architecture. In many instances I've had to learn a whole new vocabulary and have had to adjust my view of the environment and how I relate to it. These interactions have helped me change the way in which I view the landscape and the decisions I make every day to help reshape it. In addition, watching my designs be implemented and evolve over time has given me a new awareness of nature's dynamic forces and its ability to restore itself if provided with the right conditions. I

now see that our role as landscape architects can be one of giving nature a jumpstart in the restoration process.

The most enlightening awareness that I've gained over these past years has been to learn to see things from a different, more naturalistic perspective. My old perspective focused more on how I might manipulate the land to fit human needs, arrange landscape spaces for human use, surround humans with a semblance of nature, or put some type of artistic stamp on the landscape, all the while trying to achieve some type of balance with the environment. My current viewpoint is focused more on learning what's appropriate for the environment first and then trying to give something back to help make amends for the disturbances we humans have imposed on the natural system and to try to reach a balance where human use can be in better harmony with nature. This goal of returning disturbed land to a pre-existing natural condition can be a daunting and humbling undertaking, especially when coupled with the real-world demands of budget, time constraints, bureaucratic regulations, divergent user goals and development pressures.

Many of the projects I have been involved in over the last decade have evolved into a multidisciplinary and collaborative context. One such project was a large wetland mitigation project in north San Diego County—a natural preserve area surrounded by urban growth and development. Los Peñasquitos Canyon Preserve is located near Sorrento Valley between Del Mar and La Jolla, in a coastal canyon running east to west, from Interstate I-15 at the east end to Interstate I-5 at the

west end. The canyon has a huge watershed area stretching into east San Diego County. The Los Peñasquitos Creek, which runs through the Preserve, is one of the largest creek systems in San Diego County, and carries significant winter drainage runoff from inland areas to the Los Peñasquitos Lagoon, near the Torrey Pines State Preserve, and ultimately into the Pacific Ocean. The creek now carries perennial year-round flow due to surrounding urban development and resultant nuisance water runoff.

The Preserve is an important habitat preserve area, as well as an important regional recreational amenity for the City of San Diego. The Preserve incorporates miles of recreational trails for various user groups including runners, hikers, mountain bikers, naturalists and equestrians. The preserve supports native plant communities ranging from coastal sage scrub, to native grassland, to chaparral, to riparian woodland, to southern willow scrub, to freshwater marsh and coastal salt marsh. In addition, it incorporates important cultural, as well as archaeological resources. Various infrastructure utilities also cross the preserve, including emergency access roads, utility lines and a sewer line that runs much of the length of the Preserve, following the creek valley alignment.

Our environmental consulting firm was retained in 1997 to help the City of San Diego evaluate impacts from a proposed flood control project in adjacent Sorrento Valley and subsequently find suitable mitigation areas to compensate for the anticipated impacts from this project. The original project was an emergency flood control project that required immediate emergency action in order to protect the health, safety and welfare of the public, as well as to protect private property from flood risk. Our firm conducted biological resources evaluations and wildlife surveys, and developed a mitigation plan to implement a wetland habitat restoration/revegetation program.

In coordination with the City of San Diego Parks & Recreation Department, a potential mitigation site was ultimately selected in the vicinity of the old historic "El

continued on next page

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Full-time or Permanent

Environmental Planners / RBF Consulting, Irvine, San Diego and Ontario, CA. *Info:* www.rbf.com

Senior Estuarine/Anadromous Fisheries Ecologists / H.T. Harvey & Associates, 3150 Almaden Expwy., #145, San Jose. *Info:* www.harveyecology.com

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Intern or Seasonal

Field Crew Leader & Field Crew Assistants, Invasive Species Control & Restoration / Audubon California's Starr Ranch Sanctuary, Trabuco Canyon (09/05-08/06). *Info:* www.starranch.org/jobs.htm

Student Intern Position, Research and Spatial Data Analyst / CA Dept. of Fish & Game, Wildlife & Habitat Data Analysis, Biological Analysis Team. *Info:* www.dfg.ca.gov/whdab, www.foundation.csus.edu/hr

Invasive Plants Intern / Point Reyes National Seashore (40 hrs/week, Oct-Dec; daily stipend & park accommodations). *Info:* Jim Bromberg, Point Reyes Nat'l Seashore, James_Bromberg@nps.gov

Pacific Coast Seed, Inc., is seeking a full-time Account Representative who can multitask various types of projects, customers and product categories. Primarily based out of the Livermore office, with initial regional/overnight travel. *Education/Experience:* Min. B.S. degree in related field; prefer 3-5 years experience, Agronomic/ Horticultural background and/or certification. *Resume to:* Constance Garrison—connieg@pcseed.com or 533 Hawthorne Pl., Livermore CA 94550.

ECORP Consulting, Inc., is seeking archaeological crew members for research, in-field survey and excavation, and report preparation in Placer and Sacramento counties. *Education/Experience:* Min. of a field school, ability to work unsupervised, and working knowledge of federal and CA regulatory compliance. *Resume & cover letter to:* Julia Green—jgreen@ecorpconsulting.com, 916.782.9134 fax, or ECORP Consulting, Inc., 2260 Douglas Blvd., #160, Roseville CA 95661.

Habitat Restoration From a Landscape Architect's Perspective *continued from page 9*

Cuervo" Adobe farmhouse structure—thus the project became known as the "El Cuervo Wetlands" mitigation project. Once the site was selected, the design of the mitigation/ revegetation program began.

An underlying goal of the project that evolved during the design/planning phase was to restore pre-existing historic wetland habitats that had been disturbed in this area from agricultural use. Evaluation of aerial photographs dating back to 1928, prior to the agricultural disturbance, revealed a complex braided creek system that had been subject to flood flow variations over time. During the subsequent agricultural use of the site, the creek flow had been altered by the installation of earthen berms along the creek banks in several locations. Over time these berms confined the creek flow to a main central channel. The result had been the elimination of a portion of the riparian corridor and the beneficial influence of the flooding hydrology in supporting wetland vegetation. An emerging goal of the habitat restoration program became the desire to restore the floodplain hydrology and to eliminate the artificial berming along the creek that had altered the flow, thus restoring the floodflow regime. In this way the creek could once again support an expanded and restored wetland area.

As part of the mitigation planning, I was tasked with preparing a conceptual wetland mitigation plan report to address the need for 12.5 acres of wetland creation and enhancement, and 3 acres of upland revegetation. Design planning for the project occurred between 1997 and 2000. The actual installation of the mitigation work was initiated in October of 2000 and was completed in October 2001.

This project involved extensive planning and coordination with the City of San Diego Engineering and

Capital Projects Department, Transportation and Drainage Design Division, which was responsible for the flood control work. Work also was closely coordinated with the Park & Recreation Department, resource agencies, the Coastal Commission and concerned citizens groups including "The Friends of Los Peñasquitos Canyon Preserve." The revegetation program evolved into a program to restore previously disturbed habitats, provide habitat and wildlife linkages to existing adjacent native habitat areas within the Preserve, help minimize the invasion of weeds and exotic plant species in the Preserve, help provide increased recreational access and amenities to the park users, and to help support the goals of the City of San Diego Multiple Species Conservation Program (MSCP), as part of the Multiple Habitat Preserve Area (MHPA).

This project taught me to be thorough in my analysis, precise in my planning, yet flexible to be able to adjust to changes that nature might throw at me. It has taught me the importance of balancing human use with the natural habitat and to value the natural processes at work.

I believe landscape architects have a unique role to play in habitat restoration. As generalists, we transform a tremendous amount of information about environmental and human considerations into our design concepts. Yet in order to bring our visions to reality, we have to seek out experts on many topics when we need to go deeper than our depth of knowledge allows.

Habitat restoration work is a great area of practice in which we can use our skills of interpretation and creative problem-solving to orchestrate the work of other experts into a set of physical instructions for how the work is to be done. This is the niche I find myself in and I am finding it to be very rewarding in terms of economic

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continued...

benefit, personal satisfaction and philosophical fulfillment.

—John L. Minchin is a registered landscape architect #2225, and habitat restoration specialist with Dudek & Associates, Inc., Environmental Services Division, in Encinitas California. Dudek is a multidisciplinary firm including engineers, hydro-geologists, biologists, botanists, environmental analysts, GIS/CAD specialists, resource agency permitting specialists, urban foresters, district managers, construction managers, noise acousticians, landscape architects and habitat restoration specialists. Mr. Minchin works with a team of seven other landscape architects and habitat restoration specialists who focus primarily on the restoration and mitigation of native habitats throughout southern California. Mr. Minchin's career has spanned over twenty five years, with the last fourteen years devoted to habitat restoration and mitigation projects.

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